REGULAR MEETING
CONSERVATION COMMISSION

1 JUNKINS AVENUE
PORTSMOUTH, NEW HAMPSHIRE
SCHOOL DEPARTMENT CONFERENCE ROOM

4:00 P.M. **June 12, 2024**

AGENDA

I. APPROVAL OF MINUTES

1. May 8, 2024 (*will be available at the July 2024 meeting*)

II. WETLAND CONDITIONAL USE PERMIT APPLICATIONS (OLD BUSINESS)

1. 50 Andrew Jarvis Drive
   City of Portsmouth, City of Portsmouth School Department, Owners
   Assessors Map 229 Lot 3 and Map 221 Lot 2A

III. WETLAND CONDITIONAL USE PERMIT APPLICATIONS (NEW BUSINESS)

1. 0 Maplewood Avenue
   City of Portsmouth, Owner
   Assessor Map 124 Lot 3

2. 911 Sagamore Avenue
   Debra DuPont, Owner
   Assessor Map 223 Lot 33

3. 100 Durgin Lane
   Oak Street Real Estate Capital, Owner
   Assessor Map 239 Lot 18

4. 1 Sagamore Grove
   Flippin Bergers LLC, Owner
   Assessor Map 201 Lot 8

IV. STATE WETLAND BUREAU APPLICATIONS (NEW BUSINESS)

1. Dredge and Fill – Major Impact
   1 and 31 Raynes Avenue and 203 Maplewood Avenue
   North Mill Pond Holdings, LLC, Applicant
   Assessor Map 123 Lots 10, 12, 13, 14 and 15-1

2. Dredge and Fill – Minimum Impact Permit

49 Mechanic Street
Wentworth-Gardner and Tobias Lear Houses Association
Assessor Map 103 Lot 41

VI. OTHER BUSINESS

VII. ADJOURNMENT

**Members of the public also have the option to join this meeting over Zoom, a unique meeting ID and password will be provided once you register. To register, click on the link below or copy and paste this into your web browser:*

https://us06web.zoom.us/webinar/register/WN_Yolrg3EJTta53ASZrM8dtA

Memo

TO: Conservation Commission Members
FROM: Kate Homet, Associate Environmental Planner
CC: Peter Britz, Planning & Sustainability Director
DATE: June 7, 2024
SUBJ: June 12, 2024 Conservation Commission Meeting

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50 Andrew Jarvis Drive
City of Portsmouth, Owner
Assessors Map 229 Lot 3 and Map 221 Lot 2A

Note: This application was postponed at the May meeting of the Conservation Commission to the June meeting.

This application is for the conversion of an existing practice field into a more formalized baseball and softball practice field. This conversion proposes the addition of an 800 s.f. batting cage, and a 40' wide backstop with posts driven into the ground, and the removal of approximately 800 s.f. of existing grass for replacement with an infield mix of clay, sand and silt. All of this work will occur within the 100' wetland buffer, with additional grass removal and infield mix placement outside the 100' buffer.

1. *The land is reasonably suited to the use activity or alteration.*

This area is already heavily used as a recreation area for high school students and other recreation leagues. The addition of baseball/softball equipment will allow for more teams to utilize the space.

2. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*

While there is an alternative location in this area that would create minimal disturbance and be outside the buffer, it would create a safety hazard due to its proximity to buildings and parking areas. The chosen location within the buffer is already used as a recreational field and it does not receive any harmful maintenance such as fertilizer or chemical use, only occasional mowing. The conversion to a baseball/softball field will not change how the buffer has been used historically.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.

The infield mix proposed for the new field will be a permeable mix that should not have a noticeable impact on infiltration within this buffer area. The adjacent wetland is well forested and should not see an impact from this field conversion.

4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.

The only vegetation proposed to be removed is a portion of existing grass lawn. This will be replaced with a permeable sand/silt/clay infield mix.

5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.

This proposal minimizes impacts to the buffer by proposing a permeable infield mix and minimal permanent equipment. On-site alternatives would require greater disturbance to areas that are not already used as recreational fields.

6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

No work is proposed within the 25' vegetated buffer.

Recommendation: Staff recommends **approval** of this wetland conditional use permit to the Planning Board with the following stipulation:

1. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the 25' vegetative buffer at 50-foot intervals and must be installed prior to the start of any construction.

0 Maplewood Avenue
City of Portsmouth, Owner
Assessors Map 124 Lot 3

This is an after the fact wetland conditional use permit due to the emergency authorization for this work. The stone wall alongside the North Cemetery is in danger of collapse due to significant erosion along the bank and this application is for the restoration and repair of the wall in-kind which includes installation of new stone, installing non-woven geotextile along the eroded bank, importing structural backfill, and loam and seeding the disturbed areas once finished. Recent inspections of this site concluded that any future storm events or heavy rains could cause significant damage and irreversible harm to the stability of this wall and the contents behind it. Due to this, the City of Portsmouth Department of Public Works has obtained an emergency authorization to perform this work from NHDES and is now seeking a wetland conditional use permit.

1. The land is reasonably suited to the use activity or alteration.

This work is an in-kind repair job. The wall to be repaired is structurally necessary to keep the cemetery structures and fill contained.

2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.

There is no alternative location to rebuild this wall in. The safety of the tomb and burials behind the wall is reliant on the structure of this wall and it must be fortified in order to prevent further erosion, or worse, collapse.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.

The applicant is proposing to use professional services to get at the wall from an adjacent property, so as not to disturb the hallowed ground. This may have impacts on the pathway of any necessary construction vehicles. The applicant shall restore any disturbed soils with native wetland buffer conservation seed mix and monitor for establishment.

4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.

The natural vegetated state will be disturbed in order to get construction equipment onto the site. This area should be stabilized with erosion controls, along with the wall, and should be reseeded at the end of construction with a native wetland buffer conservation seed mix.

5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.

The alternatives to not repairing this wall would be allowing it, and the fill, historic infrastructure and hallowed spaces to erode and/or slide into the North Mill Pond. The repair of this wall must be done in a fast, safe and responsible manner to ensure environmental health and safety of the historic resources.

6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

All areas disturbed within the 25' vegetated buffer shall be reseeded at the end of construction with a native wetland buffer conservation seed mix.

Recommendation: Staff recommends **approval** of this wetland conditional use permit to the Planning Board with the following stipulations:

1. Applicant shall reseed all disturbed soil areas with a native wetland buffer conservation seed mix.

2. Applicant shall place erosion control measures along the bank.

3. Applicant shall monitor the success of reseeded areas to ensure stabilization. If stabilization is not successful within 30 days of seeding, the area will need to be reseeded.

911 Sagamore Avenue
Debra DuPont, Owner
Assessors Map 223 Lot 33

This application is for the removal of an existing deck on a single-family home with the replacement of a larger deck. The existing deck is approximately 283 s.f. and the proposed deck would add on an additional 5' x 9' bump out, with a total proposed deck area of 328 s.f. all within the 100' inland wetland buffer. This rebuild will include the installation of new concrete footings. The inland wetland is to the southwest of the property and is approximately 1.2 acres in size, leaving just under 10,000 s.f. of wetland buffer within the applicant's property.

3. The land is reasonably suited to the use activity or alteration.

There is an existing deck already in this location that will be replaced with a small addition that does not get any closer to the wetland. Applicant should make all efforts to minimize impacts to the buffer with this demolition and reconstruction, this should include ensuring the proposed deck is as pervious as possible, with proper deck board spacing and the placement of crushed stone beneath for stormwater infiltration purposes.

4. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*

   While the applicant will be removing the existing deck entirely and starting from scratch, the home entrances are located within these areas and egress must be met. The applicant should make all efforts to mitigate the impacts of the expansion of the deck within the buffer.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.

To mitigate adverse impacts from this new construction, the applicant should commit to a wider spacing for the decking boards, crushed stone underneath the proposed deck, and additional wetland buffer plantings on site.

4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.

The area proposed for the new deck construction will be a previously disturbed area where the existing deck has already been built. The expansion location will be in a landscaped area. The impacts of removing the current vegetation should be mitigated with additional native wetland buffer plantings on site.

5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.

This proposal will create additional impacts to the buffer than what currently exists today. To mitigate these, the applicant should install new native wetland buffer plantings, commit to wide decking spacing, and place crushed stone under the new decking area to ensure improved stormwater infiltration.

6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

No part of this work will be within the 25' vegetated buffer strip. The applicant should install new plantings as a part of this project, the 25' vegetated buffer could be a good location for this.

Recommendation: Staff recommends **approval** of this wetland conditional use permit to the Planning Board with the following stipulations:

1. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the 25' vegetative buffer at 50-foot intervals and must be installed prior to the start of any construction.

2. Applicant shall construct deck with wide spacing between boards to maximize permeability for stormwater.

3. Applicant shall install crushed stone underneath the deck area to allow for better stormwater infiltration into the ground.

4. Applicant shall install new native wetland buffer plantings within the wetland buffer that are equal to or greater in planting area of the deck addition ('5 x 9' or 45 s.f.)

100 Durgin Lane
Oak Street Real Estate Capital, Owner
Assessor Map 239 Lot 18

The application is for the proposal of demolishing the existing Bed Bath & Beyond/Christmas Tree Shop site, removing all existing impervious, and rebuilding on multiple lots to incorporate 360 rental housing units, community spaces, roads, parking, site improvements, stormwater upgrades, lighting, landscaping, etc. This application proposes an overall reduction in impervious surfaces within the wetland buffer by 8,262 s.f. compared to the existing site (13.49% reduction). This proposal includes stormwater improvements and new native buffer landscaping.

1. *The land is reasonably suited to the use activity or alteration.*

   This application proposes completely removing all existing buildings and impervious area on site and installing 52,983 s.f. of impervious with new rental housing units, community buildings, associated roads, parking lots, site improvements and landscaping. This will likely increase activity within this area such as foot traffic, vehicle traffic and use of existing wetland buffer space. The wetlands on and off site will need more adequate buffer protection due to this increased activity.

2. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*

   This is a large project that has many components. There is an overabundance of parking, roadways, and impervious surfaces within the wetland buffers that should be moved elsewhere. In particular, the newly proposed access road and parking along the north side of the site should be removed or relocated from the wetland buffer and buffer restoration efforts should be included in this area.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.

The wetlands on and off site will experience increased impacts from the proposed use which encourages more people, pets and traffic along the very edges of these wetlands and buffers. To minimize adverse impacts, the applicant should make every effort to remove all impervious surfaces from the wetland buffer and restore those areas of previous impervious surface to functional wetland buffer vegetation.

4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.

This project does propose alteration of natural vegetative state in some locations. In particular, the accessway on the north side of the parcel as it moves west does not appear necessary to achieve construction goals. This accessway and associated impervious surfaces within the buffer should be removed.

5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.

This proposal is not the alternative with the least adverse impacts. This proposal could be much smaller than what is shown here, and it could remove much more square footage of impact in the buffer.

6. *Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.*

   There are no proposed impacts within the 25’ vegetated buffer. Applicant should show and describe restoration for the vegetated buffers on site within planting plan.

Recommendation: Staff recommends **postponement** of this wetland conditional use permit.

This application is for the demolition of an existing approx. 1,056 s.f. single-family home and the construction of a new home, attached garage, walkway, patio, driveway and the removal of an existing buried septic tank. The new proposed building coverage (impervious area) will be 2,280 s.f. of impact, which would be an increase of impervious impact to the 100' inland wetland buffer. To mitigate these impacts, the applicant is proposing a permeable driveway, permeable walkway, permeable patio, a stone drip edge along the home, a vegetated swale in the front lawn, the restoration of the 25' vegetated buffer on site and additional wetland buffer plantings.

1. *The land is reasonably suited to the use activity or alteration.*

   This project proposes an expansion of a previously disturbed area within the wetland buffer with a larger home and attached garage. However, the applicant also proposes a complete restoration of the 25' buffer and controlled infiltration of stormwater where none exist today.

2. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*

   Due to the constraints associated with this lot, it is difficult to rebuild this home anywhere else on the property that is further from the inland wetland with less impact in the buffer. For the purpose of this review the existing septic system is an existing impact in the buffer. Applicant should consider reducing the size of the proposed home and associated garage.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.

Although the amount of impervious area will increase within this buffer, the applicant is proposing mitigation through restoration of the 25' no cut buffer, plantings, stormwater controls and permeable paths/patios/driveways. The applicant should commit to proper maintenance and long-term care for the 25' buffer to ensure that future homeowners do not disturb, cut or mow the area.

4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.

While the applicant is intending to expand the footprint of the existing impervious area, they are also proposing to restore as much of the vegetative state on site as possible.

5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.

This proposal increases impervious impact to the wetland buffer and attempts to offset and is committing to restoration of the 25' buffer, additional plantings, stormwater controls and pervious materials. While the buffer enhancements will help to mitigate these impacts, consideration should be made for a smaller permanent impervious footprint.

6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

The applicant has committed to return this area to a natural state. Applicant should ensure all future property owners are aware of the no-cut conditions to this area.

Recommendation: Staff recommends **approval** of this wetland conditional use permit to the Planning Board with the following stipulation:

1. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall permanently install wetland boundary markers, which may be purchased through the City of Portsmouth Planning & Sustainability Department. Markers are to be placed along the 25' vegetative buffer at 50-foot intervals and must be installed prior to the start of any construction.

2. Applicant consider reducing the footprint of new construction to reduce permanent impacts in the buffer.

3. Applicant shall provide a planting and maintenance plan for the proposed 25' enhanced buffer area.

Portsmouth School Department - SAU 52
City Hall, 1 Junkins Ave. Suite 402
Portsmouth, NH 03801

Date: April 9, 2024

To: Wetland Conservation Committee

From: Ken Linchey, Director of Building's and Ground's

Re: Tennis Courts Walkthrough Questions

The Portsmouth High Schools Athletic Department is requesting permission to enhance the usage of one their practice fields. The softball and baseball teams are always juggling field usage between the high school fields, Granite Street softball field, Leary field, and Cough field. Making changes to this practice field will allow some relief to the scheduling and practice needs for all of Portsmouth School programs.

Project details:

- Remove 3" of sod & loam to create a skinned infield diamond.
- Replaced skinned area with a native infield softball/baseball infield mix. The mixture is made up a clay, silt, and sand.
- Installation of a backstop that would minimize softballs from being hit into the wetland.
- Backstop installation would consist of driving posts into the ground vs using concrete.

In summary, we evaluated how can we accommodate all of our programs within the original field structure year-round. We believe that this is just a slight adjustment with how we layout our field usage within the existing field structure.

Sincerely'

Ken Linchey

Ken Linchey
Portsmouth School Department
Director of Building's & Ground's


City of Portsmouth, NH
Property
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221-2A
185 Feet
Batting Cage
Remove 75' of soil and infill with infield mix.
Base paths need to be 60'
Install backstop fence
Softball Field
75 Feet
75 Feet
65 Feet
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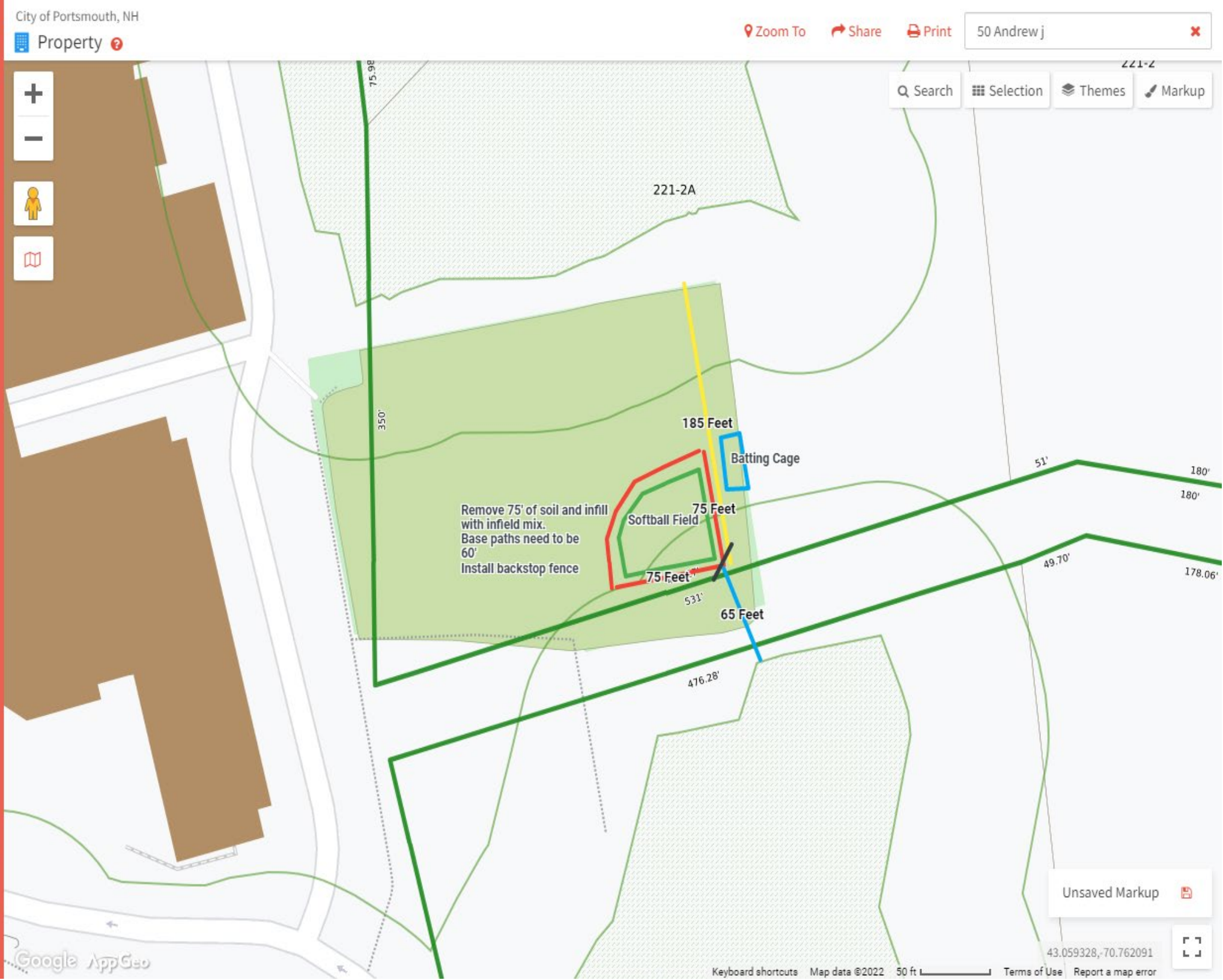
Google
AppGeo
Keyboard shortcuts
Map data ©2022
50 ft
Terms of Use


City of Portsmouth, NH
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221-2A
185 Feet
Batting Cage
Remove 75' of soil and infill with infield mix.
Base paths need to be 60'
Install backstop fence
Softball Field
75 Feet
75 Feet
65 Feet
350'
531'
476.28'
51'
180'
180'
49.70'
178.06'
Unsaved Markup
43.059328,-70.762091
Keyboard shortcuts
Map data ©2022
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Terms of Use
Report a map error
Google
AppGeo

City of Portsmouth

Department of Public Works

MEMORANDUM

TO: Samantha Collins, Conservation Commission Chair

CC: Peter Britz, Director of Planning and Sustainability
Kate Homet, Associate Environmental Planner

FROM: Christine Sproviero, Project Manager

DATE: June 7, 2024

SUBJECT: Union Cemetery Emergency Shore Wall Repair

The Union Cemetery shore wall has sustained damage and erosion over multiple years due to large storm and tidal events. On 4/26/24, it was observed that multiple sections of the wall have fallen into the tidal area below. The City immediately filed a wetlands emergency authorization request to the New Hampshire Department of Environmental Services (NHDES) to perform repairs on the 41' section of shore wall, as shown in the plans attached, before further degradation occurs. The City received authorization from NHDES on 5/16/24 which is attached. Once authorization was granted, the City engaged Riverside & Pickering Marine Contractors to schedule the emergency repair "in kind" work which is scheduled to begin on 6/10/24. Following the completion of the re-construction of the wall, the City will submit post work photos as required by the Emergency Authorization.

Kind Regards,

Christine Sproviero

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

TIDAL RELATIONSHIPS:
IN FEET TO NAVD88 DATUM, 1983–2001 TIDAL EPOCH
REF: NOAA TIDE GAUGE STA 8419870
FEMA 1% +50 YR SLR = 8.3'
FEMA 1% = 8'
HOTL = 3.88' (OBS. 8–21–23)
MHHW = 4.18'
MHW = 3.76'
NAVD88 EL = 0.0'
MEAN TIDE LEVEL EL = –0.32'
MLW EL = –4.39'
MLLW EL = –4.71'

CONSTRUCTION SEQUENCE:
1. ALL WORK SHALL BE PERFORMED IN DRY CONDITIONS WORKING ABOVE WATER LEVELS.
2. NO SOIL EXCAVATION IS ANTICIPATED. IF SOIL DISTURBANCE OCCURS, INSTALL EROSION CONTROL SOCK ALONG THE TOE OF A WORK AREA AND MAINTAIN IT UNTIL STABILIZED. REMOVE EROSION CONTROL SOCK WHEN THE ASSOCIATED WORK IS COMPLETE.
3. STABILIZE PLACED BACKFILL WITH LOAM AND SEED, WATER UNTIL ESTABLISHED.

STATE OF NEW HAMPSHIRE
DUNCAN G. MELLOR
No. 8344
LICENSED
PROFESSIONAL ENGINEER

40 0 40 80
(FEET)

GNE
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1186
Dover, New Hampshire 03821
603.749.0443

DATE: 5–23–24
SCALE: SHOWN
DRAWN BY: DCM
DESIGN BY: DCM

SITE PLAN

CITY OF PORTSMOUTH
UNION CEMETERY
MAPLEWOOD AVENUE
TAX MAP 124, LOT 3

UNION CEMETERY
SEAWALL REPAIRS
PORTSMOUTH, NH
ROCKINGHAM COUNTY
NORTH MILL POND

WF - 1

SCOPE OF REPAIRS:

1. EXISTING STONE WALL IS DAMAGED WITH SOME BACKFILL EROSION.
2. IMPORT NEW WALL STONES MATCHING EXISTING FOR REPAIRS.
3. REBUILD UPPER WALL WITH DRY SET STONEWORK FROM REMAINING WALL UP TO THE CREST ELEVATION OF THE GRANITE SLABS ADJACENT TO CRYPT.
4. INSTALL 8 OZ/SY NON-WOVEN GEOTEXTILE ONTO ERODED BANK.
5. IMPORT AND INSTALL CRUSHED ROCK STRUCTURAL BACKFILL AND WRAP GEOTEXTILE OVER THIS MATERIAL.
6. ADD LOAM AND GRASS SEED TO MATCH ADJACENT GRADES AND SURFACES, WATER UNTIL ESTABLISHED.

STATE OF NEW HAMPSHIRE
DUNCAN C. MELLOR
No. 8344
LICENSED PROFESSIONAL ENGINEER

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(FEET)

CNE
CIVILWORKS NEW ENGLAND
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181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DATE: 5-23-24
SCALE: SHOWN
DRAWN BY: DCM
DESIGN BY: DCM

CITY OF PORTSMOUTH
UNION CEMETERY
MAPLEWOOD AVENUE
TAX MAP 124, LOT 3

UNION CEMETERY
SEAWALL REPAIRS
PORTSMOUTH, NH
ROCKINGHAM COUNTY
NORTH MILL POND

REPAIR PLAN

WF - 2

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

EMERGENCY AUTHORIZATION VERIFICATION

FILE NUMBER:	**2024-01385**
OWNER:	**CITY OF PORTSMOUTH**
SITE LOCATION:	**UNION CEMETERY MAPLEWOOD AVE, PORTSMOUTH**
AGENT/CONTRACTOR:	**TBD**
AUTHORIZATION DATE:	**MAY 16, 2024**
WATERBODY:	**TIDAL BUFFER ZONE**

This is to confirm that New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau has given emergency authorization in accordance with NH Administrative Rule Env-Wt 315 to the owner/agent to conduct the following work in the NHDES Wetlands Bureau jurisdiction (under RSA 482-A):

DESCRIPTION: Emergency authorization for the in-kind repair to an existing retaining wall.

This authorization is subject to the following conditions:

1. The applicant/contractor shall file a follow up report describing the work performed under this authorization including pre-construction and post-construction photos to NHDES by June 24, 2024; the need for additional permitting will then be determined by NHDES (if no further impacts are needed).
2. Work shall be conducted in a manner so as to minimize turbidity and sedimentation to surface waters and wetlands.
3. Appropriate siltation, erosion controls, turbidity, and sedimentation controls shall be utilized.
4. Extreme precautions shall be taken within riparian areas to limit unnecessary removal of vegetation for access.
5. Construction equipment shall be inspected daily for leaking fuel, oil, and hydraulic fluid prior to working near surface waters or wetlands.
6. Faulty equipment shall be repaired prior to working near jurisdictional areas.
7. The contractor shall have appropriate oil spill kits on site and readily accessible at all times during construction and each operator shall be trained in its use.
8. This form shall be properly posted at the work site.
9. This authorization does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others.

THIS AUTHORIZATION EXPIRES ON June 17, 2024. All work must be completed by this date. This authorization has been given file number **2024-01385**. Please use this number in all future correspondence.

Signed:

Eben M. Lewis
Southeast Region Supervisor
Land Resources Management, Water Division

ec: Portsmouth Conservation Commission
US Army Corps of Engineers (Richard.C.Kristoff@usace.army.mil)
NH HSEM Planning (hsemplanning@dos.nh.gov)
NHPA (DOS.nhpa@dos.nh.gov)

Christine R. Sproviero

From: Christine R. Sproviero
Sent: Wednesday, May 22, 2024 9:05 AM
To: Duncan Mellor
Subject: Authorization for Civilworks New England

Good morning Duncan,

Please consider this as an authorization for Civilworks New England to act as an authorized agent for the City of Portsmouth in regard to the Union Cemetery Shore Wall Project.

Regards,

Christine R. Sproviero
Project Manager
City of Portsmouth
Public Works Department
680 Peverly Hill Road
Portsmouth, NH 03801
Office: (603) 766-1755
Mobile: (603) 380-4805
Email: crSproviero@cityofportsmouth.com

Dear

Chair of the Conservation Commission - Samantha Collins)

Hello, my name is Troy Joncas. I'm a father of 2 boys, we live in Atkinson, NH. I've been working in this area now for the last 24 months.
Building up my resume with some deck and roofing jobs. I got hired by Debra Dupont to rebuild her deck.
The plan was to remove her deck and rebuild it with a small 4x 4 bumps out for their grill.
We were going to remove the deck- pour new cement footings and rebuild her a beautiful new deck all to code.
Unfortunately, this deck is in a wetland buffer area, so I need to go through the process in order to obtain a building permit.

Thank you for your time.

Troy Joncas
617 990 6081

On Course Remodeling

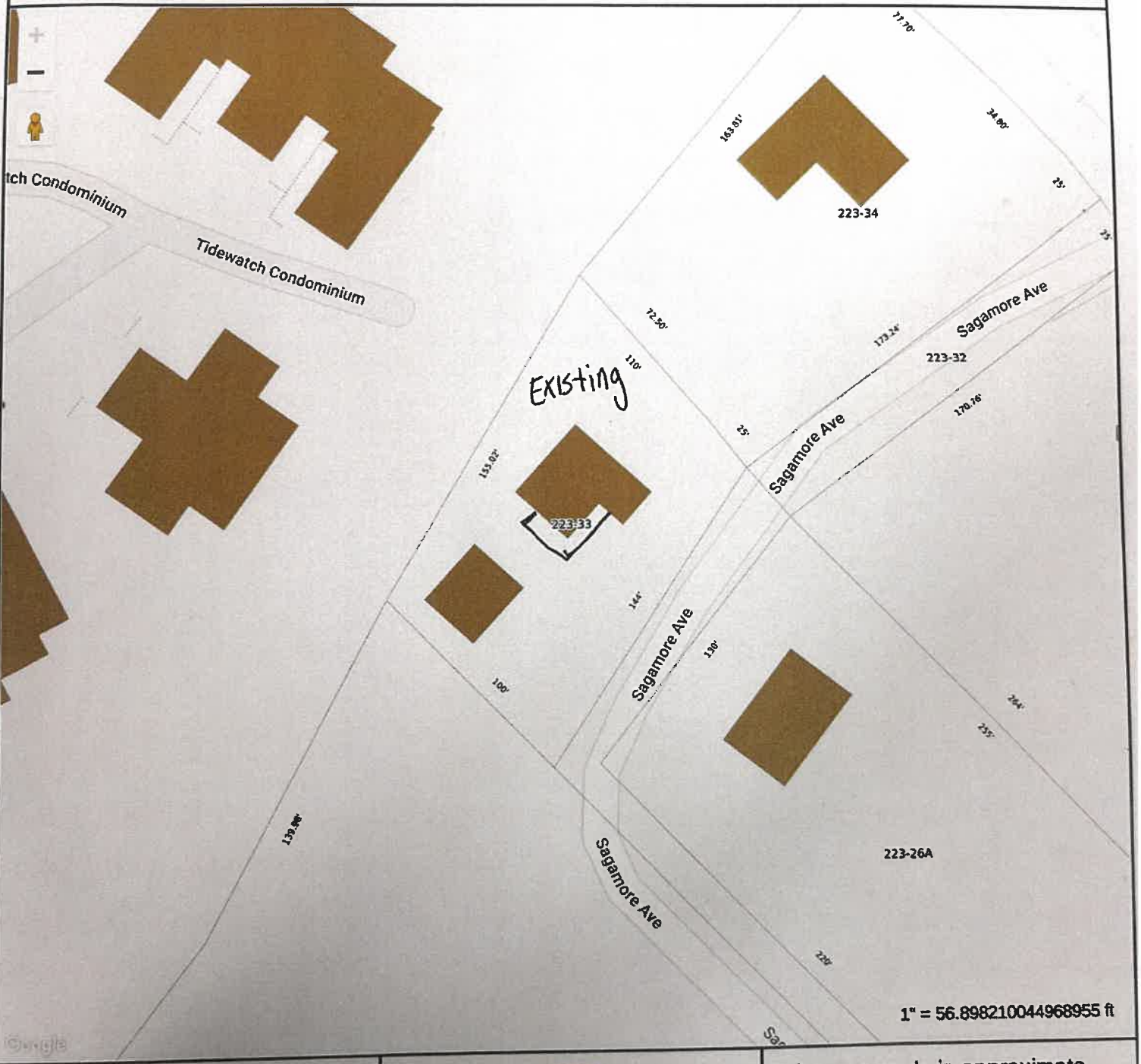
Job representatives

Troy Joncas – Deck builder – 617 -990 -6081

Debra Dupont – Homeowner – 603 – 988 -2593

City of Portsmouth, NH

May 14, 2024



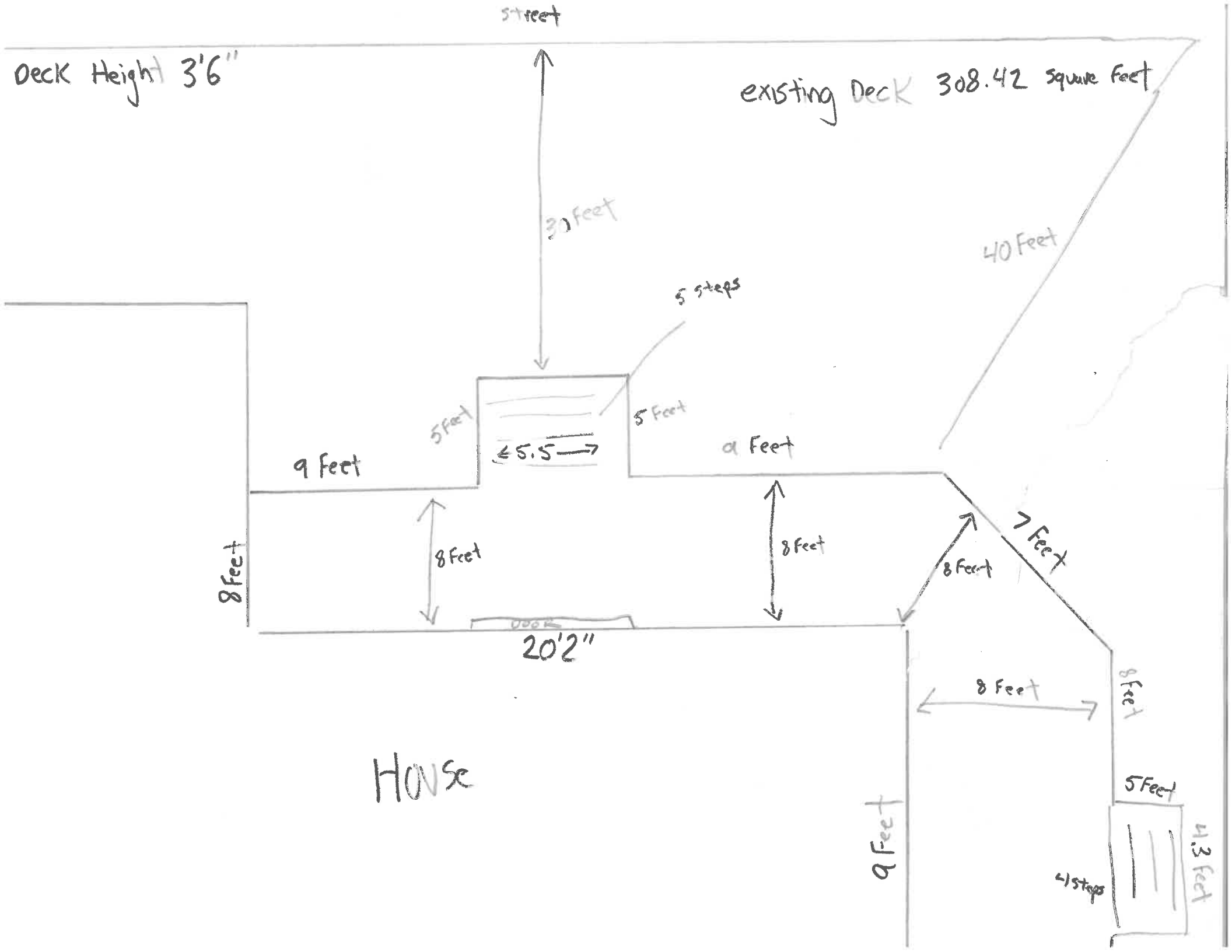
1" = 56.898210044968955 ft

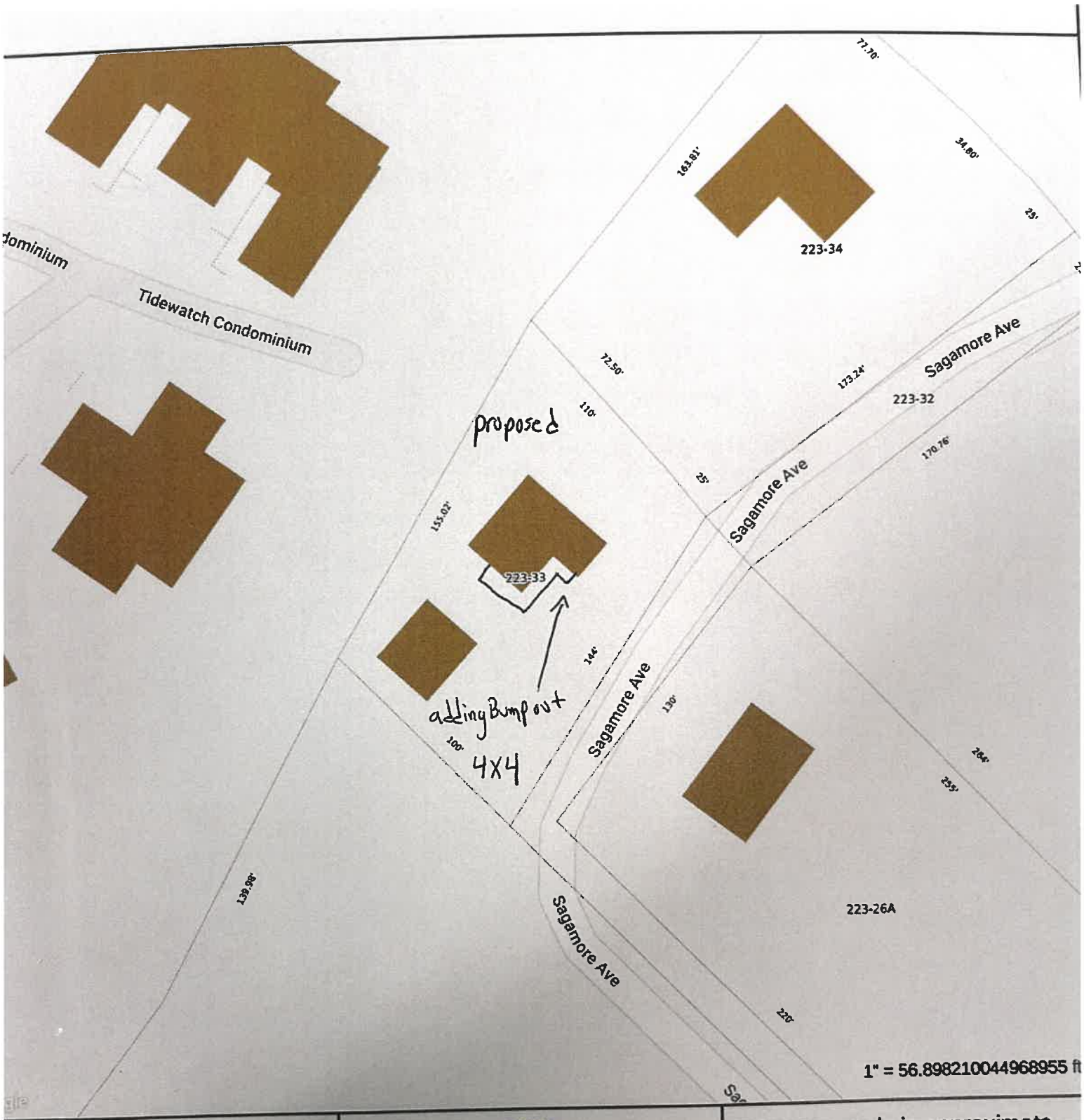
MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 08/24/2023
Data updated 3/9/2022

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.


Street
Deck Height 3'6"
existing Deck 308.42 square Feet
30 Feet
40 Feet
5 steps
5 Feet
5 Feet
5.5
9 Feet
9 Feet
8 Feet
8 Feet
8 Feet
8 Feet
7 Feet
DOOR
20'2"
House
8 Feet
8 Feet
5 Feet
9 Feet
4.3 Feet
4 steps



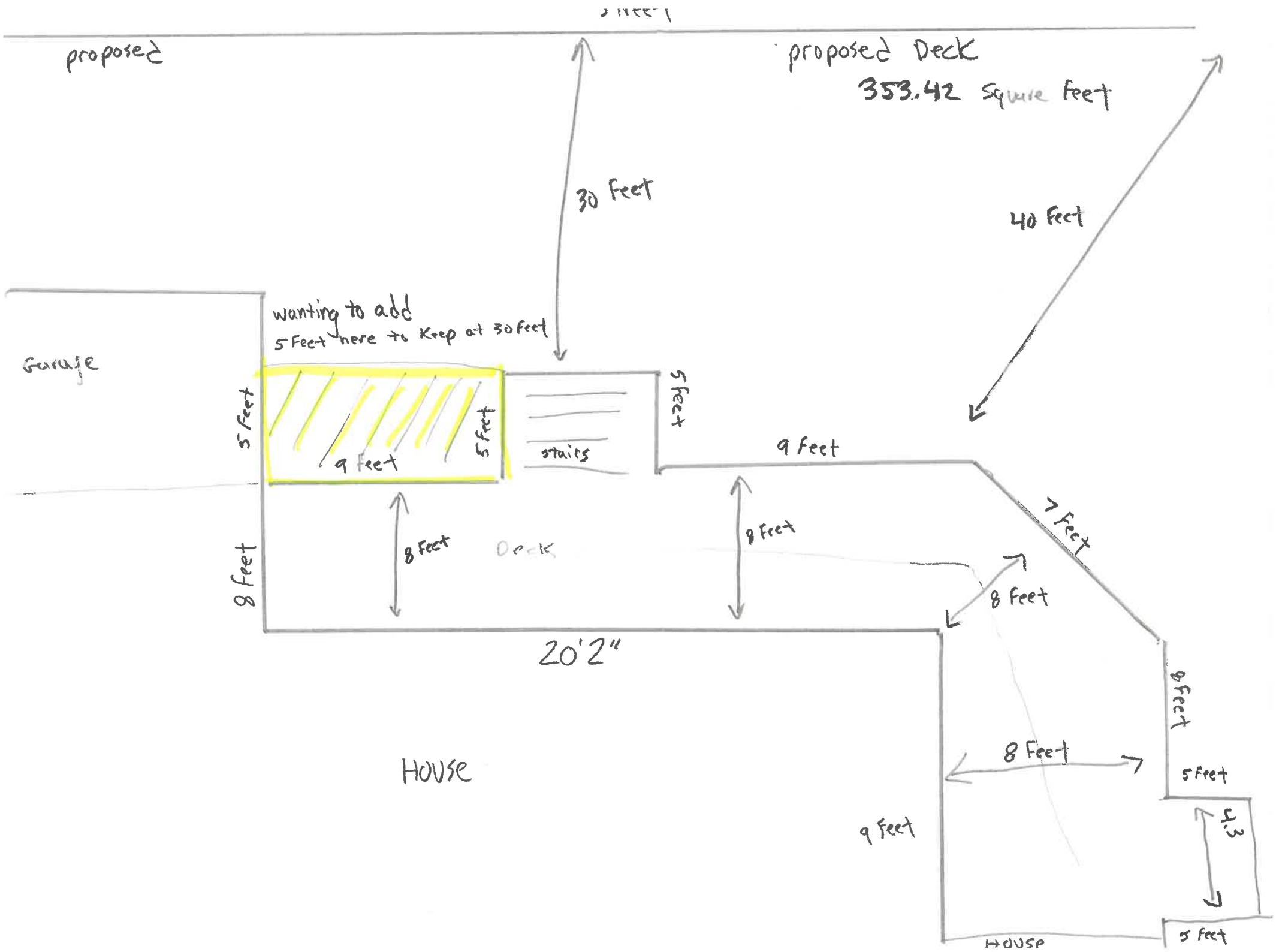
1" = 56.898210044968955 ft

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 08/24/2023
Data updated 3/9/2022

Print map scale is approximate. Critical layout or measurement activities should not be done usin this resource.


proposed
proposed Deck
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30 Feet
40 Feet
wanting to add
5 Feet here to Keep at 30 Feet
Garage
5 Feet
5 Feet
9 Feet
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7 Feet
8 Feet
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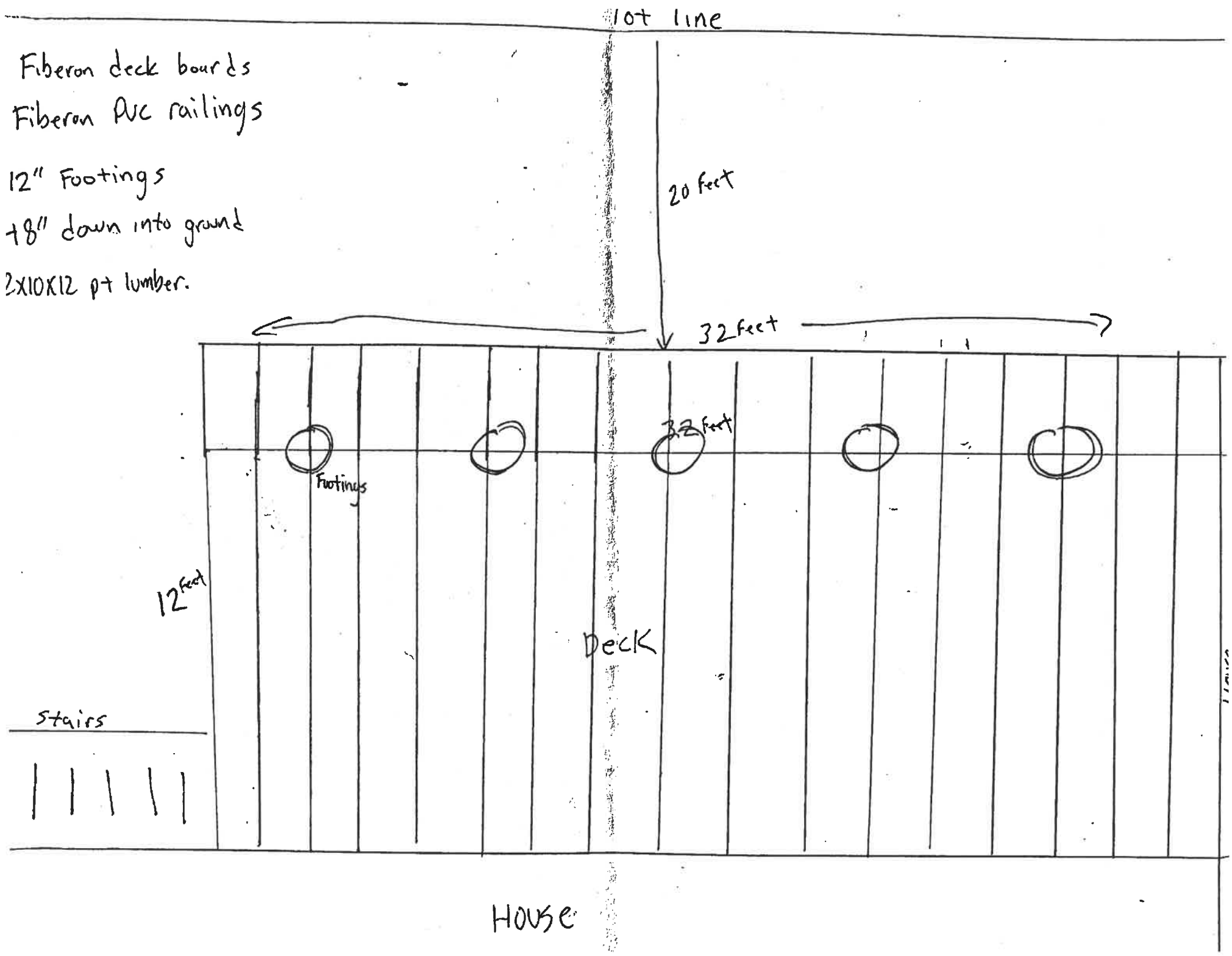
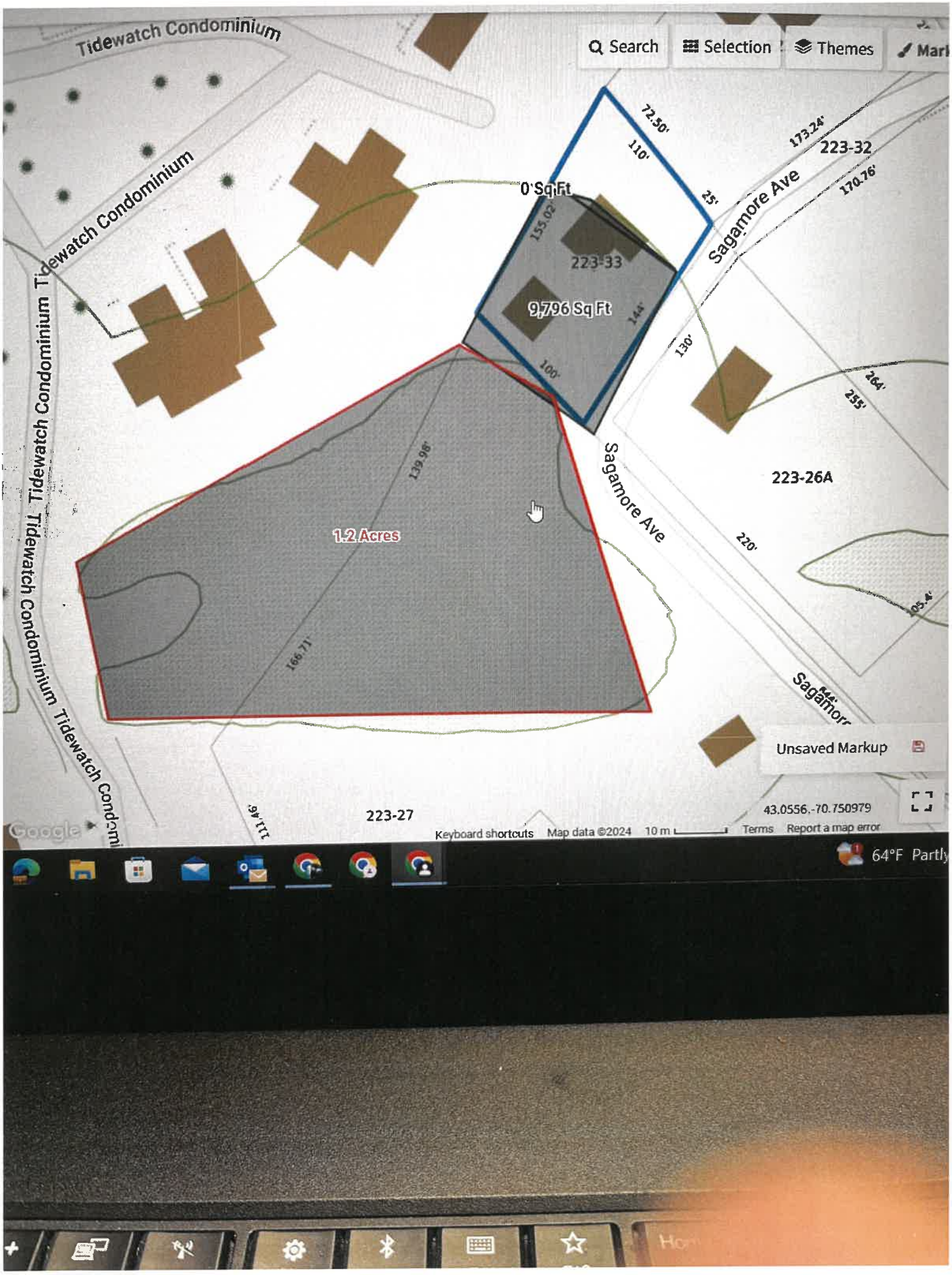
9 Feet
HOUSE
5 Feet
HOUSE


lot line
Fiberon deck boards
Fiberon PVC railings
12" Footings
18" down into ground
2X10X12 pt lumber.
20 feet
32 feet
32 feet
Footings
12 feet
Deck
stairs
HOUSE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264'
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223-26A
Sagamore Ave
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105.4'
139.98'
1.2 Acres
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111.46'
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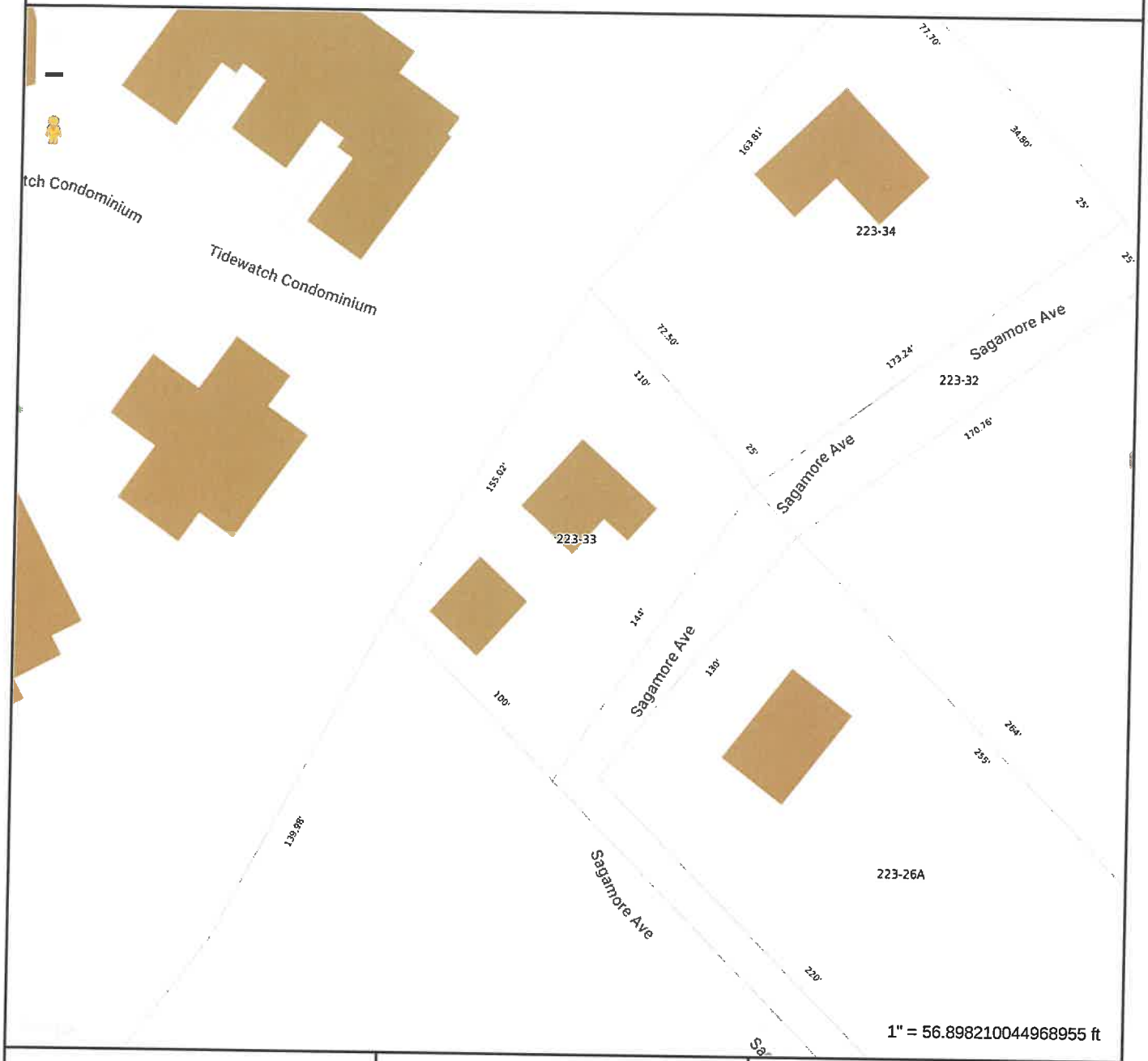
City of Portsmouth, NH

May 14, 2024



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Geometry updated 08/24/2023
Data updated 3/9/2022

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E5071-001
May 29, 2024

Ms. Samantha Collins, Chair
City of Portsmouth Conservation Commission
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Request for Wetland Conditional Use Permit Review**
100 Durgin Lane – Proposed Redevelopment

Dear Chair Collins:

On behalf of 100 Durgin Lane Owner, LLC (applicant) we are pleased to submit one (1) set of hard copies and one electronic file (.pdf) of the following information to support a request for a Wetland Conditional Use Permit for the above referenced project:

- One (1) 22x34 & one (1) 11x17 copy of the Site Plan Set, dated April 22, 2024;
- Drainage Analysis, dated April 22, 2024;
- Long-Term Operation & Maintenance Plan, dated April 22, 2024;
- Wetland Delineation Report, last revised May 8, 2024;
- Community Space Exhibit, dated April 19, 2024;
- Impervious Surface Exhibit; dated April 22, 2024;
- Wetland Buffer Exhibit, dated April 22, 2024;
- Wetland Buffer Comparison Exhibit, dated April 22, 2024;
- Authorization Form

PROJECT SUMMARY

Existing Conditions

The proposed project is located at 100 Durgin Lane and includes lots identified as Map 239 Lots 13-2, 16 & 18 on the City of Portsmouth Tax Maps. The site was previously home to Christmas Tree Shops and Bed, Bath and Beyond locations which are no longer in operation. The properties are a combined 26.2 acres of land and are located in the Gateway District (G1) and also lies within the Highway Noise Overlay District. The property is bound to the west by Route 16, to the north by the Motel 6 property and Gosling Road, to the south by the Hampton Inn and Home Depot properties, and to the east by an Eversource easement, Pep Boys and Durgin Plaza.

Proposed Redevelopment

The proposed project consists of the demolition of the existing Christmas Tree Shops and Bed, Bath and Beyond building and the construction of approximately 360 rental housing units in a mix of 3-story and 4-story buildings. The proposed project will include a community building and associated site improvements such as parking, pedestrian access, community spaces, utilities, stormwater management, lighting, and landscaping. The proposed project also includes a reduction in overall impervious surface on the development lot.

The proposed project will be providing 10% community space as required under the Development Site Conditional Use Permit for having more than one principal building on a

single lot. Based on the lot area the required community spaces will exceed 2 acres and includes a public dog park, recreation areas, community walking trails, and open/green space.

Open Space & Buffer Enhancement

The proposed project results in work within the 100-foot wetland buffer and therefore is a Conditional Use Permit is required for demolition and construction activities. The 100-foot wetland buffer within the development area includes impervious parking surfaces, drive aisles, and roadways. The project will provide an overall improvement by reducing impervious cover within the 100-foot wetland buffer. The impervious surface impacts from the proposed project are shown in Table 1. In addition to the summary in Table 1 below, detailed calculations of the impervious surfaces within the buffer for the existing and proposed condition are depicted in the enclosed Wetland Buffer Impervious Surface Exhibit.

The project's landscape design proposes to replace existing impervious areas removed from the wetland buffer with a native grass mix and native trees in an effort to enhance the previously disturbed wetlands buffer.

Table 1. 100 Durgin Lane, Wetland Buffer Impervious Surfaces

Buffer Segment	Existing Impervious (SF)	Final Impervious (SF)
0-25 feet	3,114	2,467
25-50 feet	12,156	9,010
50-100 feet	45,975	41,506
Total	61,245	52,983
Net Impervious Surface	**-8,262**	

Section 10.1017.24 of the Zoning Ordinance which indicates "Where feasible, the application shall include removal of impervious surfaces at least equal in area to the area of impervious surface impact. The intent of this provision is that the project will not result in a net loss of pervious surface within a jurisdictional wetland buffer." As shown in Table 1, the proposed project exceeds this requirement by providing an 8,262 SF reduction in impervious surface.

WETLAND CONDITIONAL USE PERMIT

Jurisdictional wetland areas, including forest, dense early successional shrub growth, and emergent wetland are present on site. A Conditional Use Permit for Wetland Buffer Impact will be required for the project for work within the 100 ft wetland buffer.

Wetland Conditional Use Permit Criteria

Based on the above described and enclosed materials, the following addresses how the proposed project warrants the granting of a Wetland Conditional Use Permit by satisfying the following six (6) criteria for approval in Section 10.1017.50 of the Zoning Ordinance:

(1) The land is reasonably suited to the use, activity or alteration.

The land is currently a previously disturbed site that was previously home to Christmas Tree Shops and Bed, Bath and Beyond building. The proposed project design is an allowed use within the Gateway Neighborhood Mixed Use District. Additionally, the proposed project site consists of a previously disturbed wetland

buffer area which has historically been used as a commercial area. The proposed project will result in impervious surface reduction in the buffer, buffer enhancement, and will provide public access to the site.

(2) There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.

The placement of the proposed buildings and parking areas were sited in a way to reduce the areas of impervious surface within the 25-, 50-, and 100-foot wetland buffers. The proposed project design reduces the impervious surface within the 25-, 50-, and 100' buffers and proposes to replace existing impacted areas with native plants including trees, shrubs, and grasses.

(3) There will be no adverse impact on the wetland functional values of the site or surrounding properties;

There will be no adverse impact on the wetland functional values of the site as the existing condition is previously disturbed and consisting of parking areas, drive aisles, and accessways. There is no real functional wetland buffer area on the project site. The proposed project intends to reduce impervious surfaces from the wetland buffer area. The buffer will be enhanced by the removal of invasive species and enhance the existing vegetation with native vegetation. The proposed site and landscape designs site enhance the previously disturbed wetland buffer area from its existing condition and provide added value by creating public open space for recreation on the site and along the buffer.

(4) Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals; and

The proposed project design proposes minimal alteration to the natural woodland to the greatest extent practical. The areas impacted consist primarily of impervious surfaces and previously disturbed areas. Any temporary disturbances of the wetland buffer will be restored following construction.

(5) The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this Section.

The proposed project design is not an adverse impact to the site as it would enhance the buffer by reducing overall impervious surface on the site, improve water quality through stormwater treatment and provide public access to the site. In addition, the proposed project will reduce the impervious surface within the 25, 50, and 100-foot wetland buffers.

(6) Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

The proposed work within the vegetated buffer strip is limited to the removal of impervious areas and repaving of the existing access road to the north. The proposed project will collect and treat the onsite impervious surfaces prior to discharging to the onsite wetlands. Implementing these treatment measures will help improve the water quality discharged from the property. Areas temporarily disturbed for the removal of paved areas within the vegetated buffer strip will be restored following construction. The landscape plan proposes replacing the existing disturbed areas within the 25-foot wetland buffer with a native grass mix, mown as required to avoid incursions of invasive species, and the addition of several native trees and shrubs within the previously disturb buffer area.

CONCLUSION

As shown in the enclosed information, the proposed project is expected to create a vibrant, authentic, diverse, and connected development that provides high quality housing to a variety of income ranges and meaningful community spaces.

We respectfully request to be placed on the Conservation Commission agenda for June 12, 2024. If you have any questions or need any additional information, please contact me by phone at (603) 294-9213 or by email at NAHansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Vice President

Neil A. Hansen, PE
Project Manager

Enclosures
Copy: 100 Durgin Lane Owner, LLC
John K. Bosen, Bosen & Associates
Utile, Inc Architects
Aceto Landscape Architecture

J:\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Reports\Applications\City of Portsmouth\20240529_CC Submission\E5071-001 CC Submission Letter.docx

PROPOSED MULTI-FAMILY DEVELOPMENT

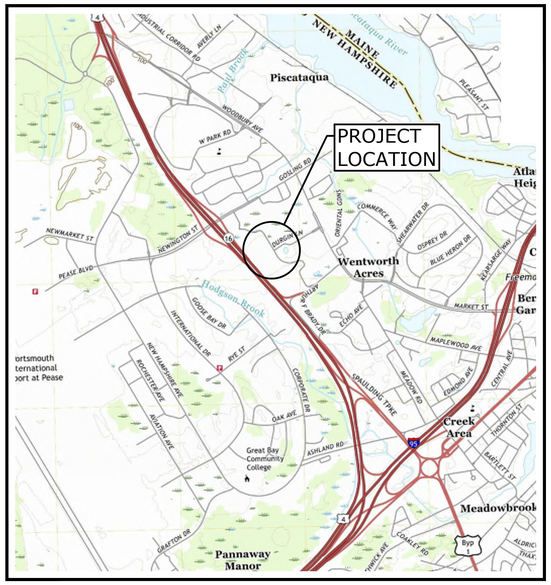
100 DURGIN LANE

PORTSMOUTH, NEW HAMPSHIRE

APRIL 22, 2024

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
-	COVER SHEET	4/22/2024
1 OF 4	TOPOGRAPHIC SURVEY NOTES	2/29/2024
2 OF 4	TOPOGRAPHIC SURVEY	2/29/2024
3 OF 4	TOPOGRAPHIC SURVEY	2/29/2024
4 OF 4	TOPOGRAPHIC SURVEY	2/29/2024
C-101	GENERAL NOTES AND LEGEND	4/22/2024
C-201	DEMOLITION PLAN	4/22/2024
C-202	DEMOLITION PLAN	4/22/2024
C-300	OVERALL SITE PLAN	4/22/2024
C-301	SITE PLAN	4/22/2024
C-302	SITE PLAN	4/22/2024
C-401	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	4/22/2024
C-402	GRADING, DRAINAGE, AND EROSION CONTROL PLAN	4/22/2024
C-403	DRAINAGE STRUCTURE TABLES	4/22/2024
C-501	UTILITIES PLAN	4/22/2024
C-502	UTILITIES PLAN	4/22/2024
C-600	ACCESS EASEMENT PLAN	4/22/2024
C-601	UTILITY, DRAINAGE, AND GRADING EASEMENT PLAN	4/22/2024
C-602	COMMUNITY SPACE EASEMENT PLAN	4/22/2024
C-801	EROSION CONTROL NOTES AND DETAILS SHEET	4/22/2024
C-802	DETAILS SHEET	4/22/2024
C-803	DETAILS SHEET	4/22/2024
C-804	DETAILS SHEET	4/22/2024
C-805	DETAILS SHEET	4/22/2024
C-806	DETAILS SHEET	4/22/2024
C-807	DETAILS SHEET	4/22/2024
C-808	DETAILS SHEET	4/22/2024
C-809	DETAILS SHEET	4/22/2024
L0-01	LANDSCAPE NOTES	4/22/2024
L1-00	LAYOUT AND MATERIALS PLAN	4/22/2024
L2-00	PLANTING PLAN	4/22/2024
L3-00	PHOTOMETRIC PLAN	4/22/2024
L5-00	SITE DETAILS	4/22/2024
L5-01	SITE DETAILS	4/22/2024
L5-02	SITE DETAILS	4/22/2024
L5-03	PLANTING DETAILS	4/22/2024
1 OF 9	3-STORY BUILDING ELEVATIONS	4/22/2024
2 OF 9	3-STORY BUILDING ELEVATIONS	4/22/2024
3 OF 9	3-STORY BUILDING (SMALL) ELEVATIONS	4/22/2024
4 OF 9	4-STORY BUILDING ELEVATIONS	4/22/2024
5 OF 9	COMMUNITY BUILDING ELEVATIONS	4/22/2024
6 OF 9	3-STORY BUILDING PLANS	4/22/2024
7 OF 9	3-STORY BUILDING (SMALL) FLOOR PLANS	4/22/2024
8 OF 9	4-STORY BUILDING FLOOR PLANS	4/22/2024
9 OF 9	COMMUNITY BUILDING FLOOR PLANS	4/22/2024

T & B PROJECT NO: E-5071-001



LOCATION MAP
SCALE: 1" = 2000'

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.
3. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	PENDING	
LOT LINE REVISION PERMIT	PENDING	
CONDITIONAL USE PERMIT - DEVELOPMENT SITE	PENDING	
CONDITIONAL USE PERMIT - WETLAND BUFFER	PENDING	
CONDITIONAL USE PERMIT - HIGHWAY NOISE OVERLAY DISTRICT	PENDING	
STATE		
NHDES - SEWER CONNECTION PERMIT	NOT SUBMITTED	
NHDES - ALTERATION OF TERRAIN PERMIT	NOT SUBMITTED	
FEDERAL		
NPDES - CONSTRUCTION GENERAL PERMIT	NOT SUBMITTED	

PREPARED BY:
Tighe&Bond
177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
603-433-8818

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER 04/22/2024

OWNER/APPLICANT:
100 Durgin Lane Owner LLC
ONE MARINA PARK DRIVE, SUITE 1500
BOSTON, MA 02210

SURVEYOR:
HOLDEN ENGINEERING & SURVEYING, INC.
56 OLD SUNCOOK ROAD, PO BOX 480
CONCORD, NH 03302

ARCHITECT:
UTILE
115 KINGSTON STREET
BOSTON, MA 02111

LANDSCAPE ARCHITECT:
ACETO LANDSCAPE ARCHITECTS
424 FORE STREET #3B
PORTLAND, ME 04101

TAC SUBMISSION
COMPLETE SET (45) SHEETS

ITEMS CORRESPONDING TO SCHEDULE B:

(9) Rights and easements in favor of the United States of America relating to electric power transmission lines as described in the Judgment on Declaration of Taking dated October 20, 1952 and recorded at Book 1283, Page 201; Order Amending Judgment on Declaration of Taking recorded November 26, 1954, at Book 1337, Page 277; Order of Court Amending Judgment on the Declaration of Taking, as Amended dated June 29, 1954, and recorded at Book 1340, Page 437 on December 29, 1954; Final Judgment of Condemnation for Tracts dated February 25, 1955, at Book 1370, Page 335; and Certification dated December 8, 1955, and recorded at Book 1379, Page 216. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(10) Rights and easements granted to Public Service Company of New Hampshire by instrument recorded at Book 1350, Page 186; agreement and consent to joint use between Public Service Company of New Hampshire and Costco Wholesale Corporation dated October 21, 1992, and recorded at Book 2965, Page 2892; rights and easements granted by Costco Wholesale Corporation to Public Service Company of New Hampshire and New England Telephone and Telegraph Company (NET&T) dated February 10, 1993, and recorded at Book 2972, Page 1422; and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(11) Right of way granted by Shaw's Realty Co. to Gilbert E. and Dorothy Soucy dated July 30, 1992, and recorded at Book 2965, Page 548. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(12) Rights and easements granted to New England Telephone and Telegraph Company dated April 12, 1957, and recorded at Book 1430, Page 375. MAY AFFECT THE SUBJECT PROPETY – VAGUE DESCRIPTION – NOT PLOTTABLE.

(13) Rights, easements, terms and obligations set forth in the Agreement between Gilbert E. Soucy and Dorothy Soucy and Costco Wholesale Corporation dated November 3, 1992, and recorded at Book 2956, Page 2200. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(14) Rights and easements granted to Gilbert E. and Dorothy Soucy for vehicular and pedestrian ingress and egress and for electric, telephone and cable television transmission lines as more fully described in the Grant of Right-of-Way from Costco Wholesale Corporation recorded at Book 2966, Page 754. MAY AFFECT THE SUBJECT PROPERTY – DOCUMENT DOES NOT DESCRIBE LOCATION – NOT PLOTTABLE.

(15) Rights and easements to lay, construct, operate, inspect, repair, maintain, renew, replace and remove underground sanitary sewer mains through a trip of land 20 feet in width as more fully described in the Sewer Easement from Costco Wholesale Corporation to Robert D. Haverty and Kathleen M. Haverty, Trustees of SFL Realty Trust, and Saturn Realty LLC dated June 9, 1994, and recorded at Book 3102, Page 379 and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY (LOT 239–18) – SHOWN ON PLAN.

(16) Rights and easements granted by Costco Wholesale Corporation to Saturn Realty LLC by Access Easement dated June 9, 1994, and recorded at Book 3102, Page 381, and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(17) Rights and easements for ingress and egress as more fully described in the Access Easement from Costco Wholesale Corporation to Robert D. Haverty and Kathleen M. Haverty, Trustees of SFL Realty Trust, dated June 9, 1994, and recorded at Book 3102, Page 391. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(18) Use limitations and general maintenance obligations as more fully set forth in the Real Estate Operation Agreement between the Trustees of SFL Realty Trust and Costco Wholesale Corporation dated as of June 9, 1994, and recorded at Book 3114, Page 601. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(19) Rights and easements for access and utilizes as described in the Easement Deed from Costco Wholesale Corporation to Gilbert E. Soucy and Dorothy Soucy dated November 11, 1992, and recorded at Book 2956, Page 2205; and Access Easement Deed dated June 12, 1996, from Costco Wholesale Corporation to Gilbert E. Soucy and Dorothy Soucy recorded at Book 3160, Page 2035, as affected by Amended Access Easement Deed between MIC PNH, LLC and Bed Bath & Beyond, Inc. dated November 21, 2013, and recorded at Book 5505, Page 683. See also Plan of Supplemental Access Easement recorded as Plan D–35346 and Amended Access Easement dated November 19, 2013, and recorded at Book 5498, Page 2502; and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(20) Rights and easement for utilizes in the Utility Easement Deed from Costco Wholesale Corporation to Gilbert E. Soucy and Dorothy Soucy dated June 12, 1996, and recorded at Book 3160, Page 2039; and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(21) Rights and easements in favor of the City of Portsmouth as described in the Access Easement Deed from Costco Wholesale Corporation dated June 12, 1996 and recorded at Book 3160, Page 2042. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(22) Rights and easements granted by Costco Wholesale Corporation to Gilbert E. Soucy and Dorothy Soucy as more fully described in the Slope and Landscape Easement Deed dated June 12, 1996, and recorded at Book 3160, Page 2045. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(23) Rights and easements in favor of Gilbert E. Soucy and Dorothy Soucy as set forth in the Drainage Easement Deed from Costco Wholesale Corporation dated June 12, 1996, and recorded at Book 3160, Page 2051; and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(24) Rights and easements for ingress and egress as more fully described in the Access Easement granted by SFL, LLC to Gilbert Soucy and Dorothy Soucy dated June 13, 1996, and recorded at Book 3160, Page 2033. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

ITEMS CORRESPONDING TO SCHEDULE B:

(25) Terms and provisions set forth in the Conservation Easement from SFL L.L.C. to the City of Portsmouth dated November 21, 1996 and recorded at Book 3192, Page 282. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(26) Terms and conditions of the Operation and Maintenance Agreement between SFL, LLC and During [sic.] Lane Hotel Corp. dated as of June 21, 1996 and recorded at Book 3165, Page 1545. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(27) Rights and easements for access, parking, utilities and signage as more fully described in the Access, Parking Signage and Utility Easement granted by Robert D. Haverty and Kathleen M. Haverty, Trustees of SFL Realty Trust, to Saturn Realty LLC dated June 9, 1994, and recorded at Book 3102, Page 397, as affected by the Quitclaim Deed and Release to Home Depot USA, Inc. from Saturn Realty LLC dated March 6, 1997 recorded in the Registry at Book 3202, Page 2465. DOES AFFECT THE SUBJECT PROPERTY (LOT 239–13–2) – SHOWN ON PLAN.

(28) Rights and easements for access, parking, utilities and signage as more fully described in the instrument granted by Saturn Realty LLC to Robert D. Haverty and Kathleen M. Haverty, Trustees of SFL Realty Trust, dated June 9, 1994, and recorded at Book 3102, Page 400, as affected by deed from Home Depot U.S.A., Inc. to Saturn Realty, LLC recorded March 10, 1997, at Book 3202, Page 2462. DOES AFFECT THE SUBJECT PROPERTY (LOT 239–13–1) – SHOWN ON PLAN.

(29) Terms and conditions set forth in the Mutual Access Easement between Home Depot U.S.A., Inc. and Thomas J. Flatley recorded September 14, 2006, at Book 4707, Page 1682, as may be affected by that certain Site Plan prepared by Appledore Engineering, Inc. recorded as Plan No. D–34142 on September 14, 2006. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(30) Rights and easements set forth in the Grant of Right–of–Way from Durgin Square Limited Partnership Louis L. Dow, Sr. et al. dated July 28, 1992, and recorded at Book 2939, Page 504; and as shown on the 2019 ALTA Survey described herein. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(31) Such state of facts and matters as shown on ALTA/NSPS Land Title Survey prepared by CDS Commercial Due Diligence Services bearing Field Date November 18, 2019, Project Address 100 Durgin Lane, Portsmouth NH; Project Name: BBBY Portfolio; CDS Project Number: 19–09–0671:011, Approved CDS Surveyor, Holden Engineering & Surveying, Inc. (the "2019 ALTA Survey") including the following: REFERENCES PRIOR VERSION OF CURRENT PLAN – NO ADDITIONAL MATTERS TO PLOT.

(a) encroachment of headwall extending 9.9+/– feet onto the Land;
(b) parking spaces and pavement located within easements described herein, to the extent the easement is in full force and effect;
(c) overhead and underground utility lines;
(d) utility poles and guy wires;
(e) landscaping, berms and medians traversing the boundary lines of the Land;
(f) City of Portsmouth site restrictions, building setbacks, and parking requirements;
(g) catch basins and drain manholes;
(h) water shut–offs and hydrants;
(i) sewer manholes;
(j) electric and gas meters; and
(k) signage.

(32) Rights, easements and obligations pertaining to ingress and egress as more fully described in the Access Easement Agreement between Home Depot U.S.A., Inc. and OCW Retail–Portsmouth, LLC dated as of December 27, 2007, and recorded on January 3, 2008, at Book 4875, Page 1438. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(33) Covenants and restrictions set forth in the Declaration of Use Restriction between Bed Bath & Beyond, Inc. and Home Depot U.S.A., Inc. dated as of December 27, 2007, and recorded on January 3, 2008, at Book 4875, Page 1464. DOES AFFECT THE SUBJECT PROPERTY – NOT SURVEY RELATED – NOT PLOTTABLE.

(34) Rights and easements relating to signage as more fully described in the Directional Signage Easement between Home Depot U.S.A., Inc., OCW Retail–Portsmouth, LLC and Bed Bath & Beyond, Inc. dated as of December 27, 2007, and recorded at Book 4875, Page 1477 on January 3, 2008. DOES AFFECT THE SUBJECT PROPERTY – BLANKET DESCRIPTION – NOT PLOTTABLE.

(35) Such state of facts and matters as shown on the plan entitled "Easement Plan Hampton Inn, Tax Map 239 Lots 15 & 18, Property of MIC PNH, LLC & Bed Bath & Beyond, Inc., 99 & 100 Durgin Lane, County of Rockingham, Portsmouth, New Hampshire", prepared by MSC Civil Engineers & Land Surveyors, Inc., dated February 20, 2013, revised through April 2, 2013, and recorded December 2, 2013, as Plan No. D–38033. DOES AFFECT THE SUBJECT PROPERTY – SHOWN ON PLAN.

(36) INTENTIONALLY DELETED.

(37) INTENTIONALLY DELETED.

(38) Subject to Subordination, Non–Disturbance and Attornment Agreement, recorded on January 6, 2022, in Book 6372, Page 839. DOES AFFECT THE SUBJECT PROPERTY – NOT SURVEY RELATED – NOT PLOTTABLE.

(39) Subject to Conditions, Etc. contained in Quitclaim Deed, recorded on December 27, 2021, in Book 6369, Page 422 and re–recorded on December 30, 2021, in Book 6370, Page 340. NO DOCUMENT PROVIDED.

(40) Subject to Easements contained in Quitclaim Deed, recorded on December 27, 2021, in Book 6369, Page 422 and re–recorded on December 30, 2021, in Book 6370, Page 340. NO DOCUMENT PROVIDED.

TITLE INFORMATION:

THE TITLE DESCRIPTION AND SCHEDULE B ITEMS HEREON ARE FROM FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. OAK ST INVEST DURGIN LANE WITH AN EFFECTIVE DATE OF NOVEMBER 9, 2023 AT 12:00 PM.

BASIS OF BEARINGS:

BEARINGS BASED ON PLAN D–35346 AND SHOWN ON PLAN AS N 59° 39' 24" E.

FLOOD NOTE:

Said described property is located within an area having a Zone Designation X by the Federal Emergency Management Agency (FEMA), on Flood Insurance Rate Map No. 33015C0260E, with a date of identification of May 17, 2005, for Community Panel No. 0260, in Rockingham County, State of New Hampshire, which is the current Flood Insurance Rate Map for the community in which said property is situated.

Zone "X" Denotes Areas of minimal flood hazard (No Shading)

The subject property IS NOT in a Special Flood Hazard Area

PARKING INFORMATION:

616 REGULAR SPACES
16 HANDICAPPED ACCESSIBLE SPACES
632 TOTAL PARKING SPACES

NOTES:

1. THE OWNER OF RECORD IS OAK STREET INVESTMENT GRADE NET LEASE FUND SERIES 2021–2 LLC, 30 N. LA SALLE ST. SUITE 4140, CHICAGO, IL 60602.

2. REFERENCE THE SUBJECT PROPERTIES AS TAX MAP 239 LOTS 16, 18, AND 13–2, PER THE CITY OF PORTSMOUTH, NH ASSESSORS MAPS.

3. DEED REFERENCE FOR THE SUBJECT PARCEL IS BOOK 6370, PAGE 340, AS RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

4. TOTAL AREA OF SUBJECT PARCEL IS 1,138,161 SQUARE FEET, OR 25.15 ACRES.

5. TABLE A ITEM 16– THERE IS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.

6. THE ACCOMPANYING SURVEY WAS MADE ON THE GROUND AND CORRECTLY SHOWS THE LOCATION OF ALL BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS SITUATED ON THE ABOVE PREMISES; THERE ARE NO VISIBLE ENCROACHMENTS ON THE SUBJECT PROPERTY OR UPON ADJACENT LAND ABUTTING SAID PROPERTY EXCEPT AS SHOWN HEREON AND WAS MADE IN ACCORDANCE WITH LAWS AND/ OR MINIMUM STANDARDS OF THE STATE OF NEW HAMPSHIRE.

7. THE PROPERTY HAS DIRECT ACCESS TO DURGIN LANE A PUBLIC WAY AND INDIRECT ACCESS TO GOSLING ROAD A PUBLIC WAY.

8. THE INTERNAL CONTIGUITY OF THE SUBJECT PROPERTY HAS NO OVERLAPS, GAPS, OR GORES.

9. THE PROPERTY DESCRIBED HEREON HAS THE STREET ADDRESS AS FOLLOWS: 100 DURGIN LANE, PORTSMOUTH, NH

10. SAID PREMISES IS A SEPARATELY SUBDIVIDED TRACT.

11. ANY OFFSITE EASEMENTS OR SERVITUDES BENEFITTING THE SURVEYED PROPERTY AND DISCLOSED IN RECORD DOCUMENTS ARE DEPICTED HEREON.

12. "ALL STATEMENTS WITHIN THE CERTIFICATION, AND OTHER REFERENCES LOCATED ELSEWHERE HEREON, RELATED TO: UTILITIES, IMPROVEMENTS, STRUCTURES, BUILDINGS, PARTY WALLS, PARKING, EASEMENTS SERVITUDES, AND ENCROACHMENTS ARE BASED SOLELY ON ABOVE GROUND, VISIBLE EVIDENCE, UNLESS ANOTHER SOURCE OF INFORMATION IS SPECIFICALLY REFERENCED HEREON" IS NOT NOTED.

13. THE SUBJECT PROPERTY DOES NOT FALL WITHIN A WETLANDS AREA.

14. THERE WERE NO PARTY WALLS OBSERVED AT THE TIME OF SURVEY.

15. THERE IS NO VISIBLE EVENDENCE OF A CEMETERY ON THE SUBJECT PROPERTY AT THE TIME OF THE SURVEY.

16. HORIZONTAL DIMENSIONS ARE BASED ON THE 1983 NORTH AMERICAN DATUM (NAD 83) AND ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

STATEMENT OF ENCROACHMENTS

(A) HEADWALL EXTENDS ONTO SUBJECT PROPERTY 9.9' +/–

SURVEYOR'S CERTIFICATE:

To: Stebbins, Lazos & Van Der Beken PLLC; First American Title Insurance Company; and 100 Durgin Lane Owner LLC.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 13, 14, 16, and 21(a) (Graphically depict in relation to the subject tract or property any offsite easements or servitudes benefitting the surveyed property and disclosed in Record Documents provided to the surveyor as part of the Schedule "A") of Table A thereof.

The field work was completed on August, 22, 2023

Peter D. Holden
Surveyor No. 596
In The State Of New Hampshire

STATE OF NEW HAMPSHIRE — No. 596 — PETER D. HOLDEN — LICENSED LAND SURVEYOR

ZONING INFORMATION:

ZONING INFORMATION TAKEN FROM THE REPORT PREPARED BY THE PLANNING & ZONING RESOURCE COMPANY, PZR SITE NUMBER 167869–1, DATED SEPTEMBER 12, 2023.

ZONE IS "G1" GATEWAY NEIGHBORHOOD MIXED USE CORRIDOR

SITE RESTRICTIONS:
MINIMUM LOT SIZE = NOT SPECIFIED
MINIMUM LOT FRONTAGE = 100 FEET
MINIMUM LOT WIDTH = NOT SPECIFIED
MINIMUM LOT DEPTH = NOT SPECIFIED
MAXIMUM BUILDING HEIGHT = 4 STORIES/50 FEET
MAXIMUM LOT COVERAGE = 70%

SETBACKS:
FRONT = 0 FEET MINIMUM/ 50 FEET MAXIMUM
SIDE = 15 FEET
REAR = 15 FEET

PARKING:
ALL RETAIL TRADE USES: 1 SPACE PER 300 SQ. FT. OF GROSS FLOOR AREA
(78,317 / 300 = 261) 261 TOTAL PARKING SPACES REQUIRED.

THE CURRENT USE IS PERMITTED IN THIS DISTRICT.

THE ABOVE RESTRICTIONS WERE OBTAINED FROM THE TOWN OF PORTSMOUTH, NH ZONING CODE

WETLAND NOTES:

The delineation work was performed on November 11, 2023 by Brendan Quigley, CWS #249 utilizing the following standards:

1. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, (Version 2.0) January 2012, U.S. Army Corps of Engineers.

2. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.2. United States Department of Agriculture (2018).

3. New England Hydric Soils Technical Committee. 2019 Version 4, Field Indicators for Identifying Hydric Soils in New England. New England Interstate Water Pollution Control Commission, Lowell, MA.

4. U.S. Army Corps of Engineers National Wetland Plant List, version 3.5. (2020)

HOLDEN ENGINEERING & SURVEYING, inc.

■ 56 Old Suncook Road
PO Box 480 Concord, NH 03302
(603) 225–6449

□ 9 Constitution Drive
Bedford, NH 03110
(603) 472–2078

ALTA / NSPS LAND TITLE SURVEY PREPARED FOR
100 DURGIN LANE OWNER LLC
100 DURGIN LANE, PORTSMOUTH, ROCKINGHAM COUNTY, NEW HAMPSHIRE

	Date:	Revisions Description	Dr. By	Chk. By
1.	11–10–23	REVISED PER CLIENT COMMENTS	DS	LR
2.	02–13–24	MINOR UTILITY EDITS	DS	PH
3.	02–29–24	UPDATE TITLE COMMITMENT	DS	LR
4.				
5.				

Book | Page

Date: 08–10–23
Scale: NONE
Dr. By: DS Ck By: LR
Job No. 2320547
Sheet no 1 of 8

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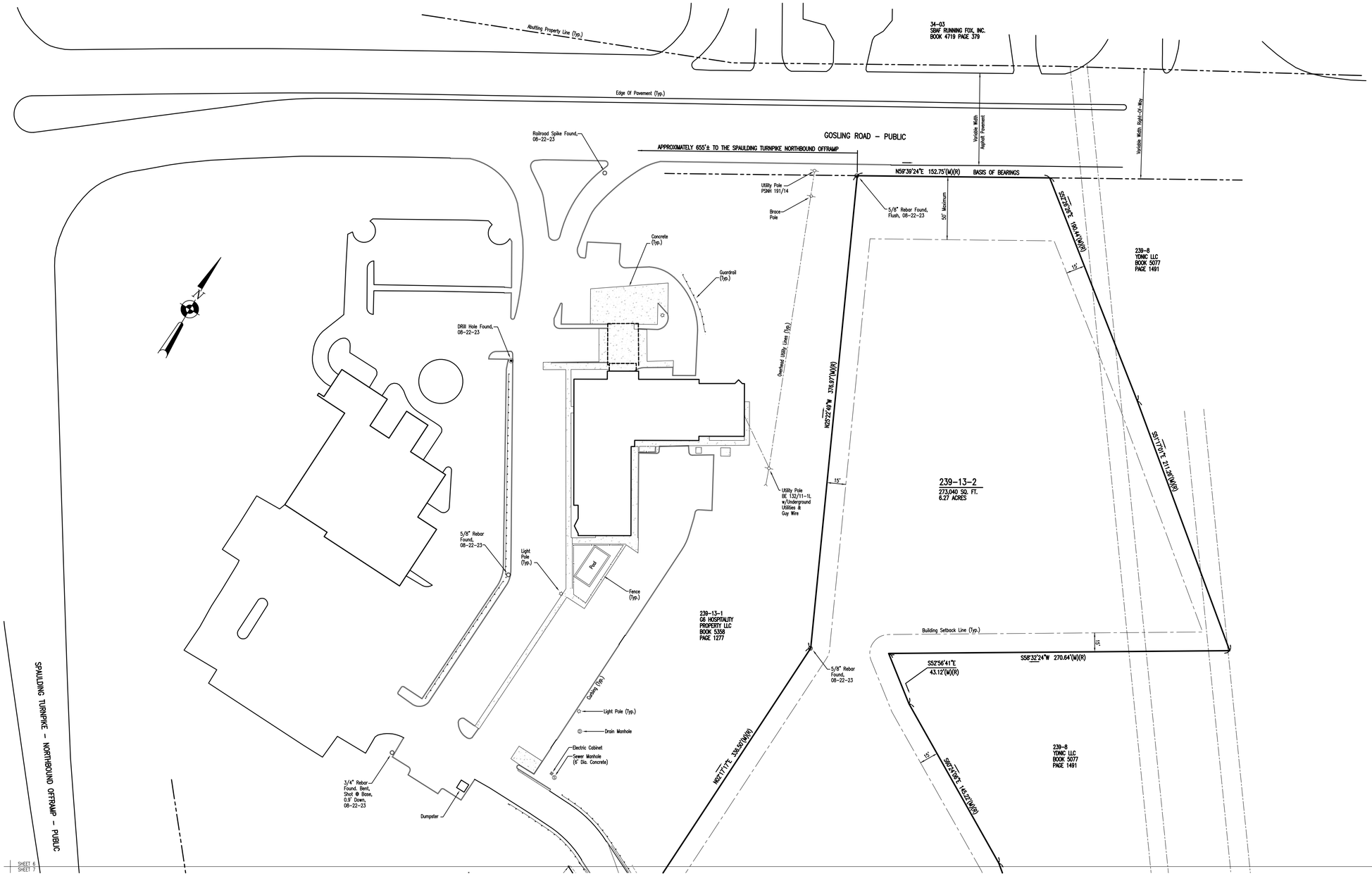

LEGEND:

- ABUTTING PROPERTY LINE
- TREELINE
- UNDERGROUND ELECTRIC (Paint)
- SEWER LINE (Paint)
- 10 FOOT CONTOUR
- 2 FOOT CONTOUR
- CURBING
- EDGE OF PAVEMENT
- FENCE
- GUARDRAIL
- PROPERTY LINE
- FORMER LOT LINE
- BUILDING SETBACK LINE
- OVERHEAD UTILITY LINES
- EASEMENT
- STONEWALL
- FLAGGED WETLAND
- SWALE
- GAS LINE (Point)
- CONCRETE
- CATCH BASIN
- DRAIN MANHOLE
- ELECTRIC BOX
- LIGHT POLE
- REBAR OR RAILROAD SPIKE
- DRILL HOLE
- POST
- SIGN
- SEWER MANHOLE
- UTILITY POLE OR BRACE POLE
- WATER SHUT-OFF
- HYDRANT
- ELECTRIC METER
- GAS METER
- FLAG POLE
- GAS SHUT-OFF
- BORING
- WETLAND FLAG LOCATION
- BOLLARD
- TREE

I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND HAS A MAX. ERROR OF CLOSURE OF 1:10,000 ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

STATE OF NEW HAMPSHIRE — No. 596 — PETER D. HOLDEN — LICENSED LAND SURVEYOR

SIGNATURE — DATE

SCALE: 1" = 40'

40 0 40 80 120

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9 Constitution Drive
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TOPOGRAPHIC SURVEY PREPARED FOR

100 DURGIN LANE OWNER LLC

100 DURGIN LANE, PORTSMOUTH, ROCKINGHAM COUNTY, NEW HAMPSHIRE

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4.				
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Book | Page

Date: 08-10-23
Scale: 1"=40'
Dr. By: DS Ck By: LR
Job No. 2320547
Sheet no 6 of 8

SHEETS-6-7-8

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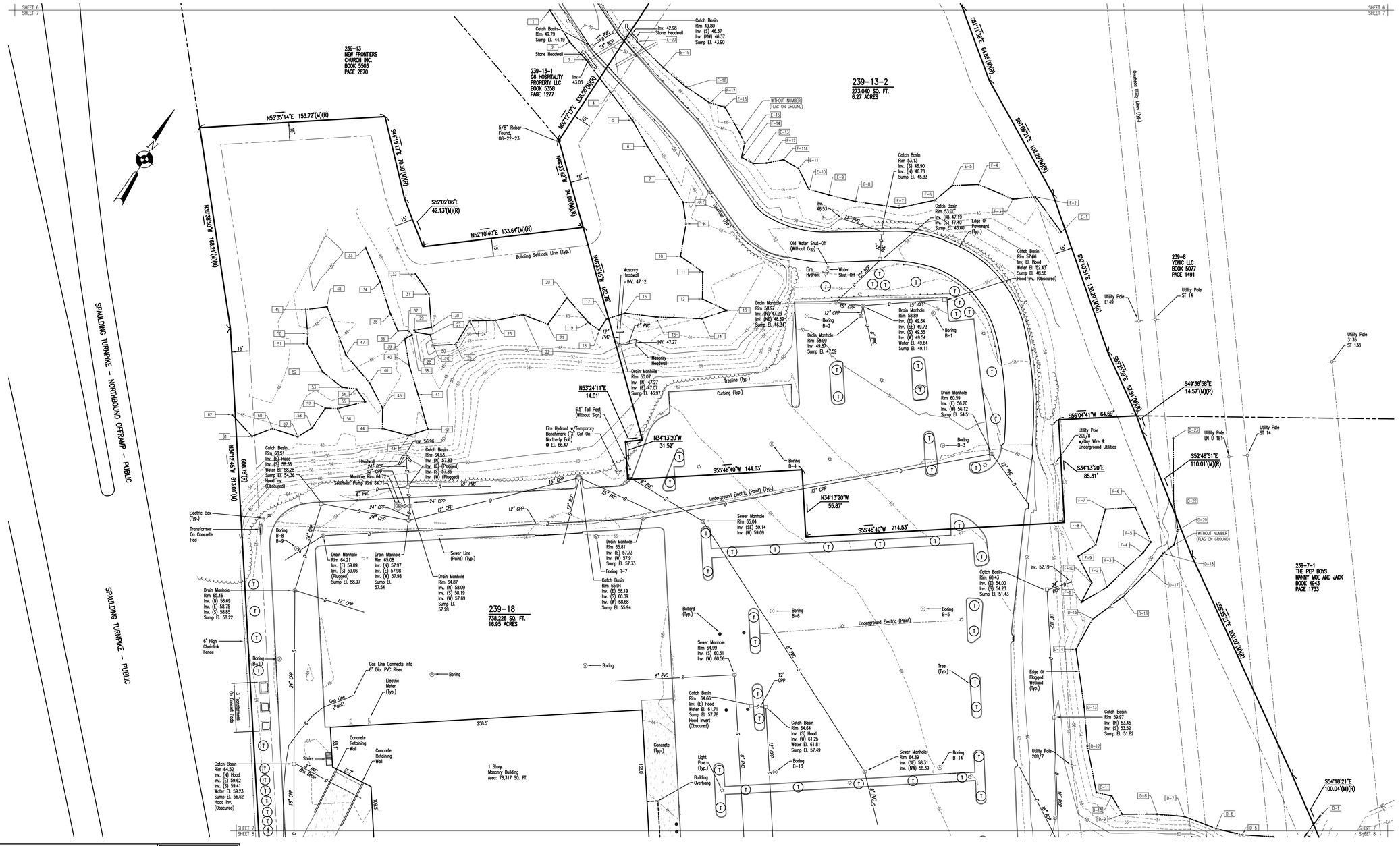

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SCALE: 1" = 40'

40 0 40 80 120

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STATE OF NEW HAMPSHIRE — No. 596 — PETER D. HOLDEN — LICENSED LAND SURVEYOR — SIGNATURE

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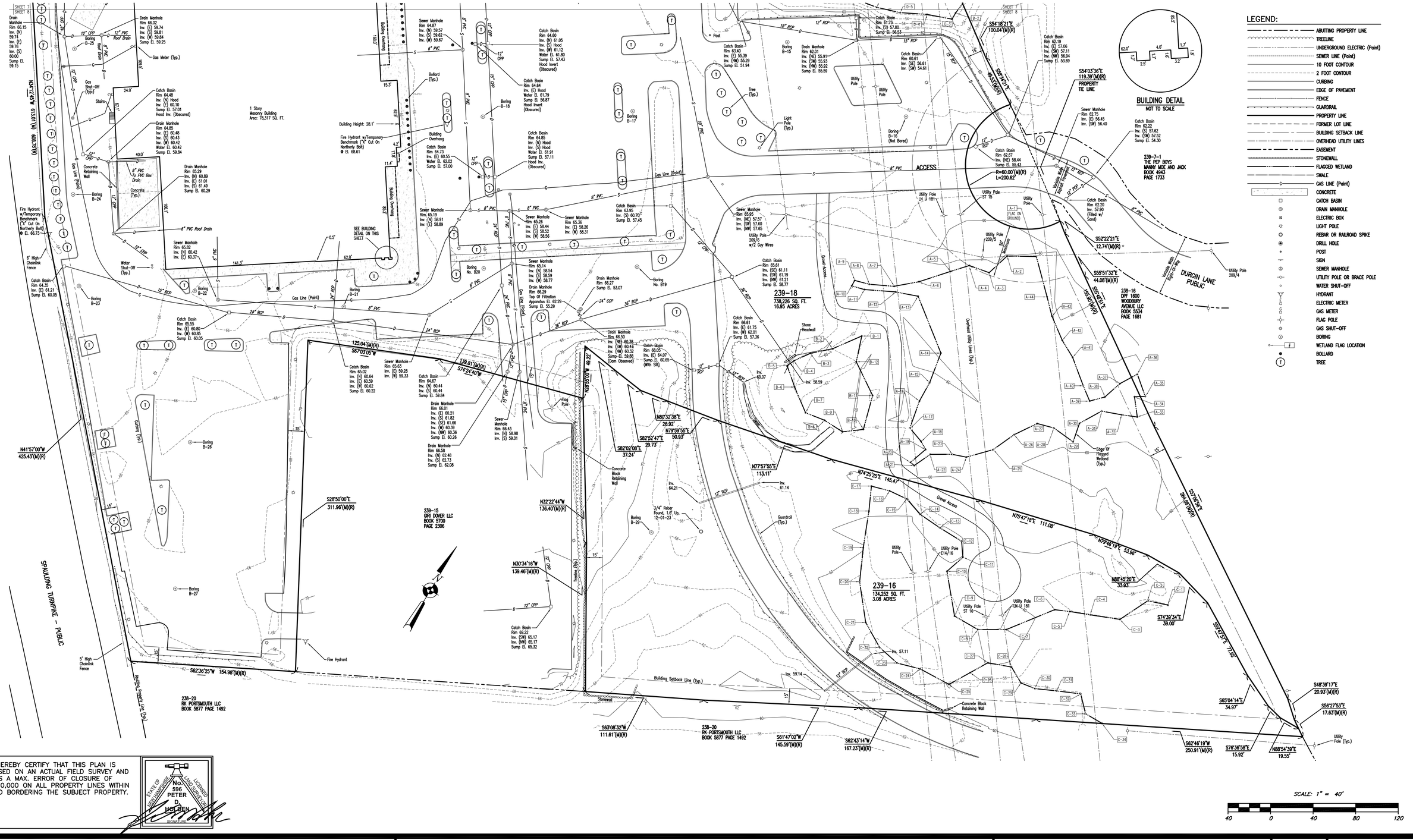

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STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 596 PETER D. HOLDEN SIGNATURE

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SHEETS-6-7-8

GENERAL NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES AND COMPLY WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR AND COMPLY WITH ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
12. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
13. APPLICANT SHALL SUBMIT, AS PART OF THE FINAL POST APPROVAL PROCEDURES, RELEVANT PTAP INFORMATION USING THE MOST RECENT ONLINE DATA PORTAL CURRENTLY MANAGED BY THE UNH STORMWATER CENTER. THE PLANNING DEPARTMENT SHALL BE NOTIFIED AND COPIED OF THE PTAP DATA SUBMITTAL.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
3. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
4. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
7. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY AND CITY OF PORTSMOUTH STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
9. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
10. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
11. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
12. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
13. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
14. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
15. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
16. THE CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING GRANITE CURB FOR REUSE.

SITE NOTES:

1. PAVEMENT MARKINGS SHALL BE INSTALLED AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, FIRE LANES, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES. ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE PAVEMENT MARKINGS. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING LEGENDS, ARROWS, CROSSWALKS AND STOP BARS SHALL MEET THE REQUIREMENTS OF AASHTO M249. ALL PAINTED PAVEMENT MARKINGS INCLUDING CENTERLINES, LANE LINES AND PAINTED MEDIANS SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F".
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PAVEMENT MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE, WHITE THERMOPLASTIC AND CONFORM TO CURRENT MUTCD STANDARDS.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
9. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
10. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
11. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
13. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
14. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
15. THE PROPERTY OWNER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS WHEN SNOW BANKS EXCEED 6' IN HEIGHT. ALL SNOW REMOVAL SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF.

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
3. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
4. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
6. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
7. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.

EROSION CONTROL NOTES:

1. SEE SHEET C-801 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

UTILITY NOTES:

1. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH
   - SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMM/FAIRPOINT/COMCAST
2. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
3. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
4. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
5. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
6. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
7. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
8. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
9. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
10. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
11. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
12. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
13. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
14. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
15. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
16. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
17. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
18. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
19. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
20. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
21. FINAL FIRE & DOMESTIC SERVICE CONNECTION SIZES TO BE DETERMINED BY PROJECT PLUMBING ENGINEER PRIOR TO CONSTRUCTION.

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY HOLDEN ENGINEERING AND SURVEYING, INC. DATED 8/10/2023, LAST REVISED 2/13/2024.
2. WETLAND DELINEATION BY BRENDAN QUIGLEY, CWS #243 OF GOVE ENVIRONMENTAL SERVICES, INC., ON 11/11/2023, AND FIELD LOCATED BY HOLDEN ENGINEERING AND SURVEYING AT A FUTURE DATE.

LEGEND

- APPROXIMATE LIMIT OF SAWCUT
- LIMIT OF WORK
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- EXISTING TREES TO BE REMOVED
- EXISTING BUILDING TO BE REMOVED
- LOCATION OF PROPOSED BUILDING
- PROPOSED PAVEMENT SECTION
- PROPOSED CONCRETE
- PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED GUARDRAIL
- EXISTING GUARDRAIL
- FLAGGED WETLAND
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CURB
- 100 PROPOSED MAJOR CONTOUR LINE
- 101 PROPOSED MINOR CONTOUR LINE
- CATCH BASIN
- DRAIN MANHOLE
- ELECTRIC BOX
- LIGHT POLE
- POST
- SIGN
- SEWER MANHOLE
- UTILITY POLE OR BRACE POLE
- WATER SHUT-OFF
- HYDRANT
- ELECTRIC METER
- GAS METER
- GAS SHUT-OFF
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED RAIN GUARDIAN TURRET
- PROPOSED FLARED END SECTION
- PROPOSED CONTECH JELLYFISH FILTER UNIT
- PROPOSED OUTLET CONTROL STRUCTURE
- PROPOSED INLET PROTECTION BARRIER
- PROPOSED DRAINLINE
- PROPOSED SEWER MANHOLE
- PS PROPOSED SEWER LINE
- PG PROPOSED GAS LINE
- PW PROPOSED WATER LINE
- SFM PROPOSED SEWER FORCE MAIN
- SFM APPROXIMATE EXISTING SEWER FORCE MAIN
- W APPROXIMATE WATER LINE
- PROPOSED WATER VALVE
- PROPOSED THRUST BLOCK
- PE PROPOSED UNDERGROUND ELECTRIC LINE
- PC&T PROPOSED UNDERGROUND TELECOMS
- T PROPOSED TRANSFORMER
- 100' WETLAND BUFFER
- 50' LIMITED CUT BUFFER
- 25' VEGETATIVE BUFFER

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AC	ACRES
ADA	AMERICANS WITH DISABILITIES ACT
AGGR	AGGREGATE
BLDG	BUILDING
BC	BOTTOM OF CURB
CB	CATCH BASIN
CONST	CONSTRUCT
COORD	COORDINATE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
DWG	DRAWING
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EV	ELECTRIC VEHICLE
FF	FINISHED FLOOR
FGC	FLUSH GRANITE CURB
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
L	LENGTH
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
OC	ON CENTER
PCB	PROPOSED CATCH BASIN
PDMH	PROPOSED DRAINAGE MANHOLE
POCS	PROPOSED OUTLET STRUCTURE
PROP	PROPOSED
PSMH	PROPOSED SEWER MANHOLE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SGC	SLOPED GRANITE CURB
SF	SQUARE FEET
STD	STANDARD
TBR	TO BE REMOVED
TC	TOP OF CURB
TYP	TYPICAL
UD	UNDERDRAIN
VGC	VERTICAL GRANITE CURB
VIF	VERIFY IN FIELD
W/	WITH
PYD	PROPOSED YARD DRAIN

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STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
DATE:	4/22/2024
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DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

GENERAL NOTES AND LEGENDS

SCALE: AS SHOWN

C-101

BEGIN SILT SOCK

GUARDRAIL TO REMAIN

APPROXIMATE LIMITS OF SAWCUT (TYP.)

EXISTING PAVEMENT TO BE REMOVED (TYP.)

END SILT SOCK

APPROXIMATE LOCATION OF EXISTING SEWER FORCE MAIN TO REMAIN (VERIFY LOCATION IN FIELD)

LIMIT OF SEWER FORCE MAIN TO BE REMOVED (VERIFY LOCATION IN FIELD)

LIMIT OF GUARDRAIL TO BE REMOVED

DRAINAGE STRUCTURES TO REMAIN

MAP 239 LOT 13

PROPERTY LINE (TYP.)

APPROXIMATE LOCATION OF EXISTING WATER LINE TO REMAIN (VERIFY LOCATION IN FIELD)

LIMIT OF EXISTING WATER LINE TO BE REMOVED (VERIFY LOCATION AND SIZE IN FIELD)

MAP 239 LOT 13-2
6.33 ACRES
275,630 SF

APPROXIMATE LIMIT OF WORK (TYP.)

APPROXIMATE LIMITS OF CLEARING

25' VEGETATED BUFFER

50' LIMITED CUT BUFFER

50' LIMITED CUT BUFFER

PROPOSED SILT SOCK (TYP.)

100' WETLAND BUFFER

EXISTING PAVEMENT TO BE REMOVED (TYP.)

MAP 239 LOT 7

MAP 239 LOT 18
16.74 ACRES
729,279 SF

ALL EXISTING DRAINAGE STRUCTURES, PIPES, AND UTILITIES WITHIN THE LIMITS OF WORK SHALL BE REMOVED UNLESS SPECIFICALLY IDENTIFIED TO REMAIN (TYP.)

100' WETLAND BUFFER

25' VEGETATED BUFFER

MATCH LINE

MATCH LINE

ELECTRICAL UTILITY POLES TO REMAIN

BEGIN REMOVAL OF DRAIN LINE AND DOWNSTREAM STRUCTURES

DRAINAGE TO REMAIN

SEE SHEET C-101 FOR DEMOLITION PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER –
4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER –
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

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DEMOLITION PLAN

SCALE: AS SHOWN

C-201

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PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
4/22/24

NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
04/22/2024

MATCH LINE
MATCH LINE

EXISTING TREE TO BE REMOVED (TYP)

EXISTING BUILDING TO BE REMOVED

ALL EXISTING DRAINAGE STRUCTURES, PIPES, AND UTILITIES WITHIN THE LIMITS OF WORK SHALL BE REMOVED UNLESS SPECIFICALLY IDENTIFIED TO REMAIN (TYP.)

BEGIN REMOVAL OF DRAIN LINE AND DOWNSTREAM STRUCTURES

DRAINAGE TO REMAIN

ELECTRICAL UTILITY POLES TO REMAIN

LIMIT FOR EXISTING SEWER LINE TO BE REMOVED

LIMIT OF GAS LINE TO BE REMOVED

APPROXIMATE EXISTING GAS LINE TO REMAIN (VERIFY LOCATION IN FIELD)

EXISTING SEWER LINE TO REMAIN

DRAINAGE PIPE AND STRUCTURE TO BE REMOVED

DRAINAGE STRUCTURE TO REMAIN

END SILT SOCK

APPROXIMATE LIMITS OF SAWCUT (TYP.)

PROPERTY LINE (TYP.)

UTILITY POLE TO REMAIN

LIMIT OF EXISTING WATER LINE TO BE REMOVED

APPROXIMATE LOCATION OF EXISTING WATER LINE TO REMAIN (1) 12" CLDI LINE PER CITY OF PORTSMOUTH GIS DEPARTMENT (VERIFY SIZE AND LOCATION IN FIELD)

PROPOSED SILT SOCK (TYP.)

BEGIN SILT SOCK

LIMIT OF EXISTING GAS LINE TO BE REMOVED

LIMIT OF WATER LINE TO BE REMOVED

EXISTING GAS LINE TO REMAIN

PROPERTY LINE (TYP.)

APPROXIMATE LIMIT OF WORK (TYP.)

EXISTING DRAIN MANHOLE TO REMAIN

SEWER LINE TO BE REMOVED

EXISTING SEWER MANHOLE TO REMAIN

APPROXIMATE LIMITS OF SAWCUT (TYP.)

EXISTING PAVEMENT TO BE REMOVED (TYP.)

APPROXIMATE LIMITS OF CLEARING

EXISTING CULVERT TO BE REMOVED

EXISTING PAVEMENT TO BE REMOVED (TYP.)

APPROXIMATE LIMITS OF CLEARING

MAP 239 LOT 15

MAP 239 LOT 16
3.08 ACRES
134,252 SF

100' WETLAND BUFFER

50' LIMITED CUT BUFFER

25' VEGETATED BUFFER

BEGIN REMOVAL OF EXISTING GUARDRAIL

END SILT SOCK

APPROXIMATE LIMITS OF SAWCUT (TYP.)

APPROXIMATE LIMITS OF SAWCUT (TYP.)

MAP 238 LOT 20

SEE SHEET C-101 FOR DEMOLITION PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

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DEMOLITION PLAN

SCALE: AS SHOWN

C-202

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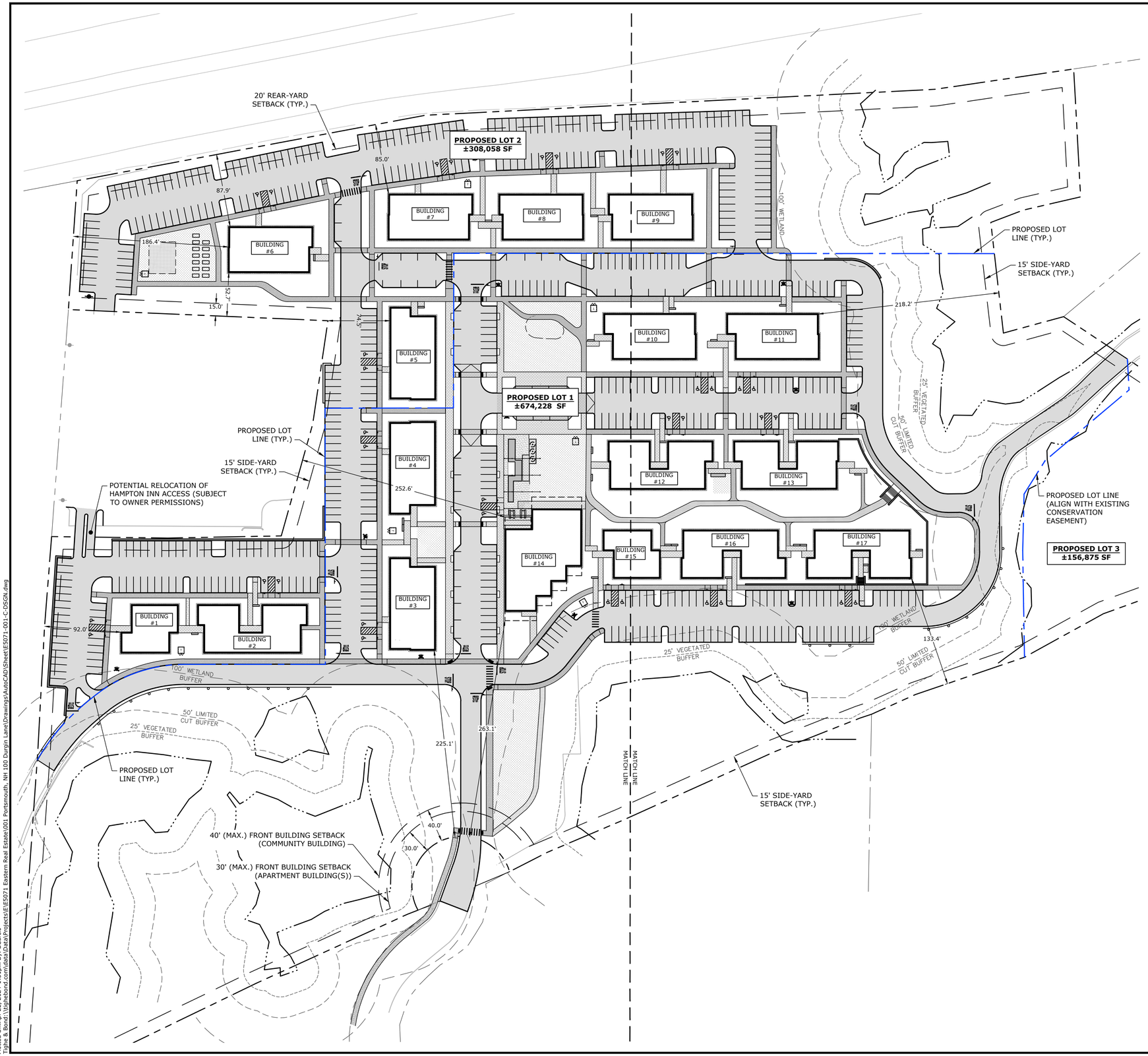

SITE DATA:

LOCATION: TAX MAP 239, LOT 13-2, MAP 239 LOT 16, MAP 239 LOT 18
OWNER: 100 DURGIN LANE OWNER LLC
ONE MARINA PARK DRIVE, SUITE 1500
BOSTON, MA 02210

ZONING DISTRICT: GATEWAY NEIGHBORHOOD MIXED USE CORRIDOR (G1)
HIGHWAY NOISE OVERLAY DISTRICT

PROPOSED USE: MULTI-FAMILY RESIDENTIAL DEVELOPMENT
EXISTING LOT SIZE: ±1,139,161 SF / 26.15 ACRES (MAP 239 LOT 13-2, LOT 16, LOT 18)

DEVELOPMENT STANDARDS

GENERAL RESIDENTIAL DEVELOPMENT (10.5B42.30)	REQUIRED	PROPOSED
MINIMUM SITE DEVELOPMENT AREA:	10,000 SF	±1,139,161 SF
MINIMUM SITE WIDTH:	75 FT	>75 FT
MINIMUM SITE LENGTH:	100 FT	>100 FT
MINIMUM PERIMETER BUFFER:	N/A	-
MAXIMUM DEVELOPMENT BLOCK DIMS:		
BLOCK LENGTH:	500 FT	<500 FT
BLOCK PERIMETER:	1,500 FT	<1,500 FT
MAXIMUM BUILDING COVERAGE:	50%	8.6%
MINIMUM OPEN SPACE COVERAGE:	20%	62%

APARTMENT BUILDING (10.5B34.40)	REQUIRED	PROPOSED
MINIMUM LOT DEPTH:	NR	-
MINIMUM STREET FRONTAGE:	50 FT	200.6 FT
FRONT YARD SETBACK:	10-30 FT	±225.1 FT(1)
MIN. SIDE YARD SETBACK	15 FT	52.7 FT
MIN. REAR YARD SETBACK	20 FT	85.0 FT
DWELLING UNITS PER BUILDING	4-24	VARIES (24 MAX.)
MAXIMUM DWELLING UNIT SIZE	NR	-
MAXIMUM BUILDING HEIGHT	4 STORIES OR 50 FT	<50 FT
MINIMUM STREET-FACING FACADE HEIGHT	24 FT	>24 FT
MAX. FINISH FLOOR ABOVE SIDEWALK	36"	VARIES
MAXIMUM BUILDING COVERAGE	50%	7.8%
MAXIMUM BUILDING FOOTPRINT	NR	-
MAXIMUM FACADE MODULATION LENGTH	50 FT	<50 FT
MINIMUM STREET FACING FACADE GLAZING	20% GROUND FLOOR	>20%
MAXIMUM STREET FACING ENTRANCE SPACING	NR	-
ALLOWED ROOF TYPES	ALL	SHED
ALLOWED FACADE TYPES FORECOURT, RECESSED, ENTRY, DOORYARD, STEP, PORCH		FORECOURT, RECESSED

COMMUNITY BUILDING (10.5B34.100)	REQUIRED	PROPOSED
MINIMUM LOT DEPTH:	NR	-
MINIMUM STREET FRONTAGE:	50 FT	200.6 FT
FRONT YARD SETBACK:	10-40 FT	263.1 FT(1)
MIN. SIDE YARD SETBACK	15 FT	256.4 FT
MIN. REAR YARD SETBACK	20 FT	478.2 FT
DWELLING UNITS PER BUILDING	NR	-
MAXIMUM DWELLING UNIT SIZE	NR	-
MAXIMUM BUILDING HEIGHT	3 STORIES OR 45 FT	18 FT
MINIMUM STREET-FACING FACADE HEIGHT	18 FT	18 FT
FINISH FLOOR GRADE ABOVE SIDEWALK	2 FT - 6FT	VARIES
MAXIMUM BUILDING COVERAGE	NR	-
MAXIMUM BUILDING FOOTPRINT	NR	-
MAXIMUM FACADE MODULATION LENGTH	100 FT	100 FT
MINIMUM STREET FACING FACADE GLAZING	30% GROUND FLOOR	30%
MAXIMUM STREET FACING ENTRANCE SPACING	NR	-
ALLOWED ROOF TYPES	ALL	SHED
ALLOWED FACADE TYPES DOORYARD, FORECOURT, STOOP, RECESSED, ENTRY, STEP, PORCH, TERRACE, GALLERY, ARCADE		PORCH, FORECOURT, TERRACE

(1) - THE APPLICANT IS REQUESTING THE PLANNING BOARD TO ALLOW AN INCREASE OF BUILDING SETBACK FROM THE FRONT LOT LINE AS ALLOWED BY SECTION 10.5B41.60.

COMMUNITY SPACE:	REQUIRED	PROPOSED
	10%	11.6%
	113,916 SF	131,942 SF

PARKING REQUIREMENTS

RESIDENTIAL UNITS (<750 SF)	227 UNITS X 1.0 SPACES	227 SPACES
RESIDENTIAL UNITS (>750 SF)	133 UNITS X 1.3 SPACES	173 SPACES
VISITOR SPACES	1 SPACE / 5 UNITS	72 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		472 SPACES

PARKING SPACES	REQUIRED	PROPOSED
	472 SPACES	567 SPACES

ADA PARKING SPACES	REQUIRED(2)	PROPOSED
	25 SPACES	34 SPACES

(2) - PER THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS, LATEST EDITION.

PARKING SPACE DIMENSIONAL REQUIREMENTS:		
STANDARD 90° STALL :		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	19 FT MIN	19 FT
STANDARD 0° STALL :		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	20 FT MIN	20 FT
DRIVE AISLE WIDTH:		
90° (2-WAY TRAFFIC)	24 FT	24 FT
0° (2-WAY TRAFFIC)	24 FT	24 FT

BICYCLE SPACES	REQUIRED	PROPOSED
1 BICYCLE SPACE / 10 PARKING SPACES:	30 SPACES (MAX.)	>58 SPACES

(INDOOR BIKE STORAGE WILL BE PROVIDED THAT MEETS OR EXCEEDS REQUIRED.)

LOT LINE REVISIONS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL LOT LINE REVISION PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHA,M COUNTY REGISTRY OF DEEDS PRIOR TO ISSUING BUILDING PERMITS.

SITE RECORDING NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
3. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
4. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

SEE SHEET C-101 FOR SITE PLAN NOTES & LEGEND

0 60' 120'
GRAPHIC SCALE

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STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
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OVERALL SITE PLAN

SCALE: AS SHOWN

C-300

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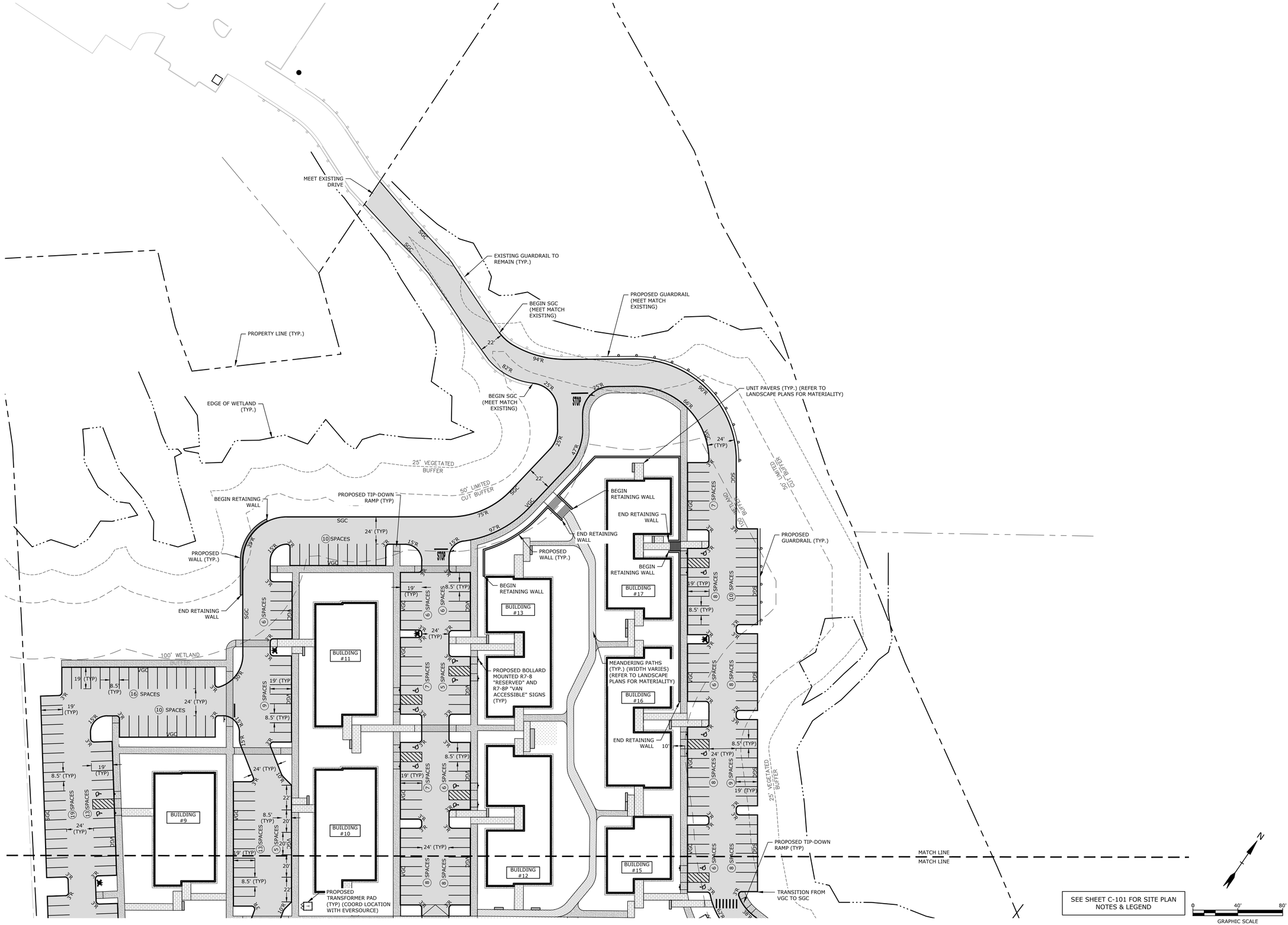

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A HANSEN
No. 15227
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SITE PLAN

SCALE: AS SHOWN

C-301

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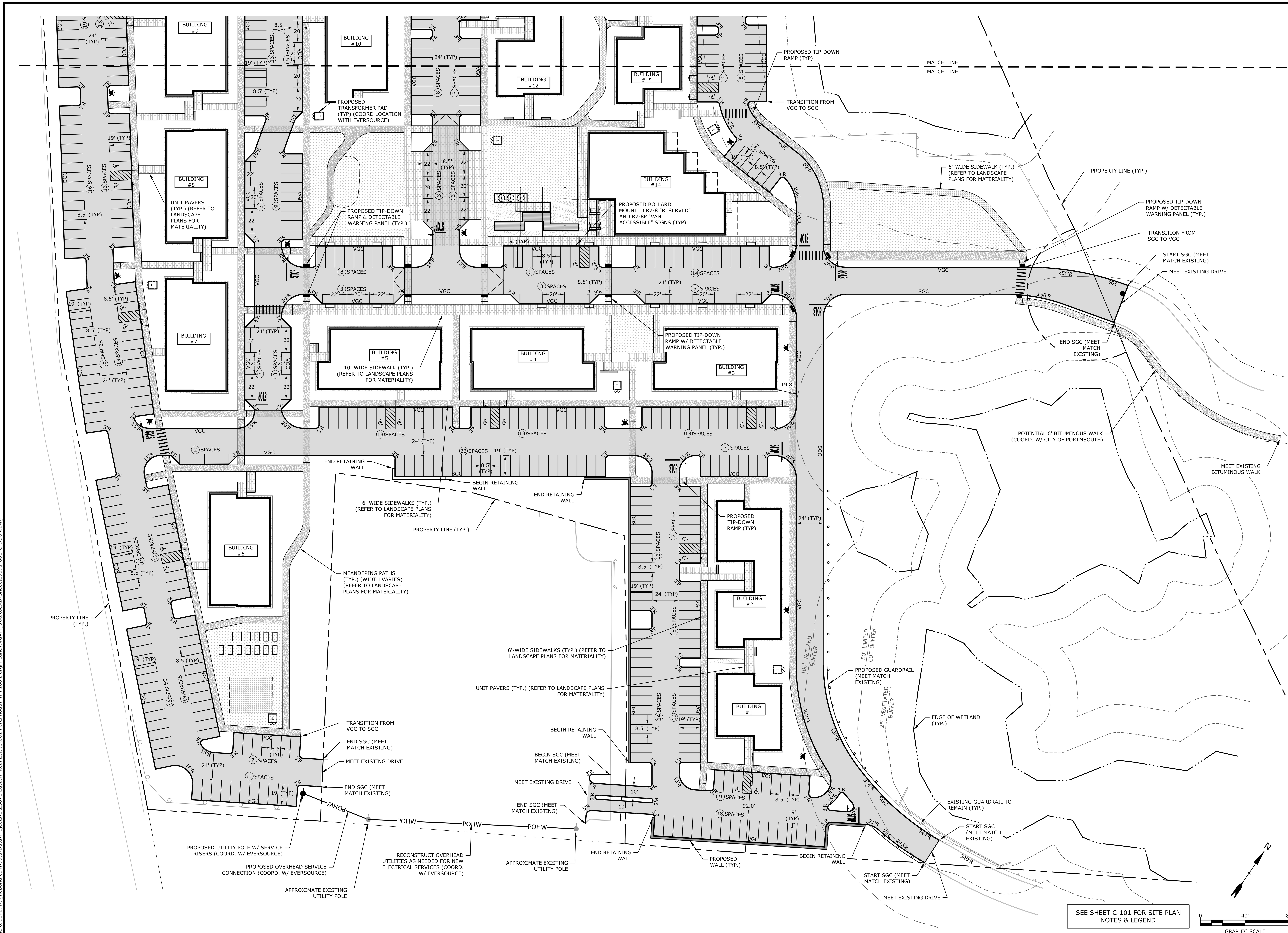

BUILDING #9
BUILDING #10
BUILDING #12
BUILDING #15
BUILDING #8
BUILDING #14
BUILDING #7
BUILDING #5
BUILDING #4
BUILDING #3
BUILDING #6
BUILDING #2
BUILDING #1
MATCH LINE
MATCH LINE
PROPOSED TRANSFORMER PAD (TYP) (COORD LOCATION WITH EVERSOURCE)
UNIT PAVERS (TYP.) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
PROPOSED TIP-DOWN RAMP & DETECTABLE WARNING PANEL (TYP.)
PROPOSED BOLLARD MOUNTED R7-8 "RESERVED" AND R7-8P "VAN ACCESSIBLE" SIGNS (TYP)
PROPOSED TIP-DOWN RAMP (TYP)
TRANSITION FROM VGC TO SGC
6'-WIDE SIDEWALK (TYP.) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
PROPERTY LINE (TYP.)
PROPOSED TIP-DOWN RAMP W/ DETECTABLE WARNING PANEL (TYP.)
TRANSITION FROM SGC TO VGC
START SGC (MEET MATCH EXISTING)
MEET EXISTING DRIVE
END SGC (MEET MATCH EXISTING)
PROPOSED TIP-DOWN RAMP W/ DETECTABLE WARNING PANEL (TYP.)
10'-WIDE SIDEWALK (TYP.) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
POTENTIAL 6' BITUMINOUS WALK (COORD. W/ CITY OF PORTSMOUTH)
MEET EXISTING BITUMINOUS WALK
END RETAINING WALL
BEGIN RETAINING WALL
END RETAINING WALL
6'-WIDE SIDEWALKS (TYP.) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
PROPERTY LINE (TYP.)
PROPOSED TIP-DOWN RAMP (TYP)
MEANDERING PATHS (TYP.) (WIDTH VARIES) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
PROPERTY LINE (TYP.)
6'-WIDE SIDEWALKS (TYP.) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
UNIT PAVERS (TYP.) (REFER TO LANDSCAPE PLANS FOR MATERIALITY)
100' WETLAND BUFFER
50' LIMITED CUT BUFFER
25' VEGETATED BUFFER
PROPOSED GUARDRAIL (MEET MATCH EXISTING)
EDGE OF WETLAND (TYP.)
TRANSITION FROM VGC TO SGC
END SGC (MEET MATCH EXISTING)
MEET EXISTING DRIVE
BEGIN RETAINING WALL
BEGIN SGC (MEET MATCH EXISTING)
MEET EXISTING DRIVE
END SGC (MEET MATCH EXISTING)
EXISTING GUARDRAIL TO REMAIN (TYP.)
START SGC (MEET MATCH EXISTING)
END SGC (MEET MATCH EXISTING)
PROPOSED UTILITY POLE W/ SERVICE RISERS (COORD. W/ EVERSOURCE)
PROPOSED OVERHEAD SERVICE CONNECTION (COORD. W/ EVERSOURCE)
APPROXIMATE EXISTING UTILITY POLE
RECONSTRUCT OVERHEAD UTILITIES AS NEEDED FOR NEW ELECTRICAL SERVICES (COORD. W/ EVERSOURCE)
APPROXIMATE EXISTING UTILITY POLE
END RETAINING WALL
PROPOSED WALL (TYP.)
BEGIN RETAINING WALL
START SGC (MEET MATCH EXISTING)
MEET EXISTING DRIVE
POHW
SEE SHEET C-101 FOR SITE PLAN NOTES & LEGEND
0 40' 80'
GRAPHIC SCALE
N

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Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DSGN.dwg
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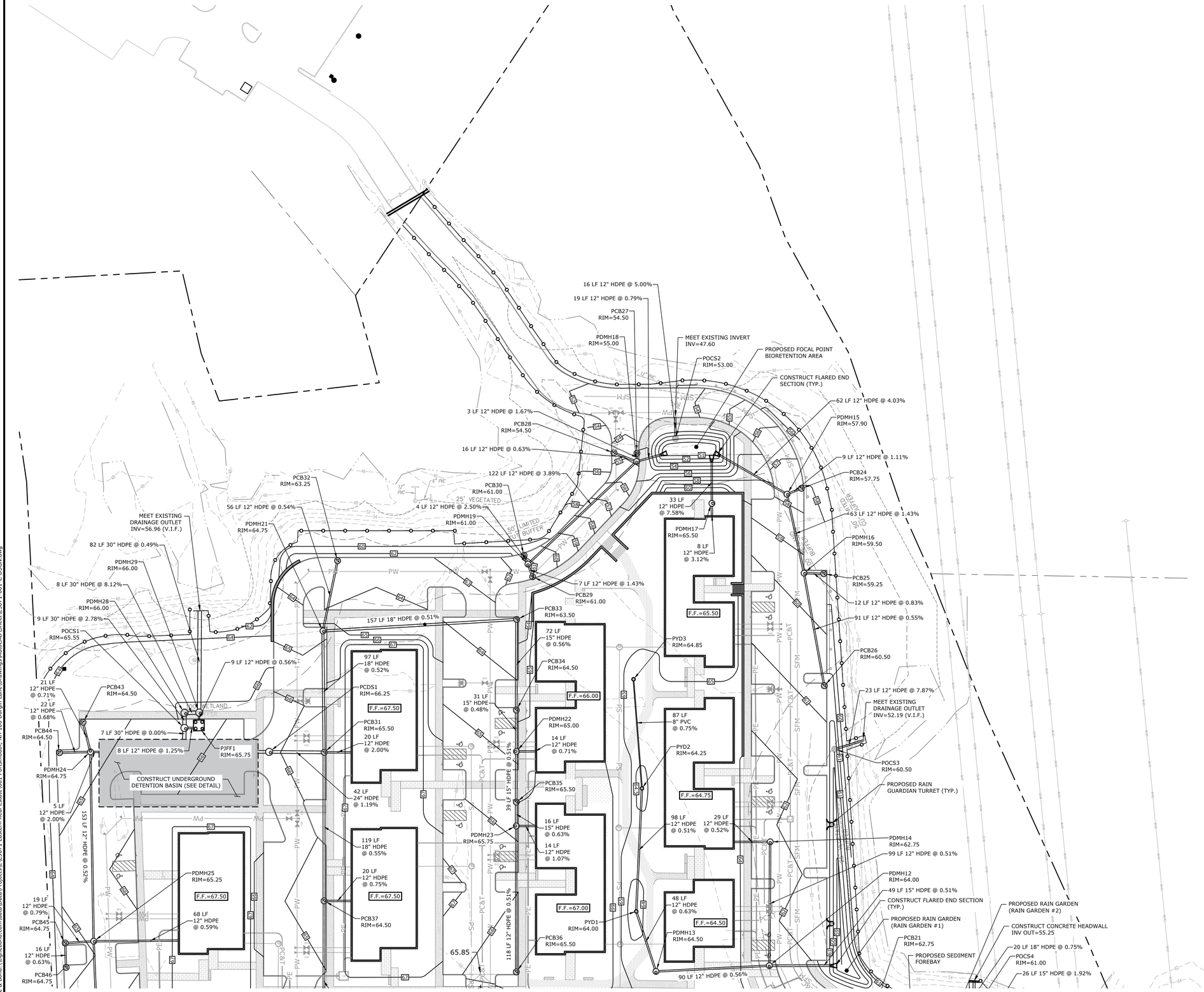
APPROVED BY:	PMC

SITE PLAN

SCALE: AS SHOWN

C-302



SEE SHEET C-101 FOR GRADING & DRAINAGE PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – LICENSED
PATRICK CRIMMINS
No. 12378
4/22/24

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – LICENSED
NEIL A HANSEN
No. 15227
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

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PORTSMOUTH,
NEW HAMPSHIRE

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GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-401

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Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
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APPROVED BY:	PMC

GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-402

STRUCTURE TABLE			
STRUCTURE NAME	RIM	INV. IN	INV. OUT
HW-1	60.00	55.25 SE	
PCB1	64.65		60.30 SW
PCB2	64.65	60.15 NE	60.05 W
PCB3	64.50	59.80 E	59.70 NW
PCB4	65.00	59.80 SW	59.70 SE
PCB5	64.00		59.95 NE
PCB6	66.25	60.35 SE	60.25 NW
PCB7	66.90	61.10 SE	61.00 NW
PCB8	67.50	61.60 SE 61.60 NE	61.50 NW
PCB9	67.50	61.70 SE	61.70 NW
PCB10	66.25		63.00 SW
PCB11	65.00		60.80 NW
PCB12	65.15		61.55 NW
PCB13	65.60	62.10 SW 62.10 SE	62.00 NE
PCB14	66.75	62.90 S	62.80 NW
PCB15	66.50		63.70 SW 63.60 N
PCB16	66.50	63.60 NE	
PCB17	66.50	62.85 S	62.75 NE
PCB18	66.50		63.15 N
PCB19	62.75	57.80 SE	57.70 NW
PCB20	62.75		58.00 NW
PCB21	62.75	58.25 S	58.15 NE
PCB22	63.50	58.85 SW	58.75 N
PCB22A	64.50	61.10 NW	61.00 NE
PCB23	65.50		61.50 SE
PCB24	57.75		53.70 SW
PCB25	59.25		54.70 SW
PCB26	60.50		55.10 NW
PCB27	54.50		51.30 SE
PCB28	54.50		51.35 E
PCB29	61.00		56.20 NW
PCB30	61.00	56.10 SE	

STRUCTURE TABLE			
STRUCTURE NAME	RIM	INV. IN	INV. OUT
PCB31	65.50	58.60 SE 58.60 NE 58.60 NW	58.50 SW
PCB32	63.25		59.50 S
PCB33	63.50	60.10 SE	60.00 SW
PCB34	64.50	60.60 SE	60.50 NW
PCB35	65.50	61.15 SE	61.05 NW
PCB36	65.50		61.95 NW
PCB37	64.50	59.35 SE 59.35 NE	59.25 NW
PCB38	64.50	61.00 SE 60.10 E	60.00 NW
PCB39	64.75	60.60 N	60.50 W
PCB40	65.35	61.15 NE	61.05 S
PCB41	65.35		61.50 SW
PCB42	64.80		62.00 NW
PCB43	64.50		59.10 SE
PCB44	64.50		59.10 NE
PCB45	64.75	60.10 SE	60.00 NE
PCB46	64.75		60.20 NW
PCB47	64.80	60.85 SE	60.75 NE
PCB48	64.80		61.10 NW
PCDS1	66.25	58.00 NE	58.50 SW
PCDS2	64.55	59.00 SW	58.90 SE
PDMH1	64.25	60.65 W 58.65 N	58.65 E
PDMH1A	65.25	61.00 SW	60.90 E
PDMH1B	65.75	62.20 SE	62.10 NE
PDMH2	64.60	58.80 NW 58.80 NE	58.75 S
PDMH3	64.55	59.15 SW 59.15 NW	59.05 NE 59.05 SE
PDMH4	64.65	59.60 SW 59.60 SE	59.50 NE
PDMH5	65.50	60.00 SW 60.00 SE 60.00 NW	59.90 NE
PDMH6	65.50	60.60 SW 60.60 NW 60.60 SE	60.50 NE
PDMH7	65.75	61.25 SW 61.25 SE	61.15 NE
PDMH8	65.75	61.85 SW 61.85 NW	61.75 NE
PDMH9	66.25	62.45 SW 62.45 SE	62.35 NE
PDMH10	62.25	57.00 SE 56.00 E	56.00 W

STRUCTURE TABLE			
STRUCTURE NAME	RIM	INV. IN	INV. OUT
PDMH11	64.50	59.30 SW 59.30 NW	59.20 NE
PDMH12	64.00	59.35 SW 59.35 NW	59.25 NE
PDMH13	64.50	60.55 NW	59.85 NE
PDMH14	62.75	59.95 SW	59.85 SE
PDMH15	57.90	53.60 SE 53.60 NE	53.50 W
PDMH16	59.50	54.60 SE 54.60 NE	54.50 NW
PDMH17	65.50	61.25 SE	53.50 NW
PDMH18	55.00	51.25 W 51.25 NW 51.25 S	51.15 NE
PDMH19	61.00	56.10 SE	56.20 NW 56.00 N
PDMH21	64.75	59.20 NE 59.20 N	59.10 SE
PDMH22	65.00	60.85 SE 60.85 NE	60.75 NW
PDMH23	65.75	61.35 SE 61.35 NE	61.25 NW
PDMH24	64.75	58.95 SE 58.95 SW 58.95 NW	58.85 NE
PDMH25	65.25	59.85 SE 59.85 NE 59.85 SW	59.75 NW
PDMH26	65.35	60.60 NE 60.60 SW 60.50 SE	60.50 NW
PDMH27	66.25	61.25 NE	61.15 NW
PDMH28	66.00	59.75 SE	59.65 NE
PDMH29	66.00	59.00 SW 57.50 SE	57.40 NW
PDMH30	68.00	61.85 SE 61.85 NW	61.75 SW
PDMH31	67.50	62.55 NE	62.45 NW
PJFF1	65.75	58.05 SW	57.55 NW
PJFF2	64.60	58.85 NW	58.85 SW
POCS1	65.55	58.25 SE	60.00 NW 58.15 NE
POCS2	53.00		48.40 NW
POCS3	60.50		54.00 NE
POCS4	61.00	55.50 E	55.40 NW
PYD1	64.00	60.85 NW	60.85 SE
PYD2	64.25	61.35 NW	61.35 SE
PYD3	64.85		62.00 SE

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
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DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DRAINAGE STRUCTURE TABLES

SCALE: AS SHOWN

C-403

CONNECT TO EXISTING FORCE MAIN

PROPOSED GATE VALVE (TYP.)

PROPOSED SEWER FORCE MAIN (TYP.)

PROPOSED THRUST BLOCK (TYP.)

CONNECT TO EXISTING 6" WATER MAIN (TYP.) (COORD. W/ CITY OF PORTSMOUTH)

PROPOSED SANITARY SERVICE CONNECTION
12 LF 6" PVC @ S = 0.010
(COORD W/ BLDG DWGS)

25' VEGETATED BUFFER

50' LIMITED CUT BUFFER

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

PROPOSED FIRE HYDRANT (TYP) (COORD W/ FIRE DEPT & DPW)

PROPOSED SANITARY SERVICE CONNECTION
37 LF 6" PVC @ S = 0.010
(COORD W/ BLDG DWGS)

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

PROPOSED COMMUNICATIONS CONNECTION (COORD W/ BUILDING DWGS & UTILITY COMPANY)

PROPOSED SECONDARY ELECTRICAL DUCT BANK (TYP.)

PROPOSED SANITARY SERVICE
45 LF 6" PVC @ S = 0.010
(COORD W/ BLDG DWGS)

PROPOSED COMMUNICATIONS CONNECTION (COORD W/ BUILDING DWGS & UTILITY COMPANY) (TYP.)

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

146 LF 8" PVC @ 0.40%

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

PROPOSED COMMUNICATIONS DUCT BANK (TYP.)

PROPOSED COMMUNICATIONS CONNECTION (COORD W/ BUILDING DWGS & UTILITY COMPANY)

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

95 LF 8" PVC @ 0.50%

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

PROPOSED COMMUNICATION JUNCTION MANHOLE (TYP.)

PROPOSED SANITARY SERVICE CONNECTION
45 LF 6" PVC @ S = 0.010
(COORD W/ BLDG DWGS)

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

PROPOSED FIRE & DOMESTIC WATER SERVICE CONNECTIONS (COORD W/ BUILDING DWGS, FIRE DEPT & DPW) (SEE UTILITY NOTE # 20)

93 LF 8" PVC @ 0.41%

PROPOSED WATER LINE (COORD W/ PORTSMOUTH DPW)

PROPOSED COMMUNICATIONS CONNECTION (COORD W/ BUILDING DWGS & UTILITY COMPANY)

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

PROPOSED SANITARY SERVICE CONNECTION
28 LF 6" PVC @ S = 0.010
(COORD W/ BLDG DWGS)

PROPOSED COMMUNICATIONS DUCT BANK (TYP.)

PROPOSED SANITARY SERVICE CONNECTION
13 LF 6" PVC @ S = 0.010 (COORD W/ BLDG DWGS)

PROPOSED SANITARY SERVICE CONNECTION
37 LF 6" PVC @ S = 0.010
(COORD W/ BLDG DWGS)

PROPOSED ELECTRIC CONNECTION (COORD W/ BUILDING DWGS, EVERSOURCE)

MATCH LINE
MATCH LINE

SEE SHEET C-101 FOR DEMOLITION PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
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FILE:	E5071-001-C-DSGN.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

UTILITIES PLAN

SCALE: AS SHOWN

C-501

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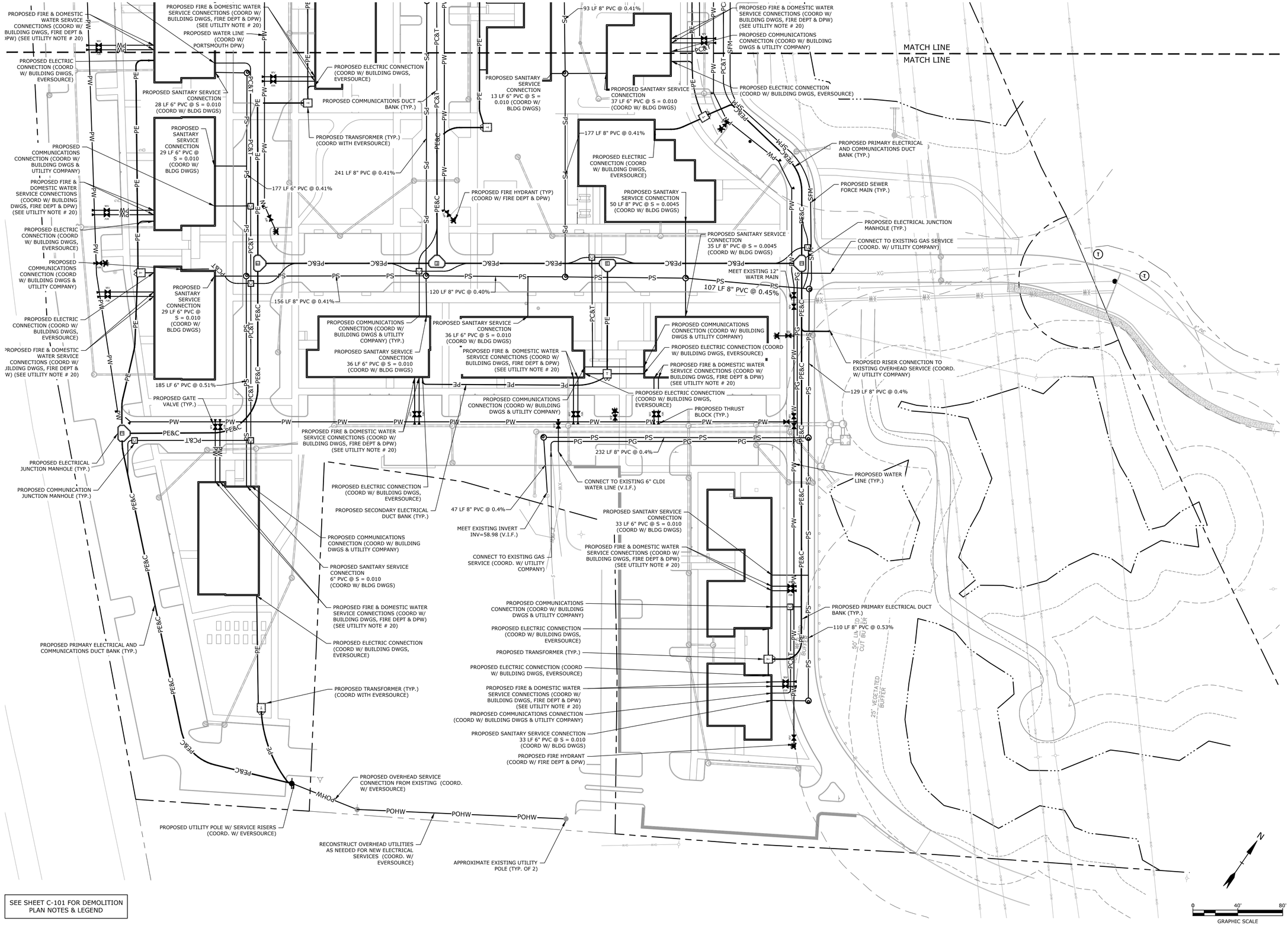

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STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

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UTILITIES PLAN

SCALE: AS SHOWN

C-502

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PROPOSED RELOCATED ACCESS EASEMENT (TO BENEFIT MAP 239 LOT 15)

PROPOSED LOT 2
±308,058 SF

BUILDING #6
BUILDING #7
BUILDING #8
BUILDING #9
BUILDING #10
BUILDING #11
BUILDING #5
BUILDING #4
BUILDING #12
BUILDING #13
BUILDING #14
BUILDING #15
BUILDING #16
BUILDING #17
BUILDING #3
BUILDING #1
BUILDING #2

MAP 239 LOT 13

EXISTING ACCESS EASEMENT THROUGH LOT 13-1 TO REMAIN

MAP 239 LOT 13-1

MAP 239 LOT 15

PROPOSED LOT 1
±674,228 SF

PROPOSED LOT 3
±156,875 SF

POTENTIAL RELOCATED ACCESS EASEMENT (TO BENEFIT MAP 239 LOT 15)

MAP 238 LOT 20

ACCESS EASEMENT TO BENEFIT MAP 239 LOT 13-1, MAP 238 LOT 20, MAP 239 LOT 15

PROPOSED ACCESS EASEMENT TO BENEFIT MAP 239 LOT 13-1, MAP 238 LOT 20, MAP 239 LOT 15

MAP 239 LOT 8

ACCESS EASEMENT THROUGH MAP 238 LOT 20 TO REMAIN

MAP 239 LOT 7

EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHA,M COUNTY REGISTRY OF DEEDS PRIOR TO ISSUING BUILDING PERMITS.

LEGEND

- PROPOSED ACCESS EASEMENT TO BENEFIT MAP 239 LOT 13-1, MAP 238 LOT 20, MAP 239 LOT 15
- PROPOSED RELOCATED ACCESS EASEMENT (TO BENEFIT MAP 239 LOT 15)
- EXISTING ACCESS EASEMENT THROUGH MAP 238 LOT 20 TO REMAIN
- EXISTING ACCESS EASEMENT THROUGH LOT 13-1 TO REMAIN

0 60' 120'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
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ACCESS EASEMENT PLAN

SCALE: AS SHOWN

C-600

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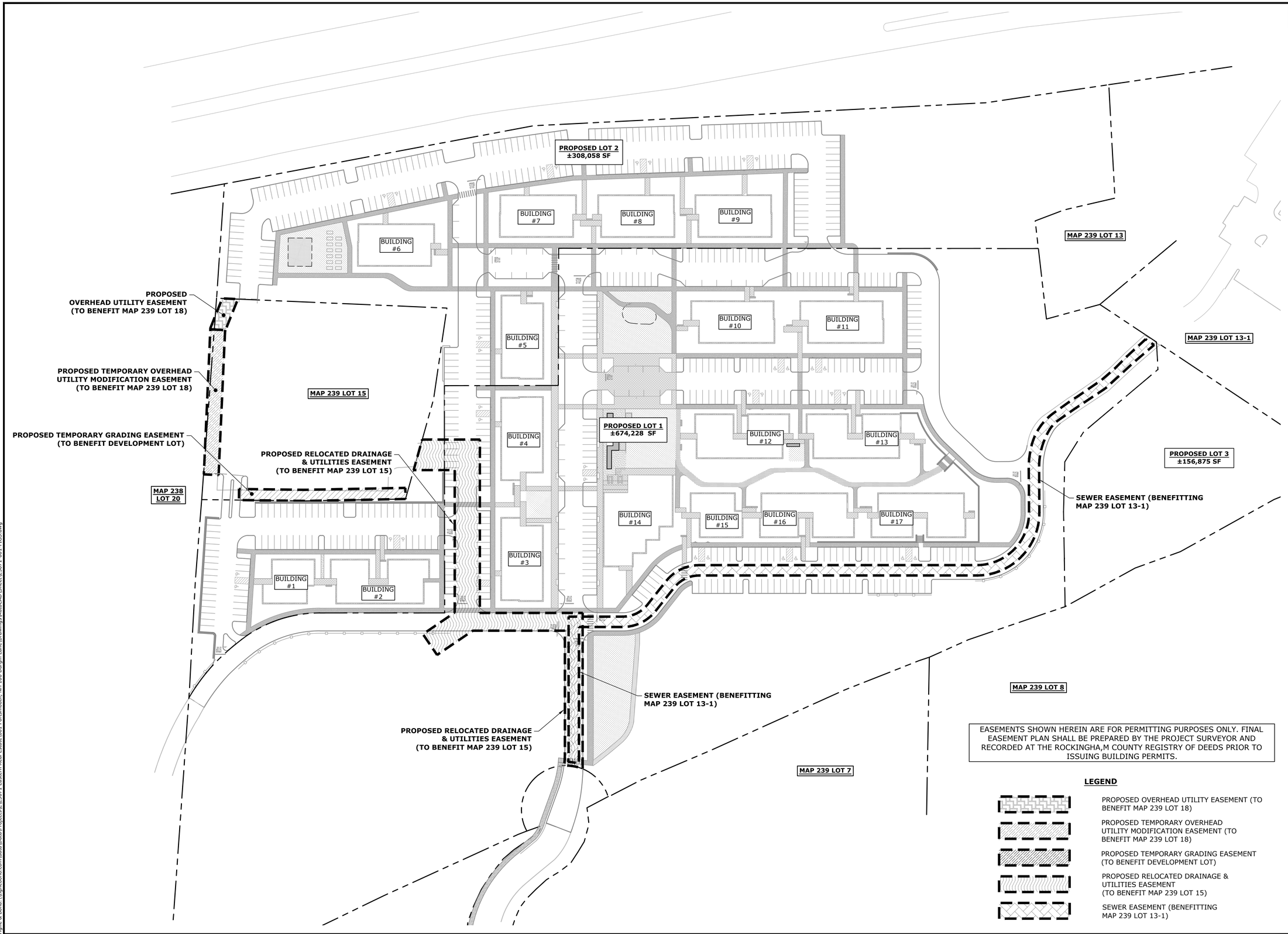

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LEGEND

- PROPOSED OVERHEAD UTILITY EASEMENT (TO BENEFIT MAP 239 LOT 18)
- PROPOSED TEMPORARY OVERHEAD UTILITY MODIFICATION EASEMENT (TO BENEFIT MAP 239 LOT 18)
- PROPOSED TEMPORARY GRADING EASEMENT (TO BENEFIT DEVELOPMENT LOT)
- PROPOSED RELOCATED DRAINAGE & UTILITIES EASEMENT (TO BENEFIT MAP 239 LOT 15)
- SEWER EASEMENT (BENEFITTING MAP 239 LOT 13-1)

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N

PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
4/22/24

NEIL A HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
04/22/2024

0 60' 120'
GRAPHIC SCALE

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

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UTILITY, DRAINAGE, AND GRADING EASEMENT PLAN

SCALE: AS SHOWN

C-601

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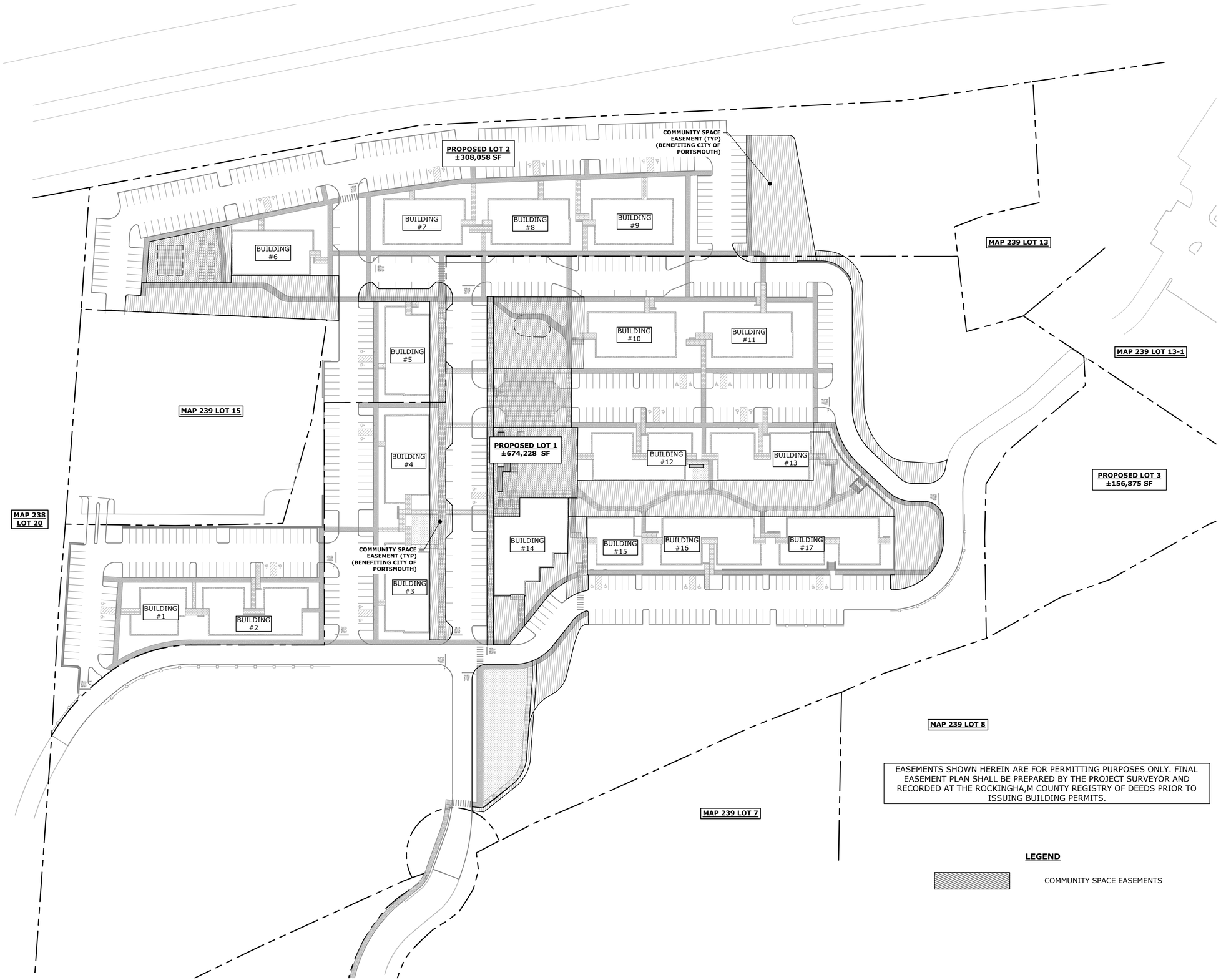

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LEGEND

COMMUNITY SPACE EASEMENTS

Tighe&Bond

N

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
04/22/2024

0 60' 120'
GRAPHIC SCALE

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
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COMMUNITY EASEMENT PLAN

SCALE: AS SHOWN

C-602

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GENERAL PROJECT INFORMATION

PROJECT APPLICANT: 100 DURGIN LANE OWNER, LLC

PROJECT NAME: PROPOSED MIXED USE DEVELOPMENT
PROJECT MAP / LOT: MAP 239 / LOT 18
MAP 239 / LOT 16
MAP 239 / LOT 13
PROJECT ADDRESS: DURGIN LANE
PORTSMOUTH, NH 03801
PROJECT LATITUDE: 43°-04'-43" N
PROJECT LONGITUDE: 70°-45'-41" W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE CONSTRUCTION OF AN 360 RESIDENTIAL UNITS IN A MIX OF 3 AND 4 STORY BUILDINGS.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 15.1 ACRES.

SOIL CHARACTERISTICS

BASED ON THE USCS WEB SOIL SURVEY THE SOILS ON SITE PRIMARILY CONSIST OF CHATFIELD-HOLLIS-CANTON COMPLEX SOILS WHICH ARE WELL DRAINED SOILS WITH A HYDROLOGIC SOIL GROUP RATING OF B.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM TO AN UNNAMED ON SITE WETLANDS WHICH ULTIMATELY FLOW TO THE PISCATAQUA RIVER.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - CONTROL OF DUST
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
   A. FOR PERMANENT MEASURES AND PLANTINGS:
      a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
      b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
      c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
      d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
      e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
      f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
      g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
      h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 LBS/ACRE

   IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

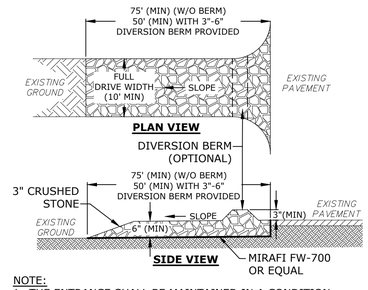
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
      i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
      ii. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
      iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
      iv. INSPECT FUEL STORAGE AREAS WEEKLY;
      v. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
      vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
      vii. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
      viii. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
         (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
         (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
         (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
         (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
         (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
      ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
      HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
      b. FERTILIZERS:
      i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
      ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
      iii. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      c. PAINTS:
      i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
      ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
      iii. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

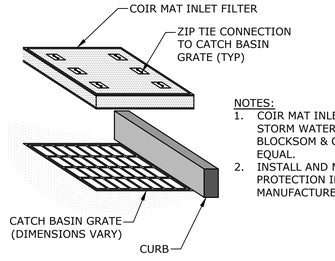
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

1. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
   A. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
   B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
   C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
   D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



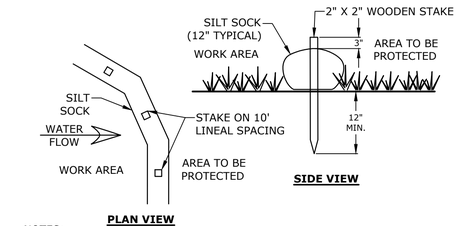
NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE



NOTES:
1. COIR MAT INLET FILTER SHALL BE STORM WATER INLET FILTER BY BLOCKSOM & CO. OR APPROVED EQUAL.
2. INSTALL AND MAINTAIN INLET PROTECTION IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

INLET PROTECTION
NO SCALE



NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

SILT SOCK
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS – No. 12378 – LICENSED PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN – No. 15227 – LICENSED PROFESSIONAL ENGINEER
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DTLS.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

EROSION CONTROL NOTES AND DETAILS SHEET

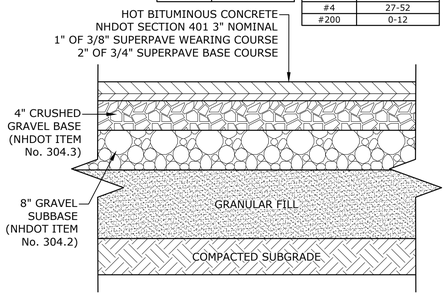
SCALE: AS SHOWN

C-801

Last Saved: 4/19/2024
Printed: 4/19/2024 - 1:31pm By: BCurcio
Tighe & Bond: \\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-C-DTLS.dwg

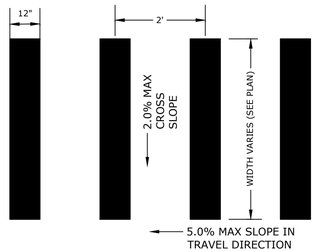
NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



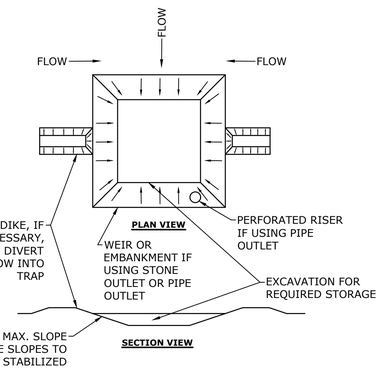
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

ON-SITE PAVEMENT SECTION
NO SCALE



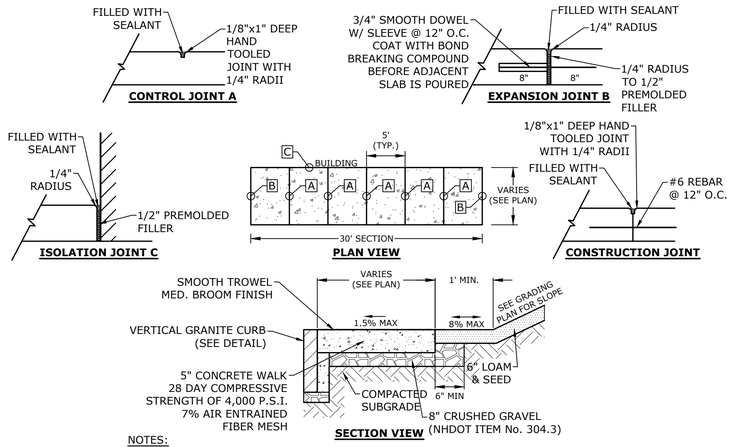
NOTE:
1. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING
NO SCALE



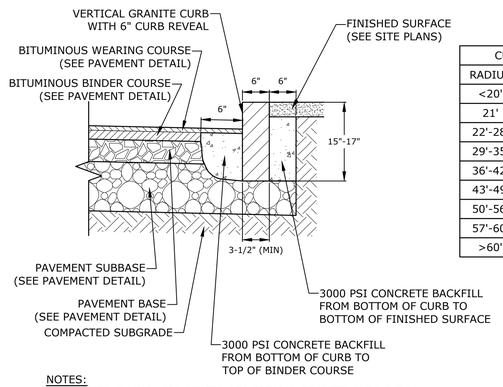
NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

SEDIMENT TRAP
NO SCALE



NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.

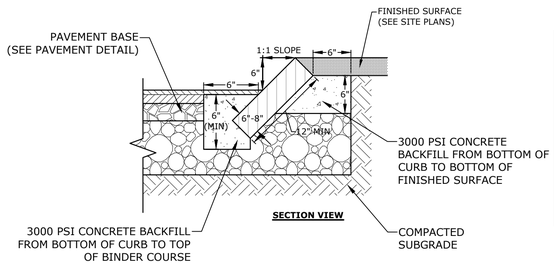
CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

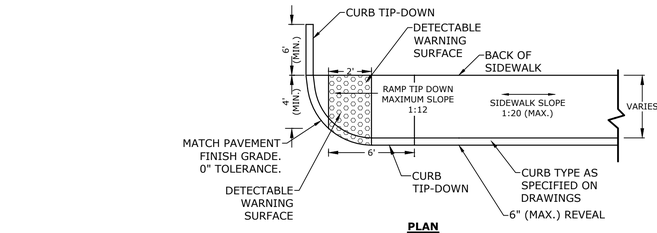
VERTICAL GRANITE CURB
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

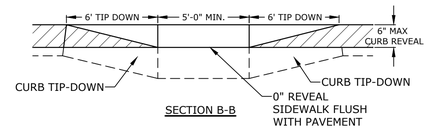
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

TYPICAL SECTION

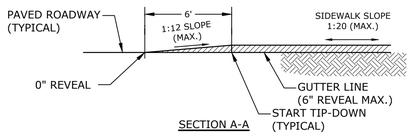


PLAN

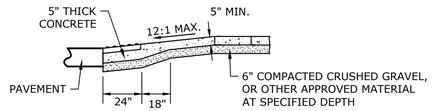
NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



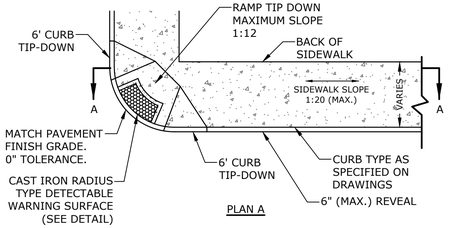
SECTION B-B



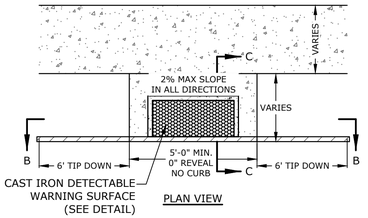
SECTION A-A



SECTION C-C



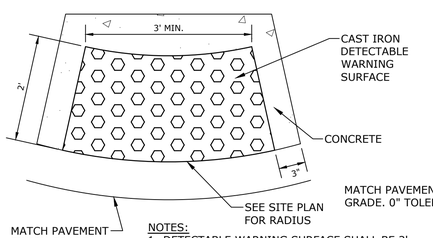
PLAN A



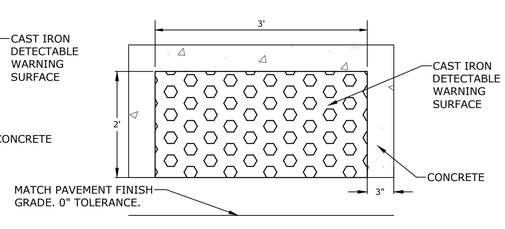
PLAN VIEW

NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
4. PROVIDE DETECTABLE WARNING SURFACES ANYTIME THAT A CURB RAMP, BLENDED TRANSITION, OR LANDING CONNECTS TO A STREET.
5. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
6. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
7. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
8. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
9. DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
10. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

CONCRETE WHEELCHAIR ACCESSIBLE RAMP
NO SCALE



NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.



CAST IRON DETECTABLE WARNING SURFACE
NO SCALE

Tighe&Bond

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
4/22/24

NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

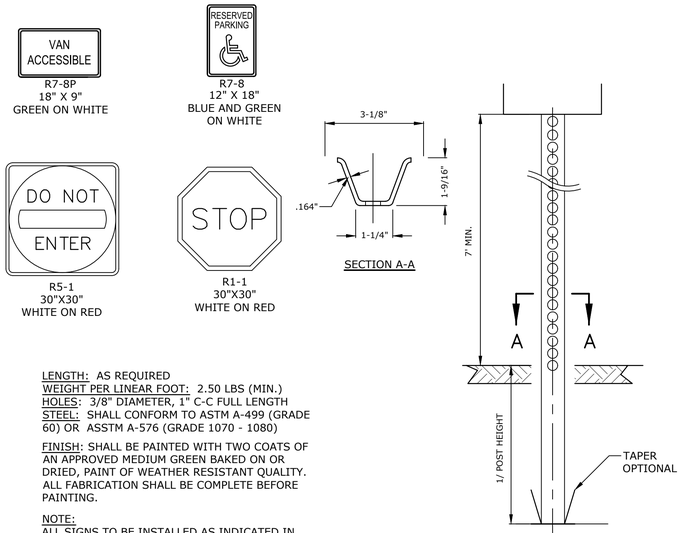
MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION
PROJECT NO:		E5071-001
DATE:		4/22/2024
FILE:		E5071-001-C-DTLS.dwg
DRAWN BY:		BKC/NHW
DESIGNED/CHECKED BY:		NAH
APPROVED BY:		PMC

DETAILS SHEET

SCALE: AS SHOWN

C-802

Last Saved: 4/19/2024
Printed: 4/19/2024
Tighe & Bond: \\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-C-DTLS.dwg

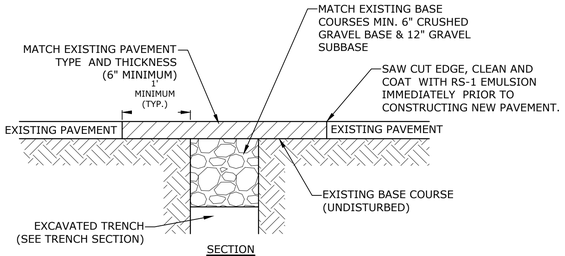


LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)

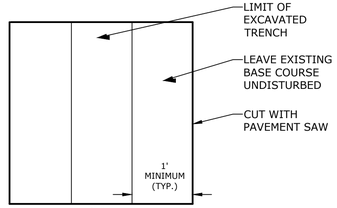
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN BAKED ON OR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTE:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

SIGN LEGEND & SIGN POST
NO SCALE



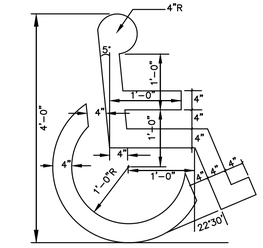
SECTION



PLAN

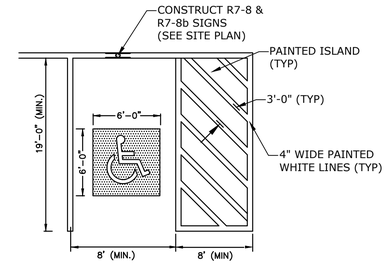
NOTE:
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



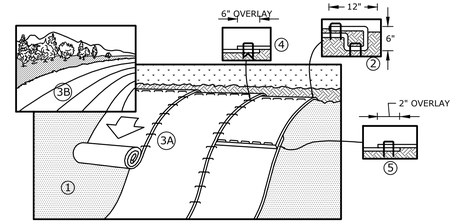
NOTES:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL
NO SCALE



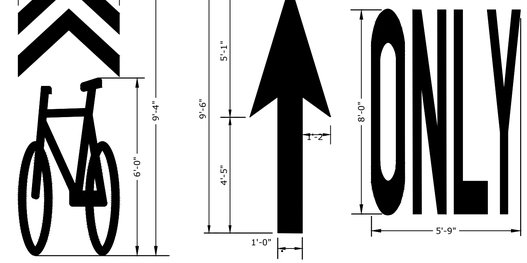
NOTES:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN W/DISABILITIES ACT.

ACCESSIBLE PARKING STALL
NO SCALE

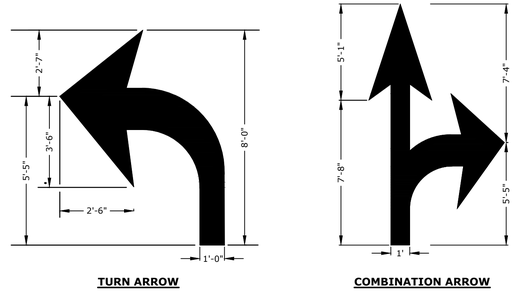


NOTES:
1. EROSION CONTROL BLANKET SHALL BE AN ALL NATURAL PRODUCT WITH NO PHOTO DEGRADABLE COMPONENTS, NORTH AMERICAN GREEN SC150BN OR APPROVED EQUAL.
2. STAKES SHALL BE BIODEGRADABLE BIOSTAKES OR ALL NATURAL WOOD ECOSTAKES OR APPROVED EQUAL. THE LENGTH OF STAKES SHALL BE BASED OFF OF THE MANUFACTURERS RECOMMENDATION.
3. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, COMPOST AND SEED.
4. BEGIN AT THE TOP OF THE SLOPE, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAKES IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAKES ACROSS THE WIDTH OF THE BLANKET.
5. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAKES IN APPROPRIATE LOCATIONS AS SHOWN ON THE MANUFACTURERS PATTERN GUIDE.
6. THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES MATERIAL UTILIZED.

EROSION CONTROL BLANKET
NO SCALE



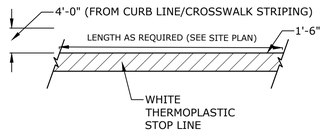
SHARROW | **STRAIGHT ARROW** | **ONLY**



TURN ARROW | **COMBINATION ARROW**

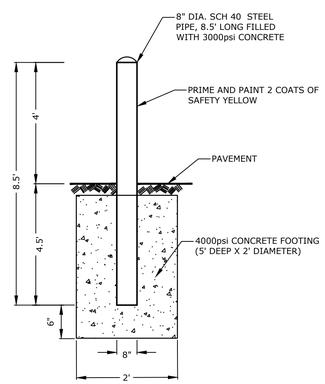
NOTES:
1. ALL WORDS AND SYMBOLS SHALL BE RETROREFLECTIVE WHITE AND SHALL CONFORM TO THE LATEST VERSION OF THE MUTCD.
2. MULTI-WORD MESSAGES SHALL READ "UP"; THAT IS, THE FIRST WORD SHALL BE NEAREST THE APPROACHING DRIVER.
3. THE WORD "ONLY" SHALL NOT BE USED WITH THROUGH OR COMBINATION ARROWS, AND SHALL NOT BE USED ADJACENT TO A BROKEN LANE LINE. A WORD/SYMBOL SHALL PRECEED THE WORD "ONLY".
4. COMBINATION ARROWS MAY BE COMPRISED OF 2 SINGLE ARROWS (e.g. TURN AND THROUGH ARROWS). HOWEVER, THE SHAFTS OF THE ARROWS SHALL COINCIDE AS SHOWN.
5. PREFORMED WORDS AND SYMBOLS SHALL BE PRE-CUT BY THE MANUFACTURER.
6. WRONG-WAY ARROWS SHALL NOT BE SUBSTITUTED FOR THROUGH ARROWS.
7. ALL STOP BARS, WORDS, SYMBOLS AND ARROW SHALL BE THERMOPLASTIC.

PAVEMENT MARKINGS
NO SCALE

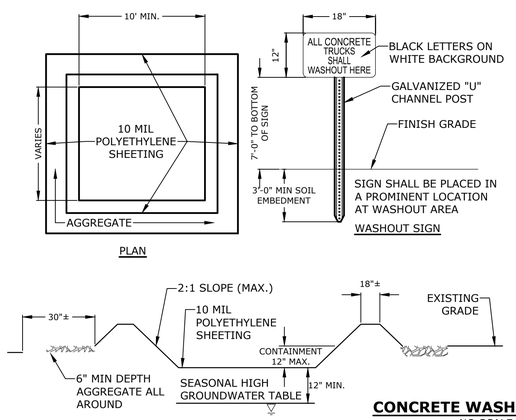


NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR
NO SCALE



BOLLARD DETAIL
NO SCALE



PLAN

NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE

Tighe&Bond

PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
4/22/24

NEIL A HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

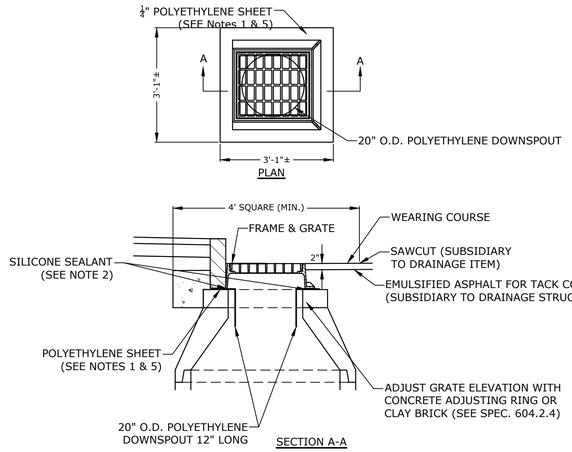
PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DTLS.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

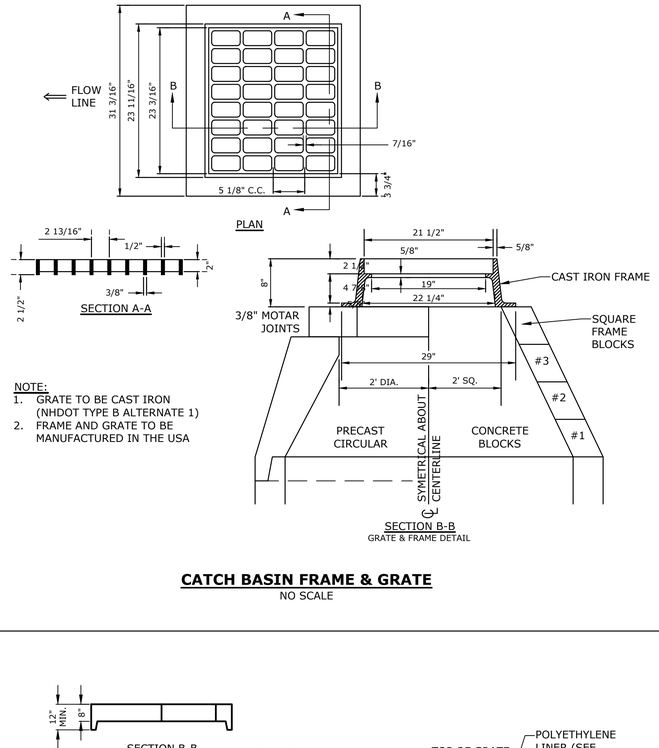
C-803

Last Saved: 4/19/2024
Plotted: 04/22/2024 1:31pm By: BCurcio
Tighe & Bond:\\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-C-DTLS.dwg



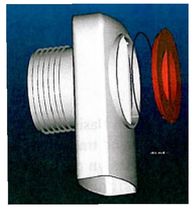
NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

POLYETHYLENE LINER
NO SCALE



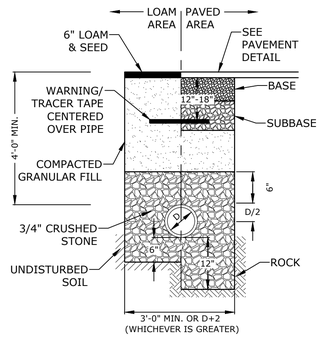
NOTE:
1. GRATE TO BE CAST IRON (NHDOT TYPE B ALTERNATE 1)
2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

CATCH BASIN FRAME & GRATE
NO SCALE



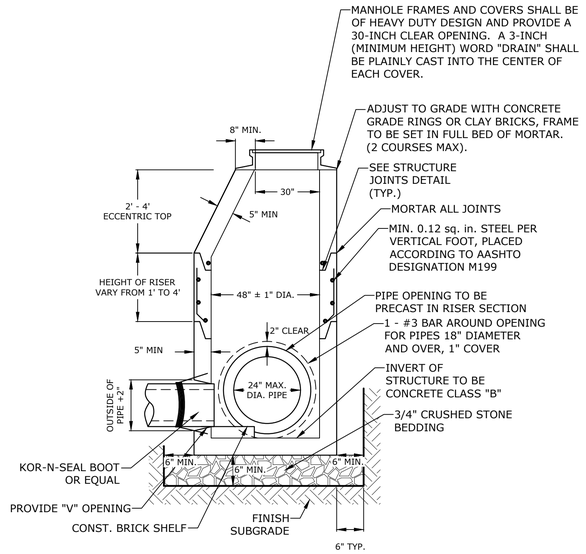
NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

"ELIMINATOR" OIL FLOATING DEBRIS TRAP



NOTES:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4' DIAMETER DRAIN MANHOLE
NO SCALE

NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCHBASIN
NO SCALE

Tighe&Bond

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
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APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

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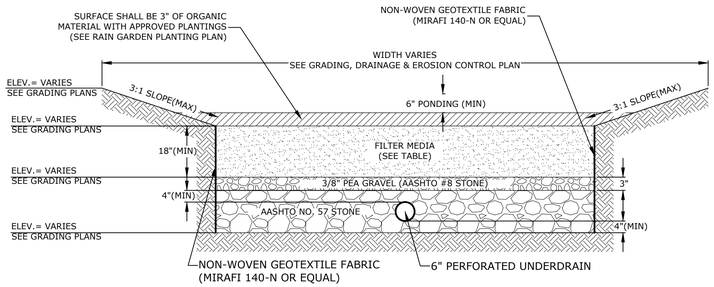


SECTION VIEW

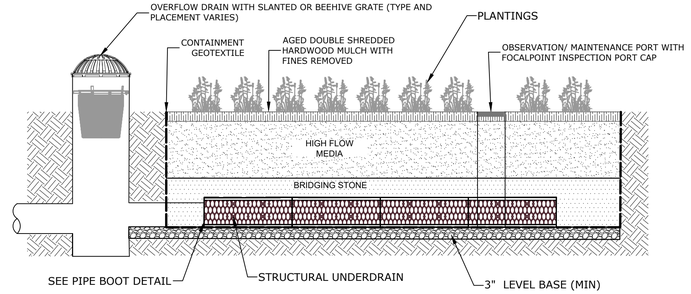
NOTES:
1. BARK MULCH SHALL BE AGED A MINIMUM OF 12 MONTHS AND SHALL NOT FLOAT.
2. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
5. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

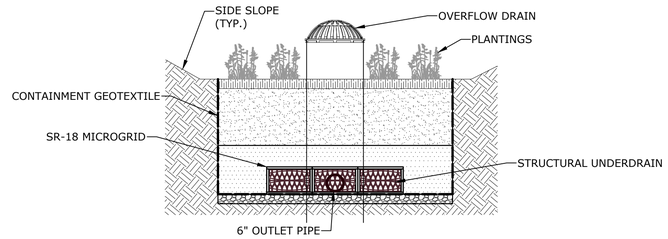
SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

FILTER MEDIA COMPOSITION:

COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

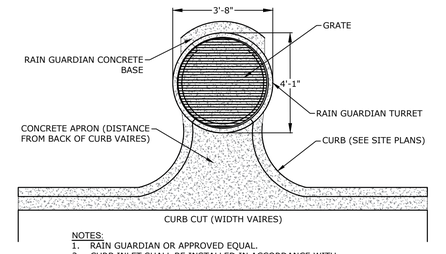
RAIN GARDEN
NO SCALE



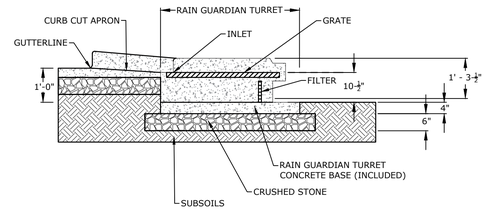


NOTES:
1. ALL INSTALLATIONS TO BE COORDINATED WITH FOCAL POINT PRIOR TO CONSTRUCTION

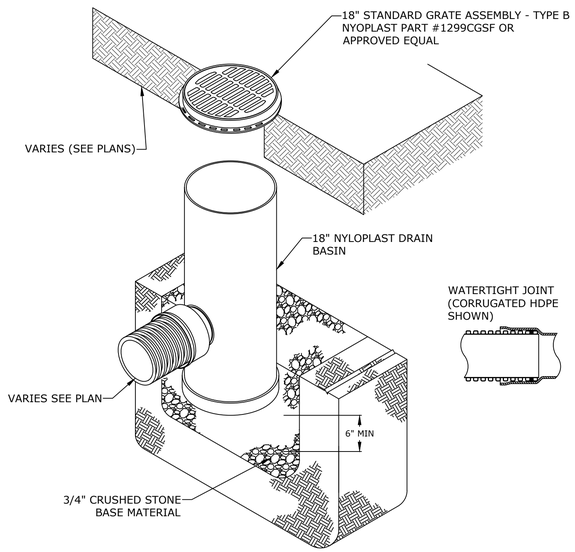
FOCAL POINT BIORETENTION CELL
NO SCALE



NOTES:
1. RAIN GUARDIAN OR APPROVED EQUAL.
2. CURB INLET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURE RECOMMENDATION.



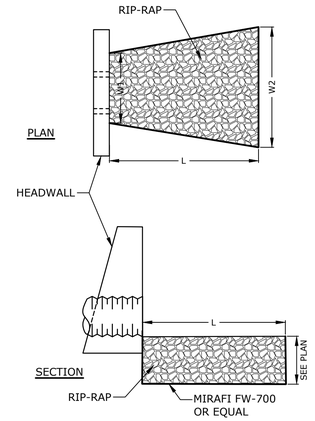
RAIN GUARDIAN TURRET
NO SCALE



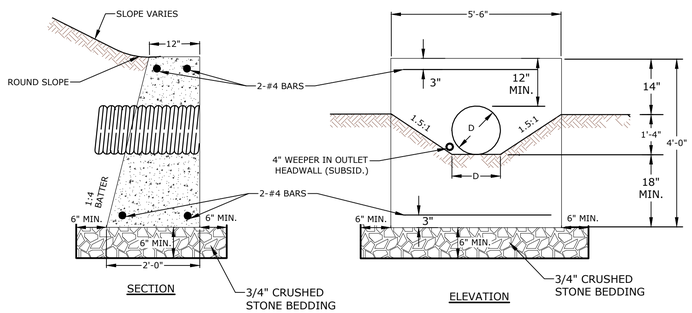
NOTES:
1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. SEE GRADING, DRAINAGE, AND EROSION CONTROL PLAN FOR LOCATIONS.

YARD DRAIN
NO SCALE

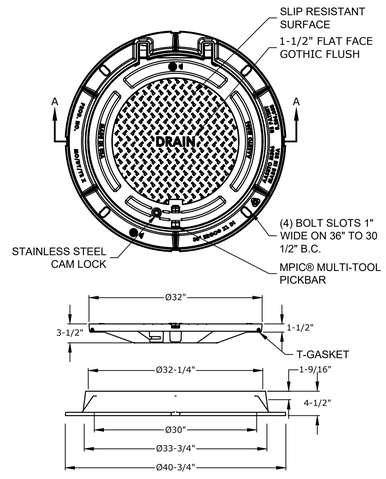
NOTES:
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.



RIP-RAP APRON DETAIL
NO SCALE



PRECAST CONCRETE HEADWALL
NO SCALE



SECTION A-A

NOTES:
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.
2. ALL DIMENSIONS ARE NOMINAL.
3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN HE CENTER OF THE COVER.

DRAIN MANHOLE FRAME & COVER
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

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Last Saved: 4/19/2024
Printed: October 15, 2024 - 1:31pm By: BCurcio
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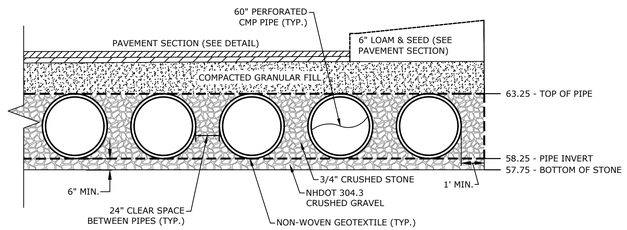
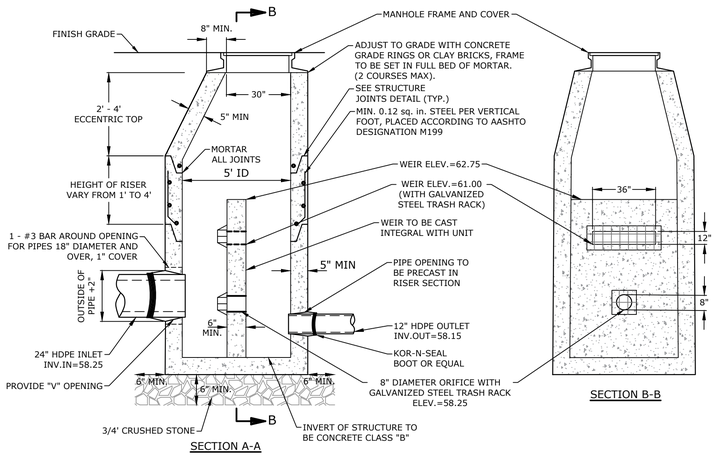


SECTION VIEW

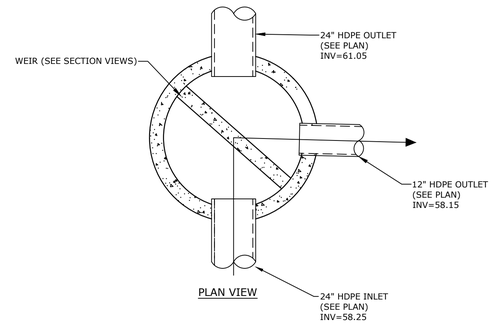
NOTE:
1. THE UNDERGROUND DETENTION BASIN (UDB) SYSTEM SHALL BE ALUMINIZED 16 GAGE STEEL PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR REVIEW AND APPROVAL.
2. THE CONTRACTOR SHALL SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
3. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE PROPOSED DESIGN PLAN.
4. THE DESIGN SHALL REQUIRE INSPECTION PORTS/COVERS SUCH THAT SYSTEM CAN BE CLEANED BY VACUUM TRUCK WITH A MINIMUM OF ONE IN EACH CORNER.
5. OVERALL SYSTEM FOOTPRINT = 132' X 56'
6. APPROXIMATE LENGTH OF 60" PERFORATED CMP = 960 LF
7. APPROXIMATE LENGTH OF 60" PERFORATED CMP HEADER = 108 LF

UNDERGROUND DETENTION BASIN (UBD-1)
NO SCALE



SECTION A-A

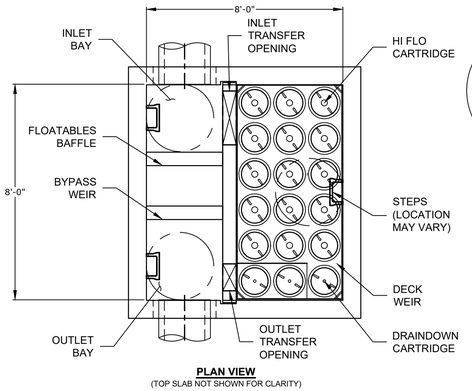
SECTION B-B



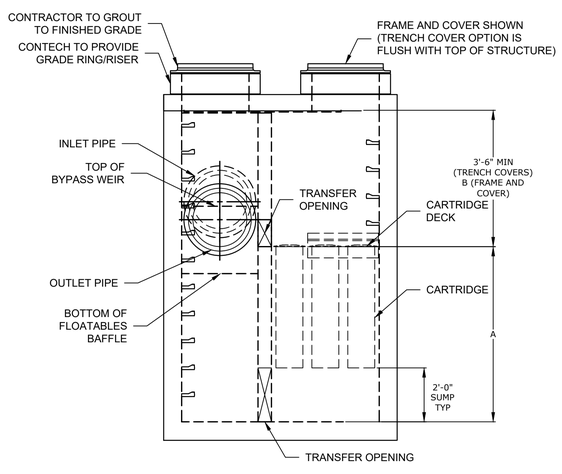
PLAN VIEW

NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
11. SEE DRAINAGE MANHOLE DETAIL FOR MORE INFORMATION (CORE HOLE SIZE, MINIMUM FLOOR AND WALL THICKNESS, ETC.)
12. OPENINGS BETWEEN TRASH RACK BARS SHALL BE SMALLER THAN THE SIZE OF THE ORIFICE IT COVERS.

UNDERGROUND DETENTION BASIN OUTLET STRUCTURE (POS1)
NO SCALE



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

JELLYFISH JFPD0806 - DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54" 40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6'5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.0300.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.961.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.004.00	4.00	4.00

SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	JFF-1
MODEL SIZE	JFPD0808
WATER QUALITY FLOW RATE (cfs)	2.73
PEAK FLOW RATE (cfs)	2.94
RETURN PERIOD OF PEAK FLOW (yrs)	25
# OF CARTRIDGES REQUIRED (HF / DD)	15/3
CARTRIDGE SIZE	54"

SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	JFF-2
MODEL SIZE	JFPD0808
WATER QUALITY FLOW RATE (cfs)	2.87
PEAK FLOW RATE (cfs)	2.94
RETURN PERIOD OF PEAK FLOW (yrs)	25
# OF CARTRIDGES REQUIRED (HF / DD)	15/3
CARTRIDGE SIZE	54"

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

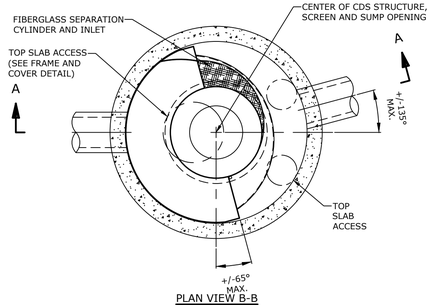
NOTE:
1. A QUALIFIED ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED DESIGN PLANS PER THE REQUIREMENTS OF THE ALTERATION OF TERRAIN PERMIT. CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO THE CONSTRUCTION OF THE UNDERGROUND FILTRATION UNITS.

Jellyfish Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726, 8,221,618 & US 8,123,930. OTHER INTERNATIONAL PATENTS PENDING

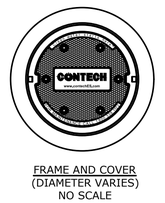
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH JELLYFISH STORMWATER FILTER (JFPD0808)
NO SCALE

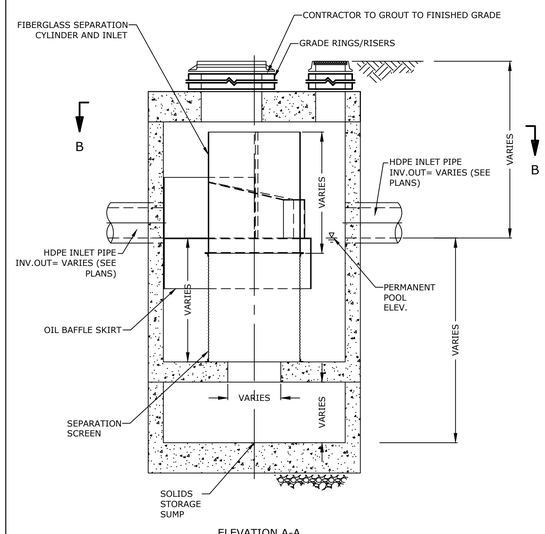
PROPOSED CDS STRUCTURE SCHEDULE	
STRUCTURE ID#	JFF TYPE
PCDS1	CDS 6-3030
PCDS2	CDS 6-3030



PLAN VIEW B-B



FRAME AND COVER
(DIAMETER VARIES)
NO SCALE



ELEVATION A-A

GENERAL NOTES:
1. CONTECH TO PROVIDE FINAL DIMENSIONS BASED ON APPROVED FLOWS AND ALL MATERIALS UNLESS NOTED OTHERWISE.
2. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
3. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
4. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES:
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN ON GRADING PLAN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH CDS UNIT
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DTLS.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-806

Last Saved: 4/19/2024
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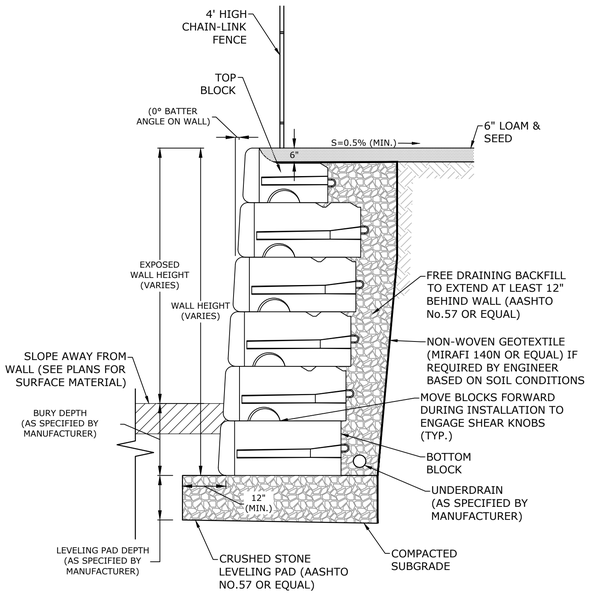
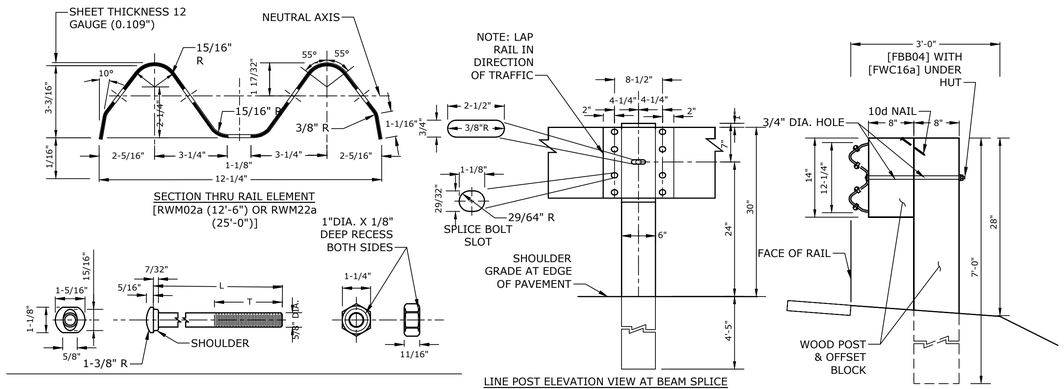


NOTES:
1. RETAINING WALL SHALL BE BY REDI ROCK LEDGESTONE OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL SUBMIT DESIGN AND CALCULATIONS FOR THE RETAINING WALL THAT SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. CALCULATIONS SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
3. MINIMUM DESIGN PARAMETERS:
   - GLOBAL STABILITY FACTOR OF SAFETY = 1.3
   - OVERTURNING FACTOR OF SAFETY = 1.5
   - SLIDING FACTOR OF SAFETY = 1.5
   - GEOGRID PULLOUT FACTOR OF SAFETY = 1.5
   - SEISMIC FACTOR OF SAFETY = 1.1
4. WALL DESIGNS SHALL CONSIDER EFFECTS OF SLOPE, TRAFFIC LOADS, BUILDING LOADS, GUARDRAIL AND/OR FENCING AS REQUIRED.
5. WALL DESIGN ENGINEER SHALL CONSIDER HEIGHT AND SPECIFY FENCE WHERE REQUIRED
6. ALL INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION MANUAL AND THE WALL DESIGN ENGINEER'S DESIGN PLANS AND SPECIFICATIONS.
7. THE WALL DESIGN ENGINEER SHALL COMPLETE SUFFICIENT INSPECTIONS DURING CONSTRUCTION TO CERTIFY WORK IS COMPLETED IN ACCORDANCE WITH DESIGN.
8. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS OF WALL WITH WALL DESIGNER'S CERTIFICATION TO OWNER.
9. CONTRACTOR SHALL DIRECT SURFACE RUNOFF AWAY FROM THE WALL DURING CONSTRUCTION.
10. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT OR OTHER SURFACE TREATMENT SHALL BE INSTALLED IN THE AREA OF THE WALL IMMEDIATELY AFTER THE WALL IS COMPLETE OR OTHER MEASURES SHALL BE TAKEN TO PROTECT THE WALL FROM RUNOFF.
11. CONTRACTOR SHALL SUPPLY SAMPLE TO THE OWNER FOR APPROVAL PRIOR TO WALL CONSTRUCTION.

TYPICAL BLOCK RETAINING WALL SECTION
NO SCALE

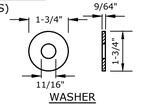


DESIGNATOR	L	T	INTENDED USE
FBB01	1-1/4"	FULL LENGTH THREAD	RAIL SPLICE BOLTS
FBB02	2"	1-3/4" MIN. THREAD LENGTH	POST BOLT (STEEL POSTS)
FBB03	10"	4" MIN. THREAD LENGTH	POST BOLT
FBB04	18"	4" MIN. THREAD LENGTH	POST BOLT (WOOD POSTS)

5/8" BUTTON HEAD BOLT AND RECESSED NUT
[FBB01-04]

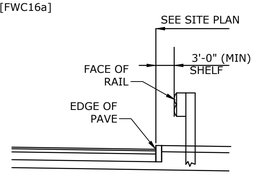
LINE POST ELEVATION VIEW AT BEAM SPLICE
(SHOWN WITHOUT FASTENERS)

TYPICAL SIDE VIEW
(SHOWN WITH FASTENERS)



WASHER
[FWC16a]

NOTES:
1. SEE SITE PLAN FOR LIMITS OF GUARDRAIL.
2. DESIGNATION PROVIDED IN BRACKETS ( ) REFERENCE STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" (1979) - AASHTO - AGC - ARTBA JOINT COOPERATIVE COMMITTEE.
3. ALL DIMENSIONS SUBJECT TO MANUFACTURER'S TOLERANCES.
4. USE 6'-0" LONG POSTS WHEN FILL SLOPE IS 4:1 OR FLATTER AND/OR WHEN FIELD CONDITIONS DICTATE (e.g., LEDGE FILLS), AS DETERMINED BY THE ENGINEER.



WOOD POST/STEEL BEAM GUARDRAIL
NO SCALE

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PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
4/22/24

NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
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APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

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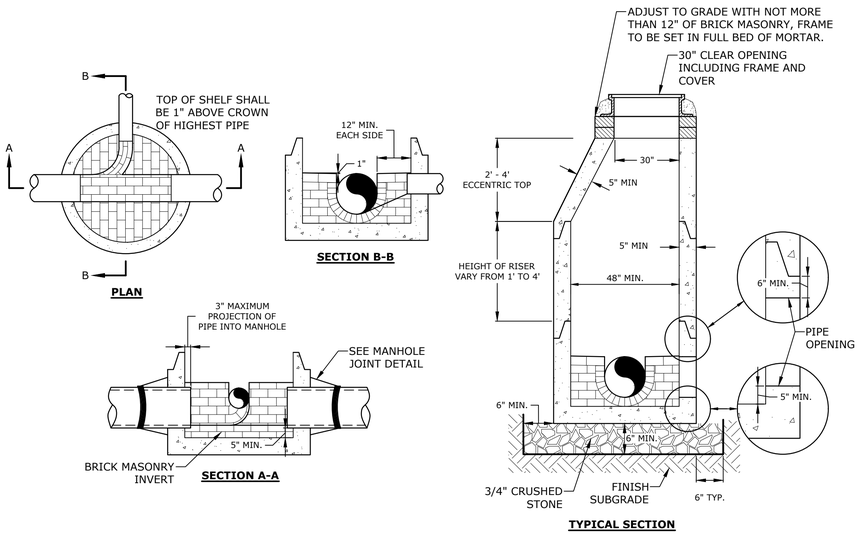
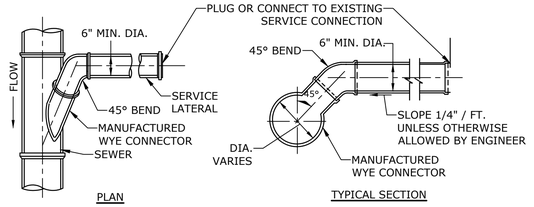
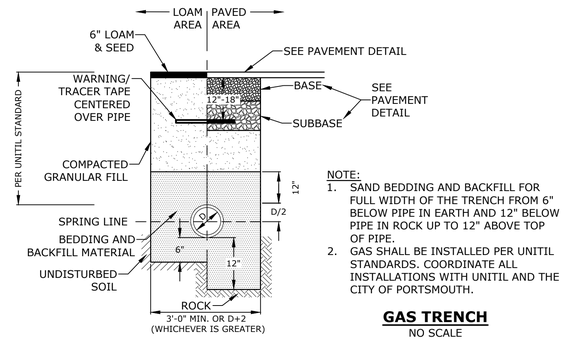


NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE

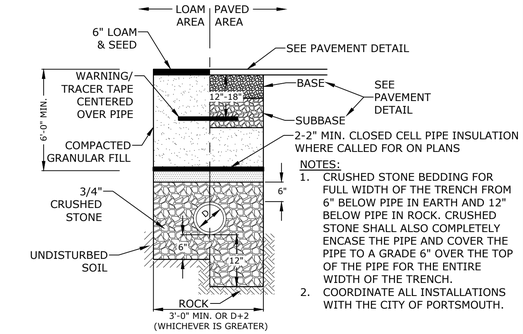


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



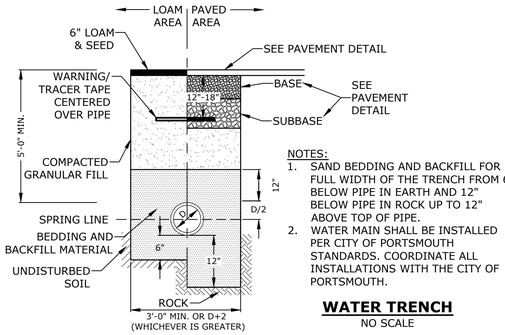
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

GAS TRENCH
NO SCALE



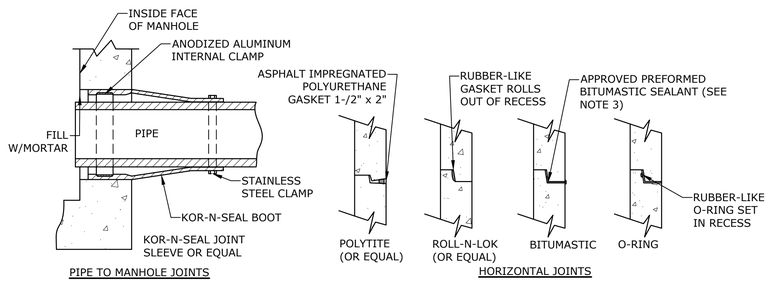
NOTES:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER SERVICE TRENCH
NO SCALE



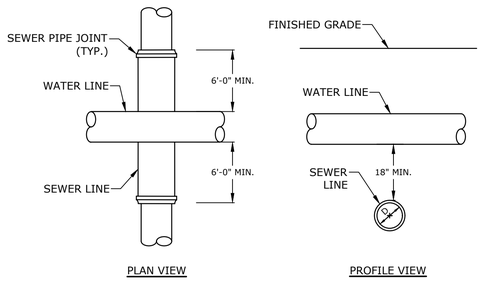
NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE



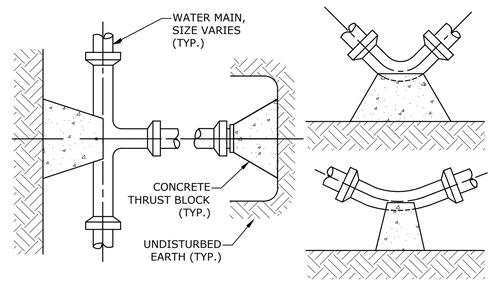
NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

MANHOLE JOINTS
NO SCALE



NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
4. WHERE AN 18" VERTICAL SEPARATION CANNOT BE PROVIDED, SEWER PIPE SHALL BE CONSTRUCTED USING A SDR 26 PVC PIPE MEETING THE REQUIREMENTS OF SEWER FORCE MAIN STANDARDS. THE SDR26 PIPE SHALL BE USED FOR THE ENTIRE RUN BETWEEN MANHOLES ON EITHER SIDE OF CROSSING.
5. CROSSINGS SHALL CONFORM TO THE CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS.
6. ALL FUTURE SEWER CONNECTIONS SHALL MEET THE ABOVE REQUIREMENTS.

WATER & SEWER CROSSING
NO SCALE



TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE

Tighe&Bond

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STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

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100 DURGIN LANE OWNER, LLC

100 DURGIN LANE PORTSMOUTH, NEW HAMPSHIRE

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DETAILS SHEET

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C-808

Last Saved: 4/19/2024
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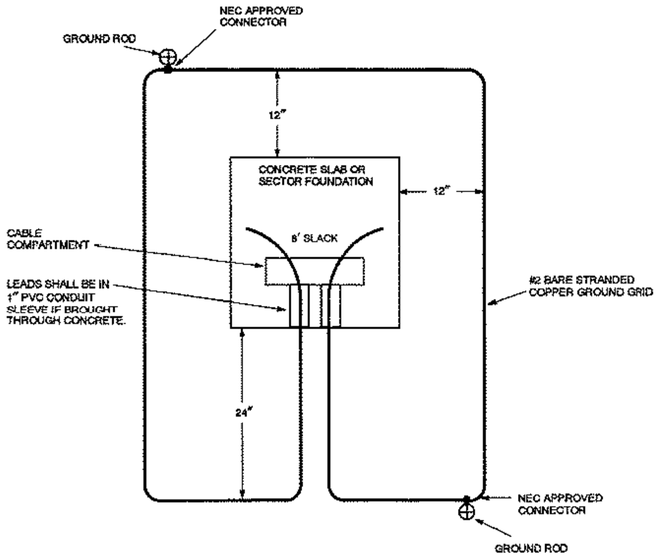
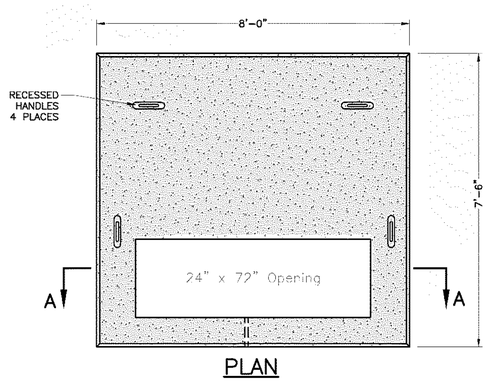
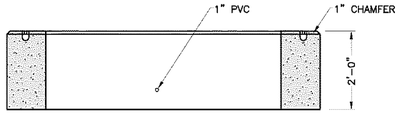


NOTES:
THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES BELOW GRADE. EIGHT FEET OF EXTRA WIRE FOR EACH GROUND GRID LEG SHALL BE LEFT EXPOSED IN THE CABLE COMPARTMENT TO ALLOW FOR THE CONNECTION TO THE TRANSFORMER. THE TWO 8-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.

PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL
NO SCALE



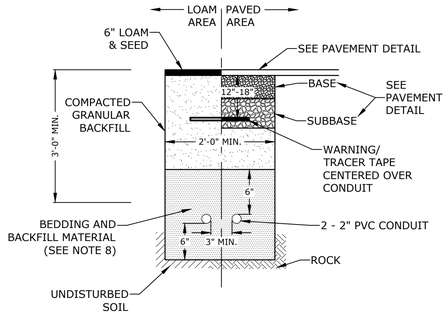
PLAN



SECTION A–A

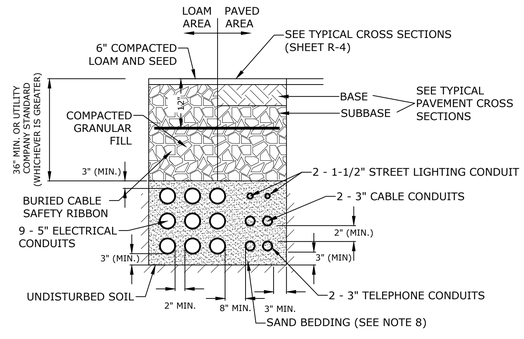
NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

3-PHASE TRANSFORMER PAD
NO SCALE



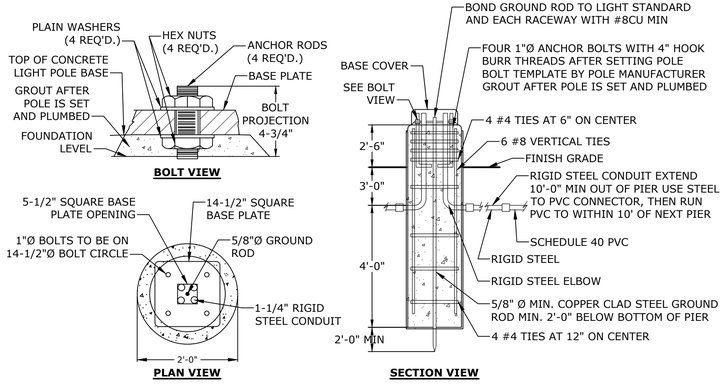
NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.
9. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW CONDUIT UP TO 6" ABOVE TOP OF CONDUIT.

LIGHTING CONDUIT TRENCH
NO SCALE



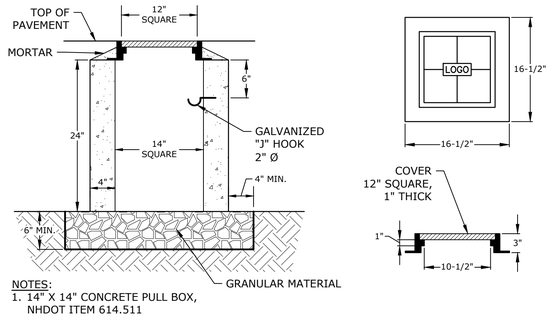
NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



NOTES
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
4. LIGHT POLE BASE DETAIL FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.

TYPICAL LIGHT POLE BASE
NO SCALE



NOTES:
1. 14" X 14" CONCRETE PULL BOX, NHDOT ITEM 614.511

CONCRETE PULL BOX
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 4/22/24

STATE OF NEW HAMPSHIRE – NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DTLS.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-809

Last Saved: 4/19/2024
Printed: Oct 15, 2024-1:31pm By: BCurcio
Tighe & Bond:\\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-C-DTLS.dwg

LAYOUT AND MATERIALS NOTES

1. REVIEW CONTRACT DOCUMENTS AND FIELD CONDITIONS BEFORE COMMENCING WORK. REPORT ERRORS, OMISSIONS, OR INCONSISTENCIES PROMPTLY TO THE LANDSCAPE ARCHITECT.
2. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING. LOCATE AND MARK EXISTING UTILITIES.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
5. DIMENSIONS REFERRED TO AS "EQUAL" INDICATE SPACING WHICH IS EQUIDISTANT MEASURED TO THE CENTERLINES.
6. MEASUREMENTS ARE TO THE FINISHED FACE OF BUILDINGS, WALLS, OR OTHER FIXED SITE IMPROVEMENTS. DIMENSIONS TO CENTERLINES ARE IDENTIFIED.
7. INSTALL INTERSECTING ELEMENTS AT 90-DEGREE ANGLES, UNLESS OTHERWISE NOTED.
8. PROVIDE EXPANSION JOINTS WHERE FLATWORK MEETS VERTICAL STRUCTURES, SUCH AS WALLS, CURBS, STEPS, AND OTHER HARDSCAPE.
9. CONTROL JOINTS SHOULD BE SPACED NO GREATER THAN TEN (10) LINEAR FEET MAXIMUM, UNLESS OTHERWISE SPECIFIED.
10. CONTROL JOINT RECOMMENDATIONS TO MINIMIZE CRACKING SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL.
11. ALL TOP OF WALLS AND FENCES ARE TO BE HELD LEVEL, UNLESS OTHERWISE SPECIFIED.
12. SAMPLES OF SPECIFIED MATERIALS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDERING.
13. THE CONTRACTOR SHALL PROVIDE A FULL-SCALE MOCKUP AND RECEIVE APPROVAL FROM THE LANDSCAPE ARCHITECT BEFORE BEGINNING CONSTRUCTION OF PAVEMENT.
14. ALL SITE FURNITURE LOCATIONS ARE TO BE STAKED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

PLANTING NOTES

1. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING. LOCATE AND MARK EXISTING UTILITIES.
2. REFER TO CIVIL ENGINEER'S GRADING PLANS FOR FINAL GRADING AND UTILITY LOCATIONS.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. LANDSCAPE ARCHITECT TO REVIEW PLANT MATERIALS AT SOURCE OR BY PHOTOGRAPHS PRIOR TO DIGGING OR SHIPPING OF PLANT MATERIAL.
5. CONTRACTOR IS TO VERIFY ALL QUANTITIES. IF QUANTITIES ON PLANT LIST DIFFER FROM GRAPHIC INDICATIONS, GRAPHICS SHALL PREVAIL.
6. EXACT LOCATIONS OF TREES AND B&B SHRUBS ARE TO BE STAKED BY THE CONTRACTOR FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN THE FIELD.
7. PLANT MATERIAL NOT MEETING THE STANDARDS CONTAINED WITHIN CONTRACT DOCUMENTS SHALL BE REPLACED AT NO COST TO THE OWNER.
8. PROVIDE MATCHING SIZES AND FORMS FOR EACH PLANT OF THE SAME SPECIES DESIGNATED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.
9. ALL PLANT MATERIAL IS TO BE INSTALLED PLUMB/PER THE SPECIFICATIONS CONTAINED WITHIN THE CONTRACT DOCUMENTS.
10. PRUNE EXISTING AND/OR NEWLY PLANTED TREES ONLY AS DIRECTED BY THE LANDSCAPE ARCHITECT.
11. PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT PRIOR TO PLANTING. ROOT BALLS SHALL BE FREE OF WEEDS.
12. FINISH GRADE OF PLANTING BEDS SHALL BE ONE (1) INCH BELOW ADJACENT PAVER OR HEADER, UNLESS OTHERWISE SPECIFIED.
13. MULCH OR PLANTING BED DRESSING SHALL BE PLACED IN ALL PLANTING AREAS AS SPECIFIED. MULCH OR PLANTING BED DRESSING SHALL NOT BE PLACED WITHIN SIX (6) INCHES OF TREE TRUNKS. MULCHING SHOULD BE REPEATED ANNUALLY DURING THE AUTUMN TO A 3" DEPTH, SOIL PEP MULCH SHALL BE USED UNLESS OTHERWISE SPECIFIED..
14. ALL PLANT MATERIAL SHOULD RECEIVE AN ORGANIC FERTILIZER IN LIMITED APPLICATION FOLLOWING INSTALLATION. TYPE AND APPLICATION RATE AND METHOD OF APPLICATION TO BE SPECIFIED BY THE CONTRACTOR & APPROVED BY THE LANDSCAPE ARCHITECT.
15. STOCKPILED PLANT MATERIAL TO BE PLACED IN THE SHADE AND PROPERLY HAND-WATERED UNTIL PLANTED.
16. PRESERVE & PROTECT ALL EXISTING VEGETATION INDICATED TO REMAIN AT ALL TIMES.
17. TO THE GREATEST EXTENT POSSIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION SHALL BE STOCKPILED FOR LATER USE IN AREAS REQUIRING REVEGETATION/PLANTING.
18. ALL MATERIALS USED SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
19. ALL DISTURBED AREAS ARE TO BE REVEGETATED

SEEDING NOTES

1. REVEGETATED AREAS ARE TO BE HYRO-SEEDED, FOLLOWED BY THE APPLICATION OF STRAW MULCH.
2. APPLY STRAW MULCH AT A MINIMUM RATE OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER/CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2 INCHES.
4. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

GRADING AND DRAINAGE NOTES

1. MATERIALS/WASTE CREATED BY REMOVAL PROCEDURES SHALL BE LEGALLY DISPOSED OF AWAY FROM THE JOB SITE.
2. NOTIFY LOCAL UNDERGROUND SERVICE COMPANIES FOR UTILITY FINDS 48 HOURS PRIOR TO ANY EXCAVATION.
3. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS FOR THE VERIFICATION OF CONNECTIONS TO DRAINS OVER STRUCTURE.
4. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS FOR THE VERIFICATION OF WATERPROOFING OF SLAB PENETRATIONS.
5. THE CONTRACTOR IS TO REVIEW CIVIL ENGINEER'S DRAWINGS FOR THE VERIFICATION OF CONNECTIONS TO DRAINS.
6. GRADING AND EXCAVATION WORK SHALL BE COMPLETED DURING DRY AND NON-FREEZING CONDITIONS.
7. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM ALL STRUCTURES.
8. SOIL COMPACTION SHALL BE 95% PROCTOR DENSITY MINIMUM BENEATH PAVEMENTS, STEPS, WALLS AND LIGHT FOUNDATIONS, UNLESS OTHERWISE SPECIFIED.

ABBREVIATIONS TABLE

APPROX	APPROXIMATE
ARCH	ARCHITECT
AVG	AVERAGE
B+B	BALED AND BURLAPPED
BF	BOTTOM OF FOOTING
BLDG	BUILDING
BM	BENCHMARK
BOC	BACK OF CURB
BR	BOTTOM OF RAMP
BS	BOTTOM OF STEP
BW	BOTTOM OF WAL
CAL	CALIPER
CAP	CAPACITY
CF	CUBIC FEET
CHAM	CHAMFER
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEARANCE
CM	CENTIMETER
CO	CLEAN OUT
COMP	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CU	CUBIC
CY	CUBIC YARD
DEMO	DEMOLISH, DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG	DRAWING
E	EAST
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
E.W.	EACH WAY
EXIST	EXISTING
EXP	EXPANSION, EXPOSED
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FIN	FINISH
FL	FLOW LINE
FOW	FACE OF WAL
FT	FOOT (FEET)
FTG	FOOTING
GA	GAUGE
GAL	GALVANIZED
GEN	GENERAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
ID	INSIDE DIAMETER
INV	INVERT ELEVATION
IN	INCH(ES)
INCL	INCLUDE(D)
IRR	IRRIGATION
JT	JOINT
LIN	LINEAR
LF	LINEAR FEET
LP	LOW POINT
LT	LIGHT
MATL	MATERIAL
MAX	MAXIMUM
MEMB	MEMBRANE
MD	MAIN DISCONNECT SWITCH
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
PAR	PARALLEL
PC	POINT OF CURVATURE
PE	POLYURETHANE
PERF	PERFORATED
PED	PEDESTRIAN
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVR	PAVER
QTY	QUANTITY
R	RADIUS
REF	REFERENCE
REINF	REINFORCE(D)
REQ'D	REQUIRED
REV	REVISION, REVISED
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
SS	SANITARY SEWER
SCH	SCHEDULE
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SNT	SEALANT
SPECS	SPECIFICATIONS
SQ	SQUARE
ST	STORM SEWER
SY	SQUARE YARD
STA	STATION
STD	STANDARD
STL	STEEL
STRL	STRUCTURAL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
TBC	TOP OF BACK CURB
TC	TOP OF CURB
TF	TOP OF FOOTING
TRANS	ELECTRIC TRANSFORMER
TOC	TOP OF CONCRETE
TOPO	TOPOGRAPHY
TSL	TOP OF SLAB
TR	TOP OF RAMP
TS	TOP OF STEP
TW	TOP OF WAL
TYP	TYPICAL
VAR	VARIES
VERT	VERTICAL
VEH	VEHICLE
VOL	VOLUME
W/	WITH
W/O	WITHOUT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD
@	AT

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS | DATE:

ISSUE DATE:

April 19, 2024

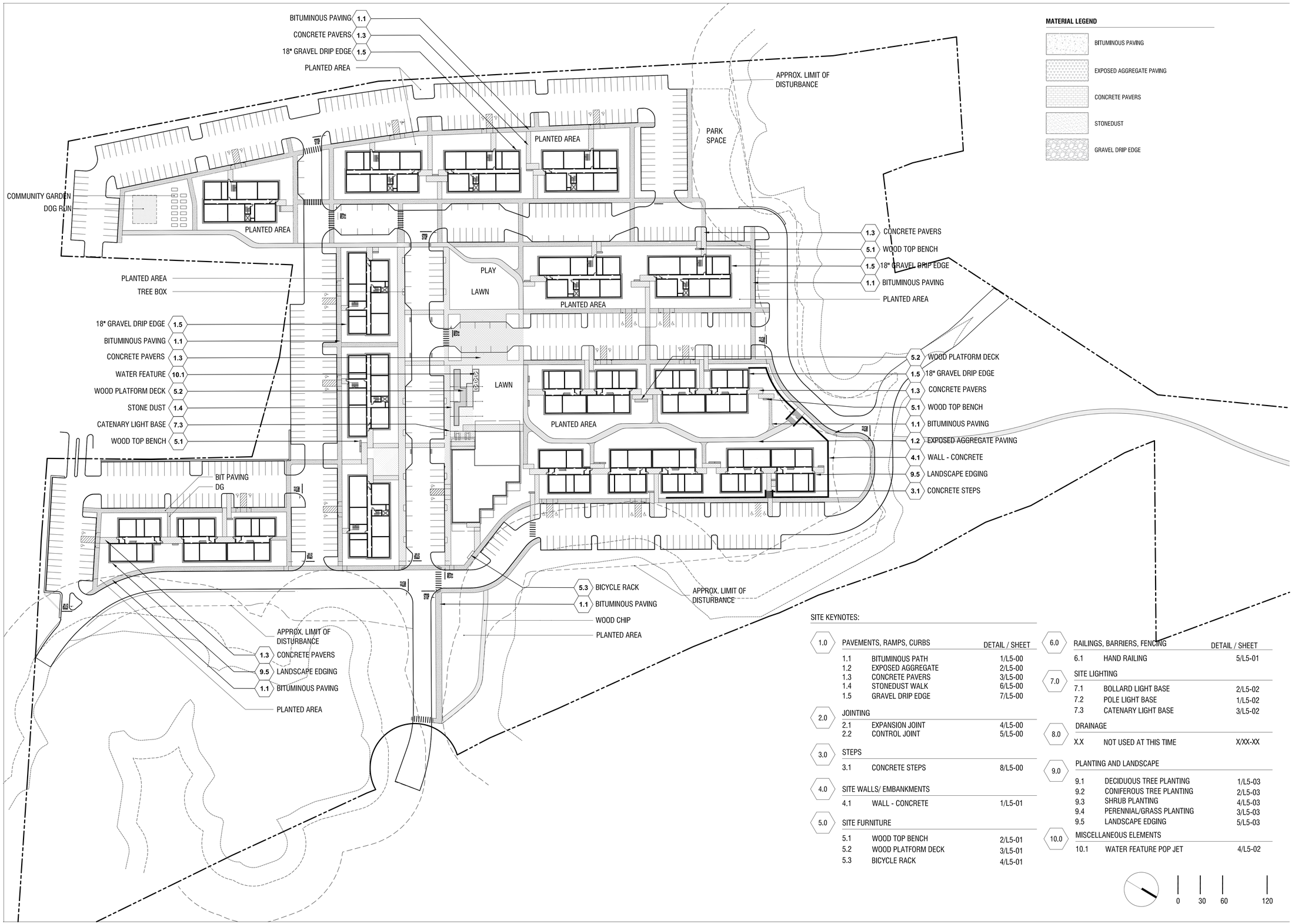
SHEET TITLE:

NOTES

SHEET INFORMATION

L0-01

NOT FOR CONSTRUCTION



MATERIAL LEGEND

- BITUMINOUS PAVING
- EXPOSED AGGREGATE PAVING
- CONCRETE PAVERS
- STONEDUST
- GRAVEL DRIP EDGE

SITE KEYNOTES:

1.0	PAVEMENTS, RAMPS, CURBS		DETAIL / SHEET
	1.1	BITUMINOUS PATH	1/L5-00
	1.2	EXPOSED AGGREGATE	2/L5-00
	1.3	CONCRETE PAVERS	3/L5-00
	1.4	STONEDUST WALK	6/L5-00
	1.5	GRAVEL DRIP EDGE	7/L5-00
2.0	JOINTING		
	2.1	EXPANSION JOINT	4/L5-00
	2.2	CONTROL JOINT	5/L5-00
3.0	STEPS		
	3.1	CONCRETE STEPS	8/L5-00
4.0	SITE WALLS/ EMBANKMENTS		
	4.1	WALL - CONCRETE	1/L5-01
5.0	SITE FURNITURE		
	5.1	WOOD TOP BENCH	2/L5-01
	5.2	WOOD PLATFORM DECK	3/L5-01
	5.3	BICYCLE RACK	4/L5-01
6.0	RAILINGS, BARRIERS, FENCING		DETAIL / SHEET
	6.1	HAND RAILING	5/L5-01
7.0	SITE LIGHTING		
	7.1	BOLLARD LIGHT BASE	2/L5-02
	7.2	POLE LIGHT BASE	1/L5-02
	7.3	CATENARY LIGHT BASE	3/L5-02
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L5-03
	9.2	CONIFEROUS TREE PLANTING	2/L5-03
	9.3	SHRUB PLANTING	4/L5-03
	9.4	PERENNIAL/GRASS PLANTING	3/L5-03
	9.5	LANDSCAPE EDGING	5/L5-03
10.0	MISCELLANEOUS ELEMENTS		
	10.1	WATER FEATURE POP JET	4/L5-02

0 30 60 120

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SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS DATE

ISSUE DATE

April 19, 2024

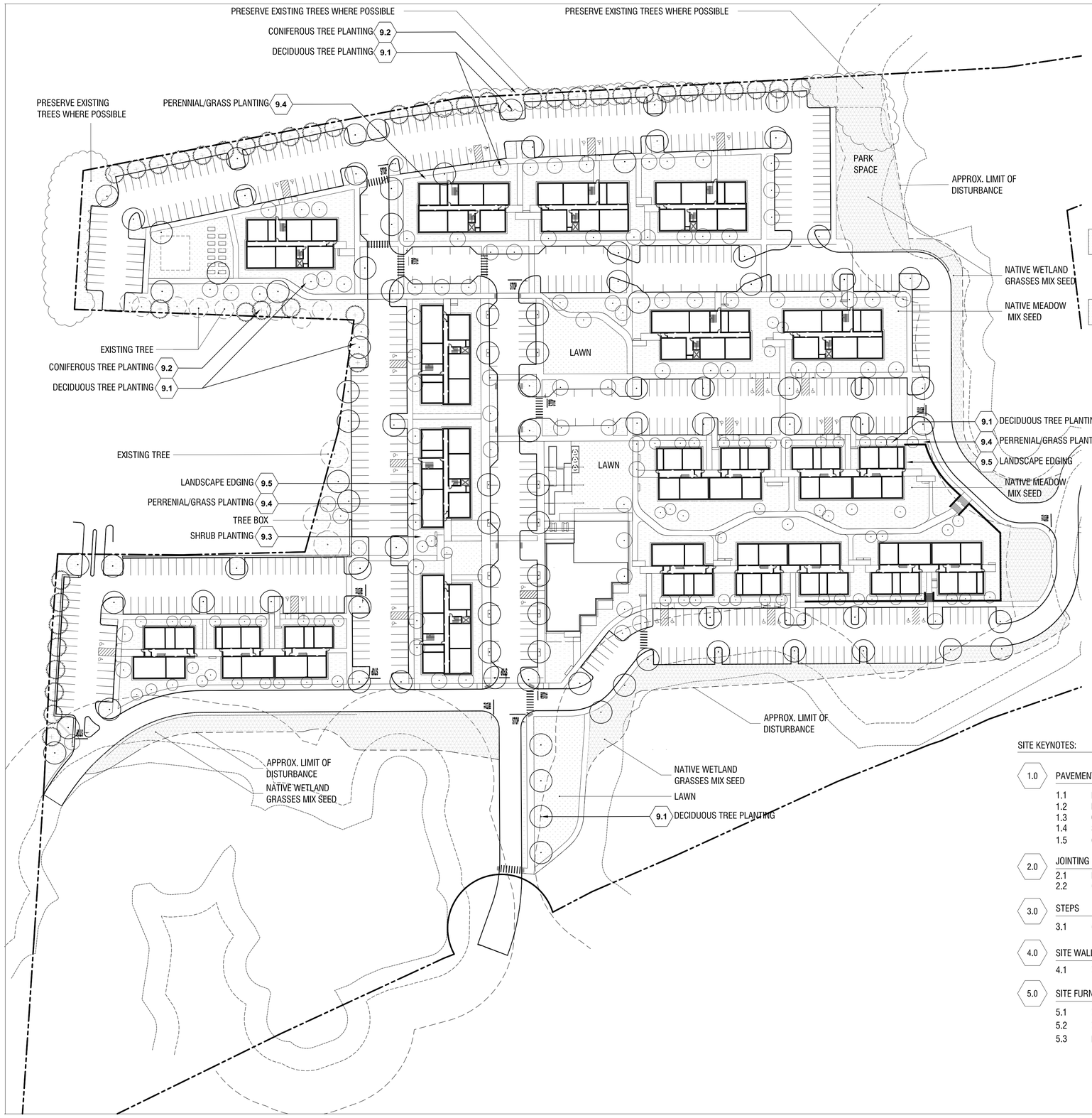
SHEET TITLE

LAYOUT AND MATERIALS PLAN

SHEET INFORMATION

L1-00

NOT FOR CONSTRUCTION



POTENTIAL PLANT SCHEDULE

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING
TREES					
QP	QUERCUS PALUSTRIS	PIN OAK	X	3" CAL. MIN.	PER PLAN
AR	ACER RUBRUM 'BOWHALL'	BOWHALL MAPLE	X	3" CAL. MIN.	PER PLAN
QR	QUERCUS ROBUR X BICOLOR 'LONG'	REGAL PRINCE OAK	X	3" CAL. MIN.	PER PLAN
AS	ACER SACCHARUM	SUGAR MAPLE	X	3" CAL. MIN.	PER PLAN
BP	BETULA PAPYRIFERA	PAPER BIRCH (SINGLE-STEM)	X	3" CAL. MIN.	PER PLAN
AC	AMELANCHIER CANADENSIS	SERVICEBERRY (MULTI-STEM)	X	8' HT. B&B	PER PLAN
TREES - EVERGREEN					
AB	ABIES BALSAMEA 'COOKS'	'BALSAM FIR 'COOKS'	X	#2	PER PLAN
TC	TSUGA CANADENSIS	EASTERN HEMLOCK	X	#2	PER PLAN
AB	THUJA OCCIDENTALIS	ARBORVITAE	X	7-8'	PER PLAN
SHRUBS					
MP	MYRICA PENSYLVANICA	BAYBERRY	X	#5	PER PLAN
RA	RHUS AROMATICA	LOW-GRO SUMAC	X	#2	PER PLAN
IG	ILEX GLABRA	INKBERRY	X	#2	PER PLAN
PERENNIALS AND ORNAMENTAL GRASSES					
AU	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	X	#1	12" O.C.
CP	COMPTONIA PEREGRINA	SWEET FERN	X	#1	12" O.C.
EP	EUTROCHIUM PURPUREUM	SWEET JOE PYE WEED	X	#1	12" O.C.
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	X	#1	24" O.C.
LUS	LUZULA SYLVATICA	GREATER WOOD RUSH	X	#1	18" O.C.
BG	BOUTELOUA GRACILIS	BLUE GRAMA	X	#1	18" O.C.
SH	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	X	#1	12" O.C.
EPE	ERAGROSTIS PECTINACEA	PURPLE LOVE GRASS	X	#1	12" O.C.
P	PANICUM	SWITCHGRASS	X	#1	12" O.C.
DM	DRYOPTERIS MARGINALIS	MARGINAL WOOD FERN	X	#1	12" O.C.

LAWN & SEEDING

LOAM & SEED	XX SF		TURF GRASS MIX PER PLAN, SEE SEED SUPPLIER SPEC. FOR APPLICATION RATE
NATIVE WETLAND GRASSES MIX SEED	XX SF	FOX SEDGE (CAREX VULPINOIDEA), LURID SEDGE (CAREX LURIDA), BLUNT BROOM SEDGE (CAREX SCOPARIA), BLUE VERVAIN (VERBENA HASTATA), FOWL BLUEGRASS (POA PALUSTRIS), HOP SEDGE (CAREX LUPULINA), GREEN BULRUSH (SCIRPUS ATROVIRENS), CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS), FRINGED SEDGE (CAREX CRINITA), SOFT RUSH (JUNCUS EFFUSUS), SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM), RATTLESNAKE GRASS (GLYCERIA CANADENSIS), SWAMP ASTER (ASTER PUNICEUS), BLUEFLAG (IRIS VERSICOLOR), SWAMP MILKWEED (ASCLEPIAS INCARNATA), SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS)	NATIVE GRASS MIX PER PLAN, SEE SEED SUPPLIER SPEC. FOR APPLICATION RATE
NATIVE MEADOW MIX SEED	XX SF	VIRGINIA WILD RYE (ELYMUS VIRGINICUS), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM (ANDROPOGON GERARDII), RED FESCUE (FESTUCA RUBRA), SWITCH GRASS (PANICUM VIRGATUM), PARTRIDGE PEA (CHAMAECRISTA FASCICULATA), PANICLEDLEAF TICK TREFOIL (DESMODIUM PANICULATUM), INDIAN GRASS (SORGHASTRUM NUTANS), BLUE VERVAIN (VERBENA HASTATA), BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA), BLACK EYED SUSAN (RUDBECKIA HIRTA), COMMON SNEEZEWEED (HELENIUM AUTUNALE), HEATH ASTER (ASTERPILOSUS/SYMPHYOTRICHUM PILOSUM), EARLY GOLDENROD (SOLIDAGO JUNCEA), UPLAND BENTGRASS (AGROSTIS PERENNANS),	MEADOW MIX PER PLAN, SEE SEED SUPPLIER SPEC. FOR APPLICATION RATE

SITE KEYNOTES:

1.0	PAVEMENTS, RAMPS, CURBS	DETAIL / SHEET	6.0	RAILINGS, BARRIERS, FENCING	DETAIL / SHEET
1.1	BITUMINOUS PATH	1/L5-00	6.1	HAND RAILING	5/L5-01
1.2	EXPOSED AGGREGATE	2/L5-00	7.0	SITE LIGHTING	
1.3	CONCRETE PAVERS	3/L5-00	7.1	BOLLARD LIGHT BASE	2/L5-02
1.4	STONEDUST WALK	6/L5-00	7.2	POLE LIGHT BASE	1/L5-02
1.5	GRAVEL DRIP EDGE	7/L5-00	7.3	CATENARY LIGHT BASE	3/L5-02
2.0	JOINTING		8.0	DRAINAGE	
2.1	EXPANSION JOINT	4/L5-00	X.X	NOT USED AT THIS TIME	X/XX-XX
2.2	CONTROL JOINT	5/L5-00	9.0	PLANTING AND LANDSCAPE	
3.0	STEPS		9.1	DECIDUOUS TREE PLANTING	1/L5-03
3.1	CONCRETE STEPS	8/L5-00	9.2	CONIFEROUS TREE PLANTING	2/L5-03
4.0	SITE WALLS/ EMBANKMENTS		9.3	SHRUB PLANTING	4/L5-03
4.1	WALL - CONCRETE	1/L5-01	9.4	PERENNIAL/GRASS PLANTING	3/L5-03
5.0	SITE FURNITURE		9.5	LANDSCAPE EDGING	5/L5-03
5.1	WOOD TOP BENCH	2/L5-01	10.0	MISCELLANEOUS ELEMENTS	
5.2	WOOD PLATFORM DECK	3/L5-01	10.1	WATER FEATURE POP JET	4/L5-02
5.3	BICYCLE RACK	4/L5-01			

0 30 60 120

ACETO LANDSCAPE ARCHITECTS
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SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS DATE

ISSUE DATE

April 19, 2024

SHEET TITLE

PLANTING PLAN

SHEET INFORMATION

L2-00

NOT FOR CONSTRUCTION

CHARRON
REFLEX LIGHTING

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	25	B3	Single	EWO: FA170-A SERIES-8LED-AS08 DIST-80 CRI-3000K-CXX		0.900	1622	18.7	467.5
	8	G2	Single	COOPER: GALN-SA1C-730-U-SL2-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	6467	57	456
	21	G4-HSS	Single	COOPER: GALN-SA2D-730-U-T4FT-CXX-HSS	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	10202	125	2625
	1	G4A	Single	COOPER: GALN-SA2A-730-U-T4FT-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	8357	63	63
	8	G4B	Single	COOPER: GALN-SA2B-730-U-T4FT-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	10398	82	656
	3	G4W	Single	COOPER: GALN-SA2C-730-U-T4W-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	12885	108	324
	2	G4W-2	2 @ 90 degrees	COOPER: GALN-SA2A-730-U-T4W-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D5-FP-COOPER CXX-FBC-AB	0.900	8381	63	252
	2	G5A	Single	COOPER: GALN-SA2A-730-U-5MQ-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	8784	63	126
	3	G5B	Single	COOPER: GALN-SA2B-730-U-5MQ-CXX	MOUNTED ON 20' VALMONT POLE: DS330-400Q200-D1-FP-COOPER CXX-FBC-AB	0.900	10930	82	246
	11	P3	Single	NLS: TRC-2-T3-16L-7-30K7-UNV-SGL-CXX-16	MOUNTED ON 16' POLE, INCLUDED WITH FIXTURE	0.900	4410	36	396
	109	T1	Single	TIVOLI: LSL2-B-18-S-30-F-12 // POWER AND LEAD WIRES // MOUNTING POLE	(3) 43' RUNS AND (1) 34' RUN, GLOBES SPACED 18 IN // CONTRACTOR TO CONFIRM LENGTH // MOUNTED 10' AFF	0.900	5	0.2	21.8
	39	W1	Single	WAC: WS-W220208-30-CXX	WALL MTD 6' AFG	0.900	282	5.77914	225.386

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
ENTIRE AREA	Fc	0.33	35.5	0.0	N.A.	N.A.
EAST CENTRAL PARKING	Fc	1.33	4.3	0.4	3.33	10.75
MAIN STREET	Fc	1.17	5.1	0.3	3.90	17.00
NORTH PARKING	Fc	1.33	4.4	0.5	2.66	8.80
NORTHEAST PARKING	Fc	1.20	3.6	0.4	3.00	9.00
SOUTHEAST PARKING	Fc	1.38	3.7	0.4	3.45	9.25
SOUTHWEST PARKING	Fc	1.26	4.3	0.4	3.15	10.75
WEST CENTRAL PARKING	Fc	1.43	3.1	0.5	2.86	6.20

0 30 60 120

ALA
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SEAL

PROJECT TITLE

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS DATE

ISSUE DATE

April 19, 2024

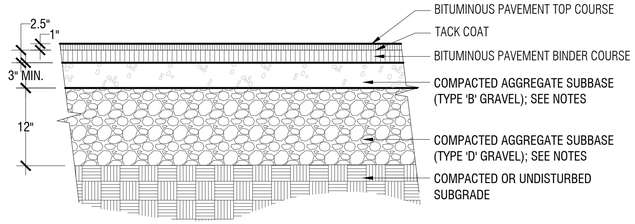
SHEET TITLE

PHOTOMETRIC PLAN

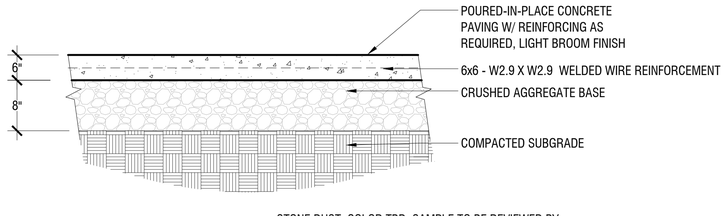
SHEET INFORMATION

L-3-00

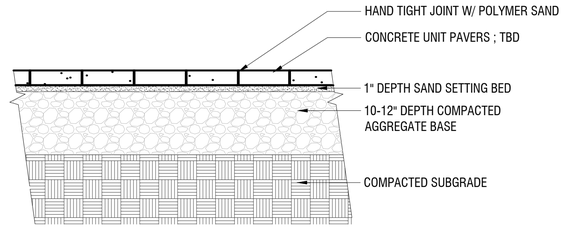
NOT FOR CONSTRUCTION



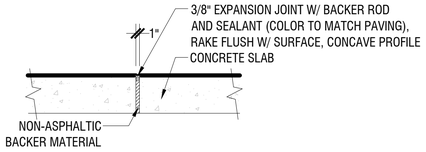
1 Bituminous Paving — 1.1
1":1'-0"



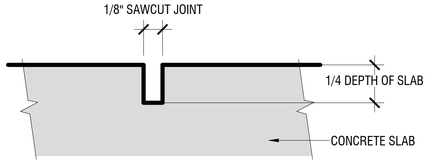
2 Exposed Aggregate — 1.2
1":1'-0"



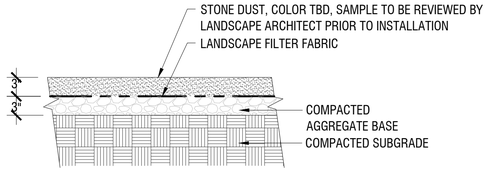
3 Concrete Unit Paving — 1.3
1":1'-0"



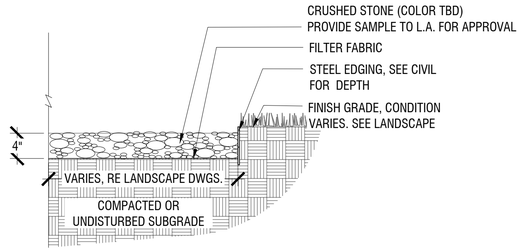
4 Expansion Joint — 2.1
NTS



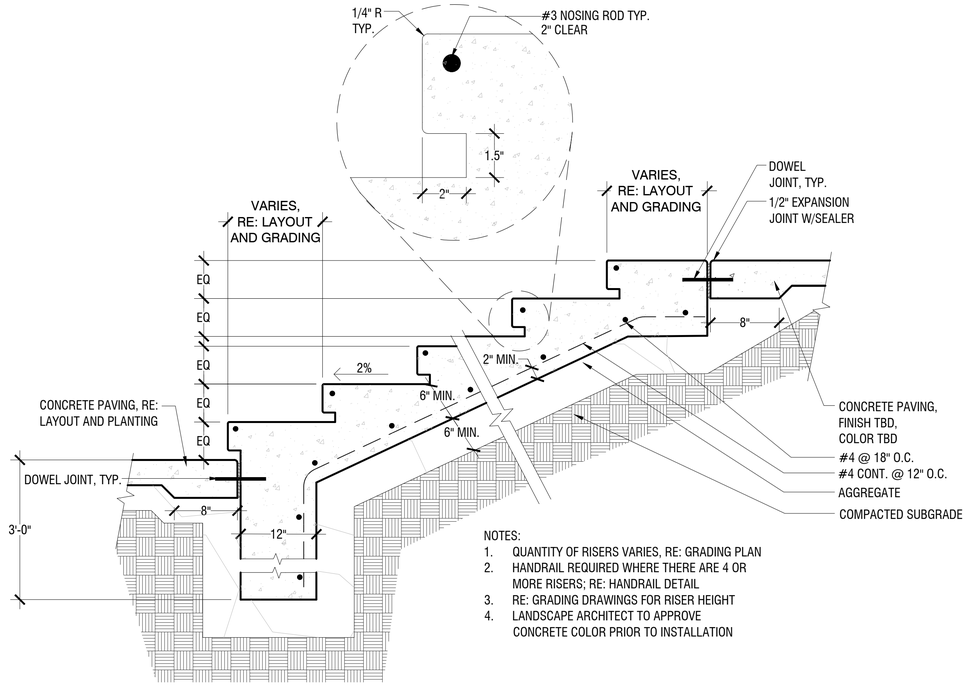
5 Control Joint — 2.2
NTS



6 Stone Dust — 1.4
1":1'-0"



7 Gravel Drip Edge — 1.5
1/4":1'-0"



NOTES:
1. QUANTITY OF RISERS VARIES, RE: GRADING PLAN
2. HANDRAIL REQUIRED WHERE THERE ARE 4 OR MORE RISERS; RE: HANDRAIL DETAIL
3. RE: GRADING DRAWINGS FOR RISER HEIGHT
4. LANDSCAPE ARCHITECT TO APPROVE CONCRETE COLOR PRIOR TO INSTALLATION

8 Concrete Steps — 3.1
1":1'-0"

SITE KEYNOTES:

1.0	PAVEMENTS, RAMPS, CURBS		DETAIL / SHEET
	1.1	BITUMINOUS PATH	1/L5-00
	1.2	EXPOSED AGGREGATE	2/L5-00
	1.3	CONCRETE PAVERS	3/L5-00
	1.4	STONEDUST WALK	6/L5-00
	1.5	GRAVEL DRIP EDGE	7/L5-00
2.0	JOINTING		
	2.1	EXPANSION JOINT	4/L5-00
	2.2	CONTROL JOINT	5/L5-00
3.0	STEPS		
	3.1	CONCRETE STEPS	8/L5-00
4.0	SITE WALLS/ EMBANKMENTS		
	4.1	WALL - CONCRETE	1/L5-01
5.0	SITE FURNITURE		
	5.1	WOOD TOP BENCH	2/L5-01
	5.2	WOOD PLATFORM DECK	3/L5-01
	5.3	BICYCLE RACK	4/L5-01
6.0	RAILINGS, BARRIERS, FENCING		DETAIL / SHEET
	6.1	HAND RAILING	5/L5-01
7.0	SITE LIGHTING		
	7.1	BOLLARD LIGHT BASE	2/L5-02
	7.2	POLE LIGHT BASE	1/L5-02
	7.3	CATENARY LIGHT BASE	3/L5-02
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L5-03
	9.2	CONIFEROUS TREE PLANTING	2/L5-03
	9.3	SHRUB PLANTING	4/L5-03
	9.4	PERENNIAL/GRASS PLANTING	3/L5-03
	9.5	LANDSCAPE EDGING	5/L5-03
10.0	MISCELLANEOUS ELEMENTS		
	10.1	WATER FEATURE POP JET	4/L5-02

ACETO LANDSCAPE ARCHITECTS
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SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS | DATE

ISSUE DATE

April 19, 2024

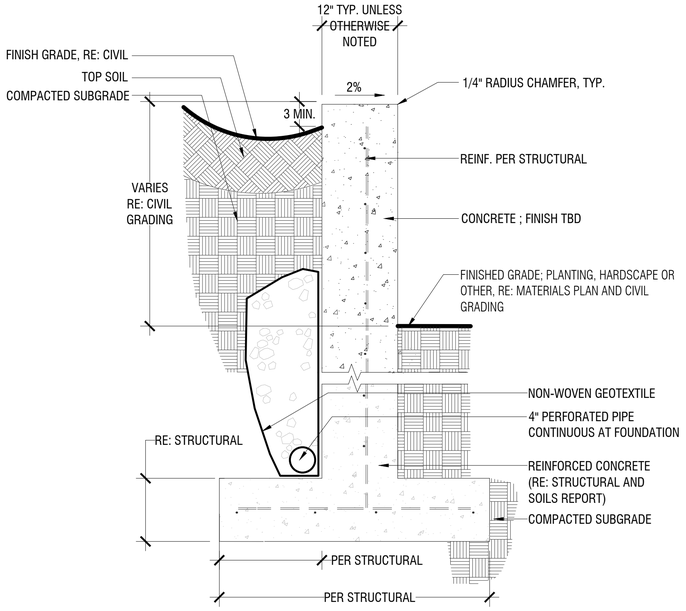
SHEET TITLE

SITE DETAILS

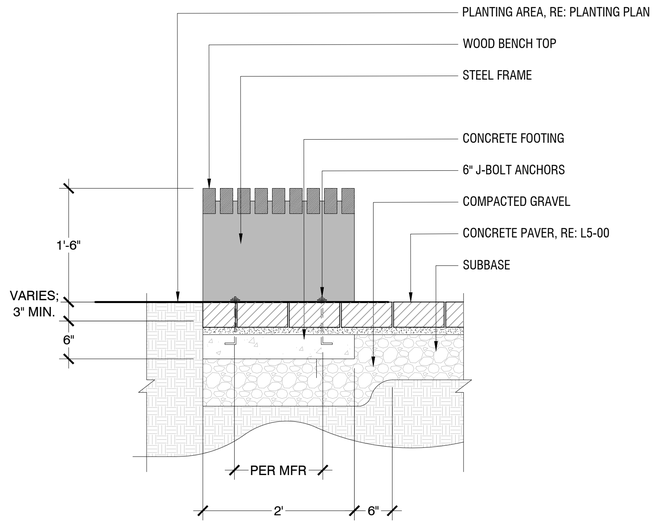
SHEET INFORMATION

L5-00

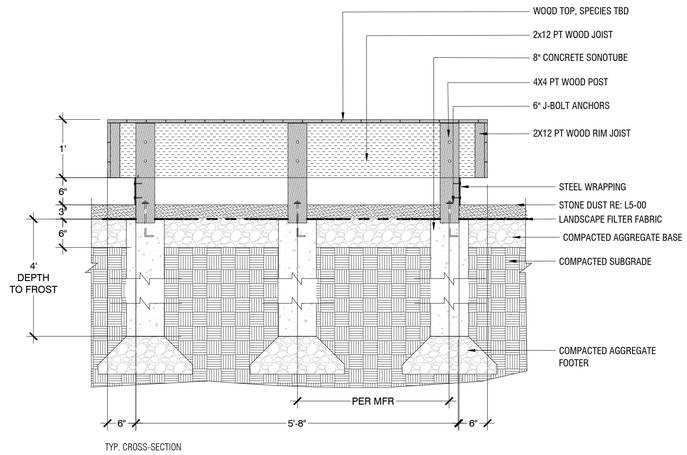
NOT FOR CONSTRUCTION



1 Wall - Concrete 4.1
1":1'-0"

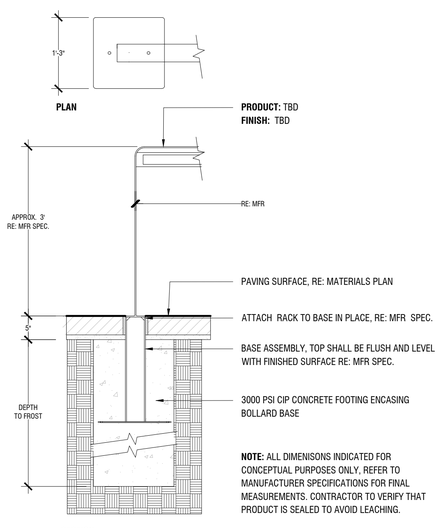


2 Wood Top Bench 5.1
1":1'-0"

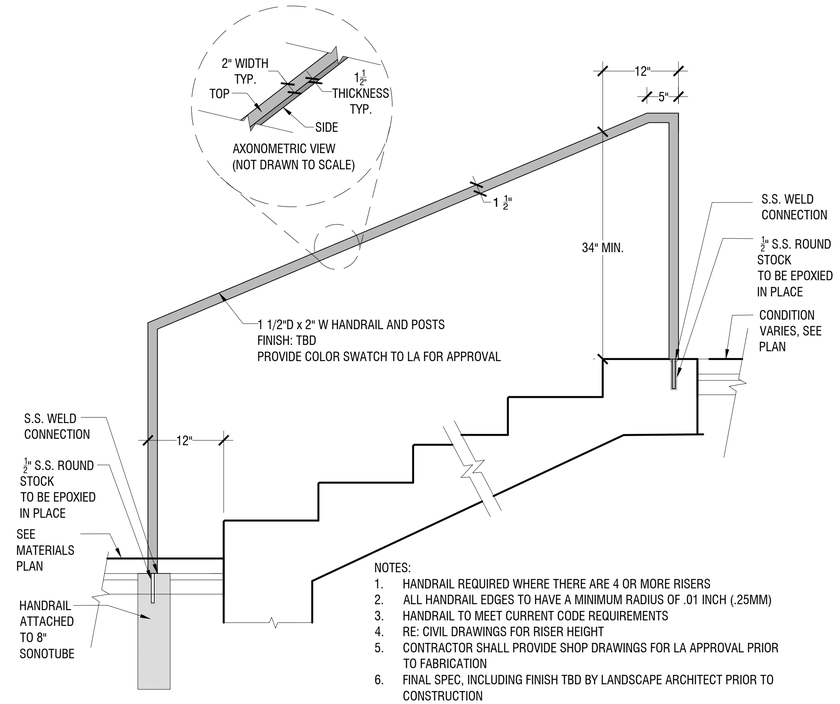


TYP. CROSS-SECTION

3 Wood Platform Deck 5.2
3/4":1'-0"



4 Bicycle Rack 5.3
3/4":1'-0"



NOTES:
1. HANDRAIL REQUIRED WHERE THERE ARE 4 OR MORE RISERS
2. ALL HANDRAIL EDGES TO HAVE A MINIMUM RADIUS OF .01 INCH (.25MM)
3. HANDRAIL TO MEET CURRENT CODE REQUIREMENTS
4. RE: CIVIL DRAWINGS FOR RISER HEIGHT
5. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR LA APPROVAL PRIOR TO FABRICATION
6. FINAL SPEC, INCLUDING FINISH TBD BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION

5 Hand Railing 6.1
1/2":1'-0"

SITE KEYNOTES:

1.0	PAVEMENTS, RAMPS, CURBS		DETAIL / SHEET
	1.1	BITUMINOUS PATH	1/L5-00
	1.2	EXPOSED AGGREGATE	2/L5-00
	1.3	CONCRETE PAVERS	3/L5-00
	1.4	STONEDUST WALK	6/L5-00
	1.5	GRAVEL DRIP EDGE	7/L5-00
2.0	JOINTING		
	2.1	EXPANSION JOINT	4/L5-00
	2.2	CONTROL JOINT	5/L5-00
3.0	STEPS		
	3.1	CONCRETE STEPS	8/L5-00
4.0	SITE WALLS/ EMBANKMENTS		
	4.1	WALL - CONCRETE	1/L5-01
5.0	SITE FURNITURE		
	5.1	WOOD TOP BENCH	2/L5-01
	5.2	WOOD PLATFORM DECK	3/L5-01
	5.3	BICYCLE RACK	4/L5-01
6.0	RAILINGS, BARRIERS, FENCING		DETAIL / SHEET
	6.1	HAND RAILING	5/L5-01
7.0	SITE LIGHTING		
	7.1	BOLLARD LIGHT BASE	2/L5-02
	7.2	POLE LIGHT BASE	1/L5-02
	7.3	CATENARY LIGHT BASE	3/L5-02
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L5-03
	9.2	CONIFEROUS TREE PLANTING	2/L5-03
	9.3	SHRUB PLANTING	4/L5-03
	9.4	PERENNIAL/GRASS PLANTING	3/L5-03
	9.5	LANDSCAPE EDGING	5/L5-03
10.0	MISCELLANEOUS ELEMENTS		
	10.1	WATER FEATURE POP JET	4/L5-02

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS | DATE

ISSUE DATE

April 19, 2024

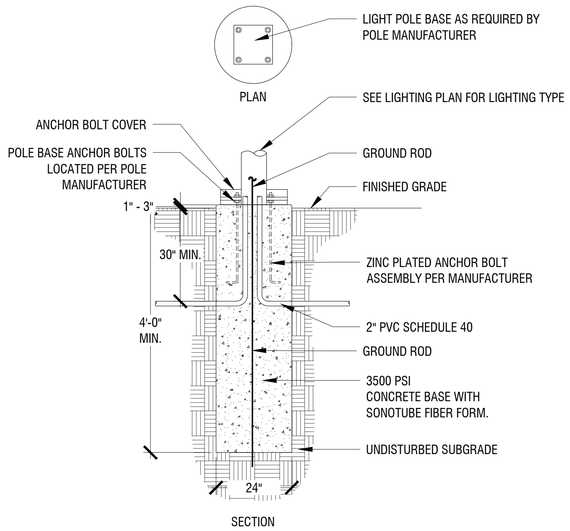
SHEET TITLE

SITE DETAILS

SHEET INFORMATION

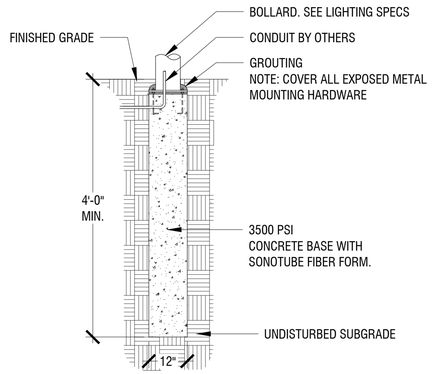
L5-01

NOT FOR CONSTRUCTION



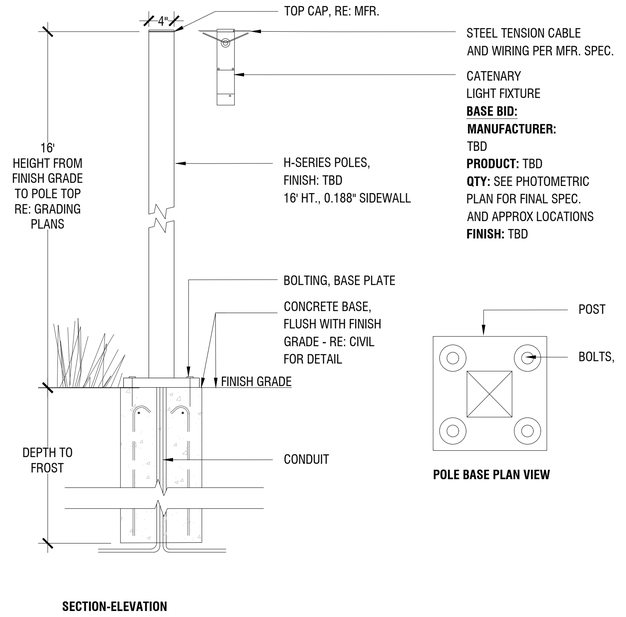
1 Pole Light Base
1/2":1'-0"

7.2



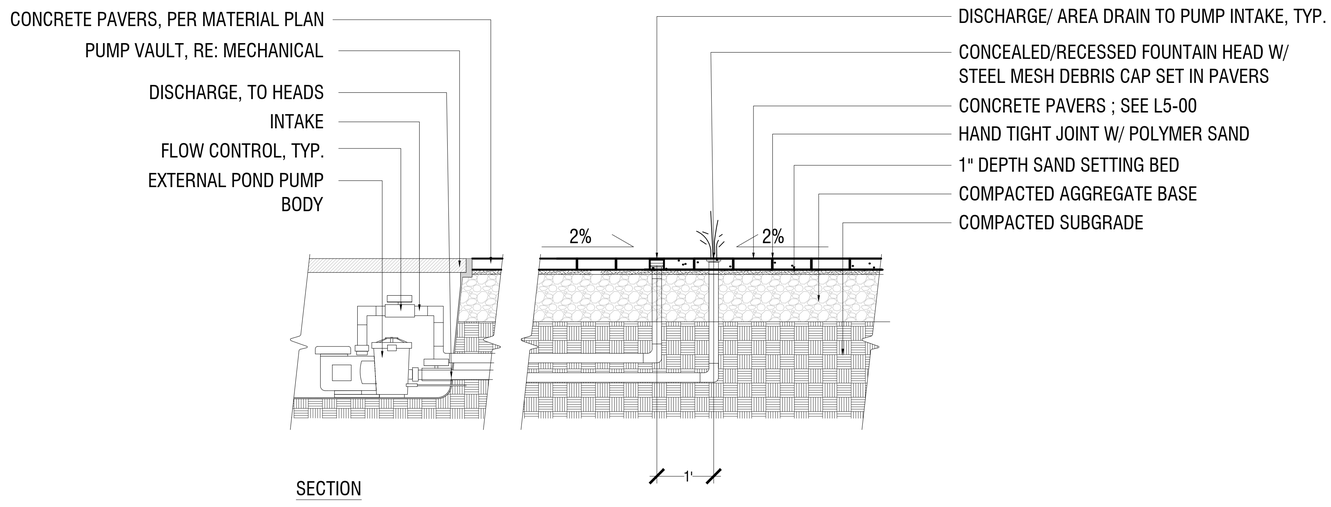
2 Bollard Light Base
1/2":1'-0"

7.1



3 Catenary Light Base
1":1'-0"

7.3



SECTION

NOTE:
1. LOCATIONS AND QUANTITIES PER LAYOUT PLAN ; SEE L 1-00
2. MECHANICAL VAULT LOCATION TBD
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF SPECIFICATION AND ASSEMBLY FOR LANDSCAPE ARCHITECT REVIEW

4 Water Feature Pop Jets
1":1'-0"

10.1

SITE KEYNOTES:

1.0	PAVEMENTS, RAMPS, CURBS		DETAIL / SHEET
	1.1	BITUMINOUS PATH	1/L5-00
	1.2	EXPOSED AGGREGATE	2/L5-00
	1.3	CONCRETE PAVERS	3/L5-00
	1.4	STONEDUST WALK	6/L5-00
	1.5	GRAVEL DRIP EDGE	7/L5-00
2.0	JOINTING		
	2.1	EXPANSION JOINT	4/L5-00
	2.2	CONTROL JOINT	5/L5-00
3.0	STEPS		
	3.1	CONCRETE STEPS	8/L5-00
4.0	SITE WALLS/ EMBANKMENTS		
	4.1	WALL - CONCRETE	1/L5-01
5.0	SITE FURNITURE		
	5.1	WOOD TOP BENCH	2/L5-01
	5.2	WOOD PLATFORM DECK	3/L5-01
	5.3	BICYCLE RACK	4/L5-01
6.0	RAILINGS, BARRIERS, FENCING		DETAIL / SHEET
	6.1	HAND RAILING	5/L5-01
7.0	SITE LIGHTING		
	7.1	BOLLARD LIGHT BASE	2/L5-02
	7.2	POLE LIGHT BASE	1/L5-02
	7.3	CATENARY LIGHT BASE	3/L5-02
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L5-03
	9.2	CONIFEROUS TREE PLANTING	2/L5-03
	9.3	SHRUB PLANTING	4/L5-03
	9.4	PERENNIAL/GRASS PLANTING	3/L5-03
	9.5	LANDSCAPE EDGING	5/L5-03
10.0	MISCELLANEOUS ELEMENTS		
	10.1	WATER FEATURE POP JET	4/L5-02

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS | DATE

ISSUE DATE

April 19, 2024

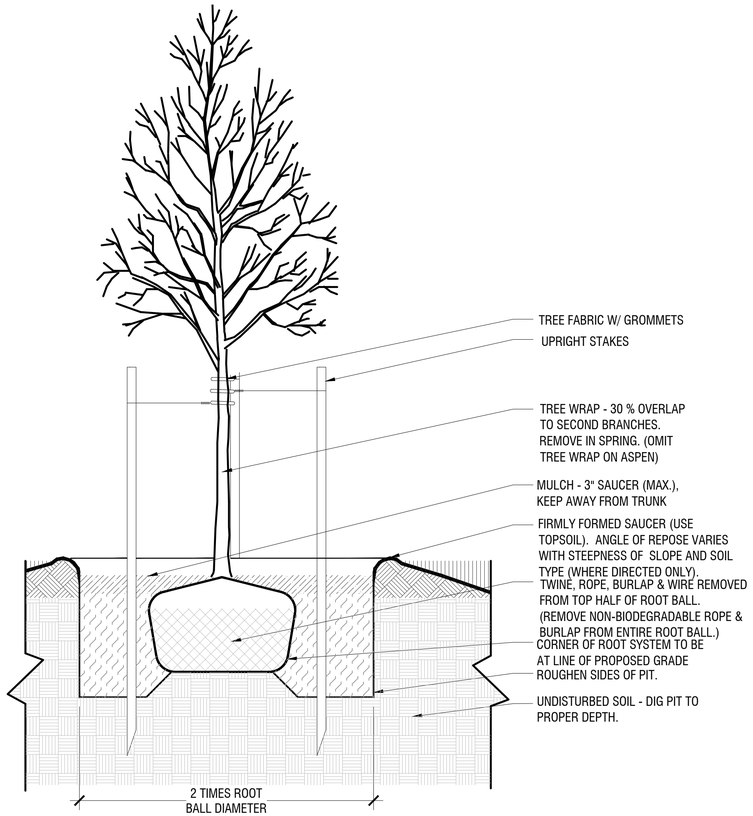
SHEET TITLE

SITE DETAILS

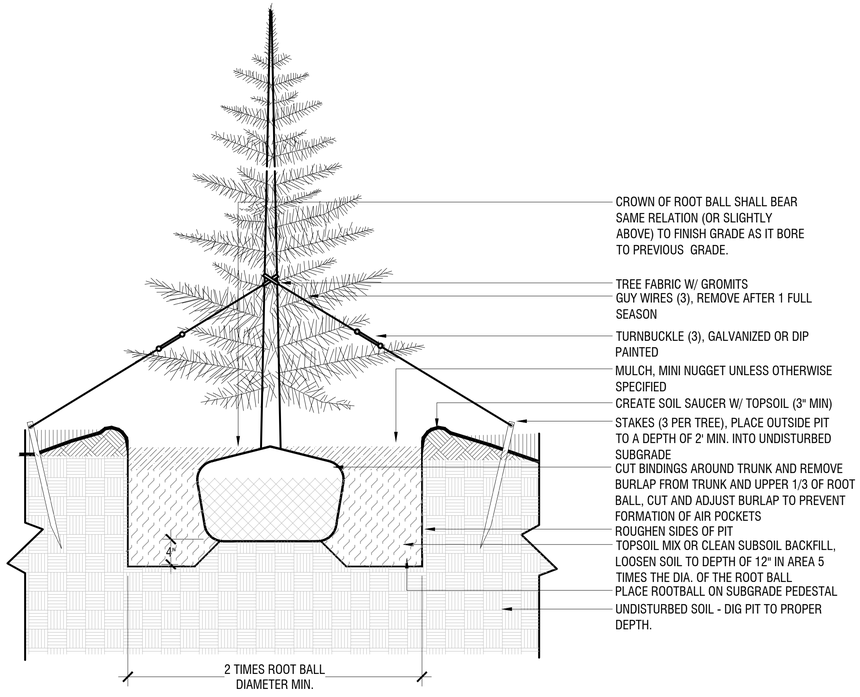
SHEET INFORMATION

L 5-02

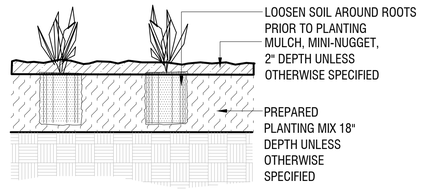
NOT FOR CONSTRUCTION



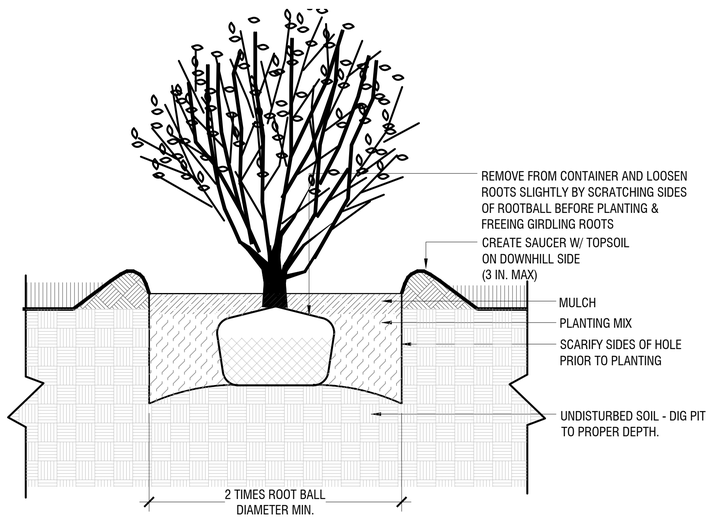
1 Deciduous Tree Planting 9.1
1":1'-0"



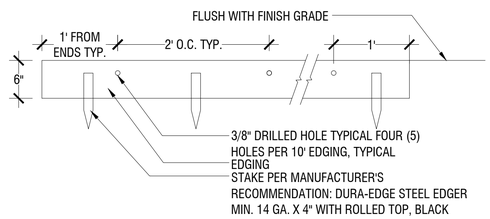
2 Conifer Tree Planting 9.2
1":1'-0"



3 Perennial / Ornamental Grass Planting 9.4
1":1'-0"



4 Shrub Planting 9.3
1":1'-0"



5 Steel Edging 9.5
1":1'-0"

SITE KEYNOTES:

			DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS		
	1.1	BITUMINOUS PATH	1/L5-00
	1.2	EXPOSED AGGREGATE	2/L5-00
	1.3	CONCRETE PAVERS	3/L5-00
	1.4	STONEDUST WALK	6/L5-00
	1.5	GRAVEL DRIP EDGE	7/L5-00
2.0	JOINTING		
	2.1	EXPANSION JOINT	4/L5-00
	2.2	CONTROL JOINT	5/L5-00
3.0	STEPS		
	3.1	CONCRETE STEPS	8/L5-00
4.0	SITE WALLS/ EMBANKMENTS		
	4.1	WALL - CONCRETE	1/L5-01
5.0	SITE FURNITURE		
	5.1	WOOD TOP BENCH	2/L5-01
	5.2	WOOD PLATFORM DECK	3/L5-01
	5.3	BICYCLE RACK	4/L5-01
6.0	RAILINGS, BARRIERS, FENCING		
	6.1	HAND RAILING	5/L5-01
7.0	SITE LIGHTING		
	7.1	BOLLARD LIGHT BASE	2/L5-02
	7.2	POLE LIGHT BASE	1/L5-02
	7.3	CATENARY LIGHT BASE	3/L5-02
8.0	DRAINAGE		
	X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE		
	9.1	DECIDUOUS TREE PLANTING	1/L5-03
	9.2	CONIFEROUS TREE PLANTING	2/L5-03
	9.3	SHRUB PLANTING	4/L5-03
	9.4	PERENNIAL/GRASS PLANTING	3/L5-03
	9.5	LANDSCAPE EDGING	5/L5-03
10.0	MISCELLANEOUS ELEMENTS		
	10.1	WATER FEATURE POP JET	4/L5-02

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS DATE

ISSUE DATE

April 19, 2024

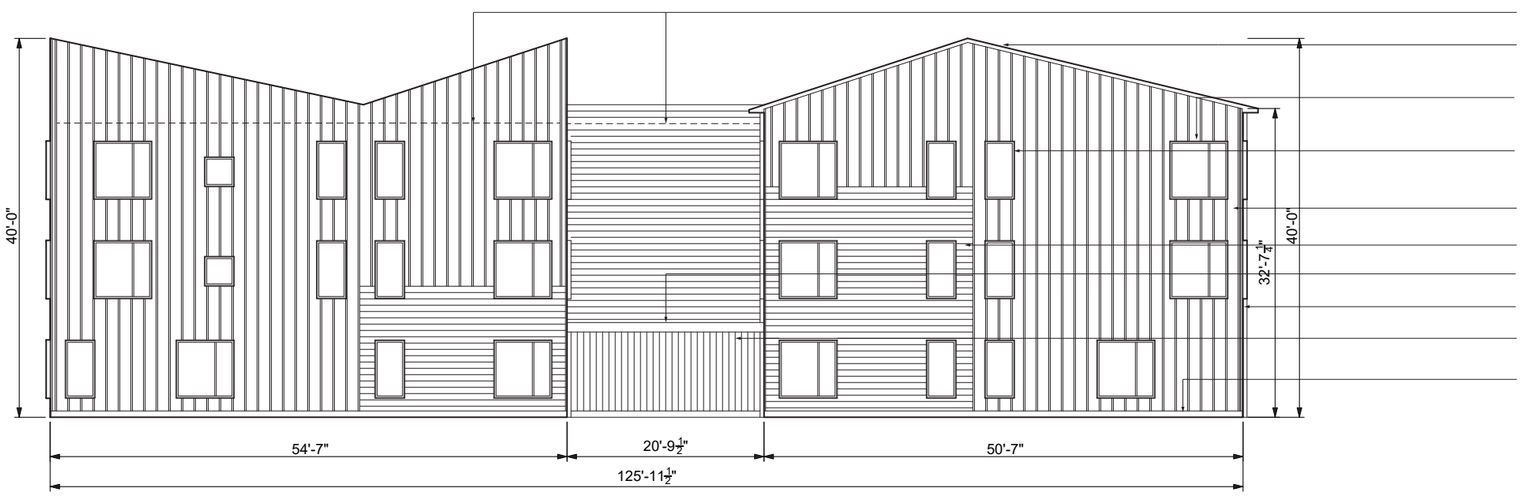
SHEET TITLE

PLANTING DETAILS

SHEET INFORMATION

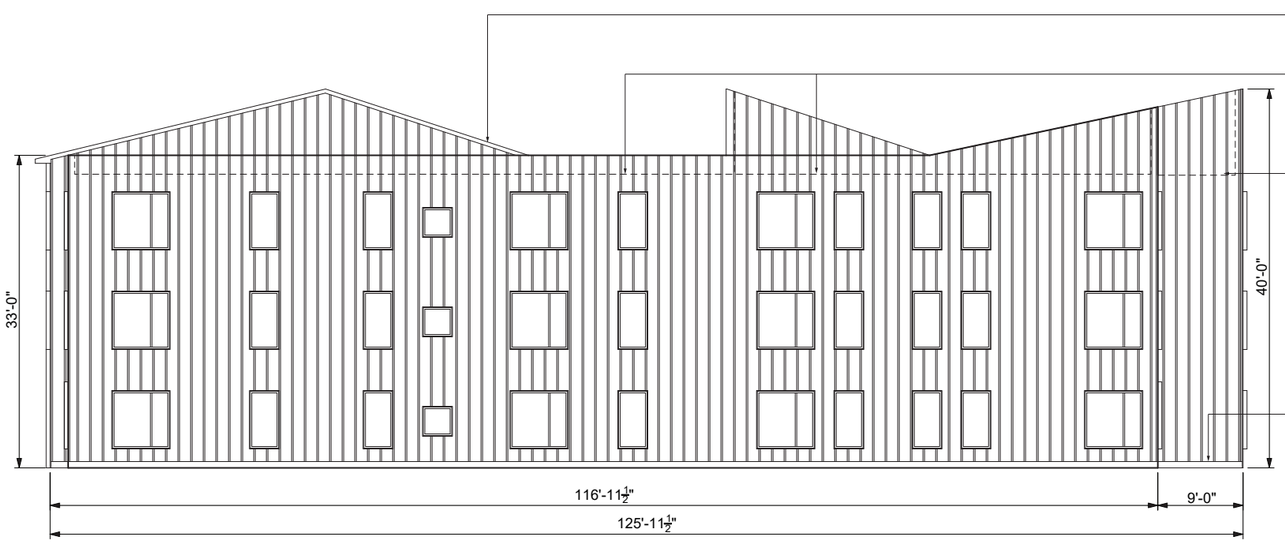
L 5.03

NOT FOR CONSTRUCTION



Membrane Roofing
Standing Seam Metal Roofing (only on gabled portion)
Double-glazed Fiberglass Fixed and Casement Mulled Window, Typ.
Double-glazed Fiberglass Casement Window, Typ.
Fiber Cement Board & Batten
Fiber Cement Shiplap Board
Corrugated Polycarbonate Canopy Over Wood Trellis
Gutter, Downspout
Natural Cedar Cladding
Fiber Cement Board over Concrete Stem Wall, Parged

FRONT SIDE



Standing Seam Metal Roofing (only on gabled portion)
Membrane Roofing
Fiber Cement Board & Batten
Fiber Cement Board over Concrete Stem Wall, Parged

BACK SIDE

DISCLAIMER: These plans are conceptual only. They have not been subject to a comprehensive code and regulatory review, nor have they been tested against any as-built surveys. Discoveries in such an analysis may result in fundamental changes to the original concept.

0 5’ 10’ 20’

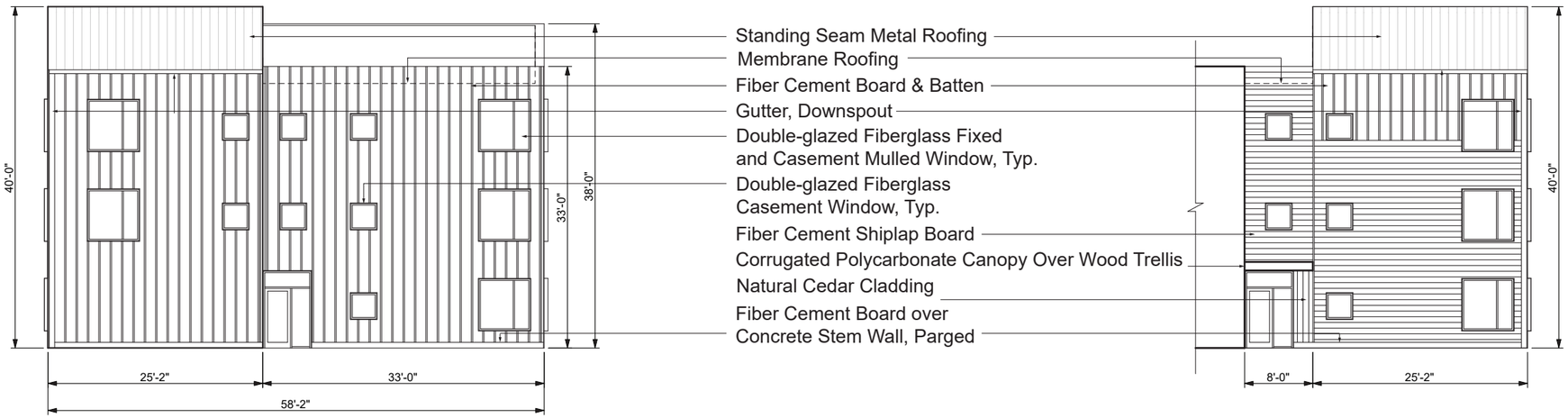
100 Durgin Lane
Portsmouth, NH

3 Story Building Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

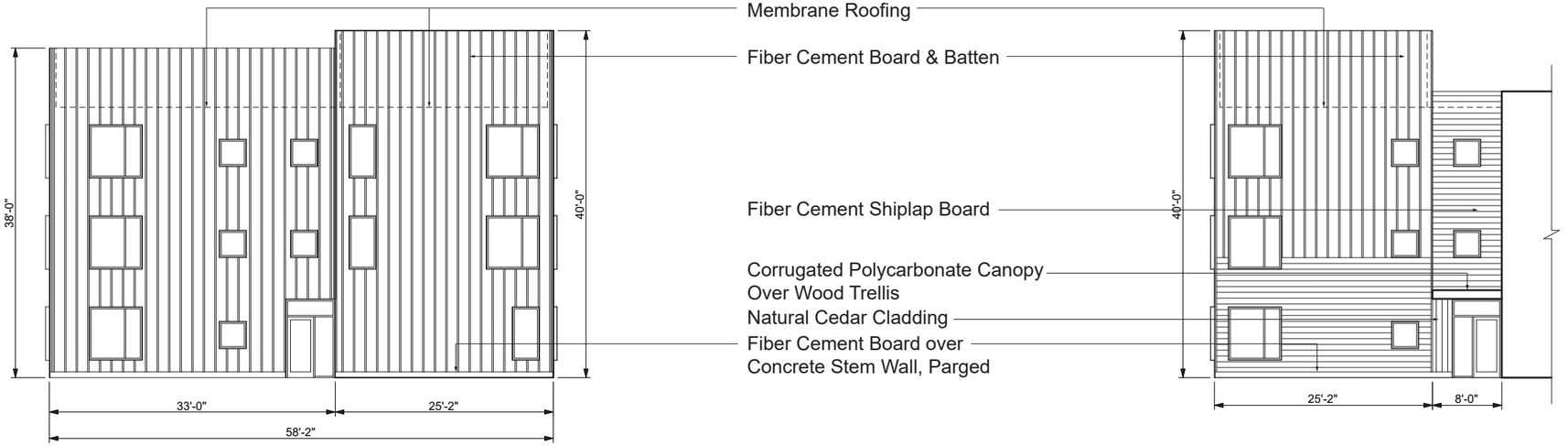
Architecture & Planning

utile



RIGHT SIDE

COURTYARD RIGHT SIDE



LEFT SIDE

COURTYARD LEFT SIDE

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0 5’ 10’ 20’

100 Durgin Lane
Portsmouth, NH

3 Story Building Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

Architecture
& Planning

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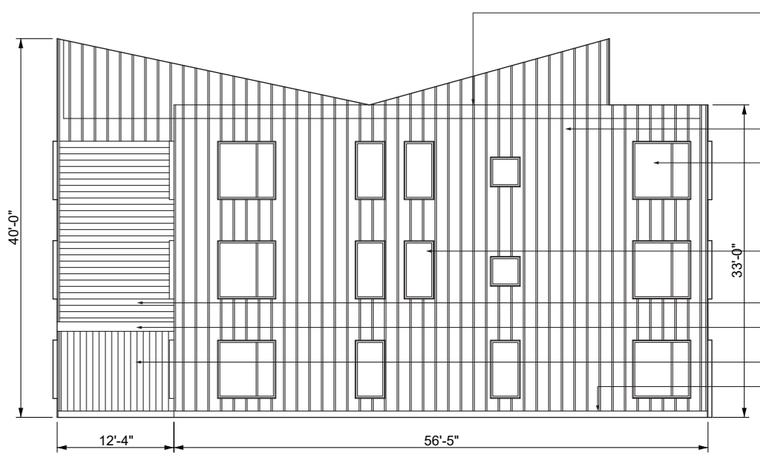


FRONT SIDE

Membrane Roofing

Fiber Cement Board & Batten

Double-glazed Fiberglass Fixed
and Casement Mulled Window, Typ.

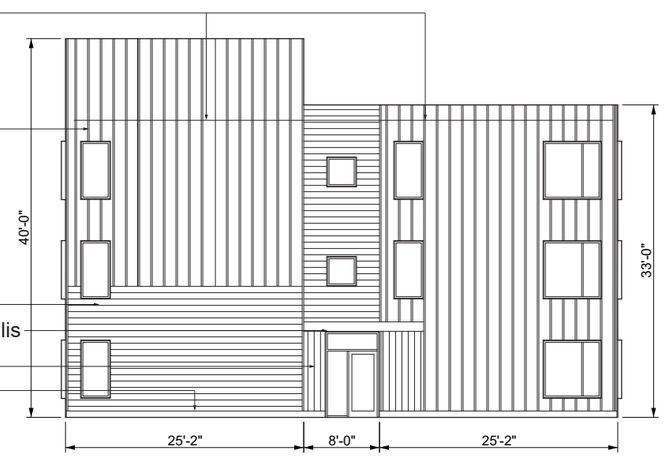
Double-glazed Fiberglass
Casement Window, Typ.

Fiber Cement Shiplap Board

Corrugated Polycarbonate Canopy Over Wood Trellis

Natural Cedar Cladding

Fiber Cement Board over
Concrete Stem Wall, Parged



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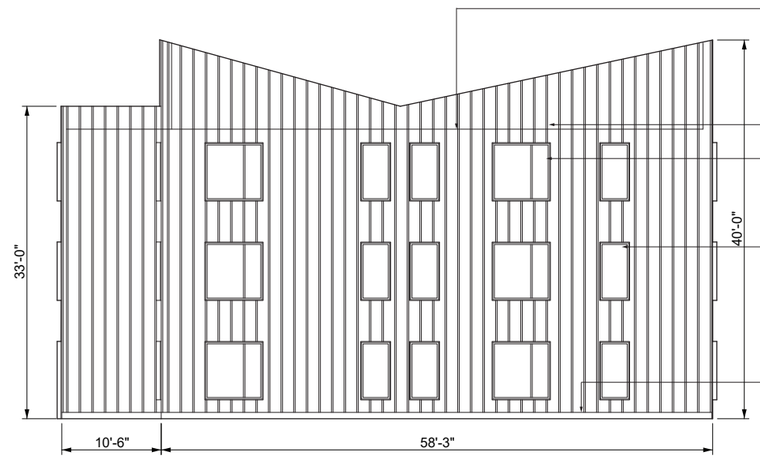


BACK SIDE

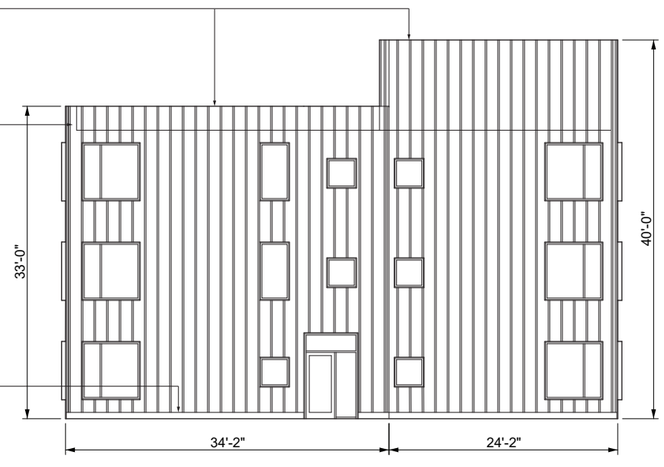
Membrane Roofing

Fiber Cement Board & Batten

Double-glazed Fiberglass Fixed
and Casement Mulled Window, Typ.

Double-glazed Fiberglass
Casement Window, Typ.

Fiber Cement Board over
Concrete Stem Wall, Parged



RIGHT SIDE

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0 5’ 10’ 20’

100 Durgin Lane
Portsmouth, NH

3 Story Building (Small) Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

Architecture
& Planning

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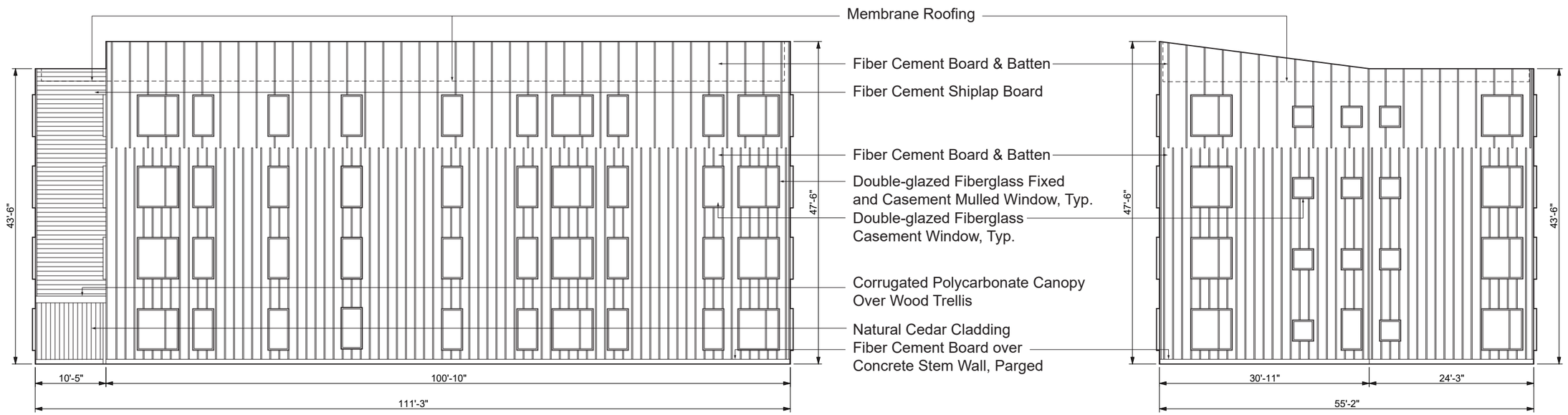
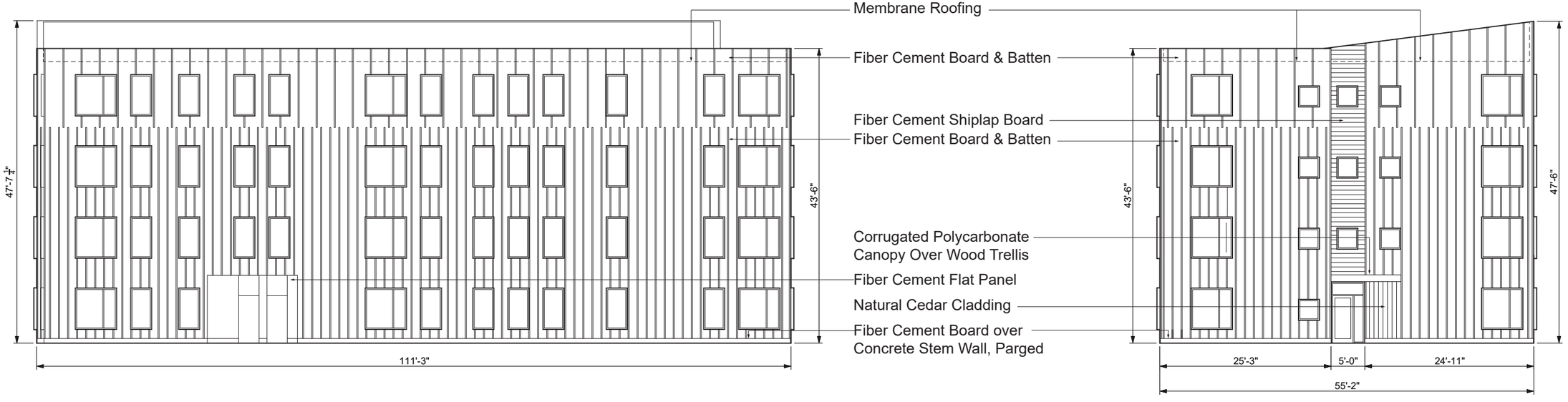


FRONT SIDE

RIGHT SIDE



BACK SIDE

LEFT SIDE

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0 5’ 10’ 20’

100 Durgin Lane
Portsmouth, NH

4 Story Building Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

Architecture & Planning

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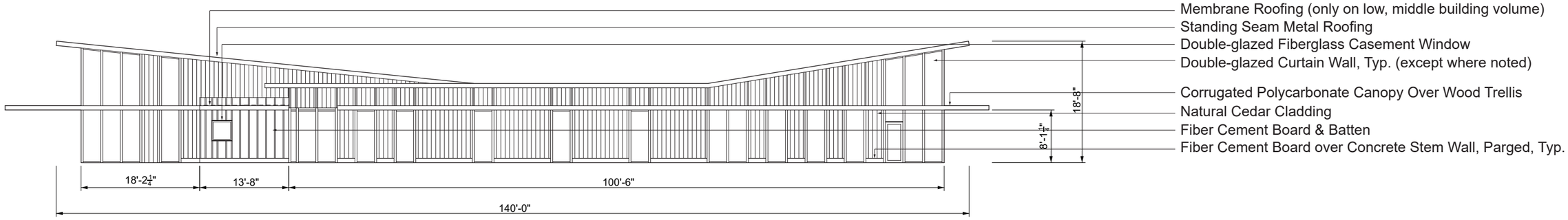
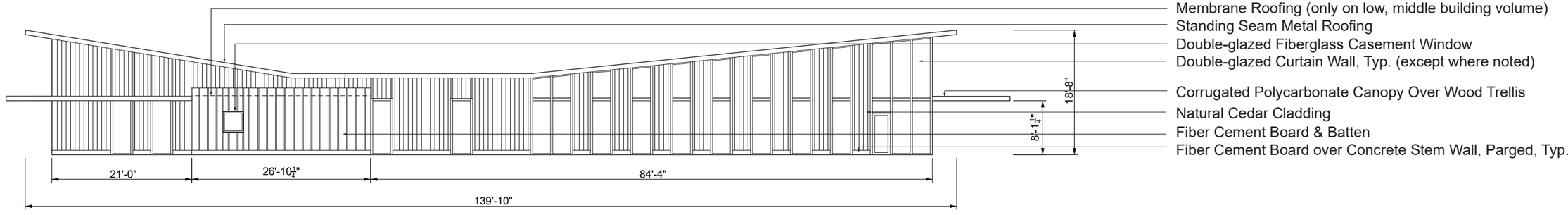
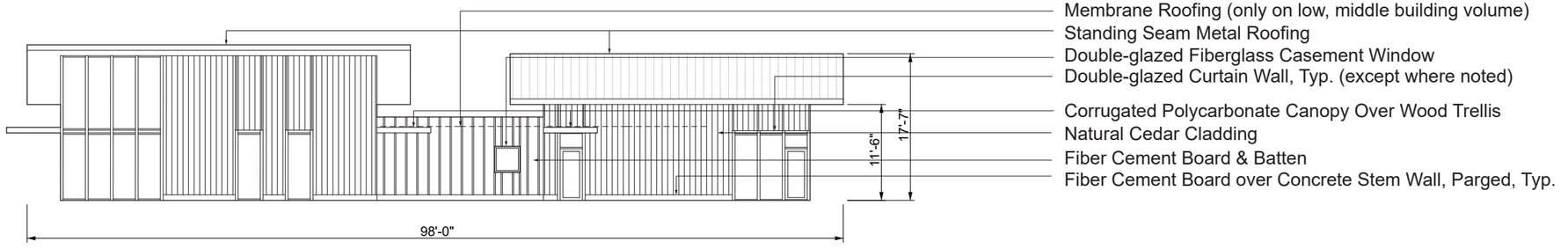


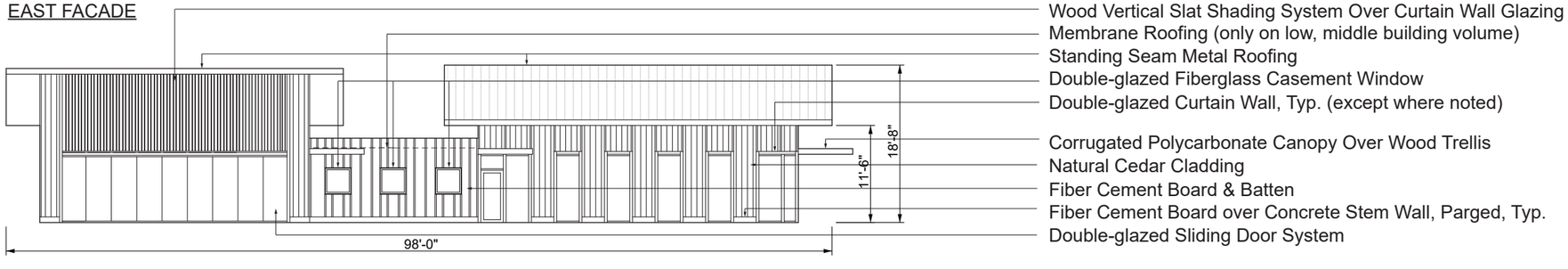
SOUTH FACADE



NORTH FACADE



EAST FACADE



WEST FACADE

0 5’ 10’ 20’

100 Durgin Lane
Portsmouth, NH

Community Building Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

Architecture
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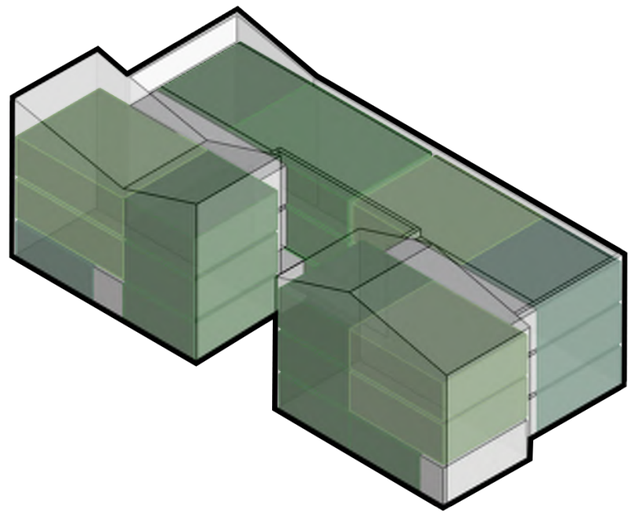
TYPICAL FLOOR
6,126 GSF

GROUND FLOOR
6,244 GSF



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0 5' 10' 20'

100 Durgin Lane
Portsmouth, NH

3 Story Building Plans
April 17, 2024

Scale: 1/16" = 1'-0"

Architecture
& Planning

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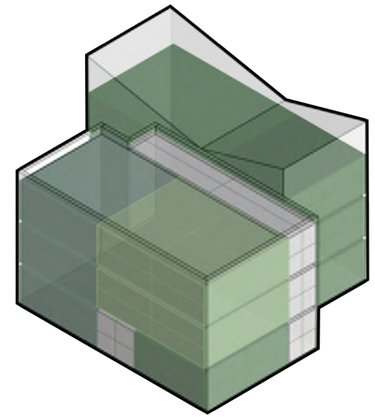
TYPICAL FLOOR
3,278 GSF

GROUND FLOOR
3,334 GSF



DISCLAIMER: These plans are conceptual only. They have not been subject to a comprehensive code and regulatory review, nor have they been tested against any as-built surveys. Discoveries in such an analysis may result in fundamental changes to the original concept.

0 5’ 10’ 20’

Scale: 1/16” = 1’-0”

100 Durgin Lane
Portsmouth, NH

3 Story Building (Small) Plans
April 17, 2024

Architecture
& Planning

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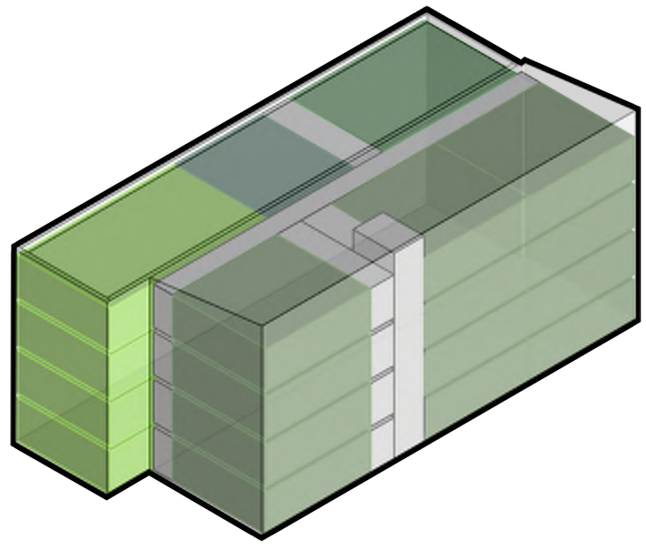
TYPICAL FLOOR
5,705 GSF

GROUND FLOOR
5,729 GSF



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0 5’ 10’ 20’

100 Durgin Lane
Portsmouth, NH

4 Story Building Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

Architecture
& Planning

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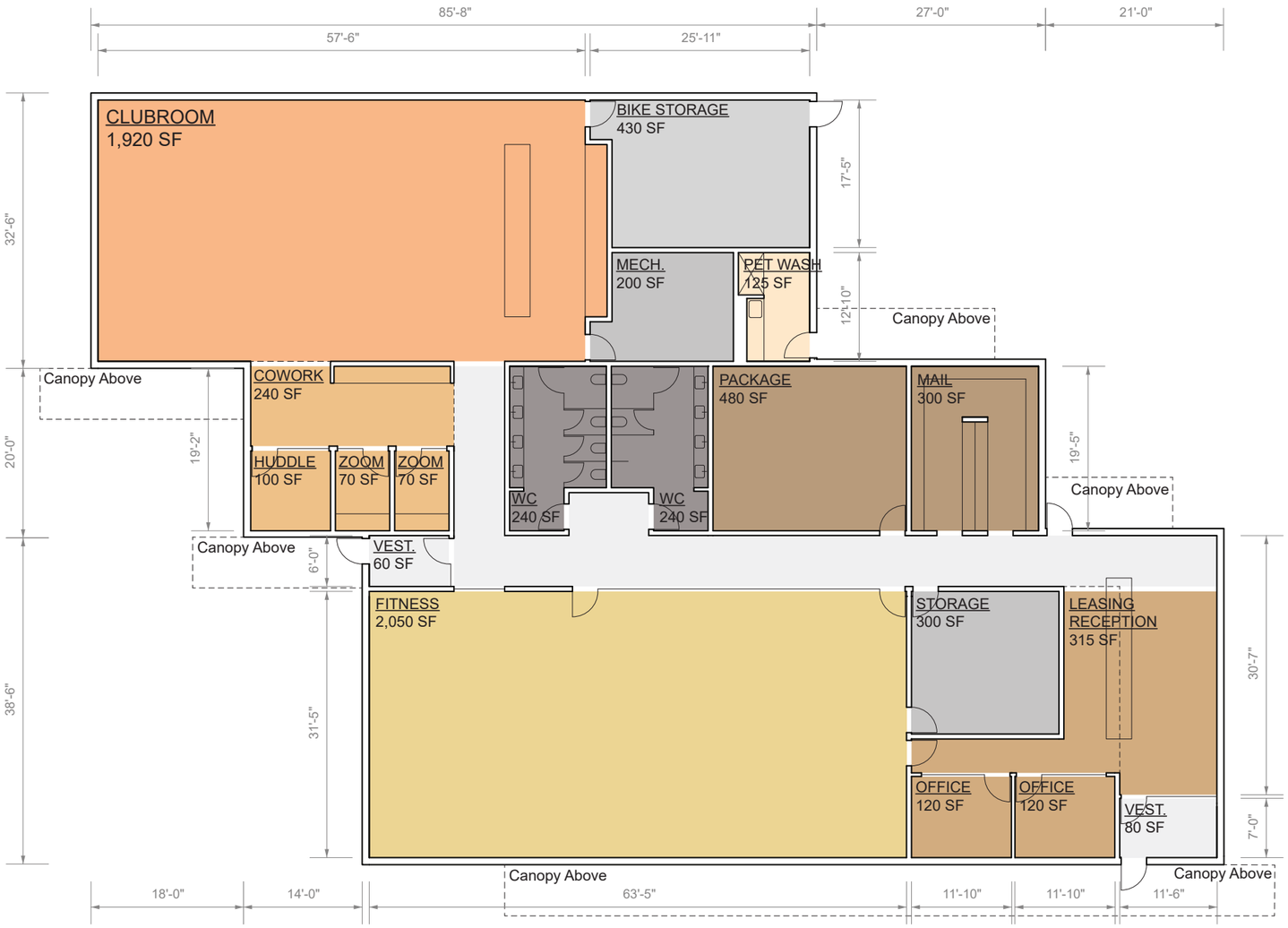

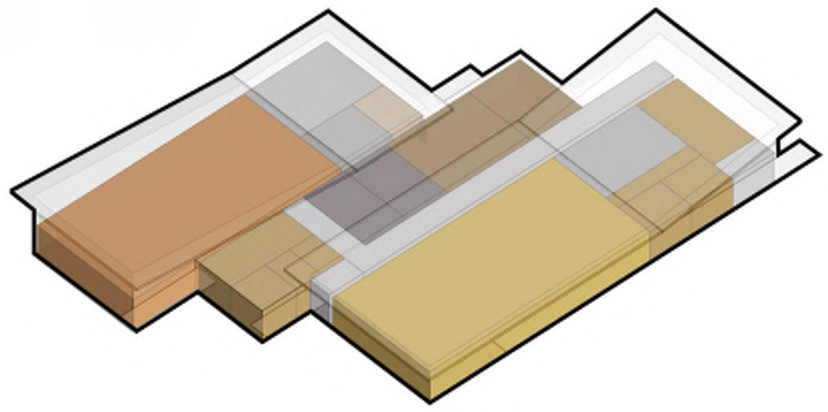

GROUND FLOOR PLAN
8,350 GSF

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0 5’ 10’ 20’

100 Durgin Lane
Portsmouth, NH

3 Story Building Elevations
April 17, 2024

Scale: 1/16” = 1’-0”

Architecture
& Planning

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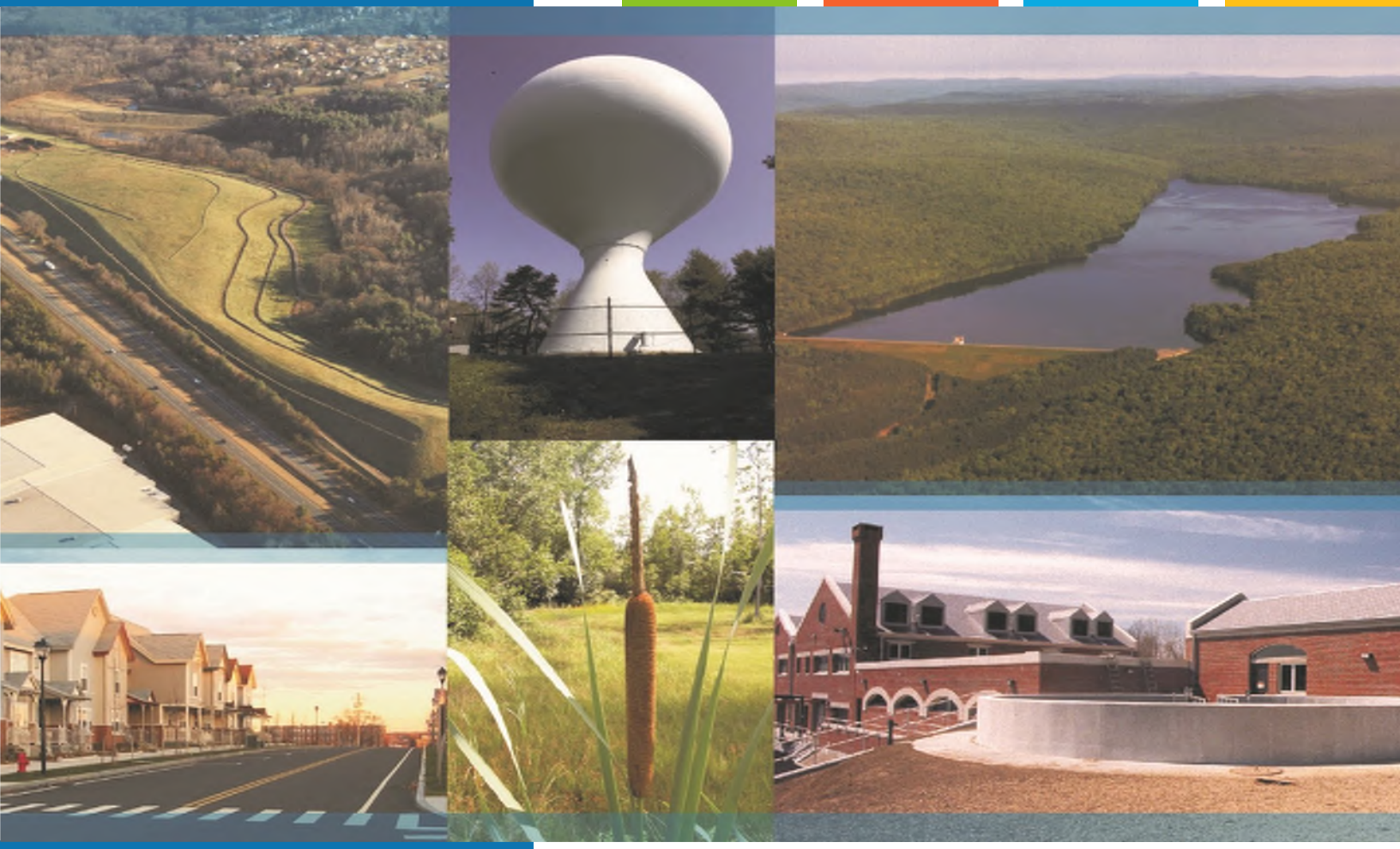


Proposed Multi-Family Development
100 Durgin Lane
Portsmouth, NH

Drainage Analysis

100 Durgin Lane Owner, LLC

April 22, 2024

STATE OF NEW HAMPSHIRE
PATRICK
CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
4/22/24

STATE OF NEW HAMPSHIRE
NEIL A
HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
04/22/2024

Tighe&Bond

100% Recyclable

Section 1
Project Description

The proposed project is located at 100 Durgin Lane and includes lots identified as Map 239 Lots 13-2, 16 & 18 on the City of Portsmouth Tax Maps. The site was previously home to Christmas Tree Shops and Bed, Bath and Beyond locations which are no longer in operation. The properties are a combined 26.1 acres of land and are bound to the west by Route 16, to the north by the Motel 6 property and Gosling Road, to the south by the Hampton Inn and Home Depot properties, and to the east by an Eversource easement, Pep Boys and Durgin Plaza.

The proposed project consists of the demolition of the existing Christmas Tree Shops and Bed, Bath and Beyond building and the construction of approximately 360 rental housing units in a mix of 3-story and 4-story buildings. The proposed project will include a community building and associated site improvements such as parking, pedestrian access, community spaces, utilities, stormwater management, lighting, and landscaping. The proposed project also includes a reduction in overall impervious surface on the development lot.

1.1 On-Site Soil Description

The soils on site are primarily drainage Class B soils with wetland areas of drainage Class C/D. The ground cover within the area of study consists mostly of paved surfaces, building, and landscaped islands. There are two (2) wetland systems that drain into two (2) separate unnamed brooks that eventually join together before flowing into the Piscataqua River. The site slopes generally from the center of the parcel to either the eastern or western wetlands.

1.2 Pre- and Post-Development Comparison

The pre-development and post-development watershed areas have been analyzed at five (5) distinct points of analysis (PA-1 through PA-5). While the points of analysis have remained unchanged, the contributing sub-catchment areas varied between pre-development and post-development conditions. These adjustments were made to reflect the differences in drainage patterns between the existing and proposed conditions. The overall area analyzed as part of this drainage analysis was held constant.

PA-1 is located to the northwest end of the site. Under the existing condition, contributing watershed areas to this point of analysis consist of runoff from the existing retail store building, as well as a combination of impervious loading areas behind the building and grassed and wooded areas to the north. Runoff discharges from an existing 24" drainage outlet to an unnamed wetland after flowing through a water quality unit (pre-treatment only, by today's standard). Under the proposed condition, the contributing watershed(s) are proposed to convey runoff to an underground detention basin for detention prior to release out of the same existing outlet. Flows are proposed to be pre-treated by either offline catch-basins or a Contech CDS unit, and treated by a Contech Jellyfish Filter prior discharge.

PA-2 is located to the northeast end of the site. Under the existing condition, contributing watershed areas to this point of analysis consist of primarily impervious paved parking and access areas. There are both treated and untreated impervious areas that flow to this point of analysis. Existing treatment practices include a rain garden, as well as a separate water quality unit (pre-treatment only, by today's standard) for a portion of the contributing watersheds. The roadway extension off Durgin Lane and adjacent parking to the east are not treated. Under the proposed condition, the contributing watershed(s) are proposed to be treated by various rain gardens and bioretention areas. Pretreatment is included by a combination of offline catch basins, Rain Guardian Turrets, and a sediment forebay.

PA-3 is located along the eastern edge of the site . Under the existing condition, contributing watersheds to this point of analysis are characterized by primarily impervious areas, with a mix of both wooded and landscaped/lawn areas. A small rain garden treats a small portion of this watershed, and water quality unit pre-treats a portion of the remaining area prior to discharge through a 36" outlet to an unnamed wetland. Under the proposed condition, the contributing watershed(s) are proposed to be treated by a treatment train, including a Contech CDS unit and a Contech Jellyfish Filter unit prior to discharge through the same 36" outlet.

PA-4 is located at the southwestern corner of the site. Under the existing condition, the contributing watershed pitches runoff from primarily impervious parking areas off site without conveyance or treatment. Under the proposed condition, the watershed area associated with this point of analysis is instead captured on-site and conveyed to PA-3 for proper treatment.

PA-5 is located at the southern end of the site, a smaller point of analysis to assess flows exiting the property down the access road connecting to the neighboring abutter. In both the existing and proposed conditions, runoff to this point of analysis flow from a high point in the roadway down to a couple of off-site catch basins. Under the proposed condition, the contributing watershed area is reduced as to not increase runoff to the abutting property post-development.

The peak discharge rates at these points of analysis were determined by analyzing Type III, 24-hour storm events. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University, which can be found in Appendix B.

Furthermore, the site is located within a Coastal and Great Bay Community, therefore an added factor of safety of 15% was included as required by Env-Wq 1503.08(l).

1.3 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. The peak discharge rates were determined by analyzing Type III 24-hour storm events. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(l).

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow, and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.
2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

Section 2
Pre-Development Conditions

To analyze the pre-development condition, the site has been modeled utilizing the five (5) distinct points of analysis described in Section 1 These points of analysis and watersheds are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

2.1 Pre-Development Calculations

2.2 Pre-Development Watershed Plan

Tighe&Bond

799

PA-4

PRE 4.0

PRE 3.0

140B (HSG B)

PRE 1.0

PA-1

33A (HSG C/D)

PRE 3.1

140B (HSG B)

PRE 2.1

PRE 2.0

669

PRE 3.0

PRE POND RG-2

PRE 2.0

140B (HSG B)

PRE POND RG-1

PA-2

PRE 5.0

33A (HSG C/D)

PA-5

PA-3

0 60' 120'

GRAPHIC SCALE

PRE-DEVELOPMENT WATERSHED BOUNDARY

NRCS WEB SOIL SURVEY BOUNDARIES

LONGEST FLOW PATH

PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION

PRE POND 1 — PRE-DEVELOPMENT POND DESIGNATION

PA-1 — POINT OF ANALYSIS

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

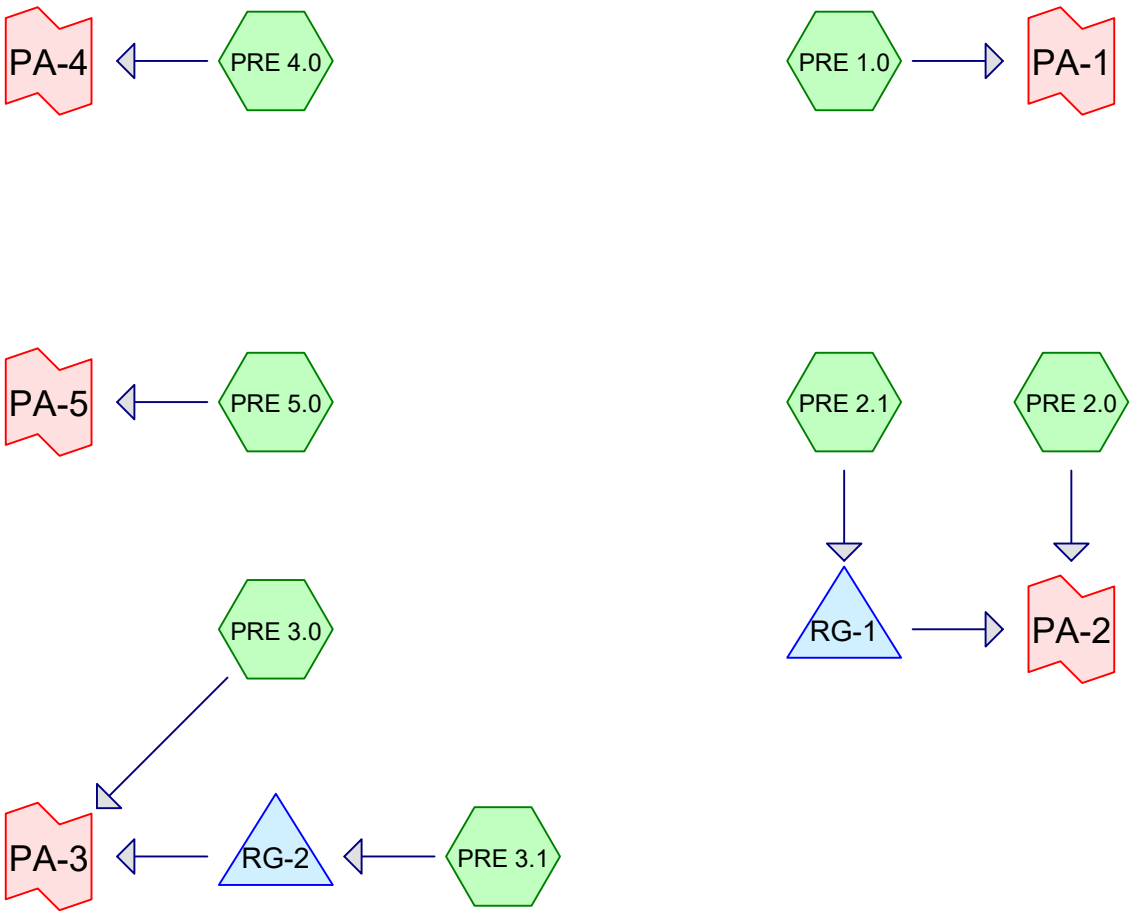
PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-HYDRO.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Saved: 4/18/2024
Plotted: Oct 18, 2024 - 2:24pm By: BCurcio
Tighe & Bond:\\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-HYDRO.dwg



Subcat Reach Pond Link

Routing Diagram for E-5071-001_PRE
Prepared by Tighe & Bond Consulting, Printed 4/19/2024

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
148,803	61	>75% Grass cover, Good, HSG B (PRE 1.0, PRE 2.0, PRE 2.1, PRE 3.0, PRE 3.1, PRE 4.0)
1,271	74	>75% Grass cover, Good, HSG C (PRE 2.1)
18,071	80	>75% Grass cover, Good, HSG D (PRE 1.0, PRE 2.0, PRE 3.0, PRE 4.0)
353,404	98	Paved parking, HSG B (PRE 1.0, PRE 2.0, PRE 2.1, PRE 3.0, PRE 3.1, PRE 4.0, PRE 5.0)
10,273	98	Paved parking, HSG C (PRE 2.0)
5,406	98	Paved parking, HSG D (PRE 3.0, PRE 4.0, PRE 5.0)
79,133	98	Unconnected roofs, HSG B (PRE 1.0)
98,651	55	Woods, Good, HSG B (PRE 1.0, PRE 2.0, PRE 3.0)
513	70	Woods, Good, HSG C (PRE 1.0)
715,525	**84**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
679,991	HSG B	PRE 1.0, PRE 2.0, PRE 2.1, PRE 3.0, PRE 3.1, PRE 4.0, PRE 5.0
12,057	HSG C	PRE 1.0, PRE 2.0, PRE 2.1
23,477	HSG D	PRE 1.0, PRE 2.0, PRE 3.0, PRE 4.0, PRE 5.0
0	Other	
715,525		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PRE 1.0: Runoff Area=207,580 sf 57.69% Impervious Runoff Depth>1.93"
Flow Length=999' Tc=6.8 min CN=82 Runoff=10.36 cfs 33,388 cf

Subcatchment PRE 2.0: Runoff Area=140,155 sf 70.79% Impervious Runoff Depth>2.43"
Flow Length=500' Tc=5.0 min CN=88 Runoff=9.15 cfs 28,403 cf

Subcatchment PRE 2.1: Runoff Area=58,944 sf 77.01% Impervious Runoff Depth>2.62"
Flow Length=360' Slope=0.0150 '/' Tc=5.0 min CN=90 Runoff=4.10 cfs 12,846 cf

Subcatchment PRE 3.0: Runoff Area=267,550 sf 57.12% Impervious Runoff Depth>1.85"
Flow Length=435' Tc=11.0 min CN=81 Runoff=11.20 cfs 41,284 cf

Subcatchment PRE 3.1: Runoff Area=16,036 sf 66.20% Impervious Runoff Depth>2.17"
Flow Length=155' Slope=0.0150 '/' Tc=5.0 min CN=85 Runoff=0.94 cfs 2,903 cf

Subcatchment PRE 4.0: Runoff Area=16,868 sf 71.28% Impervious Runoff Depth>2.52"
Flow Length=115' Tc=5.0 min CN=89 Runoff=1.14 cfs 3,546 cf

Subcatchment PRE 5.0: Runoff Area=8,392 sf 100.00% Impervious Runoff Depth>3.44"
Flow Length=145' Slope=0.0170 '/' Tc=5.0 min CN=98 Runoff=0.69 cfs 2,409 cf

Pond RG-1: Peak Elev=60.37' Storage=2,804 cf Inflow=4.10 cfs 12,846 cf
Outflow=1.49 cfs 12,737 cf

Pond RG-2: Peak Elev=62.29' Storage=449 cf Inflow=0.94 cfs 2,903 cf
Outflow=0.59 cfs 2,862 cf

Link PA-1: Inflow=10.36 cfs 33,388 cf
Primary=10.36 cfs 33,388 cf

Link PA-2: Inflow=10.46 cfs 41,140 cf
Primary=10.46 cfs 41,140 cf

Link PA-3: Inflow=11.80 cfs 44,145 cf
Primary=11.80 cfs 44,145 cf

Link PA-4: Inflow=1.14 cfs 3,546 cf
Primary=1.14 cfs 3,546 cf

Link PA-5: Inflow=0.69 cfs 2,409 cf
Primary=0.69 cfs 2,409 cf

Total Runoff Area = 715,525 sf Runoff Volume = 124,780 cf Average Runoff Depth = 2.09"
37.36% Pervious = 267,309 sf 62.64% Impervious = 448,216 sf

Summary for Subcatchment PRE 1.0:

[47] Hint: Peak is 703% of capacity of segment #3

Runoff = 19.19 cfs @ 12.10 hrs, Volume= 62,260 cf, Depth> 3.60"
Routed to Link PA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	57,422	61	>75% Grass cover, Good, HSG B
	40,628	98	Paved parking, HSG B
	27,467	55	Woods, Good, HSG B
	79,133	98	Unconnected roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	513	70	Woods, Good, HSG C
	2,417	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	207,580	82	Weighted Average
	87,819		42.31% Pervious Area
	119,761		57.69% Impervious Area
	79,133		66.08% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	100	0.0050	0.85		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
1.5	220	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.3	679	0.0050	3.47	2.73	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Corrugated PP, smooth interior
6.8	999	Total			

Summary for Subcatchment PRE 2.0:

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 617% of capacity of segment #3

Runoff = 15.55 cfs @ 12.07 hrs, Volume= 49,288 cf, Depth> 4.22"
Routed to Link PA-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	25,651	61	>75% Grass cover, Good, HSG B
	88,940	98	Paved parking, HSG B
	7,775	55	Woods, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	10,273	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	7,516	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	140,155	88	Weighted Average
	40,942		29.21% Pervious Area
	99,213		70.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
1.2	200	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	200	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
3.3	500	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment PRE 2.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 6.78 cfs @ 12.07 hrs, Volume= 21,785 cf, Depth> 4.44"
Routed to Pond RG-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	12,279	61	>75% Grass cover, Good, HSG B
	45,394	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	1,271	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	58,944	90	Weighted Average
	13,550		22.99% Pervious Area
	45,394		77.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.31		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
1.7	260	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	360	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment PRE 3.0:

[47] Hint: Peak is 839% of capacity of segment #3

Runoff = 21.14 cfs @ 12.15 hrs, Volume= 77,964 cf, Depth> 3.50"
Routed to Link PA-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	44,666	61	>75% Grass cover, Good, HSG B
	150,206	98	Paved parking, HSG B
	63,409	55	Woods, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	6,658	80	>75% Grass cover, Good, HSG D
	2,611	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	267,550	81	Weighted Average
	114,733		42.88% Pervious Area
	152,817		57.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	25	0.1000	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.68"
5.2	315	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	55	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
1.9	40	0.0050	0.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	435	Total			

Summary for Subcatchment PRE 3.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.67 cfs @ 12.07 hrs, Volume= 5,219 cf, Depth> 3.91"
Routed to Pond RG-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	5,420	61	>75% Grass cover, Good, HSG B
	10,616	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	16,036	85	Weighted Average
	5,420		33.80% Pervious Area
	10,616		66.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.31		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
0.4	55	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	155	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment PRE 4.0:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.91 cfs @ 12.07 hrs, Volume= 6,082 cf, Depth> 4.33"
Routed to Link PA-4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	3,365	61	>75% Grass cover, Good, HSG B
	11,270	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	1,480	80	>75% Grass cover, Good, HSG D
	753	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	16,868	89	Weighted Average
	4,845		28.72% Pervious Area
	12,023		71.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0270	1.66		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
0.1	15	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	115	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment PRE 5.0:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.06 cfs @ 12.07 hrs, Volume= 3,734 cf, Depth> 5.34"
Routed to Link PA-5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	0	61	>75% Grass cover, Good, HSG B
	6,350	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	2,042	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	8,392	98	Weighted Average
	8,392		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0170	1.38		**Sheet Flow, SHEET** Smooth surfaces n= 0.011 P2= 3.68"
0.3	45	0.0170	2.65		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	145	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond RG-1:

[92] Warning: Device #3 is above defined storage
[93] Warning: Storage range exceeded by 0.24'
[58] Hint: Peaked 0.81' above defined flood level

Inflow Area = 58,944 sf, 77.01% Impervious, Inflow Depth > 4.44" for 10-Yr event
Inflow = 6.78 cfs @ 12.07 hrs, Volume= 21,785 cf
Outflow = 4.08 cfs @ 12.25 hrs, Volume= 21,647 cf, Atten= 40%, Lag= 10.4 min
Primary = 4.08 cfs @ 12.25 hrs, Volume= 21,647 cf
Routed to Link PA-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 61.24' @ 12.23 hrs Surf.Area= 4,110 sf Storage= 5,022 cf
Flood Elev= 60.43' Surf.Area= 3,078 sf Storage= 2,973 cf

Plug-Flow detention time= 28.3 min calculated for 21,647 cf (99% of inflow)
Center-of-Mass det. time= 24.3 min (810.1 - 785.8)

Volume	Invert	Avail.Storage	Storage Description
#1	57.65'	5,022 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.65	2,300	0.0	0	0
58.50	2,300	40.0	782	782
60.00	2,300	30.0	1,035	1,817
61.00	4,110	100.0	3,205	5,022

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**24.0" Round Culvert** L= 19.0' Ke= 0.500 Inlet / Outlet Invert= 54.00' / 52.19' S= 0.0953 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf
#2	Device 1	57.65'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.15'	**4.5" x 2.5" Horiz. Orifice/Grate X 4.00 columns** X 8 rows C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.89 cfs @ 12.25 hrs HW=61.22' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 3.89 cfs of 37.72 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 1.72 cfs @ 8.77 fps)
  └**3=Orifice/Grate** (Weir Controls 2.16 cfs @ 0.85 fps)

Summary for Pond RG-2:

Inflow Area = 16,036 sf, 66.20% Impervious, Inflow Depth > 3.91" for 10-Yr event
Inflow = 1.67 cfs @ 12.07 hrs, Volume= 5,219 cf
Outflow = 0.96 cfs @ 12.19 hrs, Volume= 5,166 cf, Atten= 43%, Lag= 7.2 min
Primary = 0.96 cfs @ 12.19 hrs, Volume= 5,166 cf
Routed to Link PA-3 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 62.92' @ 12.19 hrs Surf.Area= 1,745 sf Storage= 815 cf
Flood Elev= 64.25' Surf.Area= 2,000 sf Storage= 1,847 cf

Plug-Flow detention time= 21.2 min calculated for 5,155 cf (99% of inflow)
Center-of-Mass det. time= 15.0 min (817.1 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	61.65'	1,847 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.65	1,745	0.0	0	0
62.50	1,745	40.0	593	593
64.00	1,745	30.0	785	1,379
64.25	2,000	100.0	468	1,847

Device	Routing	Invert	Outlet Devices
#1	Primary	61.60'	**12.0" Round Culvert** L= 130.0' Ke= 0.500 Inlet / Outlet Invert= 61.60' / 61.00' S= 0.0046 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	61.65'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	63.95'	**4.5" x 2.5" Horiz. Orifice/Grate X 4.00 columns** X 8 rows C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.96 cfs @ 12.19 hrs HW=62.92' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.96 cfs of 2.80 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.96 cfs @ 4.86 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 207,580 sf, 57.69% Impervious, Inflow Depth > 3.60" for 10-Yr event
Inflow = 19.19 cfs @ 12.10 hrs, Volume= 62,260 cf
Primary = 19.19 cfs @ 12.10 hrs, Volume= 62,260 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 199,099 sf, 72.63% Impervious, Inflow Depth > 4.28" for 10-Yr event
Inflow = 17.09 cfs @ 12.07 hrs, Volume= 70,934 cf
Primary = 17.09 cfs @ 12.07 hrs, Volume= 70,934 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 283,586 sf, 57.63% Impervious, Inflow Depth > 3.52" for 10-Yr event
Inflow = 22.09 cfs @ 12.15 hrs, Volume= 83,131 cf
Primary = 22.09 cfs @ 12.15 hrs, Volume= 83,131 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-4:

Inflow Area = 16,868 sf, 71.28% Impervious, Inflow Depth > 4.33" for 10-Yr event
Inflow = 1.91 cfs @ 12.07 hrs, Volume= 6,082 cf
Primary = 1.91 cfs @ 12.07 hrs, Volume= 6,082 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-5:

Inflow Area = 8,392 sf,100.00% Impervious, Inflow Depth > 5.34" for 10-Yr event
Inflow = 1.06 cfs @ 12.07 hrs, Volume= 3,734 cf
Primary = 1.06 cfs @ 12.07 hrs, Volume= 3,734 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PRE 1.0: Runoff Area=207,580 sf 57.69% Impervious Runoff Depth>4.98"
Flow Length=999' Tc=6.8 min CN=82 Runoff=26.26 cfs 86,098 cf

Subcatchment PRE 2.0: Runoff Area=140,155 sf 70.79% Impervious Runoff Depth>5.66"
Flow Length=500' Tc=5.0 min CN=88 Runoff=20.53 cfs 66,088 cf

Subcatchment PRE 2.1: Runoff Area=58,944 sf 77.01% Impervious Runoff Depth>5.89"
Flow Length=360' Slope=0.0150 '/' Tc=5.0 min CN=90 Runoff=8.87 cfs 28,925 cf

Subcatchment PRE 3.0: Runoff Area=267,550 sf 57.12% Impervious Runoff Depth>4.86"
Flow Length=435' Tc=11.0 min CN=81 Runoff=29.14 cfs 108,402 cf

Subcatchment PRE 3.1: Runoff Area=16,036 sf 66.20% Impervious Runoff Depth>5.32"
Flow Length=155' Slope=0.0150 '/' Tc=5.0 min CN=85 Runoff=2.24 cfs 7,105 cf

Subcatchment PRE 4.0: Runoff Area=16,868 sf 71.28% Impervious Runoff Depth>5.77"
Flow Length=115' Tc=5.0 min CN=89 Runoff=2.51 cfs 8,115 cf

Subcatchment PRE 5.0: Runoff Area=8,392 sf 100.00% Impervious Runoff Depth>6.83"
Flow Length=145' Slope=0.0170 '/' Tc=5.0 min CN=98 Runoff=1.35 cfs 4,775 cf

Pond RG-1: Peak Elev=61.43' Storage=5,022 cf Inflow=8.87 cfs 28,925 cf
Outflow=8.04 cfs 28,768 cf

Pond RG-2: Peak Elev=63.54' Storage=1,140 cf Inflow=2.24 cfs 7,105 cf
Outflow=1.21 cfs 7,044 cf

Link PA-1: Inflow=26.26 cfs 86,098 cf
Primary=26.26 cfs 86,098 cf

Link PA-2: Inflow=26.94 cfs 94,856 cf
Primary=26.94 cfs 94,856 cf

Link PA-3: Inflow=30.34 cfs 115,446 cf
Primary=30.34 cfs 115,446 cf

Link PA-4: Inflow=2.51 cfs 8,115 cf
Primary=2.51 cfs 8,115 cf

Link PA-5: Inflow=1.35 cfs 4,775 cf
Primary=1.35 cfs 4,775 cf

Total Runoff Area = 715,525 sf Runoff Volume = 309,508 cf Average Runoff Depth = 5.19"
37.36% Pervious = 267,309 sf 62.64% Impervious = 448,216 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PRE 1.0: Runoff Area=207,580 sf 57.69% Impervious Runoff Depth>6.29"
Flow Length=999' Tc=6.8 min CN=82 Runoff=32.86 cfs 108,841 cf

Subcatchment PRE 2.0: Runoff Area=140,155 sf 70.79% Impervious Runoff Depth>7.01"
Flow Length=500' Tc=5.0 min CN=88 Runoff=25.15 cfs 81,928 cf

Subcatchment PRE 2.1: Runoff Area=58,944 sf 77.01% Impervious Runoff Depth>7.25"
Flow Length=360' Slope=0.0150 '/' Tc=5.0 min CN=90 Runoff=10.79 cfs 35,636 cf

Subcatchment PRE 3.0: Runoff Area=267,550 sf 57.12% Impervious Runoff Depth>6.17"
Flow Length=435' Tc=11.0 min CN=81 Runoff=36.64 cfs 137,509 cf

Subcatchment PRE 3.1: Runoff Area=16,036 sf 66.20% Impervious Runoff Depth>6.65"
Flow Length=155' Slope=0.0150 '/' Tc=5.0 min CN=85 Runoff=2.78 cfs 8,892 cf

Subcatchment PRE 4.0: Runoff Area=16,868 sf 71.28% Impervious Runoff Depth>7.13"
Flow Length=115' Tc=5.0 min CN=89 Runoff=3.06 cfs 10,029 cf

Subcatchment PRE 5.0: Runoff Area=8,392 sf 100.00% Impervious Runoff Depth>8.22"
Flow Length=145' Slope=0.0170 '/' Tc=5.0 min CN=98 Runoff=1.61 cfs 5,746 cf

Pond RG-1: Peak Elev=62.00' Storage=5,022 cf Inflow=10.79 cfs 35,636 cf
Outflow=13.07 cfs 35,463 cf

Pond RG-2: Peak Elev=64.00' Storage=1,382 cf Inflow=2.78 cfs 8,892 cf
Outflow=1.95 cfs 8,826 cf

Link PA-1: Inflow=32.86 cfs 108,841 cf
Primary=32.86 cfs 108,841 cf

Link PA-2: Inflow=37.55 cfs 117,390 cf
Primary=37.55 cfs 117,390 cf

Link PA-3: Inflow=38.59 cfs 146,335 cf
Primary=38.59 cfs 146,335 cf

Link PA-4: Inflow=3.06 cfs 10,029 cf
Primary=3.06 cfs 10,029 cf

Link PA-5: Inflow=1.61 cfs 5,746 cf
Primary=1.61 cfs 5,746 cf

Total Runoff Area = 715,525 sf Runoff Volume = 388,581 cf Average Runoff Depth = 6.52"
37.36% Pervious = 267,309 sf 62.64% Impervious = 448,216 sf

Section 3
Post-Development Conditions

To analyze the post-development condition, the site has been modeled utilizing the same five (5) distinct points of analysis as the Pre-Development condition with revised watershed areas to reflect the post-construction conditions. The points of analysis and their sub-catchment areas are depicted on the plan entitled "Post-Development Watershed Plan," Sheet C-802.

3.1 Post-Development Calculations

3.2 Post-Development Watershed Plan

Tighe&Bond

799

POST 4.0

PA-4

POST 1.1

PA-1

POST POND UDB-1

POST 1.0

140B (HSG B)

33A (HSG C/D)

POST 3.0

POST 2.4

POST 2.2

POST 2.1

140B (HSG B)

33A (HSG C/D)

669

POST 3.2

POST 5.0

140B (HSG B)

POST 3.1

POST POND RG-1

POST POND RG-2

33A (HSG C/D)

PA-2

POST 2.3

PA-5

PA-3

POST POND FP-1

POST-DEVELOPMENT WATERSHED BOUNDARY

NRCS WEB SOIL SURVEY BOUNDARIES

LONGEST FLOW PATH

POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION

POST POND 1 — POST-DEVELOPMENT POND DESIGNATION

PA-1 — POINT OF ANALYSIS

N

0 60' 120'

GRAPHIC SCALE

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

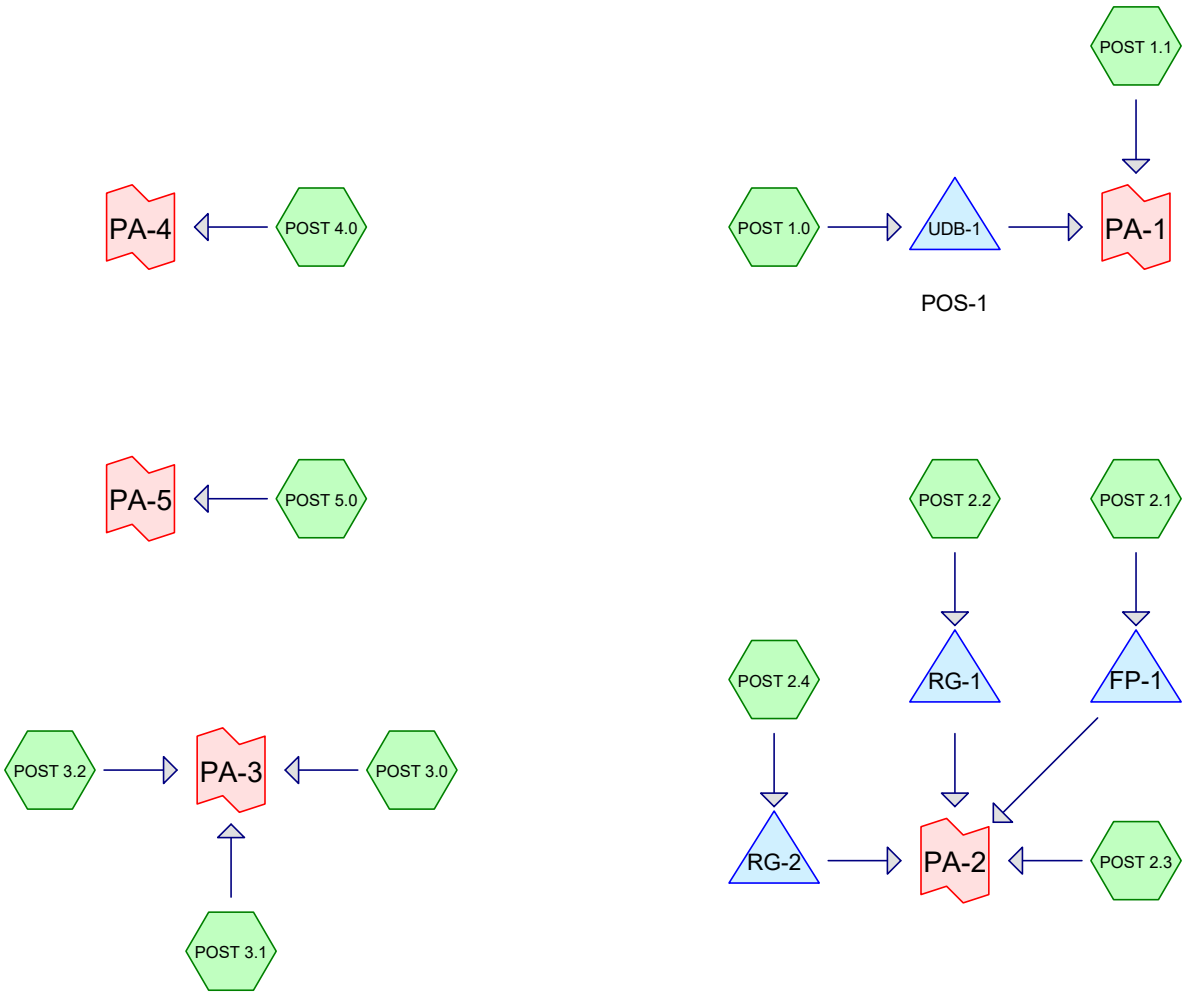
PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-HYDRO.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Saved: 4/18/2024
Plotted: Oct 18, 2024 - 2:30pm By: BCurcio
Tighe & Bond: \\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-HYDRO.dwg



Subcat Reach Pond Link

Routing Diagram for E-5071-001_POST
Prepared by Tighe & Bond Consulting, Printed 4/19/2024

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
249,330	61	>75% Grass cover, Good, HSG B (POST 1.0, POST 1.1, POST 2.1, POST 2.2, POST 2.3, POST 2.4, POST 3.0, POST 3.1, POST 3.2, POST 4.0, POST 5.0)
8,625	74	>75% Grass cover, Good, HSG C (POST 2.2, POST 2.3)
14,874	80	>75% Grass cover, Good, HSG D (POST 1.0, POST 1.1, POST 2.3, POST 3.0, POST 3.1, POST 3.2, POST 4.0)
299,992	98	Paved parking, HSG B (POST 1.0, POST 2.1, POST 2.2, POST 2.3, POST 2.4, POST 3.0, POST 5.0)
2,917	98	Paved parking, HSG C (POST 2.3)
8,603	98	Paved parking, HSG D (POST 1.0, POST 3.0, POST 5.0)
92,723	98	Roofs, HSG B (POST 1.0, POST 2.1, POST 2.2, POST 2.4, POST 3.0)
37,946	55	Woods, Good, HSG B (POST 1.1, POST 2.3, POST 3.1)
515	70	Woods, Good, HSG C (POST 1.1)
715,525	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
679,991	HSG B	POST 1.0, POST 1.1, POST 2.1, POST 2.2, POST 2.3, POST 2.4, POST 3.0, POST 3.1, POST 3.2, POST 4.0, POST 5.0
12,057	HSG C	POST 1.1, POST 2.2, POST 2.3
23,477	HSG D	POST 1.0, POST 1.1, POST 2.3, POST 3.0, POST 3.1, POST 3.2, POST 4.0, POST 5.0
0	Other	
715,525		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment POST 1.0: Runoff Area=208,896 sf 71.87% Impervious Runoff Depth>2.43"
Flow Length=950' Tc=5.6 min CN=88 Runoff=13.39 cfs 42,330 cf

Subcatchment POST 1.1: Runoff Area=40,669 sf 0.00% Impervious Runoff Depth>0.61"
Flow Length=75' Slope=0.0400 '/' Tc=5.5 min CN=60 Runoff=0.49 cfs 2,068 cf

Subcatchment POST 2.1: Runoff Area=48,315 sf 65.70% Impervious Runoff Depth>2.17"
Flow Length=340' Tc=5.0 min CN=85 Runoff=2.82 cfs 8,747 cf

Subcatchment POST 2.2: Runoff Area=52,733 sf 53.30% Impervious Runoff Depth>1.85"
Flow Length=450' Tc=8.0 min CN=81 Runoff=2.42 cfs 8,142 cf

Subcatchment POST 2.3: Runoff Area=68,786 sf 32.19% Impervious Runoff Depth>1.36"
Flow Length=415' Tc=5.0 min CN=74 Runoff=2.46 cfs 7,822 cf

Subcatchment POST 2.4: Runoff Area=53,602 sf 68.17% Impervious Runoff Depth>2.26"
Flow Length=400' Tc=7.7 min CN=86 Runoff=3.03 cfs 10,076 cf

Subcatchment POST 3.0: Runoff Area=186,544 sf 68.86% Impervious Runoff Depth>2.34"
Flow Length=700' Tc=8.8 min CN=87 Runoff=10.50 cfs 36,402 cf

Subcatchment POST 3.1: Runoff Area=41,365 sf 0.00% Impervious Runoff Depth>0.65"
Flow Length=80' Tc=5.4 min CN=61 Runoff=0.56 cfs 2,257 cf

Subcatchment POST 3.2: Runoff Area=3,972 sf 0.00% Impervious Runoff Depth>1.71"
Flow Length=135' Tc=5.0 min CN=79 Runoff=0.18 cfs 565 cf

Subcatchment POST 4.0: Runoff Area=3,305 sf 0.00% Impervious Runoff Depth>0.85"
Tc=5.0 min CN=65 Runoff=0.07 cfs 233 cf

Subcatchment POST 5.0: Runoff Area=7,338 sf 96.78% Impervious Runoff Depth>3.33"
Flow Length=230' Slope=0.0200 '/' Tc=5.0 min CN=97 Runoff=0.60 cfs 2,037 cf

Pond FP-1: Peak Elev=52.80' Storage=1,765 cf Inflow=2.82 cfs 8,747 cf
Outflow=1.56 cfs 8,338 cf

Pond RG-1: Peak Elev=59.24' Storage=661 cf Inflow=2.42 cfs 8,142 cf
Outflow=1.71 cfs 8,142 cf

Pond RG-2: Peak Elev=58.79' Storage=968 cf Inflow=3.03 cfs 10,076 cf
Outflow=1.86 cfs 10,057 cf

Pond UDB-1: POS-1 Peak Elev=61.05' Storage=15,503 cf Inflow=13.39 cfs 42,330 cf
Outflow=2.73 cfs 41,500 cf

Link PA-1: Inflow=2.91 cfs 43,568 cf
Primary=2.91 cfs 43,568 cf

Link PA-2: Inflow=7.03 cfs 34,359 cf
Primary=7.03 cfs 34,359 cf

Link PA-3: Inflow=11.21 cfs 39,224 cf
Primary=11.21 cfs 39,224 cf

Link PA-4: Inflow=0.07 cfs 233 cf
Primary=0.07 cfs 233 cf

Link PA-5: Inflow=0.60 cfs 2,037 cf
Primary=0.60 cfs 2,037 cf

Total Runoff Area = 715,525 sf Runoff Volume = 120,679 cf Average Runoff Depth = 2.02"
43.51% Pervious = 311,290 sf 56.49% Impervious = 404,235 sf

Summary for Subcatchment POST 1.0:

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 902% of capacity of segment #3

Runoff = 22.71 cfs @ 12.08 hrs, Volume= 73,454 cf, Depth> 4.22"
Routed to Pond UDB-1 : POS-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	58,333	61	>75% Grass cover, Good, HSG B
	108,639	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	40,358	98	Roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	422	80	>75% Grass cover, Good, HSG D
	1,144	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	208,896	88	Weighted Average
	58,755		28.13% Pervious Area
	150,141		71.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
0.3	50	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.2	800	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
5.6	950	Total			

Summary for Subcatchment POST 1.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.68 cfs @ 12.10 hrs, Volume= 5,594 cf, Depth> 1.65"
Routed to Link PA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	21,449	61	>75% Grass cover, Good, HSG B
	0	98	Paved parking, HSG B
	16,442	55	Woods, Good, HSG B
	0	98	Unconnected roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	515	70	Woods, Good, HSG C
	2,263	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	40,669	60	Weighted Average
	40,669		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	75	0.0400	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"

Summary for Subcatchment POST 2.1:

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 200% of capacity of segment #2

Runoff = 5.03 cfs @ 12.07 hrs, Volume= 15,724 cf, Depth> 3.91"
Routed to Pond FP-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	16,570	61	>75% Grass cover, Good, HSG B
	25,509	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	6,236	98	Roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	48,315	85	Weighted Average
	16,570		34.30% Pervious Area
	31,745		65.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
1.2	240	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
2.3	340	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST 2.2:

[47] Hint: Peak is 181% of capacity of segment #2

Runoff = 4.57 cfs @ 12.11 hrs, Volume= 15,375 cf, Depth> 3.50"
Routed to Pond RG-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	23,452	61	>75% Grass cover, Good, HSG B
	18,539	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	9,570	98	Roofs, HSG B
	1,172	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	52,733	81	Weighted Average
	24,624		46.70% Pervious Area
	28,109		53.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	50	0.0150	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"
2.1	400	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
8.0	450	Total			

Summary for Subcatchment POST 2.3:

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 208% of capacity of segment #2

Runoff = 5.25 cfs @ 12.08 hrs, Volume= 16,239 cf, Depth> 2.83"
Routed to Link PA-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	30,833	61	>75% Grass cover, Good, HSG B
	19,227	98	Paved parking, HSG B
	7,775	55	Woods, Good, HSG B
	0	98	Unconnected roofs, HSG B
	7,453	74	>75% Grass cover, Good, HSG C
	2,917	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	581	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	68,786	74	Weighted Average
	46,642		67.81% Pervious Area
	22,144		32.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	95	0.0200	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
1.7	320	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
2.8	415	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST 2.4:

[47] Hint: Peak is 210% of capacity of segment #2

Runoff = 5.29 cfs @ 12.11 hrs, Volume= 17,900 cf, Depth> 4.01"
Routed to Pond RG-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	17,063	61	>75% Grass cover, Good, HSG B
	26,872	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	9,667	98	Roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	53,602	86	Weighted Average
	17,063		31.83% Pervious Area
	36,539		68.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	50	0.0150	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"
1.8	350	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
7.7	400	Total			

Summary for Subcatchment POST 3.0:

[47] Hint: Peak is 415% of capacity of segment #2

Runoff = 18.09 cfs @ 12.12 hrs, Volume= 63,913 cf, Depth> 4.11"
Routed to Link PA-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	54,857	61	>75% Grass cover, Good, HSG B
	96,571	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	26,892	98	Roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	3,232	80	>75% Grass cover, Good, HSG D
	4,992	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	186,544	87	Weighted Average
	58,089		31.14% Pervious Area
	128,455		68.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"
1.9	650	0.0150	5.56	4.36	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
8.8	700	Total			

Summary for Subcatchment POST 3.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.81 cfs @ 12.09 hrs, Volume= 5,957 cf, Depth> 1.73"
Routed to Link PA-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	23,632	61	>75% Grass cover, Good, HSG B
	0	98	Paved parking, HSG B
	13,729	55	Woods, Good, HSG B
	0	98	Roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	4,004	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	41,365	61	Weighted Average
	41,365		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.68"
0.2	30	0.1300	2.52		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	80	Total			

Summary for Subcatchment POST 3.2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.35 cfs @ 12.08 hrs, Volume= 1,094 cf, Depth> 3.30"
Routed to Link PA-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	262	61	>75% Grass cover, Good, HSG B
	0	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	0	98	Roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	3,710	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	3,972	79	Weighted Average
	3,972		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	55	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
1.9	40	0.0050	0.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.4	135	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST 4.0:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.18 cfs @ 12.08 hrs, Volume= 564 cf, Depth> 2.05"
Routed to Link PA-4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	2,643	61	>75% Grass cover, Good, HSG B
	0	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	0	98	Unconnected roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	662	80	>75% Grass cover, Good, HSG D
	0	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	3,305	65	Weighted Average
	3,305		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry,**
1.0	0	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST 5.0:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.92 cfs @ 12.07 hrs, Volume= 3,194 cf, Depth> 5.22"
Routed to Link PA-5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=5.58"

	Area (sf)	CN	Description
	236	61	>75% Grass cover, Good, HSG B
	4,635	98	Paved parking, HSG B
	0	55	Woods, Good, HSG B
	0	98	Unconnected roofs, HSG B
	0	74	>75% Grass cover, Good, HSG C
	0	98	Paved parking, HSG C
*	0	98	Roofs, HGC C
	0	70	Woods, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	2,467	98	Paved parking, HSG D
	0	77	Woods, Good, HSG D
	7,338	97	Weighted Average
	236		3.22% Pervious Area
	7,102		96.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0200	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.68"
1.0	180	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	230	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond FP-1:

Inflow Area = 48,315 sf, 65.70% Impervious, Inflow Depth > 3.91" for 10-Yr event
Inflow = 5.03 cfs @ 12.07 hrs, Volume= 15,724 cf
Outflow = 4.13 cfs @ 12.13 hrs, Volume= 15,304 cf, Atten= 18%, Lag= 3.6 min
Primary = 4.13 cfs @ 12.13 hrs, Volume= 15,304 cf
Routed to Link PA-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 53.29' @ 12.13 hrs Surf.Area= 1,332 sf Storage= 2,363 cf
Flood Elev= 54.00' Surf.Area= 1,665 sf Storage= 3,424 cf

Plug-Flow detention time= 33.5 min calculated for 15,304 cf (97% of inflow)
Center-of-Mass det. time= 17.9 min (819.9 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	48.40'	3,424 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
48.40	440	0.0	0	0
49.50	440	40.0	194	194
51.00	440	30.0	198	392
52.00	785	100.0	613	1,004
53.00	1,195	100.0	990	1,994
54.00	1,665	100.0	1,430	3,424

Device	Routing	Invert	Outlet Devices
#1	Primary	48.40'	**15.0" Round Culvert** L= 12.0' Ke= 0.500 Inlet / Outlet Invert= 48.40' / 47.60' S= 0.0667 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	48.40'	**100.000 in/hr Exfiltration over Surface area above 48.40'** Excluded Surface area = 440 sf
#3	Device 1	53.00'	**1.0" x 1.0" Horiz. Orifice/Grate** X 114 rows C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.06 cfs @ 12.13 hrs HW=53.28' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.06 cfs of 12.19 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 2.05 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 2.01 cfs @ 2.54 fps)

Summary for Pond RG-1:

Inflow Area = 52,733 sf, 53.30% Impervious, Inflow Depth > 3.50" for 10-Yr event
Inflow = 4.57 cfs @ 12.11 hrs, Volume= 15,375 cf
Outflow = 2.27 cfs @ 12.31 hrs, Volume= 15,375 cf, Atten= 50%, Lag= 12.0 min
Primary = 2.27 cfs @ 12.31 hrs, Volume= 15,375 cf
Routed to Link PA-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 60.30' @ 12.31 hrs Surf.Area= 1,996 sf Storage= 2,091 cf
Flood Elev= 61.00' Surf.Area= 3,026 sf Storage= 3,836 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 6.1 min (821.7 - 815.6)

Volume	Invert	Avail.Storage	Storage Description
#1	56.40'	3,836 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.40	560	0.0	0	0
57.50	560	40.0	246	246
59.00	560	30.0	252	498
60.00	1,545	100.0	1,053	1,551
61.00	3,026	100.0	2,286	3,836

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**24.0" Round Culvert** L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 54.00' / 52.19' S= 0.0724 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf
#2	Device 1	56.40'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.40'	**10.000 in/hr Exfiltration over Surface area**
#4	Device 1	60.50'	**1.0" x 1.0" Horiz. Orifice/Grate** X 114 rows C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.27 cfs @ 12.31 hrs HW=60.30' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.27 cfs of 34.83 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.81 cfs @ 9.20 fps)
  ├─**3=Exfiltration** (Exfiltration Controls 0.46 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond RG-2:

Inflow Area = 53,602 sf, 68.17% Impervious, Inflow Depth > 4.01" for 10-Yr event
Inflow = 5.29 cfs @ 12.11 hrs, Volume= 17,900 cf
Outflow = 2.41 cfs @ 12.32 hrs, Volume= 17,876 cf, Atten= 55%, Lag= 12.9 min
Primary = 2.41 cfs @ 12.32 hrs, Volume= 17,876 cf
Routed to Link PA-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 60.33' @ 12.32 hrs Surf.Area= 1,564 sf Storage= 2,668 cf
Flood Elev= 62.00' Surf.Area= 3,184 sf Storage= 6,636 cf

Plug-Flow detention time= 8.1 min calculated for 17,839 cf (100% of inflow)
Center-of-Mass det. time= 7.3 min (808.6 - 801.2)

Volume	Invert	Avail.Storage	Storage Description
#1	55.40'	6,636 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.40	509	0.0	0	0
56.50	509	40.0	224	224
58.00	509	30.0	229	453
60.00	1,245	100.0	1,754	2,207
62.00	3,184	100.0	4,429	6,636

Device	Routing	Invert	Outlet Devices
#1	Primary	55.40'	**18.0" Round Culvert** L= 24.0' Ke= 0.500 Inlet / Outlet Invert= 55.40' / 55.25' S= 0.0062 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	55.40'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	55.40'	**10.000 in/hr Exfiltration over Surface area**
#4	Device 1	61.00'	**1.0" x 1.0" Horiz. Orifice/Grate** X 114 rows C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.40 cfs @ 12.32 hrs HW=60.32' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.40 cfs of 17.38 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 2.04 cfs @ 10.41 fps)
  ├─**3=Exfiltration** (Exfiltration Controls 0.36 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond UDB-1: POS-1

Inflow Area = 208,896 sf, 71.87% Impervious, Inflow Depth > 4.22" for 10-Yr event
Inflow = 22.71 cfs @ 12.08 hrs, Volume= 73,454 cf
Outflow = 12.06 cfs @ 12.22 hrs, Volume= 72,369 cf, Atten= 47%, Lag= 8.4 min
Primary = 12.06 cfs @ 12.22 hrs, Volume= 72,369 cf
Routed to Link PA-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 61.95' @ 12.22 hrs Surf.Area= 7,392 sf Storage= 20,950 cf
Flood Elev= 63.25' Surf.Area= 7,392 sf Storage= 27,366 cf

Plug-Flow detention time= 62.1 min calculated for 72,218 cf (98% of inflow)
Center-of-Mass det. time= 53.1 min (846.3 - 793.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	58.25'	6,396 cf	**56.00'W x 132.00'L x 5.00'H Field A** 36,960 cf Overall - 20,970 cf Embedded = 15,990 cf x 40.0% Voids
#2A	58.25'	20,970 cf	**CMP Round 60** x 48 Inside #1 Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf Overall Size= 60.0"W x 60.0"H x 20.00'L 48 Chambers in 8 Rows 54.00' Header x 19.63 sf x 2 = 2,120.6 cf Inside
		27,366 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	58.25'	**24.0" Round Culvert** L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 58.25' / 58.15' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	58.25'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.00'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	62.75'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=11.84 cfs @ 12.22 hrs HW=61.94' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 11.84 cfs of 24.80 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 3.08 cfs @ 8.82 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 8.76 cfs @ 3.11 fps)
  └─**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Area = 249,565 sf, 60.16% Impervious, Inflow Depth > 3.75" for 10-Yr event
Inflow = 13.06 cfs @ 12.22 hrs, Volume= 77,963 cf
Primary = 13.06 cfs @ 12.22 hrs, Volume= 77,963 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-2:

Inflow Area = 223,436 sf, 53.05% Impervious, Inflow Depth > 3.48" for 10-Yr event
Inflow = 13.19 cfs @ 12.11 hrs, Volume= 64,794 cf
Primary = 13.19 cfs @ 12.11 hrs, Volume= 64,794 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-3:

Inflow Area = 231,881 sf, 55.40% Impervious, Inflow Depth > 3.67" for 10-Yr event
Inflow = 20.15 cfs @ 12.12 hrs, Volume= 70,964 cf
Primary = 20.15 cfs @ 12.12 hrs, Volume= 70,964 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-4:

Inflow Area = 3,305 sf, 0.00% Impervious, Inflow Depth > 2.05" for 10-Yr event
Inflow = 0.18 cfs @ 12.08 hrs, Volume= 564 cf
Primary = 0.18 cfs @ 12.08 hrs, Volume= 564 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PA-5:

Inflow Area = 7,338 sf, 96.78% Impervious, Inflow Depth > 5.22" for 10-Yr event
Inflow = 0.92 cfs @ 12.07 hrs, Volume= 3,194 cf
Primary = 0.92 cfs @ 12.07 hrs, Volume= 3,194 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment POST 1.0: Runoff Area=208,896 sf 71.87% Impervious Runoff Depth>5.66"
Flow Length=950' Tc=5.6 min CN=88 Runoff=29.98 cfs 98,492 cf

Subcatchment POST 1.1: Runoff Area=40,669 sf 0.00% Impervious Runoff Depth>2.65"
Flow Length=75' Slope=0.0400 '/' Tc=5.5 min CN=60 Runoff=2.81 cfs 8,983 cf

Subcatchment POST 2.1: Runoff Area=48,315 sf 65.70% Impervious Runoff Depth>5.32"
Flow Length=340' Tc=5.0 min CN=85 Runoff=6.76 cfs 21,406 cf

Subcatchment POST 2.2: Runoff Area=52,733 sf 53.30% Impervious Runoff Depth>4.86"
Flow Length=450' Tc=8.0 min CN=81 Runoff=6.29 cfs 21,377 cf

Subcatchment POST 2.3: Runoff Area=68,786 sf 32.19% Impervious Runoff Depth>4.10"
Flow Length=415' Tc=5.0 min CN=74 Runoff=7.60 cfs 23,504 cf

Subcatchment POST 2.4: Runoff Area=53,602 sf 68.17% Impervious Runoff Depth>5.43"
Flow Length=400' Tc=7.7 min CN=86 Runoff=7.07 cfs 24,244 cf

Subcatchment POST 3.0: Runoff Area=186,544 sf 68.86% Impervious Runoff Depth>5.54"
Flow Length=700' Tc=8.8 min CN=87 Runoff=24.04 cfs 86,129 cf

Subcatchment POST 3.1: Runoff Area=41,365 sf 0.00% Impervious Runoff Depth>2.75"
Flow Length=80' Tc=5.4 min CN=61 Runoff=2.98 cfs 9,479 cf

Subcatchment POST 3.2: Runoff Area=3,972 sf 0.00% Impervious Runoff Depth>4.65"
Flow Length=135' Tc=5.0 min CN=79 Runoff=0.50 cfs 1,538 cf

Subcatchment POST 4.0: Runoff Area=3,305 sf 0.00% Impervious Runoff Depth>3.15"
Tc=5.0 min CN=65 Runoff=0.28 cfs 869 cf

Subcatchment POST 5.0: Runoff Area=7,338 sf 96.78% Impervious Runoff Depth>6.71"
Flow Length=230' Slope=0.0200 '/' Tc=5.0 min CN=97 Runoff=1.17 cfs 4,102 cf

Pond FP-1: Peak Elev=53.61' Storage=2,815 cf Inflow=6.76 cfs 21,406 cf
Outflow=5.40 cfs 20,976 cf

Pond RG-1: Peak Elev=60.67' Storage=2,923 cf Inflow=6.29 cfs 21,377 cf
Outflow=4.06 cfs 21,377 cf

Pond RG-2: Peak Elev=61.05' Storage=4,049 cf Inflow=7.07 cfs 24,244 cf
Outflow=3.58 cfs 24,217 cf

Pond UDB-1: POS-1 Peak Elev=62.65' Storage=24,714 cf Inflow=29.98 cfs 98,492 cf
Outflow=18.72 cfs 97,228 cf

Link PA-1: Inflow=20.81 cfs 106,211 cf
Primary=20.81 cfs 106,211 cf

Link PA-2: Inflow=17.21 cfs 90,075 cf
Primary=17.21 cfs 90,075 cf

Link PA-3: Inflow=27.33 cfs 97,146 cf
Primary=27.33 cfs 97,146 cf

Link PA-4: Inflow=0.28 cfs 869 cf
Primary=0.28 cfs 869 cf

Link PA-5: Inflow=1.17 cfs 4,102 cf
Primary=1.17 cfs 4,102 cf

Total Runoff Area = 715,525 sf Runoff Volume = 300,124 cf Average Runoff Depth = 5.03"
43.51% Pervious = 311,290 sf 56.49% Impervious = 404,235 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment POST 1.0: Runoff Area=208,896 sf 71.87% Impervious Runoff Depth>7.01"
Flow Length=950' Tc=5.6 min CN=88 Runoff=36.71 cfs 122,099 cf

Subcatchment POST 1.1: Runoff Area=40,669 sf 0.00% Impervious Runoff Depth>3.68"
Flow Length=75' Slope=0.0400 '/' Tc=5.5 min CN=60 Runoff=3.96 cfs 12,468 cf

Subcatchment POST 2.1: Runoff Area=48,315 sf 65.70% Impervious Runoff Depth>6.65"
Flow Length=340' Tc=5.0 min CN=85 Runoff=8.37 cfs 26,791 cf

Subcatchment POST 2.2: Runoff Area=52,733 sf 53.30% Impervious Runoff Depth>6.17"
Flow Length=450' Tc=8.0 min CN=81 Runoff=7.91 cfs 27,117 cf

Subcatchment POST 2.3: Runoff Area=68,786 sf 32.19% Impervious Runoff Depth>5.34"
Flow Length=415' Tc=5.0 min CN=74 Runoff=9.84 cfs 30,585 cf

Subcatchment POST 2.4: Runoff Area=53,602 sf 68.17% Impervious Runoff Depth>6.77"
Flow Length=400' Tc=7.7 min CN=86 Runoff=8.71 cfs 30,246 cf

Subcatchment POST 3.0: Runoff Area=186,544 sf 68.86% Impervious Runoff Depth>6.89"
Flow Length=700' Tc=8.8 min CN=87 Runoff=29.55 cfs 107,112 cf

Subcatchment POST 3.1: Runoff Area=41,365 sf 0.00% Impervious Runoff Depth>3.80"
Flow Length=80' Tc=5.4 min CN=61 Runoff=4.17 cfs 13,084 cf

Subcatchment POST 3.2: Runoff Area=3,972 sf 0.00% Impervious Runoff Depth>5.93"
Flow Length=135' Tc=5.0 min CN=79 Runoff=0.63 cfs 1,964 cf

Subcatchment POST 4.0: Runoff Area=3,305 sf 0.00% Impervious Runoff Depth>4.27"
Tc=5.0 min CN=65 Runoff=0.38 cfs 1,175 cf

Subcatchment POST 5.0: Runoff Area=7,338 sf 96.78% Impervious Runoff Depth>8.10"
Flow Length=230' Slope=0.0200 '/' Tc=5.0 min CN=97 Runoff=1.40 cfs 4,951 cf

Pond FP-1: Peak Elev=53.92' Storage=3,296 cf Inflow=8.37 cfs 26,791 cf
Outflow=6.41 cfs 26,354 cf

Pond RG-1: Peak Elev=60.94' Storage=3,646 cf Inflow=7.91 cfs 27,117 cf
Outflow=5.15 cfs 27,116 cf

Pond RG-2: Peak Elev=61.35' Storage=4,773 cf Inflow=8.71 cfs 30,246 cf
Outflow=5.11 cfs 30,217 cf

Pond UDB-1: POS-1 Peak Elev=63.26' Storage=27,366 cf Inflow=36.71 cfs 122,099 cf
Outflow=28.61 cfs 120,678 cf

Link PA-1: Inflow=31.65 cfs 133,146 cf
Primary=31.65 cfs 133,146 cf

Link PA-2: Inflow=22.42 cfs 114,272 cf
Primary=22.42 cfs 114,272 cf

Link PA-3: Inflow=34.08 cfs 122,160 cf
Primary=34.08 cfs 122,160 cf

Link PA-4: Inflow=0.38 cfs 1,175 cf
Primary=0.38 cfs 1,175 cf

Link PA-5: Inflow=1.40 cfs 4,951 cf
Primary=1.40 cfs 4,951 cf

Total Runoff Area = 715,525 sf Runoff Volume = 377,592 cf Average Runoff Depth = 6.33"
43.51% Pervious = 311,290 sf 56.49% Impervious = 404,235 sf

Section 4
Peak Rate Comparison

The following table summarizes and compares the pre- and post-development peak runoff rates from the 2-year, 10-year, 25-year and 50-year storm events at the point of analysis.

Table 4.1
Comparison of Pre- and Post-Development Flows (CFS)

	2-Year Storm	10-Year Storm	25-Year Storm	50-Year Storm
Pre-Development Watershed				
PA-1	10.36	19.19	26.26	32.86
PA-2	10.46	17.09	26.94	37.55
PA-3	11.80	22.09	30.34	38.59
PA-4	1.14	1.91	2.51	3.06
PA-5	0.69	1.06	1.35	1.61
Post-Development Watershed				
PA-1	2.91	13.06	20.81	31.65
PA-2	7.03	13.19	17.21	22.42
PA-3	11.21	20.15	27.33	34.08
PA-4	0.07	0.18	0.28	0.38
PA-5	0.60	0.92	1.17	1.40

Section 5
Mitigation Description

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and NHDES AoT Regulations (Env-Wq 1500).

5.1 Pre-Treatment Methods for Protecting Water Quality

Pre-treatment for the stormwater filtration systems consists of off-line deep sump catch basins, sediment forebays, Rain Guardian turrets, and Contech CDS units.

5.2 Treatment Methods for Protecting Water Quality.

The runoff from proposed impervious areas will be treated by Contech Jellyfish stormwater filtration systems as well as a Rain Garden bioretention systems. These Jellyfish and Rain Garden systems are sized to treat the Water Quality Flow of their respective sub catchment areas. The BMP worksheets for the treatment practices have been included in Section 6 of this report.

The proposed stormwater management system is required to remove 80% of the annual Total Suspended Soils (TSS) loads and 50% of the annual Total Nitrogen (TN) loads per the City of Portsmouth's Site Plan regulations, Section 7.6.2.1.a.i. As shown in Table 5.1 the pollutant removal efficiencies for the proposed treatment systems exceed the City of Portsmouth's removal requirements.

Table 5.1 – Pollutant Removal Efficiencies

BMP	Total Suspended Solids	Total Nitrogen	Total Phosphorus
Jellyfish Filter w/Pretreatment[1]	91%	53%	61%
Rain Garden w/Pretreatment[2]	97%	65%	65%

Section 6
BMP Worksheets

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **RG-1**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
1.21	ac	A = Area draining to the practice	
0.64	ac	A_I = Impervious area draining to the practice	
0.53	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.53	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.64	ac-in	WQV= 1" x Rv x A	
2,310	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
578	cf	25% x WQV (check calc for sediment forebay volume)	
1,733	cf	75% x WQV (check calc for surface sand filter volume)	
Rain Guardian Turret		Method of Pretreatment? (not required for clean or roof runoff)	
N/A	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
60.45	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
2.35	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
0.55	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
57.50	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
56.40	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
-	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
-	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.10	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
60.94	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
61.00	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
2,509	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Stage-Discharge for Pond RG-1:

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
56.40	0.00	59.00	1.58
56.45	0.14	59.05	1.61
56.50	0.16	59.10	1.63
56.55	0.19	59.15	1.66
56.60	0.24	59.20	1.68
56.65	0.30	59.25	1.71
56.70	0.36	59.30	1.74
56.75	0.43	59.35	1.76
56.80	0.49	59.40	1.79
56.85	0.55	59.45	1.81
56.90	0.60	59.50	1.84
56.95	0.65	59.55	1.87
57.00	0.69	59.60	1.89
57.05	0.73	59.65	1.92
57.10	0.76	59.70	1.94
57.15	0.80	59.75	1.97
57.20	0.83	59.80	1.99
57.25	0.86	59.85	2.01
57.30	0.89	59.90	2.04
57.35	0.92	59.95	2.06
57.40	0.95	60.00	2.09
57.45	0.98	60.05	2.12
57.50	1.00	60.10	2.15
57.55	1.03	60.15	2.18
57.60	1.05	60.20	2.21
57.65	1.08	60.25	2.24
57.70	1.10	60.30	2.27
57.75	1.12	60.35	2.30
57.80	1.14	60.40	2.33
57.85	1.17	60.45	2.35
57.90	1.19	60.50	2.38
57.95	1.21	60.55	3.27
58.00	1.23	60.60	3.65
58.05	1.25	60.65	3.95
58.10	1.27	60.70	4.20
58.15	1.29	60.75	4.44
58.20	1.31	60.80	4.65
58.25	1.33	60.85	4.84
58.30	1.34	60.90	5.03
58.35	1.36	60.95	5.20
58.40	1.38	61.00	**5.37**
58.45	1.40		
58.50	1.42		
58.55	1.43		
58.60	1.45		
58.65	1.47		
58.70	1.48		
58.75	1.50		
58.80	1.52		
58.85	1.53		
58.90	1.55		
58.95	1.56		

Stage-Area-Storage for Pond RG-1:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
56.40	560	0
56.45	560	11
56.50	560	22
56.55	560	34
56.60	560	45
56.65	560	56
56.70	560	67
56.75	560	78
56.80	560	90
56.85	560	101
56.90	560	112
56.95	560	123
57.00	560	134
57.05	560	146
57.10	560	157
57.15	560	168
57.20	560	179
57.25	560	190
57.30	560	202
57.35	560	213
57.40	560	224
57.45	560	235
57.50	560	246
57.55	560	255
57.60	560	263
57.65	560	272
57.70	560	280
57.75	560	288
57.80	560	297
57.85	560	305
57.90	560	314
57.95	560	322
58.00	560	330
58.05	560	339
58.10	560	347
58.15	560	356
58.20	560	364
58.25	560	372
58.30	560	381
58.35	560	389
58.40	560	398
58.45	560	406
58.50	560	414
58.55	560	423
58.60	560	431
58.65	560	440
58.70	560	448
58.75	560	456
58.80	560	465
58.85	560	473
58.90	560	482
58.95	560	490
59.00	560	498
59.05	609	528
59.10	659	559
59.15	708	593
59.20	757	630
59.25	806	669
59.30	855	711
59.35	905	755
59.40	954	801
59.45	1,003	850
59.50	1,053	902
59.55	1,102	955
59.60	1,151	1,012
59.65	1,200	1,070
59.70	1,249	1,132
59.75	1,299	1,195
59.80	1,348	1,262
59.85	1,397	1,330
59.90	1,446	1,401
59.95	1,496	1,475
60.00	1,545	1,551
60.05	1,619	1,630
60.10	1,693	1,713
60.15	1,767	1,799
60.20	1,841	1,890
60.25	1,915	1,983
60.30	1,989	2,081
60.35	2,063	2,182
60.40	2,137	2,287
60.45	2,211	2,396
60.50	2,286	2,509
60.55	2,360	2,625
60.60	2,434	2,744
60.65	2,508	2,868
60.70	2,582	2,995
60.75	2,656	3,126
60.80	2,730	3,261
60.85	2,804	3,399
60.90	2,878	3,541
60.95	2,952	3,687
61.00	**3,026**	**3,836**

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **RG-2**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
1.23	ac	A = Area draining to the practice	
0.84	ac	A_I = Impervious area draining to the practice	
0.68	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.66	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.82	ac-in	WQV= 1" x Rv x A	
2,968	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
742	cf	25% x WQV (check calc for sediment forebay volume)	
2,226	cf	75% x WQV (check calc for surface sand filter volume)	
Sediment Forebay		Method of Pretreatment? (not required for clean or roof runoff)	
750	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
60.50	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
2.50	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
0.66	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
56.50	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
55.40	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
-	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
-	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.10	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
61.35	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
62.00	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
3,937	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Stage-Discharge for Pond RG-2:

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
55.40	0.00	58.00	1.57	60.60	2.53
55.45	0.01	58.05	1.59	60.65	2.55
55.50	0.04	58.10	1.61	60.70	2.57
55.55	0.09	58.15	1.63	60.75	2.59
55.60	0.17	58.20	1.64	60.80	2.61
55.65	0.26	58.25	1.66	60.85	2.63
55.70	0.35	58.30	1.68	60.90	2.66
55.75	0.41	58.35	1.70	60.95	2.68
55.80	0.48	58.40	1.72	61.00	2.70
55.85	0.54	58.45	1.74	61.05	3.57
55.90	0.59	58.50	1.76	61.10	3.95
55.95	0.64	58.55	1.77	61.15	4.24
56.00	0.68	58.60	1.79	61.20	4.49
56.05	0.72	58.65	1.81	61.25	4.71
56.10	0.75	58.70	1.83	61.30	4.92
56.15	0.79	58.75	1.85	61.35	5.10
56.20	0.82	58.80	1.86	61.40	5.28
56.25	0.85	58.85	1.88	61.45	5.45
56.30	0.88	58.90	1.90	61.50	5.61
56.35	0.91	58.95	1.92	61.55	5.76
56.40	0.94	59.00	1.93	61.60	5.91
56.45	0.96	59.05	1.95	61.65	6.05
56.50	0.99	59.10	1.97	61.70	6.18
56.55	1.01	59.15	1.98	61.75	6.32
56.60	1.04	59.20	2.00	61.80	6.45
56.65	1.06	59.25	2.02	61.85	6.57
56.70	1.09	59.30	2.03	61.90	6.69
56.75	1.11	59.35	2.05	61.95	6.81
56.80	1.13	59.40	2.07	62.00	**6.93**
56.85	1.15	59.45	2.08		
56.90	1.17	59.50	2.10		
56.95	1.20	59.55	2.12		
57.00	1.22	59.60	2.13		
57.05	1.24	59.65	2.15		
57.10	1.26	59.70	2.17		
57.15	1.28	59.75	2.18		
57.20	1.29	59.80	2.20		
57.25	1.31	59.85	2.21		
57.30	1.33	59.90	2.23		
57.35	1.35	59.95	2.24		
57.40	1.37	60.00	2.26		
57.45	1.39	60.05	2.28		
57.50	1.40	60.10	2.30		
57.55	1.42	60.15	2.33		
57.60	1.44	60.20	2.35		
57.65	1.45	60.25	2.37		
57.70	1.47	60.30	2.39		
57.75	1.49	60.35	2.42		
57.80	1.50	60.40	2.44		
57.85	1.52	60.45	2.46		
57.90	1.54	60.50	2.48		
57.95	1.55	60.55	2.50		

Stage-Area-Storage for Pond RG-2:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
55.40	509	0
55.50	509	20
55.60	509	41
55.70	509	61
55.80	509	81
55.90	509	102
56.00	509	122
56.10	509	143
56.20	509	163
56.30	509	183
56.40	509	204
56.50	509	224
56.60	509	239
56.70	509	254
56.80	509	270
56.90	509	285
57.00	509	300
57.10	509	316
57.20	509	331
57.30	509	346
57.40	509	361
57.50	509	377
57.60	509	392
57.70	509	407
57.80	509	422
57.90	509	438
58.00	509	453
58.10	546	506
58.20	583	562
58.30	619	622
58.40	656	686
58.50	693	754
58.60	730	825
58.70	767	899
58.80	803	978
58.90	840	1,060
59.00	877	1,146
59.10	914	1,236
59.20	951	1,329
59.30	987	1,426
59.40	1,024	1,526
59.50	1,061	1,631
59.60	1,098	1,738
59.70	1,135	1,850
59.80	1,171	1,965
59.90	1,208	2,084
60.00	1,245	2,207
60.10	1,342	2,336
60.20	1,439	2,475
60.30	1,536	2,624
60.40	1,633	2,783
60.50	1,730	2,951
60.60	1,827	3,129
60.70	1,924	3,316
60.80	2,021	3,513
60.90	2,118	3,720
61.00	2,215	3,937
61.10	2,311	4,163
61.20	2,408	4,399
61.30	2,505	4,645
61.40	2,602	4,900
61.50	2,699	5,165
61.60	2,796	5,440
61.70	2,893	5,724
61.80	2,990	6,019
61.90	3,087	6,322
62.00	**3,184**	**6,636**

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **FP-1 (FocalPoint BioFiltration)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
1.10	ac	A = Area draining to the practice	
0.73	ac	A_I = Impervious area draining to the practice	
0.66	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.65	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.71	ac-in	WQV= 1" x Rv x A	
2,585	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
646	cf	25% x WQV (check calc for sediment forebay volume)	
1,938	cf	75% x WQV (check calc for surface sand filter volume)	
Offline CBs		Method of Pretreatment? (not required for clean or roof runoff)	
N/A	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
N/A	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
N/A	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
49.50	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
48.40	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
-	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
-	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.10	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
49.50	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
49.50	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
53.90	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
54.00	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
N/A	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**> 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: System meets minimum sizing requirements set by FocalPoint for the associated drainage area.

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

4.79	ac	A = Area draining to the practice
3.45	ac	A_I = Impervious area draining to the practice
0.72	decimal	I = Percent impervious area draining to the practice, in decimal form
0.70	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
3.34	ac-in	WQV= 1" x Rv x A
12,141	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.70	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.064	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T_c = Time of Concentration
640.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
3.345	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes: POST 1.0 WATERSHED

Proprietary Pretreatment device located upstream of underground detention.
Pretreatment Device - Contech CDS Model 3030-6 (designed to treat maximum 3.0 cfs)
with internal bypass

Proprietary treatment device located downstream of underground detention.
Per previous project approvals with the AoT Bureau, for treatment systems located downstream
from detention facilities, the surrogate for the WQF is the discharge from a detention facility
during the 2-year storm event.
Treatment Device - Contech Jellyfish Filter Model JFPD080815-3(designed to treat maximum 2.94 cfs)
Outlet Control structure configuration set to bypass flows beyond WQF.

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

4.28	ac	A = Area draining to the practice
2.95	ac	A_I = Impervious area draining to the practice
0.69	decimal	I = Percent impervious area draining to the practice, in decimal form
0.67	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
2.87	ac-in	WQV= 1" x Rv x A
10,414	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.67	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.4	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.072	inches	Ia = Initial abstraction. Ia = 0.2S
8.8	minutes	T_c = Time of Concentration
640.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
2.869	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes: POST 3.0 WATERSHED
PJFF-2 AND PCDS-2

Pretreatment Device - Contech CDS Model 3030-6 (designed to treat maximum 3.0 cfs)

Treatment Device - Contech Jellyfish Filter Model JFPD080815-3 (designed to treat maximum 2.94 cfs)

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire

April 4, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

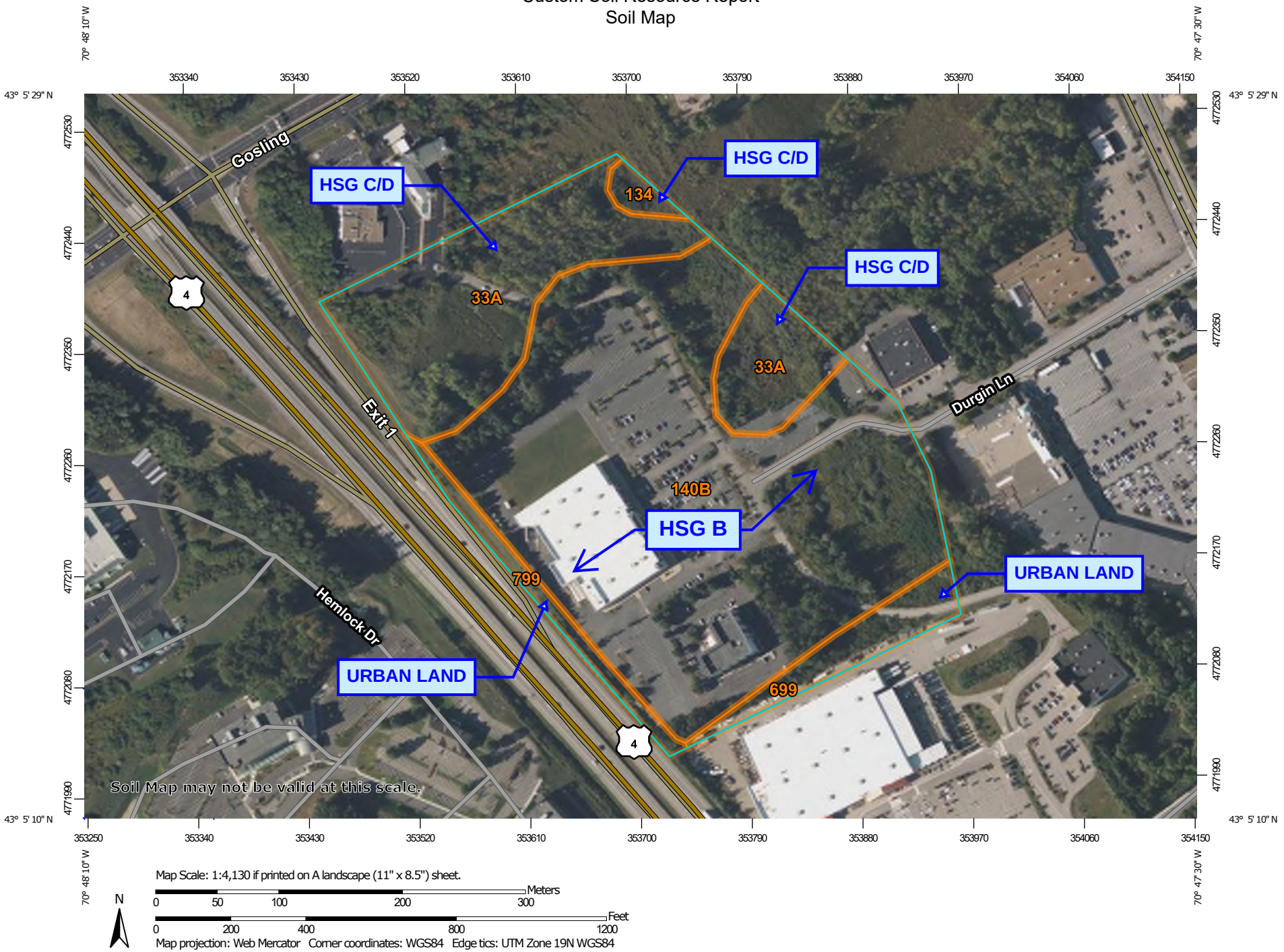
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:4,130 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 26, Aug 22, 2023

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
33A	Scitico silt loam, 0 to 5 percent slopes	8.9	25.6%
134	Maybid silt loam	0.4	1.1%
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	23.0	66.0%
699	Urban land	1.6	4.5%
799	Urban land-Canton complex, 3 to 15 percent slopes	1.0	2.9%
Totals for Area of Interest		**34.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

33A—Scitico silt loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9cn6
Elevation: 0 to 180 feet
Mean annual precipitation: 47 to 49 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Farmland of local importance

Map Unit Composition

Scitico and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scitico

Setting

Landform: Marine terraces

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 12 inches: silty clay loam
H3 - 12 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY019NH - Wet Lake Plain
Hydric soil rating: Yes

Minor Components

Maybid

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Squamscott

Percent of map unit: 5 percent
Landform: Marine terraces

Hydric soil rating: Yes

Boxford

Percent of map unit: 5 percent
Hydric soil rating: No

134—Maybid silt loam

Map Unit Setting

National map unit symbol: 9cmg
Elevation: 0 to 180 feet
Mean annual precipitation: 47 to 50 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Maybid and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maybid

Setting

Landform: Marine terraces
Parent material: Silty and clayey marine deposits

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 26 inches: silty clay loam
H3 - 26 to 63 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C/D
Ecological site: F144AY020MA - Very Wet Coastal Lake Plain
Hydric soil rating: Yes

Minor Components

Ossipee
Percent of map unit: 10 percent
Landform: Swamps
Hydric soil rating: Yes

Scitico
Percent of map unit: 10 percent
Landform: Marine terraces
Hydric soil rating: Yes

Not named wet
Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

140B—Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky

Map Unit Setting
National map unit symbol: 2w82m
Elevation: 380 to 1,070 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition
Chatfield, very stony, and similar soils: 35 percent
Canton, very stony, and similar soils: 25 percent
Hollis, very stony, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Very Stony

Setting
Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile
Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Canton, Very Stony

Setting

Landform: Ridges, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Hollis, Very Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Minor Components

Freetown

Percent of map unit: 5 percent
Landform: Swamps, kettles, bogs, depressions, marshes
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Newfields, very stony

Percent of map unit: 5 percent
Landform: Moraines, hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope

Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Walpole, very stony

Percent of map unit: 3 percent
Landform: Outwash terraces, depressions, outwash plains, depressions, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 2 percent
Landform: Hills, ridges
Hydric soil rating: Unranked

699—Urban land

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

799—Urban land-Canton complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cq0
Elevation: 0 to 1,000 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 55 percent
Canton and similar soils: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Parent material: Till

Typical profile

H1 - 0 to 5 inches: gravelly fine sandy loam
H2 - 5 to 21 inches: gravelly fine sandy loam
H3 - 21 to 60 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Udorthents

Percent of map unit: 5 percent
Hydric soil rating: No

Boxford and eldridge

Percent of map unit: 4 percent
Hydric soil rating: No

Squamscott and scitico

Percent of map unit: 4 percent
Landform: Marine terraces
Hydric soil rating: Yes

Scituate and newfields

Percent of map unit: 4 percent
Hydric soil rating: No

Chatfield

Percent of map unit: 4 percent
Hydric soil rating: No

Walpole

Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

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Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	New Hampshire
Location	Rockingham County, New Hampshire, United States
Latitude	43.088 degrees North
Longitude	70.798 degrees West
Elevation	10 feet
Date/Time	Tue Mar 05 2024 16:41:17 GMT-0500 (Eastern Standard Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.02	2.65	2.91	**1yr**	2.35	2.80
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.20	3.55	**2yr**	2.83	3.42
5yr	0.37	0.58	0.73	0.97	1.24	1.60	**5yr**	1.07	1.46	1.88	2.42	3.13	4.05	4.56	**5yr**	3.59	4.38
10yr	0.41	0.64	0.81	1.11	1.44	1.88	**10yr**	1.24	1.72	2.22	2.88	3.73	4.85	5.50	**10yr**	4.29	5.29
25yr	0.47	0.75	0.96	1.32	1.76	2.32	**25yr**	1.52	2.13	2.75	3.61	4.71	6.15	7.07	**25yr**	5.44	6.80
50yr	0.53	0.85	1.09	1.52	2.05	2.73	**50yr**	1.77	2.51	3.26	4.29	5.63	7.36	8.54	**50yr**	6.52	8.22
100yr	0.59	0.95	1.23	1.75	2.39	3.22	**100yr**	2.06	2.95	3.86	5.11	6.73	8.82	10.33	**100yr**	7.80	9.94
200yr	0.66	1.08	1.40	2.01	2.78	3.78	**200yr**	2.40	3.48	4.56	6.07	8.03	10.57	12.50	**200yr**	9.35	12.02
500yr	0.78	1.29	1.68	2.44	3.42	4.69	**500yr**	2.95	4.33	5.68	7.62	10.14	13.43	16.08	**500yr**	11.88	15.46

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.23	0.36	0.44	0.59	0.73	0.89	**1yr**	0.63	0.87	0.92	1.32	1.66	2.22	2.49	**1yr**	1.97	2.40
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.13	2.74	3.78	4.18	**5yr**	3.34	4.02
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.81	2.40	3.07	4.36	4.85	**10yr**	3.86	4.67
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.34	1.86	2.10	2.78	3.56	4.68	5.89	**25yr**	4.14	5.66
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.35	3.10	3.97	5.29	6.80	**50yr**	4.68	6.54
100yr	0.53	0.81	1.01	1.46	2.01	2.47	**100yr**	1.73	2.42	2.63	3.45	4.40	5.94	7.86	**100yr**	5.25	7.56
200yr	0.59	0.89	1.13	1.63	2.27	2.82	**200yr**	1.96	2.75	2.93	3.84	4.86	6.65	9.08	**200yr**	5.88	8.73
500yr	0.68	1.02	1.31	1.90	2.71	3.37	**500yr**	2.34	3.29	3.40	4.40	5.56	7.72	10.98	**500yr**	6.83	10.55

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.76	1.06	1.25	1.75	2.21	2.99	3.14	**1yr**	2.64	3.02
2yr	0.33	0.52	0.64	0.86	1.06	1.26	**2yr**	0.92	1.24	1.48	1.96	2.51	3.42	3.68	**2yr**	3.02	3.54
5yr	0.40	0.61	0.76	1.04	1.33	1.61	**5yr**	1.15	1.58	1.88	2.53	3.24	4.32	4.93	**5yr**	3.82	4.74
10yr	0.46	0.71	0.88	1.24	1.60	1.96	**10yr**	1.38	1.92	2.27	3.10	3.93	5.32	6.16	**10yr**	4.71	5.92
25yr	0.57	0.87	1.08	1.54	2.02	2.55	**25yr**	1.75	2.49	2.94	4.05	5.11	7.75	8.27	**25yr**	6.86	7.95
50yr	0.66	1.01	1.26	1.80	2.43	3.09	**50yr**	2.10	3.02	3.57	4.97	6.25	9.70	10.36	**50yr**	8.58	9.96
100yr	0.78	1.17	1.47	2.13	2.91	3.76	**100yr**	2.52	3.67	4.34	6.11	7.66	12.13	12.98	**100yr**	10.74	12.48
200yr	0.91	1.37	1.73	2.50	3.49	4.58	**200yr**	3.01	4.48	5.29	7.51	9.38	15.21	16.28	**200yr**	13.46	15.65
500yr	1.12	1.67	2.15	3.12	4.44	5.93	**500yr**	3.83	5.80	6.86	9.91	12.30	20.54	21.96	**500yr**	18.18	21.11

Powered by ACIS Northeast Regional Climate Center

Coastal and Great Bay Region Precipitation Increase		
	24-hr Storm Event (in.)	24-hr Storm Event + 15% (in.)
1 Year	2.65	3.05
2 Year	3.20	3.68
10 Year	4.85	5.58
25 Year	6.15	7.07
50 Year	7.36	8.46
100 Year	8.82	10.14

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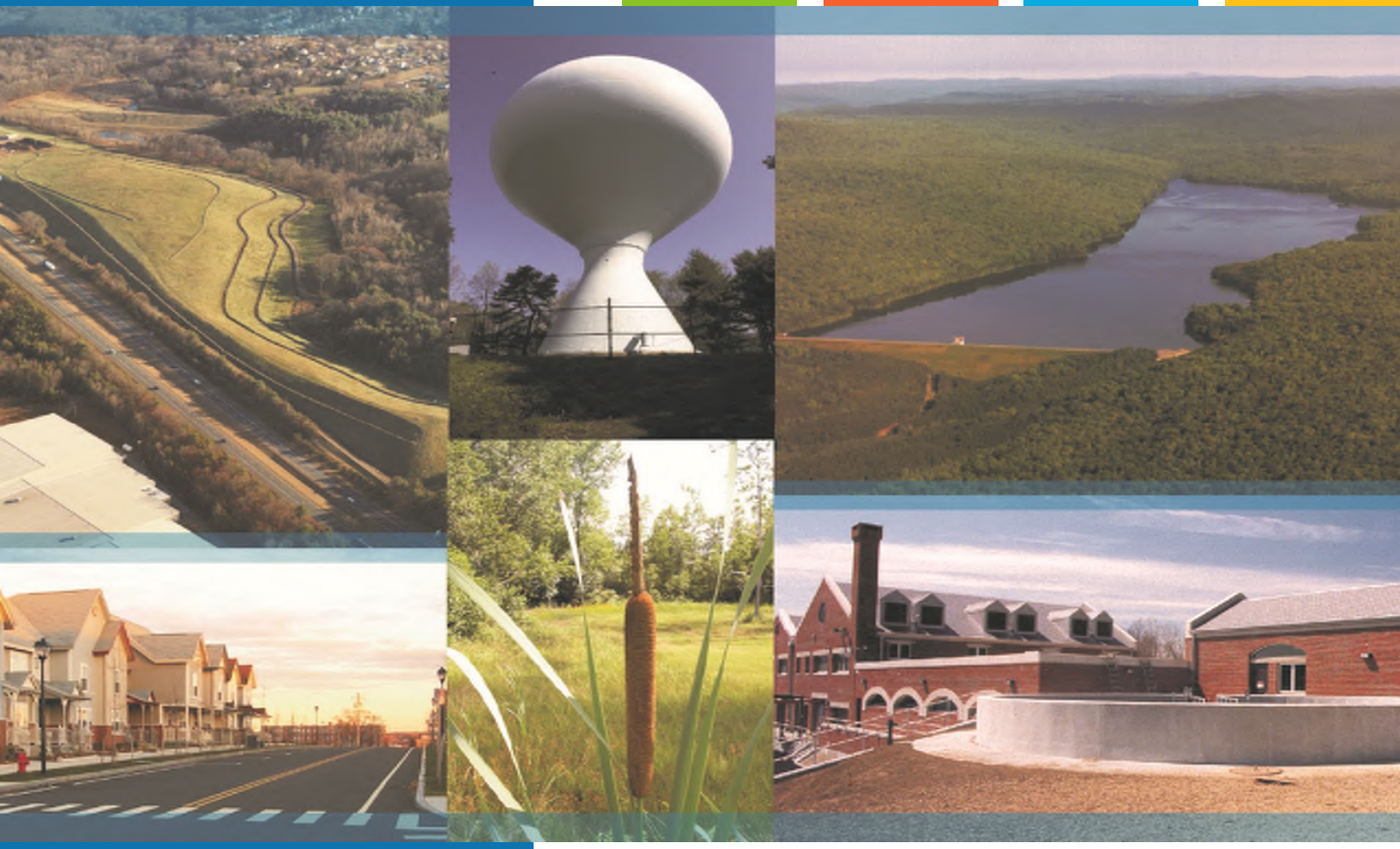

Proposed Multi-Family Development
100 Durgin Lane
Portsmouth, NH

Long-Term Operation & Maintenance Plan

100 Durgin Lane Owner, LLC

April 22, 2024

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Table of Contents

Tighe&Bond

Section 1
Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

1.1 Contact/Responsible Party

100 Durgin Lane Owner, LLC
1 Marina Park Drive, Suite 1500
Boston, MA 02210

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

1.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catchbasin Cleaning
- Pavement Sweeping
- Underground Detention System
- Rain Garden
- Contech Jellyfish Filtration System
- Contech CDS Units
- Rip Rap Outlets

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

1.3 Overall Site Operation & Maintenance Schedule

Maintenance Item	Frequency of Maintenance
Litter/Debris Removal	Weekly
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	Annually
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring
Catch Basin (CB) Cleaning - CB to be cleaned of solids and oils.	Annually
Rain Gardens - Trash and debris to be removed. - Any required maintenance shall be addressed.	Two (2) times annually After any rainfall event exceeding 2.5" in a 24-hr period
Contech Jelly Fish Units	In accordance with Manufacturer's Recommendations
Contech CDS Units®	In accordance with Manufacturer's Recommendations
Underground Detention Basin - Visual observation of sediment levels within system	Annually

1.3.1 Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

1.4 Underground Detention System Maintenance Requirements

Underground Detention System Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor inlet and outlet structures for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed
Deep Sump Catchbasins	Two (2) times annually	- Removal of sediment as warranted by inspection - No less than once annually
Monitor detention system for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed

1.5 Rain Garden Maintenance Requirements

Rain Garden Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor to ensure that Rain Gardens function effectively after storms	Two (2) times annually and after any rainfall event exceeding 2.5" in a 24-hr period	- Trash and debris to be removed - Any required maintenance shall be addressed
Inspect Vegetation	Annually	- Inspect the condition of all Rain Garden vegetation - Prune back overgrowth - Replace dead vegetation - Remove any invasive species
Inspect Drawdown Time - The system shall drawdown within 48-hours following a rainfall event.	Annually	- Assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.

1.6 Contech Jellyfish Filter System Maintenance Requirements

Contech Jellyfish Filter System Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Inspect vault for sediment build up, static water, plugged media and bypass condition	One (1) time annually and after any rainfall event exceeding 2.5" in a 24-hr period	Maintenance required for any of the following: - >4" of sediment on the vault floor - >1/4" of sediment on top of the cartridge - .4" of static water above the cartridge bottom more than 24 hours after a rain event - If pore space between media is absent. - If vault is in bypass condition during an average rainfall event.
Replace Cartridges	As required by inspection, 1–5 years.	- Remove filter cartridges per manufacturer methods. - Vacuum sediment from vault. - Install new cartridges per manufacturer methods

1.7 Contech CDS Unit Maintenance Requirements

Contech Cascade Separator® Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Visual Inspection	Twice per year at a minimum (spring and fall)	-Visually inspect for blockages or obstruction in the inlet chamber, flumes or outlet channel - Sediment removal once 50% of maximum storage has been reached

1.8 Rip Rap Maintenance Requirements

Rip Rap Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Visual Inspection	Annually	- Visually inspect for damage and deterioration - Repair damages immediately

1.9 Snow & Ice Management for Standard Asphalt and Walkways

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical (refer to the attached for de-icing application rate guideline from the New Hampshire Stormwater Management Manual, Volume 2,).

Deicing Application Rate Guidelines

24' of pavement (typcial two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Anti-icing Route Data Form				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

Section 2
Chloride Management Plan

Winter Operational Guidelines

The following Chloride Management Plan is for the 100 Durgin Lane - Multifamily Development in Portsmouth, New Hampshire. The Plan includes operational guidelines including: winter operator certification requirements, weather monitoring, equipment calibration requirements, mechanical removal, and salt usage evaluation and monitoring. Due to the evolving nature of chloride management efforts, the Chlorides Management Plan will be reviewed annually, in advance of the winter season, to reflect the current management standards.

2.1 Background Information

The 100 Durgin Lane - Multifamily Development located within the Upper Hodgson Brook Watershed in Newington and Portsmouth, New Hampshire. The Upper Hodgson Brook is identified as a chloride-impaired waterbody.

2.2 Operational Guidelines – Chloride Management

All 100 Durgin Lane Owner LLC private contractors engaged at the 100 Durgin Lane premises for the purposes of winter operational snow removal and surface maintenance, are responsible for assisting in meeting compliance for the following protocols. 100 Durgin Lane Owner LLC private contractors are expected to minimize the effects of the use of de-icing, anti-icing and pretreatment materials by adhering to the strict guidelines outlined below.

The 100 Durgin Lane Owner LLC winter operational de-icing, anti-icing and pretreatment materials will adhere to the following protocols:

2.2.1 Winter Operator Certification Requirements

All private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance must be current UNHT2 Green SnowPro Certified operators or equivalent and will use only pre-approved methods for spreading abrasives on private roadways and parking lots. All private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance shall provide to 100 Durgin Lane Owner LLC management two copies of the annual UNHT2 Green SnowPro certificate or equivalent for each operator utilized on the 100 Durgin Lane premises. The annual UNHT2 Green SnowPro certificate or equivalent for each operator will be available on file in the 100 Durgin Lane Facilities Management office and be present in the vehicle/carrier at all times.

2.2.2 Improved Weather Monitoring

100 Durgin Lane Owner LLC will coordinate weather information for use by winter maintenance contractors. This information in conjunction with site specific air/ground surface temperature monitoring will ensure that private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance will make more informed decisions as to when and to what extent de-icing, anti-icing and pretreatment materials are applied to private roadways, sidewalks, and parking lots.

2.2.3 Equipment Calibration Requirements

All equipment utilized on the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance will conform to the following calibration requirements.

2.2.3.1 Annual Calibration Requirements

All private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of the annual calibration report for each piece of equipment utilized on the 100 Durgin Lane premises. Each calibration report shall include the vehicle/carrier VIN number and the serial numbers for each component including, but not limited to, spreader control units, salt aggregate spreader equipment, brining/pre-wetting equipment, ground speed orientation unit, and air/ground surface temperature monitor. Annual calibration reports will be available on file in the 100 Durgin Lane Facilities Management office and be present in the vehicle/carrier at all times.

Prior to each use, each vehicle/carrier operator will perform a systems check to verify that unit settings remain within the guidelines established by the 100 Durgin Lane Owner LLC Management Team in order to accurately dispense material. All private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance will be subject to spot inspections by members of the 100 Durgin Lane Owner LLC Management Team to ensure that each vehicle/carrier is operating in a manner consistent with the guidelines set herein or State and Municipal regulations. All units will be recalibrated, and the updated calibration reports will be provided each time repairs or maintenance procedures affect the hydraulic system of the vehicle/carrier.

2.2.4 Increased Mechanical Removal Capabilities

All private contractors engaged at the 100 Durgin Lane premises will endeavor to use mechanical removal means on a more frequent basis for roadways, parking lots and sidewalks. Dedicating more manpower and equipment to increase snow removal frequencies prevents the buildup of snow and the corresponding need for de-icing, anti-icing and pretreatment materials. Shortened maintenance

routes, with shorter service intervals, will be used to stay ahead of snowfall. Minimized snow and ice packing will reduce the need for abrasives, salt aggregates, and/or brining solution to restore surfaces back to bare surface states after winter precipitation events.

After storm events the 100 Durgin Lane Owner LLC management team will be responsible for having the streets swept to recapture un-melted de-icing materials, when practical.

2.3 Salt Usage Evaluation and Monitoring

All private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of a storm report, which includes detailed information regarding treatment areas and the use of de-icing, anti- icing and pretreatment materials applied for the removal of snow and surface maintenance on the 100 Durgin Lane premises. 100 Durgin Lane Owner LLC will maintain copies of Summary Documents, including copies of the Storm Reports, operator certifications, equipment used for roadway and sidewalk winter maintenance, calibration reports and amount of de-icing materials used.

2.4 Summary

The above-described methodologies are incorporated into the 100 Durgin Lane Operational Manual and are to be used to qualify and retain all private contractors engaged at the 100 Durgin Lane premises for the purpose of winter operational snow removal and surface maintenance. This section of the Manual, is intended to be an adaptive management document that is modified as required based on experience gained from past practices and technological advancements that reflect chloride BMP standards. All 100 Durgin Lane Owner LLC employees directly involved with winter operational activities are required to review this document and the current standard Best Management Practices published by the UNH Technology Transfer (T2) program annually. All 100 Durgin Lane Owner LLC employees directly involved with winter operational activities, and all private contractors engaged at the 100 Durgin Lane premises for the purposes of winter operational snow removal and surface maintenance, must be current UNHT2 Green SnowPro Certified operators or equivalent and undergo the necessary requirements to maintain this certification annually.

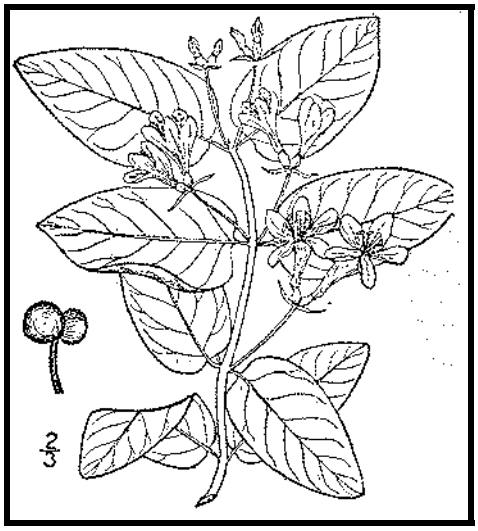
Section 3
Invasive Species

With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem is classified as an invasive species. Refer to the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plants for recommended methods to dispose of invasive plant species.

UNIVERSITY of NEW HAMPSHIRE COOPERATIVE EXTENSION

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

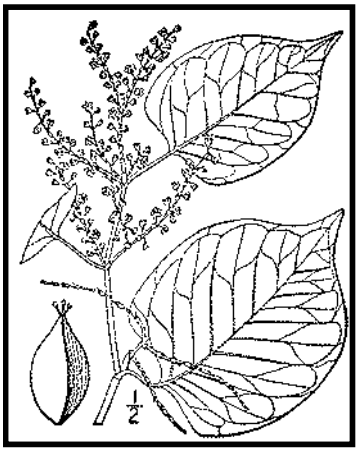
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

<table>
<tr><th>Non-Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">garlic mustard
(Alliaria petiolata)
spotted knapweed
(Centaurea maculosa)
▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling.
black swallow-wort
(Cynanchum nigrum)
▪ May cause skin rash. Wear gloves and long sleeves when handling.
pale swallow-wort
(Cynanchum rossicum)
giant hogweed
(Heracleum mantegazzianum)
▪ Can cause major skin rash. Wear gloves and long sleeves when handling.
dame’s rocket
(Hesperis matronalis)
perennial pepperweed
(Lepidium latifolium)
purple loosestrife
(Lythrum salicaria)
Japanese stilt grass
(Microstegium vimineum)
mile-a-minute weed
(Polygonum perfoliatum)</td><td rowspan="2">Fruits and Seeds
  </td><td>Prior to flowering
Depends on scale of infestation
Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>During and following flowering
Do nothing until the following year or remove flowering heads and bag and let rot.

Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>common reed
(Phragmites australis)
Japanese knotweed
(Polygonum cuspidatum)
Bohemian knotweed
(Polygonum x bohemicum)</td><td>Fruits, Seeds, Plant Fragments
Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn’t materially influence disposal activities.</td><td>Small infestation
▪ Bag all plant material and let rot.
▪ Never pile and use resulting material as compost.
▪ Burn.

Large infestation
▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile.
▪ Monitor and remove any sprouting material.
▪ Pile, let dry, and burn.</td></tr>
</table>

January 2010

Managing Invasive Plants
Methods of Control

by Christopher Mattrick

They're out there. The problem of invasive plants is as close as your own backyard.

Maybe a favorite dogwood tree is struggling in the clutches of an Oriental bittersweet vine. Clawlike canes of multiflora rose are scratching at the side of your house. That handsome burning bush you planted few years ago has become a whole clump in practically no time … but what happened to the azalea that used to grow right next to it?

If you think controlling or managing invasive plants on your property is a daunting task, you're not alone. Though this topic is getting lots of attention from federal, state, and local government agencies, as well as the media, the basic question for most homeowners is simply, "How do I get rid of the invasive plants in my own landscape?" Fortunately, the best place to begin to tackle this complex issue is in our own backyards and on local conservation lands. We hope the information provided here will help you take back your yard. We won't kid you—there's some work involved, but the payoff in beauty, wildlife habitat, and peace of mind makes it all worthwhile.

PLAN OF ATTACK

Three broad categories cover most invasive plant control: mechanical, chemical, and biological. Mechanical control means physically removing plants from the environment through cutting or pulling. Chemical control uses herbicides to kill plants and inhibit regrowth. Techniques and chemicals used will vary depending on the species. Biological controls use plant diseases or insect predators, typically from the targeted species' home range. Several techniques may be effective in controlling a single species, but there is usually one preferred method—the one that is most resource efficient with minimal impact on non-target species and the environment.

Spraying chemicals to control invasive plants.

MECHANICAL CONTROL METHODS

Mechanical treatments are usually the first ones to look at when evaluating an invasive plant removal project. These procedures do not require special licensing or introduce chemicals into the environment. They do require permits in some situations, such as wetland zones. [See sidebar on page 23.] Mechanical removal is highly labor intensive and creates a significant amount of site disturbance, which can lead to rapid reinvasion if not handled properly.

Pulling and digging

Many herbaceous plants and some woody species (up to about one inch in diameter), if present in limited quantities, can be pulled out or dug up. It's important to remove as much of the root system as possible; even a small portion can restart the infestation. Pull plants by hand or use a digging fork, as shovels can shear off portions of the root system, allowing for regrowth. To remove larger woody stems (up to about three inches in diameter), use a Weed Wrench™, Root Jack, or Root Talon. These tools, available from several manufacturers, are designed to remove the aboveground portion of the plant as well as the entire root system. It's easiest to undertake this type of control in the spring or early summer when soils are moist and plants come out more easily.

Using tools to remove woody stems.

Volunteers hand pulling invasive plants.

Suffocation

Try suffocating small seedlings and herbaceous plants. Place double or triple layers of thick UV-stabilized plastic sheeting, either clear or black (personally I like clear), over the infestation and secure the plastic with stakes or weights. Make sure the plastic extends at least five feet past the edge of infestation on all sides. Leave the plastic in place for at least two years. This technique will kill everything beneath the plastic—invasive and non-invasive plants alike. Once the plastic is removed, sow a cover crop such as annual rye to prevent new invasions.

Cutting or mowing

This technique is best suited for locations you can visit and treat often. To be effective, you will need to mow or cut infested areas three or four times a year for up to five years. The goal is to interrupt the plant's ability to photosynthesize by removing as much leafy material as possible. Cut the plants at ground level and remove all resulting debris from the site. With this treatment, the infestation may actually appear to get worse at first, so you will need to be as persistent as the invasive plants themselves. Each time you cut the plants back, the root system gets slightly larger, but must also rely on its energy reserves to push up new growth. Eventually, you will exhaust these reserves and the plants will die. This may take many years, so you have to remain committed to this process once you start; otherwise the treatment can backfire, making the problem worse.

CHEMICAL CONTROL METHODS

Herbicides are among the most effective and resource-efficient tools to treat invasive species. Most of the commonly known invasive plants can be treated using only two herbicides—glyphosate (the active ingredient in Roundup™ and Rodeo™) and triclopyr (the active ingredient in Brush-B-Gone™ and Garlon™). Glyphosate is non-selective, meaning it kills everything it contacts. Triclopyr is selective and does not injure monocots (grasses, orchids, lilies, etc.). Please read labels and follow directions precisely for both environmental and personal safety. These are relatively benign herbicides, but improperly used they can still cause both short- and long-term health and environmental problems. Special aquatic formulations are required when working in wetland zones. You are required to have a state-issued pesticide applicator license when applying these chemicals on land you do not own. To learn more about the pesticide regulations in your state, visit or call your state's pesticide control division, usually part of the state's Department of Agriculture. In wetland areas, additional permits are usually required by the Wetlands Protection Act. [See sidebar on page 23.]

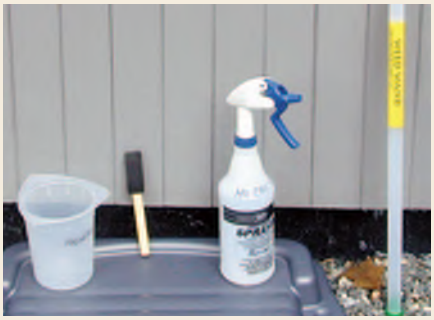
Foliar applications

When problems are on a small scale, this type of treatment is usually applied with a backpack sprayer or even a small handheld spray bottle. It is an excellent way to treat large monocultures of herbaceous plants, or to spot-treat individual plants that are difficult to remove mechanically, such as goutweed, swallowwort, or purple loosestrife. It is also an effective treatment for some woody species, such as Japanese barberry, multiflora rose, Japanese honeysuckle, and Oriental bittersweet that grow in dense masses or large numbers over many acres. The herbicide mixture should contain no more than five percent of the active ingredient, but it is important to follow the instructions on the product label. This treatment is most effective when the plants are actively growing, ideally when they are flowering or beginning to form fruit. It has been shown that plants are often more susceptible to this type of treatment if the existing stems are cut off and the regrowth is treated. This is especially true for Japanese knotweed. The target plants should be thoroughly wetted with the herbicide on a day when there is no rain in the forecast for the next 24 to 48 hours.

Cut stem treatments

There are several different types of cut stem treatments, but here we will review only the one most commonly used. All treatments of this type require a higher concentration of the active ingredient than is used in foliar applications. A 25 to 35 percent solution of the active ingredient should be used for cut stem treatments, but read and follow all label instructions. In most cases, the appropriate herbicide is glyphosate, except for Oriental bittersweet, on which triclopyr should be used. This treatment can be used on all woody stems, as well as phragmites and Japanese knotweed.

For woody stems, treatments are most effective when applied in the late summer and autumn—between late August and November. Stems should be cut close to the ground, but not so close that you will lose track of them. Apply herbicide directly to the cut surface as soon as possible after cutting. Delaying the application will reduce the effectiveness of the treatment. The herbicide can be applied with a sponge, paintbrush, or spray bottle.



Cut stem treatment tools.

For phragmites and Japanese knotweed, treatment is the same, but the timing and equipment are different. Plants should be treated anytime from mid-July through September, but the hottest, most humid days of the summer are best for this method. Cut the stems halfway between two leaf nodes at a comfortable height. Inject (or squirt) herbicide into the exposed hollow stem. All stems in an infestation should be treated. A wash bottle is the most effective application tool, but you can also use an eyedropper, spray bottle, or one of the recently developed high-tech injection systems.

It is helpful to mix a dye in with the herbicide solution. The dye will stain the treated surface and mark the areas that have been treated, preventing unnecessary reapplication. You can buy a specially formulated herbicide dye, or use food coloring or laundry dye.

There is not enough space in this article to describe all the possible ways to control invasive plants. You can find other treatments, along with more details on the above-described methods, and species-specific recommendations on The Nature Conservancy Web site (tncweeds.ucdavis.edu). An upcoming posting on the Invasive Plant Atlas of New England (www.ipane.org) and the New England Wild Flower Society (www.newfs.org) Web sites will also provide further details.

Hollow stem injection tools.

Biological controls—still on the horizon

Biological controls are moving into the forefront of control methodology, but currently the only widely available and applied biocontrol relates to purple loosestrife. More information on purple loosestrife and other biological control projects can be found at www.invasiveplants.net.

DISPOSAL OF INVASIVE PLANTS

Proper disposal of removed invasive plant material is critical to the control process. Leftover plant material can cause new infestations or reinfest the existing project area. There are many appropriate ways to dispose of invasive plant debris. I've listed them here in order of preference.

1. **Burn it**—Make a brush pile and burn the material following local safety regulations and restrictions, or haul it to your town's landfill and place it in their burn pile.

2. **Pile it**—Make a pile of the woody debris. This technique will provide shelter for wildlife as well.

3. **Compost it**—Place all your herbaceous invasive plant debris in a pile and process as compost. Watch the pile closely for resprouts and remove as necessary. Do not use the resulting compost in your garden. The pile is for invasive plants only.

Injecting herbicide into the hollow stem of phragmites.

4. **Dry it/cook it**—Place woody debris out on your driveway or any asphalt surface and let it dry out for a month. Place herbaceous material in a doubled-up black trash bag and let it cook in the sun for one month. At the end of the month, the material should be non-viable and you can dump it or dispose of it with the trash. The method assumes there is no viable seed mixed in with the removed material.

Care should be taken in the disposal of all invasive plants, but several species need extra attention. These are the ones that have the ability to sprout vigorously from plant fragments and should ideally be burned or dried prior to disposal: Oriental bittersweet, multiflora rose, Japanese honeysuckle, phragmites, and Japanese knotweed.

Christopher Mattrick is the former Senior Conservation Programs Manager for New England Wild Flower Society, where he managed conservation volunteer and invasive and rare plant management programs. Today, Chris and his family work and play in the White Mountains of New Hampshire, where he is the Forest Botanist and Invasive Species Coordinator for the White Mountain National Forest.

Controlling Invasive Plants in Wetlands

Special concerns; special precautions

Control of invasive plants in or around wetlands or bodies of water requires a unique set of considerations. Removal projects in wetland zones can be legal and effective if handled appropriately. In many cases, herbicides may be the least disruptive tools with which to remove invasive plants. You will need a state-issued pesticide license to apply herbicide on someone else's property, but all projects in wetland or aquatic systems fall under the jurisdiction of the Wetlands Protection Act and therefore require a permit. ***Yes, even hand-pulling that colony of glossy buckthorn plants from your own swampland requires a permit.*** Getting a permit for legal removal is fairly painless if you plan your project carefully.

1. Investigate and understand the required permits and learn how to obtain them. The entity charged with the enforcement of the Wetlands Protection Act varies from state to state. For more information in your state, contact:

   ME: Department of Environmental Protection
   www.state.me.us/dep/blwq/docstand/nrpapage.htm

   NH: Department of Environmental Services
   www.des.state.nh.us/wetlands/

   VT: Department of Environmental Conservation
   www.anr.state.vt.us/dec/waterq/permits/htm/pm_cud.htm

   MA: Consult your local town conservation commission

   RI: Department of Environmental Management
   www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm

   CT: Consult your local town Inland Wetland and Conservation Commission

2. Consult an individual or organization with experience in this area. Firsthand experience in conducting projects in wetland zones and navigating the permitting process is priceless. Most states have wetland scientist societies whose members are experienced in working in wetlands and navigating the regulations affecting them. A simple Web search will reveal the contact point for these societies. Additionally, most environmental consulting firms and some nonprofit organizations have skills in this area.

3. Develop a well-written and thorough project plan. You are more likely to be successful in obtaining a permit for your project if you submit a project plan along with your permit application. The plan should include the reasons for the project, your objectives in completing the project, how you plan to reach those objectives, and how you will monitor the outcome.

4. Ensure that the herbicides you plan to use are approved for aquatic use. Experts consider most herbicides harmful to water quality or aquatic organisms, but rate some formulations as safe for aquatic use. Do the research and select an approved herbicide, and then closely follow the instructions on the label.

5. If you are unsure—research, study, and most of all, ask for help. Follow the rules. The damage caused to aquatic systems by the use of an inappropriate herbicide or the misapplication of an appropriate herbicide not only damages the environment, but also may reduce public support for safe, well-planned projects.

Section 4
Annual Updates and Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including NHDES.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth on an annual basis.

Stormwater Management Report						
Multifamily Development		**100 Durgin Lane**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
Deep Sump CB's			❑Yes ❑No			
Underground Detention Basin			❑Yes ❑No			
Jellyfish Filter 1			❑Yes ❑No			
Jellyfish Filter 2			❑Yes ❑No			
CDS Unit 1			❑Yes ❑No			
CDS Unit 2			❑Yes ❑No			
Rain Garden 1			❑Yes ❑No			
Rain Garden 2			❑Yes ❑No			
Rain Garden 3			❑Yes ❑No			

CONTECH®
ENGINEERED SOLUTIONS

Jellyfish® Filter
Owner's Manual

Jellyfish® Filter

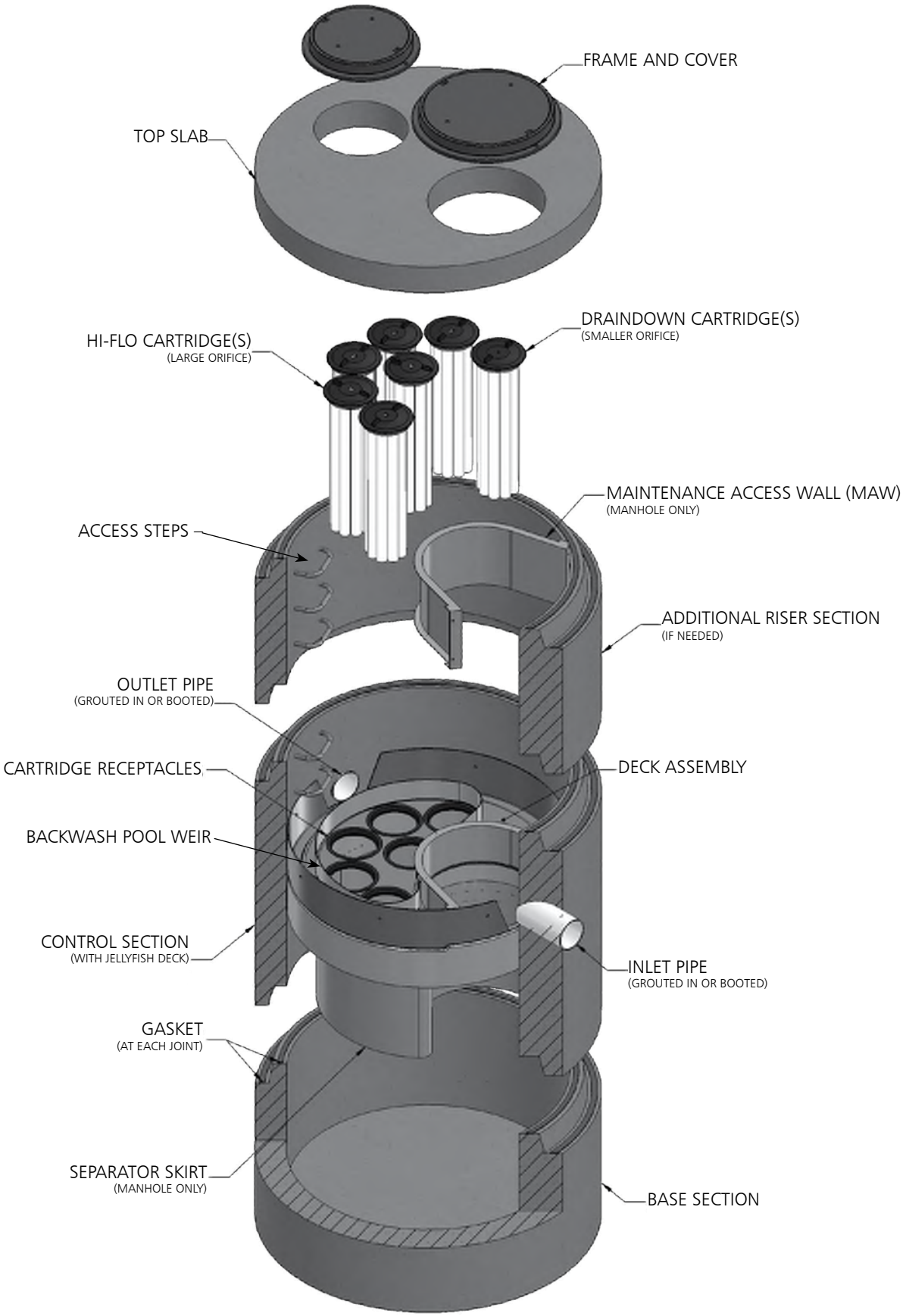
Table of Contents

THANK YOU FOR PURCHASING THE JELLYFISH® FILTER!

Contech Engineered Solutions would like to thank you for selecting the Jellyfish Filter to meet your project's stormwater treatment needs. With proper inspection and maintenance, the Jellyfish Filter is designed to deliver ongoing, high levels of stormwater pollutant removal.

If you have any questions, please feel free to call us or e-mail us:

Contech Engineered Solutions
9025 Centre Pointe Drive, Suite 400 | West Chester, OH 45069
513-645-7000 | 800-338-1122
www.ContechES.com
info@conteches.com


FRAME AND COVER
TOP SLAB
DRAINDOWN CARTRIDGE(S)
(SMALLER ORIFICE)
HI-FLO CARTRIDGE(S)
(LARGE ORIFICE)
MAINTENANCE ACCESS WALL (MAW)
(MANHOLE ONLY)
ACCESS STEPS
ADDITIONAL RISER SECTION
(IF NEEDED)
OUTLET PIPE
(GROUTED IN OR BOOTED)
CARTRIDGE RECEPTACLES
DECK ASSEMBLY
BACKWASH POOL WEIR
CONTROL SECTION
(WITH JELLYFISH DECK)
INLET PIPE
(GROUTED IN OR BOOTED)
GASKET
(AT EACH JOINT)
SEPARATOR SKIRT
(MANHOLE ONLY)
BASE SECTION

WARNINGS / CAUTION

1. FALL PROTECTION may be required.
2. WATCH YOUR STEP if standing on the Jellyfish Filter Deck at any time; Great care and safety must be taken while walking or maneuvering on the Jellyfish Filter Deck. Attentive care must be taken while standing on the Jellyfish Filter Deck at all times to prevent stepping onto a lid, into or through a cartridge hole or slipping on the deck.
3. The Jellyfish Filter Deck can be SLIPPERY WHEN WET.
4. If the Top Slab, Covers or Hatches have not yet been installed, or are removed for any reason, great care must be taken to NOT DROP ANYTHING ONTO THE JELLYFISH FILTER DECK. The Jellyfish Filter Deck and Cartridge Receptacle Rings can be damaged under high impact loads. This type of activity voids all warranties. All damaged items to be replaced at owner's expense.
5. Maximum deck load 2 persons, total weight 450 lbs.

Safety Notice

Jobsite safety is a topic and practice addressed comprehensively by others. The inclusions here are intended to be reminders to whole areas of Safety Practice that are the responsibility of the Owner(s), Manager(s) and Contractor(s). OSHA and Canadian OSH, and Federal, State/Provincial, and Local Jurisdiction Safety Standards apply on any given site or project. The knowledge and applicability of those responsibilities is the Contractor's responsibility and outside the scope of Contech Engineered Solutions.

Confined Space Entry

Secure all equipment and perform all training to meet applicable local and OSHA regulations regarding confined space entry. It is the Contractor's or entry personnel's responsibility to proceed safely at all times.

Personal Safety Equipment

Contractor is responsible to provide and wear appropriate personal protection equipment as needed including, but not limited to safety boots, hard hat, reflective vest, protective eyewear, gloves and fall protection equipment as necessary. Make sure all equipment is staffed with trained and/or certified personnel, and all equipment is checked for proper operation and safety features prior to use.

- Fall protection equipment
- Eye protection
- Safety boots
- Ear protection
- Gloves
- Ventilation and respiratory protection
- Hard hat
- Maintenance and protection of traffic plan

Chapter 1

1.0 – Owner Specific Jellyfish Filter Product Information

Below you will find a reference page that can be filled out according to your Jellyfish Filter specification to help you easily inspect, maintain and order parts for your system.

Owner Name:	
Phone Number:	
Site Address:	
Site GPS Coordinates/unit location:	
Unit Location Description:	
Jellyfish Filter Model No.:	
Contech Project & Sequence Number	
No. of Hi-Flo Cartridges	
No. of Cartridges:	
Length of Draindown Cartridges:	
No. of Blank Cartridge Lids:	
Bypass Configuration (Online/Offline):	

Notes:

_____

_____

_____

_____

Chapter 2

2.0 – Jellyfish Filter System Operations and Functions

The Jellyfish Filter is an engineered stormwater quality treatment technology that removes a high level and wide variety of stormwater pollutants. Each Jellyfish Filter cartridge consists of eleven membrane - encased filter elements ("filtration tentacles") attached to a cartridge head plate. The filtration tentacles provide a large filtration surface area, resulting in high flow and high pollutant removal capacity.

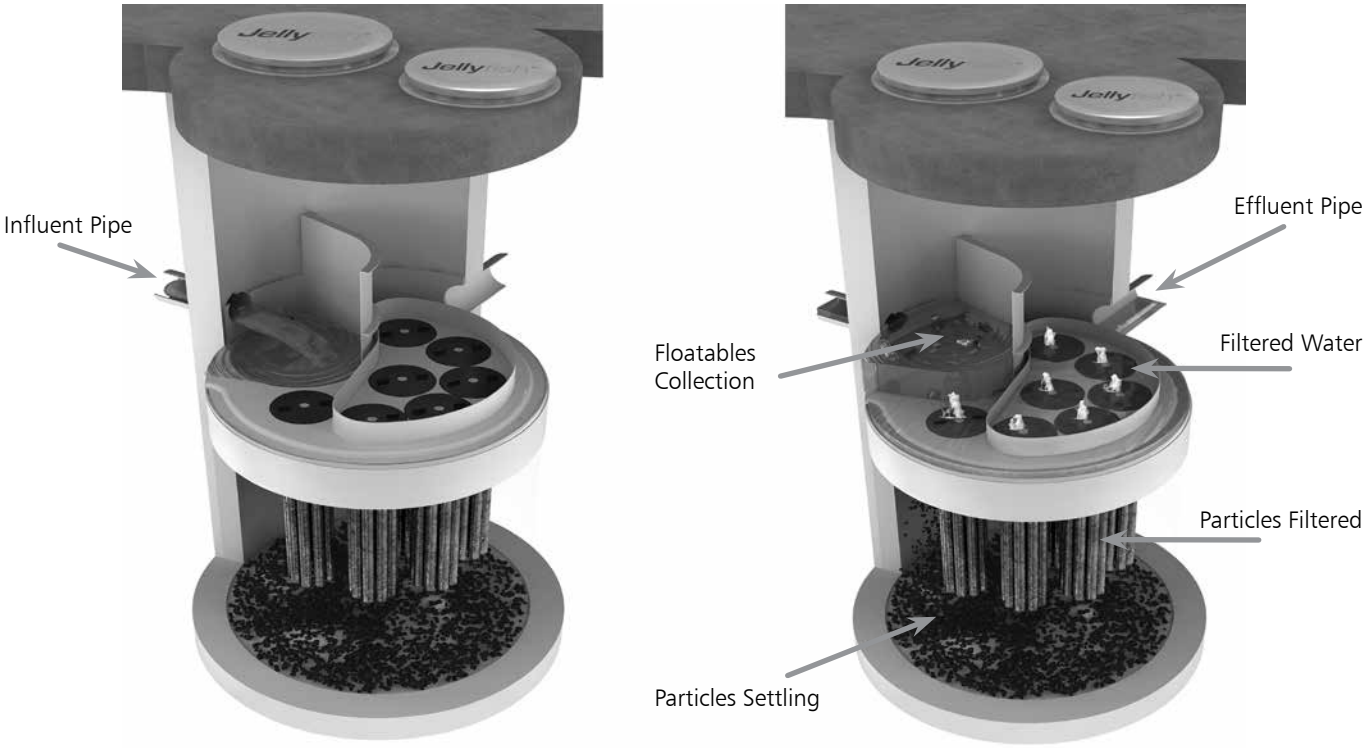
The Jellyfish Filter functions are depicted in Figure 1 below.

FIGURE 1

Jellyfish Filter Treatment Functions

Membrane Filtration

Section View with Maintenance Access Wall (MAW) Cutaway



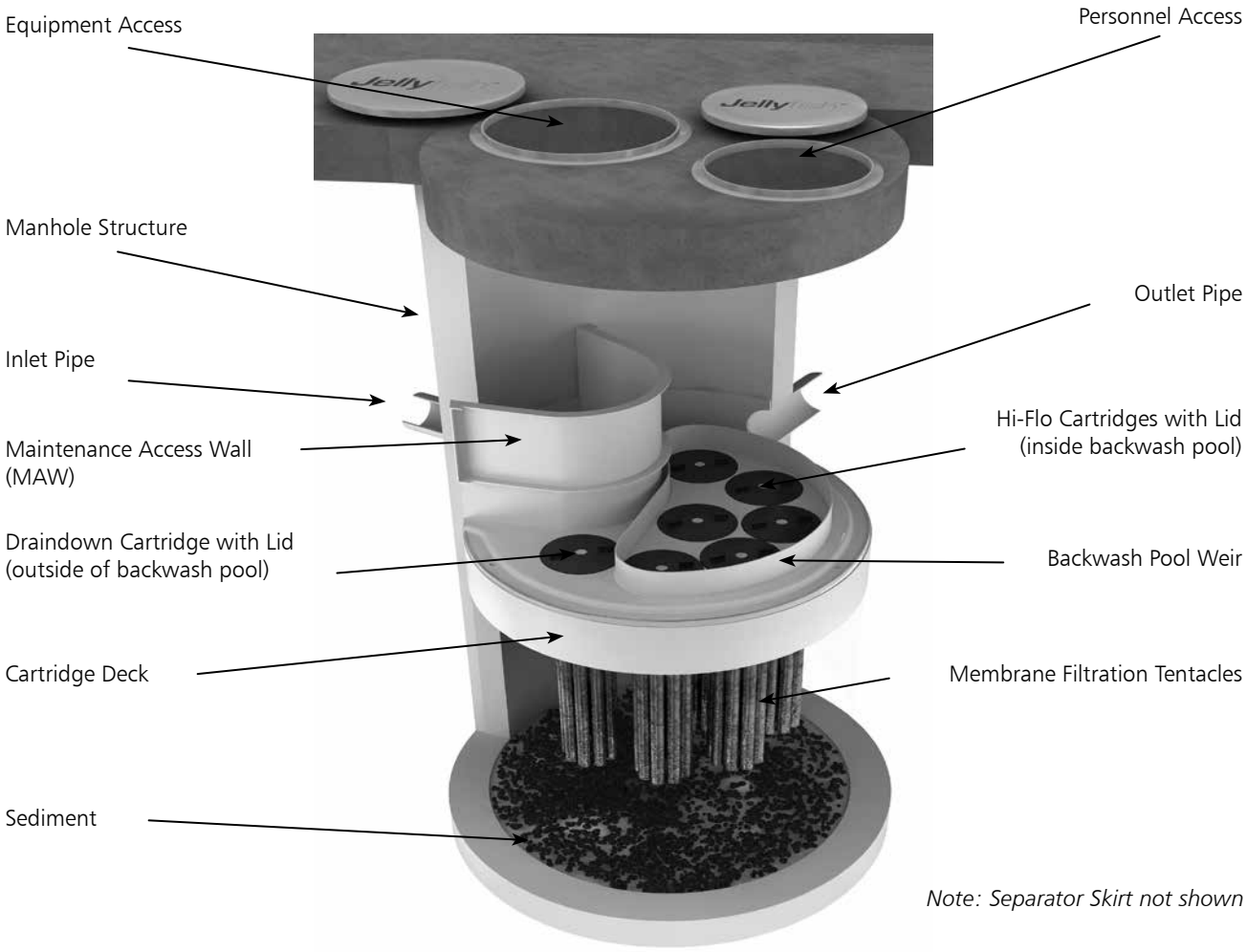
Jellyfish Filter cartridges are backwashed after each peak storm event, which removes accumulated sediment from the membranes. This backwash process extends the service life of the cartridges and increases the time between maintenance events.

For additional details on the operation and pollutant capabilities of the Jellyfish Filter please refer to additional details on our website at www.ContechES.com.

2.1 – Components and Cartridges

The Jellyfish Filter and components are depicted in Figure 2 below.

FIGURE 2 **Jellyfish Filter Components**



Tentacles are available in various lengths as depicted in Table 1 below.

Table 1 – Cartridge Lengths / Weights and Cartridge Lid Orifice Diameters

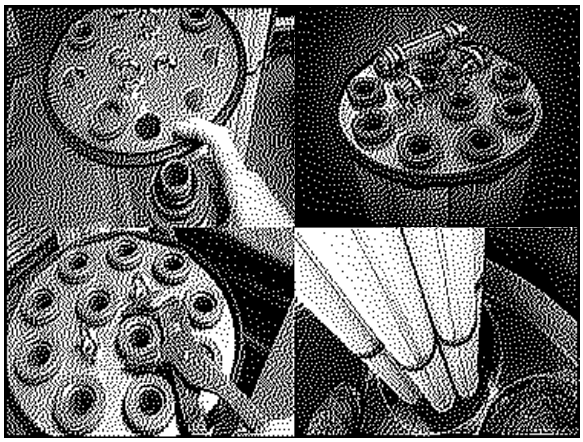
Cartridge Lengths	Dry Weight	Hi-Flo Orifice Diameter	Draindown Orifice Diameter
15 inches (381 mm)	10 lbs (4.5 kg)	35 mm	20 mm
27 inches (686 mm)	14.5 lbs (6.6 kg)	45 mm	25 mm
40 inches (1,016 mm)	19.5 lbs (8.9 kg)	55 mm	30 mm
54 inches (1,372 mm)	25 lbs (11.4 kg)	70 mm	35 mm

2.2 – Jellyfish Membrane Filtration Cartridge Assembly

The Jellyfish Filter utilizes multiple membrane filtration cartridges. Each cartridge consists of removable cylindrical filtration "tentacles" attached to a cartridge head plate. Each filtration tentacle has a threaded pipe nipple and o-ring. To attach, insert the top pipe nipples with the o-ring through the head plate holes and secure with locking nuts. Hex nuts to be hand tightened and checked with a wrench as shown below.

2.3 – Jellyfish Membrane Filtration Cartridge Installation

- Cartridge installation will be performed by trained individuals and coordinated with the installing site Contractor. Flow diversion devices are required to be in place until the site is stabilized (final paving and landscaping in place). Failure to address this step completely will reduce the time between required maintenance.
- Descend to the cartridge deck (see Safety Notice and page 3).
- Refer to Contech's submittal drawings to determine proper quantity and placement of Hi-Flo, Draindown and Blank cartridges with appropriate lids. Lower the Jellyfish membrane filtration cartridges into the cartridge receptacles within the cartridge deck. It is possible that not all cartridge receptacles will be filled with a filter cartridge. In that case, a blank headplate and blank cartridge lid (no orifice) would be installed.



Cartridge Assembly

Do not force the tentacles down into the cartridge receptacle, as this may damage the membranes. Apply downward pressure on the cartridge head plate to seat the lubricated rim gasket (thick circular gasket surrounding the circumference of the head plate) into the cartridge receptacle. (See Figure 3 for details on approved lubricants for use with rim gasket.)

- Examine the cartridge lids to differentiate lids with a small orifice, a large orifice, and no orifice.
  - Lids with a small orifice are to be inserted into the Draindown cartridge receptacles, outside of the backwash pool weir.
  - Lids with a large orifice are to be inserted into the Hi-Flo cartridge receptacles within the backwash pool weir.
  - Lids with no orifice (blank cartridge lids) and a blank headplate are to be inserted into unoccupied cartridge receptacles.
- To install a cartridge lid, align both cartridge lid male threads with the cartridge receptacle female threads before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation.

3.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.
Inspection activities are typically conducted from surface observations and include:

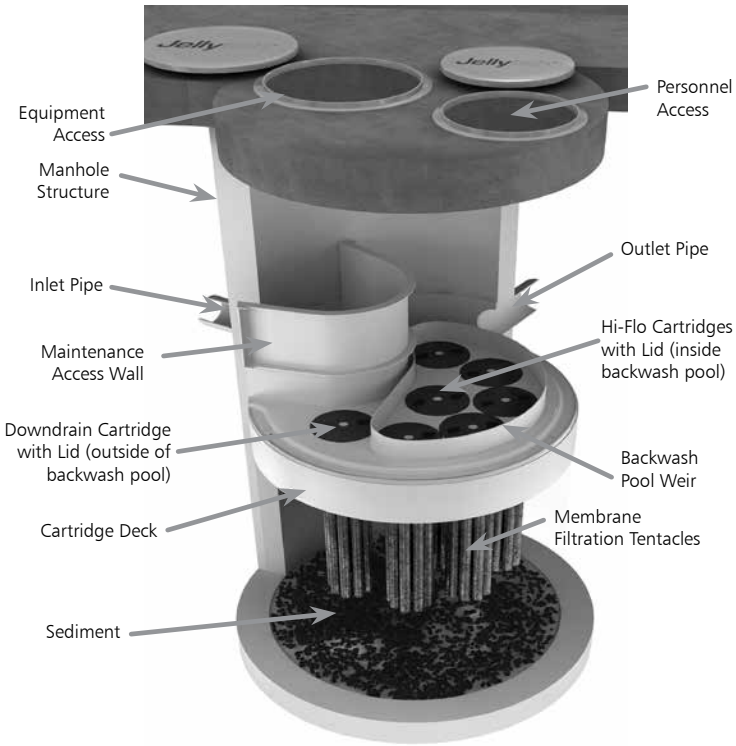
- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed

4.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent*.



Note: Separator Skirt not shown

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

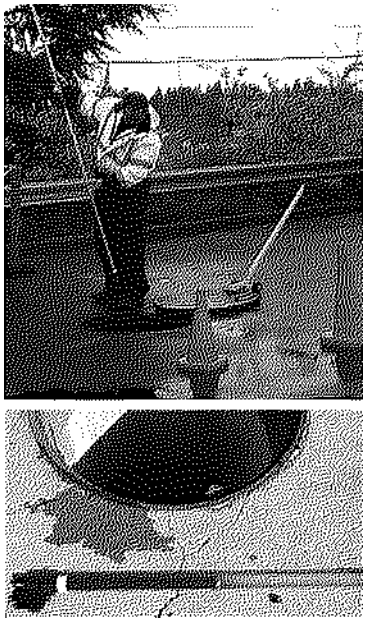
5.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

5.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

5.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

6.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

7.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

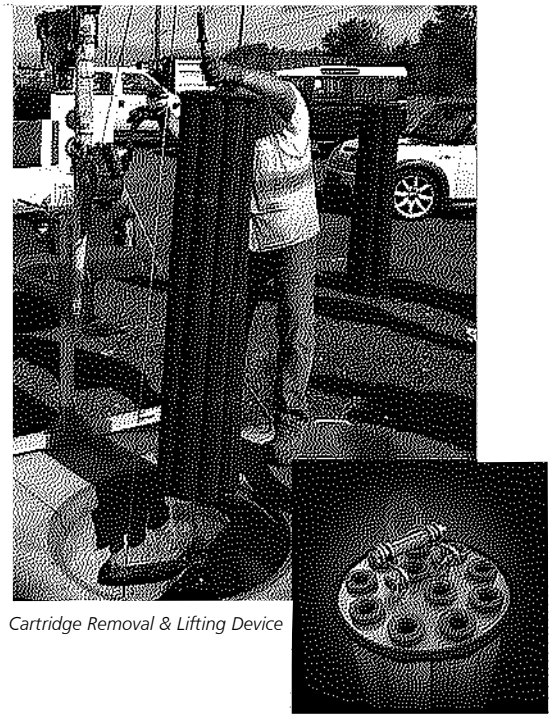
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

7.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs*.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

7.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.
2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.



Cartridge Removal & Lifting Device

3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane*.
4. Collected rinse water is typically removed by vacuum hose.

5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

7.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.
3. Pressure wash cartridge deck and receptacles to remove all

Rinsing Cartridge with Contech Rinse Tool

sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.

4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.
6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some

Vacuuming Sump Through MAW

vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

7.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. *Caution: Do not force the cartridge downward; damage may occur.*
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

7.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

7.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

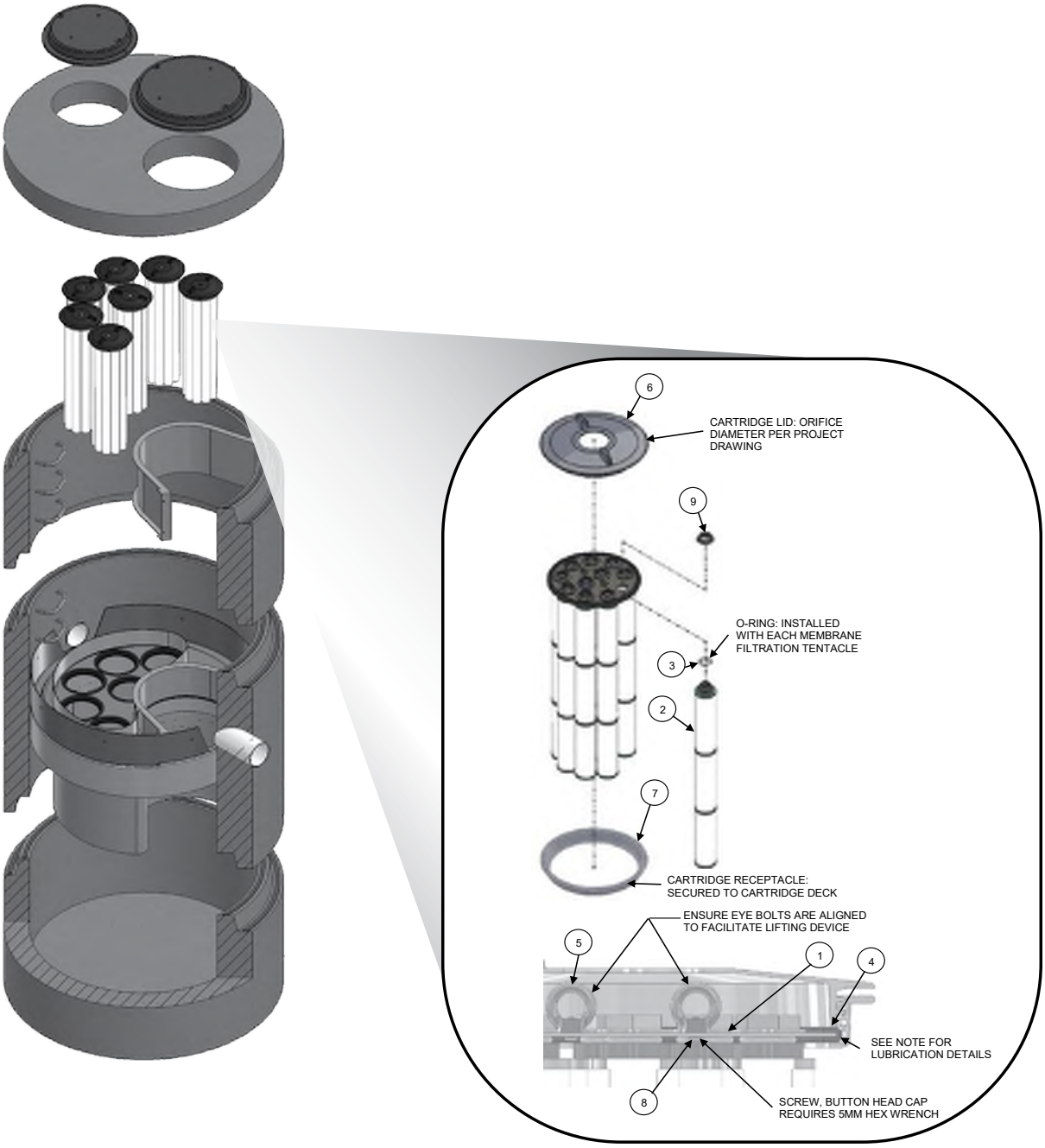


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lid (Item 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner: _____ Jellyfish Model No.:_____

Location: _____ GPS Coordinates: _____

Land Use: Commercial:_____ Industrial: _____ Service Station:_____

Road/Highway:____ Airport: _____ Residential: _____ Parking Lot:_____

Date/Time:					
Inspector:					
Maintenance Contractor:					
Visible Oil Present: (Y/N)					
Oil Quantity Removed					
Floatable Debris Present: (Y/N)					
Floatable Debris removed: (Y/N)					
Water Depth in Backwash Pool					
Cartridges externally rinsed/re-commissioned: (Y/N)					
New tentacles put on Cartridges: (Y/N)					
Sediment Depth Measured: (Y/N)					
Sediment Depth (inches or mm):					
Sediment Removed: (Y/N)					
Cartridge Lids intact: (Y/N)					
Observed Damage:					
Comments:					

CONTECH®
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CDS® Inspection and Maintenance Guide

CDS TECHNOLOGIES

Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.

CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y^3	m^3
CDS1515	3	0.9	3.0	0.9	0.5	0.4
CDS2015	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.3	3.0	0.9	1.3	1.0
CDS2020	5	1.3	3.5	1.1	1.3	1.0
CDS2025	5	1.3	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3025	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

Support

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, earth stabilization and wastewater treament products. For information, visit www.ContechES.com or call 800.338.1122

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CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

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WETLAND DELINEATION REPORT

100 Durgin Lane
Portsmouth, NH
May 8, 2024

As requested, I am pleased to provide the following report documenting the wetland delineation performed by Gove Environmental Services, Inc. in connection with the above referenced property. This is an update to my February 28th report which includs a functional assessment of the identified wetland areas. The work was conducted on three lots, referenced on the City of Portsmouth assessors' maps as lots 239-13-2, 239-16, and 239-18 which together total approximately 26.15 acres (the Site). The resource areas discussed in this report are depicted on the enclosed sketch.

WETLAND DELINEATION

The delineation work was performed on November 11, 2023 by Brendan Quigley utilizing the following standards:

1. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region,* (Version 2.0) January 2012, U.S. Army Corps of Engineers.
2. *Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils*, Version 8.2. United States Department of Agriculture (2018).
3. *New England Hydric Soils Technical Committee. 2019 Version 4, Field Indicators for Identifying Hydric Soils in New England.* New England Interstate Water Pollution Control Commission, Lowell, MA.
4. *U.S. Army Corps of Engineers National Wetland Plant List, version 3.5*. (2020)

The central part of the Site is a developed commercial property consisting of a large retail building, associated parking areas, and a connector road running between Gosling Road and Arthur Brady Drive. The developed portions of the Site are generally well defined from the surrounding vegetated areas which are a mix of forest, dense early successional shrub growth, and emergent wetland. Wetlands were identified in three main areas east and north of the developed portion of the Site. These were demarcated with seven (7) series of consecutively numbered pink "WETLAND DELINEATION" flagging as shown on the attached sketch. The following table provides a description of each wetland area.

Table 1—Wetland Descriptions

Wetland ID	Cowardin Class[1]	Description/Notes
A and C	PSS1B	These two wetlands occupy the area under the power lines in the southeast corner of the Site. They are scrub shrub wetlands with a saturated hydrology, dominated by silky dogwood, willow, and glossy buckthorn. The wetlands are isolated from one another and surrounded by development or roadway. At the time of the delineation timber mats and stabilized access had been installed in and adjacent to the wetlands for power line maintenance activities.
B	PSS1Kh	This small wetland occupies a portion of a constructed stormwater basin. It is otherwise similar to Wetlands A and C.
#1-62	PSS1E/PFO1E PEM1/5E	This wetland lies on the west side of the connector road north of the existing development. Much of the wetland lies off-site and is predominantly a cattail/phragmites marsh. The edges of this emergent wetland that lie on the Site are a mix of scrub shrub and forested wetland dominated by speckled alder, common and glossy buckthorn, and red maple. Hydrology of the wetland is seasonally flooded /saturated. The wetland also contains a shallow pond and an old weir structure that appear to be components of legacy drainage system, now nearly indistinguishable from the larger wetland. The wetland drains into Wetland E via a culvert under the connector road.
D & E	PSS1E/PFO1E PEM1/5E	These two series of flags define two on-site portions of a larger wetland situated under the power lines and extending off-site to the north and east. Like the wetland defined by flags #1-62, to which this area is connected, this is predominantly a cattail and Phragmites marsh with a limited forested and scrub shrub edge.
F	PEM1/5B	This small wetland is essentially the same as D&E but appears to have been purposely separated from the main wetland by construction of a dyke and weir like the one contained in the #1-62 wetland. Though its intended function is not clear this is also likely part of a legacy drainage system.

[1] *Classification of Wetlands and Deepwater Habitats of the United States*. USFW Manual FWS/OBS–79/31 (1979)

OTHER REGULATED WETLAND RESOURCES

The NHDES' web-based Wetlands Permit and Planning Tool (WPPT) was used to identify the presence of other regulated wetland resources such as protected shoreland, prime wetland, and other Priority Resource Areas as defined by NH Administrative Rule Env-Wt 103.66. The planning tool indicates that no such areas are present on the property. A copy of the WPPT map is attached.

The field work for the delineation was conducted in late fall so no formal vernal pool survey was conducted. The large cattail and phragmites marsh wetland (D, E, F, 1-62) that constitutes most of the wetlands on the site is not typically suitable vernal pool habitat. The smaller scrub-shrub wetland (A, B, & C) do not appear to have the topography to maintain a pool. Furthermore, all the wetland on the site exist in a highly developed area with very minimal supporting upland habitat necessary to support vernal pool species. It is therefore very unlikely that any of the wetlands identified on the Site contain vernal pools. This should be verified during the vernal pool breeding season.

PORTSMOUTH WETLAND PROTECTION ORDINANCE

Section 10.1010 of the Portsmouth Zoning Ordinance regulates wetland resource areas including vegetated wetlands, vernal pools, tidal areas, streams, other surface water, and specific buffers to these resources. The Site only contains inland freshwater wetlands which are regulated under the Ordinance if they are 10,000 square feet in size or greater[2]. Wetlands B and F are 4,594 square feet and 2,442 square feet respectively, so these two small wetlands are not regulated under the Ordinance. Note, however, that these areas are still jurisdictional wetlands subject to state and federal regulation. All other wetlands identified on the Site, and a 100-foot buffer from these areas, are regulated under the Ordinance.

WETLAND FUNCTION & VALUE ASSESSMENT

A wetland function and value assessment was conducted using the US Army Corps Highway Methodology guidelines. Functions are self-sustaining properties of wetlands, which exist in the absence of human involvement. Values refers to the benefits gained by society from a given wetland or ecosystem and their inherent functions. Functions and values identified as "primary" have been determined to be significant features of the wetland being evaluated. An important distinction is that the primary functions and values of a particular wetland does not necessarily indicate the wetland supports them at a significant *level* in comparison to other wetlands in the region or even near the site.

[2] Section 10.1013.10

The Highway Methodology considers 13 functions and values:

1. **Groundwater recharge/discharge:** This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where ground water can be discharged to the surface.
2. **Floodflow Alteration:** This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters for prolonged periods following precipitation events.
3. **Fish and Shellfish Habitat:** This function considers the effectiveness of seasonal or permanent water bodies associated with the wetland in question for fish and shellfish habitat.
4. **Sediment/Toxicant/Pathogen Retention:** This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants or pathogens.
5. **Nutrient Removal/Retention/Transformation:** This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers or estuaries.
6. **Production Export:** This function relates to the effectiveness of the wetland to produce food or usable products for human, or other living organisms.
7. **Sediment/Shoreline Stabilization:** This function relates to the effectiveness of a wetland to stabilize stream banks and shorelines against erosion.
8. **Wildlife Habitat:** This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and or migrating species must be considered.
9. **Recreation:** This value considers the effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals or other resources that are intrinsic to the wetland, whereas non-consumptive opportunities do not.
10. **Educational/Scientific Value:** This value considers the effectiveness of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.
11. **Uniqueness/Heritage:** This value relates to the effectiveness of the wetland or its associated water bodies to produce certain special values. Special values may include such things as archeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geological features.
12. **Visual Quality/Aesthetics:** This value relates to the visual and aesthetic qualities of the wetland.
13. **Threatened or Endangered Species Habitat:** This value relates to the effectiveness of the wetland or associated water bodies to support threatened or endangered species.

The collection of individually flagged wetlands on the Site were evaluated in two groups based on their proximity to one another, type, and connectivity. The A and C series wetlands located in the southeast corner of the site were evaluated as one since they lie directly adjacent to one another and share the same characteristics. The D and E series were grouped together with the wetland numbered 1-65 since these three areas are part of a larger wetland extending off-site to the east and separated only by an access driveway. Wetlands B and F are stormwater management features which are too small to be regulated under the Portsmouth Wetlands Protection Ordinance and were not evaluated.

Due to the character of the wetlands and the densely developed setting, several of the functions and values listed above are clearly not supported or are supported to a very limited extent. The lack of permanent or any significant surface water is the most obvious limiting factor. Functions such as fish habitat and shoreline stabilization, which require close association with surface water are not supported in these wetlands. Wetland supported recreation is also strongly linked with surface water for activities such as boating and fishing. Recreational value of this type is not supported but other more passive forms of recreation may be supported to a limited degree depending on how broadly recreation is defined. Aesthetic value is even more subjective, as is value for scientific or educational pursuits. These are traditionally associated with more diverse, unique, and accessible wetlands than those present in this area. In the context of the densely developed area, however, these wetlands provide notable value by providing readily viewable green space amongst developed areas. They may also offer unique educational or scientific opportunities for the study of wetlands in a developed landscape. These values have therefore been considered secondary values supported by all the wetlands on the Site.

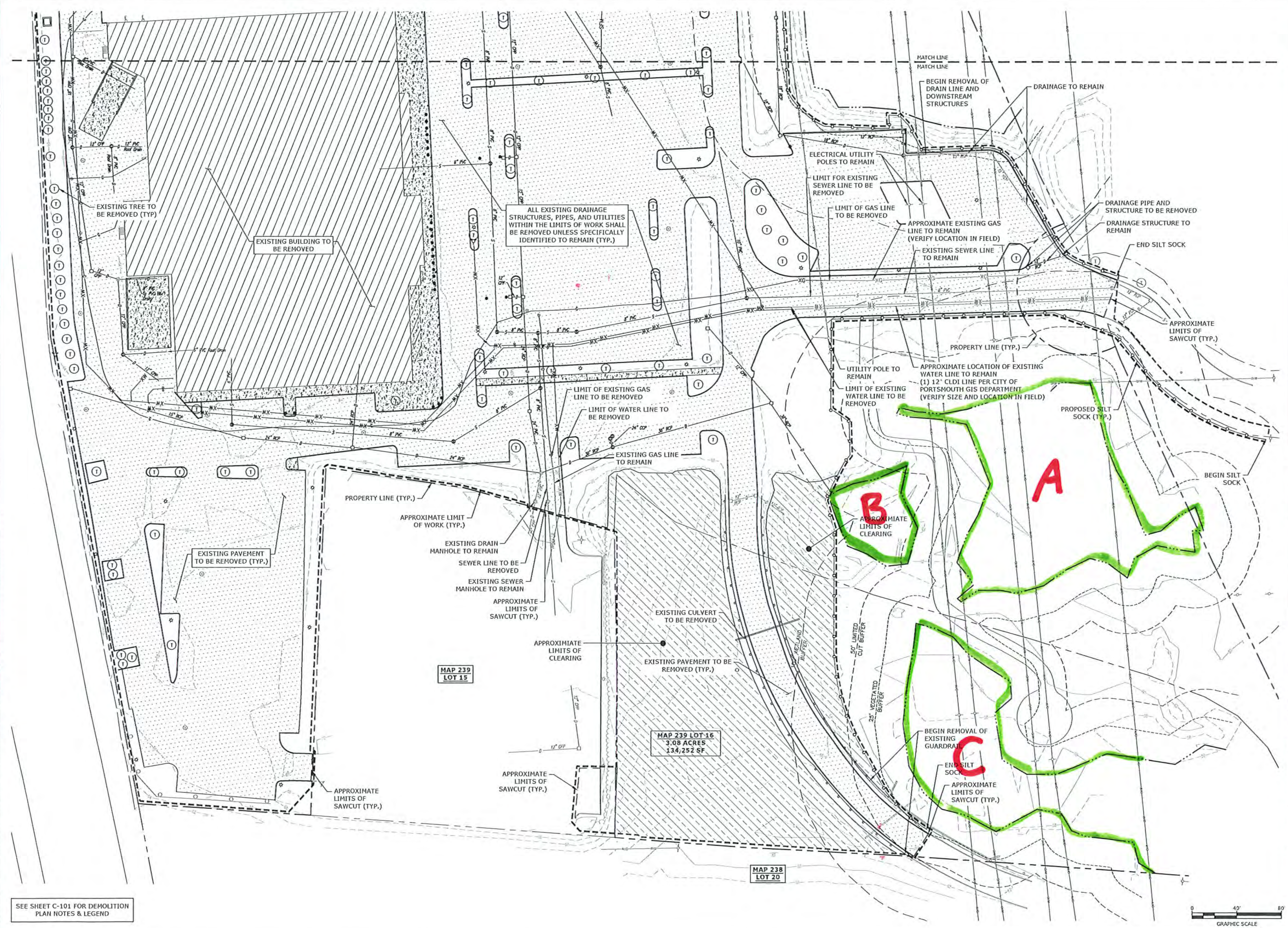
The densely developed setting also highlights the importance of certain wetland functions and strongly influences the *Principal Functions* of the wetlands. The most important function of the larger interconnected wetland system (#1-62/D/E) is protection of water quality. This area receives significant runoff from the surrounding developed areas and drains through dense emergent wetlands and restricted outlets. This arrangement provides both sediment trapping, retention, and nutrient transformation function. This is also likely to provide an important flood attenuation function, not as a floodplain, but by intercepting and storing runoff. The smaller wetland areas (A/C) supports these functions to a much lesser degree or not at all due to their limited connectivity.

The long-term effects of performing these water quality functions and overall fragmentation of the wetland in this area does degrade their ecological integrity and suitability for functions as wildlife habitat. However, considering the limited habitat in this developed landscape and the fact that some of the wetlands are quite large, they function as important habitat islands. These areas are likely to be used by numerous avian species and small mammals with limited habitat requirements. The wetter areas in the larger wetlands (#1-62/D/E) may also provide habitat for amphibian and retile species but this is limited by general lack of permanent water.

The table below summarizes all the identified principle and secondary functions of the two groups of wetlands evaluated. The Highway Methodology data forms are attached.

Table 2—Wetland Function & Value Summary

Wetland ID	Principle Functions/Values	Secondary Functions/Values	Justification/Discussion
A & C	Export/Production Wildlife Habitat	Sediment Retention Nutrient Removal Educational/Scientific Aesthetic	Principle Function is that of a habitat island in the context of a developed landscape. Production for wildlife food sources is enhanced by the dense cover of berry producing shrubs and nectar producing herbaceous vegetation. Water quality has been considered secondary due to lack of connectivity and lack of emergent wetland. Limited Educational/Scientific and Aesthetic value supported in the context of densely developed area.
	Wildlife Habitat Sediment Retention Nutrient Removal Floodflow Alteration	Groundwater Educational/Scientific Aesthetic	Principal water quality function is based on significant urban runoff and diffuse and constricted flow through dense mostly emergent vegetation. Floodflow attenuation by way of storage is derived in a similar way. Principal Wildlife habitat functions is as a habitat island in context of developed landscape. Production for wildlife food sources is considered secondary due to significant areas of invasive or uniform vegetation (Phragmites and Cattail). Limited groundwater interaction in wettest areas but not located in aquafer area. Limited Educational/Scientific and Aesthetic value supported in the context of densely developed area.



MATCH LINE
MATCH LINE
BEGIN REMOVAL OF DRAIN LINE AND DOWNSTREAM STRUCTURES
DRAINAGE TO REMAIN
ELECTRICAL UTILITY POLES TO REMAIN
LIMIT FOR EXISTING SEWER LINE TO BE REMOVED
LIMIT OF GAS LINE TO BE REMOVED
APPROXIMATE EXISTING GAS LINE TO REMAIN (VERIFY LOCATION IN FIELD)
EXISTING SEWER LINE TO REMAIN
DRAINAGE PIPE AND STRUCTURE TO BE REMOVED
DRAINAGE STRUCTURE TO REMAIN
END SILT SOCK
APPROXIMATE LIMITS OF SAWCUT (TYP.)
EXISTING TREE TO BE REMOVED (TYP)
EXISTING BUILDING TO BE REMOVED
ALL EXISTING DRAINAGE STRUCTURES, PIPES, AND UTILITIES WITHIN THE LIMITS OF WORK SHALL BE REMOVED UNLESS SPECIFICALLY IDENTIFIED TO REMAIN (TYP.)
PROPERTY LINE (TYP.)
UTILITY POLE TO REMAIN
LIMIT OF EXISTING WATER LINE TO BE REMOVED
APPROXIMATE LOCATION OF EXISTING WATER LINE TO REMAIN (1) 12" CLDI LINE PER CITY OF PORTSMOUTH GIS DEPARTMENT (VERIFY SIZE AND LOCATION IN FIELD)
PROPOSED SILT SOCK (TYP.)
LIMIT OF EXISTING GAS LINE TO BE REMOVED
LIMIT OF WATER LINE TO BE REMOVED
EXISTING GAS LINE TO REMAIN
BEGIN SILT SOCK
A
B
APPROXIMATE LIMITS OF CLEARING
PROPERTY LINE (TYP.)
APPROXIMATE LIMIT OF WORK (TYP.)
EXISTING DRAIN MANHOLE TO REMAIN
SEWER LINE TO BE REMOVED
EXISTING SEWER MANHOLE TO REMAIN
APPROXIMATE LIMITS OF SAWCUT (TYP.)
EXISTING PAVEMENT TO BE REMOVED (TYP.)
EXISTING CULVERT TO BE REMOVED
APPROXIMATE LIMITS OF CLEARING
EXISTING PAVEMENT TO BE REMOVED (TYP.)
50' LIMITED CUT BUFFER
25' VEGETATED BUFFER
WETLAND BUFFER
MAP 239 LOT 15
MAP 239 LOT 16 3.08 ACRES 134,252 SF
BEGIN REMOVAL OF EXISTING GUARDRAIL
END SILT SOCK
C
APPROXIMATE LIMITS OF SAWCUT (TYP.)
APPROXIMATE LIMITS OF SAWCUT (TYP.)
APPROXIMATE LIMITS OF SAWCUT (TYP.)
MAP 238 LOT 20
SEE SHEET C-101 FOR DEMOLITION PLAN NOTES & LEGEND
0 40' 80'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER 4/22/24

STATE OF NEW HAMPSHIRE NEIL A HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

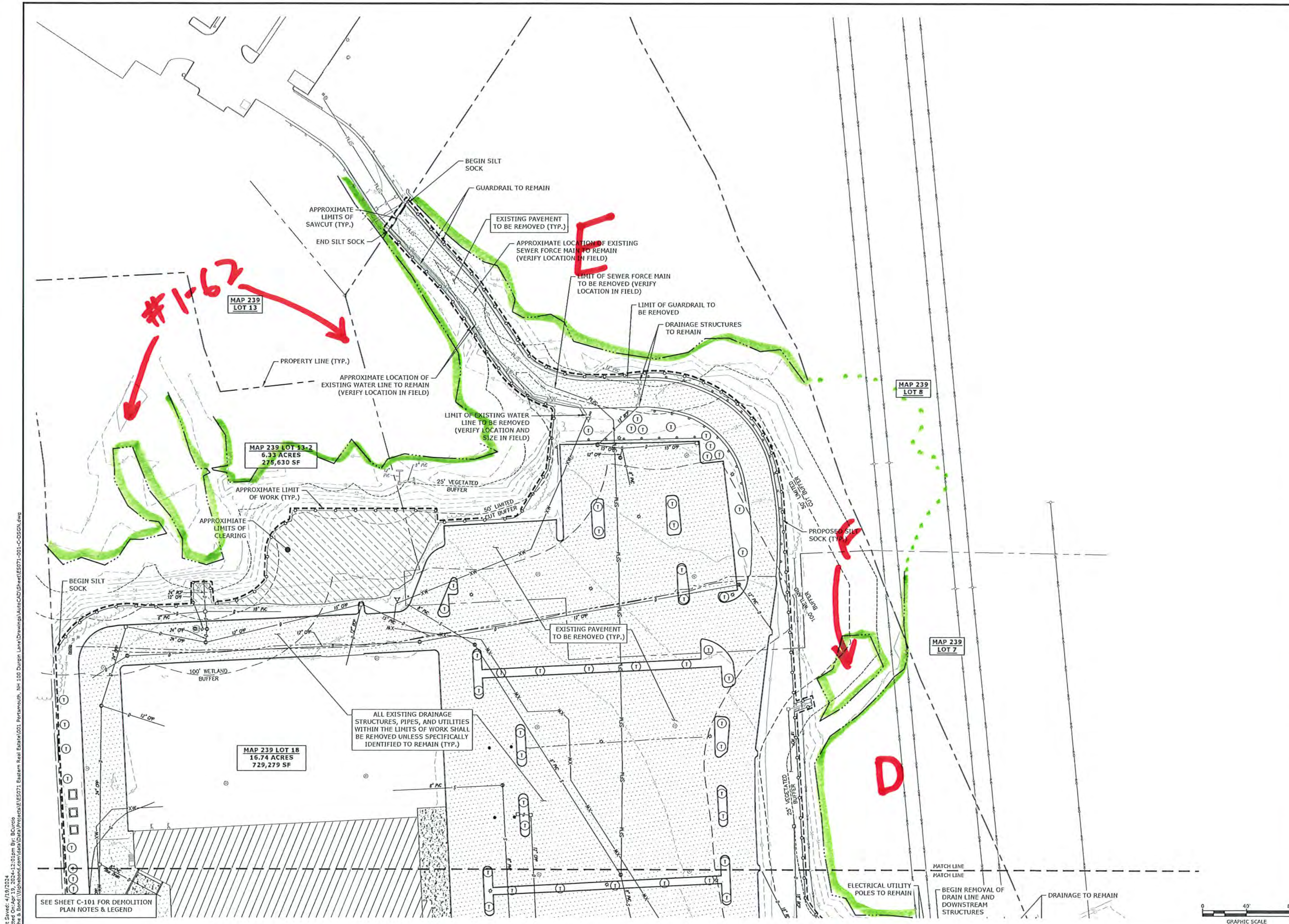
PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DSGN.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DEMOLITION PLAN

SCALE: AS SHOWN

C-202

Last Saved: 4/19/2024
Plotted On: Apr 19, 2024-12:02pm By: BCurcio
Tighe & Bond: \\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-C-DSGN.dwg


BEGIN SILT SOCK
GUARDRAIL TO REMAIN
EXISTING PAVEMENT TO BE REMOVED (TYP.)
APPROXIMATE LIMITS OF SAWCUT (TYP.)
END SILT SOCK
APPROXIMATE LOCATION OF EXISTING SEWER FORCE MAIN TO REMAIN (VERIFY LOCATION IN FIELD)
LIMIT OF SEWER FORCE MAIN TO BE REMOVED (VERIFY LOCATION IN FIELD)
LIMIT OF GUARDRAIL TO BE REMOVED
DRAINAGE STRUCTURES TO REMAIN
MAP 239 LOT 13
PROPERTY LINE (TYP.)
APPROXIMATE LOCATION OF EXISTING WATER LINE TO REMAIN (VERIFY LOCATION IN FIELD)
MAP 239 LOT 8
LIMIT OF EXISTING WATER LINE TO BE REMOVED (VERIFY LOCATION AND SIZE IN FIELD)
MAP 239 LOT 13-2
6.33 ACRES
275,630 SF
25' VEGETATED BUFFER
APPROXIMATE LIMIT OF WORK (TYP.)
50' LIMITED CUT BUFFER
APPROXIMATE LIMITS OF CLEARING
PROPOSED SILT SOCK (TYP.)
BEGIN SILT SOCK
EXISTING PAVEMENT TO BE REMOVED (TYP.)
100' LIMITED CUT BUFFER
MAP 239 LOT 7
100' WETLAND BUFFER
ALL EXISTING DRAINAGE STRUCTURES, PIPES, AND UTILITIES WITHIN THE LIMITS OF WORK SHALL BE REMOVED UNLESS SPECIFICALLY IDENTIFIED TO REMAIN (TYP.)
MAP 239 LOT 18
16.74 ACRES
729,279 SF
25' VEGETATED BUFFER
MATCH LINE
MATCH LINE
ELECTRICAL UTILITY POLES TO REMAIN
BEGIN REMOVAL OF DRAIN LINE AND DOWNSTREAM STRUCTURES
DRAINAGE TO REMAIN
SEE SHEET C-101 FOR DEMOLITION PLAN NOTES & LEGEND
0
40'
80'
GRAPHIC SCALE
#1-62
E
F
D
Last Saved: 4/19/2024
Plotted On:Apr 19, 2024-12:01pm By: BCurcio
Tighe & Bond:\\tighebond.com\data\Data\Projects\E\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-C-DSGN.dwg

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRUMMINS — No. 12378 — LICENSED PROFESSIONAL ENGINEER — 4/22/24

STATE OF NEW HAMPSHIRE — NEIL A HANSEN — No. 15227 — LICENSED PROFESSIONAL ENGINEER — 04/22/2024

PROPOSED MULTI-FAMILY DEVELOPMENT

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH,
NEW HAMPSHIRE

MARK	DATE	DESCRIPTION
A	4/22/2024	TAC SUBMISSION

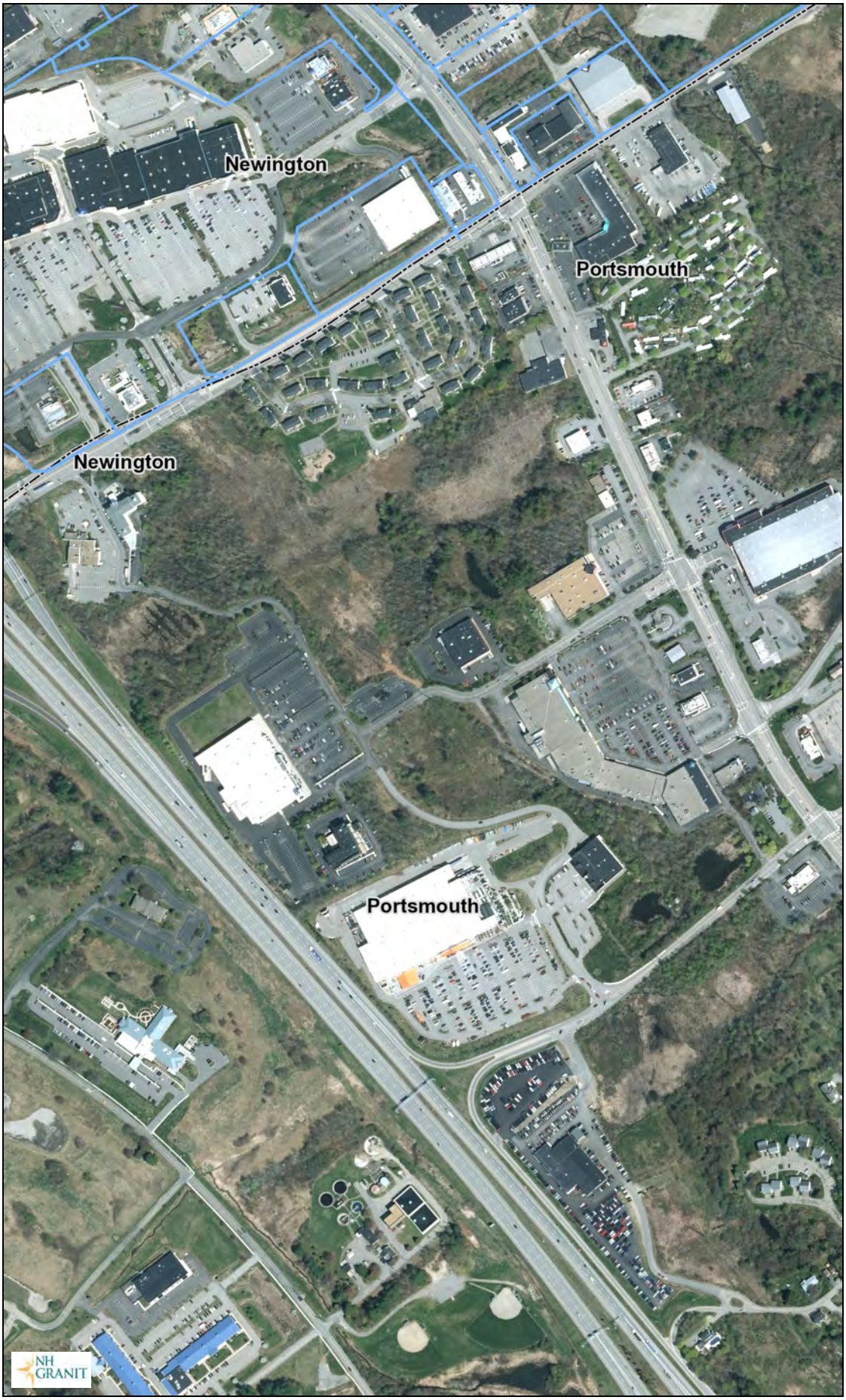
PROJECT NO:	E5071-001
DATE:	4/22/2024
FILE:	E5071-001-C-DSGN.dwg
DRAWN BY:	BKC/NHW
DESIGNED/CHECKED BY:	NAH
APPROVED BY:	PMC

DEMOLITION PLAN

SCALE: AS SHOWN

C-201

Burgin Lane
WPPT



Legend

- Additional Lines
- City/Town
- Prime Wetlands
- Prime Wetlands with 100
- Peatland
- Flood Plain Wetlands Adja
- Marsh-Scrub / Shrub Wet
- Dunes
  - backdune
  - foredune
  - interdune
  - other

Map Scale

1: 6,494

Map Generated: 2/29/2024

Notes

Wetland Function-Value Evaluation Form

Total area of wetland ~1.1 ac Human made? No Is wetland part of a wildlife corridor? NO or a "habitat island"? YES

Adjacent land use Commercial Development, Elec. Transmission Distance to nearest roadway or other development >100 ft

Dominant wetland systems present PSS1B Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin?

How many tributaries contribute to the wetland? isolated Wildlife & vegetation diversity/abundance (see wetland report)

Wetland I.D. A & C

Latitude see report Longitude

Prepared by: BJQ Date 5/2/24

Wetland Impact:
Type Buffer Area see plans

Evaluation based on:
Office Yes Field Yes

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	N			wetland is characteristic of perched GW
Floodflow Alteration	N			isolated
Fish and Shellfish Habitat	N	N/A		No permanent surface water
Sediment/Toxicant Retention	Y	1,2,5		potential sources but limited connectivity, minimal function
Nutrient Removal	Y	3,4,8,9		potential sources but limited connectivity, minimal function
Production Export	Y	1,7,12	X	wildlife food sources in dense berry bearing shrubs and nectar prod. species
Sediment/Shoreline Stabilization	N			not associated with surface water
Wildlife Habitat	Y	8,19,21	X	limited habitat island for songbirds and small mammal
Recreation	N			Common wetland, subject to transmission line maintenance; low diversity
Educational/Scientific Value	Y			limited potential for study of fragmentation and development
Uniqueness/Heritage	N			Common wetland, subject to transmission line maintenance; low diversity
Visual Quality/Aesthetics	Y			minimal, open space in context of developed landscape
ES Endangered Species Habitat	N			None identified
Other		N/A		N/A

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland ~20 ac Human made? No Is wetland part of a wildlife corridor? NO or a "habitat island"? YES

Adjacent land use Commercial Development, Elec. Transmission Distance to nearest roadway or other development >100 ft

Dominant wetland systems present PEM1/5E/PSS1E Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? LOW

How many tributaries contribute to the wetland? UNK Wildlife & vegetation diversity/abundance (see wetland report)

Wetland I.D. #1-62/E/D

Latitude see report Longitude

Prepared by: BJQ Date 5/2/24

Wetland Impact:
Type none Area see plans

Evaluation based on:
Office Yes Field Yes

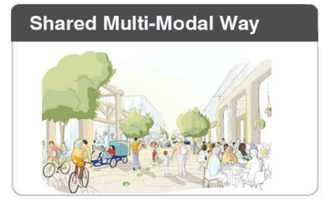
Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y			some potential in very poorly drained areas
Floodflow Alteration	Y	4,5,6,7,15	X	significant urban runoff, constricted outlet, large area of storage relative to its watershed
Fish and Shellfish Habitat	N	N/A		No permanent surface water
Sediment/Toxicant Retention	Y	1,2,3,4,5,10,12,14,16	X	Significant sources, diffuse flow though dense vegetation
Nutrient Removal	Y	1,3,5,6,7,8,9,11,13,14,15	X	Significant sources, diffuse flow, long retention time, dense emergent vegetation
Production Export	Y	1,2,7,12,14		high production but limited export, berry and nectar wildlife food sources, low divertsity
Sediment/Shoreline Stabilization	N			not associated with surface water
Wildlife Habitat	Y	8,19,21	X	part of a larger habitat island for songbirds and small sp. tolerant of proximate devel.
Recreation	N			disturbed wetland, densely developed area
Educational/Scientific Value	Y			limited potential for study of fragmentation and development
Uniqueness/Heritage	N			disturbed wetland, densely developed area
Visual Quality/Aesthetics	Y			minimal, open space in context of developed landscape
ES Endangered Species Habitat	N			None identified
Other		N/A		N/A

Notes:

* Refer to backup list of numbered considerations.

POTENTIAL COMMUNITY SPACE



PROPOSED COMMUNITY SPACE:

		REQUIRED	PROVIDED
	POTENTIAL RESIDENTIAL SOCIAL SPACES		
	POTENTIAL COMMUNITY SPACE	113,915 SF (10%) (2.62 ACRES)	131,942 SF (11.6%) (3.03 ACRES)
	TOTAL DEVELOPMENT LOT 1,139,156 SF (26.15 ACRES)		
	TOTAL COMMUNITY SPACE AREA	113,915 SF (2.62 ACRES)	131,942 SF (11.6%) (3.03 ACRES)

0 30 60 120

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE:

100 Durgin Ln

PREPARED FOR

100 DURGIN LANE OWNER, LLC

100 DURGIN LANE
PORTSMOUTH, NH

REVISIONS DATE

ISSUE DATE

April 19, 2024

SHEET TITLE

COMMUNITY SPACE EXHIBIT

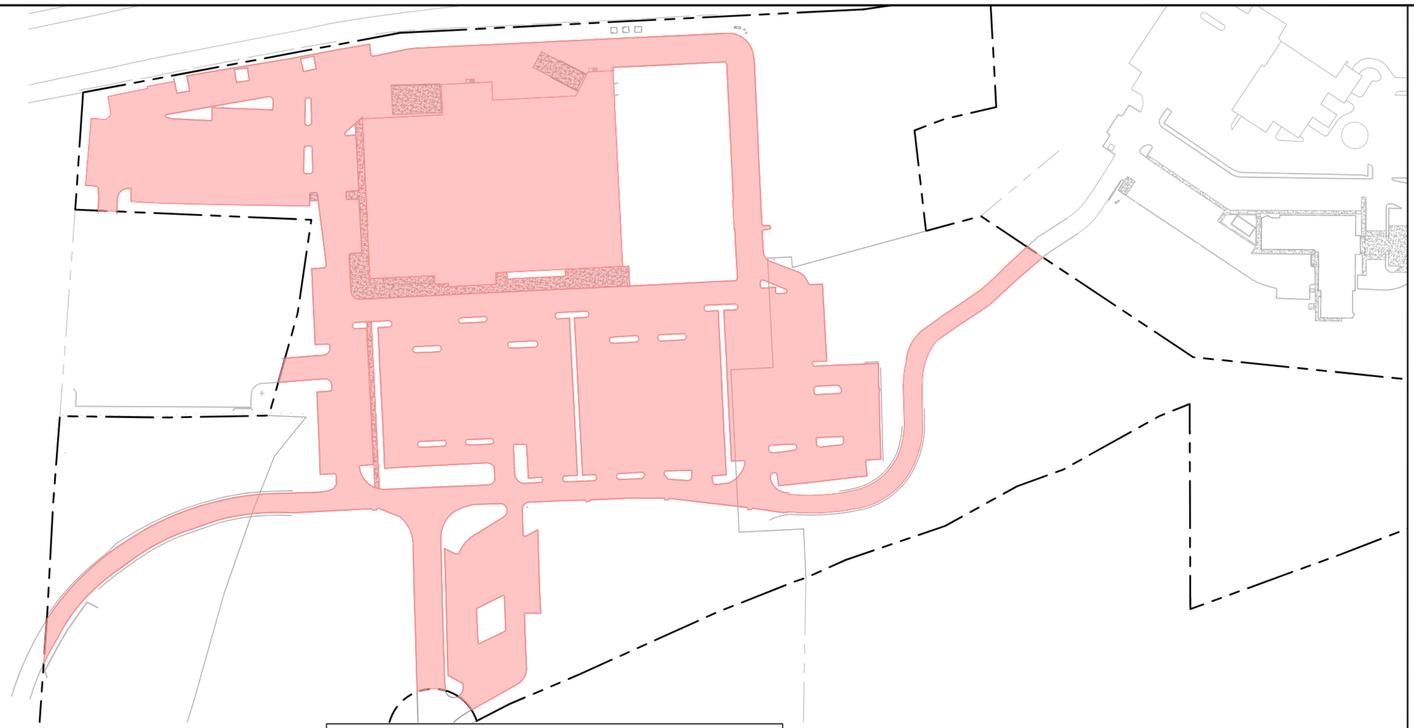
SHEET INFORMATION

L-4-00

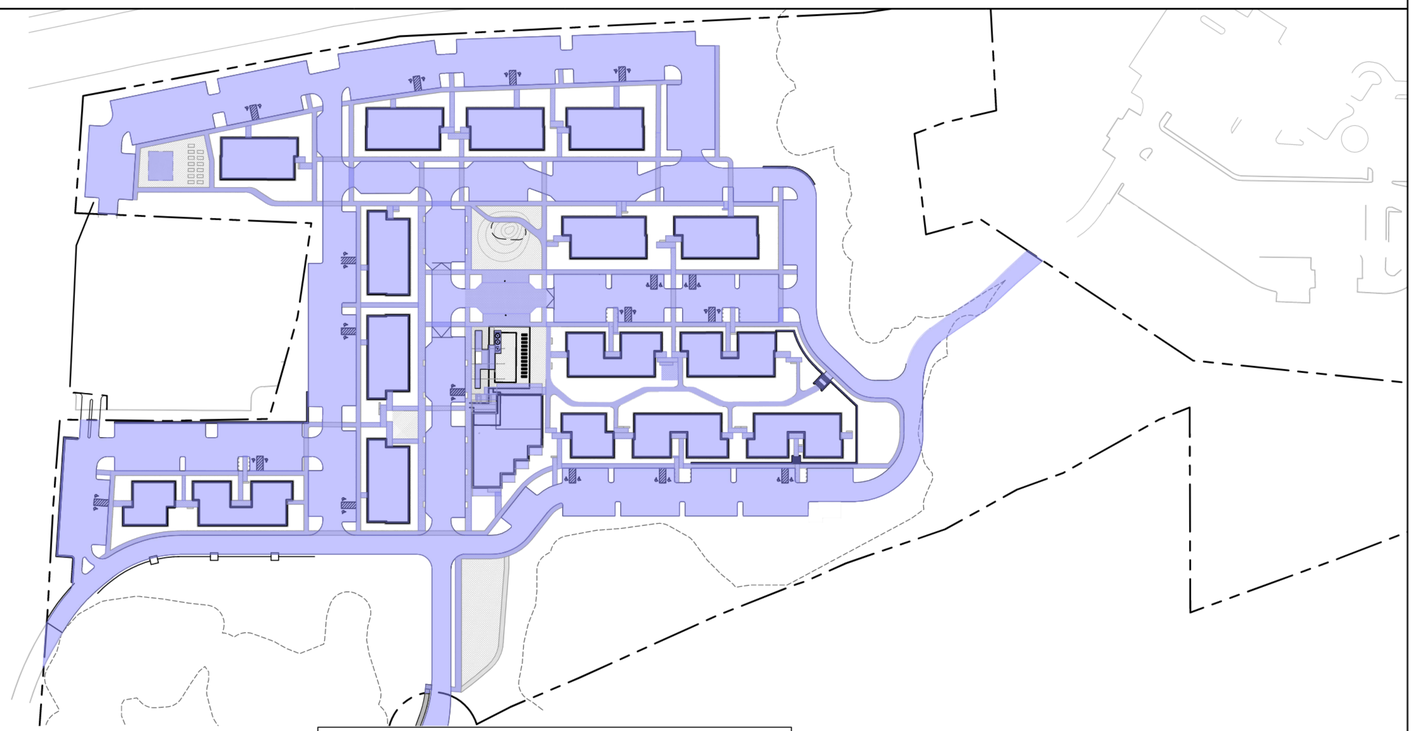
NOT FOR CONSTRUCTION

PROPOSED MULTI-FAMILY DEVELOPMENT
DURGIN LANE
PORTSMOUTH, NEW HAMPSHIRE

IMPERVIOUS SURFACE REDUCTION EXHIBIT



EXISTING IMPERVIOUS SURFACES
SCALE 1" = 100'



PROPOSED IMPERVIOUS SURFACES
SCALE 1" = 100'

Impervious Surface Within Site	
Existing Conditions	434,787 sf
Proposed Development	425,295 sf
Net Impervious Cover	- 9,492 sf

N

0 100' 200'
GRAPHIC SCALE

Tighe&Bond

APRIL 22, 2024
E5071-001-FIGS.dwg

Last Save Date: April 18, 2024 10:49 PM By: NWILCOX
Plot Date: Thursday, April 18, 2024 Plotted By: Noah Wilcox
T&B File Location: C:\Users\NWilcox\Desktop\WORKING\Durgin\Sheet\E5071-001-FIGS.dwg Layout Tab: IMPERV-COMP

EXISTING WETLAND BUFFER IMPERVIOUS SURFACE
SCALE 1" = 100'

PROPOSED WETLAND BUFFER IMPERVIOUS SURFACE
SCALE 1" = 100'

PROPOSED MULTI-FAMILY DEVELOPMENT
DURGIN LANE
PORTSMOUTH, NEW HAMPSHIRE

WETLAND BUFFER IMPERVIOUS SURFACE EXHIBIT

Impervious Surface Within Buffer Area		
Local Wetland Buffer Setback	Impervious Surface	
	Existing Condition	Proposed Development
0 - 25 FT	3,114 SF	2,467 SF
25 - 50 FT	12,156 SF	9,010 SF
50 - 100 FT	45,975 SF	41,506 SF
Total Impervious Surface	**61,245 SF**	**52,983 SF**
Net Impervious Surface	**-8,262 SF**	

N

0 100' 200'
GRAPHIC SCALE

Tighe&Bond

April 22, 2024
E5071-001-FIGS.dwg

Last Save Date: April 19, 2024 10:55 AM By: NAHANSEN
Plot Date: Friday, April 19, 2024 Plotted By: Neil A. Hansen
Plot File Location: J:\E5071 Eastern Real Estate\001 Portsmouth, NH 100 Durgin Lane\Drawings\AutoCAD\Sheet\E5071-001-FIGS.dwg Layout Tab: BUFFER PRE & POST

PROPOSED MULTI-FAMILY DEVELOPMENT
DURGIN LANE
PORTSMOUTH, NEW HAMPSHIRE

WETLAND BUFFER IMPERVIOUS COMPARISON EXHIBIT

Wetland Buffer Impervious Surface Comparsion	
Impervious Surface Removed	28,930 SF
Impervious Surface Added	20,668 SF
Net Impervious Surface	-8,262 SF

N

0 60' 120'
GRAPHIC SCALE

Tighe&Bond

APRIL 22, 2024
E5071-001-FIGS.dwg

AUTHORIZATION
100 Durgin Lane, Portsmouth
Map 239, Lots 13, 16 & 18

The undersigned owner and applicant of the above referenced property hereby authorize representatives of Bosen & Associates, PLLC, and Tighe & Bond Civil Engineering to represent their interests before the Portsmouth land use boards and to submit any and all applications and materials related thereto on their behalf solely in connection with the multifamily development thereof.

Oak Street Investment Grade Net Lease Fund Series 2021-2, LLC

Date: April 23, 2024

By: _____
Name: Ryan Phelan
Title: Managing Director - Delegatee

100 Durgin Lane Owner, LLC

Date: 4/24/24

By: _____
Name: ANDREW HAHEJ
Title: AUTHORIZED SIGNER

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

May 29, 2024

Peter Britz, Planning and Sustainability Director
City of Portsmouth Municipal Complex
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: Application for Conditional Use Permit
Assessor's Map 201, Lot 8
1 Sagamore Grove
Altus Project No. 5534

Dear Peter,

On behalf of Brett Berger and Flippin Burgers, LLC, Altus Engineering and the design team is pleased to submit an application for a Conditional Use Permit and wish to be heard at the June 12th Conservation Commission meeting. Flipping Bergers own the property located at 1 Sagamore Grove and intend to raze their existing antiquated and dilapidated home and construct a new modest single-family residence on the parcel.

The poorly maintained and obsolete home was constructed prior to City wetland buffer regulations. Portions of the lot are within the NHDES 250-foot Shoreland Buffer which will require a permit from NHDES. The slightly maintained lawn area extend into the 25-foot no cut buffer.

The new home will be approximately 36-feet from the freshwater wetland. A 25-foot no cut buffer will be established and maple trees will be planted along the edge of the maintained lawn. Additionally, wetland buffer plaques will be installed to delineate the limits of the maintained portion of the property.

Enclosed for the Commission's consideration please find the following:

- Letter of Authorization
- Conditional Use Permit Narrative
- Wetland Buffer Function and Values Assessment (Cuomo)
- Drainage computations and Stormwater O&M manual
- Project Site Plans

Please feel free to call or email me directly should you have any questions or need any additional information.

Sincerely,

ALTUS ENGINEERING, LLC

Enclosures

eCopy: Brett Berger
Michael Cuomo, Wetlands Scientist

wde/5534.00 cup cvr ltr.docx

Letter of Authorization

I, Brett Berger of Flipping Bergers, LLC, owner of the property located at 1 Sagamore Grove, Portsmouth, NH, hereby authorize Altus Engineering, LLC of Portsmouth, NH to represent us as the Owner and Applicant in all matters concerning the engineering and related permitting on Portsmouth Tax Map 201, Lot 8, Portsmouth, New Hampshire. This authorization shall include any signatures required for Federal, State and Municipal permit applications.

Signature	Brett Berger	5-7-24
	Brett Berger	Date
Witness	RICHARD HACKEMAN	5/7/24
	Print Name	Date

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

CONDITIONAL USE PERMIT APPLICATION
1 SAGAMORE GROVE
NARRATIVE
MAY 28, 2024

On behalf of the Applicant, Brett Berger and Flippin Bergers, LLC, Altus Engineering, LLC (Altus) respectfully submits a Wetlands Conditional Use Permit application for the redevelopment of a single-family residence at 1 Sagamore Grove. Mr. Berger proposes to raze the antiquated cottage with attached sheds and outbuildings and replace it with a new energy efficient, code compliant home.

The house was constructed prior to City wetland buffer regulations and before most zoning ordinances were enacted. Generally speaking, the house is not habitable and, in its condition, renovation is not economically viable. The parcel size and configuration meet the minimum lot size standards for a parcel in the SBR zoning district. There are only 750 SF of wetlands on the lot. However, only 549 SF of the lot is not within the City's Wetland Buffer. The majority of the open space on the lot currently is lawn with small portions of maturing trees. The applicant proposes to allow the portion of the lawn in the 25-foot buffer, approximately 3,200 SF to naturalize.

The new home and all of the built infrastructure will be approximately 36-feet from the wetlands.

In accordance with Article 10 Environmental Protection Standards Section 10.1010 Wetland Protect, the redevelopment will require a Conditional Use Permit from the Planning Board. The project does not require any additional relief from the City of Portsmouth Zoning Ordinance.

Per Section 10.1017.50 for criteria for approval of a Conditional Use Permit, Altus offers the following:

(1) The land is reasonably suited to the use, activity, or alteration.

The property is within the SRB Zoning District, which is a residential zone. All of the abutting properties are residential, including a multi-family structure to the west. The parcel has been used as a single-family residence and will continue to do so. The minimum lot size in the zoning district is 15,000 SF. The redevelopment project is fully compliant in regards to all aspects of the City's Zoning Ordinance. The existing home is served with municipal water supply and

has an on-site sanitary subsurface waste disposal system. Recently, the City extended their municipal collection system down Sagamore Grove. The new home will be connected to the municipal sewage collection system. As such, the only viable use of the property is a single-family residence.

(2) There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity, or alteration.

The 15,249 SF parcel exceeds the minimum lot size for the zoning district. Only 549 SF of the lot is not within the wetland buffer and all of that area is within the front and side yard setbacks which are not buildable by right. Thus, there is no building envelope that meets both the zoning setbacks and is outside the wetland buffer area. The 25-foot no cut buffer will be fully honored. No sitework activities are proposed within 25 feet of the wetlands. Wetland buffer plaques will be installed along the 25-foot no cut buffer at 50-foot intervals to ensure that the no cut buffer is honored.

(3) There will be no adverse impact on the wetland functional values of the site or surrounding properties;

The lawn currently extends up to the property line and the edge of wetlands. A 25-foot no cut buffer will be provided to improve the filtering of stormwater and separation between the built environment and the adjacent wetlands. The buffer will be over seeded with a conservation seed mix to improve the vegetative diversity. Additionally, trees and shrubs will be planted to enhance the buffer.

Attached is to this report, Michael Cuomo, Wetlands Scientist has provided a functions and values assessment of the wetland system and the buffer area. Mr. Cuomo's report supports the proposed improvements.

The antiquated septic system is approximately 50-feet from the wetlands. It will be removed, eliminating the potential for groundwater contamination from human sources.

Stormwater treatment will be provided where none currently exists. Peak runoff flows will be reduced and treatment provided to improve water quality runoff. Stone drip edges will be installed around the perimeter of the house to promote infiltration and reduce the rate of discharge from the roof. The driveway and patio areas will be constructed using permeable materials to reduce the peak rate of runoff and to promote infiltration. The vegetated buffer will be enhanced along with improved surface treatment between the hardscape and the wetland system. The small depressed area in the front lawn with a vegetated swale discharge will increase the time of concentration and slow the surface water velocity discharging from the front portion of the site.

(4) Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals; and

The entire redevelopment project will be within areas that have previously been altered. There is a mature stand of trees in the southeast corner of the site that will be preserved. Generally, only the canopy of off-site vegetation extends onto the property. Thus, impacts to the naturally vegetative area will be minimal.

(5) The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this Section.

The proposed project will impact approximately 7,900 SF of land area. All of the impacts will be within previously impacted areas that are either lawn, building, septic system, or driveway. The design approach avoids impacting natural areas. The house is placed as close to the front lot line as possible and remain compliant with the zoning ordinance. This approach maximizes the wetland system behind the house. A dedicated permeable patio area has been provided with a small yard area. This will allow for the homeowner to enjoy the outdoor space adjacent to the wetlands and have a small yard to enjoy modest outdoor activities.

(6) Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

The entire 25-foot buffer will be naturalized. Native shade trees will be planted along the buffer to create a natural boundary between the built and natural landscape.

5534.02 cup narrative.docx

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
207 363 4532
mcuomosoil@gmail.com

Eric Weinrieb, P.E.
Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801-4413

23 May 2024

Dear Mr. Weinrieb;

This letter is in reference to the property at 1 Sagamore Grove in Portsmouth, NH, identified as tax map 201, lot 8. On 26 February and 23 May 2024 I evaluated the wetland buffer to assist you in planning the re-development of this property. This is required for a Conditional Use Permit in Portsmouth Zoning 10.1017.22.

SITE CHARACTERISTICS AND DEVELOPMENT PLAN
The project proposes to demolish the existing single family residence and replace it with another single family residence. The property is located east of Sagamore Avenue, north of Wentworth House Road and south of, but not adjacent to, Sagamore Creek in Portsmouth, NH. This 0.35 acre lot currently has a house, parking area, septic system, and lawn.

No direct wetland impact is proposed. One wetland exists on this site and continues off site to the south and west. The entire wetland is estimated to be about 1/2 acre in size, and the majority of the wetland is off site. This wetland is regulated by the City because it is greater than 10,000 square feet. It requires a 100 foot buffer, per local zoning.

WETLAND
This wetland receives water from natural subsurface and surface flows, including rain water and snow melt, and supplemented by flow from culverts under Wentworth House Road and Sagamore Grove. The wetland is not associated with any natural surface water body and there is no stream flowing in or out. Water ponds to shallow depth and for limited duration in this wetland. The wetland does not have the physical characteristics typically associated with a vernal pool and was not investigated for vernal pool species as part of this work.

The wetland probably extended further to the north and east but was filled at some time in the past when the area was developed. This is inferred by the straight wetland-upland boundaries along these margins of the wetland. The wetland may have flowed north in a

small channel to Sagamore Creek prior to development of the Sagamore Grove neighborhood. This is inferred by the presence of a 8” diameter culvert pipe.

WETLAND CHARACTERISTICS

Using the *Classification of Wetlands and Deepwater Habitats of the United States*, developed by Cowardin and others, this wetland is identified as 'PSS1e'. This indicates a freshwater deciduous shrub wetland, which is seasonally saturated. The dominant plant species in the wetland are listed on the attached field data sheet. The portions of this wetland on and closest to this site are dominated by invasive plants.

The soils in the wetland are poorly drained fine textured sediments of glacio-marine origin. This is the Scitico soil series. The soil is typically saturated to the surface for perhaps 6 months of the average year. The soils have increasing clay content with depth and absorb water slowly. Though deep to bedrock, these soils have shallow effective rooting depth. These soils have been altered by human activity over time, such as filling, drainage, plowing, and conversion to lawn.

WETLAND BUFFER

The buffer has been entirely modified by human activity associated with the current use. The evidence of this disturbance is reflected in the significant population of non-native invasive plant species and limited native plants. Native wildlife is adapted to native plants, so invasive plants generally reduce wildlife habitat value and disrupt native ecosystems.

The portion of the wetland buffer on this property is currently about 14% building and parking; 68% mowed lawn; and 18% shrubs. The shrubs are within the wetland, along the uplands nearest the wetland, and along the eastern property line. The dominant invasive shrubs are common buckthorn, honeysuckle, rugosa rose, and the invasive vine climbing bittersweet. Invasive plants dominate both the lawn and shrub fringe around the wetland.

BUFFER HABITAT ENHANCEMENT

The applicant proposes to establish a no-cut buffer within 25 feet of the wetland boundary. This no-cut buffer will be marked with signs, seeded with conservation mix, and four 2.5 inch sugar maple trees will be planted along the edge. Six high bush blueberries will be planted as part of the landscaping outside the no-cut buffer. This work is proposed for the area closest to the wetland which is now about 80% lawn. The buffer habitat enhancement covers about 22% of the wetland buffer on their site.

CONCLUSIONS

All wetlands and vegetated wetland buffers have value, even those such as this one that are highly degraded and dominated by invasive plants. There is widespread agreement among professionals that degraded wetlands in urban environments can have higher importance than may be obvious because they offer refuge for small wildlife, provide screening and green space, and are remnant wetlands in urban environments where many wetlands have

historically been lost. This degraded wetland also has increased value due to it's physical proximity to Sagamore Creek.

The wetland has been degraded by historical filling, on and off the subject property. The wetland receives untreated stormwater. The wetland has many undesirable invasive plants and sediment deposition is evident. Surrounding residential and commercial development contains structures, parking pavement and lawns, compromising much of the buffer around the wetlands. Most of the 100 foot wetland buffer which is on the subject property has been previously developed and is maintained as lawn. The applicant controls a minority of the wetland buffer, perhaps 20%, and an even smaller part of the wetland itself.

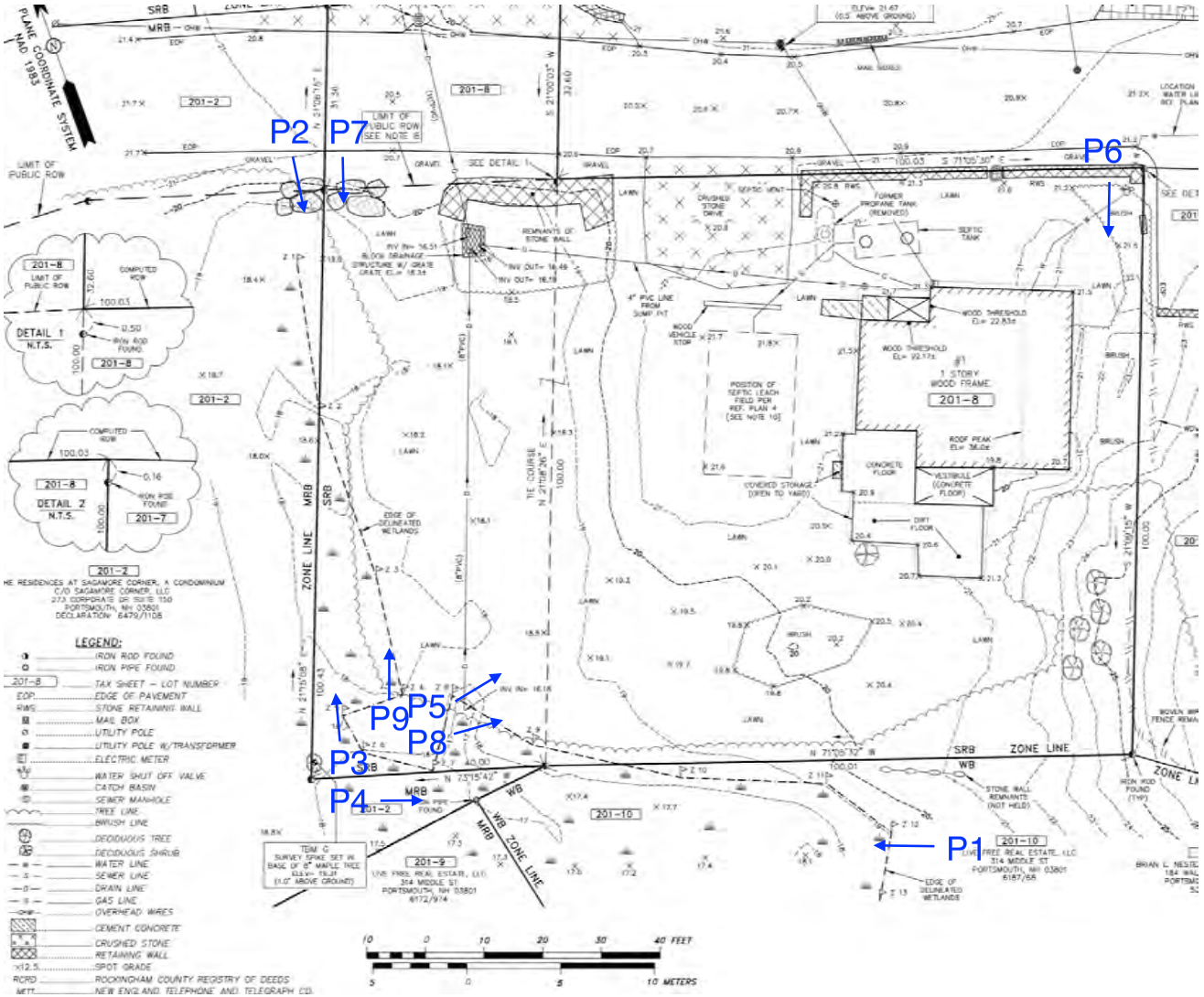
The buffer habitat enhancement which the applicant proposes is not a restoration of a complete natural buffer, but considering the condition of the existing wetland buffer, it is a significant improvement of the portion of the landscape they control.

Please contact me if you have questions regarding this work.

Sincerely,

Michael Cuomo
NH Wetland Scientist #4

Photo Key Sketch
1 Sagamore Grove, Portsmouth, NH
23 May 2024
Michael Cuomo



1 Sagamore Grove, Portsmouth NH
Photos taken 26 February 2024

Photo 1

1 Sagamore Grove, Portsmouth NH
Photos taken 26 February 2024

Photo 2

1 Sagamore Grove, Portsmouth NH
Photos taken 26 February 2024

Photo 3

1 Sagamore Grove, Portsmouth NH
Photos taken 26 February 2024

Photo 4

1 Sagamore Grove, Portsmouth, NH
Photo taken 6 March 2024

Photo 5

1 Sagamore Grove, Portsmouth, NH
23 May 2024

Photo 6

1 Sagamore Grove, Portsmouth, NH
23 May 2024

Photo 7

1 Sagamore Grove, Portsmouth, NH
23 May 2024

Photo 8

1 Sagamore Grove, Portsmouth, NH
23 May 2024

Photo 9

WETLAND FUNCTION-VALUE ASSESSMENT

WETLAND I.D. one of one

PROJECT NAME: Sagamore Grove

PROJECT LOCATION: #1 Sagamore Grove, Portsmouth, NH PREPARED BY: M. Cuomo DATE: 26 Febuary 2024 no snow

TOTAL APPROXIMATE AREA OF WETLAND: 1/2 acre IS WETLAND PART OF A WILDLIFE CORRIDOR? no OR A "HABITAT ISLAND"? yes

ADJACENT LAND USE? residential/commercial MAN MADE? no DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT 15ft

DOMINANT WETLAND SYSTEMS PRESENT: PSS1 CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? no

IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? yes IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? isolated

OF TRIBUTARIES INTO THE WETLAND? none AQUATIC DIVERSITY/ABUNDANCE low VEGETATIVE DIVERSITY/ABUNDANCE moderate

WILDLIFE DIVERSITY/ABUNDANCE low ANTICIPATED IMPACTS buffer only WETLAND AREA IMPACTED: no direct wetland impact

TREES	SHRUBS	HERBS	WILDLIFE	COMMENTS
red maple American elm	European buckthorn Smooth winter-berry holly climbing bittersweet Vitaceae (grape vines)	sensitive fern Ranuncleaceae (buttercup) cattails purple loosetrife		poorly drained mineral soil; some fill in wetlands; buffer is mostly lawn on this lot.

DRAINAGE ANALYSIS

FOR

Residential Development

1 Sagamore Grove
Portsmouth, NH

Tax Map 201, Lot 8

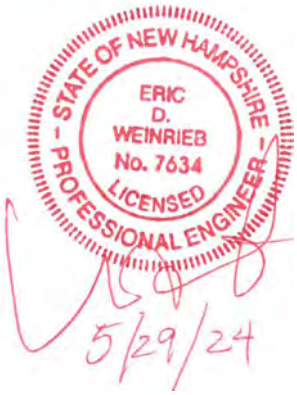
May 29, 2024

Prepared For:

Flippin Bergers, LLC
71 Brackett Road
Portsmouth, NH 03801

Prepared By:

ALTUS ENGINEERING
133 Court Street
Portsmouth, NH 03801
Phone: (603) 433-2335



ALTUS ENGINEERING

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PROJECT DESCRIPTION

The applicant, Flippin Bergers, LLC is proposing to develop an existing residential lot located at 1 Sagamore Grove in Portsmouth, NH. The property is identified as Assessor's Map 208, Lot 8, is 15,249 (+/-) square feet in size and is located in the City's Single Residence B (SRB) district. The site is occupied by a single-family residential house with lawn.

Site Soils

The NRCS indicates that the subject property consists of several primary soil classifications:

140B – Chatfield-Hollis-Canton complex, HSG B

Pre-Development (Existing Conditions)

The sites runoff primarily flows westerly to a wetlands system, which discharged into an 8-inch PVC drainpipe to a man-made drainage structure, located at the northwest corner of the lot. Ultimately, the runoff leaves the site via a 10-inch drainpipe to the City's closed drainage system that discharges to the tidal waters of Sagamore Creek. This structure is identified as the19oint of Analysis (POA). The Pre-Development analysis models the existing site conditions for the point of analysis as a single subcatchment.

Post-Development (Proposed Site Design)

The proposed stormwater system is depicted on the attached Post-Development Watershed Plan. The post-development analysis models the proposed site conditions for the point of analysis as a single subcatchment. The same point of analysis used in the Pre-Development model (POA) was used for comparison of the Pre and Post development conditions.

The Post-Development Watershed Plan illustrates the proposed stormwater management system. Site topography, existing features, proposed site improvements, grading and erosion control measures are shown on the accompanying plans. Recommended erosion control measures are based upon the December 2008 edition of the "*New Hampshire Stormwater Manual Volumes 1 through 3*" prepared by NHDES and Comprehensive Environmental, Inc. as amended.

CALCULATION METHODS

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25 and 50 year - 24-hour storm events using rainfall data provided by the Northeast Regional Climate Center (NRCC). As the project site lies within a Coastal and Great Bay Community identified by NHDES Alteration of Terrain, all rainfall amounts were increased by 15% to account for potential future increases in rainfall due to climate change.

Disclaimer

Altus Engineering notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (ke), velocity factors (kv) and times of concentration (Tc) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (Cn) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Drainage Analysis

A complete summary of the drainage model is included in the appendix of this report. The following table compares pre- and post-development peak rates at the Point of Analysis identified on the plans for the 2, 10, 25, and 50-year storm events:

Stormwater Modeling Summary Peak Q (cfs) for Type III 24-Hour Storm Events

*Rainfall Intensities Reflect 15% Increase per AoT	**2-Yr Storm (3.69 inch)**	**10-Yr Storm (5.60 inch)**	**25-Yr Storm (7.10 inch)**	**50-Yr Storm (8.50 inch)**
POA				
Pre	0.19	0.48	0.76	1.04
Post	0.18	0.46	0.73	1.00
Change	**-0.01**	**-0.02**	**-0.03**	**-0.04**

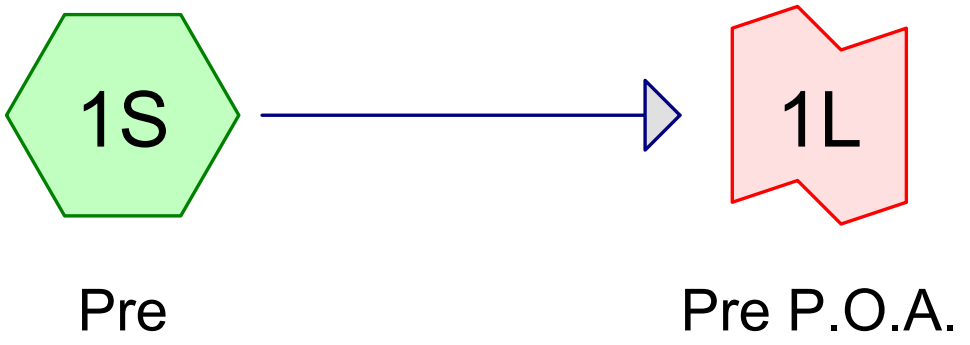
As the above table demonstrates, the proposed peak rates of runoff will be decreased from the existing conditions for all analyzed storm events.

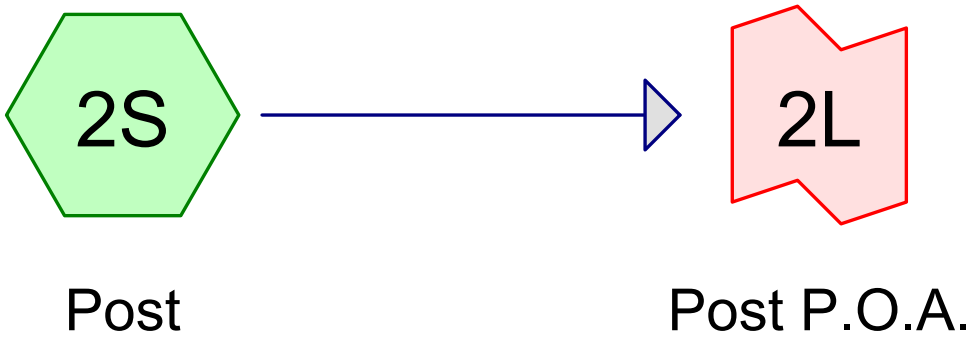
CONCLUSION

This proposed residential development on Sagamore Grove in Portsmouth, NH will have minimal adverse effect on abutting properties and infrastructure as a result of stormwater runoff or siltation. Post-construction peak rates of runoff from the site will be lower than the existing conditions for all analyzed storm events. The new stormwater management system will also provide appropriate treatment of runoff from the proposed impervious area. Appropriate steps will be taken to properly mitigate erosion and sedimentation through the use of temporary and permanent Best Management Practices for sediment and erosion control, including permeable pavers for driveway and patio, roof drip edge, and meadow restoration (3,200'±).

Google Maps 1 Sagamore Grove

Map data ©2024 Google 200 ft





Subcat Reach Pond Link

Routing Diagram for 5534 HydroCAD
Prepared by Altus Engineering, Inc., Printed 4/25/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.301	61	>75% Grass cover, Good, HSG B (1S, 2S)
0.047	48	Brush, Good, HSG B (1S, 2S)
0.073	58	Meadow, non-grazed, HSG B (2S)
0.034	98	Roofs, HSG B (1S)
0.034	98	Unconnected pavement, HSG B (1S, 2S)
0.054	98	Unconnected roofs, HSG B (2S)
0.098	55	Woods, Good, HSG B (1S, 2S)
0.642	**66**	**TOTAL AREA**

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

Subcatchment 1S: Pre Runoff Area=13,980 sf 14.13% Impervious Runoff Depth>0.72"
Flow Length=205' Tc=14.2 min CN=64 Runoff=0.19 cfs 0.019 af

Subcatchment 2S: Post Runoff Area=13,980 sf 24.17% Impervious Runoff Depth>0.67"
Flow Length=205' Tc=14.7 min UI Adjusted CN=63 Runoff=0.17 cfs 0.018 af

Link 1L: Pre P.O.A. Inflow=0.19 cfs 0.019 af
Primary=0.19 cfs 0.019 af

Link 2L: Post P.O.A. Inflow=0.17 cfs 0.018 af
Primary=0.17 cfs 0.018 af

Total Runoff Area = 0.642 ac Runoff Volume = 0.037 af Average Runoff Depth = 0.69"
80.85% Pervious = 0.519 ac 19.15% Impervious = 0.123 ac

Summary for Subcatchment 1S: Pre

Runoff = 0.19 cfs @ 12.23 hrs, Volume= 0.019 af, Depth> 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

Area (sf)	CN	Description
1,055	48	Brush, Good, HSG B
2,220	55	Woods, Good, HSG B
8,729	61	>75% Grass cover, Good, HSG B
483	98	Unconnected pavement, HSG B
1,493	98	Roofs, HSG B
13,980	64	Weighted Average
12,004		85.87% Pervious Area
1,976		14.13% Impervious Area
483		24.44% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.3	45	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.2	205	Total			

Summary for Subcatchment 2S: Post

Runoff = 0.17 cfs @ 12.25 hrs, Volume= 0.018 af, Depth> 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

Area (sf)	CN	Adj	Description
986	48		Brush, Good, HSG B
2,059	55		Woods, Good, HSG B
4,383	61		>75% Grass cover, Good, HSG B
1,008	98		Unconnected pavement, HSG B
2,371	98		Unconnected roofs, HSG B
3,173	58		Meadow, non-grazed, HSG B
13,980	67	63	Weighted Average, UI Adjusted
10,601			75.83% Pervious Area
3,379			24.17% Impervious Area
3,379			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.8	45	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.7	205	Total			

Summary for Link 1L: Pre P.O.A.

Inflow Area = 0.321 ac, 14.13% Impervious, Inflow Depth > 0.72" for 2-yr event
Inflow = 0.19 cfs @ 12.23 hrs, Volume= 0.019 af
Primary = 0.19 cfs @ 12.23 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 2L: Post P.O.A.

Inflow Area = 0.321 ac, 24.17% Impervious, Inflow Depth > 0.67" for 2-yr event
Inflow = 0.17 cfs @ 12.25 hrs, Volume= 0.018 af
Primary = 0.17 cfs @ 12.25 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

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

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

Subcatchment 1S: Pre Runoff Area=13,980 sf 14.13% Impervious Runoff Depth>1.81"
Flow Length=205' Tc=14.2 min CN=64 Runoff=0.55 cfs 0.048 af

Subcatchment 2S: Post Runoff Area=13,980 sf 24.17% Impervious Runoff Depth>1.73"
Flow Length=205' Tc=14.7 min UI Adjusted CN=63 Runoff=0.52 cfs 0.046 af

Link 1L: Pre P.O.A. Inflow=0.55 cfs 0.048 af
Primary=0.55 cfs 0.048 af

Link 2L: Post P.O.A. Inflow=0.52 cfs 0.046 af
Primary=0.52 cfs 0.046 af

Total Runoff Area = 0.642 ac Runoff Volume = 0.095 af Average Runoff Depth = 1.77"
80.85% Pervious = 0.519 ac 19.15% Impervious = 0.123 ac

Summary for Subcatchment 1S: Pre

Runoff = 0.55 cfs @ 12.21 hrs, Volume= 0.048 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
1,055	48	Brush, Good, HSG B
2,220	55	Woods, Good, HSG B
8,729	61	>75% Grass cover, Good, HSG B
483	98	Unconnected pavement, HSG B
1,493	98	Roofs, HSG B
13,980	64	Weighted Average
12,004		85.87% Pervious Area
1,976		14.13% Impervious Area
483		24.44% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.3	45	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.2	205	Total			

Summary for Subcatchment 2S: Post

Runoff = 0.52 cfs @ 12.22 hrs, Volume= 0.046 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Adj	Description
986	48		Brush, Good, HSG B
2,059	55		Woods, Good, HSG B
4,383	61		>75% Grass cover, Good, HSG B
1,008	98		Unconnected pavement, HSG B
2,371	98		Unconnected roofs, HSG B
3,173	58		Meadow, non-grazed, HSG B
13,980	67	63	Weighted Average, UI Adjusted
10,601			75.83% Pervious Area
3,379			24.17% Impervious Area
3,379			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.8	45	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.7	205	Total			

Summary for Link 1L: Pre P.O.A.

Inflow Area = 0.321 ac, 14.13% Impervious, Inflow Depth > 1.81" for 10-yr event
Inflow = 0.55 cfs @ 12.21 hrs, Volume= 0.048 af
Primary = 0.55 cfs @ 12.21 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 2L: Post P.O.A.

Inflow Area = 0.321 ac, 24.17% Impervious, Inflow Depth > 1.73" for 10-yr event
Inflow = 0.52 cfs @ 12.22 hrs, Volume= 0.046 af
Primary = 0.52 cfs @ 12.22 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

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

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

Subcatchment 1S: Pre Runoff Area=13,980 sf 14.13% Impervious Runoff Depth>2.83"
Flow Length=205' Tc=14.2 min CN=64 Runoff=0.88 cfs 0.076 af

Subcatchment 2S: Post Runoff Area=13,980 sf 24.17% Impervious Runoff Depth>2.73"
Flow Length=205' Tc=14.7 min UI Adjusted CN=63 Runoff=0.83 cfs 0.073 af

Link 1L: Pre P.O.A. Inflow=0.88 cfs 0.076 af
Primary=0.88 cfs 0.076 af

Link 2L: Post P.O.A. Inflow=0.83 cfs 0.073 af
Primary=0.83 cfs 0.073 af

Total Runoff Area = 0.642 ac Runoff Volume = 0.149 af Average Runoff Depth = 2.78"
80.85% Pervious = 0.519 ac 19.15% Impervious = 0.123 ac

Summary for Subcatchment 1S: Pre

Runoff = 0.88 cfs @ 12.21 hrs, Volume= 0.076 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

Area (sf)	CN	Description
1,055	48	Brush, Good, HSG B
2,220	55	Woods, Good, HSG B
8,729	61	>75% Grass cover, Good, HSG B
483	98	Unconnected pavement, HSG B
1,493	98	Roofs, HSG B
13,980	64	Weighted Average
12,004		85.87% Pervious Area
1,976		14.13% Impervious Area
483		24.44% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.3	45	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.2	205	Total			

Summary for Subcatchment 2S: Post

Runoff = 0.83 cfs @ 12.21 hrs, Volume= 0.073 af, Depth> 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

Area (sf)	CN	Adj	Description
986	48		Brush, Good, HSG B
2,059	55		Woods, Good, HSG B
4,383	61		>75% Grass cover, Good, HSG B
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2,371	98		Unconnected roofs, HSG B
3,173	58		Meadow, non-grazed, HSG B
13,980	67	63	Weighted Average, UI Adjusted
10,601			75.83% Pervious Area
3,379			24.17% Impervious Area
3,379			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.8	45	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.7	205	Total			

Summary for Link 1L: Pre P.O.A.

Inflow Area = 0.321 ac, 14.13% Impervious, Inflow Depth > 2.83" for 25-yr event
Inflow = 0.88 cfs @ 12.21 hrs, Volume= 0.076 af
Primary = 0.88 cfs @ 12.21 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 2L: Post P.O.A.

Inflow Area = 0.321 ac, 24.17% Impervious, Inflow Depth > 2.73" for 25-yr event
Inflow = 0.83 cfs @ 12.21 hrs, Volume= 0.073 af
Primary = 0.83 cfs @ 12.21 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

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

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

Subcatchment 1S: Pre Runoff Area=13,980 sf 14.13% Impervious Runoff Depth>3.87"
Flow Length=205' Tc=14.2 min CN=64 Runoff=1.20 cfs 0.104 af

Subcatchment 2S: Post Runoff Area=13,980 sf 24.17% Impervious Runoff Depth>3.76"
Flow Length=205' Tc=14.7 min UI Adjusted CN=63 Runoff=1.15 cfs 0.100 af

Link 1L: Pre P.O.A. Inflow=1.20 cfs 0.104 af
Primary=1.20 cfs 0.104 af

Link 2L: Post P.O.A. Inflow=1.15 cfs 0.100 af
Primary=1.15 cfs 0.100 af

Total Runoff Area = 0.642 ac Runoff Volume = 0.204 af Average Runoff Depth = 3.81"
80.85% Pervious = 0.519 ac 19.15% Impervious = 0.123 ac

Summary for Subcatchment 1S: Pre

Runoff = 1.20 cfs @ 12.20 hrs, Volume= 0.104 af, Depth> 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

Area (sf)	CN	Description
1,055	48	Brush, Good, HSG B
2,220	55	Woods, Good, HSG B
8,729	61	>75% Grass cover, Good, HSG B
483	98	Unconnected pavement, HSG B
1,493	98	Roofs, HSG B
13,980	64	Weighted Average
12,004		85.87% Pervious Area
1,976		14.13% Impervious Area
483		24.44% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.3	45	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.2	205	Total			

Summary for Subcatchment 2S: Post

Runoff = 1.15 cfs @ 12.21 hrs, Volume= 0.100 af, Depth> 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

Area (sf)	CN	Adj	Description
986	48		Brush, Good, HSG B
2,059	55		Woods, Good, HSG B
4,383	61		>75% Grass cover, Good, HSG B
1,008	98		Unconnected pavement, HSG B
2,371	98		Unconnected roofs, HSG B
3,173	58		Meadow, non-grazed, HSG B
13,980	67	63	Weighted Average, UI Adjusted
10,601			75.83% Pervious Area
3,379			24.17% Impervious Area
3,379			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	50	0.1000	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.69"
0.8	45	0.0350	0.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	30	0.0780	1.40		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.0	80	0.0001	0.45	0.16	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010 PVC, smooth interior
14.7	205	Total			

Summary for Link 1L: Pre P.O.A.

Inflow Area = 0.321 ac, 14.13% Impervious, Inflow Depth > 3.87" for 50-yr event
Inflow = 1.20 cfs @ 12.20 hrs, Volume= 0.104 af
Primary = 1.20 cfs @ 12.20 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 2L: Post P.O.A.

Inflow Area = 0.321 ac, 24.17% Impervious, Inflow Depth > 3.76" for 50-yr event
Inflow = 1.15 cfs @ 12.21 hrs, Volume= 0.100 af
Primary = 1.15 cfs @ 12.21 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

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

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.763 degrees West
Latitude	43.072 degrees North
Elevation	0 feet
Date/Time	Wed, 23 Dec 2020 12:00:25 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	Add 15%		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.66	3.06		2.35	2.81	3.22	3.94	4.55	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.49	3.21	3.69		2.84	3.43	3.94	4.68	5.33	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.07	4.68		3.60	4.40	5.04	5.94	6.70	**5yr**
10yr	0.41	0.65	0.82	1.12	1.45	1.89	**10yr**	1.25	1.73	2.23	2.89	3.75	4.87	5.60		4.31	5.32	6.09	7.11	7.98	**10yr**
25yr	0.48	0.76	0.97	1.34	1.77	2.34	**25yr**	1.53	2.14	2.78	3.63	4.74	6.17	7.10		5.46	6.83	7.80	9.03	10.05	**25yr**
50yr	0.54	0.86	1.10	1.54	2.07	2.76	**50yr**	1.79	2.53	3.29	4.32	5.66	7.39	8.50		6.54	8.25	9.42	10.81	11.98	**50yr**
100yr	0.60	0.97	1.25	1.77	2.42	3.26	**100yr**	2.09	2.98	3.90	5.16	6.77	8.85	10.18		7.83	9.98	11.38	12.96	14.27	**100yr**
200yr	0.67	1.10	1.43	2.05	2.82	3.83	**200yr**	2.44	3.52	4.62	6.13	8.08	10.61	12.55	**200yr**	9.39	12.07	13.76	15.55	17.02	**200yr**
500yr	0.80	1.31	1.71	2.48	3.48	4.76	**500yr**	3.00	4.38	5.76	7.70	10.22	13.48	16.14	**500yr**	11.93	15.52	17.67	19.78	21.49	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.88	**1yr**	0.63	0.86	0.92	1.33	1.68	2.24	2.49	**1yr**	1.98	2.40	2.87	3.18	3.90	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.06	3.45	**2yr**	2.71	3.32	3.82	4.55	5.08	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.79	4.19	**5yr**	3.35	4.03	4.72	5.53	6.24	**5yr**
10yr	0.39	0.59	0.73	1.03	1.33	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.37	4.86	**10yr**	3.87	4.67	5.44	6.41	7.20	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.53	4.72	5.89	**25yr**	4.18	5.66	6.65	7.79	8.68	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.35	3.07	3.93	5.33	6.80	**50yr**	4.72	6.54	7.72	9.04	10.02	**50yr**
100yr	0.54	0.81	1.01	1.47	2.01	2.47	**100yr**	1.73	2.41	2.63	3.41	4.35	6.00	7.85	**100yr**	5.31	7.55	8.98	10.51	11.56	**100yr**
200yr	0.59	0.89	1.13	1.63	2.28	2.81	**200yr**	1.96	2.75	2.93	3.78	4.79	6.72	9.06	**200yr**	5.95	8.71	10.42	12.22	13.37	**200yr**
500yr	0.68	1.02	1.31	1.90	2.71	3.36	**500yr**	2.34	3.29	3.41	4.31	5.45	7.82	10.94	**500yr**	6.92	10.52	12.69	14.96	16.19	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.21	2.98	3.16	**1yr**	2.64	3.04	3.58	4.37	5.04	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.51	3.42	3.70	**2yr**	3.03	3.56	4.09	4.84	5.63	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.15	1.58	1.88	2.53	3.25	4.34	4.96	**5yr**	3.84	4.77	5.38	6.37	7.16	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.93	2.28	3.11	3.95	5.34	6.20	**10yr**	4.72	5.96	6.82	7.84	8.75	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.57	**25yr**	1.77	2.51	2.95	4.07	5.15	7.78	8.34	**25yr**	6.88	8.02	9.15	10.34	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.60	5.00	6.32	9.74	10.46	**50yr**	8.62	10.06	11.44	12.72	13.96	**50yr**
100yr	0.79	1.19	1.49	2.16	2.96	3.81	**100yr**	2.55	3.72	4.37	6.16	7.76	12.18	13.10	**100yr**	10.78	12.60	14.31	15.69	17.09	**100yr**
200yr	0.92	1.39	1.76	2.55	3.56	4.65	**200yr**	3.07	4.55	5.34	7.58	9.54	15.28	16.44	**200yr**	13.53	15.81	17.92	19.35	20.92	**200yr**
500yr	1.15	1.71	2.19	3.19	4.53	6.04	**500yr**	3.91	5.90	6.93	10.02	12.56	20.65	22.20	**500yr**	18.27	21.34	24.13	25.51	27.34	**500yr**

Powered by ACIS Northeast Regional Climate Center

Soil Map—Rockingham County, New Hampshire
(1 Sagamore Grove, Portsmouth)

Map Scale: 1:505 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 26, Aug 22, 2023

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	1.0	100.0%
Totals for Area of Interest		**1.0**	**100.0%**

STORMWATER INSPECTION AND MAINTENANCE MANUAL

Brett Berger
Flippin Bergers, LLC
Assessor's Map 201, Lot 8
1 Sagamore Grove
Portsmouth, NH 03801

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner:	*Brett Berger*	*Flippin Bergers, LLC*	*(914) 299-4438*
	Name	*Company*	*Phone*
Inspection:	*Brett Berger*	*Flippin Bergers, LLC*	*(914) 299-4438*
	Name	*Company*	*Phone*
Maintenance:	*Brett Berger*	*Flippin Bergers, LLC*	*(914) 299-4438*
	Name	*Company*	*Phone*

NOTES:

Inspection and maintenance responsibilities shall transfer to any future property owner(s).

This manual shall be updated as needed to reflect any changes related to any transfer of ownership and/or any delegation of inspection and maintenance responsibilities to another entity

DRIP STRIPS

Function – Drip strips are to provide erosion control of surface where impervious surfaces meet non-impervious surfaces, such as building or roadway edges. They also can provide for the infiltration and treatment of runoff and are particularly effective for roof-generated stormwater.

Maintenance

- Drip strips should be inspected annually for erosion, rutting, and migration of stone. Any areas experiencing erosion shall be properly maintained by replacing or adding additional stone to the area of concern.
- Remove litter such as trash, leaves, lawn clippings and pet wastes in the spring and fall.

LANDSCAPED AREAS – ORGANIC FERTILIZER MANAGEMENT

Function – All fertilizer used on site shall be certified organic. Organic fertilizer management involves controlling the rate, timing and method of organic fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Organic fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply organic fertilizer to frozen ground.
- Clean up any organic fertilizer spills.
- Do not allow organic fertilizer to be broadcast into water bodies.
- When organically fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminates that may block drainage systems and pollute the surface and ground waters.

Maintenance

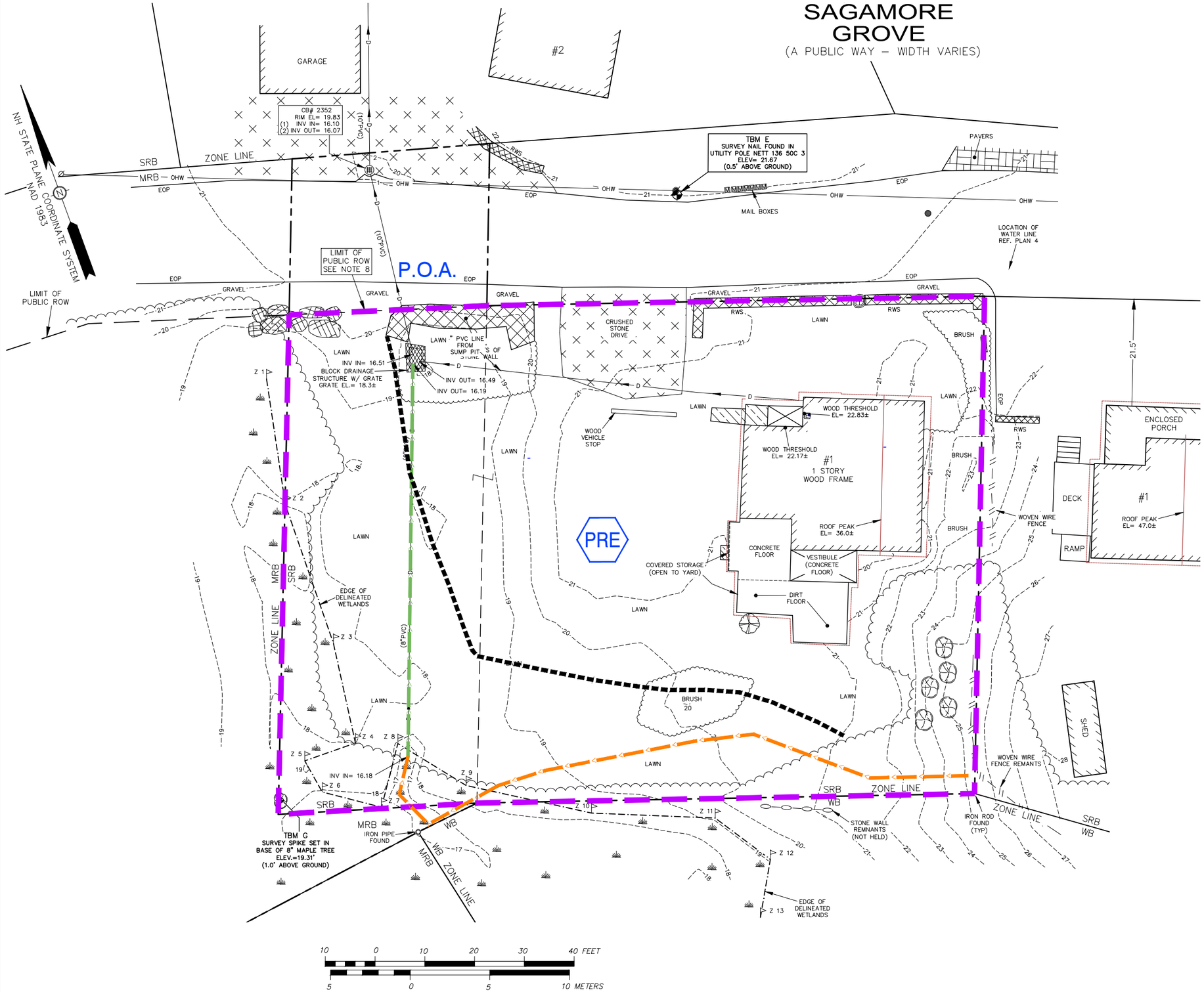
- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

GENERAL CLEAN UP

- Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch basin inlet filter, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drainpipes that may have accumulated during construction.
- Once in operation, all paved areas of the site should be swept at least once annually at the end of winter/early spring prior to significant spring rains.

SAGAMORE GROVE

(A PUBLIC WAY – WIDTH VARIES)



ENGINEER:

ALTUS ENGINEERING

133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

5/29/24

ISSUED FOR: APPROVAL

ISSUE DATE: MAY 29, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	EDW	05/29/24

DRAWN BY: RMB
APPROVED BY: EDW
DRAWING FILE: 5534.DWG

SCALE:
22" x 34" – 1" = 10'
11" x 17" – 1" = 20'

PROJECT/LOCATION:

PROPOSED SINGLE-FAMILY RESIDENCE
1 SAGAMORE GROVE
PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201–8

OWNER/APPLICANT:

FLIPPIN BERGERS, LLC
71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201–8
RCRD 6530/243

TITLE:

PRE-DEVELOPMENT WATERSHED PLAN

SHEET NUMBER:

WS - 1

P5534

ENGINEER:

ALTUS ENGINEERING

133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE – ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER

5/29/24

ISSUED FOR:
APPROVAL

ISSUE DATE:
MAY 29, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	EDW	05/29/24

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APPROVED BY: EDW
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22" x 34" – 1" = 10'
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PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201–8

OWNER/APPLICANT:

FLIPPIN BERGERS, LLC
71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201–8
RCRD 6530/243

TITLE:

POST-DEVELOPMENT WATERSHED PLAN

SHEET NUMBER:

WS - 2

P5534

THIS DRAWING SET HAS NOT BEEN RELEASED FOR CONSTRUCTION

FLIPPIN BERGERS, LLC
SINGLE-FAMILY RESIDENCE

1 Sagamore Grove
Portsmouth, New Hampshire

Assessor's Parcel 201, Lot 8

ISSUED FOR CUP APPROVAL

Plan Issue Date:

MAY 29, 2024

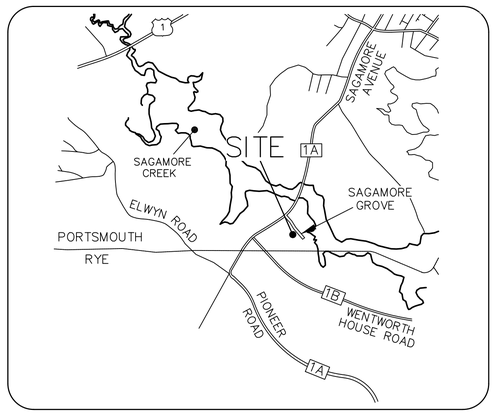
Owner/Applicant:
FLIPPIN BERGERS, LLC

71 Brackett Road
Portsmouth, NH 03801
(603) 299–4438

Civil Engineer:
ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

Surveyor:
James Verra
& Associates Inc.
LAND SURVEYORS
101 SHATTUCK WAY, SUITE 8
Newington, New Hampshire
03801–7876
Tel 603–436–3557

Wetland Scientist:
MICHAEL CUOMO, CWS
6 York Pond Road
York, ME 03909
(207) 363–4532



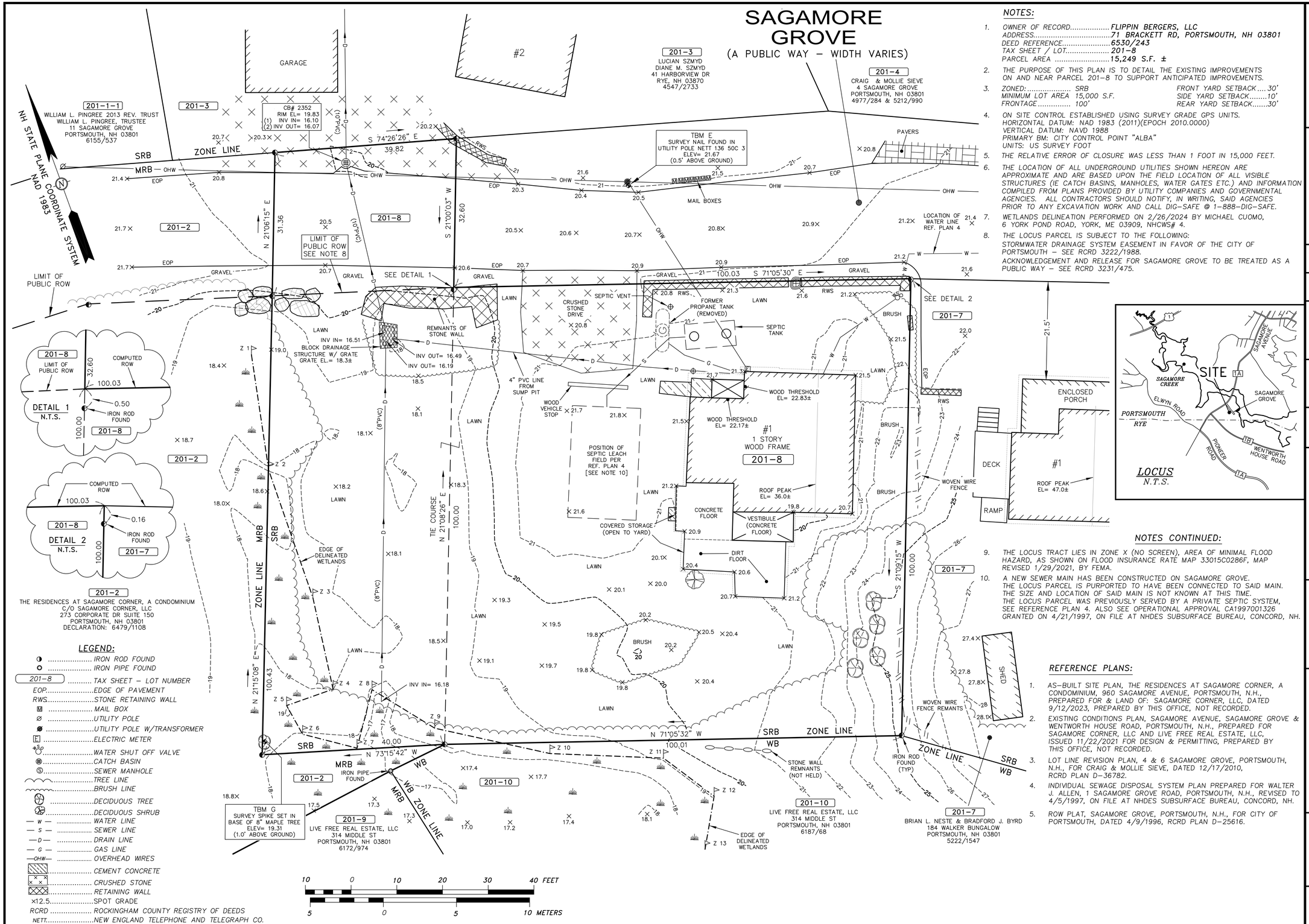
LOCUS NOT TO SCALE

Sheet Index Title	***Sheet No.:***	***Rev.***	***Date***
Existing Conditions Plan (by JVA)	1 OF 1	0	03/28/24
Site Plan	C–1	0	05/29/24
Wetlands Conditional Use Permit Plan	C–2	0	05/29/24
Sitework Construction Details	C–3	0	05/29/24

P5225

SAGAMORE GROVE

(A PUBLIC WAY – WIDTH VARIES)



LOCUS
N.T.S.

NOTES:

1. *OWNER OF RECORD..... FLIPPIN BERGERS, LLC*
   ADDRESS..... 71 BRACKETT RD, PORTSMOUTH, NH 03801
   DEED REFERENCE..... 6530/243
   TAX SHEET / LOT..... 201–8
   PARCEL AREA ..... 15,249 S.F. ±
2. *THE PURPOSE OF THIS PLAN IS TO DETAIL THE EXISTING IMPROVEMENTS ON AND NEAR PARCEL 201–8 TO SUPPORT ANTICIPATED IMPROVEMENTS.*
3. *ZONED:..... SRB*
   MINIMUM LOT AREA 15,000 S.F.
   FRONTAGE..... 100'
   FRONT YARD SETBACK.... 30'
   SIDE YARD SETBACK..... 10'
   REAR YARD SETBACK..... 30'
4. *ON SITE CONTROL ESTABLISHED USING SURVEY GRADE GPS UNITS.*
   HORIZONTAL DATUM: NAD 1983 (2011)(EPOCH 2010.0000)
   VERTICAL DATUM: NAVD 1988
   PRIMARY BM: CITY CONTROL POINT "ALBA"
   UNITS: US SURVEY FOOT
5. *THE RELATIVE ERROR OF CLOSURE WAS LESS THAN 1 FOOT IN 15,000 FEET.*
6. *THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG–SAFE @ 1–888–DIG–SAFE.*
7. *WETLANDS DELINEATION PERFORMED ON 2/26/2024 BY MICHAEL CUOMO, 6 YORK POND ROAD, YORK, ME 03909, NHCWS# 4.*
8. *THE LOCUS PARCEL IS SUBJECT TO THE FOLLOWING:*
   STORMWATER DRAINAGE SYSTEM EASEMENT IN FAVOR OF THE CITY OF PORTSMOUTH – SEE RCRD 3222/1988.
   ACKNOWLEDGEMENT AND RELEASE FOR SAGAMORE GROVE TO BE TREATED AS A PUBLIC WAY – SEE RCRD 3231/475.

NOTES CONTINUED:

9. *THE LOCUS TRACT LIES IN ZONE X (NO SCREEN), AREA OF MINIMAL FLOOD HAZARD, AS SHOWN ON FLOOD INSURANCE RATE MAP 33015C0286F, MAP REVISED 1/29/2021, BY FEMA.*
10. *A NEW SEWER MAIN HAS BEEN CONSTRUCTED ON SAGAMORE GROVE. THE LOCUS PARCEL IS PURPORTED TO HAVE BEEN CONNECTED TO SAID MAIN. THE SIZE AND LOCATION OF SAID MAIN IS NOT KNOWN AT THIS TIME. THE LOCUS PARCEL WAS PREVIOUSLY SERVED BY A PRIVATE SEPTIC SYSTEM, SEE REFERENCE PLAN 4. ALSO SEE OPERATIONAL APPROVAL CA1997001326 GRANTED ON 4/21/1997, ON FILE AT NHDES SUBSURFACE BUREAU, CONCORD, NH.*

REFERENCE PLANS:

1. *AS–BUILT SITE PLAN, THE RESIDENCES AT SAGAMORE CORNER, A CONDOMINIUM, 960 SAGAMORE AVENUE, PORTSMOUTH, N.H., PREPARED FOR & LAND OF: SAGAMORE CORNER, LLC, DATED 9/12/2023, PREPARED BY THIS OFFICE, NOT RECORDED.*
2. *EXISTING CONDITIONS PLAN, SAGAMORE AVENUE, SAGAMORE GROVE & WENTWORTH HOUSE ROAD, PORTSMOUTH, N.H., PREPARED FOR SAGAMORE CORNER, LLC AND LIVE FREE REAL ESTATE, LLC, ISSUED 11/22/2021 FOR DESIGN & PERMITTING, PREPARED BY THIS OFFICE, NOT RECORDED.*
3. *LOT LINE REVISION PLAN, 4 & 6 SAGAMORE GROVE, PORTSMOUTH, N.H., FOR CRAIG & MOLLIE SIEVE, DATED 12/17/2010, RCRD PLAN D–36782.*
4. *INDIVIDUAL SEWAGE DISPOSAL SYSTEM PLAN PREPARED FOR WALTER J. ALLEN, 1 SAGAMORE GROVE ROAD, PORTSMOUTH, N.H., REVISED TO 4/5/1997, ON FILE AT NHDES SUBSURFACE BUREAU, CONCORD, NH.*
5. *ROW PLAT, SAGAMORE GROVE, PORTSMOUTH, N.H., FOR CITY OF PORTSMOUTH, DATED 4/9/1996, RCRD PLAN D–25616.*

LEGEND:

- ◑ ..... *IRON ROD FOUND*
- ○ ..... *IRON PIPE FOUND*
- 201–8 ..... *TAX SHEET – LOT NUMBER*
- *EOP*..... *EDGE OF PAVEMENT*
- *RWS*..... *STONE RETAINING WALL*
- Ⓜ ..... *MAIL BOX*
- ⌀ ..... *UTILITY POLE*
- ◉ ..... *UTILITY POLE W/TRANSFORMER*
- Ⓔ ..... *ELECTRIC METER*
- ..... *WATER SHUT OFF VALVE*
- Ⓒ ..... *CATCH BASIN*
- Ⓢ ..... *SEWER MANHOLE*
- ..... *TREE LINE*
- ..... *BRUSH LINE*
- ..... *DECIDUOUS TREE*
- ..... *DECIDUOUS SHRUB*
- — W — ..... *WATER LINE*
- — S — ..... *SEWER LINE*
- — D — ..... *DRAIN LINE*
- — G — ..... *GAS LINE*
- —OHW— ..... *OVERHEAD WIRES*
- ..... *CEMENT CONCRETE*
- ..... *CRUSHED STONE*
- ..... *RETAINING WALL*
- ×12.5..... *SPOT GRADE*
- *RCRD* ..... *ROCKINGHAM COUNTY REGISTRY OF DEEDS*
- *NETT*..... *NEW ENGLAND TELEPHONE AND TELEGRAPH CO.*

SURVEYOR:
JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8
NEWINGTON, N.H., 03801–7876
603–436–3557

JOB NO: 24–2004
PLAN NO: 24–2004

ENGINEER:
ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ISSUED FOR:
ENGINEERING DESIGN

ISSUE DATE:
MARCH 28, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ENGINEERING DESIGN	JCS	3/27/24
2	ADD ABUTTING RESIDENCE	JCS	3/28/24

DRAWN BY: JCS
APPROVED BY: JCS
DRAWING FILE: 24–2004.DWG

SCALE:
22" x 34" – 1" = 10'
11" x 17" – 1" = 20'

PROJECT/LOCATION:
PROPOSED SITE IMPROVEMENTS
1 SAGAMORE GROVE PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201–8

OWNER/APPLICANT:
FLIPPIN BERGERS, LLC
71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201–8
RCRD 6530/243

STATE OF NEW HAMPSHIRE NO. 924 JOHN C. SALTER LICENSED LAND SURVEYOR
SIGNATURE

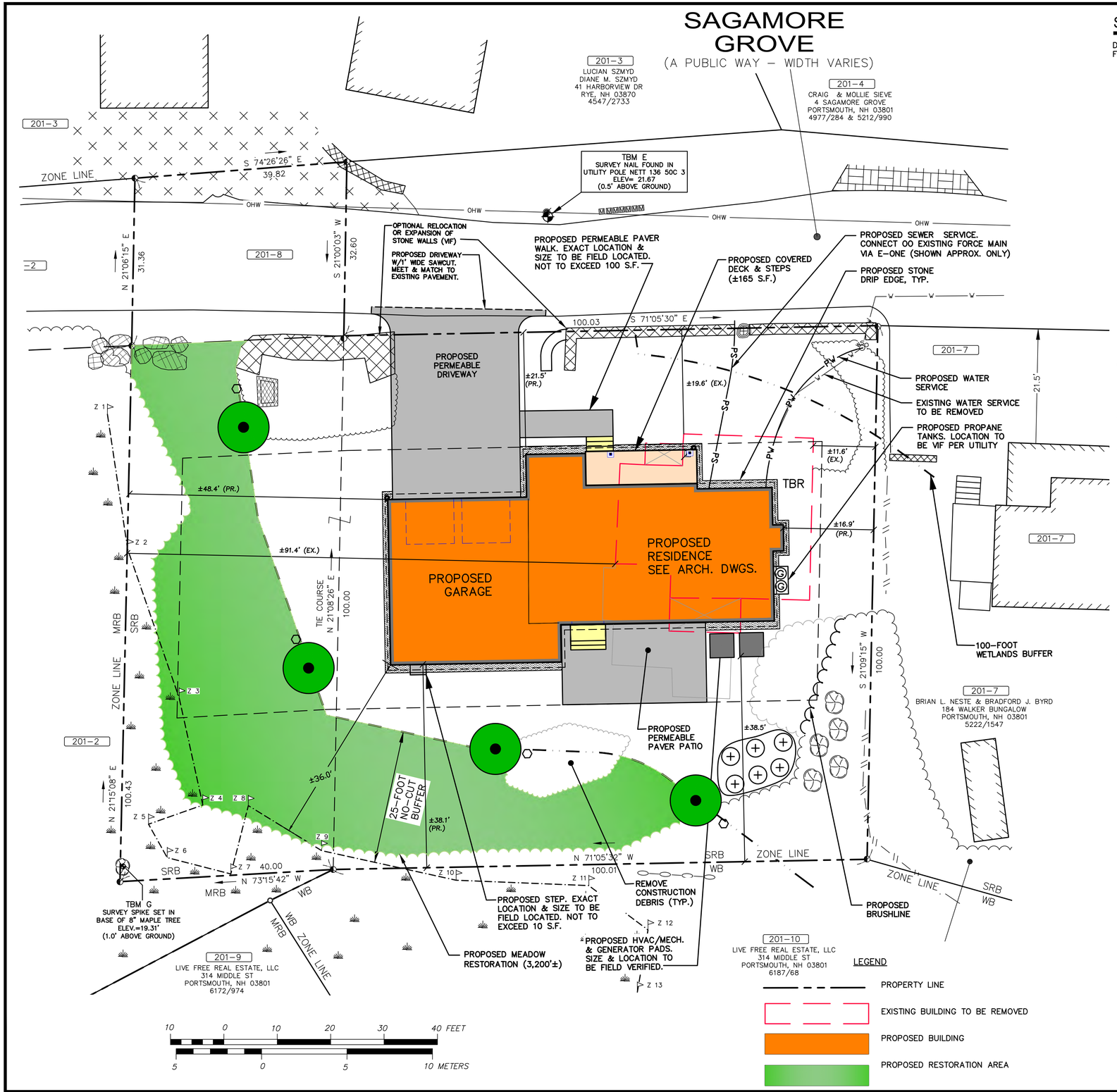
TITLE:
EXISTING CONDITIONS PLAN

SHEET NUMBER:
1 OF 1

P5534

SAGAMORE GROVE

(A PUBLIC WAY – WIDTH VARIES)



SITE NOTES

DESIGN INTENT – THIS PLAN SET IS INTENDED TO DEPICT THE REPLACEMENT OF A SINGLE FAMILY RESIDENCE.

1. APPROXIMATE LOT AREA: 15,249 S.F.± (0.36 AC.±)
2. ZONE: (SRB) SINGLE RESIDENCE B
3. DIMENSIONAL REQUIREMENTS – (SRB) SINGLE RESIDENCE B

	REQUIRED	EXISTING	PROVIDED
MIN. LOT AREA:	15,000 S.F.	±15,249 SF	±15,249 SF
MIN. STREET FRONTAGE:	100'	100'	100'
MIN. LOT DEPTH:	100'	100'	100'
FRONT SETBACK: *	30' (21.5')	±19.6'	±21.5'
SIDE SETBACK (RIGHT):	10'	±91.4'	±48.4'
SIDE SETBACK (LEFT):	10'	±11.6'	±16.9'
REAR SETBACK:	30'	±42.8'	±38.1'
MAX. BUILDING HEIGHT:	35'	<35'	<35'
MAX. BUILDING COVERAGE:	20%	1,095 SF 7.2%)	2,280 SF (15.0%)
MIN. OPEN SPACE:	40%	13,219 SF (86.7%)	11,555 SF (75.8%)

* FRONT SETBACK CAN BE AN AVERAGE OF ABUTTING PARCELS IN THE SAME ZONE. TAX MAP 201/7 IS 21.5' = 21.5' ALLOWED

4. PARCEL LIES IN ZONE X (NO SCREEN), AREA OF MINIMAL FLOOD HAZARD PER FEMA FIRM MAP NUMBER 33015C0286F, MAP REVISED 1/29/21 BY FEMA.
5. ALL CONSTRUCTION SHALL MEET THE MINIMUM STANDARDS OF THE CITY OF PORTSMOUTH & NHDOT'S STANDARD SPECIFICATION FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
6. PARKING SPACES REQUIREMENTS:

   1.3 SPACES/UNIT X 1 UNIT = 1.3 SPACES REQUIRED

   2 SPACES PROVIDED (IN GARAGE)
7. BASE PLAN: "EXISTING CONDITIONS PLAN" BY JAMES VERRA & ASSOCIATES, INC., DATED 3/28/2024.
8. BUILDING COVERAGE COMPUTATIONS:
   EXISTING BUILDING COVERAGE:
   HOUSE (±980 S.F.) + VESTIBULE/THRESHOLD/STEPS (±115 S.F.)
   = ±1,095 S.F. / 15,249 S.F. = ±7.2%

   PROPOSED BUILDING COVERAGE:
   HOUSE, GARAGE & STEPS (±2,130 S.F.) + COVERED DECK/STEPS (±150 S.F.)
   = ±2,280 S.F./15,249 S.F. = (±15.0%)
9. OPEN SPACE COMPUTATIONS:
   EXISTING OPEN SPACE:
   TOTAL AREA (15,249 S.F.– EXISTING BLDG., VESTIBULE, THRESHOLD & STEPS (±1,095 S.F.) – COVERED STORAGE/CONCRETE FLOOR/DIRT FLOOR & STEP (±365 S.F.) – CONC. WALKS (±40 S.F.) – CRUSHED STONE DRIVE/PARKING (±530 S.F.)
   = OPEN SPACE OF ±13,219 S.F. / 15,249 S.F. = (±86.7%)

   PROPOSED OPEN SPACE:
   TOTAL AREA (15,249 S.F. – PROP. RESIDENCE W/ATTACHED GARAGE, PORCH & STEPS (±2,280 S.F.) – PAVER DRIVEWAY (±770 S.F.) – PROP. PATIO (±375 S.F.) – PROP. CONC. PADS (±60 S.F.) – PROP. WALKS/STEP (±110 S.F.) = OPEN SPACE = ±11,654 S.F. (±76.4%)
10. PARCEL LIES WITHIN 250 FEET OF SAGAMORE CREEK; A NHDES SHORELAND PERMIT WILL BE REQUIRED.

ENGINEER:
ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE – ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER
5/29/24

ISSUED FOR: APPROVAL

ISSUE DATE: MAY 29, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	EDW	5/29/24

DRAWN BY: RLH
APPROVED BY: EDW
DRAWING FILE: 5534.DWG

SCALE:
22" x 34" – 1" = 10'
11" x 17" – 1" = 20'

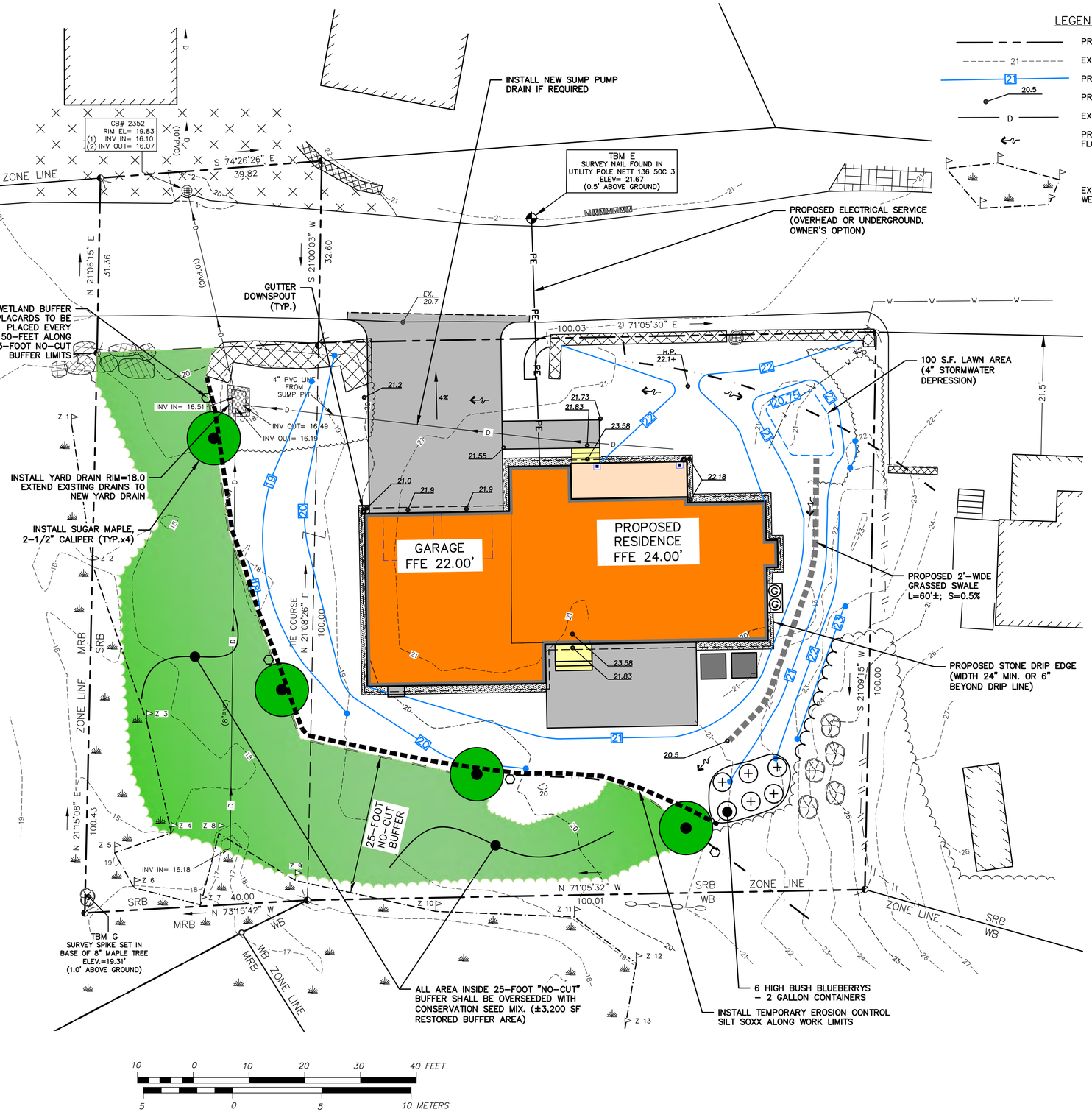
PROJECT/LOCATION:
PROPOSED SINGLE-FAMILY RESIDENCE
1 SAGAMORE GROVE
PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201–8

OWNER/APPLICANT:
FLIPPIN BERGERS, LLC
71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201–8
RCRD 6530/243

TITLE:
SITE PLAN

SHEET NUMBER:
C - 1

P5534



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- EXISTING DRAIN LINE
- PROPOSED DRAINAGE FLOW PATH
- EXISTING FLAGGED WETLANDS

CONDITIONAL USE AREAS:

LOT AREA:	±15,249 S.F.
WETLANDS AREA:	±750 S.F. (±4.9% OF LOT AREA)
WETLANDS & 100-FOOT WETLANDS BUFFER:	±14,700 S.F. (±96.4% OF LOT AREA)
AREA OF LOT OUTSIDE 100-FOOT WETLAND BUFFER	±549 S.F. (±3.6% OF LOT AREA)
WETLAND BUFFER RESTORATION AREA:	±3,200 S.F. (±21.0% OF LOT AREA)
EXISTING NATURAL BUFFER AREA	±2,700 S.F.
TOTAL AREA TO BE NATURALIZED AND/OR REMAINING NATURAL	±5,500 S.F. (±36.1% OF LOT AREA)
EXISTING BUFFER AREA IMPERVIOUS	± 2,030 S.F.
PROPOSED BUFFER AREA IMPERVIOUS	± 3,690 S.F. (INCLUDING 1,175 S.F OF PERMEABLE SURFACES)
EXISTING BUILDING DISTANCE TO WETLAND	± 37.8 FT
PROPOSED BUILDING DISTANCE TO WETLAND	± 36 FT
BUFFER DISTURBANCE AREA	±7,900 SF
SITE DISTURBANCE TO WETLAND	± 25 S.F.

* USE OF FERTILIZERS OTHER THAN SLOW RELEASE NITROGEN FERTILIZERS IS PROHIBITED ON THE SITE

* USE OF PESTICIDES OR HERBICIDES ARE PROHIBITED ON THE PROPERTY

STORMWATER MANANGEMENT NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
4. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
5. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBM) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
6. PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
7. TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
8. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
9. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
10. IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
11. NO EARTHWORK, STUMPING OR GRUBBING SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
12. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH IN THE NHDES NH STORMWATER MANUALS, VOL. 1-3, DATED DECEMBER 2008 AS AMENDED.
13. CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
14. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
15. ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADEABLE.
16. ALL SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
17. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF COMPACTED LOAM, LIMESTONE, ORGANIC FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES.
18. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
19. SLOW RELEASE FERTILIZER SHALL BE USED IN THE 100-FOOT BUFFER.

P5534

ENGINEER:
ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE
ERIC D. WEINRIEB
No. 7634
LICENSED PROFESSIONAL ENGINEER
5/29/24

ISSUED FOR: APPROVAL

ISSUE DATE: MAY 29, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	EDW	5/29/24

DRAWN BY: RLH
APPROVED BY: EDW
DRAWING FILE: 5534.DWG

SCALE:
22" x 34" - 1" = 10'
11" x 17" - 1" = 20'

PROJECT/LOCATION:
PROPOSED SINGLE-FAMILY RESIDENCE
1 SAGAMORE GROVE
PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201-8

OWNER/APPLICANT:
FLIPPIN BERGERS, LLC
71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201-8
RCRD 6530/243

TITLE:
WETLANDS CONDITIONAL USE PERMIT APPLICATION PLAN

SHEET NUMBER:
C - 2

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

PROPOSED SITE IMPROVEMENTS
1 SAGAMORE GROVE
PORTSMOUTH, NEW HAMPSHIRE
TAX MAP 201 LOT 8

LONGITUDE: 70°44'48" W
LATITUDE: 43°03'13" N

OWNER / APPLICANT:

FLIPPIN BERGERS, LLC.
71 BRACKETT ROAD
PORTSMOUTH, NH 038001

DESCRIPTION

The project consists of the development of the lot for the construction of a single–family residential home along with associated site improvements.

DISTURBED AREA

The total area to be disturbed for the redevelopment improvements is approximately 7,900 S.F. (±0.18 acres).

PROJECT PHASING

The proposed project will be completed in one phase.

NAME OF RECEIVING WATER

The site drains overland to the Piscataqua River.

SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control measures including silt fences, stabilized construction entrance and inlet sediment filters as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
2. Raze existing structures,
3. Strip loam and stockpile.
4. Site features as shown on plan.
5. Rough grade site including placement of borrow materials.
6. Construct drainage structures, culverts, utilities, swales & pavement base course materials.
7. Loam (6" min) and seed all disturbed areas not paved or otherwise stabilized.
8. Install pavers.
9. When all construction activity is complete and site is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 – 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, & level spreaders prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.25 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built–up sediment shall be removed from silt fence or other barriers when it has reached one–third the height of the fence or bale, or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. An area shall be considered stable if one of the following has occurred:
   a. Base coarse gravels have been installed in areas to be paved;
   b. A minimum of 85% vegetated growth as been established;
   c. A minimum of 3 inches of non–erosive material such as stone of riprap has been installed; – or –
   d. Erosion control blankets have been properly installed.
9. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing – In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
   a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
   b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

2. Guidelines for Winter Mulch Application –

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting (Erosion Blanket	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1–1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	* The organic matter content is between 80 and 100% dry weight basis. * Particle size by weight is 100% passing a 6" screen and a minimum of 70 %, maximum of 85%, passing a 0.75" screen. * The organic portion needs to be fibrous and elongated. * Large portions of silts, clays or fine sands are not acceptable in the mix. * Soluble salts content is less than 4.0 mmhos/cm. * The pH should fall between 5.0 and 8.0.

3. Maintenance – 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.

C. TEMPORARY GRASS COVER

1. Seedbed Preparation –
   Apply fertilizer at the rate of 600 pounds per acre of 10–10–10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.

2. Seeding –
   a. Utilize annual rye grass at a rate of 40 lbs/acre.
   b. Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
   c. Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.

3. Maintenance –
   Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

D. FILTERS

1. Sequence of Installation –
   Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.

2. Maintenance –
   a. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.
   b. 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 still is necessary, the fabric shall be replaced promptly.
   a. Sediment deposits must be removed when deposits reach approximately one–third (1/3) the height of the barrier.
   b. Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.
   c. Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

E. PERMANENT SEEDING –

1. Bedding – stones larger than 1½", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.

2. Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

   Agricultural Limestone @ 100 lbs. per 1,000 s.f.
   10–20–20 fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (recommended):

Type	Lbs. / Acre	Lbs. / 1,000 sf
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Seed Mixture (For slope embankments):
Grass Seed: Provide fresh, clean, new–crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified:

Type	Min. Purity (%)	Min. Germination (%)	Kg./Hectare (lbs/Acre)
Creeping Red Fescue (c)	96	85	45 (40)
Perennial Rye Grass (a)	98	90	35 (30)
Redtop	95	80	5 (5)
Alsike Clover	97	90(e)	5 (5)
		Total	90 (80)

   a. Ryegrass shall be a certified fine–textured variety such as Pennfine, Fiesta, Yorktown, Diplomat, or equal.
   b. Fescue varieties shall include – Creeping Red and/or Hard Reliant, Scaldis, Koket, or Jamestown.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

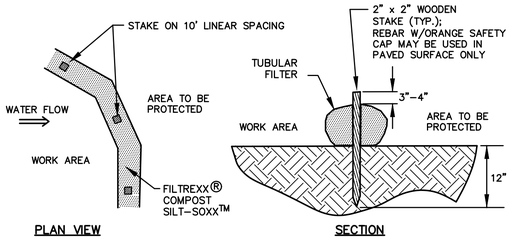
4. Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding on area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;

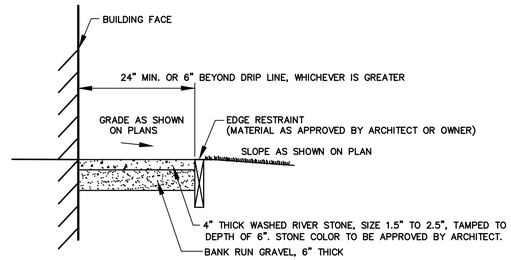
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and

3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.

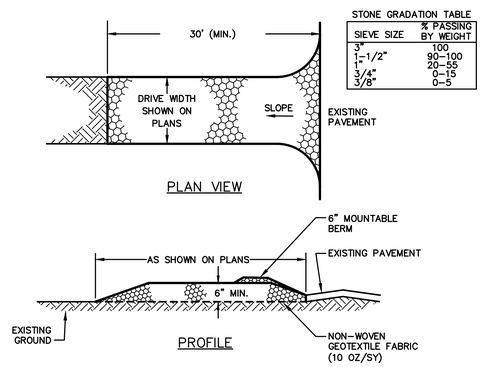


NOTES:
1. SILTSOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
3. COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
4. ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE



DRIP EDGE DETAIL NOT TO SCALE



STONE GRADATION TABLE

SIEVE SIZE	% PASSING BY WEIGHT
3"	100
1–1/2"	90–100
1"	20–55
3/4"	0–15
3/8"	0–5

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – NHDOT STANDARD STONE SIZE #4 – SECTION 703 OF NHDOT STANDARD.
2. LENGTH – DETAILED ON PLANS (50 FOOT MINIMUM).
3. THICKNESS – SIX (6) INCHES (MINIMUM).
4. WIDTH – FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
5. FILTER FABRIC – MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
6. SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS–OF–WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.

STABILIZED CONSTRUCTION EXIT NOT TO SCALE

P5534

ENGINEER:
ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
5/29/24

ISSUED FOR: APPROVAL

ISSUE DATE: MAY 29, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EDW	5/9/24

DRAWN BY: RLH
APPROVED BY: EDW
DRAWING FILE: 5534.DWG

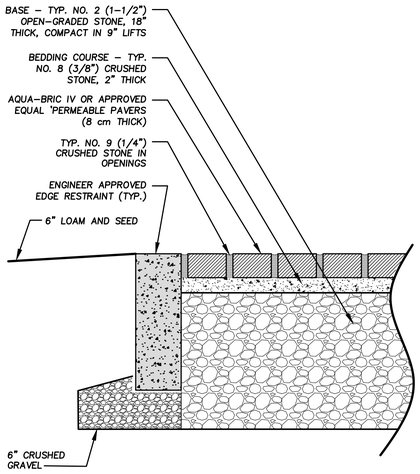
SCALE:
22" x 34" – N.T.S.
11" x 17" – N.T.S.

PROJECT/LOCATION:
PROPOSED SINGLE-FAMILY RESIDENCE
1 SAGAMORE GROVE
PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201–8

OWNER/APPLICANT:
FLIPPIN BERGERS, LLC
71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201–8
RCRD 6530/243

TITLE:
DETAIL SHEET

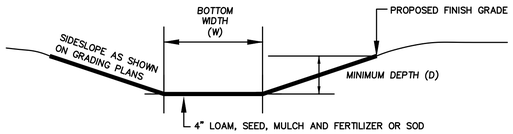
SHEET NUMBER:
C - 3



SIEVE SIZE	PERCENT PASSING		
	No. 9 (1/4")	No. 8 (3/8")	No. 2 (1 1/2")
3 in	–	–	100
2 1/2 in	–	–	90 – 100
2 in	–	–	35 – 70
1 1/2 in	–	–	0 – 15
3/4 in	–	–	0 – 5
1/2 in	100	100	–
3/8 in	90 – 100	85 – 100	–
No. 4	20 – 55	10 – 30	–
No. 8	5 – 30	0 – 10	–
No. 16	0 – 10	0 – 5	–
No. 50	0 – 5	–	–

PERMEABLE PAVERS DETAIL

NOT TO SCALE

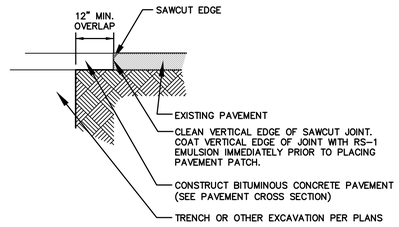


NOTES

1. THE FOUNDATION AREA OF THE WATERWAY SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL. MATERIALS REMOVED SHALL BE DISPOSED OF SO THEY WILL NOT INTERFERE WITH THE CONSTRUCTION OR PROPER FUNCTIONING OF THE WATERWAY.
2. THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA. THE WATERWAY SHALL BE FREE OF IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED WATERWAY. EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE EROSION AND AIR AND WATER POLLUTION. ALL APPROPRIATE STATE AND LOCAL LAWS AND REGULATIONS SHALL BE COMPLIED WITH FOR INSTALLATION.
5. VEGETATION SHALL BE ESTABLISHED IN THE SWALE PRIOR TO ALLOWING STORMWATER RUNOFF TO FLOW THROUGH THE SWALE.
6. MAINTENANCE OF THE VEGETATION IN THE GRASSED WATERWAY IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION, AND FAILURE OF THE WATERWAY. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION AND TO KEEP THE GRASSES IN A VIGOROUS CONDITION. THE VEGETATION SHOULD NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE IN THE WATERWAY.
7. THE WATERWAY SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE WATERWAY. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.
8. PERIODIC APPLICATIONS OF LIME AND FERTILIZER MAY BE NEEDED TO MAINTAIN VIGOROUS GROWTH.

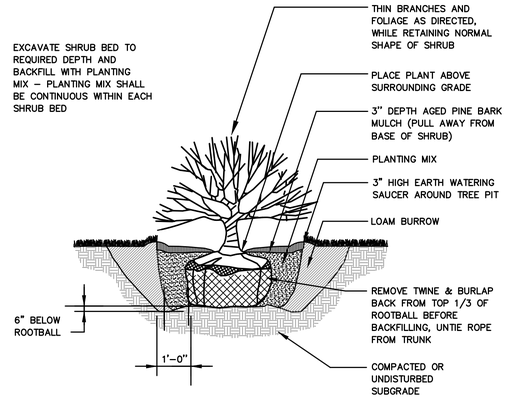
GRASSED SWALE

NOT TO SCALE



TYPICAL PAVEMENT SAWCUT

NOT TO SCALE

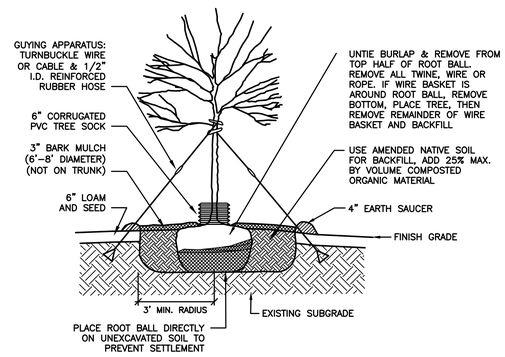


NOTES:

1. PLANT TREE SUCH THAT TOP OF ROOT BALL IS FLUSH WITH GRADE (1" – 2" HIGHER IN SLOW DRAINING SOIL). TRUNK FLARE MUST BE VISIBLE AT THE TOP OF THE ROOT BALL.
2. THREE FLAGGED GUY WIRES TO BE EQUALLY SPACED ABOUT TREE. WOODEN STAKES (24" LENGTH) MAY BE SUBSTITUTED FOR METAL ANCHORS. EITHER OPTION SHALL BE DRIVEN OUTSIDE THE ROOT BALL, PREFERABLY IN UNEXCAVATED SOIL AND REMOVED AT THE END OF THE FIRST GROWING SEASON OR WHEN TREE IS STABILIZED.
3. COORDINATE PRUNING WITH LANDSCAPE ARCHITECT WHEN POSSIBLE. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN. PRUNING OF DEAD OR BROKEN BRANCHES OR CO–DOMINANT LEADERS IS PERMITTED.

SHRUB PLANTING

NOT TO SCALE



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DECIDUOUS TREE PLANTING

NOT TO SCALE

P5534

ENGINEER:
ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
5/29/24

ISSUED FOR: APPROVAL

ISSUE DATE: MAY 29, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
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PROPOSED SINGLE-FAMILY RESIDENCE
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PORTSMOUTH, N.H.
ASSESSOR'S PARCEL 201–8

OWNER/APPLICANT:
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71 BRACKETT ROAD
PORTSMOUTH, NH 03801
ASSESSOR'S PARCEL 201–8
RCRD 6530/243

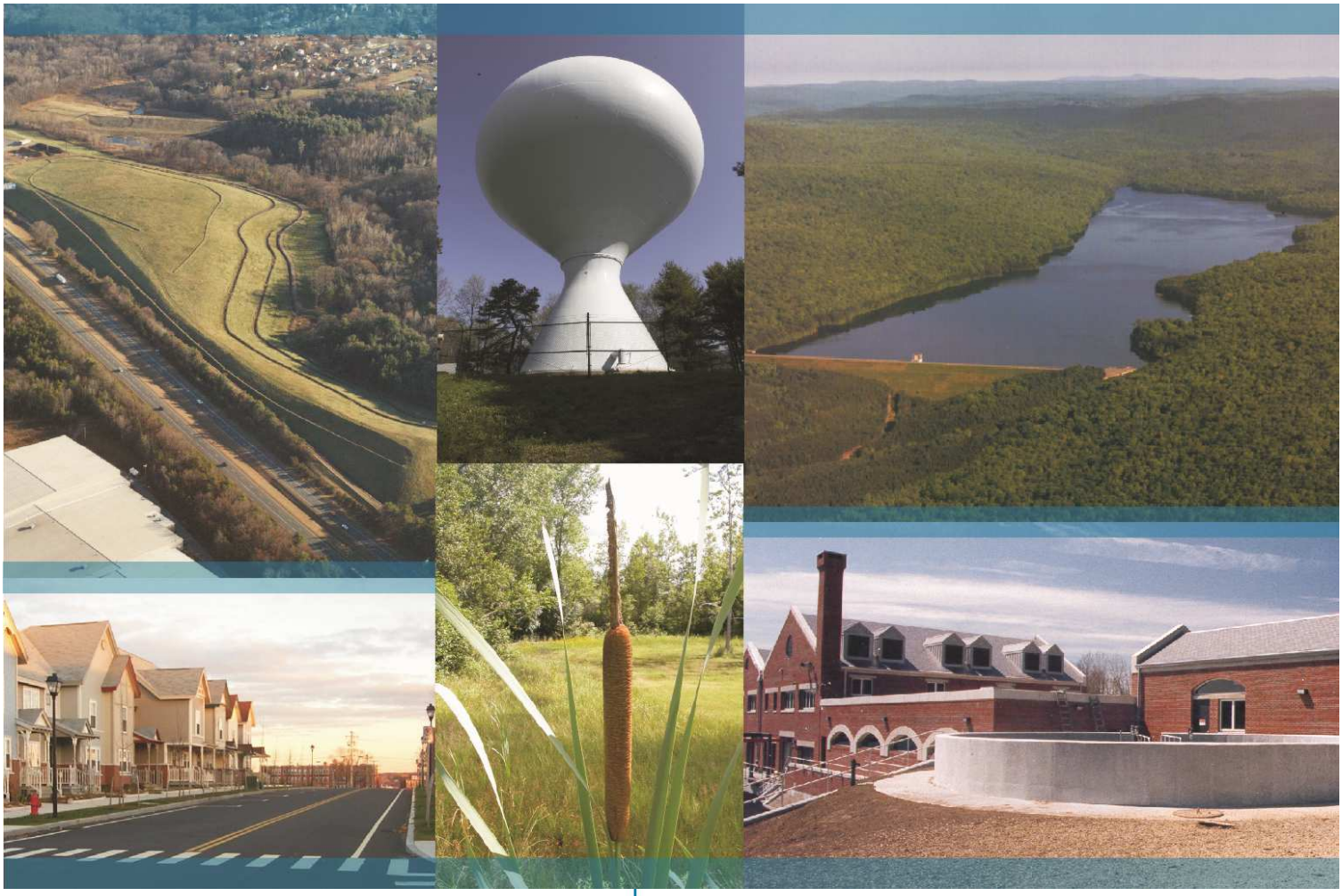
TITLE:
DETAIL SHEET

SHEET NUMBER:
C - 4

Letter of Authorization

I, Brett Berger of Flipping Bergers, LLC, owner of the property located at 1 Sagamore Grove, Portsmouth, NH, hereby authorize Altus Engineering, LLC of Portsmouth, NH to represent us as the Owner and Applicant in all matters concerning the engineering and related permitting on Portsmouth Tax Map 201, Lot 8, Portsmouth, New Hampshire. This authorization shall include any signatures required for Federal, State and Municipal permit applications.

Signature	Brett Berger	5-7-24
	Brett Berger	Date
Witness	RICHARD HACKEMAN	5/7/24
	Print Name	Date



5/1/2024

5/1/2024

Tighe&Bond

Proposed Mixed Use Development
Raynes Avenue
Portsmouth, NH 03801

Standard Dredge and Fill Wetland Permit Application

Prepared For:

North Mill Pond Holdings, LLC
1359 Hookset Road
Hookset, New Hampshire

May 1, 2024

P-0595-007
May 1, 2024

NHDES Wetlands Bureau
29 Hazen Dr., PO Box 95
Concord, NH 03302-0095

Re: **Standard Dredge & Fill Wetlands Application (Major Impact)**
Proposed Mixed Use Development
Raynes Avenue
Portsmouth, New Hampshire

Dear Ms. Duclos:

On behalf of North Mill Pond Holdings, LLC, applicant, we are pleased to submit the following information relative to a Standard Dredge & Fill Wetlands Permit Application for the proposed redevelopment project located at Raynes Ave in Portsmouth, NH.

- One (1) check made payable to the Treasurer-State of NH in the amount of $23,868.00 for the application fee;
- One (1) copy of the Standard Dredge & Fill Wetlands Permit Application and attachments dated May 1, 2024;
- Letter of Transmittal Confirmation – Standard Dredge & Fill Wetlands Permit Application and attachments delivered to the City of Portsmouth, New Hampshire.

Project Description

The proposed project is located at 1 Raynes Avenue, 31 Raynes Avenue & 203 Maplewood Avenue on properties identified as Map 123 Lots 10, 12, 13, 14 & 15-1 on the City of Portsmouth Tax Maps. The existing parcels are bound by Raynes Avenue to south, Maplewood Avenue to the west, North Mill Pond to the north and the municipal land to the east, which is the future site of the North Mill Pond Community Park. The properties include 425+/- linear feet of tidal wetlands and buffers along the North Mill Pond.

The proposed project will include the construction of two (2) 5-story buildings. The first is a mixed-use residential building that has a first-floor residential lobby and two (2) commercial spaces, and 60 upper floor residential units. The second is a hotel building with 124 rooms at the corner of Raynes Ave and Vaughan Street. The project will include associated site improvements such as paving, utilities, lighting, landscaping, and community space. The community space will be located on the land between the mean high water (MHW) line of North Mill Pond and the 50-foot setback; and will be deeded to the City of Portsmouth as community space designated for the City's North Mill Pond Greenway Trail project.

Construction activities will be limited to grading, installation of new utilities, construction of the building, and stabilization of the site. All work will be done in areas that have been previously disturbed.

A Shoreland Permit Application is also being submitted for this project for the work within the 100-250 foot tidal buffer zone (TBZ). As such, the necessary filing fee for this Wetlands Permit Application has been calculated for impacts in the TBZ 0-100 feet from the highest observable tide line (reference line.)

Waiver Request

The attached permit application includes a request for a waiver from Env-Wt 603.08(a) and (b), which require location and documentation of three tidal events by a licensed land surveyor. We have proposed, instead, to use a surveyed mean high water (MHW) line in conjunction with a field delineated and surveyed highest observable tide line (HOTL). All tidal buffer impacts are limited to the upland portion of the tidal buffer and result in no disturbance of the tidal wetland. Further information and justification of the waiver can be found in the Wetlands Rule Waiver request in Appendix A. From this analysis, the proposed project was determined to have a medium risk tolerance and is not at risk of flooding under a predicted sea level rise (SLR) of 5.1 feet by 2124.

Summary of Agency Coordination

The following coordination has been completed relative to the proposed work:

- A DataCheck request was completed through the NH Natural Heritage Bureau (NHB) on February 6, 2024. This check confirmed that there are no recorded occurrences for sensitive species near the project site, therefore not requiring consultation with NH Fish and Game Department.
- This project has received comments from Portsmouth Conservation Commission. These comments were incorporated into plans that have received local approvals, including a Wetland Conditional Use Permit and Site Plan Review approved December 16, 2021.
- The project does not have direct impact to jurisdictional wetlands and, therefore, does not require review or approval from the US Army Corps of Engineers.

Submission Documents

The following documents are included in this submittal in accordance with NH RSA 482-A and the Wetland Rules, Env-Wt 100-900, for a Standard Dredge & Fill Wetlands Permit Application (Major Impact):

- Appendix A – Forms and Narrative
  - Standard Dredge & Fill Wetlands Permit Application
    - Owner List
    - Filing Fee (Copy)
  - Dredge & Fill Attachment A
  - Avoidance & Minimization Checklist
  - Wetlands Rule Waiver Request
  - Coastal Resource Worksheet and Attachments
    - Project Narrative with Construction Sequencing and Project Monitoring
    - Sea Level Rise Table
  - Functional Assessment
    - Wetland & Buffer Report
- Appendix B – Federal and State Coordination
  - NHB DataCheck Results (NHB24-0383)
  - IPAC Species List (2024-0074423)
  - Shoreland Permit Application Worksheet & Exhibits
- Appendix C – Maps & Other Attachments
  - Tax Map
  - Abutters Information
  - Photograph Log

  - Site Location Map
  - Recorded Deed
  - Owner's Letter of Authorization
  - Agent Letter of Authorization
- Appendix D – Figures
  - Figure 1 – Predicted Salt Marsh Migration
  - Figure 2 – Eelgrass Beds and Documented Shellfish Sites
  - Figure 3 – Projected Sea Level Rise
  - Figure 4 – Priority Resource Map
  - Figure 5 – Essential Fish Habitat Map Results
  - Figure 6 – FEMA Flood Map
- Appendix E – Engineering Plans (Bound Separately)

We trust the enclosed information addresses the requirements for a Standard Dredge & Fill Wetlands Permit Application. If you have any questions or require any additional information, please feel free to contact Neil Hansen at (603) 294-9213 or NAHansen@tighebond.com.

Sincerely,
TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Vice President

Neil A. Hansen, PE
Project Manager

Enclosures

Cc: Portsmouth City Clerk
Portsmouth Conservation Commission
Portsmouth Planning Board
Portsmouth City Council
North Mill Pond Holdings, LLC

J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Report_Evaluation\Applications\NHDES\Wetlands\Word Docs\0.00_Cover Letter.docx

TRANSMITTAL

Tighe&Bond

Project No.: 25-0595-007
Date: May 2, 2024

Re: Standard Dredge & Fill Wetlands Application (Major Impact)
Proposed Mixed Use Development
Raynes Avenue, Portsmouth, NH

To: City Clerk's Office
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

Copy:

☐ **FOR SIGNATURE** ☐ **FOR FILE** ☐ **AS REQUESTED** ☐ **FOR REVIEW** ☐ **PLEASE REPLY**

NO. COPIES	DESCRIPTION
4	Hard Copies of Tighe & Bond's Standard Dredge and Fill Wetland Permit Application

Very truly yours,
Tighe & Bond, Inc.

Neil Hansen, PE
Project Manager

177 Corporate Drive • Portsmouth, NH 03801 • Tel 603.433.8818 • Fax 603.433.8988

APPENDIX A

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: North Mill Pond Holdings, LLC c/o Eben Tormey **TOWN NAME:** Portsmouth

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the Waiver Request Form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))

Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: Priority Resource Areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.

Has the required planning been completed?	(●) Yes ( ) No
Does the property contain a PRA? If yes, provide the following information:	(●) Yes ( ) No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHFG) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	( ) Yes ( ) No
• Protected species or habitat? ○ If yes, species or habitat name(s): N/A ○ NHB Project ID #: NHB24-0383	( ) Yes ( ) No
• Bog?	( ) Yes ( ) No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	(●) Yes ( ) No
• Designated prime wetland or duly-established 100-foot buffer?	( ) Yes ( ) No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	(●) Yes ( ) No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): N/A • A copy of the application was sent to the LAC on Month: N/A Day: N/A Year: N/A	( ) Yes ( ) No

For dredging projects, is the subject property contaminated? • If yes, list contaminant: -N/A	◯ Yes ◯ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	◯ Yes ◯ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): N/A	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a description of the project and the purpose of the project, the need for the proposed impacts to jurisdictional areas, an outline of the scope of work to be performed, and whether impacts are temporary or permanent.

The proposed project will include the construction of two (2) 5-story buildings. The first is a mixed-use residential building that has a first-floor residential lobby and two (2) commercial spaces, and 60 upper floor residential units. The second is a hotel building with 124 rooms at the corner of Raynes Ave and Vaughan Street. The project will include associated site improvements such as paving, utilities, lighting, landscaping, and community space. The community space will be located on the land between the mean high water (MHW) line of North Mill Pond and the 50-foot setback; and will be deeded to the City of Portsmouth as community space designated for the City's North Mill Pond Greenway Trail project.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS:	Raynes Avenue
TOWN/CITY:	Portsmouth
TAX MAP/BLOCK/LOT/UNIT:	Map 123, Lot 10, 12, 13, 14 & 15-1
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: ☐ N/A	North Mill Pond
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	43.08015 -70.76420

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: North Mill Pond Holdings, LLC, c/o Eben Tormey		
MAILING ADDRESS: 1359 Hooksett Road		
TOWN/CITY: Hooksett	STATE: NH	ZIP CODE: 03106
EMAIL ADDRESS: eben@xsshotels.com		
FAX: -	PHONE: 530-386-4511	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))

☐ N/A

LAST NAME, FIRST NAME, M.I.: Hansen, Neil		
COMPANY NAME: Tighe & Bond, Inc.		
MAILING ADDRESS: 177 Corporate Drive		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: nahansen@tighebond.com		
FAX: -	PHONE: 603-433-8818	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME: See attached List of Owners		
MAILING ADDRESS:		
TOWN/CITY:	STATE:	ZIP CODE:
EMAIL ADDRESS:		
FAX:	PHONE:	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

Env-Wt 400: The jurisdictional wetland and 100-foot tidal buffer were delineated and assessed by Tighe & Bond on October 29 and December 2, 2019. The proposed project preserves the existing tidal wetland resource and reduces impervious surface in the tidal buffer zone.

Env-Wt 500: Not applicable, does not apply to coastal project, per Env-Wt 509.02(b).

Env-Wt 600: This project is classified as a Major Impact project because it will result in greater than 10,000 square feet (SF) of temporary and permanent impacts within the tidal buffer zone. The existing 100-foot tidal buffer is highly developed and consists primarily of maintained lawn, a commercial building and a parking lot. There are small patches of shrubby vegetation and small trees at the tops of the slopes between the lawn and tidal wetlands, particularly at both ends of the wetland delineation, along the shoreline of North Mill Pond. The small amount of vegetated permeable surfaces within the buffer does little to enhance and protect the down gradient tidal wetland. The proposed project will involve minor regrading of the maintained lawn area and include the addition of native plantings and grasses to enhance the buffer area from the existing condition. The project area from the existing condition. The project will include permanent stormwater treatment BMP's that will protect the down-gradient waters. A Coastal Resource worksheet is attached. Wetlands on this site are classified as estuarine inter-tidal rocky shore, rubble, and regularly flooded (E2RS2N). Wetland functions in this portion of North Mill Pond include recreation potential and aesthetic quality. Both of these functions will be enhanced with the proposed project from the current conditions.

Env-Wt 700: Not applicable, no prime wetland impacts.

Env-Wt 900: Not applicable, no stream crossings proposed.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation fact sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

(☒ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☐ I confirm submittal.

(☒ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent (PERM.) impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary (TEMP.) impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

	JURISDICTIONAL AREA	PERM. SF	PERM. LF	PERM. ATF	TEMP. SF	TEMP. LF	TEMP. ATF
Wetlands	Forested Wetland	-	-	☐	-	-	☐
	Scrub-shrub Wetland	-	-	☐	-	-	☐
	Emergent Wetland	-	-	☐	-	-	☐
	Wet Meadow	-	-	☐	-	-	☐
	Vernal Pool	-	-	☐	-	-	☐
	Designated Prime Wetland	-	-	☐	-	-	☐
	Duly-established 100-foot Prime Wetland Buffer	-	-	☐	-	-	☐
Surface	Intermittent / Ephemeral Stream	-	-	☐	-	-	☐
	Perennial Stream or River	-	-	☐	-	-	☐
	Lake / Pond	-	-	☐	-	-	☐
	Docking - Lake / Pond	-	-	☐	-	-	☐
	Docking - River	-	-	☐	-	-	☐
Banks	Bank - Intermittent Stream	-	-	☐	-	-	☐
	Bank - Perennial Stream / River	-	-	☐	-	-	☐
	Bank / Shoreline - Lake / Pond	-	-	☐	-	-	☐
Tidal	Tidal Waters	-	-	☐	-	-	☐
	Tidal Marsh	-	-	☐	-	-	☐
	Sand Dune	-	-	☐	-	-	☐
	Undeveloped Tidal Buffer Zone (TBZ)	-	-	☐	-	-	☐
	Previously-developed TBZ	49,111	-	☐	10,104	-	☐
	Docking - Tidal Water	-	-	☐	-	-	☐
	TOTAL	49,111	0		10,104		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking): 59,215	SF	× $0.40 =	$ 23,686.00
Seasonal docking structure:	SF	× $2.00 =	$
Permanent docking structure:	SF	× $4.00 =	$
Projects proposing shoreline structures (including docks) add $400 =			$
		Total =	$ 23,686.00

The application fee for minor or major impact is the above calculated total or $400, whichever is greater = $ 23,686.00

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☐ Minimum Impact Project	☐ Minor Project	■ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: NAH	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: NAH	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: NAH	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
Initials: NAH	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER):	PRINT NAME LEGIBLY: See Authorization Letters	DATE:
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY: See Authorization Letters	DATE:
SIGNATURE (AGENT, IF APPLICABLE): Neil Hansen	PRINT NAME LEGIBLY: Neil A. Hansen	DATE: 5/2/24

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: Kelli L Barnaby	PRINT NAME LEGIBLY: Kelli L. Barnaby
TOWN/CITY: Portsmouth	DATE: May 2, 2024

DIRECTIONS FOR TOWN/CITY CLERK:
Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to “Treasurer – State of NH”.

Owners List
Proposed Mixed Use Development
Raynes Ave
Portsmouth, New Hampshire

OWNERS	**MAP #**	**LOT #**
31 Raynes LLC C/O Portsmouth Chevrolet 549 Route 1 Bypass Portsmouth, NH 03801	123	10 & 13
203 Maplewood Avenue LLC 549 Highway 1 Bypass Portsmouth, NH 03801	123	12
One Raynes Ave LLC 1359 Hooksett Rd Hooksett, NH 03106	123	14
299 Vaughan St LLC C/O Cathartes Private Investments 6 Liberty SQ PMB 90767 Boston, MA 02109	123	15-1

DEED BOOK AND PAGE	**BOOK #**	**PAGE #**
31 Raynes LLC C/O		
Map 123 Lot 10	4676	654
Map 123 Lot 13	4676	657
203 Maplewood Avenue LLC		
Map 123 Lot 12	5621	420
One Raynes Ave LLC		
Map 123 Lot 14	6088	1268
299 Vaughan St LLC C/O		
Map 123 Lot 15-1	5434	2905

North Mill Pond Holdings LLC

95

Vendor: Treasurer, State of NH

TNH

Check Date: April 15, 2024

INVOICE DATE	INVOICE NO	DESCRIPTION	INV. AMOUNT	DEDUCTION	BALANCE
4/15/24	41524	Wetland Permit	23686.00		23686.00

Chk. Date	4/15/24	Chk. No.	95	Totals	23686.00		23686.00

PLEASE DETACH AND RETAIN FOR YOUR RECORDS

WARNING - THIS CHECK IS PROTECTED BY SPECIAL SECURITY FEATURES

North Mill Pond Holdings LLC
PO BOX 4430
MANCHESTER, NH 03108

M&T Bank
Portsmouth, NH
52-143/112

95

DATE 04/15/2024

$*****23,686.00

PAY **********Twenty-Three Thousand Six Hundred Eighty-Six and 00/100 Dollars

TO THE ORDER OF Treasurer, State of NH

Signing as agent for North Mill Pond Holdings LLC

SECURITY FEATURES INCLUDE MICROPRINTING • VOID PANTOGRAPH • ENDORSEMENT BACKER • BROWNSTAIN CHEMICAL REACTANT

⑈95⑈ ⑆022000046⑆6500903799⑈

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION ATTACHMENT A: MINOR AND MAJOR PROJECTS

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

APPLICANT'S NAME: **North Mill Pond Holdings, LLC** **TOWN NAME:** Portsmouth

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the Avoidance and Minimization Narrative or Checklist that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization.

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

THE PROPOSED PROJECT DOES NOT IMPACT WETLANDS. THE PROJECT PROPOSES ENHANCED STORMWATER TREATMENT, DECREASED IMPERVIOUS SURFACES AND INCREASED RECREATIONAL USE OF THE BUFFER AREA IN COORDINATION WITH THE CITY. IMPACTS FROM THE PROJECTS HAVE BEEN AVOIDED AND MINIMIZED BY PULLING PORTIONS OF THE NEW BUILDING AND PARKING LOT FURTHER BACK FROM THE COASTAL WETLAND AND UTILIZING UNDERBUILDING PARKING, THUS PROVIDING SIGNIFICANT AREAS OF IMPERVIOUS SURFACES TO BE RESTORED TO A PERVIOUS, VEGETATED, CONDITION. ALL WORK IS BEING DONE WITHIN THE PREVIOUSLY DEVELOPED UPLAND TIDAL BUFFER AND NO WETLANDS WILL BE DIRECTLY IMPACTED.

SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

All work is being done within the previously developed upland tidal buffer and no wetlands or tidal marshes will be impacted.

SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

The proposed project does not change existing hydrologic connections.

SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

Impacts from the project have been avoided and minimized by pulling portions of the new building and parking lot further back from the coastal wetland and utilizing underbuilding parking, thus providing significant areas of impervious surfaces to be restored to a pervious, vegetated, condition. All work is being done within the previously developed upland tidal buffer and no wetlands will be impacted, nor are any exemplary natural communities, vernal pools, protected specieis or habits, documented fisheries or habitat or reproduction areas for species of concern.

SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

The proposed project increases public recreation and does not affect commerce or navigation.

SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

The proposed project has been designed to maintain the existing flood storage capacity within the floodplain.

SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

The project does not impact these systems/complexes.

SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

The proposed project enhances stormwater runoff treatment from the existing condition which will improve the surrounding water conditions. This is an urban area adjacent to brackish waters with no potential to supply public drinking water.

SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

Not applicable. There are no impacts to stream channels.

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

Not applicable. There are no shoreline structures proposed.

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

Not applicable. There are no shoreline structures proposed.

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

Not applicable. There are no shoreline structures proposed.

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

Not applicable. There are no shoreline structures proposed.

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

Not applicable. There are no shoreline structures proposed.

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

Not applicable. There are no shoreline structures proposed.

PART II: FUNCTIONAL ASSESSMENT
REQUIREMENTS Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).
FUNCTIONAL ASSESSMENT METHOD USED: The assessment was based on the Maine Citizens Guide to Evaluating, Restoring and Managing Tidal Marshes (Maine Audubon, 1997); Method for Inventorying and Evaluating Wetlands in New Hampshire, University of New Hampshire Cooperative Extension, 2015; amd The Highway Methodology Workbook Supplement - Wetland Functions and Values: A Descriptive Approach, NAEEP-360-1-30a, US Army Corps of Engineers, New England Division, (September 1999).
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: LEONARD A LORD, PHD, NHCWS#14
DATE OF ASSESSMENT: 10/29/19 & 12/2/19
Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT: ☒
For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable: ☐ Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.

AVOIDANCE AND MINIMIZATION CHECKLIST

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in Attachment A: Minor and Major Projects (NHDES-W-06-013).

The following definitions and abbreviations apply to this worksheet:

- "A/M BMPs" stands for Wetlands Best Management Practice Techniques for Avoidance and Minimization dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- "Practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION	
APPLICANT LAST NAME, FIRST NAME, M.I.: North Mill Pond Holdings, LLC c/o Eben Tormey	
PROJECT STREET ADDRESS: Raynes Avenue	PROJECT TOWN: Portsmouth
TAX MAP/LOT NUMBER: 123/10,12,13, & 14	

SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	☐ Yes ☒ No

If you answered "no" to this question, describe the purpose of the "non-access" project type you have proposed:

The purpose of this project is to redevelop a parcel adjacent to a tidal wetland. The proposed project will include the construction of two (2) 5-story mixed-use buildings.

SECTION 3 - A/M PROJECT DESIGN TECHNIQUES Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.		
Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs.	☒ Check ☐ N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	☐ Check ☒ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	☒ Check ☐ N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	☒ Check ☐ N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	☒ Check ☐ N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	☐ Check ☒ N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	☐ Check ☒ N/A

A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	☐ Check ☒ N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	☐ Check ☒ N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	☐ Check ☒ N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	☐ Check ☒ N/A
SECTION 4 - NON-TIDAL SHORELINE STRUCTURES		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	☐ Check ☒ N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	☐ Check ☒ N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	☐ Check ☒ N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	☐ Check ☒ N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	☐ Check ☒ N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.	☐ Check ☒ N/A

WETLANDS RULE WAIVER OR DWELLING OVER WATER WAIVER REQUEST FORM

WATER DIVISION/LAND RESOURCES MANAGEMENT
WETLANDS BUREAU

RSA/Rule: RSA 482-A/ Env-Wt 204

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver to requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interests of the public or the environment. A person may also request a waiver of standard for existing dwellings over water pursuant to RSA 482-A:26, III (b).

SECTION 1 - PROJECT LOCATION INFORMATION (Env-Wt 204.03(c))			
ADDRESS: Raynes Avenue	TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
TAX MAP/LOT NUMBER: Map 123 / Lots 10, 12, 13, &14			
SECTION 2 - WAIVER REQUESTOR INFORMATION (Env-Wt 204.03(a))			
LAST NAME, FIRST NAME, M.I.: Hansen, Neil A.			
MAILING ADDRESS: 177 Corporate Drive			
TOWN/CITY: Portsmouth		STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS (if available): or if not FAX NUMBER: nahansen@tighebond.com		DAYTIME PHONE NUMBER: (603) 433.8818	
SECTION 3 - APPLICANT INFORMATION (Env-Wt 204.03(b)) If request is being made on behalf of someone else, include the following information regarding the person being represented. If requestor is the applicant, check the following box and proceed to Section 4. ☐ Requestor is the applicant.			
LAST NAME, FIRST NAME, M.I.: North Mill Pond Holdings, LLC, c/o Eben Tormey			
MAILING ADDRESS: 1359 Hooksett Road			
TOWN/CITY: Hooksett		STATE: NH	ZIP CODE: 03106
EMAIL ADDRESS (if available): or if not FAX NUMBER: eben@xsshotels.com		DAYTIME PHONE NUMBER: 530-386-4511	

SECTION 4 - WAIVER INFORMATION

SECTION 4A - WAIVER TO RULE Env-Wt 100-900

☐ N/A - If you are not requesting a rule waiver, check this box and proceed to Section 4b

Provide the number of the specific section of each rule for which a waiver is sought (Env-Wt 204.03(d)):

Env-Wt 603.08(a)&(b)

Provide a complete explanation of why a waiver is being requested, including an explanation of the operational and economic consequences of complying with the requirement and, if the requested waiver would extend the duration of a permit, the reason(s) why the permit holder was not able to complete the project within the specified time (Env-Wt 204.03(f)(1)):

The provisions referenced in the rule section referenced above state that field observations of at least three tidal events are to be conducted by a licensed land surveyor. A waiver is being requested because the mean high water (MHW) was field surveyed in conjunction with field delineation and surveying of the Highest Observable Tide Line (HOTL). There are no shoreline structures or jurisdictional impacts proposed adjacent to either the MHW or the HOTL. The operational and economic consequences of having a licensed professional survey three tidal events would not result in a less adverse impact to the environment or public safety, it will not interfere with public waters, nor will it result in an impact on abutting properties.

If applicable, provide a complete explanation of the alternative that is proposed to be substituted for the requirement in Env-Wt, including written documentation or data, or both, to support the alternative (Env-Wt 204.03(g)):

The HOTL was delineated by Leonard Lord, Tighe&Bond, on 10/29/2019 and surveyed by Doucet Survey in November 2019 & June 2020. The MHW line was referenced from the engineering plans for the culvert replacement of Maplewood Avenue Culvert replacement project located directly to the southwest of the proposed project. The HOTL and the MHW line are depicted on the attached project drawings. All work is located landward of the HOTL and MHW line.

SECTION 4B – DWELLING OVER WATERS WAIVER UNDER RSA 482-A:26, III(b).

■ N/A - If you are not requesting a standard waiver, check this box and proceed to Section 5)

Identify the specific standard to which a waiver is being requested (Env-Wt 204.03(e)):

RSA 482-A: -

Provide a complete explanation of why a waiver is being requested, including a complete explanation of how the statutory criteria of RSA 482-A:26, III(b) will be met (Env-Wt 204.03(f)(2)):

-

SECTION 5 - ADDITIONAL WAIVER INFORMATION (Env-Wt 204.03(h); Env-Wt 204.03(i))
(applicable to Waivers of Rules *and* Standards under RSA 482-A:26, III(b))

Indicate whether the waiver is needed for a limited duration and, if so, an estimate of when the waiver will no longer be needed (Env-Wt 204.03(h)):

The waiver is needed for permit approval only.

Provide a complete explanation of why the applicant believes that having the waiver granted will meet the criteria in Env-Wt 204.05 or 204.06, as applicable (Env-Wt 204.03(i)):

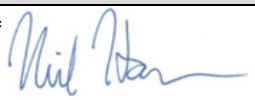
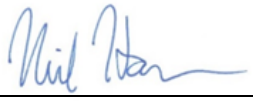
Env-Wt 204.05
(a1) The waiver will not result in an adverse impact to the environment or public safety.
(a2) It will not interfere with public waters
(a3) It will not result in an advance impact on abutting properties. NH RSA 482-A:26 (Dwellings Over Water) is not applicable.

SECTION 6 - REQUIRED CERTIFICATIONS (Env-Wt 204.04)

Initial each box and sign below to certify:

Initials: NAH	The information provided is true, complete, and not misleading to the knowledge and belief of the signer.
Initials: NAH	The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation; and

SECTION 7 - REQUESTOR SIGNATURE (Env-Wt 204.04)

SIGNATURE (APPLICANT): * 	PRINT NAME LEGIBLY: Neil Hansen, See Authorization Letters	DATE: 5/2/2024
SIGNATURE (REQUESTOR): 	PRINT NAME LEGIBLY: Neil Hansen	DATE: 5/2/2024

*In lieu of an applicant signature, you may include a separate signed and dated authorization for the requestor to act on the person's behalf in connection with the request.

COASTAL RESOURCE WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 600

APPLICANT LAST NAME, FIRST NAME, M.I.: North Mill Pond Holdings, LLC

This worksheet may be used to present the information required for projects in coastal areas, in addition to the information required for Lower-Scrutiny Approvals, Expedited Permits, and Standard Permits under Env-Wt 603.01.

Please refer to Env-Wt 605.03 for impacts requiring compensatory mitigation.

SECTION 1 - REQUIRED INFORMATION (Env-Wt 603.02; Env-Wt 603.06; Env-Wt 603.09)

The following information is required for projects in coastal areas.

Describe the purpose of the proposed project, including the overall goal of the project, the core project purpose consisting of a concise description of the facilities and work that could impact jurisdictional areas, and the intended project outcome. Specifically identify all natural resource assets in the area proposed to be impacted and include maps created through a data screening in accordance with Env-Wt 603.03 (refer to Section 2) and Env-Wt 603.04 (refer to Section 3) as attachments.

The proposed project will include the construction of two (2) 5-story buildings. The first is a mixed-use residential building that has a first-floor residential lobby and two (2) commercial spaces, and 60 upper floor residential units. The second is a hotel building with 124 rooms at the corner of Raynes Ave and Vaughan Street. The project will include associated site improvements such as paving, utilities, lighting, landscaping, and community space. The community space will be located on the land between the Highest Observable Tide line (HOTL) of North Mill Pond and the 50-foot setback; and will be deeded to the City of Portsmouth as community space designated for the City's North Mill Pond Greenway Trail project.

For standard permit projects, provide:

☒ A Coastal Functional Assessment (CFA) report in accordance with Env-Wt 603.04 (refer to Section 3).

☒ A vulnerability assessment in accordance with Env-Wt 603.05 (refer to Section 4).

Explain all recommended methods and other considerations to protect the natural resource assets during and as a result of project construction in accordance with Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04.

The 100-foot tidal buffer on this parcel consists primarily of maintained lawn, a commercial building, and a parking lot. There is also an old wood-framed pier that is filled with sand and crushed stone. There are small patches of shrubby vegetation and small trees at the tops of the slopes between the lawn and tidal wetlands, particularly at both ends of the wetland delineation.

The proposed project will result in a net reduction in impervious surfaces within the tidal buffer zone. Reducing impervious surfaces and restoring vegetation reduces runoff to tidal wetlands, provides improved water quality treatment of runoff and restores available wildlife habitat and corridors. Installation of the North Mill Pond Greenway Trail would result in improved functions and values of the wetland and buffer including; ecological integrity, wildlife habitat, shoreline anchoring and resiliency, recreation potential, aesthetic quality, and possibly educational potential.

The project will restore 4,303 SF and enhance 15,835 SF of previously developed tidal buffer area.

The 100-foot tidal buffer impact limits will be marked and erosion control measures will be in place prior to project construction. Monitoring will occur during and following construction to ensure impacts are minimized and proposed restoration activities are properly carried out.

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

Surface waters will not be impacted by the project. All work will be conducted within upland areas and will employ proper erosion and sediment control Best Management Practices, including but not limited to stabilization of disturbed soils. No equipment will be used within surface waters or wetlands and no invasive species will be used to stabilize the site. The NH Natural Heritage Bureau DataCheck has determined that no rare species or critical habitats will be impacted (NHB24-0383.) All work on this project is within previously developed and landscaped areas and will be consistent with the Shoreland Water Quality Protection Act. No work will be adjacent to designated prime wetlands. The project does not involve dredging or filling of wetlands and areas of temporary soil disturbance will be stabilized within three days of the final grading as described in the construction sequencing. No work will be done within 10-feet of a property line without an abutter's prior written notice.

Provide a project design narrative that includes the following:

☒ A discussion of how the proposed project:

- Uses best management practices and standard conditions in Env-Wt 307;
- Meets all avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- Meets approval criteria in Env-Wt 313.01;
- Meets evaluation criteria in Env-Wt 313.01(c);
- Meets CFA requirements in Env-Wt 603.04; and
- Considers sea-level rise and potential flooding evaluated pursuant to Env-Wt 603.05;

☒ A construction sequence, erosion/siltation control methods to be used, and a dewatering plan; and

☒ A discussion of how the completed project will be maintained and managed.

A project design narrative, including monitoring, is attached.

☒ Provide design plans that meet the requirements of Env-Wt 603.07 (refer to Section 5);

☒ Provide water depth supporting information required by Env-Wt 603.08 (refer to Section 6); and

☐ For any major project that proposes to construct a structure in tidal waters/wetlands or to extend an existing structure seaward, provide a statement from the Pease Development Authority Division of Ports and Harbors (DP&H) chief harbormaster, or designee, for the subject location relative to the proposed structure's impact on navigation. If the proposed structure might impede existing public passage along the subject shoreline on foot or by non-motorized watercraft, the applicant shall explain how the impediments have been minimized to the greatest extent practicable.

N/A

SECTION 2 - DATA SCREENING (Env-Wt 603.03, in addition to Env-Wt 306.05)

Please use the Wetland Permit Planning Tool, or any other database or source, to indicate the presence of:

☒ Existing salt marsh and salt marsh migration pathways;

☒ Eelgrass beds;

☒ Documented shellfish sites;

☒ Projected sea-level rise; and

☒ 100-year floodplain.

Conduct data screening as described to identify documented essential fish habitat, and tides and currents that may be impacted by the proposed project, by using the following links:

☒ National Oceanic and Atmospheric Administration (NOAA) Tides & Currents; and

☒ NOAA Essential Fish Habitat Mapper.

☒ Verify or correct the information collected from the data screenings by conducting an on-site assessment of the subject property in accordance with Env-Wt 406 and Env-Wt 603.04.

SECTION 3 - COASTAL FUNCTIONAL ASSESSMENT/ AVOIDANCE AND MINIMIZATION (Env-Wt 603.04; Env-Wt 605.01; Env-Wt 605.02; Env-Wt 605.03)

Projects in coastal areas shall:

☒ Not impair the navigation, recreation, or commerce of the general public; and

☒ Minimize alterations in prevailing currents.

An applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone shall demonstrate that the following have been avoided or minimized as required by Env-Wt 313.04:

☒ Adverse impacts to beach or tidal flat sediment replenishment;

☒ Adverse impacts to the movement of sediments along a shore;

☒ Adverse impacts on a tidal wetland's ability to dissipate wave energy and storm surge; and

☒ Adverse impacts of project runoff on salinity levels in tidal environments.

For standard permit applications submitted for minor or major projects:

☒ Attach a CFA based on the data screening information and on-site evaluation required by Env-Wt 603.03. The CFA for tidal wetlands or tidal waters shall be:

- Performed by a qualified coastal professional; and
- Completed using one of the following methods:

  a. The US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District *Highway Methodology Workbook Supplement*, dated 1999; or

  b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

For any project that would impact tidal wetlands, tidal waters, or associated sand dunes, the applicant shall:

☐ Use the results of the CFA to select the location of the proposed project having the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☐ Design the proposed project to have the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☐ Where impact to wetland and other coastal resource functions is unavoidable, limit the project impacts to the least valuable functions, avoiding and minimizing impact to the highest and most valuable functions; and

☐ Include on-site minimization measures and construction management practices to protect coastal resource areas.

Projects in coastal areas shall use results of this CFA to:

☒ Minimize adverse impacts to finfish, shellfish, crustacean, and wildlife;

☒ Minimize disturbances to groundwater and surface water flow;

☒ Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and

☒ Avoid impacts that might cause erosion to shoreline properties.

SECTION 4 - VULNERABILITY ASSESSMENT (Env-Wt 603.05)

Refer to the New Hampshire Coastal Flood Risk Summary Part 1: Science and New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections or other best available science to:

Determine the time period over which the project is designed to serve.

The useful life of the project is expected to be approximately 100 years. There are expected to be significant upgrades over that time period, which will include technologies to address rising sea levels as.

Identify the project's relative risk tolerance to flooding and potential damage or loss likely to result from flooding to buildings, infrastructure, salt marshes, sand dunes and other valuable coastal resource areas.

NH Coastal Flood Risk Summary Part II, Step 2 Table: Medium Risk Tolerance

Reference the projected sea-level rise (SLR) scenario that most closely matches the end of the project design life and the project's tolerance to risk or loss.

NH Coastal Flood Risk Summary Part II, Step 3 Table A: Sea Level Rise for Medium Risk Tolerance is 5.1 feet (13.86 feet NGVD29) by 2124.

Identify areas of the proposed project site subject to flooding from SLR.

The current 100-year floodplain (Zone AE) base flood elevation (BFE) is 8.0 feet NAVD88, which converts to 8.76 feet NAGVD29. The Hotel finish floor elevation is 13.25 feet NGVD29. The 100-year floodplain is expected to be landward of the hotel within 88 years with a 4.5-foot sea level rise (elevation 13.26 feet) by 2112.

The proposed mixed use building has two finish floor elevations of 13.90 and 13.60 feet NGVD29. One of the two retail spaces has an elevations of 13.60 and the other retail space and residential lobby have finish floor elevations of 13.90. The 100-year floodplain is expected to be landward of the lower retail finish floor elevation within 95 years with a 4.85-foot sea level rise (elevation 13.61 feet) by 2119. The higher retail space and residential lobby are not expected to be within the 100-year floodplain elevations within the expected useful life of 100 years as the anticipated 100-year flood elevation is 13.86 feet NGVD88.

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

Portions of the existing lawn on the northwest portion of the parcels are currently within the 100-year floodplain. The 100-year floodplain is depicted on the Project Drawings (attached).

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

It is anticipated that flood proofing technologies will be deployed to relieve potential flooding of the proposed buildings by 2112, when the 100-year floodplain is expected to exceed the hotel.

Where there are conflicts between the project's purpose and the vulnerability assessment results, schedule a pre-application meeting with the department to evaluate design alternatives, engineering approaches, and use of the best available science.

☐ Pre-application meeting date held:

SECTION 5 - DESIGN PLANS (Env-Wt 603.07, in addition to Env-Wt 311)

Submit design plans for the project in both plan and elevation views that clearly depict and identify all required elements.

The plan view shall depict the following:

☒ The engineering scale used, which shall be no larger than one inch equals 50 feet;

☒ The location of tidal datum lines depicted as lines with the associated elevation noted, based on North American Vertical Datum of 1988 (NAVD 88), derived from https://tidesandcurrents.noaa.gov/datum_options.html, as described in Section 6.

☐ An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;

☒ The location of all special aquatic sites at or within 100 feet of the subject property;

☒ Existing bank contours;

☒ The name and license number, if applicable, of each individual responsible for the plan, including:

a. The agent for tidal docking structures who determined elevations represented on plans; and

b. The qualified coastal professional who completed the CFA report and located the identified resources on the plan;

☒ The location and dimensions of all existing and proposed structures and landscape features on the property;

☒ Tidal datum(s) with associated elevations noted, based on NAVD 88; and

☒ Location of all special aquatic sites within 100-feet of the property.

The elevation view shall depict the following:

☒ The nature and slope of the shoreline;

☒ The location and dimensions of all proposed structures, including permanent piers, pilings, float stop structures, ramps, floats, and dolphins; and

☒ Water depths depicted as a line with associated elevation at highest observable tide, mean high tide, and mean low tide, and the date and tide height when the depths were measured. Refer to Section 6 for more instructions regarding water depth supporting information.

See specific design and plan requirements for certain types of coastal projects:

- Overwater structures (Env-Wt 606).
- Dredging activities (Env-Wt 607).
- Tidal beach maintenance (Env-Wt 608).
- Tidal shoreline stabilization (Env-Wt 609).
- Protected tidal zone (Env-Wt 610).
- Sand Dunes (Env-Wt 611).

SECTION 6 - WATER DEPTH SUPPORTING INFORMATION REQUIRED (Env-Wt 603.08)

Using current predicted NOAA tidal datum for the location, and tying field measurements to NAVD 88, field observations of at least three tide events, including at least one minus tide event, shall be located to document the range of the tide in the proposed location showing the following levels:

- ☐ Mean lower low water;
- ☐ Mean low water;
- ☐ Mean high water;
- ☐ Mean tide level;
- ☐ Mean higher high water;
- ☐ Highest observable tide line; and
- ☐ Predicted sea-level rise as identified in the vulnerability assessment in Env-Wt 603.05.

The following data shall be presented in the application project narrative to support how water depths were determined:

- ☐ The date, time of day, and weather conditions when water depths were recorded; and
- ☐ The name and license number of the licensed land surveyor who conducted the field measurements.

For tidal stream crossing projects, provide:

- ☐ Water depth information to show how the tier 4 stream crossing is designed to meet Env-Wt 904.07(c) and (d).

For repair, rehabilitation or replacement of tier 4 stream crossings:

- ☐ Demonstrate how the requirements of Env-Wt 904.09 are met.

SECTION 7 - GENERAL CRITERIA FOR TIDAL BEACHES, TIDAL SHORELINE, AND SAND DUNES (Env-Wt 604.01)

Any person proposing a project in or on a tidal beach, tidal shoreline, or sand dune, or any combination thereof, shall evaluate the proposed project based on:

- ☐ The standard conditions in Env-Wt 307;
- ☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☐ The approval criteria in Env-Wt 313.01;
- ☐ The evaluation criteria in Env-Wt 313.05;
- ☐ The project specific criteria in Env-Wt 600;
- ☐ The CFA required by Env-Wt 603.04; and
- ☐ The vulnerability assessment required by Env-Wt 603.05.

New permanent impacts to sand dunes that provide coastal storm surge protection for protected species or habitat shall not be allowed except:

- ☐ To protect public safety; and
- ☐ Only if constructed by a state agency, coastal resiliency project, or for a federal homeland security project.

Projects in or on a tidal beach, tidal shoreline, or sand dune shall support integrated shoreline management that:

- ☐ Optimizes the natural function of the shoreline, including protection or restoration of habitat, water quality, and self-sustaining stability to flooding and storm surge; and
- ☐ Protects upland infrastructure from coastal hazards with a preference for living shorelines over hardened shoreline practices.

SECTION 8 - GENERAL CRITERIA FOR TIDAL BUFFER ZONES (Env-Wt 604.02)

The 100-foot statutory limit on the extent of the tidal buffer zone shall be measured horizontally. Any person proposing a project in or on an undeveloped tidal buffer zone shall evaluate the proposed project based on:

☒ The standard conditions in Env-Wt 307;

☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☒ The approval criteria in Env-Wt 313.01;

☒ The evaluation criteria in Env-Wt 313.05;

☒ The project specific criteria in Env-Wt 600;

☒ The CFA required by Env-Wt 603.04; and

☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in or on a tidal buffer zone shall preserve the self-sustaining ability of the buffer area to:

☒ Provide habitat values;

☒ Protect tidal environments from potential sources of pollution;

☒ Provide stability of the coastal shoreline; and

☒ Maintain existing buffers intact where the lot has disturbed area defined under RSA 483-B:4, IV.

SECTION 9 - GENERAL CRITERIA FOR TIDAL WATERS/WETLANDS (Env-Wt 604.03)

Except as allowed under Env-Wt 606, permanent new impacts to tidal wetlands shall be allowed only to protect public safety or homeland security. Evaluation of impacts to tidal wetlands and tidal waters shall be based on:

☐ The standard conditions in Env-Wt 307;

☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☐ The approval criteria in Env-Wt 313.01;

☐ The evaluation criteria in Env-Wt 313.05;

☐ The project specific criteria in Env-Wt 600;

☐ The CFA required by Env-Wt 603.04; and

☐ The vulnerability assessment required by Env-Wt 603.05.

Projects in tidal surface waters or tidal wetlands shall:

☐ Optimize the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge;

☐ Be designed with a preference for living shorelines over hardened stabilization practices; and

☐ Be limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea-level rise and coastal flood risk.

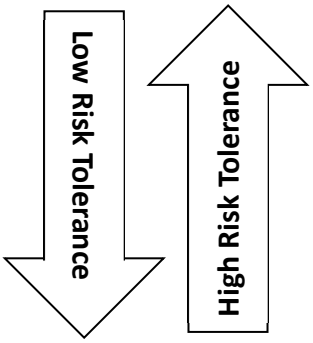
SECTION 10 – GUIDANCE

Your application must follow the New Hampshire Coastal Risk and Hazards Commission's Guiding Principles or other best available science. Below are some of these guidance principles:

- Incorporate science-based coastal flood risk projections into planning;
- Apply risk tolerance* to assessment, planning, design, and construction;
- Protect natural resources and public access;
- Create a bold vision, start immediately, and respond incrementally and opportunistically as projected coastal flood risks increase over time; and
- Consider the full suite of actions including effectiveness and consequences of actions.

*Risk tolerance is a project's willingness to accept a higher or lower probability of flooding impacts. The diagram below gives examples of project with lower and higher risk tolerance:

Critical infrastructures, historic sites, essential ecosystems, and high value assets typically have lower risk tolerance, and thus should be planned, designed, and constructed using higher coastal flood risk projections.



Sheds, pathways, and small docks typically have higher risk tolerance and thus may be planned, designed, and constructed using less protective coastal flood risk projections.

Supplemental Project Design Narrative

Construction Sequencing

1. Prior written consent will be obtained from abutters prior to any soil disturbance in jurisdictional areas less than 10 feet from property lines.
2. Cut and clear trees as required. Properly dispose of invasive species plant material.
3. Construct temporary and permanent sediment, erosion and detention control facilities. Erosion, sediment, and detention measures shall be installed prior to any earth moving operations.
4. Establish a properly constructed dewatering area as needed. Wherever possible, the discharge from the dewatering structure shall drain to a well-vegetated buffer by sheet flow while maximizing the distance to the nearest water resource and minimizing the slope of the buffer area.
5. All permanent ditches, swales, detention, retention, and sedimentation basins to be stabilized using the vegetative and non-structural BMPs prior to directing runoff to them.
6. Clear and dispose of debris; remove impervious surfaces within TBZ.
7. Construct proposed buildings.
8. Grade and gravel roadways and parking areas – all roads and parking areas shall be stabilized within 72 hours of achieving finishing grade.
9. Begin permanent and temporary seeding and mulching. All cut and fill slopes shall be seeded and mulched within 72 hours of achieving finished grade daily, or as required.
10. Finish paving all roadways and parking lots.
11. Inspect and maintain all erosion and sediment control measures throughout the duration of the project.
12. Complete permanent seeding and landscaping.
13. Remove trapped sediments from collector devices as appropriate and then remove temporary erosion control measures.

Project Monitoring, Maintenance, and Management

The project will be monitored during and following construction by a NH Certified Wetland Scientist or other qualified professional to be sure the site is stabilized, and all components have been properly installed. Monitoring will continue until the site is fully stabilized and there is at least 75% survivorship of restoration plantings.

The proposed greenway trail is expected to be monitored and maintained by the conservation commission or other City entity.

The project building and grounds will be maintained by the owners as needed. The grounds will be maintained by contracted professional landscapers.

STEP 3 TABLE A. RECOMMENDED DECADAL RSLR ESTIMATES (IN FEET ABOVE 2000 LEVELS) BASED ON RCP 4.5, PROJECT TIMEFRAME, AND TOLERANCE FOR FLOOD RISK.

TIMEFRAME	HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
	Plan for the following RSLR estimate (ft)* *compared to sea level in the year 2000*			
	Lower magnitude, Higher probability	←	→	Higher magnitude, Lower probability
2030	0.7	0.9	1.0	1.1
2040	1.0	1.2	1.5	1.6
2050	1.3	1.6	2.0	2.3
2060	1.6	2.1	2.6	3.0
2070	2.0	2.5	3.3	3.7
2080	2.3	3.0	3.9	4.5
2090	2.6	3.4	4.6	5.3
2100	2.9	3.8	5.3	6.2
2110	3.3	4.4	6.1	7.3
2120	3.6	4.9	7.0	8.3
2130	3.9	5.4	7.9	9.3
2140	4.3	5.9	8.9	10.5
2150	4.6	6.4	9.9	11.7

2112 (88 yr) = 4.5 ft

2119 (95 yr) = 4.85 ft

2124 (100 yr) = 5.1 ft

*The colors (blue, red, purple, green) in Step 3 Table A correspond with the colors of the graph depicted in Figure 2 (see also Figure 4.5 in *Part I: Science*[17]). The RSLR estimates for High tolerance for flood risk projects correspond with K14, upper end of "likely" estimates for RCP4.5 (83% chance RSLR will not exceed this value). The RSLR estimates for Medium tolerance for flood risk projects correspond with K14, 1-in-20 chance estimates for RCP 4.5. The RSLR estimates for Low tolerance for flood risk projects correspond with K14, 1-in-100 chance estimates for RCP 4.5. The RSLR estimates for Very Low tolerance for flood risk projects correspond with K14, 1-in-200 chance estimates for RCP4.5. For K14, 1-in-1000 chance estimates, see Table 4.2 in *Part I: Science*.[17] Note that while the Bayesian probabilities associated with RSLR projections are useful, they have some limitations as described in Box 4.3 in *Part I: Science*.[17]

WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Noth Mill Pond Holdings, LLC

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Avoidance and Minimization Written Narrative (NHDES-W-06-089) and the Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: Commercial buildings with lawns and parking lots	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☐ Yes ☒ No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 10 feet	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Leonard Lord, PhD, NHCWS#14	
DATE(S) OF SITE VISIT(S): 10/29/2019 & 12/2/2019	DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No
CONFIRM THAT THE EVALUATION IS BASED ON: ☒ Office and ☒ Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if “other”): ☒ USACE Highway Methodology. ☒ Other scientifically supported method (enter name/ title):	

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: N/A	LOCATION: (LAT/ LONG) 43°04'48.2"N/70°45'50.4"W
WETLAND AREA: N/A	DOMINANT WETLAND SYSTEMS PRESENT: Rocky Shore, Mudflats
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 0	COWARDIN CLASS: E2RS2N
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☐ Yes ☒ No if not, where does the wetland lie in the drainage basin?	IS THE WETLAND PART OF: ☐ A wildlife corridor or ☐ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☒ Yes ☐ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☒ Yes ☐ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☐ Yes ☒ No
PROPOSED WETLAND IMPACT TYPE: Buffer only	PROPOSED WETLAND IMPACT AREA: N/A

SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☒ Yes ☐ No	Ecological Integrity (Scores from NHM): 1=1, 2=5, 3=10, 4=10, 5=n/a, 6=10, 7=1, 8=1, 9=1, 10=1	☐ Yes ☒ No	Highly developed buffer, filling, impaired water quality
2	☐ Yes ☒ No	Education Potential: N/A	☐ Yes ☒ No	No access
3	☒ Yes ☐ No	Fish & Aquatic Life: 1,4	☐ Yes ☒ No	Mudflat supports fish, shellfish, waterfowl. Impaired water qualiuty and no shellfish harvesting
4	☐ Yes ☒ No	Flood Storage: N/A	☐ Yes ☒ No	-
5	☐ Yes ☐ No	Groundwater Recharge (only): N/A	☐ Yes ☒ No	-
6	☐ Yes ☒ No	Noteworthiness (RTE):	☐ Yes ☒ No	No rare species per NHB DataCheck
7	☐ Yes ☒ No	Nutrient Trapping/Retention: N/A	☐ Yes ☒ No	-
8	☒ Yes ☐ No	Production Export: 1,4,5,6,10	☐ Yes ☒ No	Export of nutrients as food and in sediments but low ecological integrity
9	☒ Yes ☐ No	Scenic Quality: 2,6,8	☐ Yes ☒ No	Scenic vistas surrounded by highly developed areas
10	☐ Yes ☒ No	Sediment Trapping: N/A	☐ Yes ☒ No	-
11	☐ Yes ☒ No	Shoreline Anchoring: N/A	☐ Yes ☒ No	Rocky fill
12	☒ Yes ☐ No	Uniqueness/Heritage: 1,314,17,19,22,27	☐ Yes ☒ No	Contributes to the character of the area. Scenic views in urban setting. Low ecological integrity
13	☒ Yes ☐ No	Wetland Based Recreation: 2,5,7,8,9,10	☐ Yes ☒ No	Provides boating and fishing opportunities. Somewhat offset by low ecological integrity
14	☒ Yes ☐ No	Water Dependent Wilflife: 8,12,18,21	☐ Yes ☒ No	Mudflats are important for wildlife habitat. Somewhat offset by low ecological integrity

31 Raynes Avenue, Portsmouth, NH: Wetland & Buffer Report

TO: Patrick Crimmins, PE

FROM: Leonard A. Lord, PhD, CSS, CWS

DATE: January 6, 2020

PROJECT: P-0595-007

On October 29, 2019, Tighe & Bond delineated and assessed tidal wetlands and their 100-foot buffers at 31 Raynes Avenue in Portsmouth, NH. This 1.35-acre parcel lies along the northwestern end of North Mill Pond.

Methods

The wetland delineation was based on criteria specified in the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (January 2012). The Highest Observable Tide Line (HOTL) was delineated based on the definition found in the NH Department of Environmental Services (NHDES) Wetland Rules Env-Wt 101.49/Env-Wt 602.23. Wetlands were classified based on the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). The only wetlands located on the parcel are tidal wetlands (HOTL), which were delineated with sequentially-numbered flagging labelled 1B-1 to 1B-27.

Important wetland functions and values were also assessed and summarized in the vicinity of the parcel. The assessment was based on the *Maine Citizens Guide to Evaluating, Restoring, and Managing Tidal Marshes* (Bryan et al., 1997) and *The Highway Methodology Workbook Supplement—Wetland Functions and Values: A Descriptive Approach*, NAEEP-360-1-30a, US Army Corps of Engineers, New England Division, (September 1999).

Wetlands

Wetlands on this site were generally classified as estuarine intertidal rocky shore, rubble, regularly flooded (E2RS2N), though some areas exhibited more of a cobble-gravel substrate. The wetland edge slopes sharply along the southern portion of the site and is armored with rip rap. The northern portion of the wetland edge includes an old boat ramp, an old pier filled with sand and crushed stone, and a culvert outlet and headwall. Sparse halophytic vegetation along the upper portion of the tidal wetland edge includes sea lavender (*Limonium carolinianum*), salt meadow grass (*Spartina patens*), and seaside goldenrod (*Solidago sempervirens*). Important wetland functions in this portion of North Mill Pond include recreation potential and aesthetic quality, though both functions are impacted by the density and character of the surrounding urban development.

Tidal Buffer

The 100-foot tidal buffer on this parcel consists primarily of maintained lawn, a commercial building, and a parking lot. There is also an old wood-framed pier that is filled with sand and

crushed stone. There are small patches of shrubby vegetation and small trees at the tops of the slopes between the lawn and tidal wetlands, particularly at both ends of the wetland delineation. Species in these patches include autumn olive (*Elaeagnus umbellata*), staghorn sumac (*Rhus typhina*), Japanese knotweed (*Polygonum cuspidatum*), Norway maple (*Acer platanoides*), and Asiatic bittersweet (*Celastrus orbiculatus*). The highly developed tidal buffer provides some vegetated permeable surfaces to help reduce and filter runoff, but otherwise does little to enhance and protect the downgradient tidal wetland.

J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Environmental\Raynes+Green Wetlands+Soils\Raynes Ave Wetland-Buffer Rept 2020-1-9.docx

Photographic Log

Client: ProCon

Site: 31 Raynes Avenue, Portsmouth, NH

Job Number: P-0595-007

Photograph No.: 1	**Date:** 10/29/2019	**Direction Taken:** Northeast
Description: Steep wetland bank armored with riprap along the southern wetland edge.		

Photograph No.: 2	**Date:** 10/29/2019	**Direction Taken:** Southwest
Description: Culvert outlet, steep bank, and filled pier along northern wetland edge.		

Photographic Log

Client: ProCon

Site: 31 Raynes Avenue, Portsmouth, NH

Job Number: P-0595-007

Photograph No.: 3	**Date:** 10/29/2019	**Direction Taken:** North
Description: Grassed portion of the tidal buffer. Tidal wetland boundary marked with pink flags extends over the top of the slope into the lawn in the background.		

Photograph No.: 4	**Date:** 10/29/2019	**Direction Taken:** Southeast
Description: Commercial buildings and parking lot in the tidal buffer viewed from near the wetland edge.		

Photographic Log

Client: ProCon

Site: 31 Raynes Avenue, Portsmouth, NH

Job Number: P-0595-007

Photograph No.: 5	**Date:** 10/29/2019	**Direction Taken:** North
Description: View of an old boat launch to the left and an old pier framed with wood and filled with sand and crushed stone to the right.		

Photograph No.: 6	**Date:** 10/29/2019	**Direction Taken:** Northwest
Description: Shrubby vegetation in the tidal buffer at the northern end of the site.		

APPENDIX B

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Noah Wilcox
177 Corporate Drive
Portsmouth, NH 03801

From: NH Natural Heritage Bureau

Date: 2/6/2024 (This letter is valid through 2/6/2025)

Re: Review by NH Natural Heritage Bureau of request dated 2/6/2024

Permit Types: Shoreland Standard Permit
Alteration of Terrain Permit
Wetland Standard Dredge & Fill - Major

NHB ID: NHB24-0383

Applicant: Noah Wilcox

Location: Portsmouth
Tax Map: 123, Tax Lot: 10, 12, 13, & 14
Address: 1 Raynes Avenue

Proj. Description: THE PROPOSED PROJECT INCLUDES TWO BUILDINGS, A 5 STORY MIXED USE BUILDING AND A 5
STORY 124 ROOM HOTEL. THE PROJECT WILL ALSO CONSIST OF ASSOCIATED SITE IMPROVEMENTS SUCH AS PAVING, STORMWATER MANAGEMENT, UTILITIES AND LIGHTING.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

MAP OF PROJECT BOUNDARIES FOR: NHB24-0383

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: 04/09/2024 13:52:28 UTC
Project Code: 2024-0074423
Project Name: Proposed Mixed Use Development

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

PROJECT SUMMARY

Project Code: 2024-0074423
Project Name: Proposed Mixed Use Development
Project Type: Residential Construction
Project Description: THE PROPOSED PROJECT INCLUDES TWO BUILDINGS, A 5 STORY MIXED USE BUILDING AND A 5-STORY 124 ROOM HOTEL. THE PROJECT WILL ALSO CONSIST OF ASSOCIATED SITE IMPROVEMENTS SUCH AS PAVING, STORMWATER MANAGEMENT, UTILITIES AND LIGHTING.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.0801222,-70.76384981607012,14z

Counties: Rockingham County, New Hampshire

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Noah Wilcox
Address: 177 Corporate Drive
City: Portsmouth
State: NH
Zip: 03801
Email nwilcox@tighebond.com
Phone: 6034338818

SHORELAND PERMIT APPLICATION

Water Division / Wetlands Bureau

Check Application Status

RSA / Rule: RSA 483-B, Env-Wq 1400

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

This is an application for a permit to excavate, fill, construct new structures, or remove structures within the protected shoreland regulated under RSA 483-B. By providing your email address, you authorize NHDES to communicate all matters relative to this filing electronically, using your email address.

SECTION 1 - PROJECT DESCRIPTION (Env-Wq 1406.07)

Please concisely describe your proposed project:

The proposed project is Located at Raynes Avenue in Portsmouth, New Hampshire. The existing parcels include three (3) buildings: a one (1) story laundromat, a two (2) story office building and a two (2) story gym; with a combined total footprint of approximately 19,675 square foot (SF). The proposed project includes two buildings: a 5 story mixed use building and a 5 story, 128 room hotel. The mixed-use building includes residential, restaurant and tenant space on the first floor and residential units on the top 4 floors. The hotel building includes a 6,515 SF lobby on the first floor with 4 floors of hotel rooms above. The project will also include associated site improvements such as paving, stormwater management, utilities and lighting.

SECTION 2 - PROJECT LOCATION (Env-Wq 1406.07)

ADDRESS: Raynes Avenue	TOWN/CITY: Portsmouth	STATE:NH	ZIP CODE: 03801
WATERBODY NAME: North Mill Pond	TAX MAP/ BLOCK/LOT NUMBER: Map 123 Lots 10, 12, 13, &14		

SECTION 3 - PROPERTY OWNER AND DEED INFORMATION (Env-Wq 1406.07)

The legal name of each property owner must be as it appears on the deed of record. If the owner is a trust or a company, write the name of the trust or company as the owner's name.

LAST NAME, FIRST NAME, M.I: See attached list of owners			
MAILING ADDRESS:	TOWN/CITY:	STATE:	ZIP CODE:
PHONE:	EMAIL (if available):		
REGISTRY OF DEED COUNTY	BOOK NUMBER	PAGE NUMBER	

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER), IF DIFFERENT THAN OWNER (Env-Wq 1406.07)

If the applicant is a trust or a company, write the name of the trust or company as the applicant's name. If the applicant is the owner, please leave blank and check the following box: ☐

LAST NAME, FIRST NAME, M.I: North Mill Pond Holdings, LLC (c/o Eben Tormey)			
MAILING ADDRESS: 1359 Hooksett Road	TOWN/CITY: Hooksett	STATE: NH	ZIP CODE: 03106
PHONE: 530-386-4511	EMAIL (if available): etorney@xsshotels.com		

SECTION 5 - CONTRACTOR OR AGENT (OPTIONAL)

LAST NAME, FIRST NAME, M.I: Hansen, Neil			
ADDRESS: 177 Corporate Drive	TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
PHONE: 603-769-9471	EMAIL (if available): NAHansen@tighebond.com		

SECTION 6 - CRITERIA (Env-Wq 1406.07)

Please check at least one of the following:

☐ This shoreland permit application requires neither a proposal to make the property more nearly conforming nor a request for a waiver of a minimum standard.

☐ This shoreland permit application includes a proposal to make the structures and/or the property more nearly conforming in accordance with RSA 483-B:11.

☒ This shoreland permit application includes a request for a waiver of the following minimum standard(s): RSA 483-B:9, V.

SECTION 7 - RELATED PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT (Env-Wq 1406.14)

Please indicate if you also require the following permits. If so, please indicate the status of your permit application.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain per RSA 485-A:17	☒ YES ☐ NO	TBD	☐ APPROVED ☒ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:29	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval per RSA 485-A:29	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Wetlands Permit per RSA 482-A	☒ YES ☐ NO	TBD	☐ APPROVED ☒ PENDING ☐ DENIED

SECTION 8 - REFERENCE LINE ELEVATION (Env-Wq 1406.07)

Required for projects located on the protected shoreland of lakes or ponds. The reference line elevations for most lakes, ponds, and artificial impoundments greater than 10 acres are listed in the Consolidated List of Waterbodies Subject to the Shoreland Water Quality Protection Act. See RSA 483-B:4, XVII for the definition of reference line.

REFERENCE LINE ELEVATION (feet above sea level): field-delineated, Highest Observable Tide (HOTL); +/- el. 5-6-feet

SECTION 9 - APPLICATION FEE & SUBMITTAL (RSA 483-B:5-b, I(b); RSA 483-B:5-b, X)

A nonrefundable permit application fee of $200 plus $0.20 per total square feet of impact for restoration of water quality improvement projects, or $400 plus $0.20 per total square feet of impact for all other projects is required at the time the application is submitted. *Applications for projects solely funded by municipal, county, state, or federal entities shall incur a permitting fee no greater than $3,750.*

To mail or hand deliver this application and all required attachments to the NHDES Wetlands Bureau, please use PO Box 95, Concord, NH 03302-0095. Missing information may delay your shoreland permit application and may result in denial. *If paying by check or money order, please make payable to the Treasurer, State of New Hampshire.*

SECTION 10 - CALCULATING TOTAL IMPACT AREA / PERMIT APPLICATION FEE (RSA 483-B:5-b, I(b); RSA 483-B:5-b, X)

Calculate total impact area by determining the sum of all areas disturbed by regrading, excavating, filling, construction or structure removal. Impacts often include, but are not limited to constructing new driveways, constructing new structures, areas disturbed when installing septic systems and foundations, creating temporary access roads to drill a new well and regrading associated with landscaping activities.

TOTAL AREA IMPACTED WITHIN THE PROTECTED SHORELAND = 47,636 **(A) square feet**

- *For restoration of water quality improvement projects:*
  Multiply line (A) by $0.20 **and** add $200. **[(A) × $0.20 + $200]** = $ **Permit fee**[1]
- *For all other projects:*
  Multiply line (A) by $0.20 **and** add $400. **[(A) × $0.20 + $400]** = $9,927.20 **Permit fee**

SECTION 11 - REQUIRED CERTIFICATIONS (Env-Wq 1406.08; Env-Wq 1406.10(a))

By initialing each of the following statements, and signing below, you are certifying that:

Initials: NAH	The information provided is true, complete, and not misleading to my knowledge and belief.
Initials: NAH	I understand that: • Any permit or waiver granted based on false, incomplete, or misleading information shall be subject to revocation. • I am subject to the applicable penalties in RSA 641, Falsification in Official Matters. • Obtaining a shoreland permit shall not exempt the work proposed from other state, local, or federal approvals.
Initials: NAH	I have notified the governing body of the municipality or municipalities in which the property is located by certified mail, in accordance with Env-Wq 1406.13.
Initials: NAH	I have notified all abutters[2] of the proposed impacts via certified mail, in accordance with Env-Wq 1406.13.
Initials: NAH	☐ This project is within one-quarter mile of a designated river, and I have provided the Local River Management Advisory Committee (LAC) with a copy of my complete application, including all supporting materials, via certified mail, in accordance with Env-Wq 1406.13. ☒ This project is *not* within one-quarter mile of a designated river.
Initials: NAH	For any project proposing that the impervious area be at least 15% but not more than 20% within the protected shoreland, I certify that the impervious area is not more than 20%. ☒ N/A

SECTION 12 - REQUIRED SIGNATURES (Env-Wq 1406.08)

Both the property owner and applicant must sign.

SIGNATURE (OWNER):	PRINT NAME LEGIBLY: Neil Hansen, See Authorization Letter	DATE: 5/2/2024
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY: Neil Hansen, See Authorization Letters	DATE: 5/2/2024

[1] Projects solely funded by municipal, county, state, or federal entities shall incur a permit application fee no greater than $3,750.

[2] "Abutter" means any person who owns property immediately contiguous to the property on which the proposed work will take place, or who owns flowage rights on such property. The term does not include properties separated by a public road or located more than ¼ mile from the limits of the proposed work. If contiguous properties are owned by the person who is proposing the work, then the term includes the person owning the next contiguous property, subject to the ¼ mile limitation.

SHORELAND PERMIT APPLICATION WORKSHEET

You must include this worksheet with every shoreland permit application. Include a separate worksheet for each individual lot of record where impacts are proposed.

In this worksheet, "pre-construction" impervious surface area[3] means all human-made impervious surfaces[4] currently present within the protected shoreland of a lot, whether to be removed or to remain after the project is completed. "Post-construction" impervious area means all impervious surfaces that will exist within the protected shoreland of a lot upon completion of the project, including both new and any remaining pre-construction impervious surfaces. All answers must be in square feet.

Calculating Impervious Area

CALCULATING THE IMPERVIOUS AREA OF A LOT WITHIN 250 FEET OF THE REFERENCE LINE (Env-Wq 1406.12)			
	STRUCTURE DESCRIPTION	**PRE-CONSTRUCTION IMPERVIOUS AREAS**	**POST-CONSTRUCTION IMPERVIOUS AREAS**
PRIMARY STRUCTURE(S) House and all attached decks and porches.	Primary Structures	20,200 FT^2	32,503 FT^2
ACCESSORY STRUCTURES All other impervious surfaces excluding lawn furniture, well heads, and fences. Common accessory structures may include driveways, walkways, patios and sheds.	Secondary Stuctures	202 FT^2	0 FT^2
	Pavement Parking Area	40,477 FT^2	29,998 FT^2
	Concrete and Paver Area	2,422 FT^2	8,247 FT^2
		FT^2	FT^2
		FT^2	FT^2
		FT^2	FT^2
	TOTAL:	**(A)** FT^2 63,301	**(B)** FT^2 70,748
Area of the lot located within 250 feet of reference line:			**(C)** FT^2 106,336
Percentage of lot covered by pre-construction impervious area within 250 feet of the reference line: *[divide (A) by (C) x 100]*			**(D) %** 59.5
Percentage of lot to be covered by post-construction impervious area within 250 feet of the reference line upon completion of the project: *[divide (B) by (C) x 100]*			66.5 **(E) %**

[3] **"Impervious surface area"** as defined in Env-Wq 1402.13 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the total footprint of each impervious surface that is located within the protected shoreland.

[4] **"Impervious surface"** as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples may include roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

Stormwater Management Requirements

IMPERVIOUS AREA THRESHOLDS (RSA 483-B:9, V(g))
☐ A net decrease or no net increase in impervious area is proposed (If **line E** is less than or equal to **line D**).
☐ The percentage of post-construction impervious area **(line E)** is less than or equal to 20%. This project *does not require* a stormwater management plan and *does not require* a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.
☐ A net increase in impervious area is proposed and the percentage of post-construction impervious area **(line E)** is greater than 20%, but less than 30%. This project *requires* a stormwater management but *does not require* a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score. *See details on Application Checklist*
■ A net increase in impervious area is proposed and the percentage of post-construction impervious area **(line E)** is greater than 30%. This project *requires* a stormwater management plan designed and certified by a professional engineer *and requires* plans demonstrating that each waterfront buffer grid segment meets at least the minimum required tree and sapling point score. *See details on Application Checklist*

Natural Woodland Area Requirements

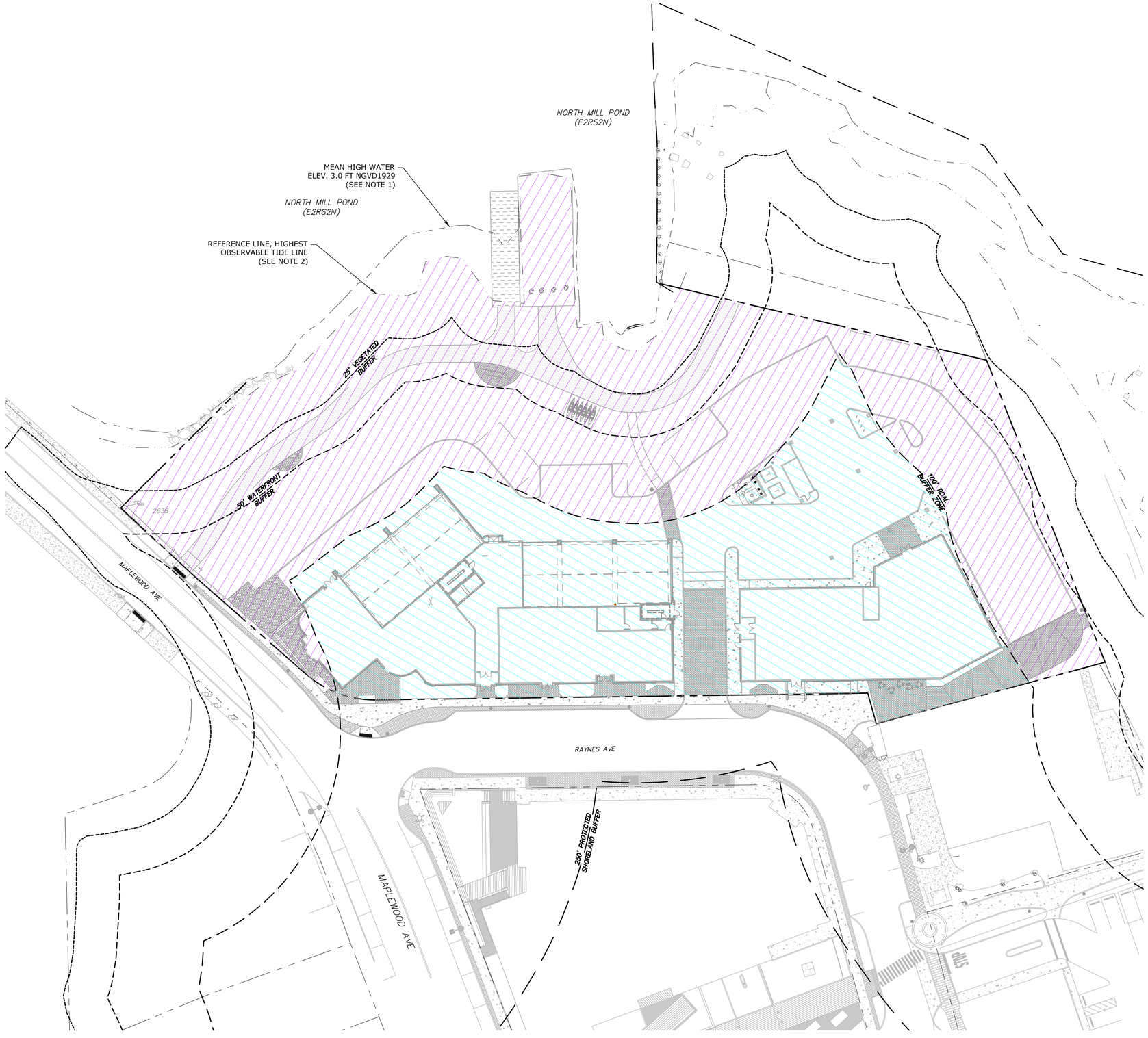
DETERMINING THE AREA TO REMAIN AS NATURAL WOODLAND	
Total area of the lot between 50 feet and 150 feet of the reference line within which the vegetation currently exists as natural woodland[5] *(see definition below).*	**(F)** FT^2 2,047
Total area of the lot between 50 feet and 150 feet from the reference line.	**(G)** FT^2 62,878
At least 25% of area **(G)** must remain in as natural woodland. *[0.25 x G]*	**(H)** FT^2 15,720
Place the lesser of area **(F)** and calculation **(H)** on this line. To comply with the *natural woodland area requirement*, this is the minimum area that must remain as natural woodland between 50 feet and 150 feet from the reference line. This area must be represented on all plans and this area, exclusive of existing lawn, must remain in an unaltered state[6].	2,047 **(I)** FT^2
Name of person who prepared this worksheet: Neil A Hansen	
Name and date of the plan associated with this worksheet: Natural Woodland Buffer Exhibit, Dated 4/19/2024	

[5] **"Natural Woodland"** means a forested area consisting of various species of trees, saplings, shrubs, and ground covers in any combination and at any stage of growth (483-B:4, XI).

[6] **"Unaltered State"** means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health (483-B:4, XXIV-b).

PROPOSED MIXED USE DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE

SHORELAND BUFFER ZONE IMPACT EXHIBIT



LEGEND

- 0'-100- SHORELAND BUFFER IMPACTS ADDRESSED UNDER RSA 482-A (58,650 SF)
- 100' - 250' SHORELAND BUFFER IMPACTS (47,636 SF)
- PROPERTY LINE
- ABUTTING PROPERTY LINE

NOTES:

1. MEAN HIGH WATER (EL. 3.0' NGVD1929) PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATIONS, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009"
2. HIGHEST OBSERVABLE TIDE LINE DELINEATED BY TIGHE & BOND, DURING OCTOBER 2019 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (OCTOBER 2009).

N

0 30' 60'

GRAPHIC SCALE

Tighe&Bond

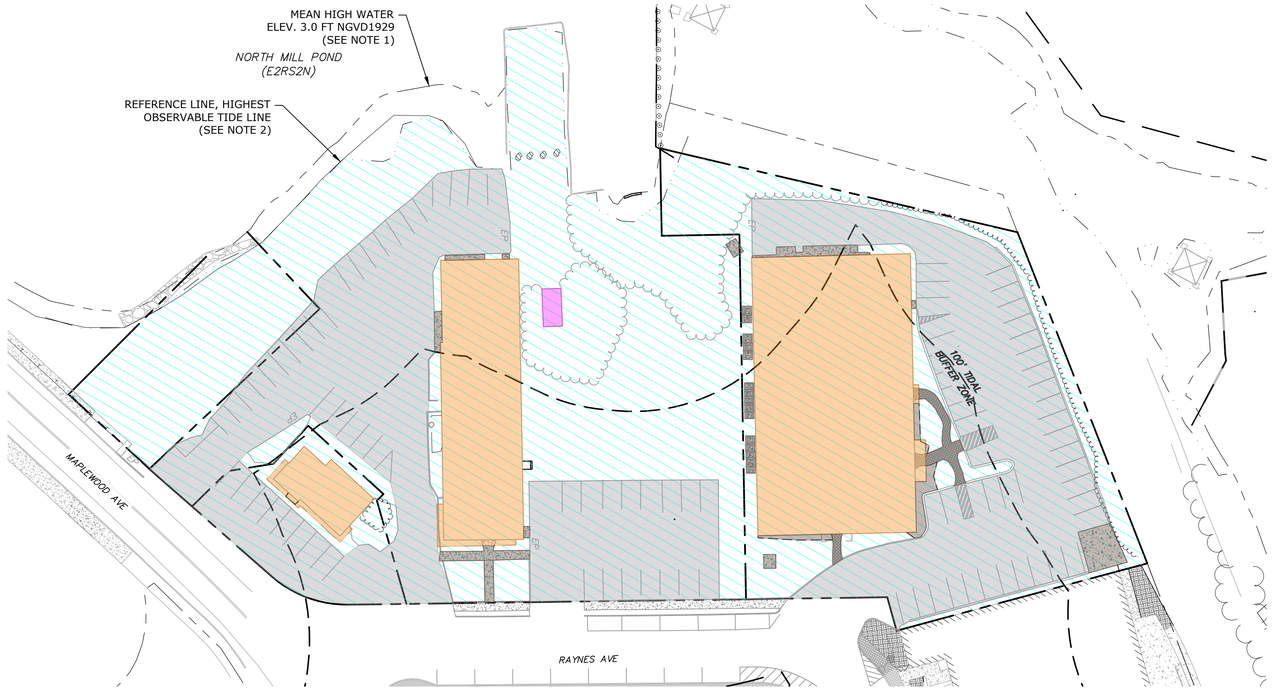
April 19, 2024
P-0595-007-EXHIBITS.dwg

PROPOSED MIXED USE DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE

SHORELAND IMPERVIOUS AREA EXHIBIT

LEGEND

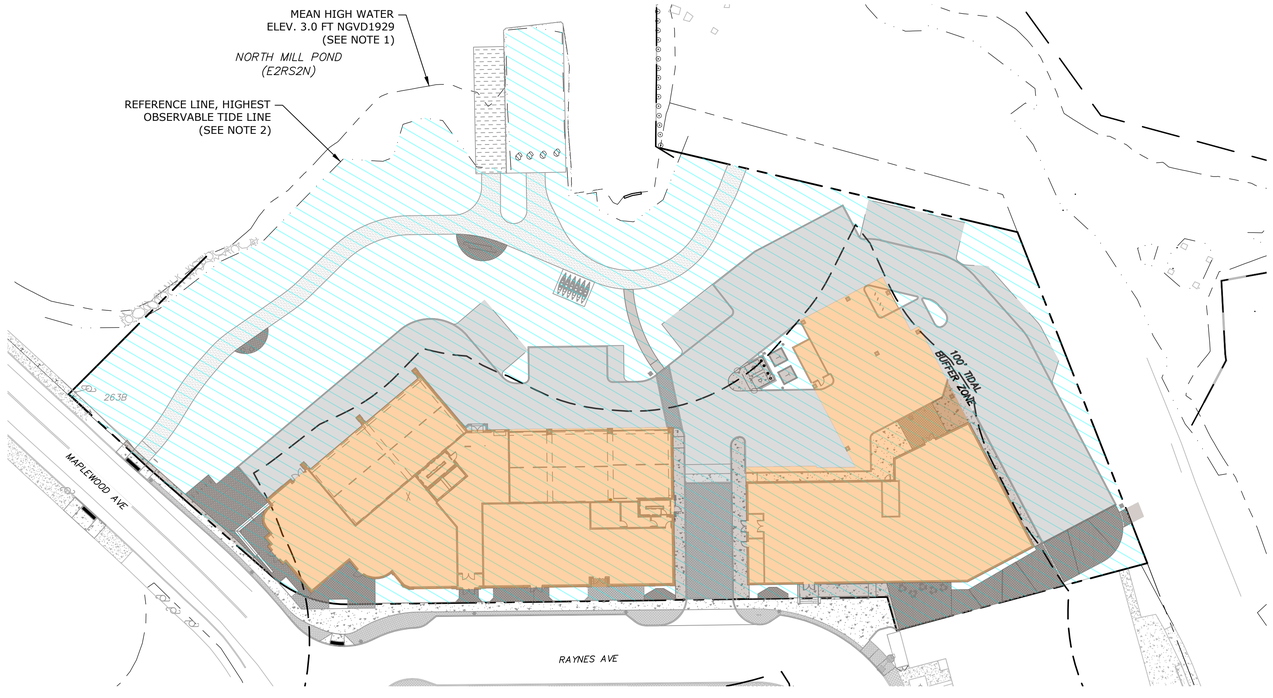
- TOTAL LOT AREA WITHIN REFERENCE LINE (106,336 SF)
- PRIMARY STRUCTURES AREA (20,200 SF)
- SECONDARY STRUCTURES AREA (202 SF)
- PAVEMENT PARKING AREA (40,477 SF)
- CONCRETE AND PAVER AREA (2,422 SF)



PRE-DEVELOPMENT
SCALE 1"=40'

LEGEND

- TOTAL LOT AREA WITHIN REFERENCE LINE (106,336 SF)
- PRIMARY STRUCTURES AREA (32,503 SF)
- PAVEMENT PARKING AREA (29,998 SF)
- CONCRETE AND PAVER AREA (8,247 SF)



POST-DEVELOPMENT
SCALE 1"=40'

NOTES:

1. MEAN HIGH WATER (EL. 3.0' NGVD1929) PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATIONS, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009"
2. HIGHEST OBSERVABLE TIDE LINE DELINEATED BY TIGHE & BOND, DURING OCTOBER 2019 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (OCTOBER 2009).

N

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

April 19, 2024
P-0595-007-EXHIBITS.dwg

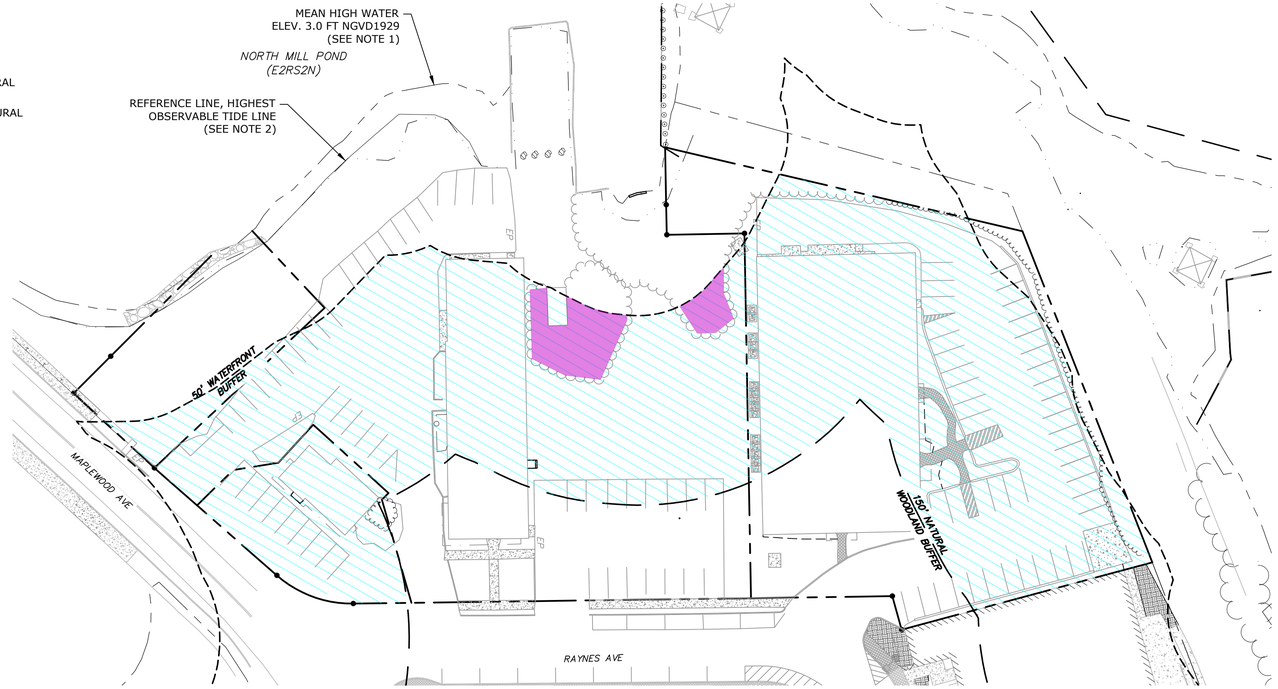
Last Save Date: April 15, 2024 5:45 PM By: CWOZCUIK
Plot Date: Tuesday, April 16, 2024 Plotted By: Colter Krzcuik
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings, Figures\AutoCAD\Sheet\P-0595-007-EXHIBITS.dwg Layout Tab: SHORE IMPERVIOUS

PROPOSED MIXED USE DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE

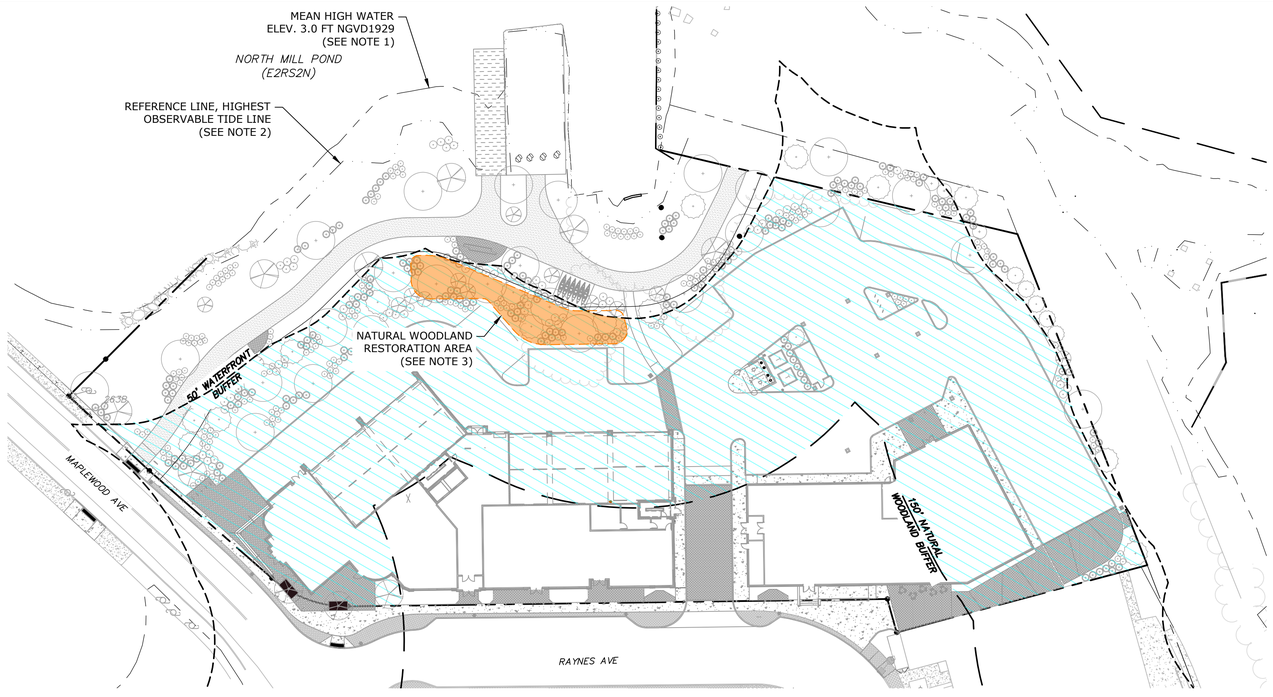
NATURAL WOODLAND BUFFER EXHIBIT

LEGEND

- 50'-150' TOTAL LOT AREA (62,878 SF)
- 50' - 150' PRE-DEVELOPMENT NATURAL WOODLAND AREA (2,047 SF)
- 50' - 150' POST-DEVELOPMENT NATURAL WOODLAND AREA (2,133 SF)



PRE-DEVELOPMENT
SCALE 1"=40'



POST-DEVELOPMENT
SCALE 1"=40'

NOTES:

1. MEAN HIGH WATER (EL. 3.0' NGVD1929) PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATIONS, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009"
2. HIGHEST OBSERVABLE TIDE LINE DELINEATED BY TIGHE & BOND, DURING OCTOBER 2019 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (OCTOBER 2009).
3. ALL PROPOSED VEGETATION WITHIN THE NATURAL WOODLAND RESTORATION AREA SHALL BE CONFIRMED IN GOOD HEALTH AFTER THE FIRST GROWING SEASON AT WHICH TIME NO MAINTENANCE OR CLEARING OF THIS AREA SHALL BE COMPLETED. DESIGNATED NATURAL WOODLAND AREA SHALL REMAIN IN AN UNALTERED, UNMAINTAINED STATE.

N

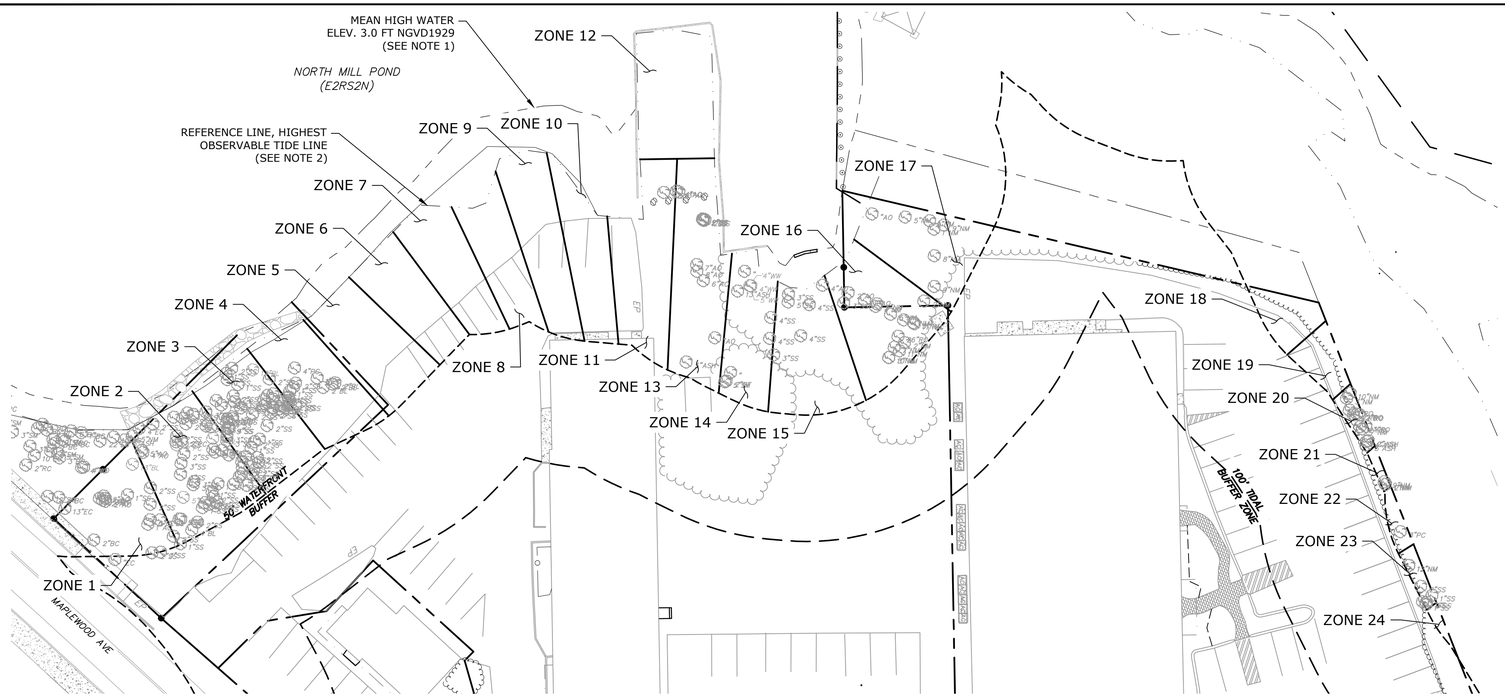
0 40' 80'
GRAPHIC SCALE

Tighe&Bond

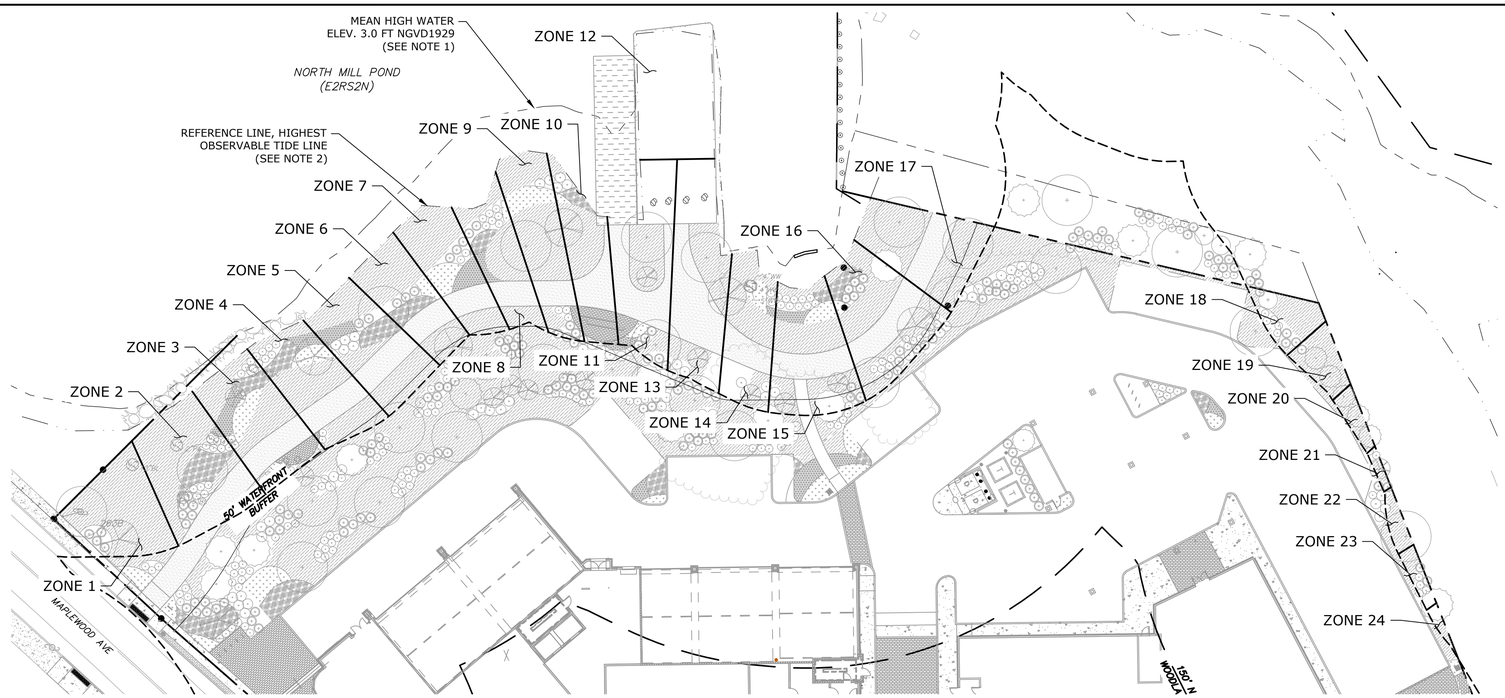
April 19, 2024
P-0595-007-EXHIBITS.dwg

PROPOSED MIXED USE DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE

WATERFRONT BUFFER IMPACT EXHIBIT



PRE-DEVELOPMENT
SCALE 1"=40'



POST-DEVELOPMENT
SCALE 1"=40'

LEGEND

BUFFER GRID LIMITS

ZONE 17 — BUFFER GRID DESIGNATION

13"BL — EXISTING TREE

PROPOSED TREE

PROPOSED SHRUB

PROPOSED GROUND COVER

ABBREVIATIONS	
AO	AUTUMN OLIVE
ASH	ASH SP.
BC	BLACK CHERRY
BF	BALSAM FIR
BL	BLACK LOCUST
EC	EASTERN COTTONWOOD
NM	NORWAY MAPLE
PC	PIN CHERRY
RC	EASTERN RED CEDAR
RO	NORTHERN RED OAK
SM	SUGAR MAPLE
SS	STAGHORN SUMAC
WW	WILLOW SP.

TREE POINT SCORE																			
BUFFER GRID ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
PRE-DEVELOPMENT	49	84	68	10	0	0	0	0	0	0	21	0	36	51	18	85	37	0[1]	0[1]
POST-DEVELOPMENT	35	25	35	15	15	15	10	10	15	15	25	0	25	30	25	25	25	10[1]	19[1]

TREE POINT SCORE								
BUFFER GRID ID	20	21	22	23	24			
PRE-DEVELOPMENT	38[1]	13[1]	1[1]	5[1]	0[1]			
POST-DEVELOPMENT	18[1]	14[1]	10[1]	9[1]	1[1]			

(1) - ONLY THE VEGETATION WITHIN THE PROJECT PARCEL WAS SURVEYED AND COUNTED IN THE TREE POINT SCORE VALUE. THE ABUTTING PARCEL TO THE NORTHEAST OF THE PROJECT IS HEAVILY VEGETATED BETWEEN THE PROPERTY LINE AND THE HIGHEST OBSERVABLE TIDE LINE.

NOTES:
1. MEAN HIGH WATER (EL. 3.0' NGVD1929) PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATIONS, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009"
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3. THE WATERFRONT BUFFER VEGETATION SURVEY WAS COMPLETED BY TIGHE & BOND IN DECEMBER 2023.
4. INVASIVE SPECIES WERE EXCLUDED FROM THE TOTAL POINT SCORE CALCULATION.

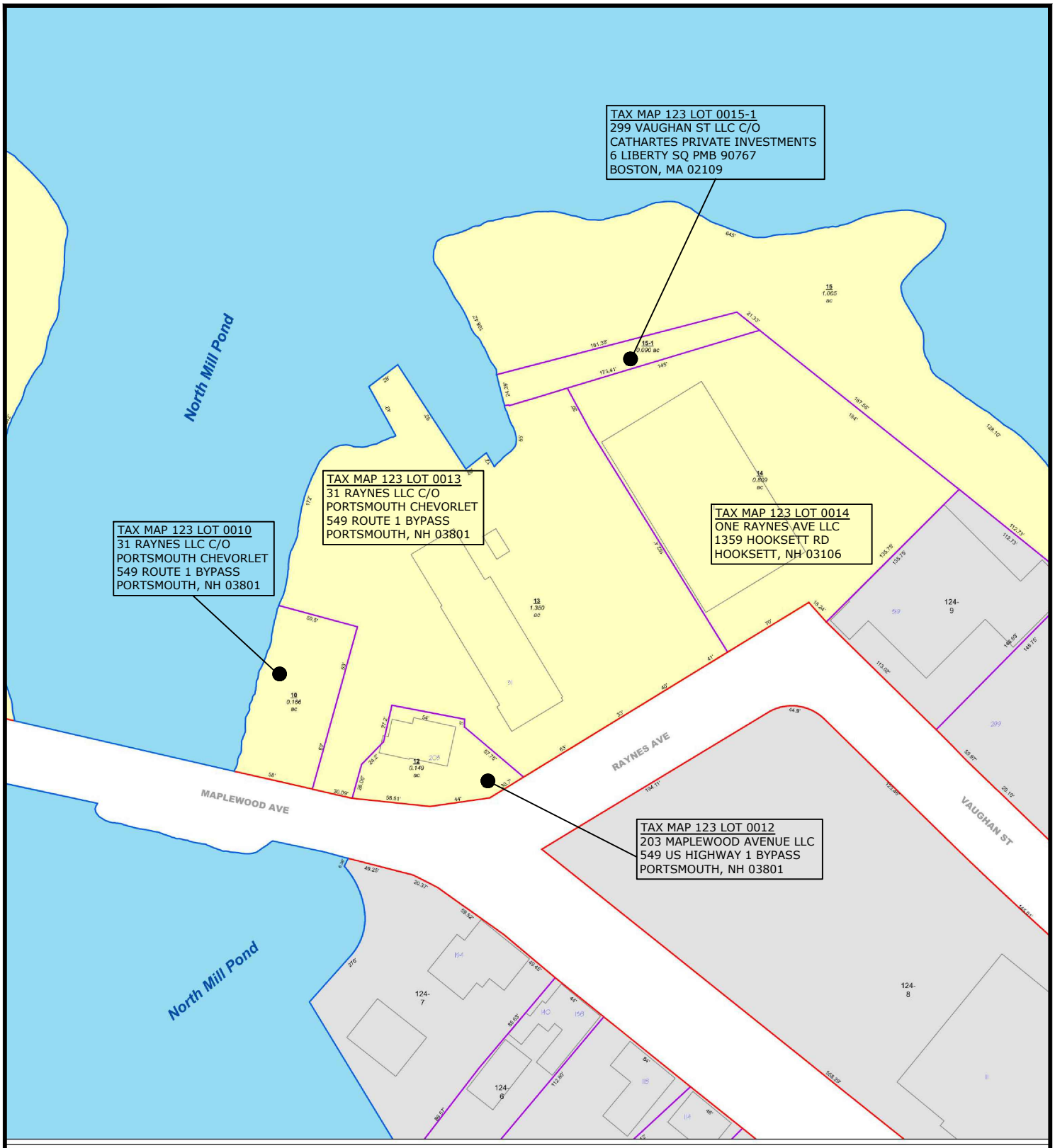
N

0 40' 80'
GRAPHIC SCALE

Tighe&Bond

April 19, 2024
P-0595-007-EXHIBITS.dwg

APPENDIX C



CITY OF PORTSMOUTH TAX MAP
PORTSMOUTH, NH, USA

REFERENCE:
TAX MAP 123
PORTSMOUTH, NEW HAMPSHIRE
(2019)

DATE: 5/1/2024

SCALE: AS SHOWN

Tighe&Bond
Engineers | Environmental Specialists

PUBLIC NOTICE

NOTICE OF INTENT TO FILE

Please take notice that North Mill Pond Holdings, LLC, applicant, is intending to file a Standard Dredge & Fill Wetlands Permit Application with the New Hampshire Department of Environmental Services for a proposed site development at Raynes Avenue in Portsmouth, New Hampshire.

The proposed project is located on 5 previously developed lots for a combined total area of 2.48 acres and currently has three existing buildings, a one (1) story laundromat, a two (2) story office building, and finally a two (2) story gym and office building. The proposed project will consist of two (2) new buildings, a five (5) story mixed use building, and a five (5) story 128 room hotel, as well as associated site improvements such as paving, stormwater management, utilities, and lighting.

The proposed project is located within the 100 FT upland tidal buffer zone (TBZ) and the 250 Shoreland Buffer for North Mill Pond. The TBZ area currently consists of existing buildings, pavement areas (sidewalks and parking), and lawn areas.

Plans and details of this application are on file, for your review, at the City of Portsmouth Clerk's Office, 1 Junkins Avenue, Portsmouth, New Hampshire (8:00am - 4:30pm) or at the NHDES Wetlands Bureau, 29 Hazen Drive, Concord, New Hampshire (8:00am - 4:00pm).

Abutters List
Proposed Mixed Use Development
1 Raynes Avenue
Portsmouth, New Hampshire

ABUTTERS	**MAP #**	**LOT #**
319 Vaughan Street Center LLC 104 Grafton Dr Portsmouth, NH 03801	124	9
City of Portsmouth 1 Junkins Ave Portsmouth, NH 03801	123	15

7018 1130 0001 0367 0020

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- [ ] Return Receipt (electronic) $
- [ ] Certified Mail Restricted Delivery $
- [ ] Adult Signature Required $
- [ ] Adult Signature Restricted Delivery $

Postage
$ 0.64

Total Postage
$ 8.69

Postmark Here

Sent To
319 Vaughan Street Center LLC

Street and Apt.
104 Grafton Dr.

City, State, ZIP
Portsmouth, NH 03801

25-0595-007. C. Krzcuik
WETLAND

PS Form 3800

7018 1130 0001 0367 0013

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Extra Services & Fees *(check box, add fee as appropriate)*
- [X] Return Receipt (hardcopy) $ 3.65
- [ ] Return Receipt (electronic) $
- [ ] Certified Mail Restricted Delivery $
- [ ] Adult Signature Required $
- [ ] Adult Signature Restricted Delivery $

Postage
$ 0.64

Total Postage ar
$ 8.69

Postmark Here

Sent To
City of Portsmouth

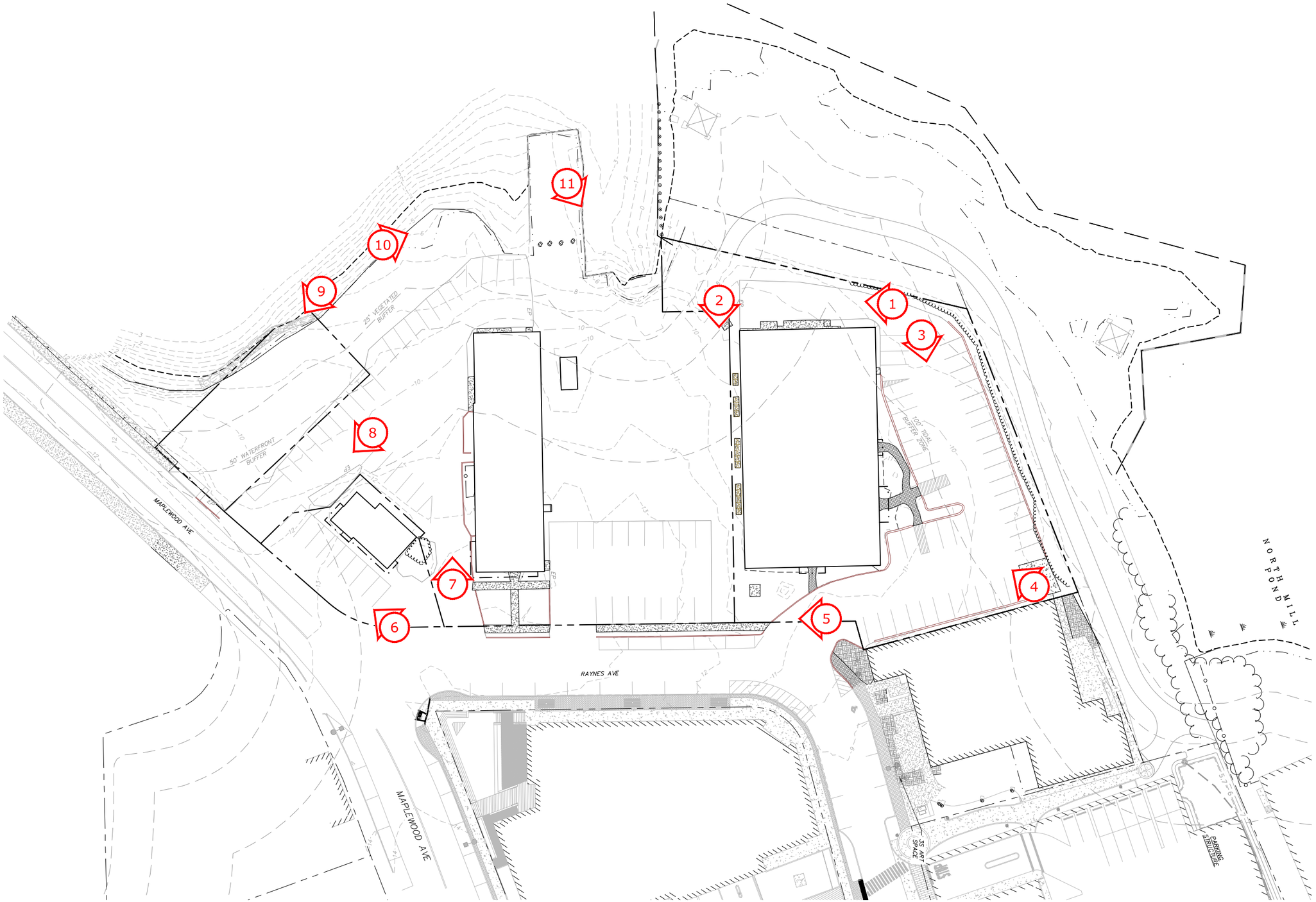
Street and Apt. N
1 Junkins Ave

City, State, ZIP+4
Portsmouth, NH 03801

25-0595-007, C. Krzcuik
WETLAND

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

RAYNES AVENUE
PORTSMOUTH, NH



P-0595-007-EXHIBITS.dwg

PHOTO LOCATION PLAN

SCALE IN FEET
0 30 60 120

Tighe&Bond
177 Corporate Drive
Portsmouth, NH 03801
(603) 433-8818

Photographic Log

Client: North Mill Pond Holdings, LLC **Job Number:** P0595-007

Site: Raynes Avenue, Portsmouth, NH

Photograph No.: 1	**Date:** 11/10/2020	**Direction Taken:** Southwest
Description: Looking southwest along the backside of the existing gym.		

Photograph No.: 2	**Date:** 11/10/2020	**Direction Taken:** South
Description: Looking south along the backside of the existing gym		

Photographic Log

Client: North Mill Pond Holdings, LLC **Job Number:** P0595-007

Site: Raynes Avenue, Portsmouth, NH

Photograph No.: 3	**Date:** 11/10/2020	**Direction Taken:** Southeast

Description: Looking at the existing parking lot near the two story gym

Photograph No.: 4	**Date:** 11/10/2020	**Direction Taken:** West

Description: Looking at the existing paved parking lot and gym.

Photographic Log

Client: North Mill Pond Holdings, LLC **Job Number:** P0595-007

Site: Raynes Avenue, Portsmouth, NH

Photograph No.: 5	**Date:** 11/10/2020	**Direction Taken:** Southwest
Description: Looking along Raynes Ave directly adjacent to the proposed project.		

Photograph No.: 6	**Date:** 11/10/2020	**Direction Taken:** West
Description: Looking at the existing parking lot and laundromat adjacent to Maplewood Avenue.		

Photographic Log

Client: North Mill Pond Holdings, LLC **Job Number:** P0595-007

Site: Raynes Avenue, Portsmouth, NH

Photograph No.: 7	**Date:** 11/10/2020	**Direction Taken:** Northwest
Description: Looking between the existing laundromat and existing office building.		

Photograph No.: 8	**Date:** 11/10/2020	**Direction Taken:** South
Description: Looking at the existing parking lot between the laundromat and tidal North Mill Pond.		

Photographic Log

Client: North Mill Pond Holdings, LLC **Job Number:** P0595-007

Site: Raynes Avenue, Portsmouth, NH

Photograph No.: 9	**Date:** 4/20/2021	**Direction Taken:** South
Description: Looking along North Mill Pond toward Maplewood Avenue.		

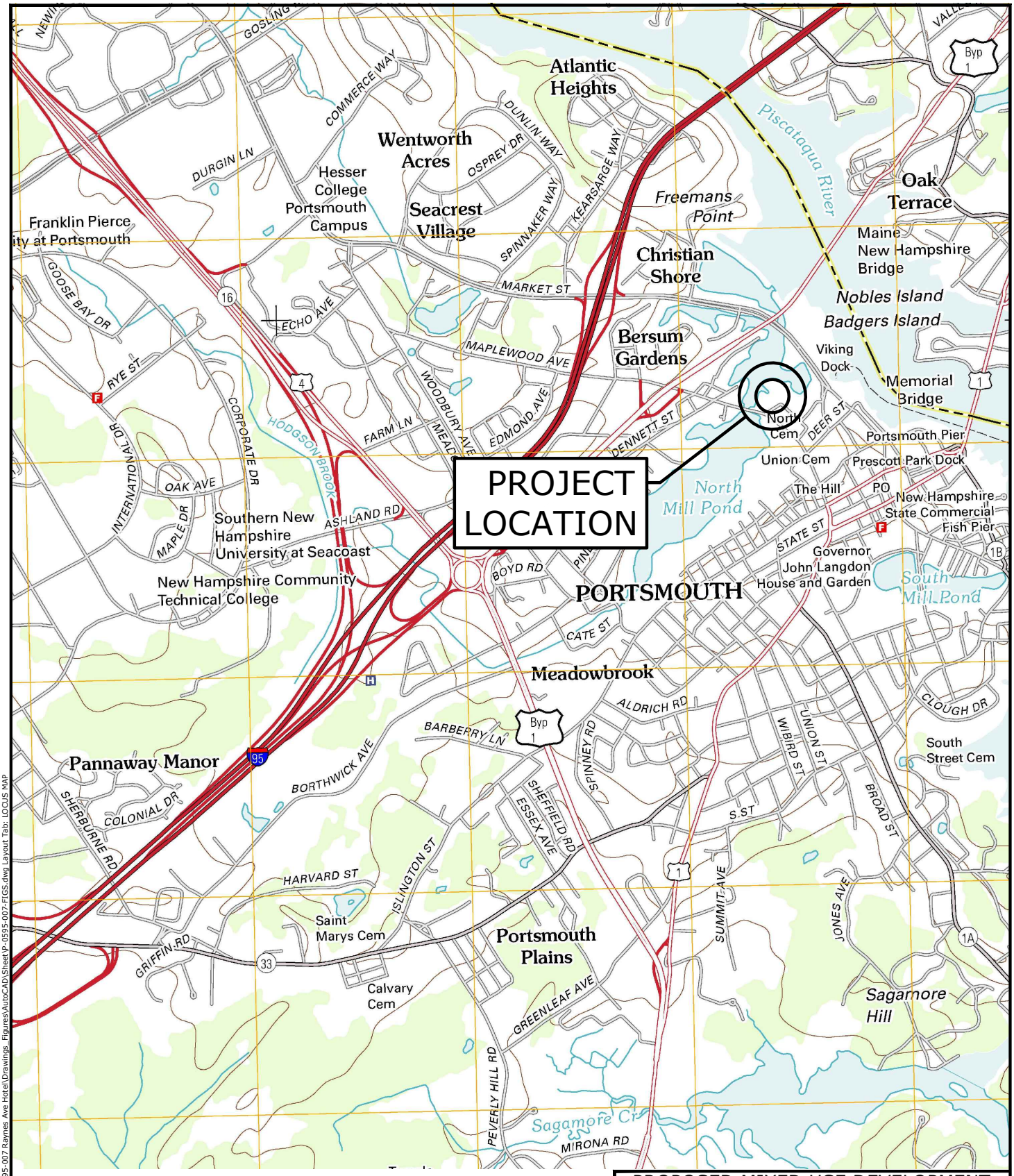
Photograph No.: 10	**Date:** 4/20/2021	**Direction Taken:** North
Description: Looking along North Mill Pond at the existing timber pier.		

Photographic Log

Client: North Mill Pond Holdings, LLC **Job Number:** P0595-007

Site: Raynes Avenue, Portsmouth, NH

Photograph No.: 11	**Date:** 4/20/2021	**Direction Taken:** Southeast
Description: Standing on the existing timber pier looking at the stormwater outfall between the gym and office building.		



N

PROPOSED MIXED USE DEVELOPMENT
RAYNES AVE
PORTSMOUTH, NEW HAMPSHIRE

SITE LOCATION MAP
(SCALE: 1" = 2,000')

DATE:	11/5/2020
FILE:	P-0595-007-FIGS.DWG
DRAWN BY:	CJK
CHECKED:	PMC
APPROVED:	BLM

Tighe&Bond
Engineers | Environmental Specialists

Last Save Date: July 23, 2019 4:33 PM By: CKRZCUIK
Plot Date: Thursday, November 05, 2020 Plotted By: Colter Krzciuk
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings_Figures\AutoCAD\Sheet\P-0595-007-FIGS.dwg Layout Tab: LOCUS MAP

& SPRINGER, PLLC
ONE NEW HAMPSHIRE AVE., STE. 215
PORTSMOUTH, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
REAL ESTATE TRANSFER TAX
3 THOUSAND 9 HUNDRED AND 54 DOLLARS
063006 777458 $3954.00
VOID IF ALTERED

040476

2006 JUN 30 PM 1:05

ROCKINGHAM COUNTY REGISTRY OF DEEDS

WARRANTY DEED

Know All Persons By These Presents, That **Antonio Esposito, Trustee of the Antonio Esposito Revocable Trust**, u/d/t dated April 13, 1995, of Greenland in the County of Rockingham and State of New Hampshire, for consideration paid, grant to **31 Raynes, LLC**, a New Hampshire limited liability company of 2025 Woodbury Avenue, Newington in the County of Rockingham and State of New Hampshire, with ***warranty covenants***, the following described premises:

Antonio Esposito Revocable Trust

TRACT I: A certain lot or parcel of land situate in Portsmouth, Rockingham County, New Hampshire, bounded and described as follows:

Beginning at a point on the Southerly side of the Piscataqua River at land now or formerly of Eldred V. Straw and running Southerly on a course South 66° 24' East, fifty-three (53) feet to a hub; thence South 7° 58' East, Sixteen (16) feet to a point at a corner of land of said Straw; thence North 16° 11' East, Sixty-three (63) feet to a hub; thence North 73° 49' West, fifty-nine and one-half (59.5) feet to the Piscataqua River; thence along said River, Forty (40) feet to the point and place of beginning. All distances used herein being more or less as the case may be, and also granting a right-of-way in common with others from Maplewood Avenue to the demised premises.

The above premises are also shown on a plan recorded at the Rockingham County Registry of Deeds as Plan C-3277.

TRACT II: A certain lot or parcel of land, with the buildings thereon, situated on the easterly side of Maplewood Avenue in Portsmouth, Rockingham County, New Hampshire, bounded and described as follows:

Beginning at the Piscataqua River at the Northwest corner of the land herein conveyed and running South 76° 41' East, Fifty-eight (58) feet, more or less, to a stake in the ground at land now or formerly of the heirs of John August Hett; thence turning and running by land of said heirs of John August Hett, North 16° 11' East, Sixty (60) feet to a stake in the ground at the land of said heirs of John August Hett; thence turning and running by land of said Hett heirs, North 7° 58' West, Sixteen (16) feet to a stake in the ground; thence turning and running by land of said Hett heirs, North 66° 24' West, Fifty-three (53) feet, more or less, to the Piscataqua River; thence turning and running by said Piscataqua River in a westerly direction to the point of beginning.

Together with a right-of-way as shown on the plan of this property, which is hereinafter referred to, said right-of-way being Twelve (12) feet wide and extending Sixty (60) feet in length; thence is reserved and excepted the right of the heirs and assigns of George Raynes to maintain and repair existing sewer, in, upon, under and across the said premises from other property now or formerly of the heirs of George Raynes on the southerly side of Raynes Avenue as appurtenant to as a whole or severed.

The above premises are also shown as Lot 1 on a plan recorded in Rockingham County Records as Plan No. 0884.

Being the same premises conveyed to Antonio Esposito, Trustee of The Antonio Esposito Revocable Trust by deed of Antonio Esposito dated April 13, 1995 recorded in the Rockingham County Registry of Deeds at Book 3099, Page 2759.

THIS IS NOT HOMESTEAD PROPERTY.

Dated this 30th day of June, 2006.

The undersigned trustee as Trustee under the Antonio Esposito Revocable Trust created by Antonio Esposito, as grantor, under trust agreement dated April 13, 1995 and Trustee has full and absolute power in said trust agreement to convey any interest in real estate and improvements thereon held in said trust and no purchaser or third party shall be bound to inquire whether the Trustee has said power or is properly exercising said power or to see to the application of any trust asset paid to the trustee for a conveyance thereof.

Antonio Esposito Revocable Trust

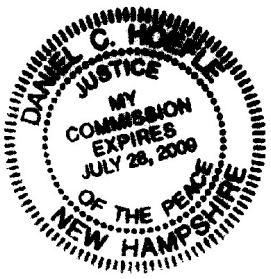
By: _____
Antonio Esposito, Trustee

The State of New Hampshire
Rockingham, SS

June 30, 2006

Personally appeared the above named Antonio Esposito in his capacity as Trustee of the Antonio Esposito Revocable Trust, known to me or satisfactorily proven to be the person whose name is subscribed to the within document and acknowledged that he executed the same for the purposes contained therein,

Before me,



_____
~~Notary Public~~/Justice of the Peace
Print Name:
My Commission Expires:

BOSEN & SPRINGER, PLLC
ONE NEW HAMPSHIRE AVE., STE. 215
PORTSMOUTH, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
REAL ESTATE TRANSFER TAX
27 THOUSAND 5 HUNDRED AND 48 DOLLARS
26 3006 777459 $27548.00
VOID IF ALTERED

040477

2006 JUN 30 PM 1:05

ROCKINGHAM COUNTY REGISTRY OF DEEDS

WARRANTY DEED

Know All Persons By These Presents, That **Rose B. Esposito, Trustee of the Rose B. Esposito Revocable Trust**, u/d/t dated April 13, 1995, of Greenland in the County of Rockingham and State of New Hampshire, for consideration paid, grant to **31 Raynes, LLC**, a New Hampshire limited liability company of 2025 Woodbury Avenue, Newington in the County of Rockingham and State of New Hampshire, with ***warranty covenants***, the following described premises:

Five certain lots or parcels of land situate in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Parcel I:

A certain lot or parcel of land in Portsmouth, New Hampshire, with the buildings thereon, situated on the northerly side of Raynes Avenue and the easterly side of Maplewood Avenue, bounded and described as follows:

Beginning on said Raynes Avenue at an iron pipe in the ground at the junction of the land herein conveyed and land now or formerly of Robert Palfrey and running by said Raynes Avenue, S 59° 42' W, 63 feet to a point on said Raynes Avenue to land now or formerly of Ralph H. MacDonald; thence turning and running N 47° 20' W, 57.75 feet to a point; thence turning and running N 12° 57' E, 5 feet to a point; thence turning and running N 75° 3' W, 54 feet to a point; thence turning and running S 12° 57' W, 27.2 feet to a point; thence turning and running S 51° 20' W, 24.2 feet to a point; thence turning and running S 16° 11' W, 26.06 feet to a point at Maplewood Avenue (all of said last mentioned boundaries being by the land of said MacDonald); thence turning and

running N 78° 17' W, 30.09 feet to land now or formerly of Peter Anania; thence turning and running by said Anania land N 16° 11' E, 60 feet to a point; thence turning and running by said Anania land N 7° 58' W, 16 feet to a point; thence turning and running by said Anania land N 66° 24' W, 53 feet, more or less, to the outlet of the North Mill Pond; thence turning and running in a northerly and thence in a southerly direction by said outlet of said North Mill Pond to an iron pipe in the ground to land now or formerly of Archille Bazzochi; thence turning and running by land of said Bazzochi, S 30° 7' E, 82.3 feet to a stake in the ground at the junction of land of said Robert Palfrey and Archille Bazzochi; thence turning and running by land of said Palfrey S 59° 42' W, 33 feet to an iron pipe in the ground; thence turning and running by land of said Palfrey, S 30° 16' E, 110 feet to the point of beginning.

There is reserved and excepted the right of Carl Anania, his heirs and assigns to uses in common with others having rights herein a right-of-way as shown on plan entitled "Land of the Heirs of John August Hett, Raynes and Maplewood Avenues, Portsmouth, N.H., April 1938, John W. Durgin, Civil Engineer" recorded in Rockingham Records.

There is reserved and excepted the rights of others to use in common with N.J. Gendron Lumber Co., its successors or assigns, a right-of-way extending easterly from Maplewood Avenue on the easterly side thereof, at a point 30.09 feet southerly from land formerly of Peter Anania, and running N 78° 17' W, 18.09 feet to the right-of-way above mentioned; thence turning and running N 16° 11' E along said other right-of-way a distance of 26.06 feet; thence turning and running parallel to Maplewood Avenue in a southerly direction 18.09 feet to a point; thence turning and running S 16° 11' W, 26.06 feet to the point of beginning.

There is reserved and excepted the right of the heirs and assigns of George Raynes to maintain and repair existing sewers, in upon, under and across the said premises from other property of the heirs of George Raynes on the southerly side of Raynes Avenue as appurtenant to, as a whole, or severed, see deed of Charles J. Griffin, Executor, 1104/466, re-recorded 1264/80.

PARCEL II:

A certain piece or parcel of land, situated on the northerly side of Raynes Avenue, so-called, in said Portsmouth, and bounded and described as follows, viz:

Beginning at the southwesterly corner of the lot herein conveyed at land formerly of the Estate of George Raynes and running northerly by said last mentioned land to the water of the outlet of the North Mill Pond; thence turning and running easterly by the water to a point 40 feet a distance from the first course, or westerly sideline of said lot, measured at right angles thereto; thence turning and running southerly by the second parcel of land herein described to said Raynes Avenue; thence turning and running westerly by said Raynes Avenue 40 feet to the point of beginning.

PARCEL III:

A certain parcel or lot of land, situate in Portsmouth, County of Rockingham and State of New Hampshire, with the buildings thereon, if any, situated upon the northerly side of Raynes Avenue, so-called, in said Portsmouth and bounded and described as follows:

Beginning at a point on said Raynes Avenue at the southeasterly corner of the parcel first herein described and running easterly by said Raynes Avenue 41 feet to a hub in the ground at land formerly of Oliver W. Ham; thence turning and running northerly 162.4 feet by said last mentioned land to a hub in the ground; thence turning and running westerly by said last mentioned land 41 feet to a hub in the ground at the first parcel herein described; thence turning and running Southerly by the first parcel herein described 162.4 feet to the point of beginning.

PARCEL IV:

A certain parcel or lot situate in Portsmouth, County of Rockingham and State of New Hampshire, situated to the north of the second parcel hereinabove described and adjoining the same, and bounded and described as follows:

Beginning at a point which is the southwesterly corner of the parcel herein conveyed and the northwesterly corner of parcel two aforesaid; thence running easterly by and along the northerly boundary of parcel two a distance of 41 feet, more or less, to land formerly of Oliver W. Ham; thence turning and running northerly by and land said Ham land a distance of 30 feet; more or less, to other land formerly of said Ham; thence turning and running westerly still by and along said Ham land, a distance of 41 feet, more or less, to the parcel first hereinabove described; thence turning and running southerly by and along said parcel first hereinabove described a distance of 30 feet, more or less, to the point of beginning.

Together with all right, title and interest of the grantor to any land lying between the premises and the above mentioned outlet to the North Mill Pond.

PARCEL V:

A certain parcel of land with the buildings thereon, situated on the northerly side of Raynes Avenue, in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at an iron pipe in the ground on said Raynes Avenue at the junction of the land herein described and land of the heirs of John August Hett and running N 30° 16' W, 110 feet to an iron pipe in the ground at land of the heirs of John August Hett; thence turning and running by said land of the heirs of John August Hett, N 59° 42' E, 33 feet to a stake in the ground at land now or formerly of Archille Bazzochi; thence turning and running by land of said Bazzochi S 30° 16' E, 110 feet to Raynes Avenue; thence turning and running by said Raynes Avenue S 59° 42' W, 33 feet to the point of beginning.

There is reserved and excepted the right of the heirs and assigns of George Raynes to maintain and repair existing sewers, in, upon, under and across said premises from other property of the heirs of George Raynes on the southerly side of Raynes Avenue as appurtenant to, as a whole, or severed.

Meaning and intending hereby to convey Lot #3 on a plan of Lots entitled "Land of the Heirs of John August Hett, Raynes and Maplewood Aves., Portsmouth, N.H., April 1938, John W. Durgin Civil Engineer," and recorded in Rockingham Records.

Reserving and excepting from the foregoing a certain lot or parcel of land situate in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at a point on the southerly side of the outlet of the North Mill Pond to the Piscataqua River at land now or formerly of Eldred V. Straw, et ux and running southerly on a course S 66° 24' E, 53 feet to a hub; thence S 7° 58' E, 16 feet to a hub; thence N 16° 11' E, 63 feet to a hub; thence N 73° 49' W, 59.5 feet to the southerly side of the outlet of the North Mill Pond to the Piscataqua River; thence along said southerly side of the outlet of the North Mill Pond, 40 feet to the point and place of beginning. All distances used herein being more or less as the case may be, and also granting a right-of-way in common with others from Maplewood Avenue to the demised premises. Said parcel having been conveyed by William W. Seaward, Jr., et al on August 18, 1971 to Eldred

V. Straw and Barbara J. Straw by warranty deed recorded in Rockingham County Records, Book 2089, Page 374, and by confirmatory deed dated October 25, 1972, recorded in Rockingham County Records, Book 2180, Page 426.

All parcels conveyed herein are SUBJECT to an easement in favor of Joseph J. Sawtelle, Jr., as Trustee of Junonia Trust, its heirs and assigns, including Joseph G. Sawtelle, Trustee of Portsmouth Conservation Easement Trust, it heirs, and assigns. This easement shall run along the entire waterfront portions of the parcels herein conveyed and shall be fifteen feet in width beginning at the knuckle of the bank of the North Mill Pond as it may from time to time exist and extending inland fifteen feet. The purpose of this easement is to create the right to place a walkway across the property and to landscape the area. Grantor, its heirs and assigns shall have a right to pass and repass across this fifteen foot strip and Grantee, its heirs and assigns shall do nothing to prevent Grantor, its heirs and assigns from exercising that right.

Being the same premises conveyed to Rose B. Esposito, Trustee of The Rose B. Esposito Revocable Trust by deed of Rose B. Esposito dated April 13, 1995 recorded in the Rockingham County Registry of Deeds at Book 3099, Page 2755.

THIS IS NOT HOMESTEAD PROPERTY.

Dated this 30th day of June, 2006.

The undersigned trustee as Trustee under the Rose B. Esposito Revocable Trust created by Rose B. Esposito as grantor under trust agreement dated April 13, 1995 and Trustee has full and absolute power in said trust agreement to convey any interest in real estate and improvements thereon held in said trust and no purchaser or third party shall be bound to inquire whether the Trustee has said power or is properly exercising said power or to see to the application of any trust asset paid to the trustee for a conveyance thereof.

Rose B. Esposito Revocable Trust

By: Rose B Esposito
Rose B. Esposito, Trustee

4/30/06

The State of New Hampshire
Rockingham, SS June 30, 2006

Personally appeared the above named Rose B. Esposito in her capacity as Trustee of the Rose B. Esposito Revocable Trust, known to me or satisfactorily proven to be the person whose name is subscribed to the within document and acknowledged that she executed the same for the purposes contained therein,

Before me,

Daniel C. Hoefle

~~Notary Public~~/Justice of the Peace
Print Name:
My Commission Expires:

203 Maplewood Avenue, LLC
549 US Highway 1 Bypass
Portsmouth, NH 03801

BK 5621 PG 0420

STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
REAL ESTATE TRANSFER TAX
*****7 Thousand 8 Hundred 75 Dollars
DATE 05/27/2015 RO048951 $ *****7875.00

C/H
L-CHIP
ROA282876

021109

2015 MAY 27 PM 3:30

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS THAT I, JOANNE M. SPAULDING, Individually and as SUCCESSOR TRUSTEE OF THE PORTSMOUTH PROPERTY TRUST, a revocable trust under document of trust dated August 30, 1994, with an address of 28 Greenwich Trail, Concord, New Hampshire, 03301,

For consideration paid, grant to **203 MAPLEWOOD AVENUE, LLC,** a New Hampshire limited liability company with a business address of 549 US Highway 1 Bypass, Portsmouth, New Hampshire, 03801

With Warranty covenants the following described premises situate in Portsmouth, Rockingham County, New Hampshire:

Beginning at a point on the northwesterly side of Raynes Avenue, said point being sixty-three (63) feet southwesterly of the southwesterly corner of property now or formerly of Robert Palfrey in said Portsmouth; thence N 47° 20' W by other land now or formerly of Ralph H. MacDonald fifty-seven and seventy-five hundredths (57.75) feet to a point; thence N 12° 57' E still by other land now or formerly of said MacDonald five (5) feet to a point; thence N 77° 03' W still by other land now or formerly of said MacDonald fifty-four (54) feet to a point; thence S 12° 57' W still by other land now or formerly of said MacDonald twenty-seven and two-tenths (27.2) feet to a point; thence S 51° 20' W still by other land now or formerly of said MacDonald twenty-four and two-tenths (24.2) feet to a point, said point also marking the northeasterly corner of a certain right-of-way thirty (30) feet in width or other land now or formerly of said MacDonald; thence S 16° 11' W by the southeasterly side of said thirty (30) foot right of way twenty-six and six hundredths (26.06) feet to the northeasterly side of Maplewood Avenue; thence turning and running in a southeasterly direction by the northeasterly side of Maplewood Avenue fifty-eight and fifty-one hundredths (58.51) feet to a point; thence continuing and running in a general easterly direction by the northwesterly side of said Raynes Avenue forty-four (44) feet to a point on the northwesterly side of said Raynes Avenue; thence N 59° 42' E, by the northwesterly side of said Raynes Avenue thirty and seven tenths (30.7) feet to the point of beginning. Said property containing about six thousand five hundred (6500) square feet.

Being the same premises described in deed of Paul Spaulding to Paul Spaulding, Trustee, dated August 30, 1994, recorded in Rockingham County Registry of Deeds, Book 3070, Page 2229.

CERTIFICATE OF TRUSTEE AUTHORITY

The undersigned is the successor Trustee under the Portsmouth Property Trust, u/d/t dated August 30, 1994, and thereto has full and absolute power in said Declaration to convey any interest in real estate and improvements thereon held in said Trust and no purchaser or third party shall be bound to inquire whether the Trustee has said power or is properly exercising said power or to see to the application of any Trust asset paid to the Trustee for a conveyance thereof.

This is not homestead property.

Signed this 27th day of May, 2015.

Portsmouth Property Trust

Joanne M Spaulding Trustee

By: Joanne M. Spaulding, Succ. Tee

STATE OF NEW HAMPSHIRE
ROCKINGHAM COUNTY

Personally appeared this 27 day of May, 2015, Joanne M. Spaulding, Individually and Successor Trustee of the Portsmouth Property Trust, who acknowledged that they executed the foregoing instrument as her free act and deed for the purposes contained herein.

Before me,

Notary Public

MOLLY C. FERRARA
Commission Expires
NOTARY PUBLIC
03-07-2017
NEW HAMPSHIRE

My commission expires:

 # 20009131 02/28/2020 02:20:35 PM
Book 6088 Page 1267 Page 1 of 5
Register of Deeds, Rockingham County

Cathy Ann Stacey

LCHIP	**ROA483780**	**25.00**
TRANSFER TAX	**RO095051**	**60,000.00**
RECORDING		**26.00**
SURCHARGE		**2.00**

Return to:

(M)

Hoefle, Phoenix, Gormley & Roberts, P.A.
P.O. Box 4800
Portsmouth, NH 03802

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that **A. Robert McGuire, Jr., Trustee of The Horizon Trust of New Hampshire u/t/d September 20, 2009,** whose mailing address is P. O. Box 988, Dover, Strafford County, New Hampshire 03821, grants to **One Raynes Ave LLC**, a New Hampshire limited liability company, with a business address of 1359 Hooksett Road, Hooksett, New Hampshire 03106, with *warranty covenants* the following described premises:

Portsmouth, New Hampshire (2 Tracts):

The following parcels situate in the City of Portsmouth, County of Rockingham and State of New Hampshire, more particularly identified as follows:

Tract 1:

A certain lot or parcel of land, lying Northerly off the Northerly side of Raynes Avenue in Portsmouth, County of Rockingham and State of New Hampshire, more particularly bounded and described as follows:

Beginning at a point at the Northeasterly corner of land of Achille Bazzocchi, which point is one hundred fifty-seven (157) feet, more or less, Northwesterly from the Northerly side of Raynes Avenue; thence turning and running in a Southwesterly direction by land of said Bazzocchi forty-one (41) feet, more or less to a point at said Bazzocchi land; thence turning and running by said Bazzocchi land in a Northwesterly direction seventy-nine and five tenths (79.5) feet, more or less to land of Littlefield Lumber Company; thence turning and running in a Southeasterly direction by land of Littlefield Lumber Company forty-three (43) feet, more or less, to land of William Hyder, formerly of Charles W. and Sarah M. Ham; thence turning and running in a Southerly direction by said last mentioned land sixty-six (66) feet, more or less, to the point of beginning.

Tract 2:

Beginning on said Raynes Avenue at the southwesterly corner of the premises herein described at the southeasterly corner of land of Achille Bazzocchi and thence turning in a northwesterly direction by said Bazzocchi land two hundred twenty-three (223) feet, more or less to land of Littlefield Lumber Company; thence turning and running in an easterly direction by

said land of Littlefield Lumber Company, one hundred fifty-one (151) feet, more or less to a point of other land of said Littlefield Lumber Company; thence turning and running in a southeasterly direction by other land of said Littlefield Lumber Company, one hundred ninety-nine (199) feet more or less to land of Elizabeth S. Regan; thence turning and running by said Regan's land 63 45' West 135 75' more or less to an iron pipe in ground at Vaughan Street; thence turning and running in a northwesterly direction by said Vaughan Street eighteen and 24/100 (18.24) feet, more or less to the premises herein described and Raynes Avenue; thence turning and running in a southwesterly direction by Raynes Avenue, sixty-nine (69) feet, more or less, to the point of beginning (38,000) square feet.

The property being conveyed is shown as Tax Map 120, Lot 14 on the City of Portsmouth records and is comprised of 0.81 acres of land, more or less, and any improvements thereon.

EXCEPTING AND RESERVING from the above-described premises is a parcel of land conveyed to the Estate of Achille Bazzocchi by Quitclaim Deed of The Val Halla Corporation dated May 8, 1964 and recorded in the Rockingham County Registry of Deeds at Book 1720, Page 10, and as also conveyed to N. J. Gendron Lumber Company of Portsmouth, Inc. by Quitclaim Deed of Val Halla Corporation dated June 14, 1965 and recorded in the Rockingham County Registry of Deeds at Book 1771, Page 330.

Included in the sale are all right, title and interest of the Grantor in and to any easements, rights-of-way, privileges, appurtenances and rights to the same belonging to and benefitting the property being conveyed, and all right, title and interest of the Grantor, if any, in and to any land in the bed of any highway, street, road or avenue in front of or abutting the property hereby conveyed.

Also included are the buildings and any other improvements now thereon, and the fixtures and machinery thereon belonging to the Grantor, and used in connection therewith, including, without limitation, all storm windows and doors, awning, shutters, furnaces, heaters, coolers, heating, ventilating and air conditioning equipment, oil and gas burners and fixtures appurtenant thereto, hot water heaters, plumbing and bathroom fixtures, and electric and other lighting fixtures.

This conveyance is made subject to the leasehold rights of the current tenant, Craig J. Annis, pursuant to an Assignment of Lease dated April 20, 2016 from Earl L. Kalil, Jr. recorded at the Rockingham County Registry of Deeds at Book 4678, Page 0101. See Notice of Lease between Henry K. Hyder, Jr., Trustee of the Mitchell A. Hyder and Edward A. Hyder Irrevocable Trust of 1993, as Landlord and Raynes Realty, Inc. as Tenant recorded December 31, 1996 at Book 3193, Page 2057. The lease was assigned to Earl L. Kalil, Jr. by Notice of Lease recorded January 21, 2003 at Book 3934, Page 724.

This conveyance is made subject to all rights, encumbrances, easements, covenants and restrictions of record affecting the property; but this reference shall not operate to reimpose the same.

For title reference, see the Warranty Deed from Mitchell A. Hyder, Edward A. Hyder, Henry K. Hyder, Jr., A. Robert McGuire and Henry K. Hyder, III all as trustees of The Mitchell A. Hyder and Edward A. Hyder Irrevocable Trust of 1993, to Edward A. Hyder and Mitchell A. Hyder as Trustees of Rye Trust u/d/t dated December 21, 2005, recorded in the Rockingham County Registry of Deeds at Book 4606, Page 1149. This is the same property conveyed by Quitclaim Deed (50% undivided interest) of Edward A. Hyder, Trustee of the Rye Trust u/t/d December 21, 2005 to A. Robert McGuire, Trustee of The Horizon Trust of New Hampshire u/t/d September 10, 2009, recorded at Book 5308, Page 1542, in the Rockingham County Registry of Deeds; and by

Quitclaim Deed (50% undivided interest) of Edward A. Hyder, Trustee of the Rye Trust u/t/d December 21, 2005 to A. Robert McGuire, Trustee of The Horizon Trust of New Hampshire u/t/d September 10, 2009, recorded at Book 5308, Page 1542, in the Rockingham County Registry of Deeds; and by Quitclaim Deed (50% undivided interest) of A. Robert McGuire, Trustee of the Rye Trust u/t/d December 21, 2005 to A. Robert McGuire, Trustee of The Horizon Trust of New Hampshire u/t/d September 10, 2009, recorded at Book 5448, Page 2348, in the Rockingham County Registry of Deeds.

The undersigned Trustee, as Trustee under The Horizon Trust of New Hampshire created under a trust agreement dated September 10, 2009, state pursuant to RSA 564-A:7 that said Trustee has full and absolute power in said trust agreement to convey or mortgage any interest in real estate and improvements thereon held in said trust and no purchaser or third party shall be bound to inquire whether the Trustee has said power or is properly exercising said power or to see to the application of any trust asset paid to the Trustee relative to said conveyance or mortgage thereof.

EXECUTED this 21 day of February, 2020.

THE HORIZON TRUST OF NEW HAMPSHIRE u/t/d September 10, 2009

By: _____
A. Robert McGuire, Jr., Trustee

STATE OF NEW HAMPSHIRE
COUNTY OF STRAFFORD

Subscribed and sworn to before me this 21 day of FEBRUARY, 2020, by A. Robert McGuire, Jr., Trustee of The Horizon Trust of New Hampshire u/t/d September 10, 2009.

FRANKLIN C. JONES NOTARY PUBLIC STATE OF NEW HAMPSHIRE MY COMMISSION EXPIRES FEBRUARY 5 2025

_____
Notary Public/~~Justice of the Peace~~

Print Name: _____
My Commission Expires: _____

Please Return to MAIL TO

Susan A. Manchester, Esq.
Sheehan, Phinney, Bass + Green
1000 Elm Street
Manchester, NH 03101

STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
REAL ESTATE TRANSFER TAX
***24 Thousand 0 Hundred 00 Dollars
DATE 05/02/2013 RO028960 $ ***24000.00 AMOUNT

C/H
L-CHIP
ROA204888

023301

2013 MAY -2 PM 1:36

QUITCLAIM DEED

KNOW ALL MEN BY THESE PRESENTS THAT, William Creighton, Trustee of the GSM Realty Trust ("Grantor"), created under Trust Declaration dated November 18, 1994, with an address of 227 Market Street, Portsmouth, County of Rockingham and State of New Hampshire 03801 for consideration paid, grants to **299 Vaughan Street, LLC** ("Grantee"), a New Hampshire limited liability company, having an address in c/o Cathartes Private Investments, 31 Milk Street, Boston, Massachusetts 02109, with *Quitclaim Covenants*, the following premises conveyed to the within Grantor by Warranty Deed of Granite State Minerals, Inc., dated August 12, 2004 and recorded with the Rockingham County Registry of Deeds at Book 4350, Page 970, located on Vaughan Street in Portsmouth, County of Rockingham and State of New Hampshire:

Certain tracts of land, with the buildings thereon, situated in Portsmouth, Rockingham County, New Hampshire, bounded and described as follows:

I. A certain parcel of land, with the buildings thereon, situated on Vaughan Street in Portsmouth, New Hampshire and being described as Lot #1 on Lot Plan 14 of the Assessor's Maps of the City of Portsmouth, New Hampshire, originated by John W. Durgin, C.E. having an access to the aforesaid property on Green Street in Portsmouth, being generally bounded and described as follows:

Beginning at a point on the southwesterly corner of the lot herein conveyed and thence running generally northwesterly along Vaughan Street, so-called, 183.18 feet, more or less, to land formerly of Regan; thence turning and running generally northeasterly by said land formerly of Regan and other land to be conveyed herein, 195 feet, more or less; thence turning and running in a general southeasterly direction 151.98 feet, more or less, to land of Dennett; thence turning and running generally southwest along land of Dennett 6.5 feet, more or less; thence turning and running by land of Dennett and others in a general southeasterly direction 106.5 feet, more or less, to the northerly side of Green Street; thence turning and running southwesterly along Green Street 27 feet, more or less, thence turning and running northwesterly 90 feet, more or less; thence turning and running southwesterly 200 feet, more or less, to the point of beginning.

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

The reference to "183.18 feet" in line two of the description above, "151.98 feet" in line six above and "90 feet" in line ten have been changed from the legal description found in the Warranty Deed into the Grantor recorded at Book 4350, Page 970 of the Registry since it has been determined by a survey of the Premises, which survey is recorded herewith as Plan No. D-37722, that the original distances contained therein and shown on Lot Plan 14 of the Assessor's Maps of the City of Portsmouth contain scriveners errors and are incorrect.

II. Also conveying a second parcel of land, with any buildings that may be thereon situated, known as Lot #44 on Assessor's Lot Plan No. 15 of the City of Portsmouth Assessor's Map, said property being to the rear of the property now or formerly of Regan and adjacent to the aforementioned described parcel and described as follows:

Commencing at the northeasterly corner of the parcel herein conveyed; thence running in a general southeasterly direction 180 feet, more or less, to the first parcel mentioned herein; thence turning and running in a general southwesterly direction along other land as described in Parcel 1 herein 50 feet, more or less, to land now or formerly of Regan; thence turning and running in a general northwesterly direction along land of Regan and others, 135 feet, more or less; thence turning and running in a northerly direction 61 feet, more or less, to the point of beginning.

III. Also conveying a third parcel of land, with any buildings that may be thereon situated, known as Lot #45 on Assessor's Lot Plan #15 of the City of Portsmouth Assessor's Map, said property being adjacent to the last mentioned Lot #44 as follows:

Commencing at the southeasterly corner of the lot herein conveyed wherein said lot adjoins Lot #42 as shown on said Assessor's Plan and Lot #44 as shown on said Assessor's Plan; thence running in a general northwesterly direction 199.1 feet; thence turning and running southwesterly 246 feet, more or less, to the Piscataqua River; thence turning and running in a general northwesterly direction by said river 156.7 feet, more or less, thence continuing along said riverfront in a general northeasterly direction 213.7 feet thence turning and continuing along said river in a southeasterly direction 44 feet and 25 feet; thence turning and running along said riverbank in a northeasterly direction 134 feet; thence turning and running in a southeasterly direction 41 feet; thence turning and running in a southwesterly direction, still by said river, 65.2 feet; thence turning and running southeasterly 38 feet; thence turning and running in a general southerly direction 105 feet, more or less, to the point of beginning.

Meaning and intending to convey the Premises described in the Warranty Deed into Grantor dated August 12, 2004 and recorded at Book 4350, Page 970 of the Rockingham County Registry of Deeds.

The property is not subject to homestead interests.

This conveyance is made subject to all easements, restrictions, limitations and covenants of record.

CERTIFICATE OF TRUSTEE AUTHORITY

The undersigned William Creighton, as Trustee of GSM Realty Trust, created under Declaration of Trust dated November 18, 1994 and recorded in the Rockingham County Registry of Deeds at Book 3083, Page 791, as amended by Amendment to Declaration of Trust, dated March 10, 2005 and recorded in said Registry at Book 4452, Page 316 and by Second Amendment to the GSM Realty Trust dated November 15, 2005 and recorded in said Registry at Book 4744, Page 2310 (the "Trust"), hereby certify that:

(i) I am the current and only Trustee of the Trust;

(ii) The Trust has not been further amended, modified or revoked and remains in full force and effect;

(iii) I have full power and authorization to execute and deliver any and all documents necessary to effectuate the sale of said property;

(iv) No third party shall be bound to inquire whether I have said power or am properly exercising said power or to see to the application of any Trust asset paid to me as Trustee for a conveyance thereof.

Executed this 2nd day of May, 2013.

William Creighton, Trustee of the
GSM Realty Trust

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham

The foregoing instrument was acknowledged before me this 2 day of ~~April~~ May, 2013, by William Creighton, as Trustee of GSM Realty Trust.

Notary Public/Justice of the Peace

My Commission Expires:

DENISE A. POULOS
NOTARY PUBLIC
NEW HAMPSHIRE
MY COMMISSION EXPIRES NOV. 5, 2017

Owner's Letter of Authorization

This letter is to authorize Eben Tormey, Project Manager, XSS Hotels (Applicant) to represent the interest of One Raynes Ave LLC, 31 Raynes LLC, and 203 Maplewood Ave LLC (Owners) in all site design and permitting matters for the proposed development project located at 1 Raynes Avenue, 31 Raynes Avenue, and 203 Maplewood Avenue in Portsmouth, New Hampshire on parcels of land identified as Tax Map 123, Lot 10; Tax Map 123, Lot 12; Tax Map 123, Lot 13; Tax Map 123, Lot 14. This authorization shall include any required signatures for City, State, and Federal Permit Applications

One Raynes Ave LLC

Signature	Mark R. Stebbins	11/13/2020
	Print Name	Date
Witness	Jennifer S. Thomas	11/13/2020
	Print Name	Date

31 Raynes LLC

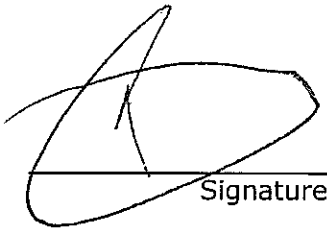
Signature	Mark R. Stebbins	11/13/2020
	Print Name	Date
Witness	Jennifer S. Thomas	11/13/2020
	Print Name	Date

203 Maplewood Ave LLC

Signature	Mark R. Stebbins	11/13/2020
	Print Name	Date
Witness	Jennifer S. Thomas	11/13/2020
	Print Name	Date

Owner's Letter of Authorization

This letter is to authorize Eben Tormey, Partner, XSS Hotels (Applicant), to represent the interest of 299 Vaughan St LLC, (Owner), in all site design and permitting matters for the proposed development project located at Raynes Avenue in Portsmouth, New Hampshire on parcels of land identified as Tax Map 123, Lot 15-1. This authorization shall include any required signatures for City, State & Federal permit applications.



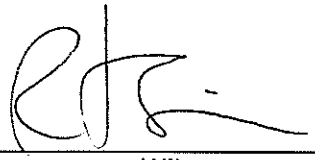
Signature

Jeff Johnston

Print Name

4/24/24

Date



Witness

Rob Simmons

Print Name

4/24/24

Date

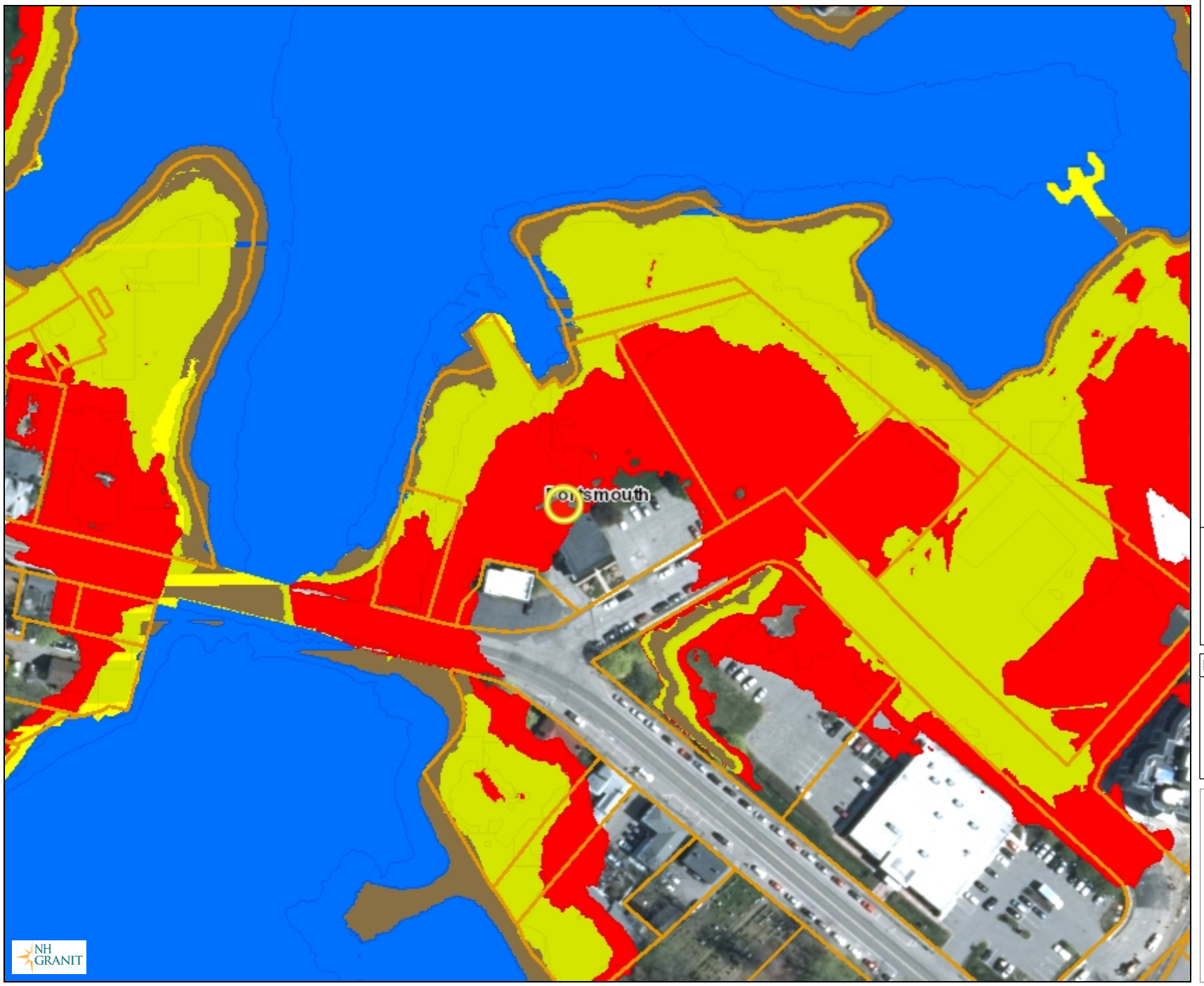
Agent Letter of Authorization

This letter is to authorize Tighe & Bond, Inc. (Civil Engineer), to represent and submit on behalf of North Mill Pond Holdings, LLC (Applicant), applications and materials in all site design and permitting matters for the proposed development project located at Raynes Avenue in Portsmouth, New Hampshire on parcels of land identified as Tax Map 123, Lots 10, 12, 13 & 14. This project includes the construction of a mixed-use residential building, hotel and associated site improvements. This authorization shall relate to those activities that are required for local, state and federal permitting for the above project and include any required signatures for those applications.

Signature	EBEN TORMEY Print Name	Nov 23 2020 Date
Witness	CYNTHIA HICKEY Print Name	Nov. 23, 2020 Date

APPENDIX D

Figure 1A: Predicted Salt Marsh Migration
Scenario: 1.5-meter (~5-feet) SLR by 2100



Legend

- NH Parcels
- Additional Lines
- City/Town

SLAMM 2022 - 1.5-m SLF

- Developed
- Developed-Impervious
- Estuarine Beach
- Estuarine Open Water
- Inland Fresh Marsh
- Inland Open Water
- Inland Shore
- Irregularly-flooded Marsh
- Ocean Beach
- Open Ocean
- Regularly-flooded Marsh
- Riverine Tidal
- Rocky Intertidal
- Swamp
- Tidal Flat
- Tidal Fresh Marsh
- Tidal Swamp

Map Scale

1: 1,624

Map Generated: 4/12/2024

Notes

Figure 1B: Predicted Salt Marsh Migration
Scenario: 0.5-meter (~1.5-feet) SLR

Legend

- NH Parcels
- Additional Lines
- City/Town

SLAMM 2022 - 0.5-m SLR

- Developed
- Developed-Impervious
- Estuarine Beach
- Estuarine Open Water
- Inland Fresh Marsh
- Inland Open Water
- Inland Shore
- Irregularly-flooded Marsh
- Ocean Beach
- Open Ocean
- Regularly-flooded Marsh
- Riverine Tidal
- Rocky Intertidal
- Swamp
- Tidal Flat
- Tidal Fresh Marsh
- Tidal Swamp

Map Scale

1: 1,624

Map Generated: 4/12/2024

Notes

Figure 2: Eelgrass Beds and Shellfish Restoration Sites
Scenario: 1.5-meter (~5-feet) SLR by 2100

Legend

- NH Parcels
- Additional Lines
- City/Town
- Eelgrass 2017
- Eelgrass 2016
- Eelgrass 2006
- Eelgrass 1996
- Eelgrass 1986
- Oyster Restoration Sites

Map Scale

1: 1,624

Map Generated: 4/12/2024

Notes

There are no historic eelgrass beds or shellfish restoration sites mapped within the vicinity of the project.

Figure 3A: Sea Level Rise Scenario: 2-feet

Legend

- NH Parcels
- Additional Lines
- City/Town
- MHHW + 2-ft SLR
  - 0 - 2
  - 2 - 4
  - 4 - 6
  - 6 - 8
  - 8 - 10
  - 10 +

Map Scale

1: 1,624

Map Generated: 4/12/2024

Notes

Figure 3B: Sea Level Rise Scenario: 6-feet

Legend

- NH Parcels
- Additional Lines
- City/Town
- MHHW + 6-ft SLR
  - 0 - 2
  - 2 - 4
  - 4 - 6
  - 6 - 8
  - 8 - 10
  - 10 +

Map Scale

1: 1,624

Map Generated: 4/12/2024

Notes

Figure 4: Priority Resource Areas

Legend

- NH Parcels
- Additional Lines
- City/Town
- Prime Wetlands
- Prime Wetlands with 100
- Peatland
- Tidal Wetland
  - Brackish Marsh
  - High Marsh Mix
  - High Marsh, J. gerardii
  - High Marsh, S.patens / D.spi
  - Low Marsh
  - Mudflat
  - Open Water
  - Panne
  - Phragmites australis
  - Pool
  - Recently Flooded Forest
  - Short form S. alterniflora
  - Terrestrial border
  - Wrack

Map Scale

1: 1,624

Map Generated: 4/12/2024

Notes

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 43º4'51" N, Longitude = 71º14'24" W
Decimal Degrees: Latitude = 43.08, Longitude = -70.76

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** W A R N I N G ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Show	Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
			Atlantic Sea Scallop	ALL	New England	Amendment 14 to the Atlantic Sea Scallop FMP
			Atlantic Wolffish	ALL	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
			Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
			Atlantic Herring	Juvenile Adult Larvae	New England	Amendment 3 to the Atlantic Herring FMP
			Atlantic Cod	Larvae Adult Eggs	New England	Amendment 14 to the Northeast Multispecies FMP
			Pollock	Juvenile Eggs Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
			Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Winter Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			Smooth Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			White Hake	Adult Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
			Thorny Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
			Bluefin Tuna	Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
			Atlantic Mackerel	Eggs Larvae Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
			Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
			Atlantic Butterfish	Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11

HAPCs

Show	Link	Data Caveats	HAPC Name	Management Council
			Inshore 20m Juvenile Cod	undefined

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

National Flood Hazard Layer FIRMette

FEMA

70°46'2"W 43°5'3"N

70°45'24"W 43°4'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/2/2021 at 11:47 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX E

Engineering Plans (Bound Separately)

PROPOSED MIXED USE DEVELOPMENT

RAYNES AVENUE
PORTSMOUTH, NEW HAMPSHIRE

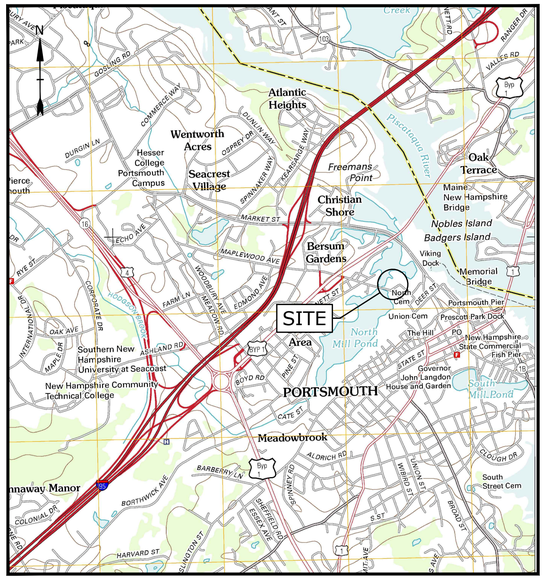
MARCH 22, 2021

LAST REVISED: MAY 1, 2024

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	5/1/2024
1 OF 3	EXISTING CONDITIONS PLAN	4/8/2024
2 OF 3	EXISTING CONDITIONS PLAN	4/8/2024
3 OF 3	EXISTING CONDITIONS PLAN	4/8/2024
G-100	GENERAL NOTES AND LEGEND	5/1/2024
C-101	DEMOLITION PLAN	5/1/2024
C-102	OVERALL SITE PLAN	5/1/2024
C-102.1	SITE PLAN	5/1/2024
C-102.2	NEIGHBORHOOD SIGNAGE PLAN	5/1/2024
C-103	GRADING, DRAINAGE AND EROSION CONTROL PLAN	5/1/2024
C-104	UTILITIES PLAN	5/1/2024
C-105	WETLAND BUFFER IMPACT PLAN	5/1/2024
C-301	EASEMENT PLAN	5/1/2024
L-100	LANDSCAPE MATERIAL PLAN LEGEND AND NOTES	5/1/2024
L-101	LANDSCAPE PLANTING PLAN	5/1/2024
L-102	LANDSCAPE DETAILS	5/1/2024
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	5/1/2024
C-502	DETAILS SHEET	5/1/2024
C-503	DETAILS SHEET	5/1/2024
C-504	DETAILS SHEET	5/1/2024
C-505	DETAILS SHEET	5/1/2024
C-506	DETAILS SHEET	5/1/2024
C-507	DETAILS SHEET	5/1/2024
C-508	DETAILS SHEET	5/1/2024
A3.00	EXTERIOR ELEVATIONS	11/24/2021
1 of 1	LIGHTING PLAN	4/21/2021

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	APPROVED	12/16/2021
CONDITIONAL USE PERMIT- WETLAND BUFFER	APPROVED	12/16/2021
CONDITIONAL USE PERMIT- PARKING	APPROVED	12/16/2021
STATE		
NHDES - ALTERATION OF TERRAIN PERMIT	PENDING	
NHDES - WETLAND PERMIT	PENDING	
NHDES - SHORELAND PERMIT	PENDING	
NHDES - SEWER CONNECTION PERMIT	PENDING	
FEDERAL		
EPA - NPDES CGP	PENDING	

T & B PROJECT NO: P-0595-007



LOCATION MAP
SCALE: 1" = 2,000'

PREPARED BY:
Tighe&Bond
177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
603-433-8818

APPLICANT:
NORTH MILL POND HOLDINGS LLC
1359 HOOKSETT ROAD
HOOKSETT, NEW HAMPSHIRE 03106

SURVEYOR:
DOUCET SURVEY, LLC
102 KENT PLACE
NEWMARKET, NH 03857

OWNERS:

TAX MAP 123, LOT 10 & 13
31 RAYNES LLC C/O
PORTSMOUTH CHEVROLET
549 ROUTE 1 BYPASS
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 123 LOT 15-1
299 VAUGHAN ST LLC C/O
CATHARTES PRIVATE INVESTMENTS
6 LIBERTY SQ PMB 90767
BOSTON, MA 02109

TAX MAP 123, LOT 12
203 MAPLEWOOD AVENUE LLC
549 HIGHWAY 1 BYPASS
PORTSMOUTH, NH 03801

TAX MAP 123, LOT 14
ONE RAYNES AVE LLC
1359 HOOKSETT RD
HOOKSETT, NEW HAMPSHIRE 03106

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
5/1/2024

NHDES WETLAND & SHORELAND SUBMISSIONS COMPLETE SET 26 SHEETS

Last Saved: 5/1/2024
Plotted: 05/01/2024 - 1:24pm By: CKrzcuik
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings, Figures\AutoCAD\Sheet\P-0595-007_C-COVER.dwg

NOTES:

1. REFERENCE: TAX MAP 123, LOT 10
TAX MAP 123, LOT 12
TAX MAP 123, LOT 13
TAX MAP 123, LOT 14
RAYNES AVENUE &
MAPLEWOOD AVENUE
PORTSMOUTH, NEW HAMPSHIRE
D.S. PROJECT NO. 6082

2. TOTAL PARCEL AREA: 71,149 SQ. FT. OR 1.633 AC. (COMBINED LOTS 10, 12 & 13)
39,459 SQ. FT. OR 0.906 AC. (LOT 14)

3. OWNER OF RECORD:

TAX MAP 123, LOTS 10 & 13
31 RAYNES LLC
C/O PORTSMOUTH CHEVROLET
549 ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 4676, PAGE 654
R.C.R.D. BOOK 4676, PAGE 657

TAX MAP 123 LOT 12
203 MAPLEWOOD AVENUE LLC
C/O PORTSMOUTH CHEVROLET
549 ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5621, PAGE 420

TAX MAP 123, LOT 14
ONE RAYNES AVENUE LLC
1359 HOOKSETT ROAD
HOOKSETT, NH 03106
R.C.R.D. BOOK 6088, PAGE 1268

4. ZONE: CD4 OVERLAY DISTRICTS
-DOWNTOWN OVERLAY DISTRICT
-HISTORIC DISTRCIT

5. ZONING DISTRICTS BASED ON THE CITY OF PORTSMOUTH ZONING MAP DATED 11/12/15 AS AVAILABLE ON THE CITY WEBSITE ON 11/18/19. SEE CITY OF PORTSMOUTH ZONING ORDINANCE ARTICLE 5A, SECTION 10.5A40 FOR DIMENSIONAL REGULATIONS. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.

THE SITE IS SUBJECT TO THE STATE OF NH SHORELAND WATER QUALITY PROTECTION ACT. SEE NHDES WEBSITE FOR SPECIFIC DIMENSIONAL REQUIREMENT.

6. FIELD SURVEY PERFORMED BY D.C.B. & K.J.L. DURING NOVEMBER 2019 & BY G.M.E. & J.P.E. DURING JUNE 2020 USING A TRIMBLE S7 TOTAL STATION AND A TRIMBLE R8 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A TRIMBLE DINI DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

FIELD SURVEY PERFORMED BY M.J.C. ON OCTOBER 2019 USING A LEICA HDS SCANNER. REGISTRATION ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

7. JURISDICTIONAL WETLANDS DELINEATED BY TIGHE & BOND, DURING OCTOBER 2019 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (OCTOBER, 2009).

8. VERTICAL DATUM IS BASED ON NGVD29 PER DISK B2 1923.

9. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

10. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.

11. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.

12. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.

13. WATER BOUNDARIES ARE DYNAMIC IN NATURE AND ARE SUBJECT TO CHANGE DUE TO NATURAL CAUSES SUCH AS EROSION OR ACCRETION.

14. MEAN HIGH WATER (EL. 3.0' NGVD1929) PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATION, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009", PROVIDED BY TIGHE & BOND ON 11-30-15.

15. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.

16. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF GREEN STREET AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE CITY OF PORTSMOUTH CITY HALL, THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS & THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

EDGE OF RIGHT OF WAY BASED ON HOLDING 52 FOOT WIDE RIGHT OF WAY ALONG RAYNES AVENUE PER REFERENCE PLANS #10 & #11. THE GEOMETRY FROM REFERENCE PLAN #11 WAS THEN ALIGNED TO THE REBAR SHOWN ON THE NORTHERLY SIDE OF MAPLEWOOD AVENUE.

17. ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

18. TAX MAP 123, LOTS 10, 12, 13 & 14 IS/ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
A) 12' WIDE RIGHT OF WAY, SEE R.C.R.D. BOOK 4676, PAGE 657 AND REFERENCE PLAN #11.
B) RIGHT OF WAY, SEE R.C.R.D. BOOK 4676, PAGE 657 & BOOK 5621, PAGE 420.
C) SEWER RIGHTS, SEE R.C.R.D. BOOK 4676, PAGE 657 (LOCATION UNKNOWN).
D) 15' WIDE WALKWAY & LANDSCAPE EASEMENT, SEE R.C.R.D. BOOK 4676, PAGE 657.
E) ELECTRIC EASEMENT, SEE R.C.R.D. BOOK 3205, PAGE 1449.
F) TAX MAP 123, LOT 14 IS SUBJECT TO LEASEHOLD RIGHTS AS LISTED IN R.C.R.D. BOOK 6088, PAGE 1267.

REFERENCE PLANS:

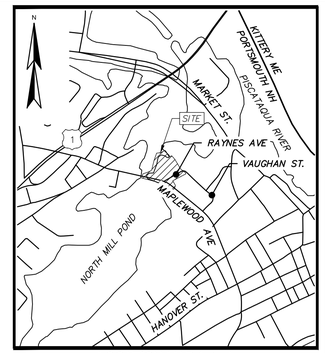
1. "STANDARD BOUNDARY SURVEY, TAX MAP 123 – LOT 15 & TAX MAP 124 LOT 10" DATED JULY 2008, REVISED 4/25/13 BY AMBIT ENGINEERING, INC. R.C.R.D. PLAN #D-37722.
2. "PROPERTY STAKEOUT SKETCH, PORTSMOUTH PROPERTY TRUST, PE SPAULDING REVOCABLE TRUST", BY AMBIT ENGINEERING, INC., DATED JANUARY 30, 2007, NOT RECORDED.
3. "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10 PORTSMOUTH, NH, CONDEMNATION MAP", BY ANDERSON-NICHOLS & CO., INC., DATED FEBRUARY 1971, R.C.R.D. PLAN D-2425.
4. "STANDARD BOUNDARY SURVEY, TAX MAP 123, LOTS 10 & 13 FOR RAYNES, LLC", BY AMBIT ENGINEERING, INC., NOT RECORDED.
5. "EASEMENT PLAN, EGRESS EASEMENT TO 319 VAUGHAN STREET CENTER, LLC, TAX MAP 124, LOT 9 & TAX MAP 123, LOT 15, PROPERTY OF 299 VAUGHAN STREET, LLC C/O CATHARTES PRIVATE INVESTMENTS", BY AMBIT ENGINEERING, INC., DATED MARCH 2014, R.C.R.D. PLAN #D-38358.
6. "EASEMENT PLAN SIDEWALK EASEMENT TO CITY OF PORTSMOUTH, TAX MAP 124, LOT 9 PROPERTY OF 319 VAUGHAN STREET CENTER, LLC", BY AMBIT ENGINEERING, INC., DATED FEBRUARY 2014, R.C.R.D. PLAN #D-38315.
7. "PLAN OF LAND PORTSMOUTH, NH FOR WILLIAM A. HYDER", BY JOHN W. DURGIN, DATED JUNE 1955, ON FILE AT JAMES VERRA & ASSOCIATES.
8. "STANDARD PROPERTY SURVEY FOR PROPERTY AT 111 MAPLEWOOD AVENUE", BY EASTERLY SURVEYING, INC., DATED 1/31/06, R.C.R.D. PLAN #D-33786.
9. "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10 PORTSMOUTH, NH, DISPOSITION PLAN PARCEL 3", BY ANDERSON-NICHOLS & CO., INC., DATED JUNE 1973, R.C.R.D. PLAN D-4019.
10. "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10 PORTSMOUTH, NH, DISPOSITION MAP", BY ANDERSON-NICHOLS & CO., INC., DATED NOVEMBER 1969, R.C.R.D. PLAN D-2408
11. "LAND OF HEIRS OF JOHN AUGUST HETT", BY JOHN W. DURGIN, DATED APRIL 1938, ON FILE AT JAMES VERRA AND ASSOCIATES.
12. "LAND IN PORTSMOUTH, NH OWNED BY ARMOUR & CO.", BY JOHN W. DURGIN DATED OCTOBER 1938, ON FILE AT JAMES VERRA AND ASSOCIATES.
13. "LAND ON VAUGHAN STREET PORTSMOUTH, NH ESTATE OF CARRIE HAM TO LAWRENCE V. REGAN", BY JOHN W. DURGIN, DATED AUGUST 1937, ON FILE AT JAMES VERRA AND ASSOCIATES.
14. "SKETCH TO RALPH SPINNEY", DATED APRIL 23, 1936, ON FILE AT JAMES VERRA AND ASSOCAIATES.
15. "PLOT PLAN OF LAND PORTSMOUTH, NH FOR JOHN R. AND WINNFIELD R. WELCH", BY JOHN W. DURGIN., DATED APRIL 1973, ON FILE AT JAMES VERRA AND ASSOCIATES.
16. "PLAN OF PROPERTY IN PORTSMOUTH, NH OWNED BY R.I. SUGDEN", BY WM A. GROVER, DATED APRIL 15, 1919, ON FILE AT JAMES VERRA AND ASSOCIATES.
17. "PLAN OF LAND PORTSMOUTH, NH FOR WILLIAM A. HYDER", BY JOHN W. DURGIN, DATED JUNE 1955, ON FILE AT JAMES VERRA AND ASSOCIATES.
18. "PROPERTY OF ELDRED V. AND BARBARA J. STRAW", BY C.RE. LAWSON, DATED JUNE 1971, R.C.R.D. PLAN C-3277.
19. "SUBDIVISION PLAN OF TAX MAP 123, LOT 15 FOR 299 VAUGHAN STREET, LLC", BY DOUCET SURVEY, INC., DATED MAY 19, 2017, R.C.R.D. PLAN D-40759.
20. "LICENSE, EASEMENT & LAND TRANSFER PLAN FOR 299 VAUGHAN STREET, LLC & VAUGHAN STREET HOTEL, LLC", BY DOUCET SURVEY INC., DATED AUGUST 2017, R.C.R.D. PLAN D-40760.

LEGEND

- APPROXIMATE ABUTTERS LOT LINE
- CHAIN LINK FENCE
- SEWER LINE
- DRAIN LINE
- GAS LINE
- UNDERGROUND ELECTRIC LINE
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- OVERHEAD WIRE
- TREE LINE
- SHRUB LINE
- GUARDRAIL
- EDGE OF WETLAND AREA (SEE NOTE #7)
- CONCRETE
- RIP RAP
- LANDSCAPED AREA
- UTILITY POLE & GUY WIRE
- LIGHT POLE W/ARM
- SIGN
- BOUND FOUND
- IRON PIPE/ROD FOUND
- POST
- FIRE HYDRANT
- WATER GATE VALVE
- WATER SHUTOFF VALVE
- GAS GATE VALVE
- PAD MOUNTED TRANSFORMER
- AIR CONDITIONING UNIT
- CATCH BASIN
- DRAIN MANHOLE
- MANHOLE
- ELECTRIC MANHOLE
- SEWER MANHOLE
- HAND HOLE
- CONIFEROUS TREE
- DECIDUOUS TREE
- MONITORING WELL LOCATION
- ROCK/BOULDER
- ×100.0 SPOT GRADE
- BND. FND. BOUND FOUND
- CONC. CONCRETE
- EP EDGE OF PAVEMENT
- VGC VERTICAL GRANITE CURB
- VCC VERTICAL CONCRETE CURB
- SWL SINGLE WHITE LINE
- EM ELECTRIC METER
- GM GAS METER
- PM PARKING METER
- ● 5/8" REBAR W/ID CAP TO BE SET

DRAINAGE STRUCTURES		
DMH 1096	CB 4243	DMH 4827
RIM ELEV.=8.2'	RIM ELEV.=12.9'	RIM ELEV.=10.4'
OUTSIDE OF SCOPE	(4241) 12" CLAY INV.=10.1'	(4046) 24" DIP INV.=2.7' (RECESSED)
		(A) 18" RCP INV.=2.4'
DMH 1099	CB 4270	(OUTLET NOT FOUND)
RIM ELEV.=8.2'	RIM ELEV.=11.7'	(B) 18" RCP INV.=2.3'
OUTSIDE OF SCOPE	(A) 10" CLAY INV.=8'	(C) 12" RCP INV.=6.2'
	SUMP ELEV.=6.9'	
MH 4046		DMH 4829
RIM ELEV.=11.8'	DMH 4275	RIM ELEV.=15.8'
(4275) 12" UNKN INV.=3.2'	RIM ELEV.=13.4'	(A) 12" CLAY INV.=12'
(4827) 24" DIP INV.=2.5'	(4099) 12" CLAY INV.=10.9'	(B) 12" CLAY INV.=11.9'
(4839) 24" DIP INV.=2.3'	(4408) 12" CLAY INV.=9.7'	(C) UNKN INV.=9.2'
	(4046) 12" CLAY INV.=5.6'	(4241) UNKN INV.=9.2'
CB 4099	(4241) 12" CLAY INV.=0.5'	
RIM ELEV.=13.3'		DMH 4839
(4275) 12" RCP INV.=11.1'	MH 4290	RIM ELEV.=9.8'
SUMP ELEV.=10.3'	RIM ELEV.=13.8'	(4046) 24" RCP INV.=1.8'
	NOT OPENED	(4840) 24" RCP INV.=1.7'
CB 4237		
RIM ELEV.=12.9'	CB 4408	DMH 4840
(4241) 12" CLAY INV.=10.1'	RIM ELEV.=12.6'	RIM ELEV.=9.4'
SUMP ELEV.=9.3'	(4275) 12" RCP INV.=10.0'	(4839) 24" RCP INV.=1.6'
	SUMP ELEV.=9.5'	(OUTFALL) 24" RCP INV.=1.6'
DMH 4241		
RIM ELEV.=13.3'	CB 4410	CB 5564
(4243) 12" CLAY INV.=9.8'	RIM ELEV.=11.6'	RIM ELEV.=10.1'
(4237) 12" CLAY INV.=9.5'	(4270) 10" CLAY INV.=6.8'	(A) 12" RCP INV.=6.3'
(4275) 12" CLAY INV.=7.0'	SUMP ELEV.=6.1'	
(4829) 12" CLAY INV.=7.0'		

SEWER STRUCTURES	
SMH 4242	SMH 4831
RIM ELEV.=13.4'	RIM ELEV.=18.2'
(4276) 12" DIP INV.=5.1'	(A) 8" CLAY INV.=12.4'
(4830) 12" DIP INV.=5.1'	(B) 10" PVC INV.=10.2'
	(4271) 24" DIP INV.=2.7'
SMH 4271	(C) 24" DIP INV.=2.6'
RIM ELEV.=13.2'	
(A) 12" CLAY TOP OF PIPE=7.2'	SMH 5419
(4411) 24" CLAY INV.=3.0'	RIM ELEV.=10.7'
(4831) 24" CLAY INV.=3.0'	(4276) 10" PVC INV.=4.2'
	(A) 12" PVC INV.=3.7'
SMH 4276	
RIM ELEV.=13.3'	
(5419) 10" PVC INV.=5.5'	
(4242) 10" CLAY INV.=4.9'	
SMH 4411	
RIM ELEV.=12.0'	
(4412) 24" CLAY INV.=3.5'	
(4271) 24" CLAY INV.=3.5'	
SMH 4412	
RIM ELEV.=12.0'	
NOT OPENED	
SMH 4830	
RIM ELEV.=18.2'	
(A) 12" DIP INV.=10.4'	
(4242) 12" DIP INV.=10.2'	



LOCATION MAP (n.t.s.)

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (NHRSA TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

L.L.S. #989

4/8/24
DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

20 0 20 40
SCALE: 1 INCH = 20 FT.

EXISTING CONDITIONS PLAN

FOR

TIGHE & BOND

LAND OF

31 RAYNES LLC

(TAX MAP 123, LOTS 10 & 13)

203 MAPLEWOOD AVENUE LLC

(TAX MAP 123, LOT 12)

&

ONE RAYNES AVENUE LLC

(TAX MAP 123, LOT 14)

MAPLEWOOD AVENUE & RAYNES AVENUE

PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	04/08/24	REV. NOTE #14	MWF

DRAWN BY:	E.D.P.	DATE:	JUNE 17, 2020
CHECKED BY:	M.W.F.	DRAWING NO.	6082B
JOB NO.	6082	SHEET	1 OF 3

DOUCET SURVEY LLC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

LEGEND

- APPROXIMATE ABUTTERS LOT LINE
- CHAIN LINK FENCE
- SS — SEWER LINE
- SD — DRAIN LINE
- G — GAS LINE
- E — UNDERGROUND ELECTRIC LINE
- 100 — MAJOR CONTOUR LINE
- 98 — MINOR CONTOUR LINE
- OHW — OVERHEAD WIRE
- TREE LINE
- SHRUB LINE
- GUARDRAIL
- EDGE OF WETLAND AREA (SEE NOTE #7)
- CONCRETE
- RIP RAP
- LANDSCAPED AREA
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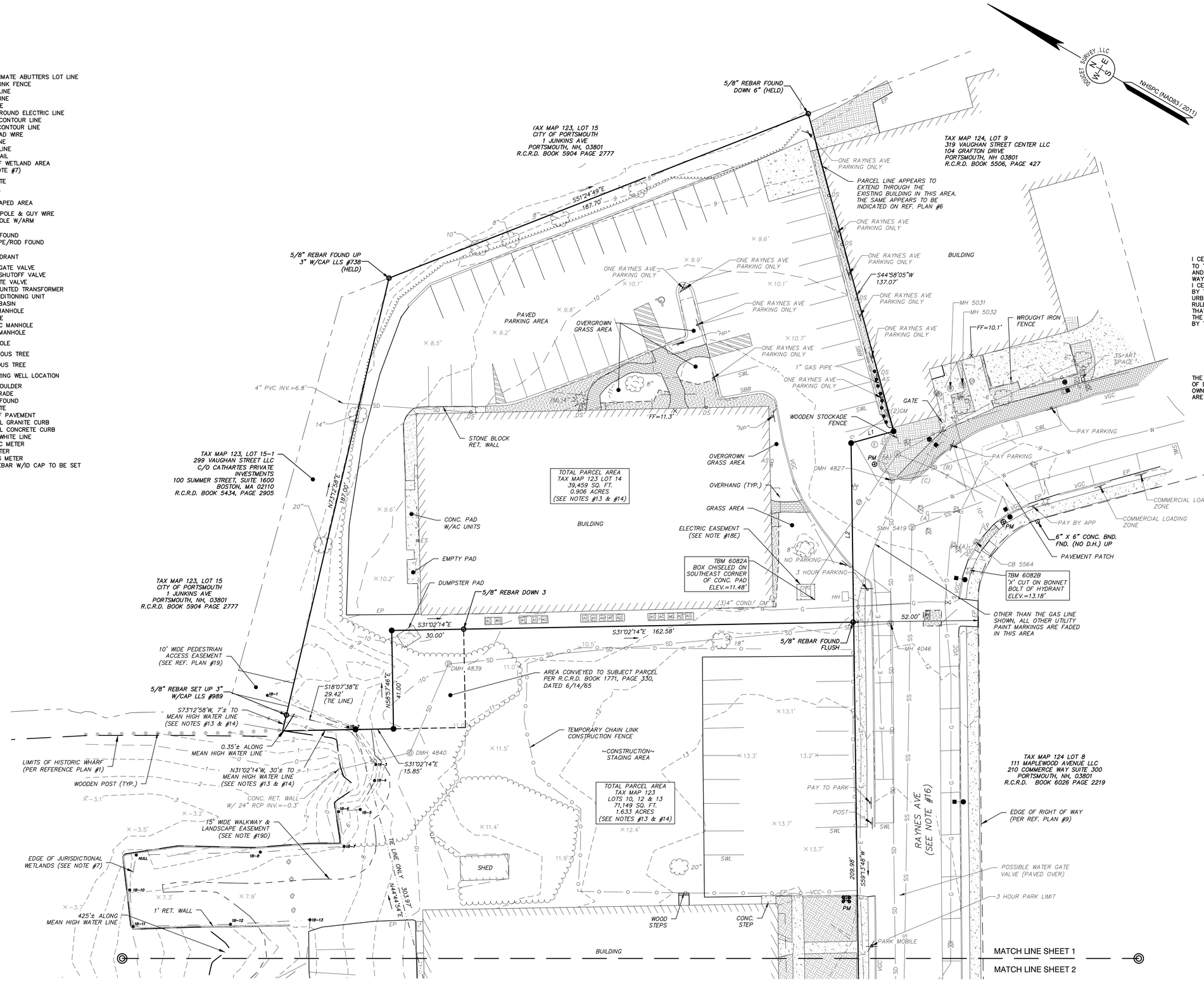

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N45°28'14"W	18.36'
L2	S59°09'46"W	74.62'

STATE OF NEW HAMPSHIRE — No. 989 — MATTHEW W. FARGINGER-AUER — LICENSED LAND SURVEYOR — SIGNATURE

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (NHRSA TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

L.L.S. #989

4/8/24 DATE

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SCALE: 1 INCH = 20 FT.

EXISTING CONDITIONS PLAN

FOR

TIGHE & BOND

LAND OF

31 RAYNES LLC

(TAX MAP 123, LOTS 10 & 13)

203 MAPLEWOOD AVENUE LLC

(TAX MAP 123, LOT 12)

&

ONE RAYNES AVENUE LLC

(TAX MAP 123, LOT 14)

MAPLEWOOD AVENUE & RAYNES AVENUE

PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	04/08/24	REV. NOTE #14	MWF

DRAWN BY: E.D.P.	DATE: JUNE 17, 2020
CHECKED BY: M.W.F.	DRAWING NO. 6082B
JOB NO. 6082	SHEET 2 OF 3

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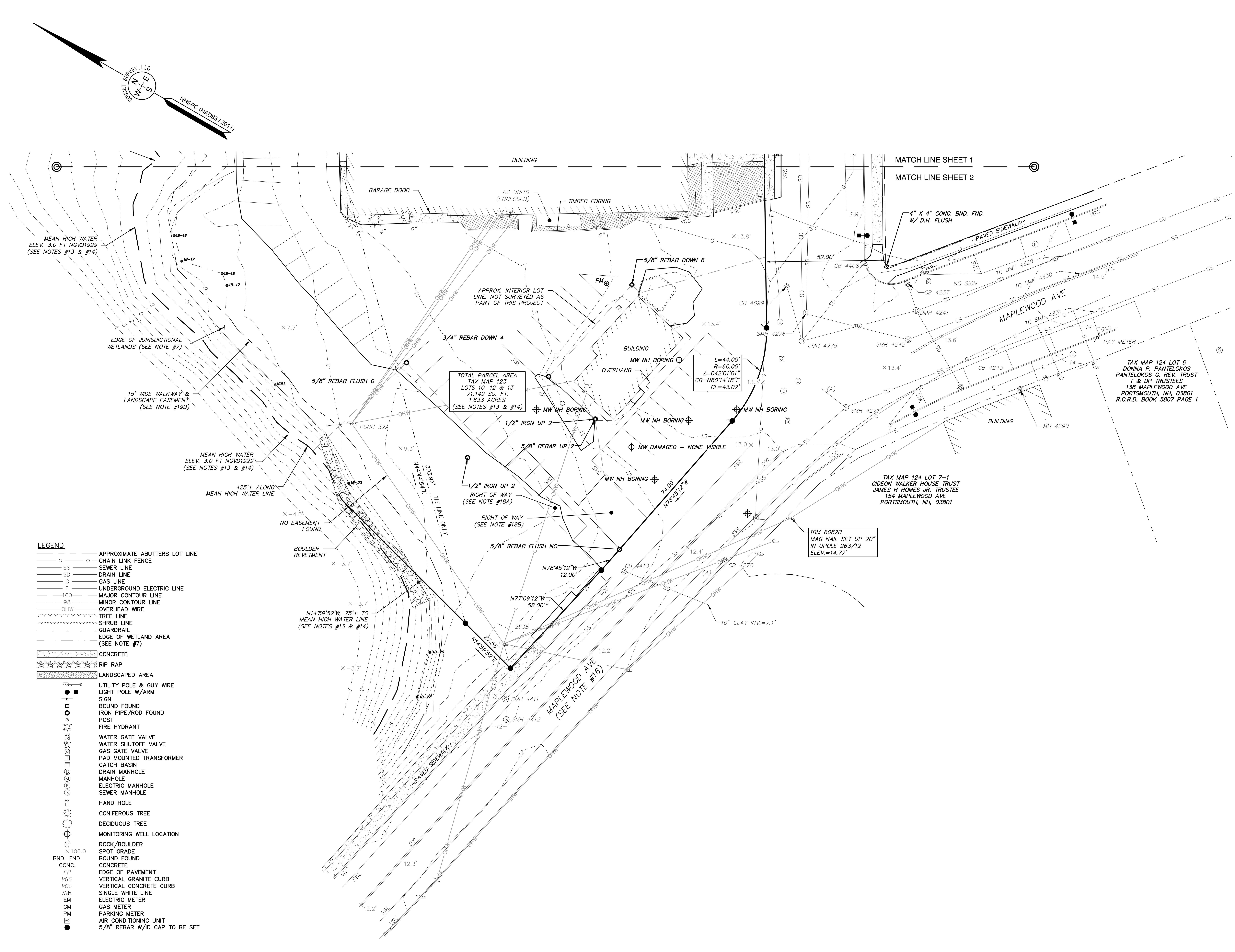
2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

FILE NAME: C:\Users\MWF\AppData\Local\Temp\AcPublish_20984\60828 EC (Rev. 4-4-24).dwg LAYOUT NAME: TOPO PLAN (2) PLOTTED: Monday, April 08, 2024 - 10:34am



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L.L.S. #989

4/8/24 DATE

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STATE OF NEW HAMPSHIRE — MATTHEW W. FAGGINGER–AUER — No. 989 — LICENSED LAND SURVEYOR — SIGNATURE

20 0 20 40

SCALE: 1 INCH = 20 FT.

EXISTING CONDITIONS PLAN

FOR

TIGHE & BOND

LAND OF

31 RAYNES LLC

(TAX MAP 123, LOTS 10 & 13)

203 MAPLEWOOD AVENUE LLC

(TAX MAP 123, LOT 12)

&

ONE RAYNES AVENUE LLC

(TAX MAP 123, LOT 14)

MAPLEWOOD AVENUE & RAYNES AVENUE

PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	04/08/24	REV. NOTE #14	MWF

DRAWN BY: E.D.P.	DATE: JUNE 17, 2020
CHECKED BY: M.W.F.	DRAWING NO. 6082B
JOB NO. 6082	SHEET 3 OF 3

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10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
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GENERAL NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES AND COMPLY WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR AND COMPLY WITH ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
12. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
13. APPLICANT SHALL SUBMIT, AS PART OF THE FINAL POST APPROVAL PROCEDURES, RELEVANT PTAP INFORMATION USING THE MOST RECENT ONLINE DATA PORTAL CURRENTLY MANAGED BY THE UNH STORMWATER CENTER. THE PLANNING DEPARTMENT SHALL BE NOTIFIED AND COPIED OF THE PTAP DATA SUBMITTAL.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
3. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
4. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
7. ALL UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY AND CITY OF PORTSMOUTH STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
9. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
10. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
11. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
12. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
13. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
14. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
15. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
16. THE CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING GRANITE CURB FOR REUSE.
17. DEMOLITION OF DRAINAGE DOWNSTREAM OF DMH 4839 SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH AND SHALL BE DEMOLISHED BY THE CITY OF PORTSMOUTH.

SITE NOTES:

1. PAVEMENT MARKINGS SHALL BE INSTALLED AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, FIRE LANES, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES. ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE PAVEMENT MARKINGS. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING LEGENDS, ARROWS, CROSSWALKS AND STOP BARS SHALL MEET THE REQUIREMENTS OF AASHTO M249. ALL PAINTED PAVEMENT MARKINGS INCLUDING CENTERLINES, LANE LINES AND PAINTED MEDIANS SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F".
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PAVEMENT MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE, WHITE THERMOPLASTIC AND CONFORM TO CURRENT MUTCD STANDARDS.
7. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
8. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
9. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
10. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
11. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
12. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
13. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
14. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
15. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
16. THE PROPOSED LOADING ZONE ON RAYNES AVE SHALL BE REVIEWED BY THE PARKING & TRAFFIC SAFETY COMMITTEE. ANY ADDITIONAL LOADING ZONES WILL REQUIRE THE APPROVAL OF THE PARKING & TRAFFIC SAFETY COMMITTEE.
17. RAYNES AVE LAYOUT DESIGNED AS PART OF THE CITY OF PORTSMOUTH'S COMPLETE STREETS IMPROVEMENT PROJECT THAT IS BEING DESIGNED BY THE CITY'S CONSULTANT.
18. ALL TREES PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
19. THE APPLICANT SHALL PREPARE A CONSTRUCTION MANAGEMENT AND MITIGATION PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.
20. A TEMPORARY SUPPORT OF EXCAVATION (SOE) PLAN SHALL BE PREPARED BY THE APPLICANT'S CONTRACTOR TO CONFIRM ANY TEMPORARY ENCUMBRANCES OF THE CITY'S RIGHT-OF-WAY. IF LICENSES ARE REQUIRED FOR THE SOE, THE APPLICANT WILL BE REQUIRED TO OBTAIN THESE FROM THE CITY PRIOR TO CONSTRUCTION.
21. APPLICANT SHALL COMPLETE FINAL PAVING AND PAVEMENT STRIPING PER DPW REQUIREMENTS FOR THE ENTIRE WIDTH OF RAYNES AVENUE FROM VAUGHAN STREET TO MAPLEWOOD AVENUE.
22. THE PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. ALL SNOW REMOVAL WILL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF.
23. ALL PROPOSED VEGETATION WITHIN THE NATURAL WOODLAND AREA SHALL BE CONFIRMED IN GOOD HEALTH AFTER THE FIRST GROWING SEASON AT WHICH TIME NO MAINTENANCE OR CLEARING OF THIS AREA SHALL BE COMPLETED. DESIGNATED NATURAL WOODLAND AREA SHALL REMAIN IN AN UNALTERED, UNMAINTAINED STATE.

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) UNLESS OTHERWISE SPECIFIED.
3. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
4. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
6. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
7. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
10. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
11. FINAL DESIGN OF DRAINAGE DOWNSTREAM OF PDMH 9 AND DOWNSTREAM DEFENDER SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH AND SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.
12. CHECK VALVES SHALL BE INSTALLED ON THE INLET PIPES FROM BOTH JELLYFISH FILTERS.

EROSION CONTROL NOTES:

1. SEE SHEET C-501 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

UTILITY NOTES:

2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER/SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - COMCAST/CONSOLIDATED COMMUNICATIONS/FIRST LIGHT
2. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
3. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
4. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
16. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
17. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
18. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
19. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
20. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
21. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
22. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
23. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
24. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
25. FINAL LOCATIONS OF ALL UTILITY LINES SHALL BE APPROVED BY THE CITY OF PORTSMOUTH DPW PRIOR TO CONSTRUCTION.
26. EXISTING SEWER LINE IN RAYNES AVENUE IS AC PIPE. CONTRACTOR SHALL TAKE PROPER PRECAUTIONS WHEN CUTTING INTO EXISTING PIPE.
27. THE APPLICANT SHALL COORDINATE WITH THE CITY OF PORTSMOUTH DPW ON THE FINAL SCOPE OF WORK FOR THE REPAIR OR REPLACEMENT OF THE RAYNES AVENUE WATER MAIN.
28. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
29. CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF LOCATIONS DIFFER FROM PLAN.

LANDSCAPE NOTES:

1. SEE SHEET L-100 FOR LANDSCAPE NOTES.

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY PERFORMED BY DOUCET SURVEY INC. SEE REFERENCE PLAN #1.
2. FLOOD HAZARD ZONE BASED ON REFERENCE PLAN #1.
3. HORIZONTAL DATUM BASED ON REFERENCE PLAN #2.
4. VERTICAL DATUM BASED ON REFERENCE PLAN #1.

REFERENCE PLANS:

1. ""EXISTING CONDITIONS PLAN OF TAX MAP 123, LOT 10, 12, 13 & 14" PREPARED BY DOUCET SURVEY INC., DATED JUNE 17, 2020.
2. "SITE PLAN PLAN FOR 111 MAPLEWOOD AVENUE" PREPARED BY TIGHE & BOND INC., DATED MARCH 18, 2019, LAST REVISED NOVEMBER 21, 2019.
3. "EXISTING CONDITIONS PLAN OF TAX MAP 123, LOT 15 & TAX MAP 124, LOTS 10 & 11" PREPARED BY DOUCET SURVEY INC., DATED FEBRUARY 3, 2016.
4. "UTILITIES PLAN" AC HOTEL AND COMMUNITY SPACE, PREPARED BY TIGHE & BOND INC., DATED JULY 23, 2018
5. "DISPOSITION PLAN PARCEL 3" DATED 6/73 BY ANDERSON-NICHOLS & CO., INC., R.C.R.D. PLAN #D-4019.
6. "PLAN OF LAND, VAUGHAN AND GREEN STREETS, PORTSMOUTH NH" DATED JULY 1955 BY JOHN W. DURGIN R.C.R.D. PLAN #02541.
7. "SEVERINO TRUCKING CO., INC. ELECTRIC DUCT BANK LOCATION PLAN" DATED MARCH 25, 2014.
8. "EXISTING FEATURES PLAN, TAX MAP 118 - LOT 28, TAX MAP 119 - LOT 4, TAX MAP 124 - LOT 12 & TAX MAP 125 LOT 21" DATED NOVEMBER 27, 2013, REVISED 1/16/15 BY MSC CIVIL ENGINEERS & LAND SURVEYORS, INC.
9. "FIGURE 1 AREA OF INVESTIGATION WITH EMI", 111 MAPLEWOOD AVENUE, DATED JULY 2019, PREPARED BY RADAR SOLUTIONS INTERNATIONAL, INC.
10. "VAUGN ST. BNDER ELEVATIONS AS BUILT DRAWING" BY S.U.R. CONSTRUCTION, INC. DATED 8/12/2019.
11. COMPLETE STREETS CONCEPTUAL DESIGN BY SEBAGO TECHNICS. DATED 05/31/2019.

ABBREVIATIONS

TBR	TO BE REMOVED
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	CURB RADIUS
SWL	SOLID WHITE LINE
VGC	VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB
MVGC	MOUNTABLE VERTICAL GRANITE CURB
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TS	TOP OF STEP
BS	BOTTOM OF STEP
HDPE	HIGH-DENSITY POLYETHYLENE
FF	FINISH FLOOR
VIF	VERIFY IN FIELD

LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- PROPOSED SILT SOCK
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- PROPOSED CONSTRUCTION EXIT
- BUILDING TO BE REMOVED
- LOCATION OF PROPOSED BUILDING
- INLET PROTECTION SILT SACK
- PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CURB
- PROPOSED BUILDING
- PROPOSED PAVEMENT SECTION
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BRICK SIDEWALK
- PROPOSED BOLLARD
- PROPOSED MAJOR CONTOUR LINE (10)
- PROPOSED MINOR CONTOUR LINE (9)
- PROPOSED DRAIN LINE (TYP)
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DOUBLE GRATE CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED YARD DRAIN
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING SANITARY SEWER TO BE REMOVED
- EXISTING UNDERGROUND TELECOMMUNICATION
- EXISTING WATER
- EXISTING GAS
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD UTILITY
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED GAS
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELECOMMUNICATION
- PROPOSED UNDERGROUND COMBINED ELECTRIC & TELECOMMUNICATION
- EXISTING CATCHBASIN
- EXISTING DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- EXISTING HYDRANT
- EXISTING WATER VALVE
- EXISTING ELECTRIC MANHOLE
- EXISTING TELEPHONE MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED GAS VALVE
- PROPOSED ELECTRIC MANHOLE
- PROPOSED LIGHT POLE BASE

Tighe&Bond

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 5/1/2024

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 5/1/2024

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

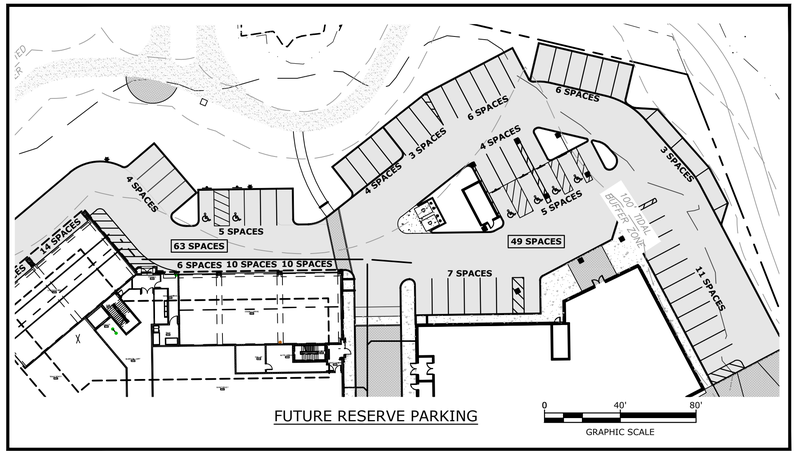
MARK	DATE	DESCRIPTION
L	5/1/2024	NHDES Submissions
K	11/24/2021	PB Submission
J	10/20/2021	TAC Resubmission
I	8/23/2021	TAC Resubmission
H	7/21/2021	TAC Resubmission
G	5/26/2021	CC Resubmission
F	5/19/2021	TAC Resubmission
E	4/28/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-C-DSGN.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

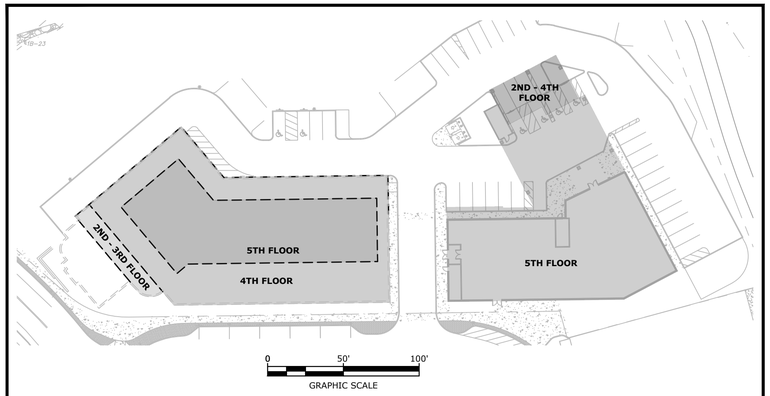
CIVIL GENERAL NOTES AND LEGEND

SCALE: AS SHOWN

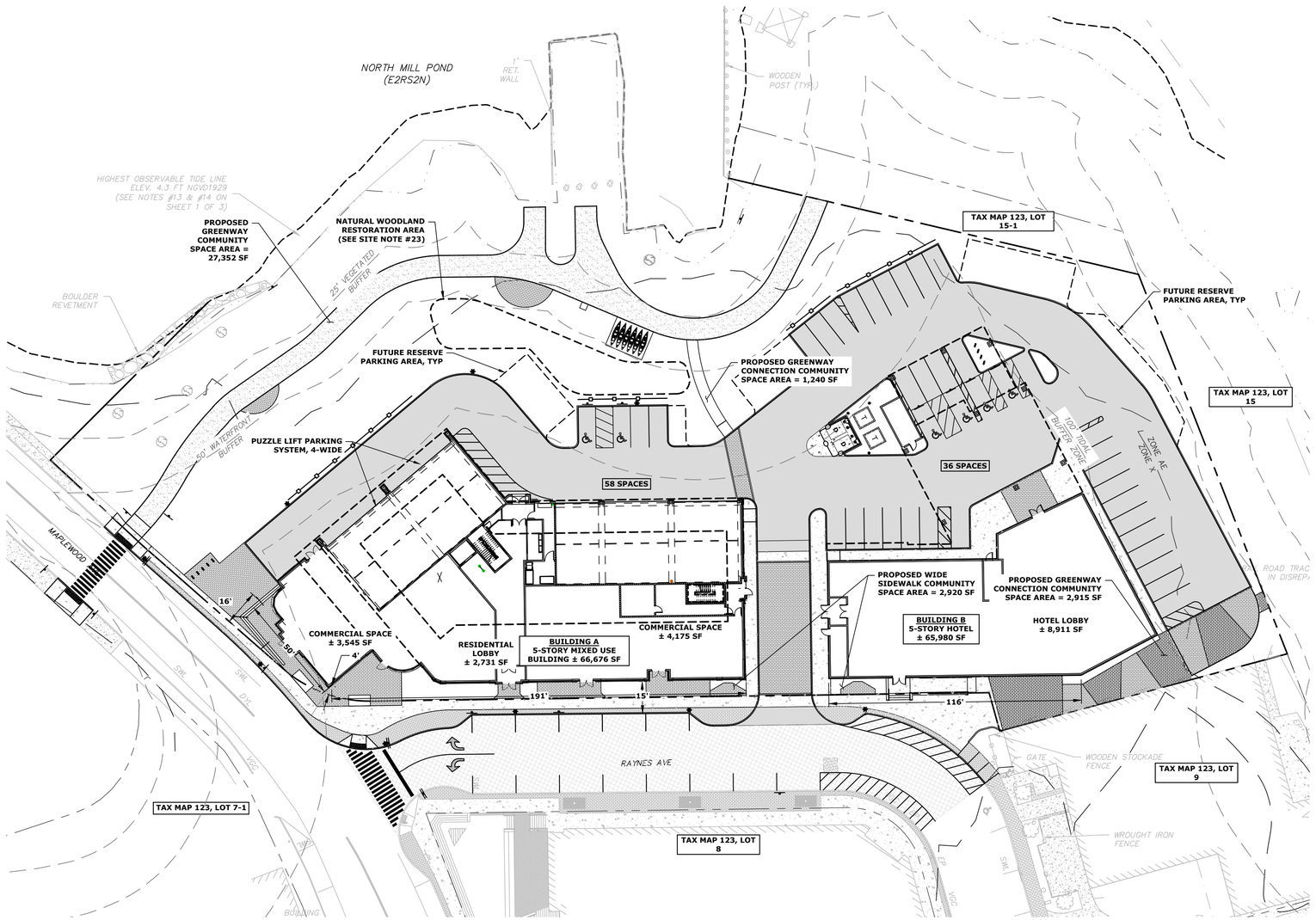
G-100



FUTURE RESERVE PARKING



UPPER FLOOR PLANS



SITE DATA:

LOCATION: TAX MAP 123, LOT 10
TAX MAP 123, LOT 12
TAX MAP 123, LOT 13
TAX MAP 123, LOT 14
TAX MAP 123, LOT 12
RAYNES AVENUE

ZONING DISTRICT: CHARACTER DISTRICT 4 (CD4)
DOWNTOWN OVERLAY DISTRICT
NORTH END INCENTIVE OVERLAY DISTRICT
HISTORIC DISTRICT

PROPOSED USE: MULTI FAMILY DWELLING
HOTEL
RETAIL/RESTAURANT

PROPOSED LOT SIZE: ±2.53 ACRES (±110,415 SF)

DEVELOPMENT STANDARDS

BUILDING PLACEMENT (PRINCIPAL BUILDING):

	REQUIRED	PROPOSED BUILDING A	PROPOSED BUILDING B
MAXIMUM PRINCIPAL FRONT YARD:	15 FT	±16 FT (1)	7.4 FT
MAXIMUM SECONDARY FRONT YARD:	12 FT	±5 FT	N/A
SIDE YARD:	NR	NR	NR
MINIMUM REAR YARD:	5 FT	N/A	N/A
MINIMUM FRONT LOT LINE BUILDOUT:	50%	78.4%	78.4%

(1) - INCREASE ABOVE THE MAXIMUM ALLOWED PER 10.5A42.12

BUILDING AND LOT OCCUPATION:

	REQUIRED	PROPOSED BUILDING A	PROPOSED BUILDING B
MAXIMUM BUILDING BLOCK LENGTH:	200 FT	191 FT	116 FT
MAXIMUM FACADE MODULATION LENGTH:	80 FT	<80 FT	<80 FT
MAXIMUM ENTRANCE SPACING:	50 FT	<50 FT	<50 FT
MAXIMUM BUILDING COVERAGE:	90%	±47.0%	±47.0%
MAXIMUM BUILDING FOOTPRINT:	30,000 SF (2)	16,629 SF	14,622 SF
MINIMUM LOT AREA:	NR		
MINIMUM LOT AREA PER DWELLING UNIT:	NR		
MINIMUM OPEN SPACE:	10%	35.4%	
MAXIMUM GROUND FLOOR GFA PER USE:	15,000 SF	7,720 SF	8,911 SF

(2) - INCREASE ABOVE 15,000 SF ALLOWED PER 10.5A46.10

BUILDING FORM (PRINCIPAL BUILDING):

	REQUIRED	PROPOSED BUILDING A	PROPOSED BUILDING B
BUILDING HEIGHT:	5 STORY (3)	5 STORY	5 STORY
	60 FT	59.77 FT	57.90 FT
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 IN	<36"	<36"
MINIMUM GROUND STORY HEIGHT:	12 FT	15 FT	15 FT
MINIMUM SECOND STORY HEIGHT:	10 FT	10.5 FT	10.5 FT
FACADE GLAZING:			
SHOP FRONT FACADE TYPE	70%	70%	70%
ALLOWED ROOF TYPES			
FLAT, GABLE, HIP, GAMBREL, MANSARD	FLAT, GABLE, HIP, GAMBREL, MANSARD	FLAT	

(3) - ADDITIONAL 1 STORY UP TO 10FT ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE AS ALLOWED PER 10.5A46.10.

COMMUNITY SPACE:

REQUIRED	PROPOSED
21,274 SF	34,427 SF
20%	31.2%

OFF-STREET PARKING REQUIREMENTS

PARKING SPACES REQUIRED:

DWELLING UNITS:		
0 SF TO 500 SF, 0.5 SPACES PER UNIT	0 UNITS	0 SPACES
500 SF TO 750 SF, 1.0 SPACES PER UNIT	0 UNITS	0 SPACES
OVER 750 SF, 1.3 SPACES PER UNIT	32 UNITS	42 SPACES
TOTAL MINIMUM RESIDENTIAL SPACES REQUIRED =		42 SPACES
VISITORS:		
1 SPACES PER 5 DWELLING UNITS	32 UNITS	7 SPACES
HOTEL:		
0.75 SPACES PER GUEST ROOM	124 ROOMS	93 SPACES
DOWNTOWN OVERLAY DISTRICT		- 4 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		138 SPACES

TOTAL PARKING SPACES PROVIDED:

ON SITE SURFACE PARKING SPACES =	40 SPACES
PUZZLE LIFT SPACES =	54 SPACES
SHARED PARKING ON SEPARATE LOT (4) =	25 SPACES
FUTURE RESERVE SURFACE SPACES (5)=	18 SPACES
TOTAL PARKING SPACES PROVIDED =	**137 SPACES**

SIX (6) ADA ACCESSIBLE SPACES REQUIRED

(4) - CONDITIONAL USE PERMIT REQUIRED FOR SHARED PARKING ON SEPARATE LOT PER 10.1112.62.
(5) - ALLOWED BY APPROVAL FROM THE PLANNING BOARD PER 10.1112.40.

	REQUIRED	PROVIDED
PARKING STALL SIZE:	8.5' X 19'	8.5' X 19'
TANDEM PARKING STALL SIZE:	9' X 38'	9' X 38'
DRIVE AISLE:	24'	24'

BIKE SPACES REQUIRED:

1 BIKE SPACE / 10 PARKING SPACES	16 SPACES	16 SPACES

PROPOSED MIXED USE GROSS FLOOR AREA

FLOOR	COMMERCIAL (SF)	LOBBY (SF)	UNITS	TOTAL FLOOR AREA (SF)
FIRST	7,720	2,731	0	10,451
SECOND	0	0	11	16,629
THIRD	0	0	11	16,629
FOURTH	0	0	10	15,707
FIFTH	0	0	0	7,260
TOTAL	7,720	2,731	32	66,676

PROPOSED HOTEL GROSS FLOOR AREA

FLOOR	LOBBY (SF)	UNITS	TOTAL FLOOR AREA (SF)
FIRST	8,911	0	8,911
SECOND	0	32	14,622
THIRD	0	32	14,622
FOURTH	0	32	14,622
FIFTH	0	28	13,203
TOTAL	8,911	124	65,980

SITE RECORDING NOTES:

1. **THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.**
2. **ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.**
3. **THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.**

SEE SHEET G-100 FOR SITE NOTES AND LEGEND

Tighe&Bond

STATE OF NEW HAMPSHIRE - NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE - PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
5/1/2024

0 30' 60'
GRAPHIC SCALE

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
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PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-C-DSGN.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102

Last Saved: 5/1/2024
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NORTH MILL POND (E2RS2N)

HIGHEST OBSERVABLE TIDE LINE ELEV. 4.3 FT NGVD1929 (SEE NOTES #13 & #14 ON SHEET 1 OF 3)

BOULDER REVETMENT

1' RET. WALL

WOODEN POST (TYP.)

CONC. RET. WALL W/ 12" RCP INV.=-0.3'

25' VEGETATED BUFFER

50' WATERFRONT BUFFER

100' TIDAL BUFFER ZONE

ZONE AE

ZONE A

PROTECT EXISTING 4"Ø BLACK LOCUST TREE

PROTECT EXISTING 13"Ø BLACK LOCUST TREE

PROTECT EXISTING 13"Ø BLACK LOCUST TREE

PROTECT EXISTING 5"Ø BLACK LOCUST TREE

PROTECT EXISTING (3) WILLOW TREES

EXISTING UTILITY POLE TO BE REMOVED (TYP)

EXISTING OVERHEAD WIRES TO BE REMOVED (TYP)

EXISTING PROPERTY LINE TO BE REMOVED

LOCATION OF PROPOSED STRUCTURE

EXISTING CONCRETE PADS TBR (TYP)

EXISTING DRAIN LINE TBR (SEE DEMO NOTE 17)

EXISTING SHED TBR

EXISTING SHRUB TBR TYP

EXISTING BUILDING TBR

EXISTING CONSTRUCTION FENCE TBR

EXISTING MECHANICAL EQUIPMENT TBR (TYP)

EXISTING WOOD STEPS TBR

EXISTING BUILDING TBR

EXISTING PROPERTY LINE TBR

EXISTING PROPERTY LINE TO BE REMOVED

EXISTING CONCRETE SIDEWALK TBR

EXISTING CONCRETE STEPS TBR

EXISTING GAS LINE TBR

EXISTING SIGNS TBR (TYP)

EXISTING CONCRETE SIDEWALK TBR

EXISTING ELECTRIC LINE TBR

EXISTING CATCH BASIN TBR

EXISTING DRAIN LINE TBR

EXISTING WATER LINE TBR

APPROXIMATE SAWCUT LINE

APPROXIMATE LIMIT OF WORK

EXISTING CONCRETE PAD TBR

EXISTING DRAIN LINE TBR

EXISTING STONE BLOCK RETAINING WALL TBR

EXISTING DUMPSTER PAD TBR

EXISTING DRAIN MAN HOLE TBR

EXISTING DRAIN LINE TBR (TYP)

EXISTING BRICK SIDEWALK TBR

EXISTING TRANSFORMER PAD TBR

EXISTING BRICK SIDEWALK TBR

EXISTING WATER LINE TBR

EXISTING BRICK SIDEWALK TBR

APPROXIMATE SAWCUT LINE

LOCATION OF PROPOSED STRUCTURE

EXISTING CONCRETE PAD TBR

PAVED PARKING AREA

OVERGROWN GRASS AREA

GRASS AREA

BUILDING TBR

OVERHANG

OVERHANG (TYP.)

PAVEMENT TBR

GARAGE DOOR

TIMBER EDGING

MAPLEWOOD AVE

RAIL ROAD TRACK IN DISREPAIR

WROUGHT IRON FENCE

BUILDING

TOCKADE

1" GAS PIPE

4" PVC INV.=6.8'

14" COND.

SEE SHEET G-100 FOR EXISTING CONDITIONS/DEMOLITION NOTES AND LEGEND

Tighe&Bond

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 5/1/2024

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER – 5/1/2024

0 20' 40'

GRAPHIC SCALE

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Portsmouth, New Hampshire

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APPROVED BY:	PMC

DEMOLITION PLAN

SCALE: AS SHOWN

C-101

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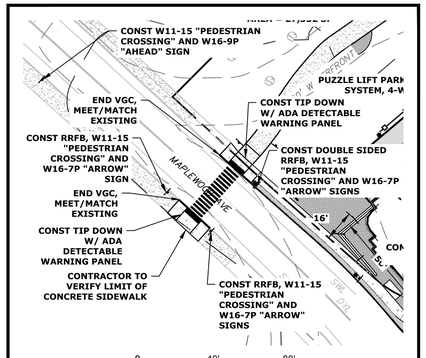

SITE PLAN INSET

NORTH MILL POND (E2RS2N)

1' RET. WALL

WOODEN POST (TYP.)

RECONSTRUCTED KAYAK LAUNCH RAMP

RECONSTRUCTED TIMBER PIER

CONST WETLAND BOUNDARY SIGN

CITY TO COORDINATE WITH LANDOWNER TO RELOCATE EXISTING EASEMENT

TAX MAP 123, LOT 15

TAX MAP 123, LOT 15-1

NORTH MILL POND GREENWAY TRAIL

25' VEGETATED BUFFER

BOULDER REVETMENT

CONST WETLAND BOUNDARY SIGN

PROPOSED GREENWAY COMMUNITY SPACE AREA = 27,352 SF

50' WATERFRONT BUFFER

NATURAL WOODLAND RESTORATION AREA (SEE SITE NOTE #23)

FUTURE RESERVE PARKING AREA, TYP

SEE INSET PLAN

DECORATIVE FENCE (SEE BLDG DWGS

CONST R7-8 "RESERVED" AND R7-8P "VAN ACCESSIBLE" SIGNS (TYP OF 2)

PROPOSED GREENWAY CONNECTION COMMUNITY SPACE AREA = 1,240 SF

DECORATIVE FENCE (SEE BLDG DWGS

DECORATIVE FENCE (SEE BLDG DWGS

CONST FENCE (SEE LANDSCAPE PLAN)

CONST TIP DOWN

CONST FLUSH PAVER CROSSWALK (SEE LANDSCAPE PLAN SHEET L-101)

LIMIT OF UPPER FLOOR AREA

58 SPACES

CONST TRANSFORMER (COORD W/ EVERSOURCE)

PROPOSED BOLLARDS (TYP OF 7)

36 SPACES

LIMIT OF UPPER FLOOR AREA

CONST R7-8 "RESERVED" SIGN

CONST BOLLARD MOUNTED R7-8 "RESERVED" SIGN

CONST BOLLARD MOUNTED R7-8 "RESERVED" AND R7-8P "VAN ACCESSIBLE" SIGNS (TYP OF 2)

PROPOSED BIKE RACKS (TYP OF 4)

FUTURE RESERVE PARKING AREA, TYP

TAX MAP 123, LOT 15

CONST D11-1 "BIKE ROUTE" AND M4-6 "END" SIGNS

CONST D11-1 "BIKE ROUTE" SIGN

TRANSITION FROM SGC TO MVGC

CONST DISTRICT STANDARD, 24' POLE

PROPOSED BIKE RACKS (TYP OF 5)

CONST 10' WIDE CROSS WALK

BEGIN VGC, MEET/MATCH EXISTING

TRANSITION FROM MVGC TO VGC

TRANSITION FROM VGC TO MVGC

CONST DISTRICT STANDARD, 16' POLE

RESIDENTIAL LOBBY ± 2,731 SF

END MVGC

COMMERCIAL SPACE ± 3,545 SF

BUILDING A 5-STORY MIXED USE BUILDING ± 66,676 SF

COMMERCIAL SPACE ± 4,175 SF

STAIRS

6 SPACES

10 SPACES

10 SPACES

6 SPACES

3 SPACES

4 SPACES

14 SPACES

14 SPACES

7 SPACES

11 SPACES

CONST CONCRETE SIDEWALK

CONST FLUSH PAVERS (SEE LANDSCAPED PLAN SHEET L-101)

ELEVATOR

BUILDING B 5-STORY HOTEL ± 65,980 SF

HOTEL LOBBY ± 8,911 SF

PROPOSED WIDE SIDEWALK COMMUNITY SPACE AREA = 2,920 SF

PROPOSED GREENWAY CONNECTION COMMUNITY SPACE AREA = 2,915 SF

TRANSITION FROM MVGC TO VGC

TRANSITION FROM VGC TO MVGC

TRANSITION FROM MVGC TO SGC

CONST DISTRICT STANDARD, 24' POLE

CONST "LOADING ZONE, NO PARKING 6AM - 9AM" SIGNS (TYP OF 2)

CONST CONC SIDEWALK W/ 2' BRICK BAND

CONST DISTRICT STANDARD, 16' POLE (TYP OF 3)

CONST W11-15 "PEDESTRIAN CROSSING" AND W16-9P "AHEAD" SIGN

CONST TIP DOWN W/ ADA DETECTABLE WARNING PANEL

CONST R5-1 "DO NOT ENTER", R1-1 "STOP" SIGNS AND BAR

CONST 10' WIDE CROSS WALK

CONST R5-1 "DO NOT ENTER" AND R1-1 "STOP" SIGNS

CONST ARROW PAVEMENT MARKING (TYP) (SEE DETAIL)

FINAL PAVING AND STRIPING AREA (SEE SITE NOTE 21)

CONST R6-1R "ONE WAY" AND R3-2 SIGNS

RAYNES AVE

SWL

TAX MAP 123, LOT 7-1

TAX MAP 123, LOT 8

TAX MAP 123, LOT 9

CONST FLUSH VGC

CONST PAVERS (SEE LANDSCAPE PLAN SHEET L-101)

GATE

WOODEN STOCKADE FENCE

WROUGHT IRON FENCE

BUILDING

BEGIN VGC, MEET/MATCH EXISTING

CONST TIP DOWN

BEGIN VGC

END VGC

CONST TIP DOWN

BEGIN VGC

100' TIDAL BUFFER ZONE

ZONE AE ZONE X

RAIL ROAD TRACK IN DISREPAIR

SITE RECORDING NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
3. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

SEE SHEET G-100 FOR SITE NOTES AND LEGEND

0 20' 40'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE - NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE - PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
5/1/2024

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North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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APPROVED BY:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102.1

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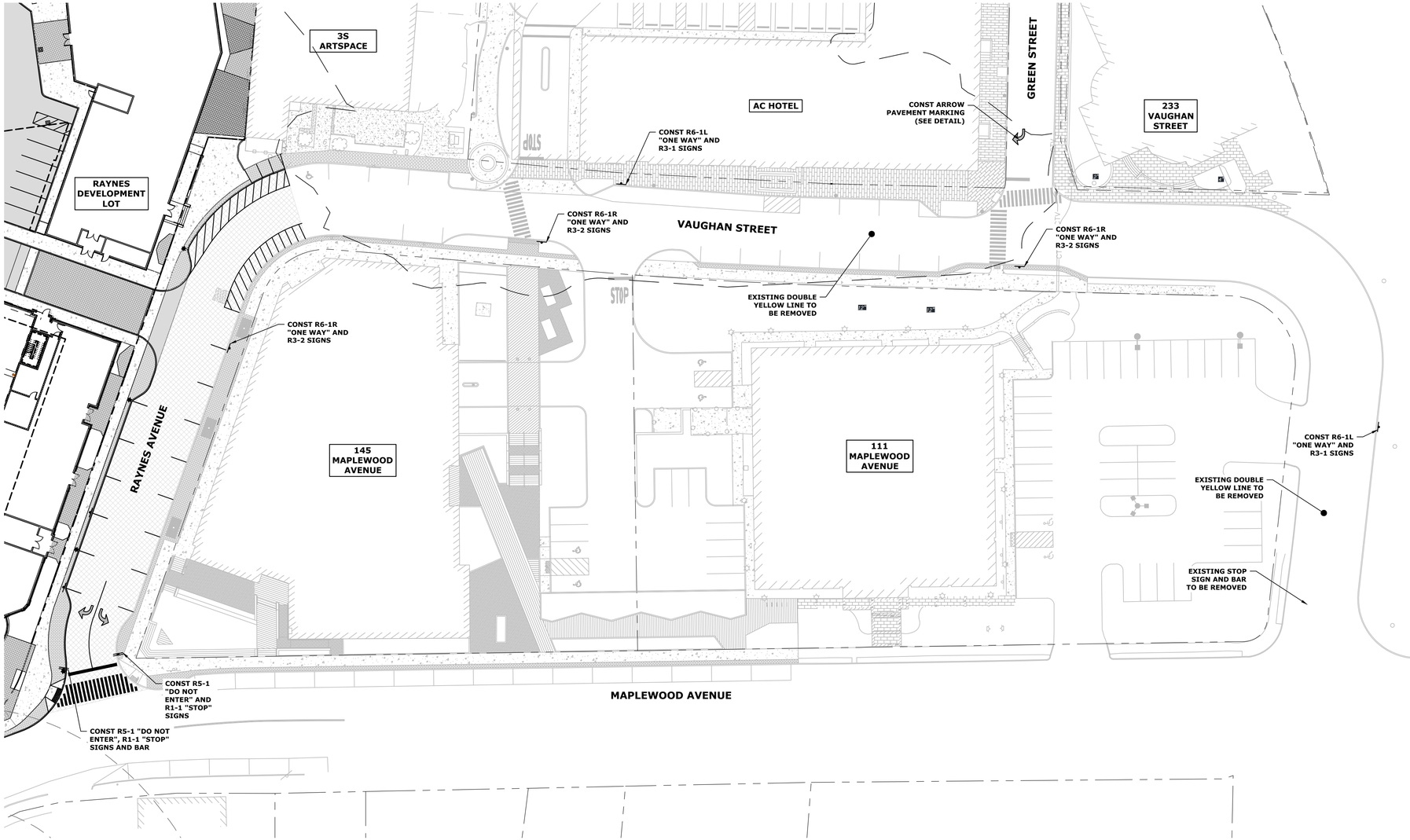

SEE SHEET G-100 FOR SITE NOTES AND LEGEND

Tighe&Bond

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5/1/2024

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
5/1/2024

0 30' 60'
GRAPHIC SCALE

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Portsmouth, New Hampshire

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NEIGHBORHOOD SIGNAGE PLAN

SCALE: AS SHOWN

C-102.2

Last Saved: 5/1/2024
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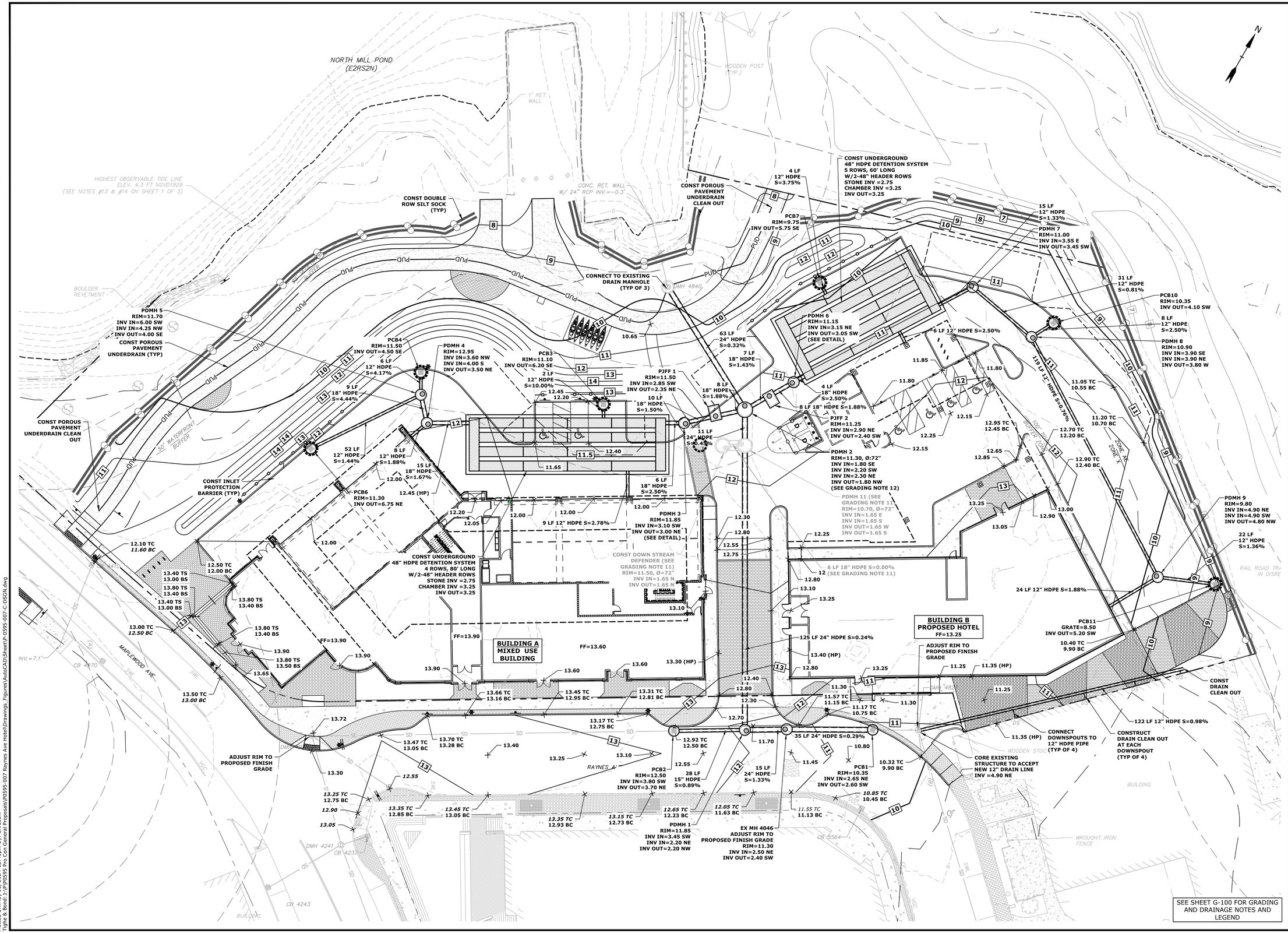

Tighe&Bond

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
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GRADING, DRAINAGE AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

Last Saved: 5/1/2024
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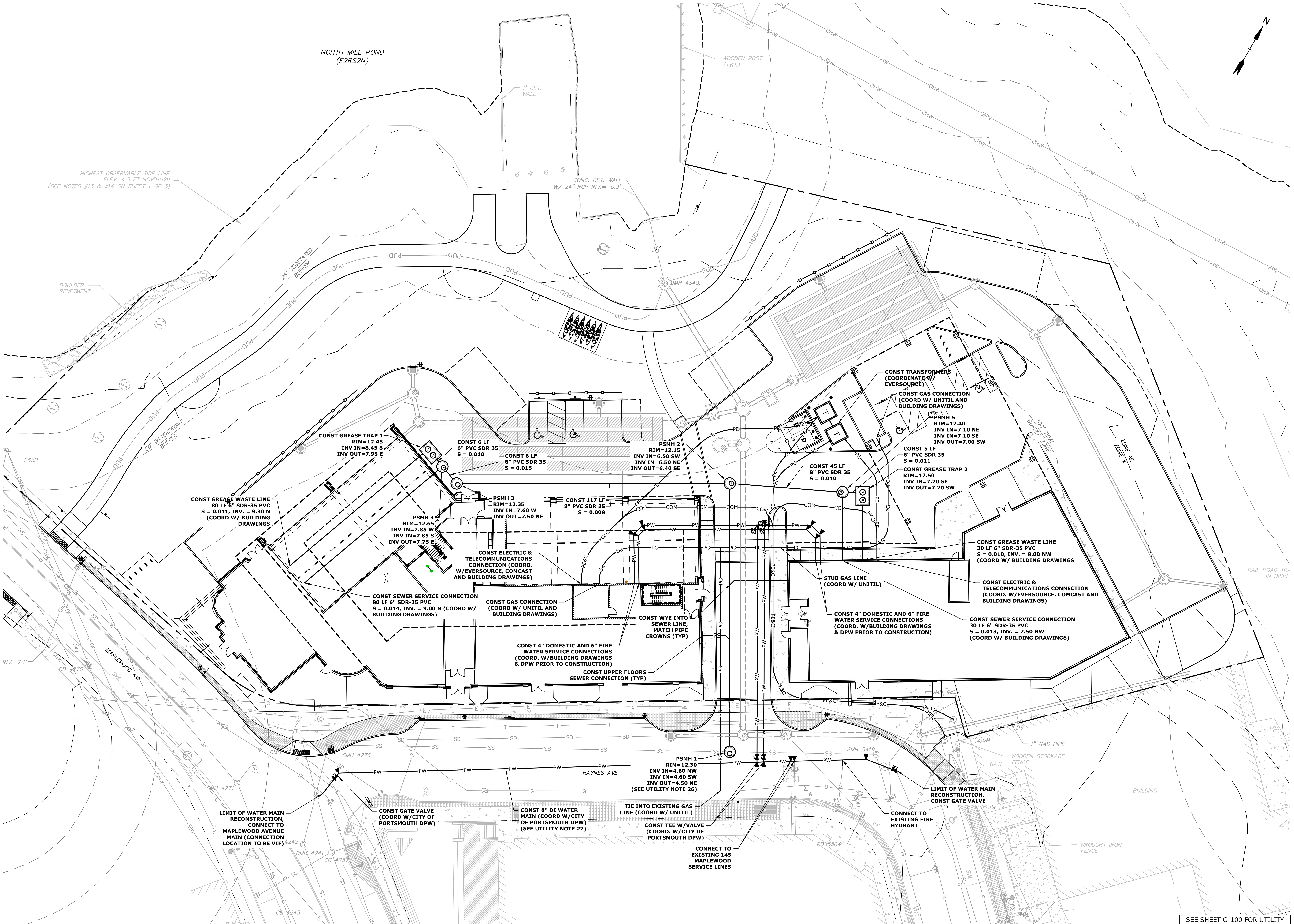

NORTH MILL POND (E2RS2N)
HIGHEST OBSERVABLE TIDE LINE ELEV. 4.3 FT NGVD1929 (SEE NOTES #13 & #14 ON SHEET 1 OF 3)
BOULDER REVETMENT
25' VEGETATED BUFFER
50' WATERFRONT BUFFER
1' RET. WALL
CONC. RET. WALL W/ 24" RCP INV.=-0.3'
WOODEN POST (TYP.)
DMH 4840
100' TIDAL BUFFER ZONE
ZONE AE ZONE X
RAIL ROAD TRA IN DISRE
CONST TRANSFORMERS (COORDINATE W/ EVERSOURCE)
CONST GAS CONNECTION (COORD W/ UNITIL AND BUILDING DRAWINGS)
PSMH 5 RIM=12.40 INV IN=7.10 NE INV IN=7.10 SE INV OUT=7.00 SW
CONST 5 LF 6" PVC SDR 35 S = 0.011
CONST GREASE TRAP 2 RIM=12.50 INV IN=7.70 SE INV OUT=7.20 SW
CONST 45 LF 8" PVC SDR 35 S = 0.010
PSMH 2 RIM=12.15 INV IN=6.50 SW INV IN=6.50 NE INV OUT=6.40 SE
CONST GREASE TRAP 1 RIM=12.45 INV IN=8.45 S INV OUT=7.95 E
CONST 6 LF 6" PVC SDR 35 S = 0.010
CONST 6 LF 8" PVC SDR 35 S = 0.015
PSMH 3 RIM=12.35 INV IN=7.60 W INV OUT=7.50 NE
CONST 117 LF 8" PVC SDR 35 S = 0.008
CONST GREASE WASTE LINE 80 LF 6" SDR-35 PVC S = 0.011, INV. = 9.30 N (COORD W/ BUILDING DRAWINGS
PSMH 4 RIM=12.65 INV IN=7.85 W INV IN=7.85 S INV OUT=7.75 E
CONST ELECTRIC & TELECOMMUNICATIONS CONNECTION (COORD. W/EVERSOURCE, COMCAST AND BUILDING DRAWINGS)
CONST SEWER SERVICE CONNECTION 80 LF 6" SDR-35 PVC S = 0.014, INV. = 9.00 N (COORD W/ BUILDING DRAWINGS)
CONST GAS CONNECTION (COORD W/ UNITIL AND BUILDING DRAWINGS)
CONST WYE INTO SEWER LINE, MATCH PIPE CROWNS (TYP)
CONST 4" DOMESTIC AND 6" FIRE WATER SERVICE CONNECTIONS (COORD. W/BUILDING DRAWINGS & DPW PRIOR TO CONSTRUCTION)
CONST UPPER FLOORS SEWER CONNECTION (TYP)
CONST GREASE WASTE LINE 30 LF 6" SDR-35 PVC S = 0.010, INV. = 8.00 NW (COORD W/ BUILDING DRAWINGS
STUB GAS LINE (COORD W/ UNITIL)
CONST ELECTRIC & TELECOMMUNICATIONS CONNECTION (COORD. W/EVERSOURCE, COMCAST AND BUILDING DRAWINGS)
CONST 4" DOMESTIC AND 6" FIRE WATER SERVICE CONNECTIONS (COORD. W/BUILDING DRAWINGS & DPW PRIOR TO CONSTRUCTION)
CONST SEWER SERVICE CONNECTION 30 LF 6" SDR-35 PVC S = 0.013, INV. = 7.50 NW (COORD W/ BUILDING DRAWINGS)
MAPLEWOOD AVE
RAYNES AVE
263B
INV.=7.1'
CB 4270
SMH 4276
SMH 4271
DMH 4827
SMH 5419
1" GAS PIPE
WOODEN STOCKADE FENCE
GATE
BUILDING
WROUGHT IRON FENCE
CB 5564
DMH 4241
CB 4237
CB 4243
4242
PSMH 1 RIM=12.30 INV IN=4.60 NW INV IN=4.60 SW INV OUT=4.50 NE (SEE UTILITY NOTE 26)
LIMIT OF WATER MAIN RECONSTRUCTION, CONNECT TO MAPLEWOOD AVENUE MAIN (CONNECTION LOCATION TO BE VIF)
CONST GATE VALVE (COORD W/CITY OF PORTSMOUTH DPW)
CONST 8" DI WATER MAIN (COORD W/CITY OF PORTSMOUTH DPW) (SEE UTILITY NOTE 27)
TIE INTO EXISTING GAS LINE (COORD W/ UNITIL)
CONST TEE W/VALVE (COORD. W/CITY OF PORTSMOUTH DPW)
CONNECT TO EXISTING 145 MAPLEWOOD SERVICE LINES
CONNECT TO EXISTING FIRE HYDRANT
LIMIT OF WATER MAIN RECONSTRUCTION, CONST GATE VALVE
SEE SHEET G-100 FOR UTILITY NOTES AND LEGEND

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Tighe&Bond

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0 20' 40'
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UTILITIES PLAN

SCALE: AS SHOWN

C-104

LEGEND

TEMPORARY PREVIOUSLY DEVELOPED TIDAL BUFFER ZONE IMPACT (10,104 SF)

PERMANENT PREVIOUSLY DEVELOPED TIDAL BUFFER ZONE IMPACT (49,111 SF)

NORTH MILL POND (E2RS2N)

NORTH MILL POND (E2RS2N)

MEAN HIGH WATER ELEV. 3.0 FT NGVD1929 (SEE NOTE 1)

REFERENCE LINE, HIGHEST OBSERVABLE TIDE LINE (SEE NOTE 2)

25' VEGETATED BUFFER

50' WATERFRONT BUFFER

100' TIDAL BUFFER ZONE

MAPLEWOOD AVE

RAYNES AVE

N

Tighe&Bond

STATE OF NEW HAMPSHIRE - NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER -

5/1/2024

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0 20' 40'

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WETLAND BUFFER IMPACT PLAN

SCALE: AS SHOWN

C-105

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LEGEND

- PROPOSED DRAINAGE EASEMENT
- PROPOSED UTILITY EASEMENT
- PROPOSED COMMUNITY SPACE EASEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH
- PROPOSED TEMPORARY GRADING EASEMENT
- PROPOSED TEMPORARY ACCESS EASEMENT FOR BRIDGE REPLACEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH
- PROPOSEDWIDE SIDEWALK COMMUNITY SPACE ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH
- PROPOSED GREENWAY CONNECTION COMMUNITY SPACE ON DEVELOPMENT LOT TO BENEFIT CITY OF PORTSMOUTH

EASEMENTS SHOWN HEREIN ARE FOR PERMITTING PURPOSES ONLY. FINAL EASEMENT PLAN SHALL BE PREPARED BY THE PROJECT SURVEYOR AND RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEED PRIOR TO ISSUING BUILDING PERMITS.

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TAX MAP 123, LOT 15

10' WIDE EXISTING PEDESTRIAN EASEMENT

TAX MAP 123, LOT 15-1

PROPOSED TEMPORARY GRADING EASEMENT ON TAX MAP 123, LOT 15-1

CONC. RET. WALL
W. 24" RCP INV.=-0.3'

PROPOSED COMMUNITY SPACE EASEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH

PROPOSED TEMPORARY GRADING EASEMENT ON TAX MAP 123, LOT 15

TAX MAP 123, LOT 15

PROPOSED TEMPORARY ACCESS EASEMENT FOR BRIDGE REPLACEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH

DEVELOPMENT LOT

PROPOSED GREENWAY CONNECTION COMMUNITY SPACE ON DEVELOPMENT LOT TO BENEFIT CITY OF PORTSMOUTH

PROPOSED 25' WIDE DRAINAGE, WATER, AND MAINTENANCE & ACCESS EASEMENT ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH

PROPOSED GREENWAY CONNECTION COMMUNITY SPACE ON DEVELOPMENT LOT TO BENEFIT CITY OF PORTSMOUTH

PROPOSED WIDE SIDEWALK COMMUNITY SPACE ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH

PROPOSED WIDE SIDEWALK COMMUNITY SPACE ON DEVELOPMENT LOT TO BENEFIT THE CITY OF PORTSMOUTH

PROPOSED UTILITY EASEMENT ON DEVELOPMENT LOT TO BENEFIT TAX MAP 123, LOT 9

PROPOSED DRAINAGE EASEMENT ON DEVELOPMENT LOT TO BENEFIT TAX MAP 123, LOT 9

MAPLEWOOD AVE

RAYNES AVE

TAX MAP 123, LOT 7-1

TAX MAP 123, LOT 8

TAX MAP 123, LOT 9

SMH 4276
SMH 4271
SMH 4242
DMH 4241
CB 4233
CB 4243
CB 4270
SMH 5419
CB 5564
(2)GM
1" GAS PIPE

Tighe&Bond

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
5/1/2024

0 20' 40'
GRAPHIC SCALE

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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J	10/20/2021	TAC Resubmission
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F	5/19/2021	TAC Resubmission
E	4/28/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-C-DSGN.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

EASEMENT PLAN

SCALE: AS SHOWN

C-301

Last Saved: 5/1/2024
Plotted On: May 01, 2024 - 1:23pm By: CKrzoiuk
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings. Figures\AutoCAD\Sheet\P-0595-007-C-DSGN.dwg

PLANT SCHEDULE

Symbol	Quantity	*Botanical Name*	Common Name	Size	Spacing	Notes
TREES						
AC RU	9	*Acer rubrum*	Red Maple	4-5" Cal.		B&B; matched
AC KA	3	*Acer rubrum 'Karpick'*	Karpick Maple	4-5" Cal.		Single-stem, matched
BE AL	6	*Betula alleghaniensis*	Yellow Birch	4-5" Cal.		Single-stem, matched
CE OC	4	*Celtis occidentalis*	Hackberry	4-5" Cal.		Single-stem, matched
CH TH	6	*Chamaecyparis thyoides*	White Cypress	8-10' Ht, B&B		B&B; matched
CH VI	7	*Chionanthus virginicus*	Fringe Tree	4-5" Cal.		Multi-stem, matched
HA VE	15	*Hamamelis vernalis*	Vernal Witch Hazel	6-8' Ht, B&B		Multi-stem, matched
JU VI	9	*Juniperus virginiana*	Eastern Red Cedar	8-10' Ht, B&B		B&B; matched
QU BI	7	*Quercus bicolor*	Swamp White Oak	4-5" Cal.		B&B; matched
TH OC	6	*Thuja occidentalis 'Hetz Wintergreen'*	Hetz Wintergreen Arborvitae	6-8' Ht, B&B		B&B; matched
SHRUBS						
Ae Pa		*Aesculus parviflora*	Bottlebrush Buckeye	#10 Container	72" O.C.	
Ce Am		*Ceanothus americanus*	New Jersey Tea	#7 Container	48" O.C	
Co Pe		*Comptonia peregrina*	Sweet Fern	#3 Container	36" O.C.	
Co Ra		*Cornus racemosa*	Gray Dogwood	#7 Container	36" O.C.	
Fo Ga		*Fothergilla gardenii 'Mount Airy'*	Mount Airy Fothergilla	#7 Container	36" O.C.	
Hy Qu		*Hydrangea quercifolia*	Oakleaf Hydrangea	#7 Container	48" O.C	
Li Be		*Lindera Benzoin*	Spice Bush	#7 Container	36" O.C.	
Ix Gl		*Ilex glabra 'Shamrock'*	Shamrock Inkberry	#7 Container	36" O.C.	
Il Ji		*Ilex verticillata 'Jim Dandy'*	Jim Dandy Winterberry	#7 Container	48" O.C	
Il Ve		*Ilex verticillata 'Red Sprite'*	Red Sprite Winterberry	#7 Container	48" O.C	
Iv Fr		*Iva frutescens*	Bigleaf Marsh Elder	#3 Container	36" O.C.	
My Pe		*Myrica pensylvanica*	Northern Bayberry	#7 Container	48" O.C.	
Rh Gl		*Rhus aromatica 'Gro-Low'*	Fro-Low Fragrant Sumac	#3 Container	30" O.C.	
Sp To		*Spiraea tomentosa*	Steeplebush	#3 Container	30" O.C.	
Vi Ca		*Viburnum carlesii 'SMVCB'*	Spice Baby Viburnum	#7 Container	36" O.C.	
PERENNIALS						
am hu		*Amsonia tabernaemontana 'Walter'*	Eastern Bluestar	#2 Container	30" O.C.	
an ma		*Anaphalis margaritacea*	Pearly Everlasting	#2 Container	15" O.C.	
as in		*Asclepias tuberosa*	Butterfly Weed	#2 Container	30" O.C.	
as ob		*Aster oblongifolius 'Raydon's Favorite'*	Raydon's Favorite Aster	#2 Container	24" O.C.	
ba bi		*Baptisia australis*	Blue False Indigo	#3 Container	24" O.C.	
de pu		*Dennstaedtia punctilobula*	Hay Scented Fern	#2 Container	30" O.C.	
ec pu		*Echinacea purpurpea*	Purple Coneflower	#2 Container	24" O.C.	
on se		*Onoclea sensibilis*	Sensitive Fern	#2 Container	30" O.C.	
sa ma		*Salvia 'May Night'*	May Night Salvia	#2 Container	30" O.C.	
so ca		*Solidago simpervirens*	Seaside Goldenrod	#2 Container	24" O.C.	
ti co		*Tiarella cordifolia*	Foamflower	#2 Container	15" O.C.	
ORNAMENTAL GRASSES						
ag pe		Agrostis pernnans	Upland Bentgrass	#3 Container	30" O.C.	
bo cu		*Bouteloua curtipendula*	Side Oats Grama	#2 Container	30" O.C.	
ca ac		*Calamagrostis acutiflora 'Karl Foerster'*	Feather Reed Grass	#3 Container	30" O.C.	
de ce		*Deschampsia cespitosa 'Pixie Fountain'*	Tufted Hair Grass	#2 Container	30" O.C.	
fe ru		*Festuca rubra L.*	Coastal Red Fescue	Plug	12" O.C.	
mi si		*Miscanthus sinensis 'Adagio'*	Dwarf Silver Grass	#2 Container	30" O.C.	
pe al		*Pennisetum alopecuroides 'Hamelin'*	Hameln Dwarf Fountain Grass	#2 Container	24" O.C.	
sc sc		*Schizachyrium scoparium*	Little Bluestem	Plug	12" O.C.	
so nu		*Sorghastrum nutans*	Indian Grass			
SEED MIXES						
Buffer Seed Mix		*Ernst Seed Fescue Mix composed of 45% Creeping Red Fescue/ 27.5% Hard Fescue 'Minimus' / 27.5% Hard Fescue 'Beacon'*				

PLANTING NOTES

1. LANDSCAPE ARCHITECT TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE.

2. PLANT MATERIAL SHALL CONFORM TO "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.

3. NO SUBSTITUTIONS OF PLANT SPECIES WITHOUT LANDSCAPE ARCHITECT'S WRITTEN APPROVAL.

4. SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF AND FRUIT, COLOR AND TIME OF BLOOM, AS APPROVED BY LANDSCAPE ARCHITECT.

5. LOCATE AND VERIFY UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICTS TO LANDSCAPE ARCHITECT.

6. PLANTING DEMOLITION DEBRIS, GARBAGE, LUMPS OF CONCRETE, STEEL AND OTHER MATERIALS DELETERIOUS TO PLANT'S HEALTH AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE REMOVED FROM ALL PLANTING AREAS.

7. NO PLANTING TO BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.

8. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. REFER TO LAYOUT AND PLANTING SHEETS FOR LAYOUT INFORMATION. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. FINAL LOCATIONS OF ALL PLANTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.

9. INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE.

10. PLANT UNDER FULL TIME SUPERVISION OF CERTIFIED ARBORIST, NURSERYMAN, OR LICENSED LANDSCAPE ARCHITECT. PROVIDE WRITTEN VERIFICATION OF CERTIFICATION AND/OR LICENSE FOR LANDSCAPE ARCHITECT'S APPROVAL.

11. WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.

12. REPAIR DAMAGE DUE TO OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK

13. SOAK ALL PERENNIALS FOR 24 HOURS PRIOR TO INSTALLATION

14. BUFFER SEED MIX AREA TO BE WATERED AND MONITORED DURING ESTABLISHMENT TO ENSURE SEED COVERAGE AND ESTABLISHMENT IS UNIFORM AND HEALTHY AND UNTIL ACCEPTANCE.

15. MOWING OF THE BUFFER SEED MIX AREA FOLLOWING ESTABLISHED AND ACCEPTANCE SHALL OCCUR TWICE A YEAR - IN SPRING PRIOR TO NEW GROWTH AND THE AUTUMN AFTER DORMANCY. MOWING IS NOT TO OCCUR IN THE HEAT OF SUMMER. MOWING ENCOURAGES ESTABLISHMENT VIA ROOT SYSTEM GROWTH AND MITIGATES GROWTH OF WEEDS, UNDESIRABLE AND INVASIVE SPECIES.

16. MOWING HEIGHT TO BE NOT LESS THAN 3".

17. ALL PROPOSED VEGETATION WITHIN THE NATURAL WOODLAND AREA SHALL BE CONFIRMED IN GOOD HEALTH AFTER THE FIRST GROWING SEASON AT WHICH TIME NO MAINTENANCE OR CLEARING OF THIS AREA SHALL BE COMPLETED. DESIGNATED NATURAL WOODLAND AREA SHALL REMAIN IN AN UNALTERED, UNMAINTAINED STATE.

ZONING NOTES

10.5A44.40 PARKING LOT LANDSCAPE	
10.5A44.42 TREES	
PARKING LOTS SHALL CONTAIN AT LEAST (1) TREE FOR EVERY (7) PARKING SPACES	
TOTAL SURFACE PARKING	41
TOTAL FUTURE RESERVE SURFACE PARKING	25
TOTAL REQUIRED PARKING LOT TREES	10
TOTAL PARKING LOT TREES PROPOSED	19
10.5A44.43 LANDSCAPING	
ALL LANDSCAPING REQUIRED PURSUANT TO THIS SECTION SHALL BE LOCATED AND DESIGNED IN A MANNER TO PROTECT VEGETATION FROM VEHICULAR DAMAGE.	YES

10.1130 LANDSCAPING AND SCREENING	
10.1132.10 SCREENING OF DUMPSTERS	
NATURAL SCREENING SHALL CONSIST OF EVERGREEN SHRUBS/TREES PLANTED IN A LINE TO FORM A CONTINUOUS SCREEN AND GROWING TO A HEIGHT OF 6 FEET WITHIN 3 YEARS. THE REMAINING PORTION OF THE SCREENING AREA SHALL CONSIST OF LARGE AND SMALL TREES, GRASS, FLOWER BEDS, OR OTHER VEGETATIVE GROUNDCOVER TO FULLY COVER THE GROUND SURFACE OF THE AREA WITHIN 3 YEARS.	YES
10.1132.20 SCREENING OF DUMPSTERS	
A 6-FOOT HIGH FENCE OR MASONRY WALL MAY BE SUBSTITUTED FOR NATURAL SCREENING IF APPROVED.	YES

RESTORATION PLANTING NOTES

1. INVASIVE PLANT MATERIAL WILL BE REMOVED USING MECHANICAL, WHOLE PLANT REMOVAL STRATEGIES AND CHIPPED AND COMPOSTED AT AN APPROPRIATE FACILITY OR BURNED ON SITE ACCORDING TO LOCAL FIRE DEPARTMENT RULES AND REGULATIONS.

2. DISTURBED SOILS WILL BE AUGMENTED AS NEED WITH A CUSTOM BLENDED SOIL OF ONE PART LOAM, ONE PART COMPOST AND ONE PART CLEAN SAND.

3. SEEDED AREAS ARE TO BE COVERED WITH SALT MARSH HAY TO RETAIN SOIL MOISTURE AND PROTECT AGAINST SEED PREDATION BY BIRDS AND SMALL MAMMALS.

4. NATIVE PLANT MATERIAL WILL BE LAID OUT AND INSTALLED BY AN ECOLOGICAL RESTORATION SPECIALIST OR PERSONS TRAINED IN HORTICULTURAL PRACTICES. EXACT PLANT LOCATIONS WILL BE DETERMINED IN THE FIELD BASED ON SITE-SPECIFIC PLANTING CONDITIONS AND MICRO-TOPOGRAPHY.

5. THE NEW PLANTINGS WILL BE IRRIGATED FOR ONE FULL GROWING SEASON OR UNTIL THE SEED AND PLANT MATERIAL IS ESTABLISHED.

6. MONTHLY INSPECTIONS WILL BE CONDUCTED FOR THE FIRST GROWING SEASON AND TREATMENT/REMOVAL OF INVASIVE SPECIES WILL BE IMPLEMENTED AS NEEDED DURING THE ESTABLISHED PERIOD.

7. CARE IS TO BE TAKEN IN REMOVING ANY NEW COLONIZING INVASIVE PLANT MATERIAL TO MINIMIZE DISTURBANCE TO ESTABLISHING NATIVE PLANT SPECIES.

8. PRACTICES IN ASSOCIATION WITH FERTILIZERS AND PESTICIDES WILL COMPLY WITH ORDINANCES 10.1018.24 AND 10.1018.25.

Tighe&Bond

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5/1/2024

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Portsmouth, New Hampshire

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LANDSCAPE MATERIAL PLAN, LEGEND AND NOTES

SCALE: AS SHOWN

L-100

LEGEND

- SEEDED LAWN
- BUFFER SEED MIX
- PLANTING BED
- PLANTING BED
- PLANTING BED
- BOAT/KAYAK LAUNCH RAMP
- RECONSTRUCTED TIMBER PIER
- DECIDUOUS TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- SHRUBS

PROPOSED TRAIL CONNECTION TO ABUTTER; CITY TO COORDINATE WITH LANDOWNER TO RELOCATE EXISTING EASEMENT

OPTIONAL RECONSTRUCTED TIMBER PIER; OVERLOOK TO INCLUDE BENCHES

1 QU BI

OVERLOOK SEATING NICHE WITH UNIT PAVERS AND FITNESS MULTIPURPOSE BENCH

1 HA VE

OPTIONAL KAYAK/CANOE LAUNCH RAMP

PLANTING BED AT SEATING NICHE

1 BE AL

1 CH VI

PROTECT EXISTING (3) WILLOW TREES

2 QU BI

1 CH TH

PLANTING/LANDSCAPE DESIGN TO BE COORDINATED WITH ABUTTERS

1 JU VI

1 QU BI

1 AC RU

1 JU VI

1 CH VI

1 QU BI

BUFFER SEED MIX

1 QU BI

PROPERTY LINE

BUFFER SEED MIX

PLANTING BED AT SEATING NICHE

1 CH VI

PROTECT EXISTING 13" Ø BLACK LOCUS TREE

1 CE OC

1 CH VI

BUFFER SEED MIX

OVERLOOK SEATING NICHE WITH UNIT PAVERS AND CHAIR BENCHES

1 CH TH

1 HA VE

OPTIONAL KAYAK STORAGE

1 AC RU

1 CH VI

1 AC RU

BUFFER SEED MIX

PROTECT EXISTING 4" Ø BLACK LOCUS TREE

PROTECT EXISTING 5" Ø BLACK LOCUS TREE

PROTECT EXISTING 13" Ø BLACK LOCUS TREE

3 HA VE

1 CH TH

1 JU VI

1 AC RU

HA VE

1 BE AL

1 CH TH

5 TH OC

1 TH OC

BIKE PARKING

PERENNIALS AND ORNAMENTAL GRASS

5 HA VE

3 BE AL

1 JU VI

1 CE OC

DESIGNATED NATURAL WOODLAND AREA (SEE NOTE #17)

1 JU VI

1 HA VE

1 BE AL

1 JU VI

1 QU BI

PERENNIALS AND ORNAMENTAL GRASS

GRANITE POST INDICATING PATH

PERENNIALS AND ORNAMENTAL GRASS

ENTRANCE WITH UNIT PAVING, BOLLARDS; FLAGGED WITH BENCHES & RAISED SEASONAL/ANNUAL PLANTERS

1 AC RU

1 CH VI

1 AC RU

1 CE OC

3 HA VE

3 AC RU

VEHICULAR UNIT PAVERS WITH FLUSH GRANITE BAND ON EITHER SIDE

DECORATIVE DUMPSTER ENCLOSURE FENCE AND GATE

EVERGREEN SCREENING

PDMH 11 (SEE GRADING NOTE 11)
RIM=10.70, Ø=72"
INV IN=1.65 E
INV IN=1.65 S
INV OUT=1.65 W
INV OUT=1.65 S

6 LF 18" HDPE S=0.00% (SEE GRADING NOTE 11)

3 JU VI

1 CH VI

1 CE OC

PLANTING BED AT TRAIL ENTRANCE

PERENNIALS AND ORNAMENTAL GRASS

BIKE PARKING

CONST DOWN STREAM DEFENDER (SEE GRADING NOTE 11)
RIM=11.50, Ø=72"
INV IN=1.65 E
INV OUT=1.65 W

GRANITE POST INDICATING PATH

CAST IN PLACE CONCRETE SIDEWALK

PROPOSED CONNECTION TO TRAIL NETWORK

1 CH TH

PROPERTY LINE

WAYFINDING SIGNAGE; TO BE COORDINATED WITH THE CITY

ARRIVAL & DEPARTURE ZONE

PLANTING BED AT TRAIL ENTRANCE

SHADE TREE & METAL TREE GRATE WITH SAND BASED STRUCTURAL SOIL

PROPOSED MIXED USE BUILDING

BOLLARDS

RAISED VEHICULAR TABLE

CAST IN PLACE CONCRETE SIDEWALK

PROPOSED HOTEL

VEHICULAR UNIT PAVER ALLEY FOR FLEXIBLE PROGRAM USE; FIRE EMERGENCY ACCESS

PLANTING BED

VEHICULAR UNIT PAVER FOR FIRE EMERGENCY ACCESS

PLANTING BED

RETAIL SPILL OUT ZONE

RETAIL SPILL OUT ZONE

SEATING NICHE

SEATING NICHE

ARRIVAL & DEPARTURE ZONE

RETAIL SPILL OUT ZONE

BRICK PAVING BAND

3 AC KA

MAPLEWOOD AVE

PROPERTY LINE

PERENNIALS AND ORNAMENTAL GRASS

1 CH TH

TREE LOCATED WITHIN RIGHT-OF-WAY WILL BE REVIEWED BY THE CITY'S TREES & GREENERY COMMITTEE

PROPOSED LIGHTING

BRICK PAVING BAND

PROPOSED LIGHTING

WAYFINDING SIGNAGE; TO BE COORDINATED WITH THE CITY

BRICK STREETSCAPE FURNISHING ZONE

BRICK STREETSCAPE FURNISHING ZONE

PROPOSED LIGHTING

RETAIL SPILL OUT ZONE

RAYNES AVE

Last Saved: 4/15/2024
Plotted: Apr 16, 2024-4:15pm By: CKrzcuik
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings_ Figures\AutoCAD\Sheet\P-0595-007-L-DSGN.dwg

Tighe&Bond

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0 20' 40'
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LANDSCAPE PLANTING PLAN

SCALE: AS SHOWN

L-101

CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS

THE BASE OF THE CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS IS THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPLANTING. ANSI A300 PART 6 LAYS OUT TERMS AND BASIC STANDARDS AS SET FORTH BY INDUSTRY BUT IT IS NOT THE 'END ALL' FOR THE CITY OF PORTSMOUTH. THE FOLLOWING ARE THE CITY OF PORTSMOUTH, NH TREE PLANTING REQUIREMENTS THAT IN ADDITION TO OR THAT GO BEYOND THE ANSI A300 PART 6.

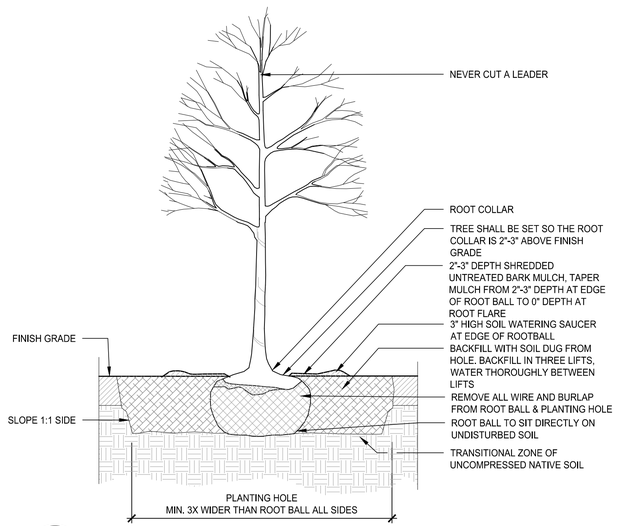
1. ALL PLANTING HOLES SHALL BE DUG BY HAND- NO MACHINES. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANTING PITS, PLANTING BEDS WITH GRANITE CURBING, AND PLANTING SITES WITH SILVA CELLS ARE BEING CREATED. IF A MACHINES USED TO DIG ANY OF THESE SITUATIONS AND PLANTING DEPTH NEEDS TO BE RAISED THE MATERIAL IN THE BOTTOM OF THE PLANTING HOLE MUST BE FIRMED WITH MACHINE TO PREVENT SINKING OF THE ROOT BALL.
2. ALL WIRE AND BURLAP SHALL BE REMOVED FROM THE ROOT BALL AND PLANTING HOLE.
3. THE ROOT BALL OF THE TREE SHALL BE WORKED SO THAT THE ROOT COLLAR OF THE TREE IS VISIBLE AND NO GIRDLING ROOTS ARE PRESENT.
4. THE ROOT COLLAR OF THE TREE SHALL BE 2"-3" ABOVE GRADE OF PLANTING HOLE FOR FINISHED DEPTH.
5. ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED NO MORE THAN 20% WITH ORGANIC COMPOST. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE ENGINEERED SOIL IS BEING USED IN CONJUNCTION WITH SILVA CELLS AND WHERE NEW PLANTING BEDS ARE BEING CREATED.
6. ALL PLANTINGS SHALL BE BACKFILLED IN THREE LIFTS AND ALL LIFTS SHALL BE WATERED SO THE PLANTING WILL BE SET AND FREE OF AIR POCKETS- NO EXCEPTIONS.
7. AN EARTH BERM SHALL BE PLACED AROUND THE PERIMETER OF THE PLANTING HOLE EXCEPT WHERE CURBED PLANTING BEDS OR PITS ARE BEING USED.
8. 2"-3" OF MULCH SHALL BE PLACED OVER THE PLANTING AREA.
9. AT THE TIME THE PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

SAND BASED STRUCTURAL SOIL PLANTING MEDIUM NOTES

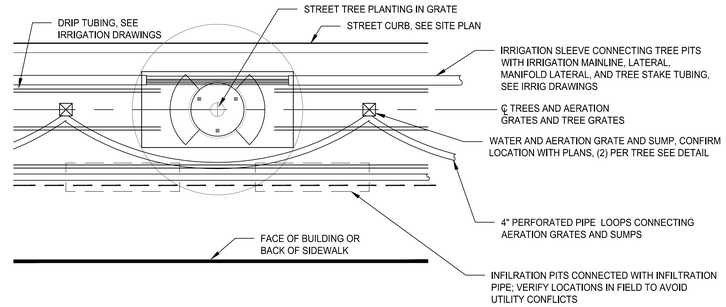
1. THE SAND-BASED STRUCTURAL SOIL PLANTING MEDIUM SHALL CONSIST OF A BLEND OF ONE PART COARSE SAND, ONE PART LOAM AND ONE PART ORGANIC AMENDMENT. BLENDING OF THE COMPONENTS SHALL BE CARRIED OUT WITH EARTH MOVING EQUIPMENT PRIOR TO PLACEMENT. THE COMPONENTS SHALL BE BLENDED TO CREATE A UNIFORM MIXTURE.
2. PROVIDE A SHOP DRAWING OF SAND BASED STRUCTURAL SOIL PLANTING MEDIUM (SIEVE, PH, ORGANIC CONTENT, SAND/LOAM/ORGANIC AMENDMENT PERCENTAGES) TO A&M FOR APPROVAL PRIOR TO PURCHASE & INSTALLATION.
3. THE FINAL BLENDED SAND-BASED STRUCTURAL SOIL PLANTING MEDIUM SHALL CONFORM TO THE FOLLOWING GRAIN SIZE DISTRIBUTION FOR MATERIAL PASSING THE #10 SIEVE:

SIEVE NO. U.S.	%PASSING BY WEIGHT	
	MIN.	MAX.
10	100	----
18	68	90
35	38	63
60	18	39
140	10	18
270	6	9
0.002MM	1	2

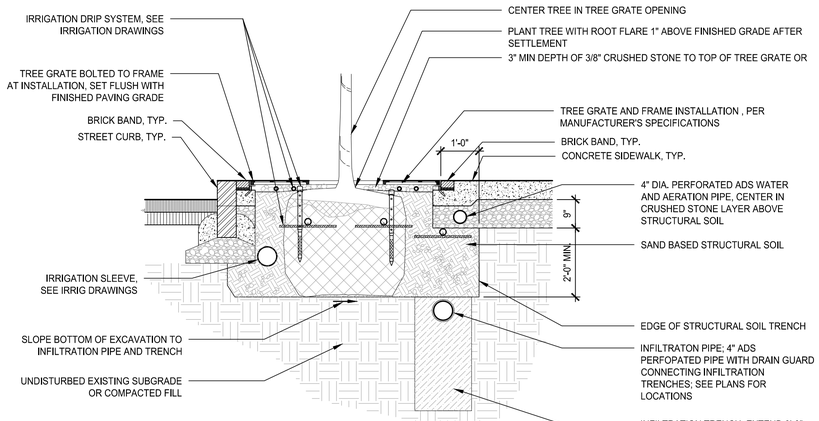
4. MAXIMUM SIZE SHALL BE ONE INCH LARGEST DIMENSION. THE MAXIMUM RETAINED ON THE #10 SIEVE SHALL BE 15% BY WEIGHT OF THE TOTAL SAMPLE.
5. THE RATIO OF THE PARTICLE SIZE FOR 70% PASSING (D70) TO THE PARTICLE SIZE FOR 20% PASSING (D20) SHALL BE 3.5 OR LESS (D70/D20 < 3.5). TESTS SHALL BE BY COMBINED HYDROMETER AND WET SIEVING IN COMPLIANCE WITH ASTM D422 AFTER DESTRUCTION OF ORGANIC MATTER BY IRRIGATION.
6. ORGANIC CONTENT SHALL BE BETWEEN 2.0 AND 3.0 PERCENT. PH SHALL BE 6.0 TO 7.0.



1 TREE PLANTING DETIAL
SCALE: 3/8"=1'-0"



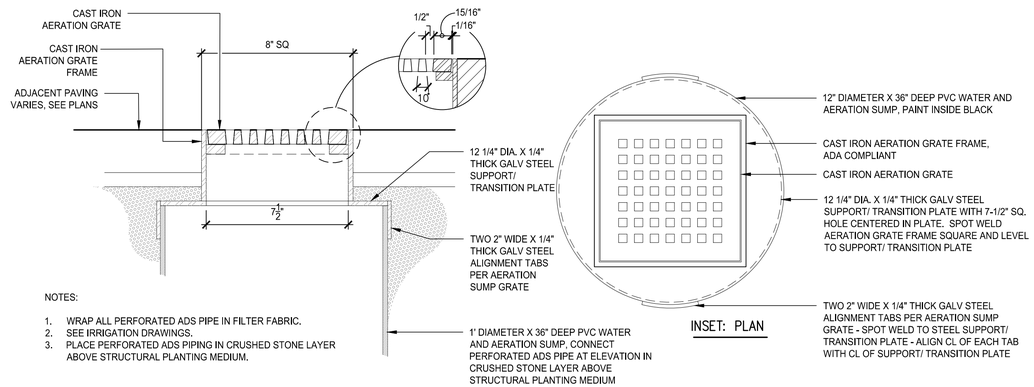
PLAN: WATER AND AERATION SYSTEM IN STREETSCAPE LAYOUT



CROSS SECTION

NOTES:
1. PLANTING DETAILS ARE INTENDED TO INDICATE CONSTRUCTION RELATED TO VARIOUS STREETSCAPE ELEMENTS. ACTUAL LOCATIONS OF STREETSCAPE ELEMENTS MAY VARY FROM THOSE SHOWN. SEE PLANS.
2. FINISHED GRADE OF TREE GRATES AND FRAMES SHALL BE FLUSH WITH SURROUNDING PAVEMENT.
3. PROVIDE AUTOMATIC IRRIGATION SYSTEM TO IRRIGATE EACH TREE EXTENDED FROM CENTRAL CONTROLS SYSTEM. IRRIGATION SLEEVING TO CONNECT ALL TREE LOCATIONS BACK TO POINT OF CONNECTION.
4. LIMB BRANCHES TO PROVIDE CLEAR PEDESTRIAN ZONE TO 7'-0" ABOVE FINISH GRADE.
5. SCARIFY ALL SOIL MARGINS TO DEPTH OF 6".
6. SEE IRRIGATION PLANS AND DETAILS.

2 TREE PLANTING IN TREE GRATE OVER SAND-BASED STRUCTURAL SOIL
SCALE: 1/2"=1'-0"



NOTES:
1. WRAP ALL PERFORATED ADS PIPE IN FILTER FABRIC.
2. SEE IRRIGATION DRAWINGS.
3. PLACE PERFORATED ADS PIPING IN CRUSHED STONE LAYER ABOVE STRUCTURAL PLANTING MEDIUM.

3 WATER AND AERATION SUMP WITH GRATE AND FRAME
SCALE: 3"=1'-0"

Tighe&Bond

STATE OF NEW HAMPSHIRE - NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE - PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
5/1/2024

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
L	5/1/2024	NHDES Submissions
K	11/24/2021	PB Submission
J	10/20/2021	TAC Resubmission
I	8/23/2021	TAC Resubmission
H	7/21/2021	TAC Resubmission
G	5/26/2021	CC Resubmission
F	5/19/2021	TAC Resubmission
E	5/4/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-L-DSGN.DWG
DRAWN BY:	OS
CHECKED BY:	RU/PMC
APPROVED BY:	BLM

LANDSCAPE DETAILS

SCALE: AS SHOWN

L-102

Last Saved: 4/15/2024
Plotted: Apr 16, 2024-4:15pm By: CKrzculik
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings_Figures\AutoCAD\Sheet\P-0595-007-L-DSGN.dwg

GENERAL PROJECT INFORMATION

PROJECT APPLICANT: NORTH MILL POND HOLDINGS, LLC
1359 HOOKSETT ROAD
HOOKSETT, NH 03106
PROJECT NAME: PROPOSED MIXED USE DEVELOPMENT
PROJECT MAP / LOT: MAP 123 / LOTS 10, 12, 13 & 14
PROJECT ADDRESS: 1 RAYNES AVENUE
PORTSMOUTH, NH 03801
PROJECT LATITUDE: 42°-04'-48" N
PROJECT LONGITUDE: 70°-45'-50" W

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES TWO BUILDINGS, A 5 STORY MIXED USE BUILDING AND A 5 STORY 124 ROOM HOTEL. THE PROJECT WILL ALSO CONSIST OF ASSOCIATED SITE IMPROVEMENTS SUCH AS PAVING, STORMWATER MANAGEMENT, UTILITIES AND LIGHTING.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 2.40 ACRES.

SOIL CHARACTERISTICS

BASED ON THE USCS SITE SPECIFIC SOIL SURVEY CONDUCTED BY LEONARD LORD, PhD, CSS, CWS OF TIGHE & BOND, INC. THE SOIL SURVEY, IDENTIFIES MOSTLY HYDROLOGIC SOIL GROUP C SOILS AND SOME PORTIONS OF HYDROLOGIC SOIL GROUP A SOILS. MUCH OF THE SITE IS COMPRISED OF UDORTHENTS WITH TWO DRAINAGE CLASSIFICATIONS, MODERATELY POORLY DRAINED SOILS AND PORTIONS OF WELL DRAINED SOILS.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM ULTIMATELY FLOWS TO NORTH MILL POND THEN TO THE PISCATAQUA RIVER.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - CONTROL OF DUST
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. SEE LANDSCAPE PLAN FOR SEEDBED PREPARATION REQUIREMENTS;
   B. SEEDING:
      a. SEE LANDSCAPE PLAN FOR SEEDING REQUIREMENTS;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
   A. SEE LANDSCAPE PLAN FOR PERMANENT MEASURES AND PLANTINGS:
      a. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
      b. IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
   C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
   D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

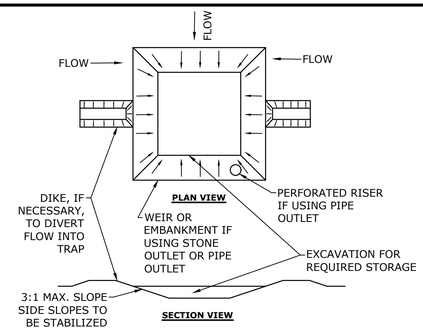
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
      i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
      ii. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
      iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
      iv. INSPECT FUEL STORAGE AREAS WEEKLY;
      v. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
      vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
      vii. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
      viii. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
         (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
         (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
         (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
         (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
         (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
      ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
      HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
      b. FERTILIZERS:
      i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
      ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
      iii. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      c. PAINTS:
      i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
      ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
      iii. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

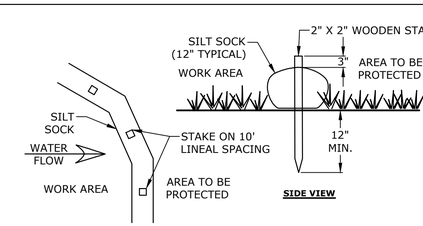
1. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.
2. THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
   A. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
   B. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
   C. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
   D. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



NOTES:

1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

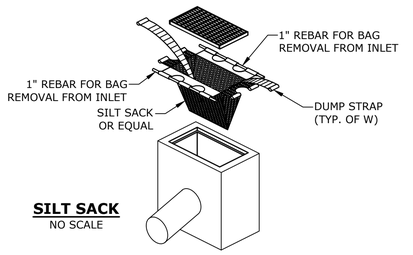
SEDIMENT TRAP
NO SCALE



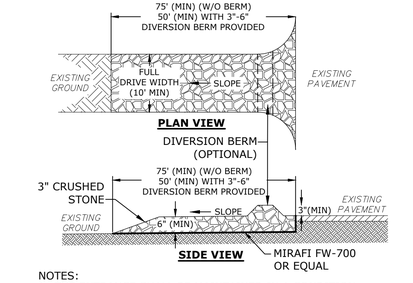
NOTES:

1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS

SILT SOCK
NO SCALE



SILT SACK
NO SCALE



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE - NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE - PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
5/1/2024

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
L	5/1/2024	NHDES Submissions
K	11/24/2021	PB Submission
J	10/20/2021	TAC Resubmission
I	8/23/2021	TAC Resubmission
H	7/21/2021	TAC Resubmission
G	5/26/2021	CC Resubmission
F	5/19/2021	TAC Resubmission
E	4/28/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

EROSION CONTROL NOTES AND DETAILS SHEET

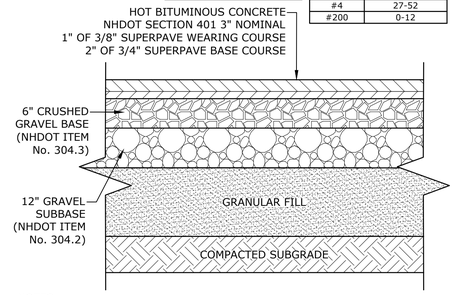
SCALE: AS SHOWN

C-501

Last Saved: 4/29/2024
Plotted On: May 01, 2024-1:27pm By: CKrzcuk
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings_Figures\AutoCAD\SheetP-0595-007-DTLS.dwg

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

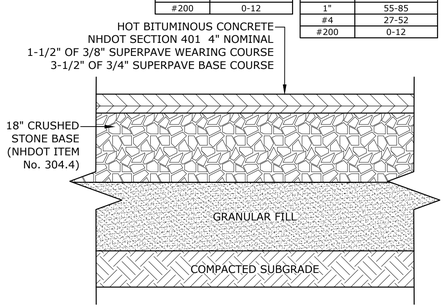


NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.
5. FINAL PAVEMENT DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER.

ON-SITE PAVEMENT SECTION
NO SCALE

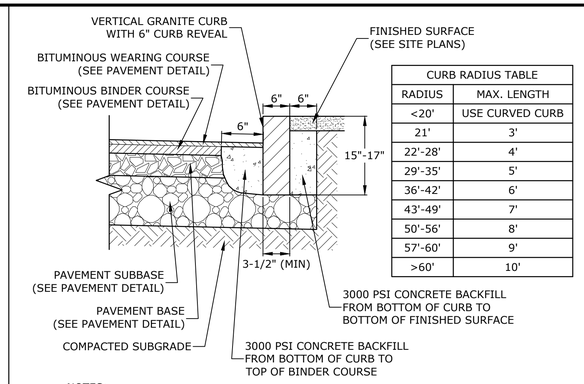
NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

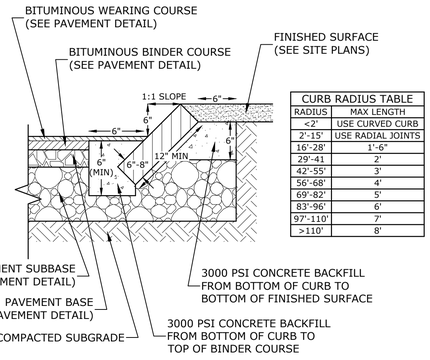
CITY RIGHT-OF-WAY PAVEMENT SECTION
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

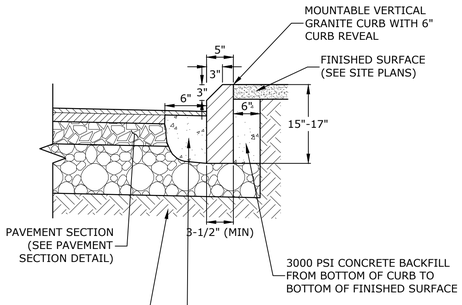
VERTICAL GRANITE CURB
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

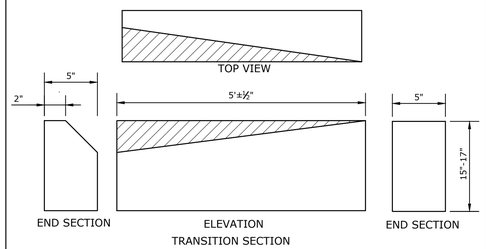
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

SLOPED GRANITE CURB
NO SCALE



NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF MOUNTABLE VERTICAL GRANITE CURB (MVGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

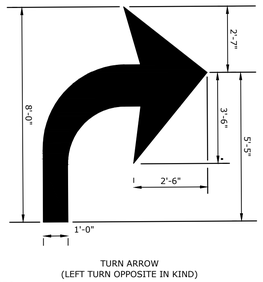
MOUNTABLE VERTICAL GRANITE CURB
NO SCALE



MOUNTABLE VERTICAL GRANITE CURB TO VERTICAL GRANITE CURB

NOTES:
1. THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN VERTICAL GRANITE CURB AND MOUNTABLE VERTICAL GRANITE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE MOUNTABLE VERTICAL GRANITE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

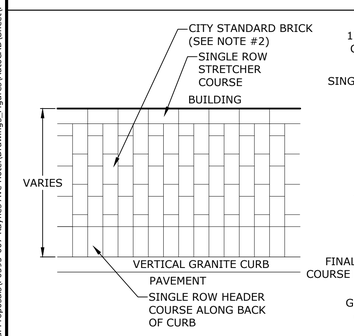
CURB TRANSITION
NO SCALE



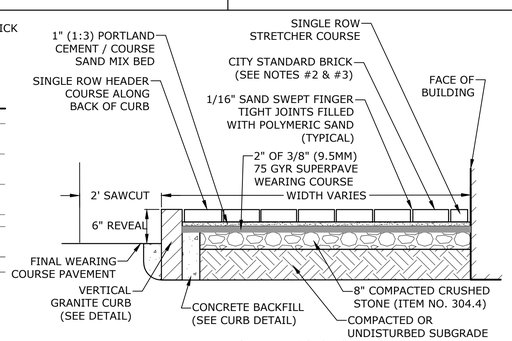
TURN ARROW
(LEFT TURN OPPOSITE IN KIND)

NOTES:
1. SYMBOLS SHALL BE RETROREFLECTIVE WHITE AND SHALL CONFORM TO THE LATEST VERSION OF THE MUTCD.
2. PREFORMED WORDS AND SYMBOLS SHALL BE PRE-CUT BY THE MANUFACTURER.
3. ALL STOP BARS, WORDS, SYMBOLS AND ARROW SHALL BE THERMOPLASTIC.

TURN ARROW
NO SCALE



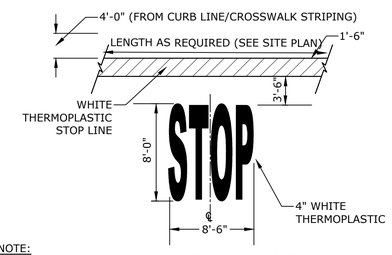
SIDEWALK PLAN VIEW



SIDEWALK SECTION

NOTES:
1. BRICK SIDEWALK SHALL BE INSTALLED AS DETAILED AND PER CITY OF PORTSMOUTH REQUIREMENTS/SPECIFICATIONS AND SHALL INCLUDE A CONTINUOUS APPROVED PAVER EDGE RESTRAINT SYSTEM AT ALL LOCATIONS NOT ADJACENT TO CURB OR BUILDINGS.
2. CITY STANDARD BRICK SHALL BE TRADITIONAL EDGE, PATHWAY, FULL RANGE 2.25"X4"X8" PAVER, BY PINE HALL BRICK, INC. BRICK MATERIAL SAMPLES SHALL BE PROVIDED TO DPW PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL.
3. 80 MILLIMETER PINEHALL BRICK SHALL BE USED FOR THE FIRE ACCESS AREA UNIT PAVERS ALONG MAPLEWOOD AVE.
4. BEDDING MATERIAL SHALL BE A PORTLAND CEMENT / COURSE SAND MIX THAT IS 1 PART PORTLAND CEMENT AND 3 PARTS COURSE SAND. SAND SHALL CONFORM WITH ASTM C-33 AND CEMENT SHALL BE PORTLAND CEMENT TYPE I/TYPE II.

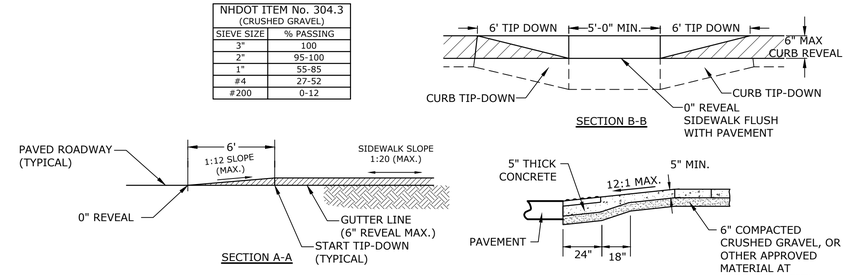
BRICK SIDEWALK
NO SCALE

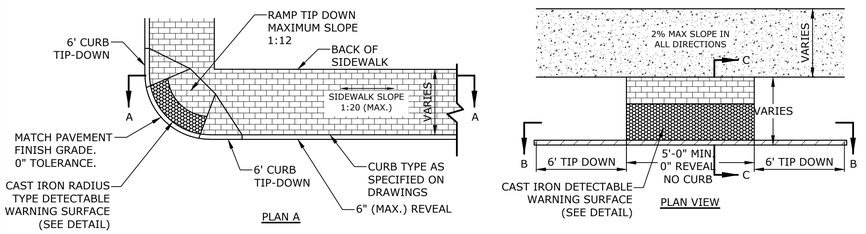


NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR AND LEGEND
NO SCALE

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12





NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
4. PROVIDE DETECTABLE WARNING SURFACES ANYTIME THAT A CURB RAMP, BLENDED TRANSITION, OR LANDING CONNECTS TO A STREET.
5. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
6. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
7. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
8. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
9. DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
10. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

CONCRETE TIP DOWN RAMP
NO SCALE

Tighe&Bond

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
L	5/1/2024	NHDES Submissions
K	11/24/2021	PB Submission
J	10/20/2021	TAC Resubmission
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H	7/21/2021	TAC Resubmission
G	5/26/2021	CC Resubmission
F	5/19/2021	TAC Resubmission
E	4/28/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-502

Last Saved: 4/29/2024
Plotted On: May 01, 2024-1:27pm By: CKrzoiuk
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings, Figures\AutoCAD\Sheet\P-0595-007-DTLS.dwg

R1-1
30"X30"
WHITE ON RED

R5-1
30" X 30"
WHITE ON RED

W11-15
30"X30"
BLACK ON
FLUORESCENT YELLOW

D11-1
24" X 18"
WHITE ON GREEN

12" X 18"
RED ON WHITE

R7-8
12" X 18"
BLUE AND GREEN
ON WHITE

W16-7P
24"X12"
BLACK ON
FLUORESCENT
YELLOW

M4-6
12" X 6"
WHITE ON GREEN

R7-8P
18" X 9"
GREEN ON WHITE

W16-9P
24"X12"
BLACK ON
FLUORESCENT
YELLOW

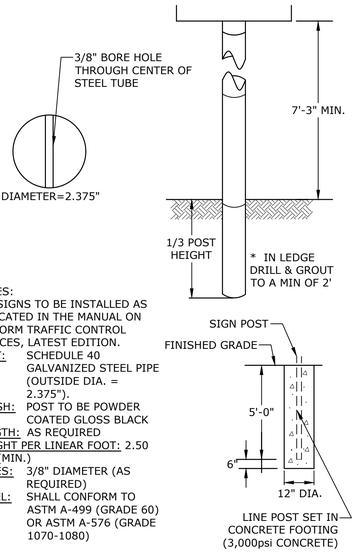
R3-1
24"X24"
BLACK AND RED
ON WHITE

R3-2
24"X24"
BLACK AND RED
ON WHITE

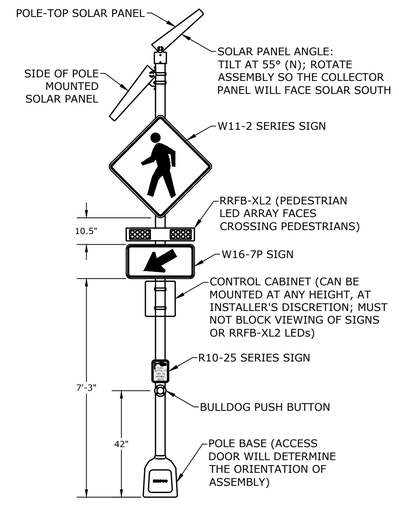
R6-1R
36"X12"
BLACK ON WHITE ARROW
ON BLACK BACKGROUND
BORDERED BY WHITE

R6-1L
36"X12"
BLACK ON WHITE ARROW
ON BLACK BACKGROUND
BORDERED BY WHITE

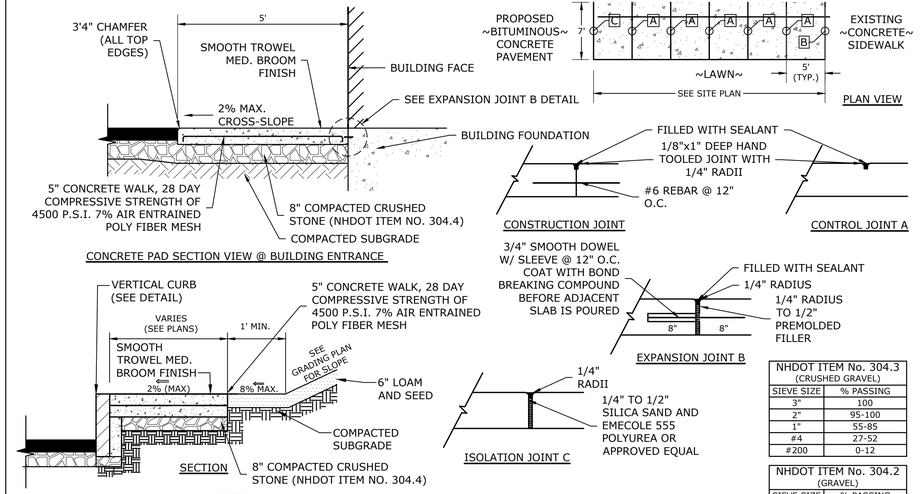
NOTES:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
POST: SCHEDULE 40 GALVANIZED STEEL PIPE (OUTSIDE DIA. = 2.375").
FINISH: POST TO BE POWDER COATED GLOSS BLACK AS REQUIRED
LENGTH:
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER (AS REQUIRED)
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080)



SIGN LEGEND & SIGN POST
NO SCALE



RAPID RECTANGULAR FLASHING BEACON (RRFB)
NO SCALE

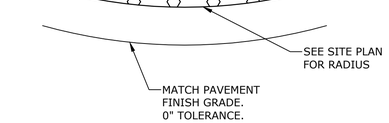


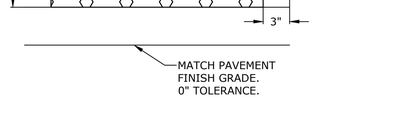
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

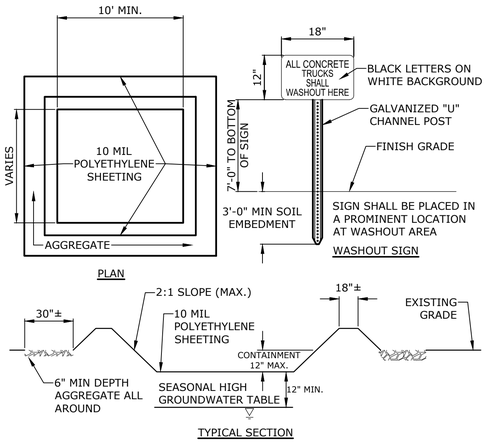
CONCRETE SIDEWALK
NO SCALE





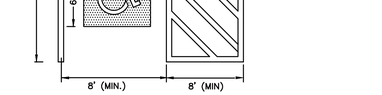
NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



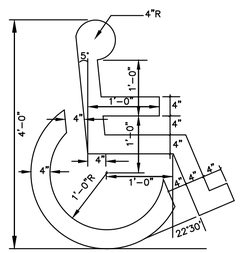
NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE



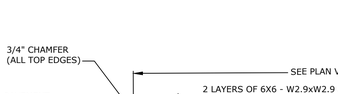
NOTES:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN W/DISABILITIES ACT.

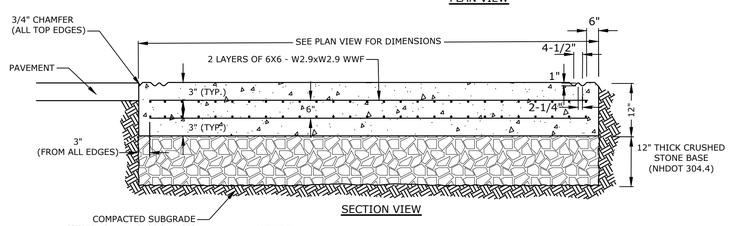
ACCESSIBLE PARKING STALL
NO SCALE



NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING WHITE THERMOPLASTIC, REFLECTORIZED PAVEMENT PARKING MATERAL MEETING THE REQUIREMENTS OF ASTM D 4505.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

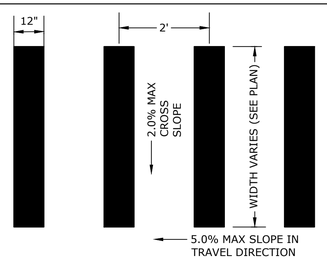
ACCESSIBLE SYMBOL
NO SCALE





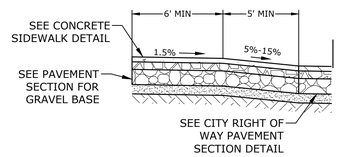
NOTES:
1. CONCRETE TO BE 4500 PSI, 7% AIR ENTRAINED
2. STANDARD BROOM FINISH.

DUMPSTER PAD
NO SCALE



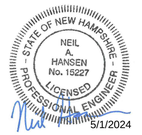
NOTE:
STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING
NO SCALE



DRIVEWAY ENTRANCE SECTION
NO SCALE

Tighe&Bond



Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
L	5/1/2024	NHDES Submissions
K	11/24/2021	PB Submission
J	10/20/2021	TAC Resubmission
I	8/23/2021	TAC Resubmission
H	7/21/2021	TAC Resubmission
G	5/26/2021	CC Resubmission
F	5/19/2021	TAC Resubmission
E	4/28/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

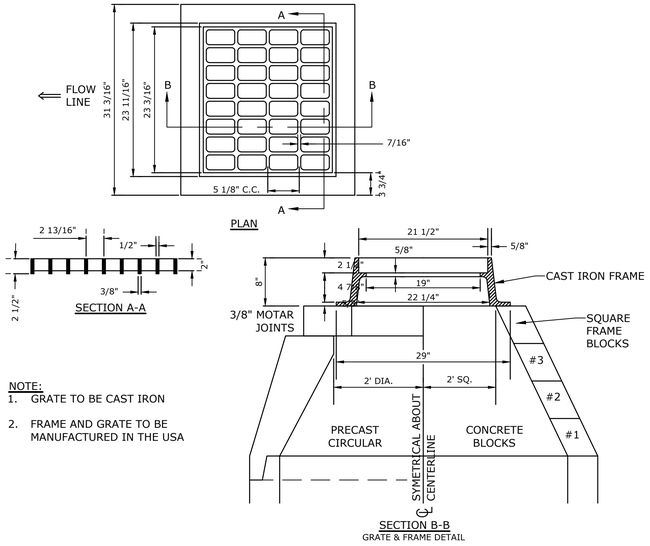
PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

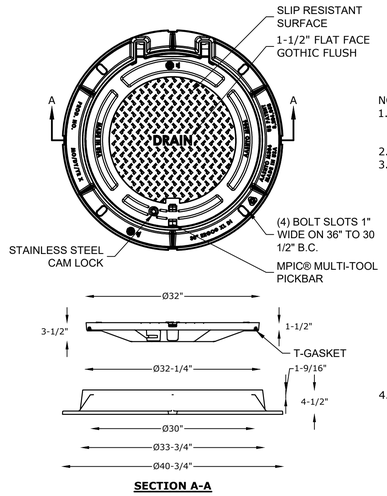
C-503

Last Saved: 4/29/2024
Plotted On: May 01, 2024-1:27pm By: CKrzcuik
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings, Figures\AutoCAD\Sheet\P-0595-007-DTLS.dwg



NOTE:
1. GRATE TO BE CAST IRON
2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

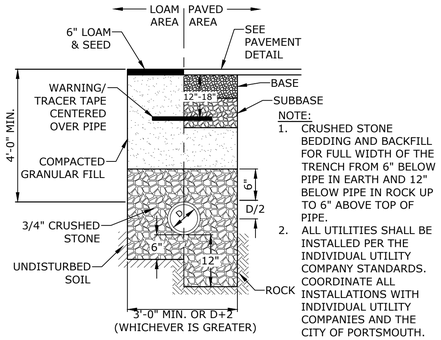
CATCH BASIN FRAME & GRATE
NO SCALE



SECTION A-A

NOTES:
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.
2. ALL DIMENSIONS ARE NOMINAL.
3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN HE CENTER OF THE COVER.

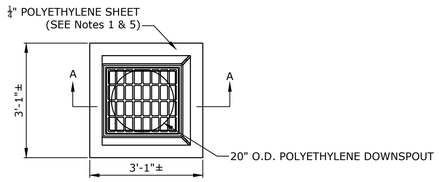
DRAIN MANHOLE FRAME & COVER
NO SCALE



NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE

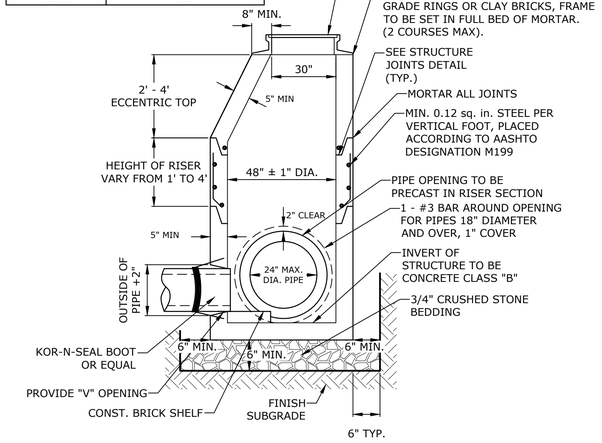
Tighe&Bond



NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

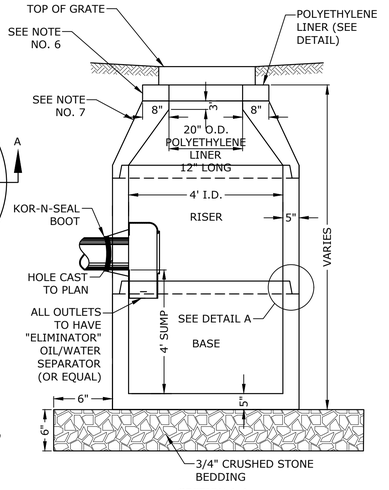
POLYETHYLENE LINER
NO SCALE

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4' DIAMETER DRAIN MANHOLE
NO SCALE



NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCHBASIN
NO SCALE

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North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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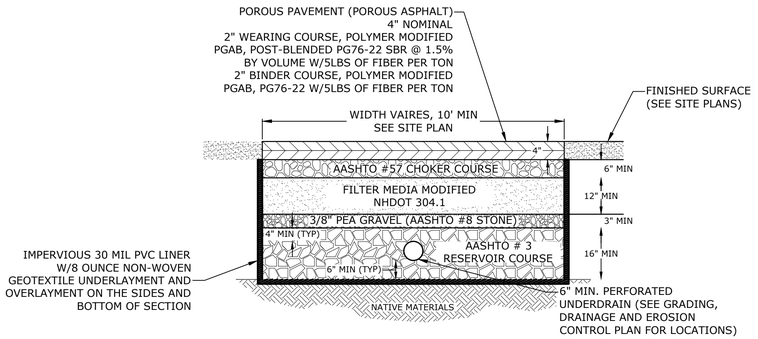
DETAILS SHEET

SCALE: AS SHOWN

C-504



AASHTO #57 STONE (CHOKER COURSE)	
	% PASSING
1-½"	100
1"	95-100
½"	25-60
#4	0-10
#8	0-5

MODIFIED NHDOT 304.1	
	% PASSING
6"	100
#4	70-100
#200	0-6*

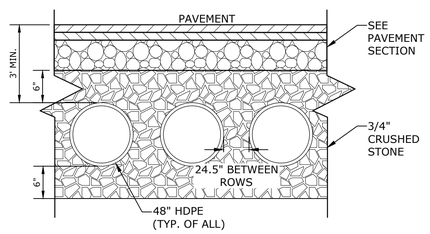
*PREFERABLY <4%

AASHTO #8 STONE (PEA GRAVEL)	
	% PASSING
½"	100
⅜"	85-100
#4	10-30
#8	0-10
#16	0-5

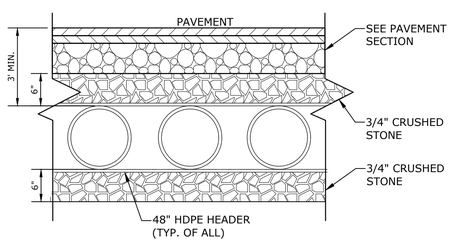
AASHTO #3 STONE (RESERVOIR COURSE)	
	% PASSING
2-½"	100
2"	90-100
1-½"	35-70
1"	0-15
½"	0-5

NOTES:
1. SEE GRADING, DRAINAGE, UTILITIES AND EROSION CONTROL PLAN FOR SLOPE AND CROSS-SLOPE.
2. GRAVEL SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS FROM THE UNH STORMWATER CENTER FOR POROUS ASPHALT.
3. FILTER COURSE TO BE INCREASED AS NECESSARY TO MEET PROPOSED GRADES.
4. INSTALL FILTER COURSE AGGREGATE IN 8-INCH MAXIMUM LIFTS TO A MAXIMUM OF 95% STANDARD PROCTOR COMPACTION (ASTM D698 / AASHTO T99). INSTALL AGGREGATE TO GRADES INDICATED ON THE DRAWINGS.
5. INSTALL CHOKER, GRAVEL, AND STONE BASE COURSE AGGREGATE TO A MAXIMUM OF 95% COMPACTION STANDARD PROCTOR (ASTM D698 / AASHTO T99). CHOKER SHOULD BE PLACED EVENLY OVER SURFACE OF FILTER COURSE BED, SUFFICIENT TO ALLOW PLACEMENT OF PAVEMENT, AND NOTIFY ENGINEER FOR APPROVAL. CHOKER BASE COURSE THICKNESS SHALL BE SUFFICIENT TO ALLOW FOR EVEN PLACEMENT OF THE POROUS ASPHALT BUT NO LESS THAN 6-INCHES IN DEPTH.
6. THE DENSITY OF SUBBASE COURSES SHALL BE DETERMINED BY AASHTO T 191 (SAND-CONE METHOD), AASHTO T 204 (DRIVE CYLINDER METHOD), OR AASHTO T 238 (NUCLEAR METHODS), OR OTHER APPROVED METHODS AT THE DISCRETION OF THE SUPERVISING ENGINEER.
7. CONSTRUCTION AND QA/QC REQUIREMENTS FOR THE POROUS PAVEMENT SHALL BE IN ACCORDANCE WITH THE UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS, FEBRUARY 2014, REVISED SEPTEMBER 2016.
8. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF THE POROUS PAVED SURFACE THROUGHOUT CONSTRUCTION. THIS INCLUDES BUT NOT LIMITED TO EROSION CONTROL PROTECTION, AND PROHIBITING MATERIAL STORAGE AND HEAVY EQUIPMENT FROM THE POROUS PAVED SURFACE.

POROUS ASPHALT SECTION
NO SCALE



UNDERGROUND DETENTION AREA

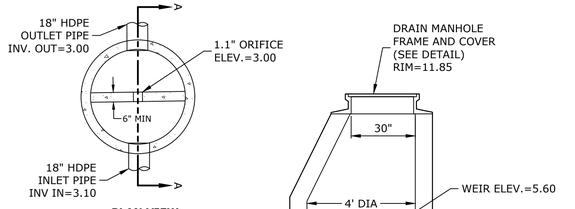


HEADER ROW

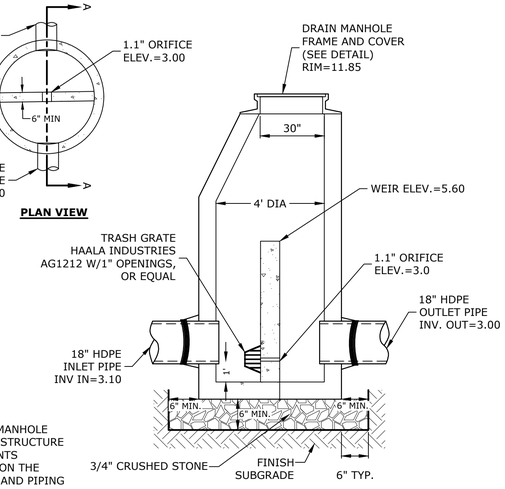
FIELD ELEVATIONS				
	TOP OF STONE ELEV	TOP OF PIPE ELEV	BOTTOM OF PIPE ELEV	BOTTOM OF STONE ELEV
UDB 1	8.25'	7.50'	3.50'	2.75'
UDB 2	8.25'	7.50'	3.50'	2.75'

NOTES:
1. UNDERGROUND DETENTION SYSTEM TO BE 48" HDPE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR APPROVAL.
2. MANUFACTURER TO SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
3. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE APPROVED DESIGN PLAN.
4. REFER TO STANDARD DUTY PAVEMENT SECTION DETAIL FOR PAVEMENT SECTION.

UNDERGROUND DETENTION SYSYTEM DETAIL
NO SCALE

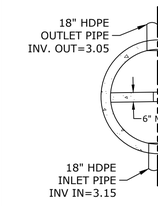


PLAN VIEW

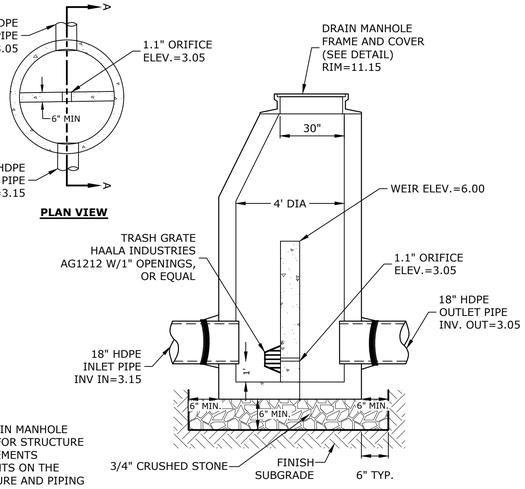


NOTES:
1. SEE DRAIN MANHOLE DETAIL FOR STRUCTURE REQUIREMENTS
2. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PDMH3
NO SCALE

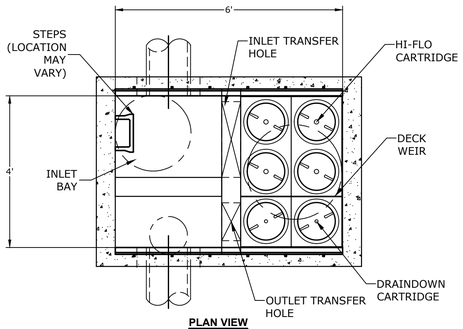


PLAN VIEW

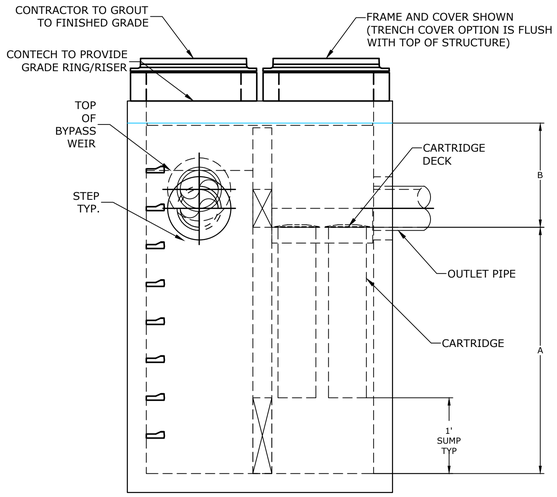


NOTES:
1. SEE DRAIN MANHOLE DETAIL FOR STRUCTURE REQUIREMENTS
2. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PDMH6
NO SCALE



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW
JELLYFISH JFPD0406

FIELD ELEVATIONS					
	RIM ELEVATION	INLET ELEVATION	INLET PIPE	OUTLET ELEVATION	OULET PIPE
JFF 1	11.50	2.85'	18" HDPE	2.35'	18" HDPE
JFF 2	11.25	2.90'	18" HDPE	2.40'	18" HDPE

JELLYFISH JFPD0806 - DESIGN NOTES				
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD				
CARTRIDGE SELECTION				
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

SITE SPECIFIC DATA REQUIREMENTS		
STRUCTURE ID	JF-1	JF-2
MODEL SIZE	JFPD0406	JFPD0406
WATER QUALITY FLOW RATE (cfs)	0.58	0.81
PEAK FLOW RATE (cfs)	4.59	6.06
RETURN PERIOD OF PEAK FLOW (yrs)	25	25
# OF CARTRIDGES REQUIRED (HF / DD)	3/1	4/2
CARTRIDGE SIZE	54"	40"

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

Jellyfish Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726, 8,221,618 & US 8,123,935. OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH JELLYFISH STORMWATER FILTER
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE - NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
5/1/2024

STATE OF NEW HAMPSHIRE - PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
5/1/2024

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

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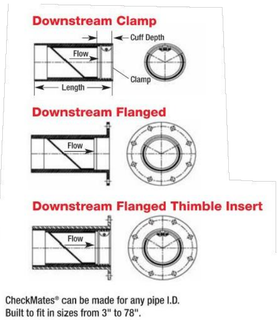
PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-505

Last Saved: 4/29/2024
Plotted On: May 01, 2024 - 1:27pm By: CKrzoulk
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings, Figures\AutoCAD\Sheet\P-0595-007-DTLS.dwg

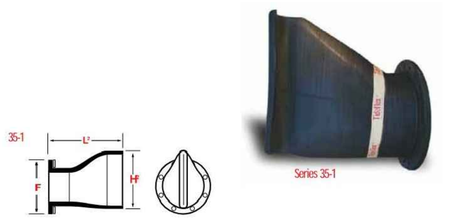


CheckMates® can be made for any pipe I.D.
Built to fit in sizes from 3" to 78".

CHECKMATE® VALVE											
	NOMINAL PIPE SIZE I.D.		OVERALL LENGTH*		NUMBER OF CLAMPS	CUFF DEPTH		BACK PRESSURE RATING**		WEIGHT	
	Inches	Millimeters	Inches	Millimeters		Inches	Millimeters	Feet	Meters	lbs	Kg
Standard Pressure	12	300	19.8	503	1	2.0	51	68	20.1	37	17
	14	350	25.8	655	1	4.0	102	64	20.0	110	50
	16	400	28.6	726	1	4.0	102	60	18.3	133	52
	18	450	31.0	787	1	4.0	102	56	17.1	143	65
	20	500	42.1	1069	2	8.0	203	53	16.2	223	102
	24	600	47.5	1207	2	8.0	203	45	13.7	304	137

NOTES:
1. PIPES WHERE NOTED TO HAVE TIDEFLEX, CHECKMATE INLINE CHECK VALVES MANUFACTURED BY REDVALVE, OR EQUAL
2. CHECK VALVES SHALL BE INSTALLED PER THE MANUFACTURERS INSTALLATION SPECIFICATIONS

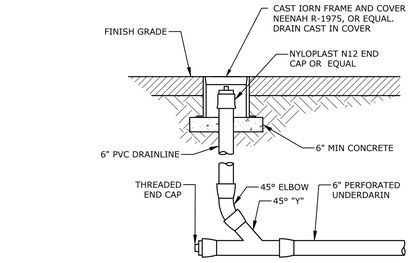
ON-SITE BACK FLOW PREVENTER
NO SCALE



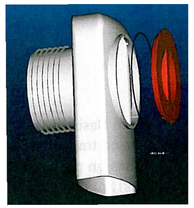
Flange Size (ANSI)	Flange O.D. (F)	SERIES 35-1 Length (L²)	SERIES 35-1 Bill Height (H²)
18	25	40	34
20	27 1/2	48	37
24	32	52	44
30	38 3/4	62	55

NOTES:
1. CONCRETE HEADWALL TO HAVE TIDEFLEX CHECK VALVE MANUFACTURED BY REDVALVE AND SHALL BE APPROVED BY THE CITY OF PORTSMOUTH DPW.
2. CHECK VALVE SHALL BE INSTALLED USING A FLANGED BOLT ON CONNECTION PER THE MANUFACTURERS INSTALLATION SPECIFICATIONS.
3. END OF PIPE SHALL BE FLUSH WITH CONCRETE HEADWALL AND BE GROUTED PRIOR TO THE INSTALLATION OF THE CHECK VALVE.

CITY OUTLET BACK FLOW PREVENTER
NO SCALE

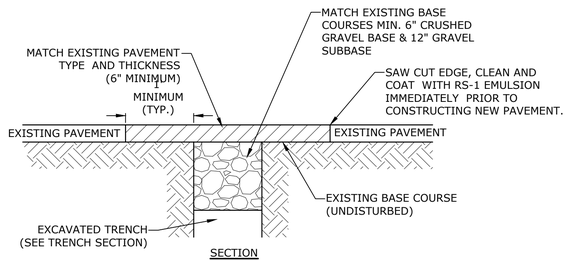


DRAIN CLEAN-OUT
NO SCALE

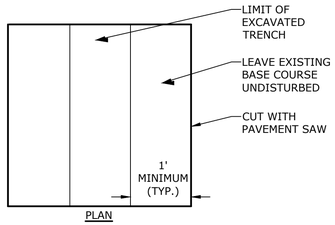


NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

"ELIMINATOR" OIL FLOATING DEBRIS TRAP



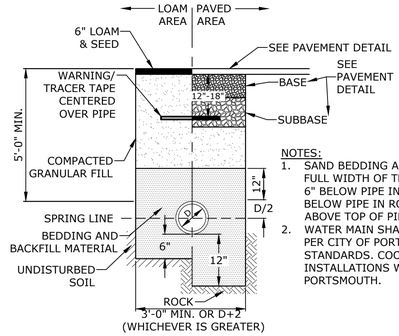
SECTION



PLAN

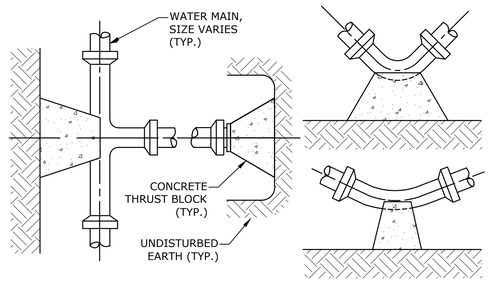
NOTE:
COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE



TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE

Tighe&Bond

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DETAILS SHEET

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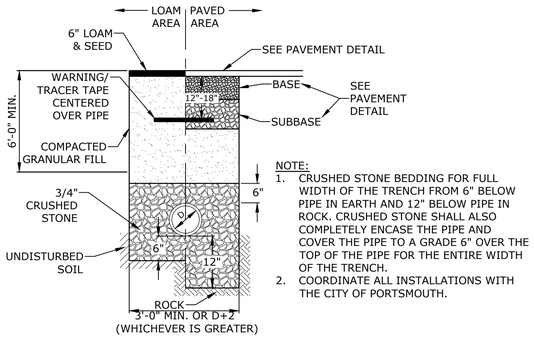
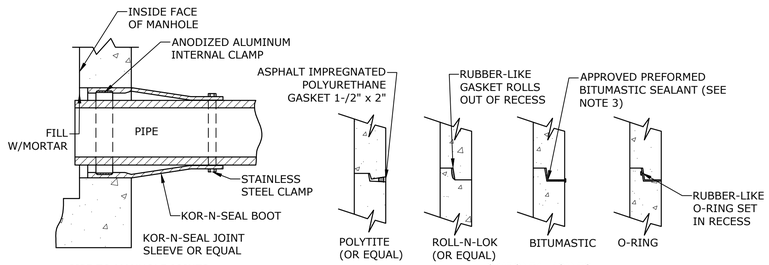
C-506



NOTE:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER SERVICE TRENCH
NO SCALE

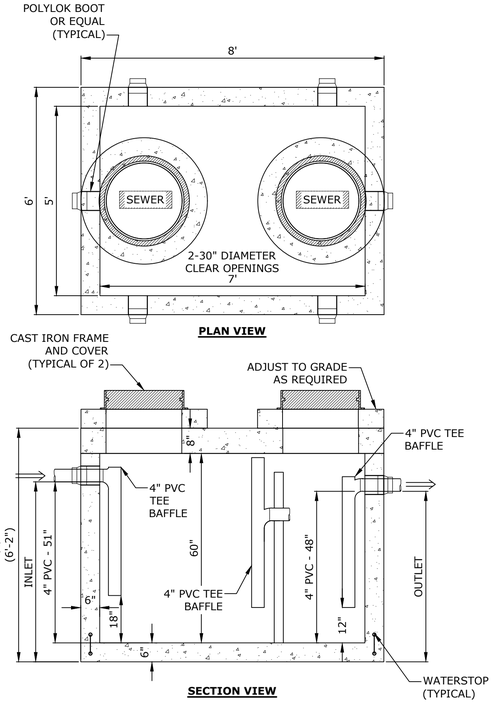


PIPE TO MANHOLE JOINTS

HORIZONTAL JOINTS

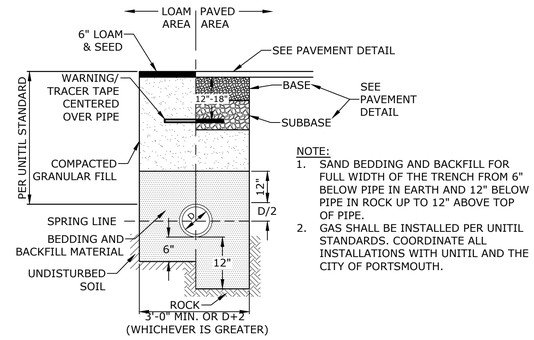
NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

MANHOLE JOINTS
NO SCALE



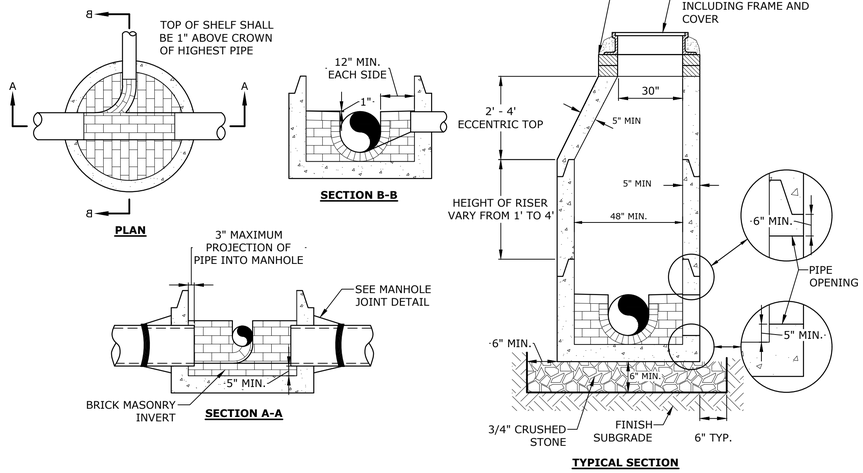
NOTES:
1. STEEL REINFORCEMENT SHALL CONFORM TO LATEST ASTM SPECIFICATIONS: ASTM-A615 GRADE 60 REBAR.
2. CONCRETE SHALL BE F_C=5,000 PSI @ 28 DAYS MINIMUM.
3. FLEXIBLE SLEEVES SHALL BE PROVIDED ON ALL PIPE CONNECTIONS.
4. JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
5. INLET SHALL PENETRATE AT LEAST 9" BELOW THE LIQUID LEVEL, BUT NOT DEEPER THAN THE OUTLET BAFFLE.
6. OUTLET SHALL EXTEND BELOW THE SURFACE OF THE LIQUID EQUAL TO 40% OF THE LIQUID DEPTH (19").
7. DESIGN LOADING SHALL BE: AASHTO-HS20-44, ASTM C-890-06.
8. DESIGN SPECIFIED AS: ASTM C-1227-08, ASTM C-913-08.
9. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
10. GREASE TRAP SHALL BE PHOENIX PRECAST CONCRETE P/N: C-6420 OR EQUAL.
11. TANK SHALL BE PUMPED AS NEEDED.

1,000 GALLON GREASE TRAP
NO SCALE



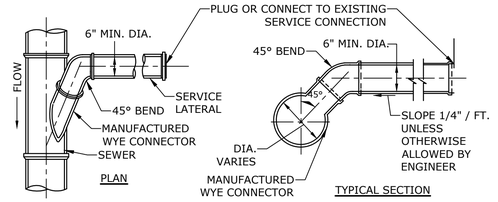
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

GAS TRENCH
NO SCALE



NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE



STANDARD SERVICE LATERAL CONNECTION
NO SCALE

Tighe&Bond

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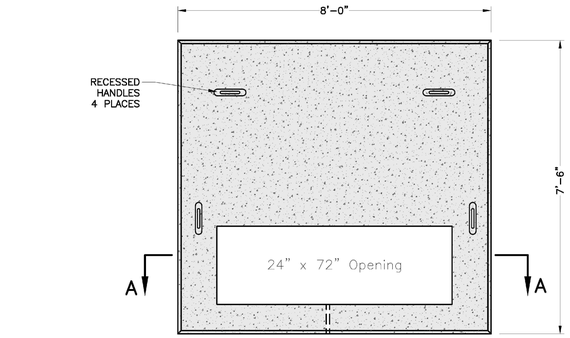
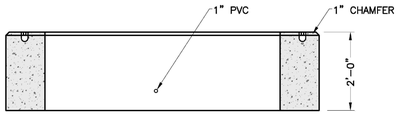
C-507



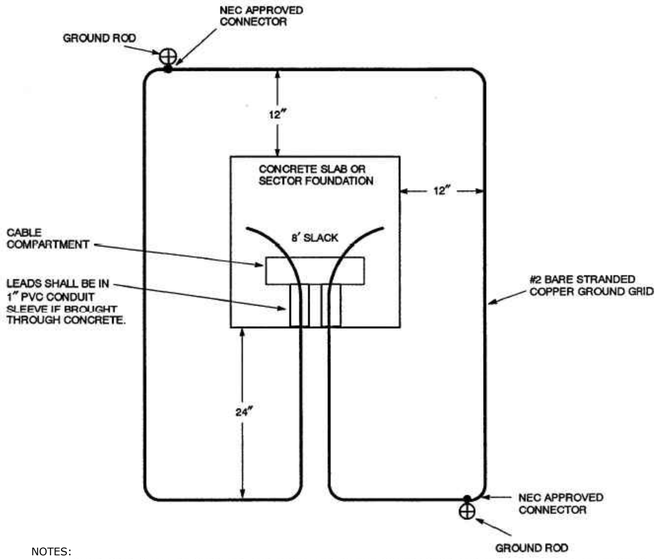
PLAN



SECTION A–A

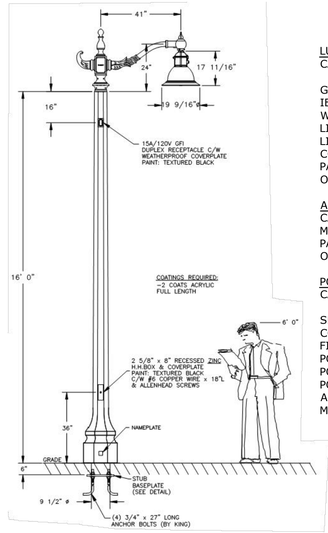
NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

3-PHASE TRANSFORMER PAD
NO SCALE



NOTES:
THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES BELOW GRADE. EIGHT FEET OF EXTRA WIRE FOR EACH GROUND GRID LEG SHALL BE LEFT EXPOSED IN THE CABLE COMPARTMENT TO ALLOW FOR THE CONNECTION TO THE TRANSFORMER. THE TWO 8-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.

PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL
NO SCALE



LUMINAIRE SPECIFICATIONS:

CATALOGUE NO.:	K729-P4FL-II-60(SSL) -7030-120:277-3K S/F KPL20
GLOBE MAT'L:	FLAT ARRAY, CLEAR FLAT LENS
IES CLASSIFIC.:	TYPE II
WATTAGE:	60W (7030 SERIES)
LIGHT SOURCE:	SOLID STATE LIGHTING
LINE VOLTAGE:	120:277V
CCT:	3000K
PAINT:	TEXTURED BLACK
OPTIONS:	S/F KPL-20 LEVELING DEVICE

ARM SPECIFICATIONS:

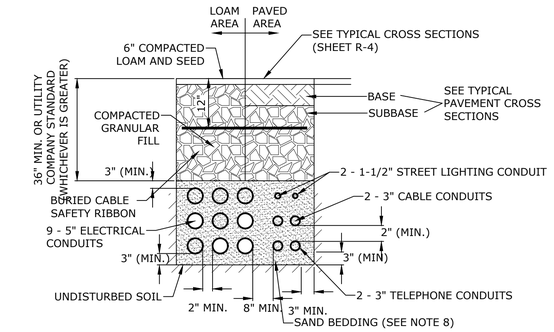
CATALOGUE NO.:	(MOD.) KA72-T-1-3
MATERIAL:	ALUMINUM
PAINT:	TEXTURED BLACK
OPTIONS:	KPL20 LEVELING DEVICE

POLE SPECIFICATIONS:

CATALOGUE NO.:	KBH16-G-S11-SBP C/W 140-30/100 & DR
SECTION:	OCTAGONAL
COLOUR:	ECLIPSE
FINISH:	POLISHED
POLE TOP:	6 3/8" FL/FL
POLE BUTT:	9 1/2" Ø
POLE LENGTH:	16' 6"
APPROX. WEIGHT:	1,190 LBS.
MIN. RACEWAY:	1 1/8" Ø

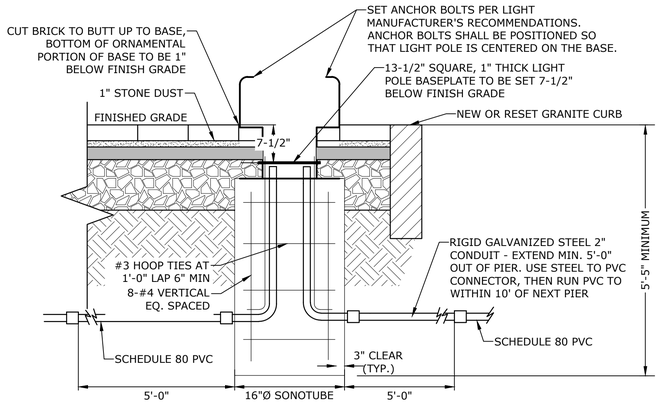
NORTH END LIGHT POLE & FIXTURE
NO SCALE

Tighe&Bond



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

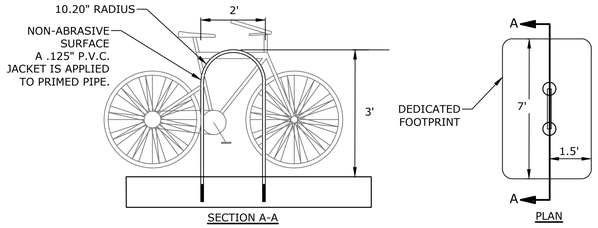
ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



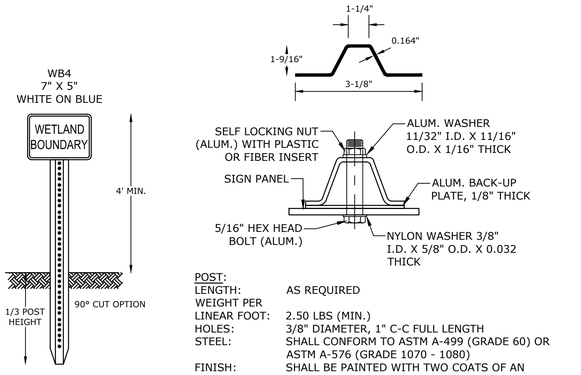
STANDARD BASE

NOTES:
1. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
2. CONCRETE: 4000 PSI, AIR ENTRAINED STEEL: 60 KSI
3. LIGHT POLE FOUNDATIONS SHALL BE PLACED PRIOR TO INSTALLATION OF BRICK PAVERS.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.
5. STANDARD BASE SHALL BE CONSTRUCTED UNLESS THERE IS CONFLICT WITH THE EXISTING DUCT BANK. SPREAD FOOTING BASE SHALL BE USED IN LIEU OF STANDARD BASE IN LOCATIONS WHERE TOP OF DUCT BANK ELEVATION WILL CONFLICT WITH STANDARD POLE BASE DEPTH. CONTRACTOR SHALL VERIFY LOCATIONS WHERE SPREAD FOOTINGS ARE REQUIRED PRIOR TO CONSTRUCTION. SEE NOTE#4 FOR SUBMITTAL REQUIREMENTS.
6. DEPTH OF FIXTURE BASE TO BE VERIFIED IN FIELD PRIOR TO INSTALLATION TO ENSURE THAT 1" OF THE ORNAMENTAL BOTTOM PORTION OF BASE TO WILL BE 1" BELOW FINISH GRADE

NORTH END LIGHT FIXTURE BASE
NO SCALE



BIKE RACK
NO SCALE



POST:

LENGTH:	AS REQUIRED
WEIGHT PER LINEAR FOOT:	2.50 LBS (MIN.)
HOLES:	3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL:	SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH:	SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN BAKED ON OR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

WETLAND BOUNDARY SIGN & SIGN POST
NO SCALE

Proposed Mixed Use Development

North Mill Pond Holdings, LLC

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
L	5/1/2024	NHDES Submissions
K	11/24/2021	PB Submission
J	10/20/2021	TAC Resubmission
I	8/23/2021	TAC Resubmission
H	7/21/2021	TAC Resubmission
G	5/26/2021	CC Resubmission
F	5/19/2021	TAC Resubmission
E	4/28/2021	CC Resubmission
D	4/21/2021	TAC Resubmission

PROJECT NO:	P-0595-007
DATE:	December 22, 2020
FILE:	P-0595-007-DTLS.DWG
DRAWN BY:	CJK
CHECKED BY:	NAH
APPROVED BY:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-508

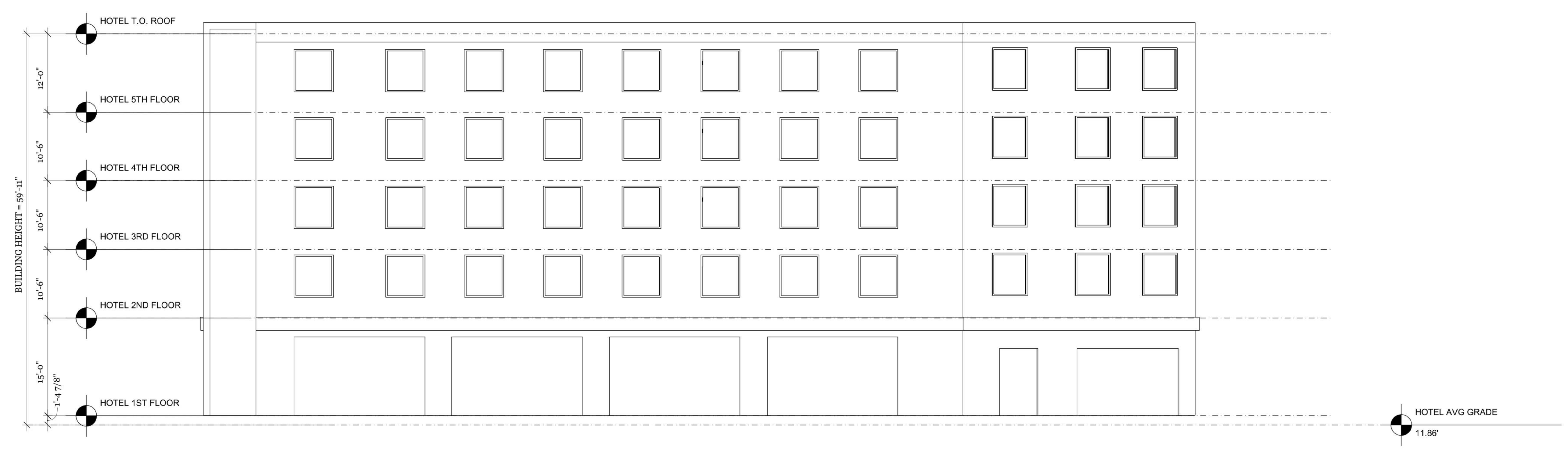
Last Saved: 4/29/2024
Plotted On: May 01, 2024-1:28pm By: CKrzcuik
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-007 Raynes Ave Hotel\Drawings_Figures\AutoCAD\SheetVP-0595-007-DTLS.dwg

OVERALL ELEVATIONS

1/16"=1'-0"

MIXED USE ELEVATION

3/32"=1'-0"



HOTEL ELEVATION

3/32"=1'-0"

PROCON
CONNECT • CREATE • CONSTRUCT

PO BOX 4430
MANCHESTER NH 03108
603.623.8811
PROCONINC.COM

PROJECT:

PROPOSED MIXED USE DEVELOPMENT

Raynes Avenue
Portsmouth, NH

Date	Issue Description

PROFESSIONAL SEAL

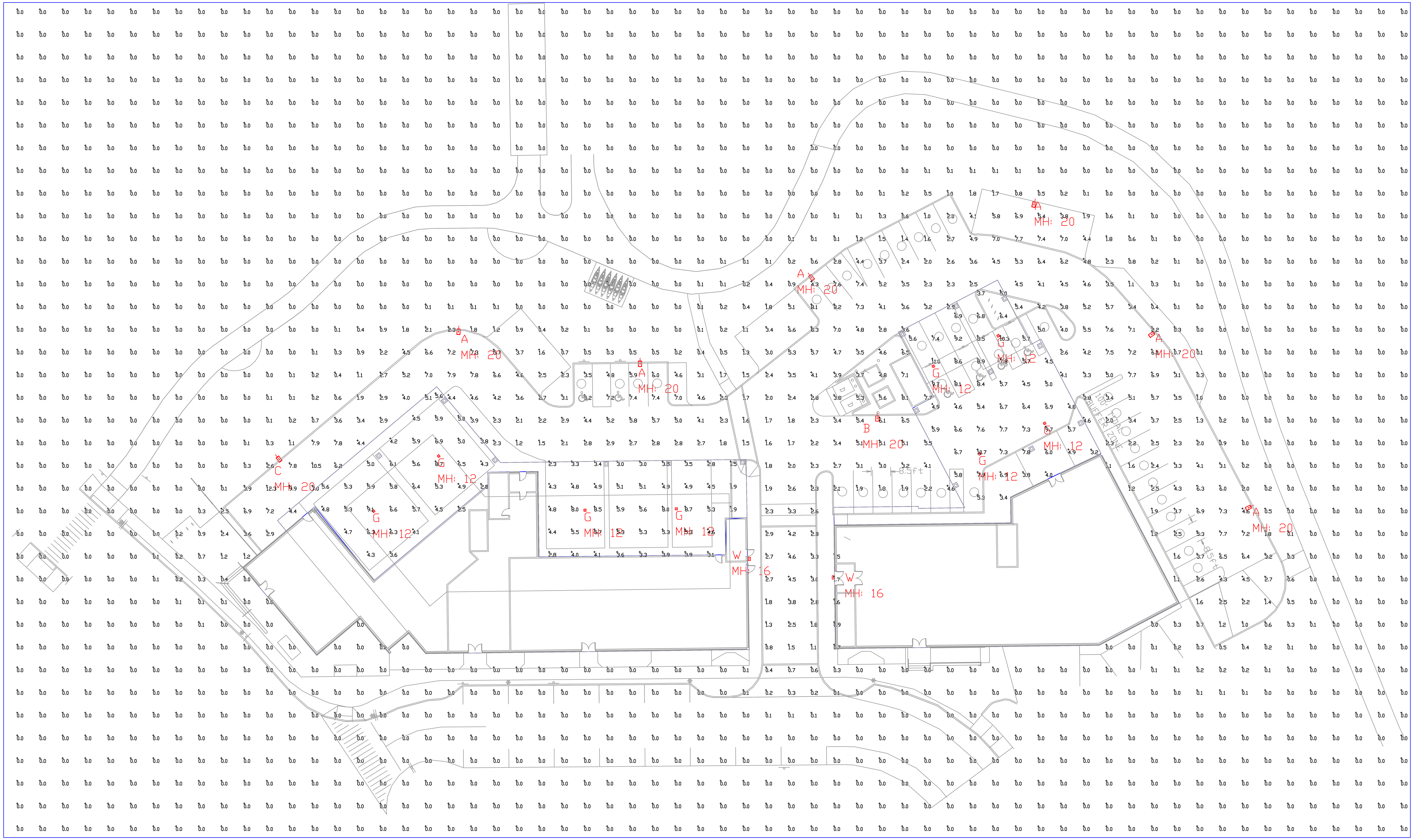
Architect:	JAL
Drawn By:	Author
Project No.:	XXX
Copyright:	2018 Pro Con, Inc.

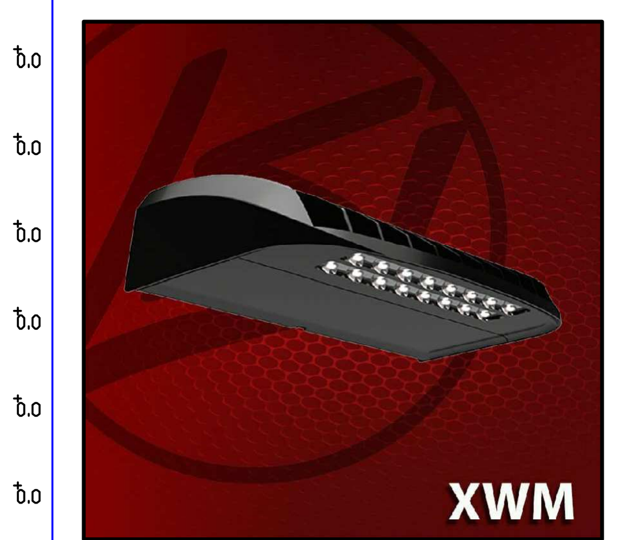
Drawing Sheet

EXTERIOR ELEVATIONS

Drawing Sheet

A3.00





Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL POINTS AT GRADE 10'X10'	Illuminance	Fc	0.66	12.3	0.0	N.A.	N.A.
BLDG A COVERED PARKING	Illuminance	Fc	4.89	9.1	1.5	3.26	6.07
BLDG B COVERED PARKING	Illuminance	Fc	6.61	11.0	3.2	2.07	3.44

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	LLD	UDF	LLF	Arr. Lum. Lumens	Arr. Watts
	6	A	SINGLE	SLM-LED-24L-SIL-FT-40-70CRI-IL-SINGLE - 18'POLE + 2' BASE	0.940	1.000	0.940	15996	176
	1	B	SINGLE	SLM-LED-24L-SIL-5W-40-70CRI-SINGLE - 18'POLE + 2' BASE	0.940	1.000	0.940	23667	188.8
	1	C	SINGLE	SLM-LED-24L-SIL-2-40-70CRI-IL-SINGLE - 18'POLE + 2' BASE	0.940	1.000	0.940	14904	176
	8	G	SINGLE	CPG-LED-10L-CA-W-40 - 12'MH	0.900	1.000	0.900	9830	79.57
	2	W	SINGLE	XWM-3-LED-04L-40-16'MH	0.980	1.000	0.980	4124	29.5

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Total Project Watts
Total Watts = 2116.36

10000 ALLIANCE RD. CINCINNATI, OHIO 45242 USA
(513) 793-3200 * FAX (513) 793-6023

LIGHTING PROPOSAL LO-153488A-1

XSS HOTELS
PORTSMOUTH, NH

BY:THC | DATE:3/24/21 | REV:11/23/2021 | SHEET 1 OF 1

SCALE: 1"=20'

0 20

TND ENGINEERING
TRAFFIC, TND, TRANSPORTATION AND CONSULTING

224 State Street
PORTSMOUTH, NH 03801
p. 603.479-7195
Email: Chellman@TNDEngineering.com

NH Dept of Environmental Services
Wetlands Bureau
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095
Attention: Brandy Holmes
VIA Email Only: Brandy.L.Holmes@DES.NH.Gov

May 21, 2024

Re: Wetlands permit Application Wentworth-Gardner property

Dear Ms. Holmes:

Thank-you again for the call concerning the above application. As requested, I have separated the wetland portions of the application into this submittal.

As you go through the materials, you will note that the narrative remains the same as the underlying necessary work also remains the same. The City Clerk and Karen Bouffard signed the original forms (that you have paper copies of already, now presumably with the shoreland permit package), but I have included copies of those pages and the copies of the return receipts for the abutters' mailings.

As I mentioned on the phone, the site is quite small and also happens to fall on the dividing line between the Portsmouth & Kittery USGS maps. For that reason, I included the site location from the Portsmouth GIS mapping, which is still included. However, I have also added a map using the two USGS sheets that you will find on the page following the more usable GIS location page.

I am ready to assist with any questions you may have concerning this application.

Sincerely,

Rick Chellman, PE, LLS

Enclosed herewith is the application package for a small amount of work proposed at the Wentworth-Gardner property located at 49 Mechanic Street, tax map 103, parcel 41, in Portsmouth. The owner is the Wentworth-Gardner and Tobias Lear Houses Association (hereafter Wentworth-Gardner), a non-profit which has owned this property since 1940.

Project Description and Narrative

The initial catalyst for this application is the foundation repair that is necessary for the so-called "warehouse" building on this historic property. Based on a Condition Assessment Report prepared by Bedard Preservation and Restoration, LLC and Mae Williams, Preservation Consultant in June, 2023, this former warehouse building was constructed by 1760, and likely even earlier, circa1740, along the Portsmouth waterfront adjacent to the Piscataqua river, a little south of the bridge to Pierce Island. The adjacent Wentworth-Gardner home itself was constructed in 1760 and it is not a part of this application (see Figure 1).

Figure 1: Site from East

Over the ensuing 270 years or so, the foundation walls along the west and part of the north sides have become deteriorated and in need of repair. Given the special historic nature of the building and grounds, the foundation repair will need to be completed by a specialist mason skilled in restoration, and all of the work will also be supervised by an archeologist. This repair work has also been funded by a grant from the State of New Hampshire under the LCHIP program. The second part of this application concerns portions of the grounds, which are today all grassed lawn.

Specifically, the building known as the warehouse is slated to continue to be used as a meeting space for gatherings on the property as it has a large ground floor space quite suitable for that purpose.

To enhance these meetings, which typically occur only during the summer season when the property is fully open to the public, the stewards of the property propose a walkway from the existing front of the Wentworth-Gardner house to a newly constructed patio just west of the warehouse; the walkway and patio are shown colored red in Figure 2, as is the foundation repair. Opening the warehouse doors on the west side will allow guests to gather inside and out as the weather permits, and the walkway will allow passage over the lawn area without slipping or sinking into the grass.

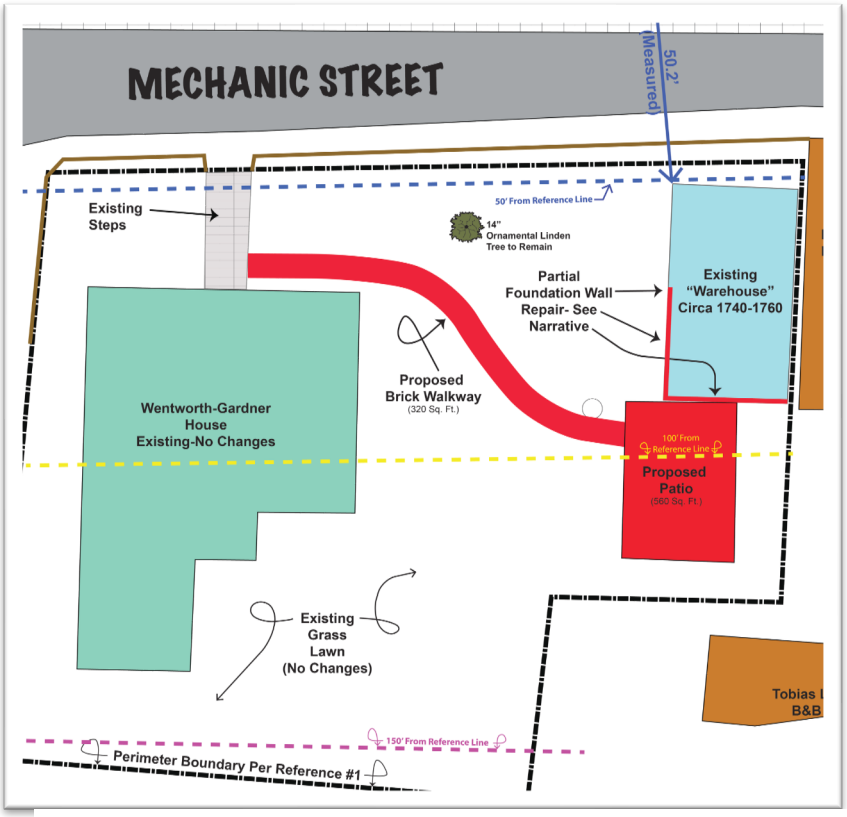


Figure 2: Partial Copy of Application Plan

The reference line of the Piscataqua, which is tidal, is the easterly side of a retaining wall that has been in place at least for many decades, and is quite substantial (Figures 2 and 3). The warehouse building's foundation is 50.2' from the reference line as personally measured with a laser in April of this year, so the warehouse is a conforming structure. The other setbacks associated with the shoreland are depicted on the accompanying plans, except the 250' limit which extends well beyond the boundaries of the Wentworth-Gardner property.

Figure 3: View South on Mechanic Street- Warehouse at Right

The repair work to the foundation will require some removal of the earth that has accumulated over the years simply to access the foundation itself. There is no accessible space under the building to access the foundation from that side. This earth removal that is necessary for these repairs will constitute “excavation” and it will be within 100’ of the reference line. The plans show what is expected to be the limits of the necessary repair, comprising the entire west wall and a portion of the north wall (red line on plan view). Because the foundation is not fully visible, the precise limits of the needed repair will not be fully known until the work is underway and the mason, the owner and the archeologist can confer on what has been discovered, but best estimates are where it has been shown on the plans.

The proposed construction will increase the impervious surface of the property to 32.5%, and for that reason, a drainage analysis was conducted.

New Hampshire Natural Heritage Bureau Review

A NH Natural Heritage Bureau Review datacheck was submitted and a reply received on April 23, 2024 (attached). This reply showed there was a NHB record “in the vicinity” of the proposed project, but it was further determined that the project is not expected to impact that record, and that no further consultation was required.

Wetlands and Forest

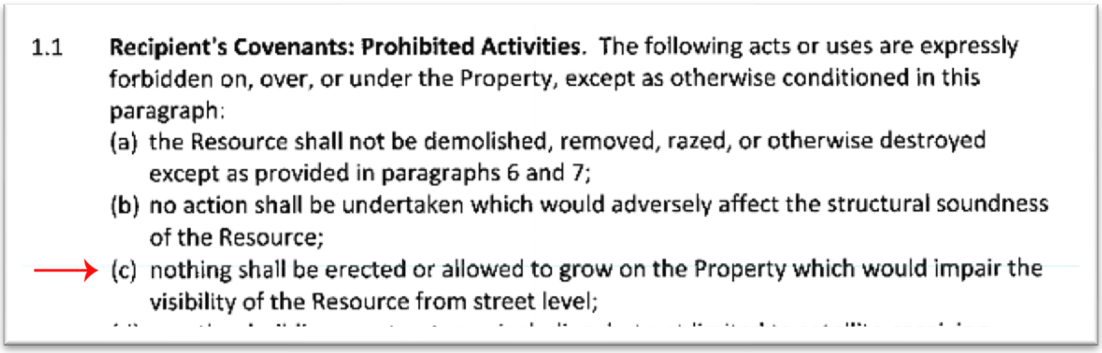
This property has been a part of the developed urban waterfront of Portsmouth

for more than 270 years.[1] The subject property itself is fully developed and manicured lawn with limited other plantings around the picket fence along some of the perimeter. No evidence of wetlands ponding or plant species were noted. The Wentworth-Gardner property is also a non-profit and it was considered an unnecessary expense to conduct a formal wetlands review by a wetlands scientist due to the developed, urban and small parcel size involved.

Similarly, there has not been any "forest" of any sort on or near the subject property for literally hundreds of years (again, see footnote 1). There is one ornamental Linden tree on the subject property near the center of its streetfront side (Figure 2).

As a significant historic resource, this property has been the recipient of grants through the years for its upkeep and enhancement. The work proposed in these applications is partly funded with an LCHIP grant recently received from the State.

Unlike many private properties near waterfront, where the owners seek to "open up" the vegetated area between a residence and the water for view purposes, this historic property's appearance from the street has been and remains an important part of how the public experiences the property. While the restriction below just lapsed, it is an example of the importance attached to the need for an open front yard and one reason why a waiver is requested to not have any replantings required in the very narrow area of buffer extant. Indeed, such plantings could preclude necessary future grants for this public, non-profit site.



1.1 **Recipient's Covenants: Prohibited Activities.** The following acts or uses are expressly forbidden on, over, or under the Property, except as otherwise conditioned in this paragraph:

(a) the Resource shall not be demolished, removed, razed, or otherwise destroyed except as provided in paragraphs 6 and 7;

(b) no action shall be undertaken which would adversely affect the structural soundness of the Resource;

(c) nothing shall be erected or allowed to grow on the Property which would impair the visibility of the Resource from street level;

Figure 4: Partial Copy of Restriction

Local Jurisdiction

This property lies within the Historic District of the City of Portsmouth and an

[1] This is not speculation or hyperbole. The historical assessment report completed in June 2023 as a part of the LCHIP grant proposal documented the warehouse as dating from 1740-1760, with several 18th century maps and documents showing the subject area developed as a store and as a warehouse, with piers, etc in the area and all of the area of the proposed walkway as a "garden" in 1798.

exemption was issued 3/25/2024 (attached). No zoning setbacks apply to the proposed work as it constitutes repair and the walkway/patio are not considered "structures" in the City's zoning.
This application will be presented to the Conservation Commission for signature concurrent with the NHDES submission, and a signed copy will be sent immediately to NHDES on receipt.

Drainage Analysis & Calculations

Proposed Construction

The proposed construction is a 4' walkway and a patio of 560 sq. ft., all of which is proposed to be constructed over an existing grassed lawn. The total area of the new construction is 880 square feet.

The site abuts a public street that in turn abuts the Piscataqua River. The street has a closed drainage system owned and maintained by the City of Portsmouth.

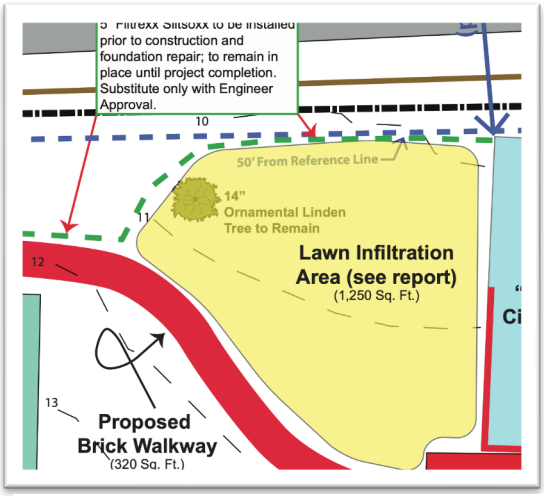


Figure 5: From Plans, Showing Infiltration Area

The calculations for a 10-year, 24 storm were completed for pre and post-construction conditions.

TOWN	24-hour SCS Rainfall*					
	1 yr	2 yr	10 yr	25 yr	50 yr	100 yr
NEWFIELDS	2.6	3.0	4.4	5.2	5.7	6.4
NEWINGTON	2.6	3.0	4.4	5.2	5.7	6.4
NEWMARKET	2.6	3.0	4.3	5.2	5.7	6.4
NEWPORT	2.3	2.7	4.1	4.8	5.3	6.0
NEWTON	2.6	3.1	4.4	5.2	5.8	6.5
NORTH HAMPTON	2.6	3.1	4.4	5.2	5.8	6.5
NORTHFIELD	2.4	2.8	4.2	5.0	5.5	6.1
NORTHUMBERLAND	2.4	2.5	4.0	4.9	5.1	5.9
NORTHWOOD	2.5	2.9	4.3	5.1	5.6	6.3
NOTTINGHAM	2.5	3.0	4.3	5.1	5.7	6.4
ODELL	2.4	2.5	3.9	4.7	5.0	5.7
ORANGE	2.3	2.6	4.0	4.8	5.3	5.9
ORFORD	2.3	2.6	4.0	4.7	5.1	5.8
OSSIPEE	2.5	2.9	4.3	5.2	5.5	6.2
PELHAM	2.6	3.0	4.4	5.2	5.8	6.5
PEMBROKE	2.4	2.9	4.2	5.0	5.6	6.2
PETERBOROUGH	2.4	2.9	4.2	5.0	5.6	6.3
PIERMONT	2.3	2.5	3.9	4.7	5.1	5.8
PINKHAM'S GRANT	3.0	3.8	5.2	6.2	6.6	7.2
PITTSBURG	2.3	2.4	3.7	4.4	4.9	5.2
PITTSFIELD	2.5	2.9	4.2	5.1	5.6	6.2
PLAINFIELD	2.3	2.6	4.0	4.8	5.2	5.9
PLAISTOW	2.6	3.1	4.4	5.2	5.8	6.5
PLYMOUTH	2.4	2.7	4.2	4.9	5.3	5.9
PORTSMOUTH	2.6	3.1	4.4	5.2	5.8	6.5
RANDOLPH	2.7	3.3	4.6	5.2	6.1	6.4

Existing Conditions:

Given the small areas involved, and its conservative outputs, the Rational Method was used to calculate runoff from each condition.

Drainage Area : 2,130 sq. ft
10-year, 24 hour storm: 4.4" of rainfall. Or 0.183"/hour[2]

This yields a peak flow of 0.002 cubic ft/sec (0.013 gallons/sec)

Proposed (Build) Conditions:

[2] NHDES Appendix A 24-hour SCS Rainfall Table, partial copy above.

Drainage Area (same area including proposed to be disturbed): 880 sq. ft impervious and 1,250 sq. ft. pervious.
10-year, 24 hour storm: .183 in/hr
This yields a peak flow of 0.004 cubic ft/sec (0.033 gallons/sec)

The 10-year storm (0.183"/hr) will deposit on an area of 2,130 sq. ft. rainwater in the amount of 243 gal/hour or 0.067 gallons/second. Similarly, the undisturbed 1,250 sq. ft. area will receive direct 10-year rainfall in the amount of 143 gallons/hour or 0.04 gallons/second.

The undisturbed lawn area below the proposed construction will be 1,250 sq. ft. The upstream construction will increase the stormwater flow into this area by .004 cfs which is 0.03 gallons/second, or 108 gallons/hour. Combining the direct stormwater with the additional stormwater from the proposed construction will place 0.073 gallons/second or 261 gallons/hour into this 1,250 sq. ft. area.

A percolation text was run on site on April 26, which yielded a range of infiltration rates from 5.5 in/hr at the beginning of the test to 1.7 in/hr after several hours and saturation; 1.7 in/hr was used for design infiltration rate. This rate is consistent with, and in the middle of, a range of rates as studied and reported for similar lawn infiltration rates in Pennsylvania.[3]

The infiltration rate of the undisturbed land area can therefore absorb and infiltrate 1.7 in/hr over 1,250 sq. ft. or 177 cubic ft/hour which is 0.05 cubic feet/second or 0.37 gallons/second. Therefore, flow onto the undisturbed lawn area of 0.073 gallons/second with the proposed construction will be less than the infiltration capacity of 0.37 gallons/second and no excess runoff offsite will be caused by the proposed construction for the design storm.

Based on my analysis, it is my opinion as a professional engineer that the post-development volume and peak flow based on the 10-year, 24 hour storm event will not exceed pre-development volumes and peaks off this property within the protected shoreland, pursuant to RSA 483-B:9V (g) (1).

Sincerely,

Chester "Rick" Chellman, P.E., L.L.S.

[3] Infiltration Rates on Residential Lawns in Central Pennsylvania, Hamilton & Waddington, Journal of Soil and Water Conservation, 1999 pp 564-568.

ATTACHMENTS

- Standard Dredge Fill Application
- NH Natural Heritage Bureau Review Letter and Maps
- Wentworth-Gardner Deed
- Site Map
- USGS composite map
- Tax Map 103
- City of Portsmouth Exemption for Historic District
- Abutters names, addresses and locations on Tax Map base
- Abutter letter
- Copies of mailing return receipts

Separate Plan Set

- Sheet 1, existing conditions and proposal with coverage calculations
- Sheet 2 with April 2024 photos
- Sheet 3 with drainage and erosion control

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: **TOWN NAME:** Portsmouth

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the Waiver Request Form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))

Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: Priority Resource Areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.

Has the required planning been completed?	◯ Yes ◯ No
Does the property contain a PRA? If yes, provide the following information:	◯ Yes ◯ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHFG) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	◯ Yes ◯ No
• Protected species or habitat? ○ If yes, species or habitat name(s): N/A ○ NHB Project ID #: NHB24-0383	◯ Yes ◯ No
• Bog?	◯ Yes ◯ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	◯ Yes ◯ No
• Designated prime wetland or duly-established 100-foot buffer?	◯ Yes ◯ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	◯ Yes ◯ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): N/A • A copy of the application was sent to the LAC on Month: N/A Day: N/A Year: N/A	◯ Yes ◯ No

For dredging projects, is the subject property contaminated? • If yes, list contaminant: -N/A	◯ Yes ◯ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	◯ Yes ◯ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): N/A	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a description of the project and the purpose of the project, the need for the proposed impacts to jurisdictional areas, an outline of the scope of work to be performed, and whether impacts are temporary or permanent.

The proposed project will include the construction of two (2) 5-story buildings. The first is a mixed-use residential building that has a first-floor residential lobby and two (2) commercial spaces, and 60 upper floor residential units. The second is a hotel building with 124 rooms at the corner of Raynes Ave and Vaughan Street. The project will include associated site improvements such as paving, utilities, lighting, landscaping, and community space. The community space will be located on the land between the mean high water (MHW) line of North Mill Pond and the 50-foot setback; and will be deeded to the City of Portsmouth as community space designated for the City's North Mill Pond Greenway Trail project.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS:	Raynes Avenue
TOWN/CITY:	Portsmouth
TAX MAP/BLOCK/LOT/UNIT:	Map 123, Lot 10, 12, 13, 14 & 15-1
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: ☐ N/A	North Mill Pond
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	43.08015 -70.76420

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: North Mill Pond Holdings, LLC, c/o Eben Tormey		
MAILING ADDRESS: 1359 Hooksett Road		
TOWN/CITY: Hooksett	STATE: NH	ZIP CODE: 03106
EMAIL ADDRESS: eben@xsshotels.com		
FAX: -	PHONE: 530-386-4511	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))

☐ N/A

LAST NAME, FIRST NAME, M.I.: Hansen, Neil		
COMPANY NAME: Tighe & Bond, Inc.		
MAILING ADDRESS: 177 Corporate Drive		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: nahansen@tighebond.com		
FAX: -	PHONE: 603-433-8818	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME: See attached List of Owners		
MAILING ADDRESS:		
TOWN/CITY:	STATE:	ZIP CODE:
EMAIL ADDRESS:		
FAX:	PHONE:	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

Env-Wt 400: The jurisdictional wetland and 100-foot tidal buffer were delineated and assessed by Tighe & Bond on October 29 and December 2, 2019. The proposed project preserves the existing tidal wetland resource and reduces impervious surface in the tidal buffer zone.

Env-Wt 500: Not applicable, does not apply to coastal project, per Env-Wt 509.02(b).

Env-Wt 600: This project is classified as a Major Impact project because it will result in greater than 10,000 square feet (SF) of temporary and permanent impacts within the tidal buffer zone. The existing 100-foot tidal buffer is highly developed and consists primarily of maintained lawn, a commercial building and a parking lot. There are small patches of shrubby vegetation and small trees at the tops of the slopes between the lawn and tidal wetlands, particularly at both ends of the wetland delineation, along the shoreline of North Mill Pond. The small amount of vegetated permeable surfaces within the buffer does little to enhance and protect the down gradient tidal wetland. The proposed project will involve minor regrading of the maintained lawn area and include the addition of native plantings and grasses to enhance the buffer area from the existing condition. The project area from the existing condition. The project will include permanent stormwater treatment BMP's that will protect the down-gradient waters. A Coastal Resource worksheet is attached. Wetlands on this site are classified as estuarine inter-tidal rocky shore, rubble, and regularly flooded (E2RS2N). Wetland functions in this portion of North Mill Pond include recreation potential and aesthetic quality. Both of these functions will be enhanced with the proposed project from the current conditions.

Env-Wt 700: Not applicable, no prime wetland impacts.

Env-Wt 900: Not applicable, no stream crossings proposed.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation fact sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

(☒ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☐ I confirm submittal.

(☒ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent (PERM.) impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary (TEMP.) impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

	JURISDICTIONAL AREA	PERM. SF	PERM. LF	PERM. ATF	TEMP. SF	TEMP. LF	TEMP. ATF
Wetlands	Forested Wetland	-	-	☐	-	-	☐
	Scrub-shrub Wetland	-	-	☐	-	-	☐
	Emergent Wetland	-	-	☐	-	-	☐
	Wet Meadow	-	-	☐	-	-	☐
	Vernal Pool	-	-	☐	-	-	☐
	Designated Prime Wetland	-	-	☐	-	-	☐
	Duly-established 100-foot Prime Wetland Buffer	-	-	☐	-	-	☐
Surface	Intermittent / Ephemeral Stream	-	-	☐	-	-	☐
	Perennial Stream or River	-	-	☐	-	-	☐
	Lake / Pond	-	-	☐	-	-	☐
	Docking - Lake / Pond	-	-	☐	-	-	☐
	Docking - River	-	-	☐	-	-	☐
Banks	Bank - Intermittent Stream	-	-	☐	-	-	☐
	Bank - Perennial Stream / River	-	-	☐	-	-	☐
	Bank / Shoreline - Lake / Pond	-	-	☐	-	-	☐
Tidal	Tidal Waters	-	-	☐	-	-	☐
	Tidal Marsh	-	-	☐	-	-	☐
	Sand Dune	-	-	☐	-	-	☐
	Undeveloped Tidal Buffer Zone (TBZ)	-	-	☐	-	-	☐
	Previously-developed TBZ	49,111	-	☐	10,104	-	☐
	Docking - Tidal Water	-	-	☐	-	-	☐
	TOTAL	49,111	0		10,104		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking): 59,215	SF	× $0.40 =	$ 22,574
Seasonal docking structure:	SF	× $2.00 =	$
Permanent docking structure:	SF	× $4.00 =	$
Projects proposing shoreline structures (including docks) add $400 =			$
Total =			$
The application fee for minor or major impact is the above calculated total or $400, whichever is greater =			*$*

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)
Indicate the project classification.

☒ Minimum Impact Project	☐ Minor Project	☐ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: KLB	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: KLB	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: KLB	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
Initials: KLB	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER):	PRINT NAME LEGIBLY: Karen L. Bouffard for W-G&TLHA	DATE:
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): Karen L. Bouffard	PRINT NAME LEGIBLY: Karen L. Bouffard	DATE: 5/14/2024

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: Kelli L Barnaby	PRINT NAME LEGIBLY: Kelli L. Barnaby
TOWN/CITY: Portsmouth	DATE: May 15, 2024

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05) Indicate the project classification.		
☒ Minimum Impact Project	☐ Minor Project	☐ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)	
Initial each box below to certify:	
Initials:	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials:	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials:	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
Initials:	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)		
SIGNATURE (OWNER):	PRINT NAME LEGIBLY: Neil Hansen, See Authorization Letters	DATE: 5/2/2024
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY: Neil Hansen	DATE: 5/2/2024
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY: Karen L. Bouffard	DATE:

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))	
As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.	
TOWN/CITY CLERK SIGNATURE:	PRINT NAME LEGIBLY:
TOWN/CITY: Portsmouth	DATE:

DIRECTIONS FOR TOWN/CITY CLERK:
Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to “Treasurer – State of NH”.

REQUEST WAIVER OF MINIMUM STANDARDS

Water Division / Land Resources Management Shoreland Program

Check the status of your application.

RSA/ Rule: RSA 483-B:9, V(i) / Env-Wq 1409

You may use this form to request a waiver of the Minimum Standards of RSA 483-B:9, V of the Shoreland Water Quality Protection Act.

Waivers may only be granted if strict compliance with the minimum standards will provide no material benefit to the public and have no material adverse effect on the environment or the natural resources of the state.

To be eligible, applicants must clearly demonstrate how these criteria are satisfied (as described in Sections 1-3). Alternatively, you may request a waiver to accommodate the reasonable needs of persons with disabilities (as described in Sections 1 and 4).

SECTION 1 - MINIMUM STANDARD(S) REQUESTED TO BE WAIVED (Env-Wq 1409.01)

RSA 483-B:9, V(i)

There is no existing woodland buffer on the subject property and there has been no such buffer for hundreds of years. There is one ornamental tree within the 50'-100' buffer, but no vegetation beyond grass and weeds inside the 50' buffer which is all street, parking and stone retaining walls. The existing tree that will be preserved and unimpacted by the proposal. In addition, the view of the property from the water (see Figures 1 and 4 in the attached cover narrative) is an important historical resource with prior grants for the maintenance of the property precluding the planting of trees to obscure that view.

SECTION 2 - EXPLAIN HOW STRICT COMPLIANCE WITH THE MINIMUM STANDARD(S) WOULD PROVIDE NO MATERIAL BENEFIT TO THE PUBLIC (Env-Wq 1409.01; RSA 483-B:9, V(i)

The 50' waterfront buffer is almost entirely public city street (Mechanic Street) and parking area, with a block retaining wall at the reference line of the Piscataqua River and another stone retaining wall on the west side of Mechanic Street. There is no vegetation other than a strip of grass along the tsreet (with underground utilities, including public water and storm drainage systems) within the 50' waterfront buffer. The subject property has another strip of approximately 1.5'-2' of grass at the top of the retaining wall inside the 50' waterfront buffer and this has been the state of this property for all of this and the past century, perhaps longer (see project description).
The existing property does not, and the proposed project will not, adversely impact the quality of the public waters and the existing grassed lawn provides stormwater infiltration from the buildings on site as it has done for many years. Planting trees would not enhance this function even if allowed (see project description).

SECTION 3 - EXPLAIN HOW GRANTING A WAIVER OF THE MINIMUM STANDARDS WOULD HAVE NO MATERIAL ADVERSE EFFECT ON THE ENVIRONMENT OR NATURAL RESOURCES OF THE STATE (Env-Wq 1409.01; RSA 483-B:9, V(i)

The waivers requested would have the net effect of continuing an existing condition that has not caused any adverse environmental impacts for many years. The drainage calculations accompanying this application demonstrate there will be no increased runoff to cause such impacts.

SECTION 4 - PERSONS WITH DISABILITIES (Env-Wq 1409.01; Env-Wq 1409.02(b); RSA 483-B:9, V(i)

Please provide an explanation of how the proposal is adequate to ensure that the intent of RSA 483-B is met. Please explain why granting a waiver is necessary to accommodate the individual's disability**.** Please note that medical details are not being requested. Please only describe the limitations faced by the individual(s) for whom the waiver is being requested.

N/A

Please also submit a statement signed by the physician attending the individual for the disability or disabilities certifying that the impacts or structures for which the waiver is being requested are necessary to accommodate the individual's disability or disabilities. Please note, details specific to the nature of the disability are not requested. Only specify that the project is necessary to meet the needs specific to the individual for whom the waiver is being requested.

☐ Statement submitted.

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Rick Chellman, TND Engineering
224 State Street

Portsmouth, NH 03801

From: NH Natural Heritage Bureau
Date: 4/23/2024 (valid until 4/23/2025)
Re: Review by NH Natural Heritage Bureau of request submitted 4/10/2024
Permits: NHDES - Shoreland Standard Permit, NHDES - Standard Dredge & Fill - Minor

NHB ID: **NHB24-1169** **Applicant:** Rick Chellman

Location: Portsmouthouth
49 Mechanic Street

Project Description: Foundation repair of historic (1740-1760) Warehouse building, construction a walkway and patio totaling 880 sq. ft.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 4/10/2024 5:41:36 PM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: **NHB24-1169**

NHB24-1169

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Pierce Island Rd
Pierce Island Rd
Mechanic St
Pickering Ave
Hunking St
Pickering St
S Mill St
Sanders Fish Market
Salter St
Walton Aly
Gardener St
Gates St
Marcy St
1B
1B
Manning St
Manning St
Franklin St
Whidden St
Melcher St
Howard St
Gates St
Pleasant St
Pleasant St
Hancock St
Wentworth St
South Mill Pond
South Mill Pond
Livermore St
Washington St
Richmond St
Puddle Ln
Jefferson St
Court St
Edward St
Junkins Ave
Water St

$0.05 Rev.

DEED

KNOW ALL MEN BY THESE PRESENTS,

Metro. Mus. of Art to Wentworth-Gardner and T. L.H.Asso. Del.

that THE METROPOLITAN MUSEUM OF ART, a New York corporation, for and in consideration of One Dollar ($1.00) and other valuable considerations to it in hand before the delivery hereof well and truly paid by the WENTWORTH-GARDNER AND TOBIAS LEAR HOUSES ASSOCIATION, a New Hampshire corporation, the receipt whereof it does hereby acknowledge, has given, granted, bargained, sold, and by these presents does give, grant, bargain, sell, alien, enfeoff, convey and confirm unto the grantee, its successors and assigns forever, ALL that certain parcel of land with the buildings thereon situate in Portsmouth in the County of Rockingham and State of New Hampshire, and bounded and described as follows, viz:

See Deed Book 184 Page 458

BEGINNING in Mechanic Street at the easterly corner of the granted premises at land now or formerly of Addie A. Curtis and running southwesterly by said last named land and by land now or formerly of Margaret Ballard Eighty-three (83) feet more or less to a corner; thence turning and running northwesterly by said land of said Ballard forty-two and two-tenths (42.2) feet more or less to a corner in the fence; thence turning and running westerly by said land of said Ballard forty-four and seven-tenths (44.7) feet to land now or formerly of

Book 0974 Page 0016

16

one Newton; thence turning and running by said last named land as the fence now stands Northwesterly fifteen and seven-tenths (15.7) feet to a corner in the fence; thence turning and running by said land Northeasterly seven (7) feet more or less to a corner in the fence; thence turning and running by said land northwesterly seventy-nine (79) feet more or less to Gardner Street; thence turning and running Northeasterly by said Gardner Street one hundred and six (106) feet more or less to Mechanic Street; thence turning and running southeasterly by said Mechanic Street one hundred and thirty-two feet more or less to the point of beginning.

BEING the same premises conveyed to The Metropolitan Museum of Art by R. T. H. Halsey by deed dated October 10, 1918. Said premises are known as the "Wentworth Gardner House".

TO HAVE AND TO HOLD the said granted premises with all the privileges and appurtenances to the same belonging to the grantee, its successors and assigns to their own proper use and benefit forever.

IN WITNESS WHEREOF, The Metropolitan Museum of Art has caused its corporate seal to be hereunto affixed and has executed these presents by its duly authorized officer this 1st day of August, 1940.

Signed, Sealed and Delivered in the presence of

E.M. Poole

THE METROPOLITAN MUSEUM OF ART (CORP.SEAL)

BY H.S.Morgan
Vice President

Attest:
G.L.Greenway
Asst. Secy.

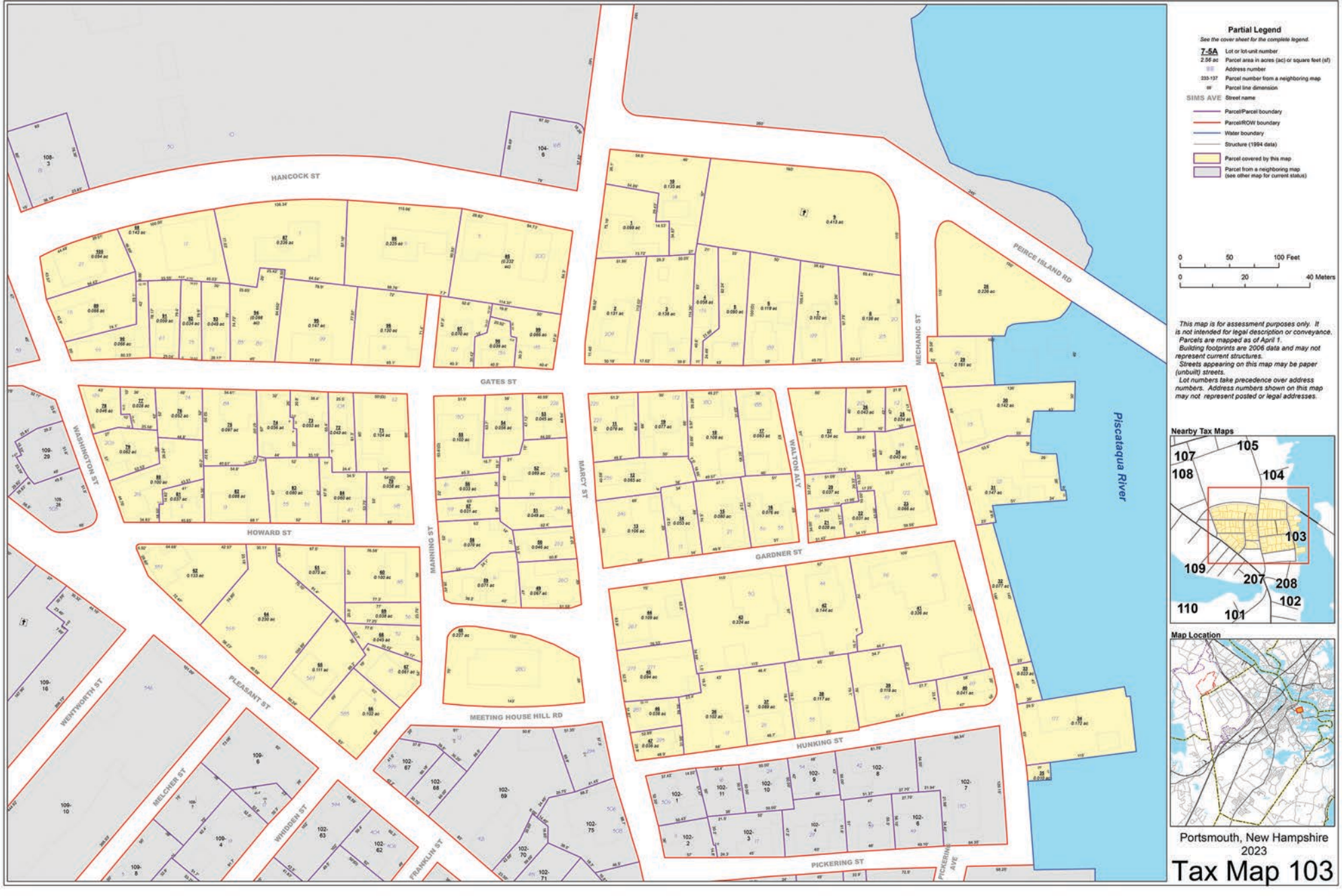

SITE
Peirce Island
Round Island
Little Island
Badger's Island
Wattlebury Island
Nobles Island
Piscataqua River
MAINE
NEW HAMPSHIRE
Old Harbour
North Mill Pond
South Mill Pond
Memorial Bridge
Market St
Maplewood Ave
Blue Star Turnpike
Rte 1 Byp S
Woodbury Ave
Islington St
Middle Street
State Street
Congress Street
Pleasant St
Junkins Ave
Marcy St
New Castle Ave
Hunking St
Mechanic St
Peirce Island Rd
Daniel St
Dutton Ave
Russell St
Deer St
Bartlett St
Miller Ave
South St

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

PORTSMOUTH QUADRANGLE
NEW HAMPSHIRE - MAINE
7.5-MINUTE SERIES



Portsmouth, New Hampshire
2023

Tax Map 103

Application for Approval - Exempt Activity

Historic District Commission

Owner:	**Applicant (if different):**
Wentworth Gardner House	Karen Bouffard
PO BOX 563	PO BOX 1167
Portsmouth, NH 03801	Portsmouth, NH 03801

Location of Structure: Map 127 Lot 012 *Street Address:* 49 Mechanic Street

Building Permit #: BLDG--24-222

To permit the following (please include photos of the existing conditions and clear description of the proposed work):

Repair foundation walls as necessary, replace sills as necessary, replace threshold (TBD), replace siding and trims as necessary, repair 13 windows.All work is replacement in-kind and with appropriate historic materials in adherence with the Secretary of Interior guidelines. All work to be completed by qualified historic masons, carpenters and painters. An archeologist has been retained for all ground disturbance work. The work is funded partially by a grant from LCHIP.

Action Taken by Planner 1	
Date of Approval	*03/25/2024*
Stipulations:	*Section 10.633.20 (1)*
Signature of Planner 1:	*Izak P. Gilbo*

***If approved, please note that**:*

Any and all changes or modifications in the design as approved shall require further review and approval.

Revised: 07 September 23

Streets appearing on this map may be paper (unbuilt) streets.

Lot numbers take precedence over address numbers. Address numbers shown on this map may not represent posted or legal addresses.

103-31
122-124 Mechanic St. Trust
Joanna B. Nelson, Trustee
122 Mechanic St.

103-31
Jason & Trisha Brewster
121 Mechanic St.

103-22
JP Magane & KT Miller Trust
Dana & Kara Magane Trustees
51 Gardner St.

103-41 &32
Wentworth-Gardner & Tobias Lear Houses Association
103-41 Subject Property

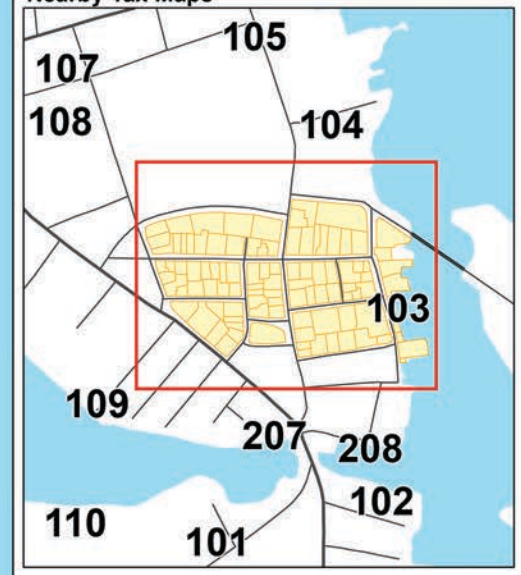
103-42
Emily & Bernard Niehaus
44 GardnerSt.

103-39
Tobias Lear House Historic Inn LLC
1924 47th St NW, Wash. DC
49 Hunking St.

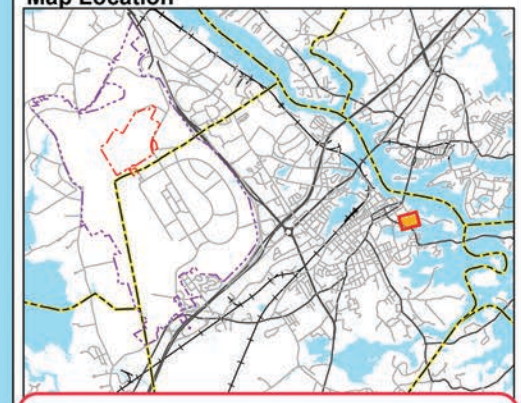
103-40 & 33
Walter & Patricia Bardenwerper Revocable Trusts 2020
69 Hunking St.

WALTON ALY
GARDNER ST
HUNKING ST
PICKERING ST
PICKERING AVE
Piscataqua River

Nearby Tax Maps



Map Location



ABUTTING PROPERTIES PLACED ON:

Portsmouth, New Hampshire
2023

Tax Map 103

TND ENGINEERING

TRAFFIC, TND, TRANSPORTATION AND CONSULTING

224 State Street
PORTSMOUTH, NH 03801
p. 603.479-7195
Email: Chellman@TNDEngineering.com

VIA Individual Certified Mail May 9, 2024

JP Magane & KT Miller Trust
Dana & Kara Magane Trustees
51 Gardner St.
Portsmouth, NH 03801

Emily & Bernard Niehaus
44 Gardner St.
Portsmouth NH 03801

122-124 Mechanic St. Trust
Joanna B. Nelson, Trustee
122 Mechanic St.
Portsmouth, NH 03801

Tobias Lear House Historic Inn LLC
1924 47th St NW, Wash. DC 20007

Walter & Patricia Bardenwerper
Revocable Trusts 2020
69 Hunking St.
Portsmouth NH 03801

Jason & Trisha Brewster
121 Mechanic St.
Portsmouth NH 03801

Re: Wentworth-Gardner House Applications

Dear Abutter:

You are being notified as an abutting landowner to the Wentworth-Gardner House.

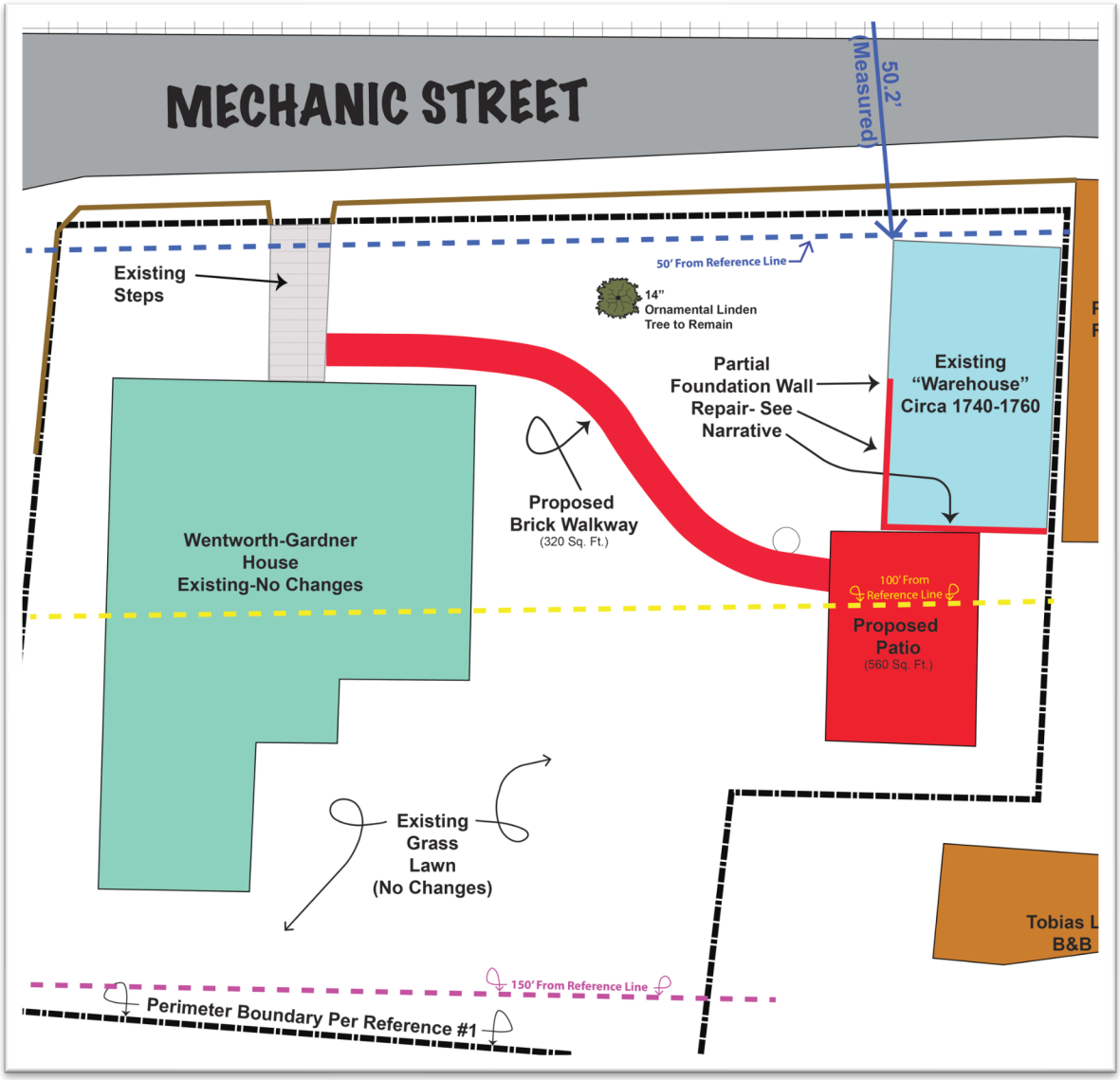
On behalf of Wentworth-Gardner, I have submitted applications to the State of New Hampshire, Department of Environmental Services, for the proposed patio and walkway, both of which require State approval. In addition, a portion of the north and west foundation of the warehouse building will be repaired and this too requires State approval. You are being notified as required by NH RSA 483-B:5.

A full set of plans will be filed with the City Clerk and they will also be available at the State offices in Concord. The file in Concord may be reviewed by scheduling a request to review by calling 603-271-2147. As an additional courtesy, a reduced copy of the proposal, and I am happy to address any concerns as well.

Sincerely,

Chester "Rick" Chellman, P.E., L.L.S.

Reduced copy of plans showing proposed walkway, patio, and foundation repair (all in red).



9589 0710 5270 2012 7902 28

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Washington, DC 20007

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☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.68
Total Postage and Fees	$5.08

0801 14
Postmark Here
MAY 13 2024
05/13/2024

Sent To: Tobias Lear House Historic Inn LLC
Street and Apt. No., or PO Box No.: 1924 47th Street NW
City, State, ZIP+4®: Washington, DC 20007

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Portsmouth, NH 03801

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☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.68
Total Postage and Fees	$5.08

0801 14
Postmark Here
MAY 13 2024
05/13/2024

Sent To: Joanna B. Nelson/122-124 Mechanic St. Trust
Street and Apt. No., or PO Box No.: 122 Mechanic Street
City, State, ZIP+4®: Portsmouth, NH 03801

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2012 7901 81

U.S. Postal Service™
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Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Portsmouth, NH 03801

OFFICIAL USE

Certified Mail Fee	$4.40
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.68
Total Postage and Fees	$5.08

0801 14
Postmark Here
MAY 13 2024
05/13/2024

Sent To: Emily & Bernard Niehaus
Street and Apt. No., or PO Box No.: 44 Gardner Street
City, State, ZIP+4®: Portsmouth, NH 03801

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2012 7902 35

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Portsmouth, NH 03801

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Certified Mail Fee	$4.40
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☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.68
Total Postage and Fees	$5.08

0801 14
Postmark Here
MAY 13 2024
05/13/2024

Sent To: Walter & Patricia Bardenwerper Rev. Trusts
Street and Apt. No., or PO Box No.: 69 Hunking Street
City, State, ZIP+4®: Portsmouth, NH 03801

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2012 7902 11

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☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.68
Total Postage and Fees	$5.08

0801 14
Postmark Here
MAY 13 2024
05/13/2024

Sent To: Jason & Trisha Brewster
Street and Apt. No., or PO Box No.: 121 Mechanic Street
City, State, ZIP+4®: Portsmouth, NH 03801

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

9589 0710 5270 2012 7901 98

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Portsmouth, NH 03801

OFFICIAL USE

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Extra Services & Fees (check box, add fee as appropriate)	
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☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.68
Total Postage and Fees	$5.08

0801 14
Postmark Here
MAY 13 2024
05/13/2024

Sent To: JP Magane & KT Miller Trust
Street and Apt. No., or PO Box No.: 51 Gardner Street
City, State, ZIP+4®: Portsmouth, NH 03801

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

PUBLIC NOTICE

US Army Corps
of Engineers
U.S. ARMY New England District

Comment Period Begins: May 14, 2024
Comment Period Ends: May 29, 2024
File Number: NAE-2023-00723
In Reply Refer to: Stephanie Morrison, Regulatory Division
Phone: (978) 318-8003
Email: stephanieann.prokopmorrison@usace.army.mil

The District Engineer, U.S. Army Corps of Engineers, New England District (USACE), has received a permit application, file number NHDES 2023-01406 to conduct work in waters of the United States from ADL 325 Little Harbor Road Trust, Stephen Roberts. This work is proposed in the Piscataqua River at 325 Little Harbor Road, Portsmouth, NH. The site coordinates are: Latitude 43.064469, Longitude -70.746374.

The work involves the replacement of existing bridge that is currently failing with a new bridge on wooden piles that will span the Piscataqua River. The existing causeway within intertidal water will be removed and the placement of new fill for the south bridge abutment will result in a net increase of 280 square feet of permanent impact that will be mitigated for in addition to 3,443 square feet of permanent impact to adjacent salt marsh. Mitigation for these impacts will be required in the form of a one time In-Lieu Fee payment to the NH Aquatic Resource Mitigation Fund. This project has been designed to minimize impacts to the jurisdictional area. There is no alternative layout that would further reduce the impacts as this is the only point of access to the Island.

The work is shown on the enclosed plans titled Lady Isle Bridge Replacement Permitting Plans on 9 sheets, and dated May 24, 2023.

AUTHORITY
Permits are required pursuant to:

__X__ Section 10 of the Rivers and Harbors Act of 1899
__X__ Section 404 of the Clean Water Act
_____ Section 103 of the Marine Protection, Research and Sanctuaries Act.
_____ Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408)

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The USACE will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an environmental assessment and/or an environmental impact statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

This project will impact 0.085 acres of EFH. This habitat consists of inter-tidal unconsolidated muddy shoreline and inter-tidal emergent salt marsh. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on our initial review of the proposed project and coordination with the State Historic Preservation Officer and the Tribal Historic Preservation Officer for the Wampanoag Tribe of Gay Head (Aquinnah), no historic properties were affected within the permit area. Additional review and consultation to fulfill requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

ENDANGERED SPECIES CONSULTATION

The USACE is reviewing the application for the potential impact on federally-listed threatened or endangered species and their designated critical habitat pursuant to

section 7 of the Endangered Species Act as amended. Our review will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The states of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this public notice, we are requesting the state concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

(X) Permit, license or assent from State.
(X) Permit from local wetland agency or conservation commission.
(X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

COMMENTS

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. People submitting comments are advised that all comments received will be available for public review in their entirety and will be considered a matter of public record.

Comments should be submitted in writing by the above date. If you have any questions, please contact Stephanie Morrison, Regulatory Division, at **stephanieann.prokopmorrison**@usace.army.mil, (978) 318-8003, (800) 343-4789 or (800) 362-4367.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The USACE holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

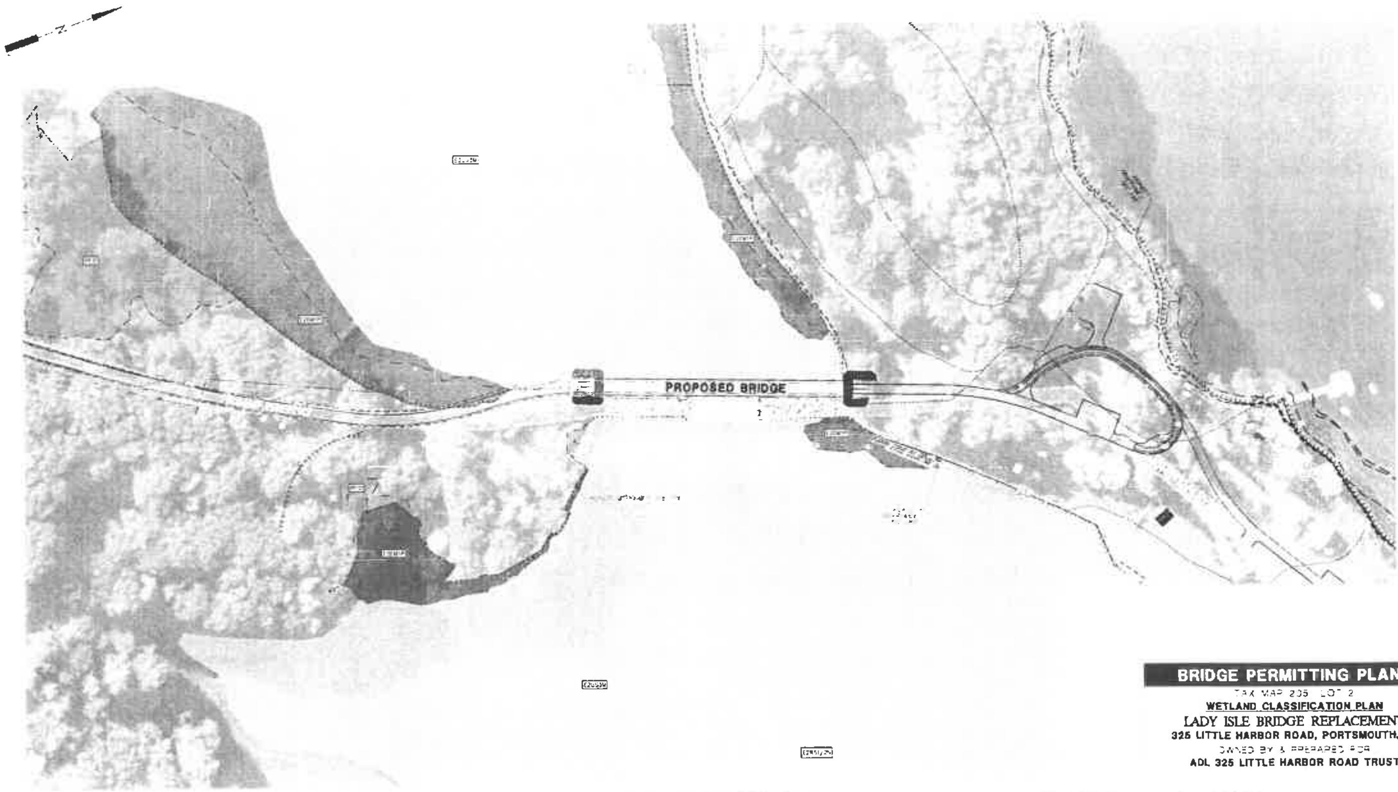
The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

Frank J Del Giudice

Frank J. Del Giudice
Chief, NH & VT Section
Regulatory Division

Please contact Ms. Tina Chaisson at bettina.m.chaisson@usace.army.mil or (978) 318-8058 if you would like to be removed from our public notice mailing list.



NOTES

1. [illegible]

WETLAND CLASSIFICATION

PFO1	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

BRIDGE PERMITTING PLANS

TAX MAP 205 LOT 2

WETLAND CLASSIFICATION PLAN

LADY ISLE BRIDGE REPLACEMENT

325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

OWNED BY & PREPARED FOR

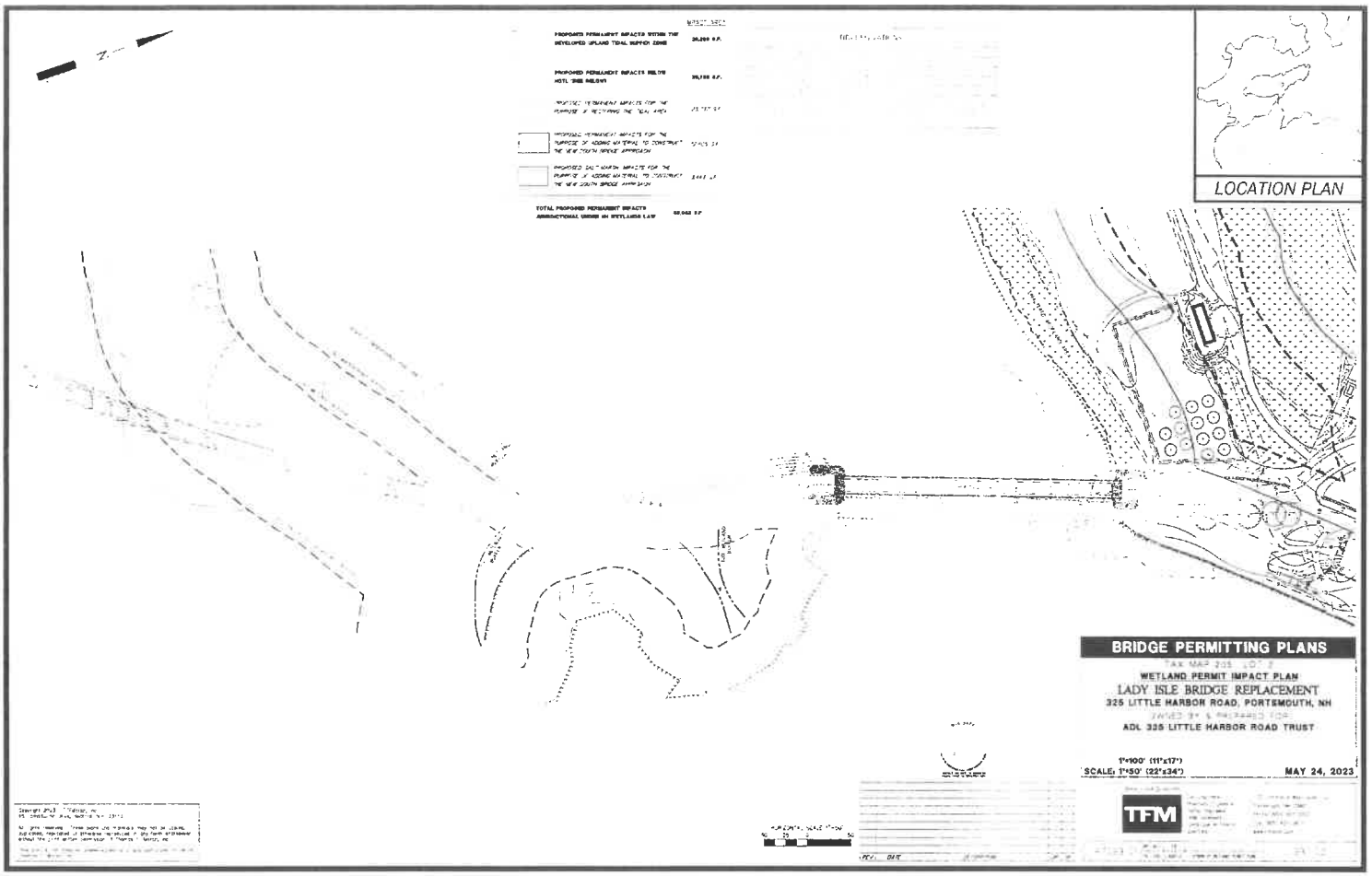
ADL 325 LITTLE HARBOR ROAD TRUST

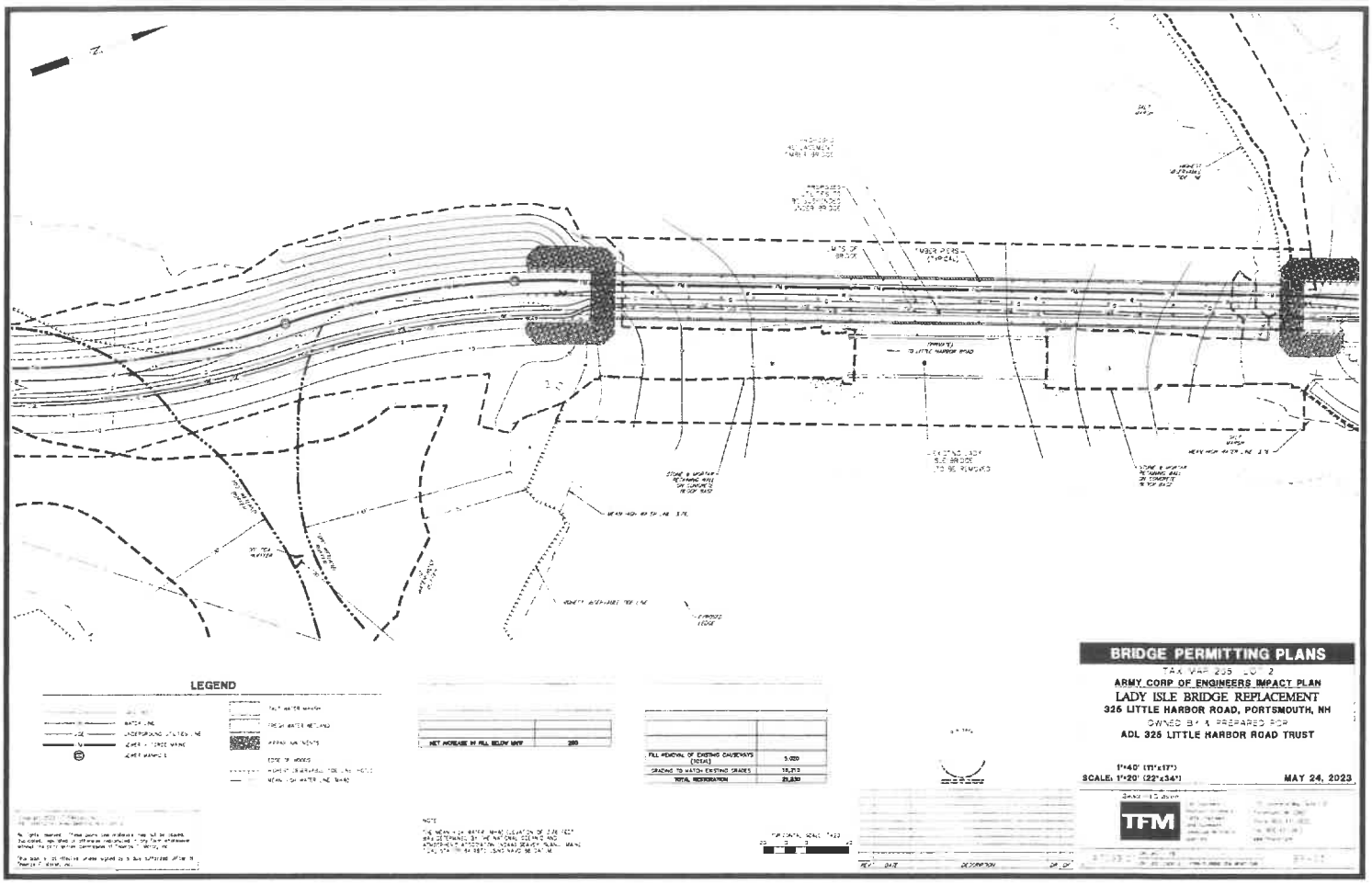
1"=120' (11"x17")
SCALE: 1"=60' (22"x34")

MAY 24, 2023

TFM

[illegible] BP-[illegible]


LOCATION PLAN
BRIDGE PERMITTING PLANS
WETLAND PERMIT IMPACT PLAN
LADY ISLE BRIDGE REPLACEMENT
325 LITTLE HARBOR ROAD, PORTSMOUTH, NH
ADL 325 LITTLE HARBOR ROAD TRUST
1"=100' (11"x17")
SCALE: 1"=50' (22"x34")
MAY 24, 2023
TFM



BRIDGE PERMITTING PLANS

TAX MAP 235 LOT 2

ARMY CORP OF ENGINEERS IMPACT PLAN

LADY ISLE BRIDGE REPLACEMENT

325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

OWNED BY & PREPARED FOR

ADL 325 LITTLE HARBOR ROAD TRUST

1"=40' (11"x17")
SCALE: 1"=20' (22"x34")

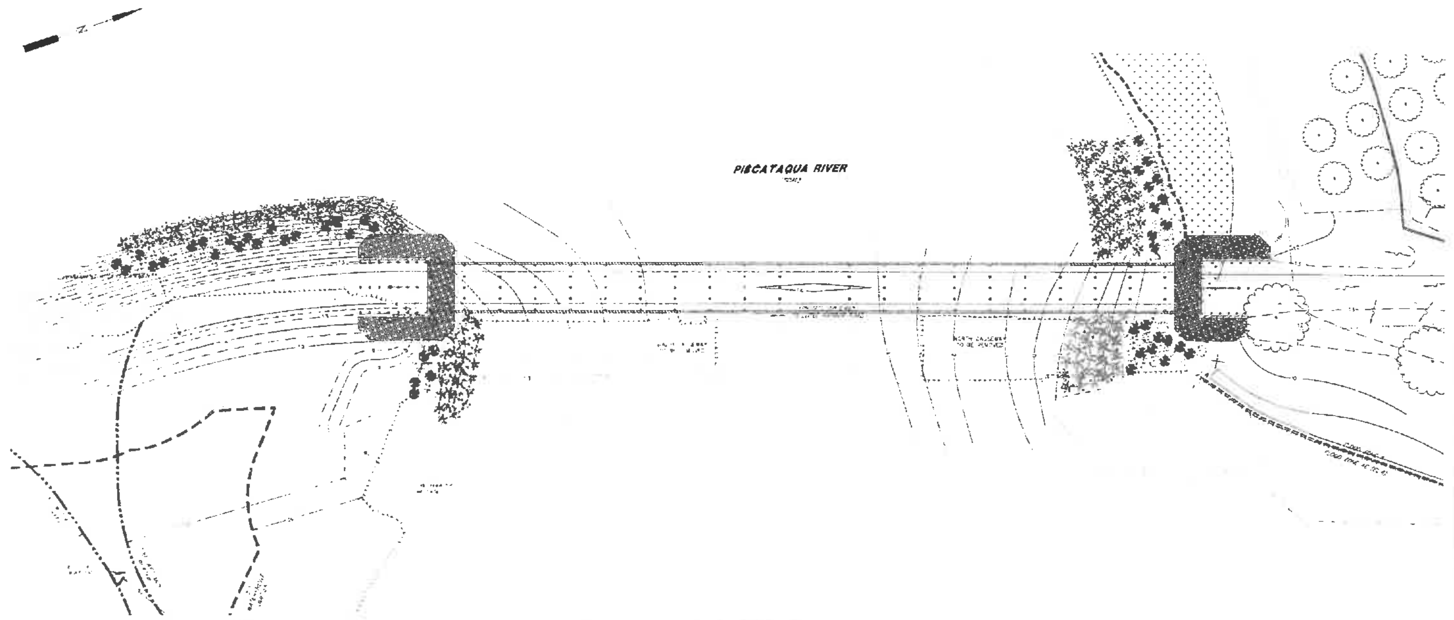
MAY 24, 2023

TFM

LEGEND

NET INCREASE IN FILL BELOW MHW	280

FILL REMOVAL OF EXISTING CAUSEWAYS (TOTAL)	5,020
GRADING TO MATCH EXISTING GRADES	15,210
TOTAL RESTORATION	20,230



PLANTING LEGEND - LOW MARSH

[illegible]	SMOOTH CORDGRASS (SPARTINA ALTERNIFLORA)	[illegible]

PLANTING LEGEND - HIGH MARSH

[illegible]	SALTMEADOW CORDGRASS (SPARTINA PATENS)	46
[illegible]	SALTGRASS (DISTICHLIS SPICATA)	45
[illegible]	BLACK GRASS (JUNCUS GERARDII)	27

BRIDGE PERMITTING PLANS

TAX MAP 205 LOT 2

TIDAL AREA RESTORATION PLAN

LADY ISLE BRIDGE REPLACEMENT

325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

OWNED BY & PREPARED FOR

ADL 325 LITTLE HARBOR ROAD TRUST

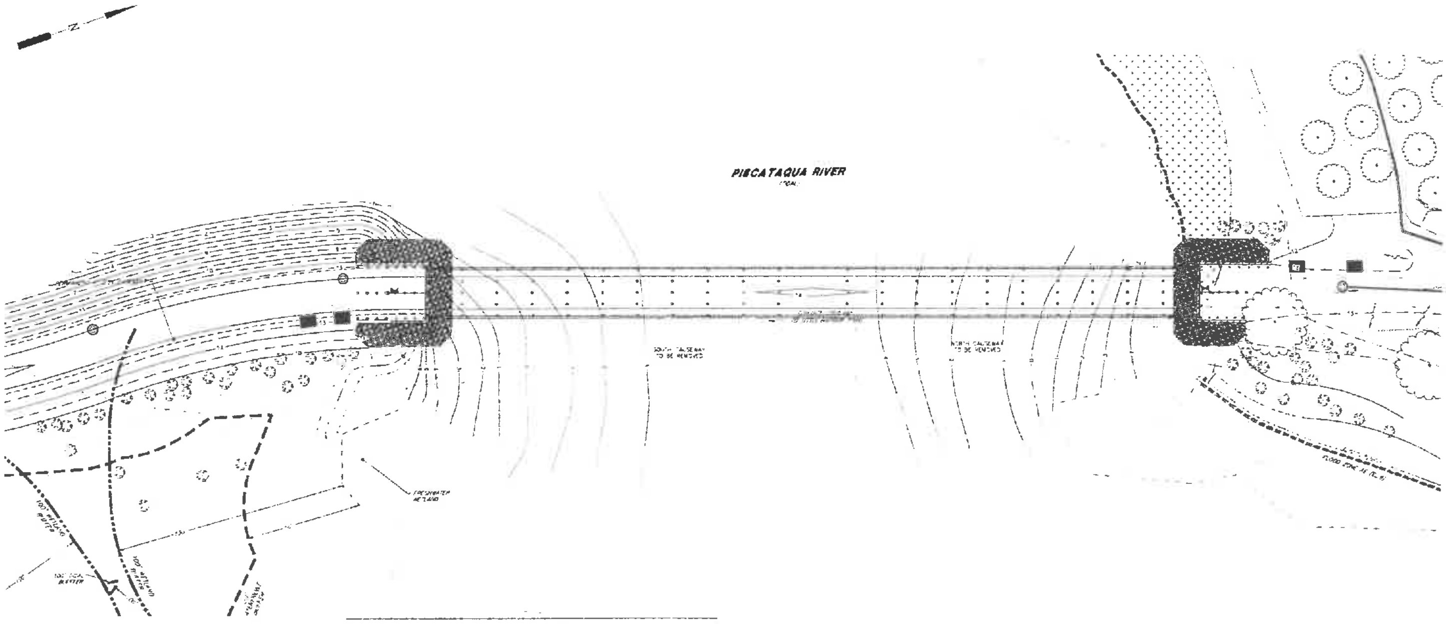
1"=40' (11"x17")
SCALE: 1"=20' (22"x34")

MAY 24, 2023

TFM

47099.01

BR - 04



PLANTING LEGEND			
SYMBOL	PLANT TYPE	QUANTITY	SIZE
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

BRIDGE PERMITTING PLANS

TAX MAP 205 LOT 2

DEVELOPED UPLAND RESTORATION PLAN

LADY ISLE BRIDGE REPLACEMENT

325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

OWNED BY & PREPARED FOR

ADL 325 LITTLE HARBOR ROAD TRUST

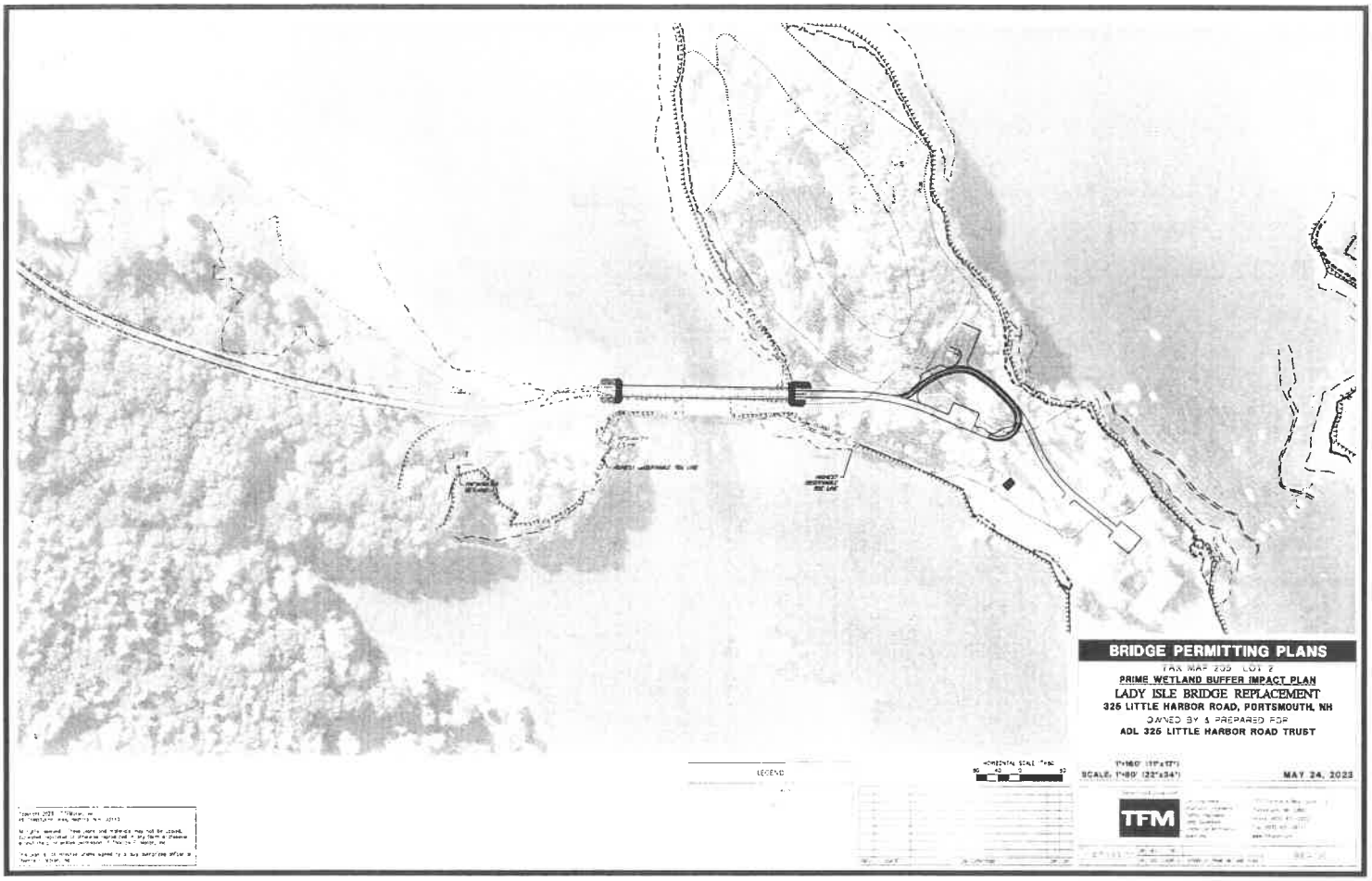
1"=40' (22"x17")
SCALE: 1"=20' (22"x34")

MAY 24, 2023

TFM

1470.99.01

BR-05



BRIDGE PERMITTING PLANS

TAX MAP 205 LOT 2

PRIME WETLAND BUFFER IMPACT PLAN

LADY ISLE BRIDGE REPLACEMENT

325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

OWNED BY & PREPARED FOR

ADL 325 LITTLE HARBOR ROAD TRUST

LEGEND

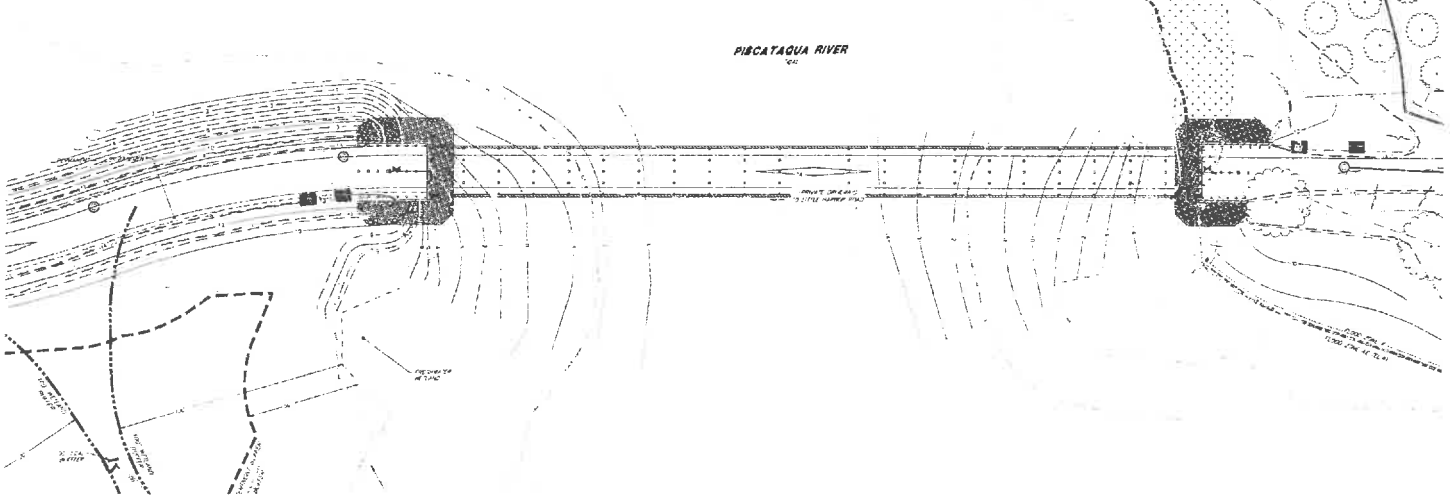
HORIZONTAL SCALE: 1"=40'

1"=80' (22"x34")

SCALE: 1"=80' (22"x34")

MAY 24, 2023

TFM



TIDAL ELEVATIONS

BRIDGE PERMITTING PLANS

VULNERABILITY ASSESSMENT PLAN

LADY ISLE BRIDGE REPLACEMENT

325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

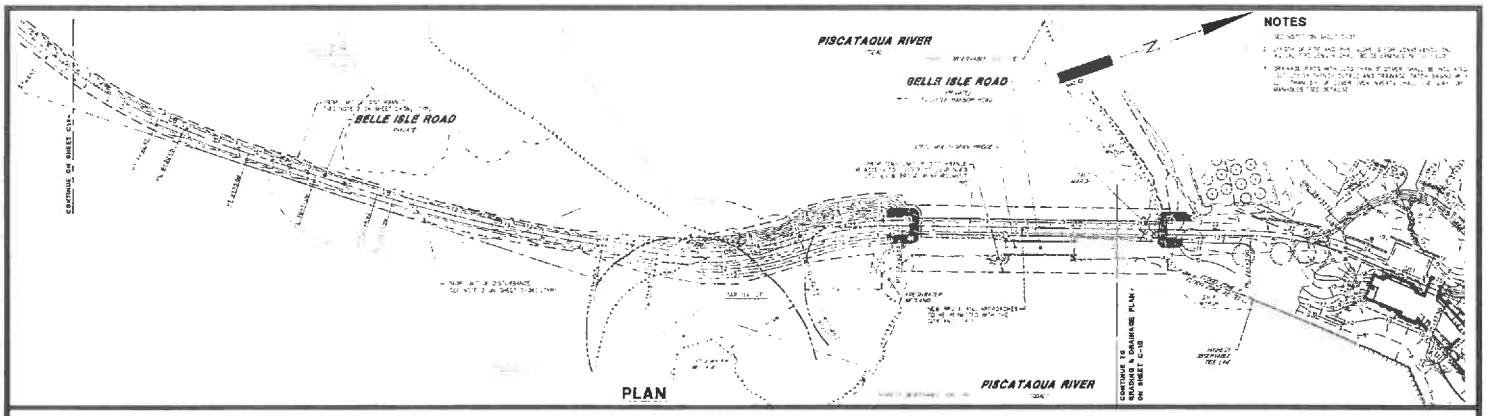
ADL 325 LITTLE HARBOR ROAD TRUST

1"=40' (22"x17")

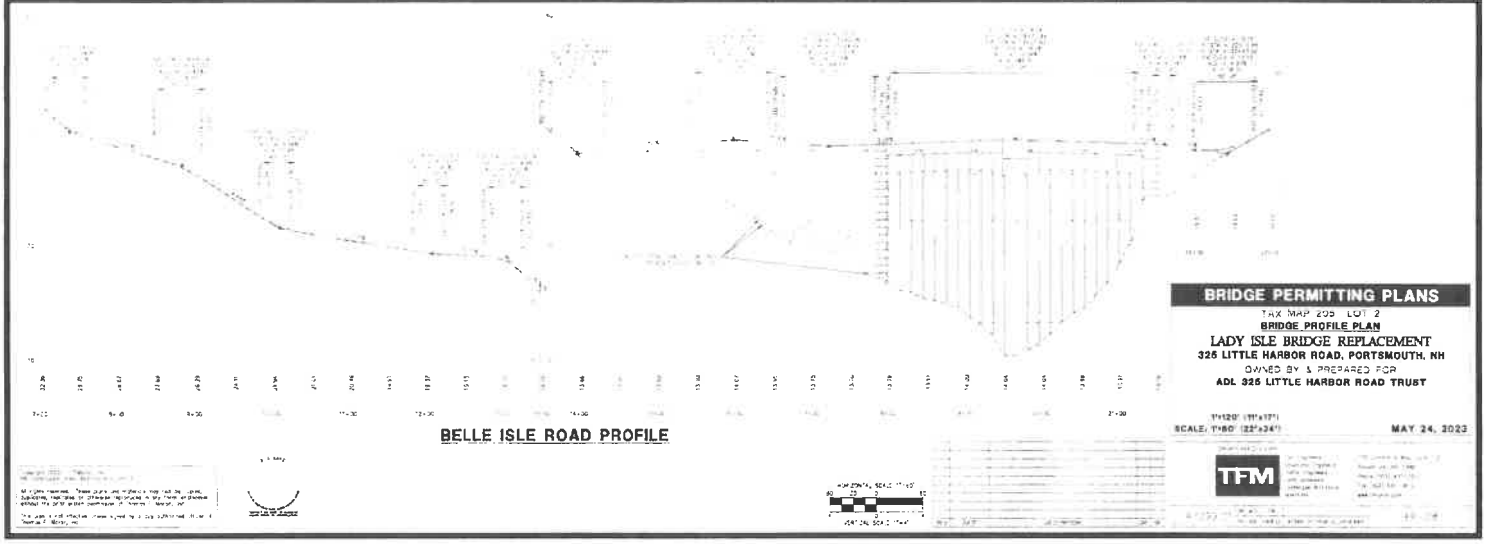
SCALE: 1"=20' (22"x34")

MAY 24, 2023

TFM



PLAN



BELLE ISLE ROAD PROFILE

BRIDGE PERMITTING PLANS

TAX MAP 205 LOT 2

BRIDGE PROFILE PLAN

LADY ISLE BRIDGE REPLACEMENT

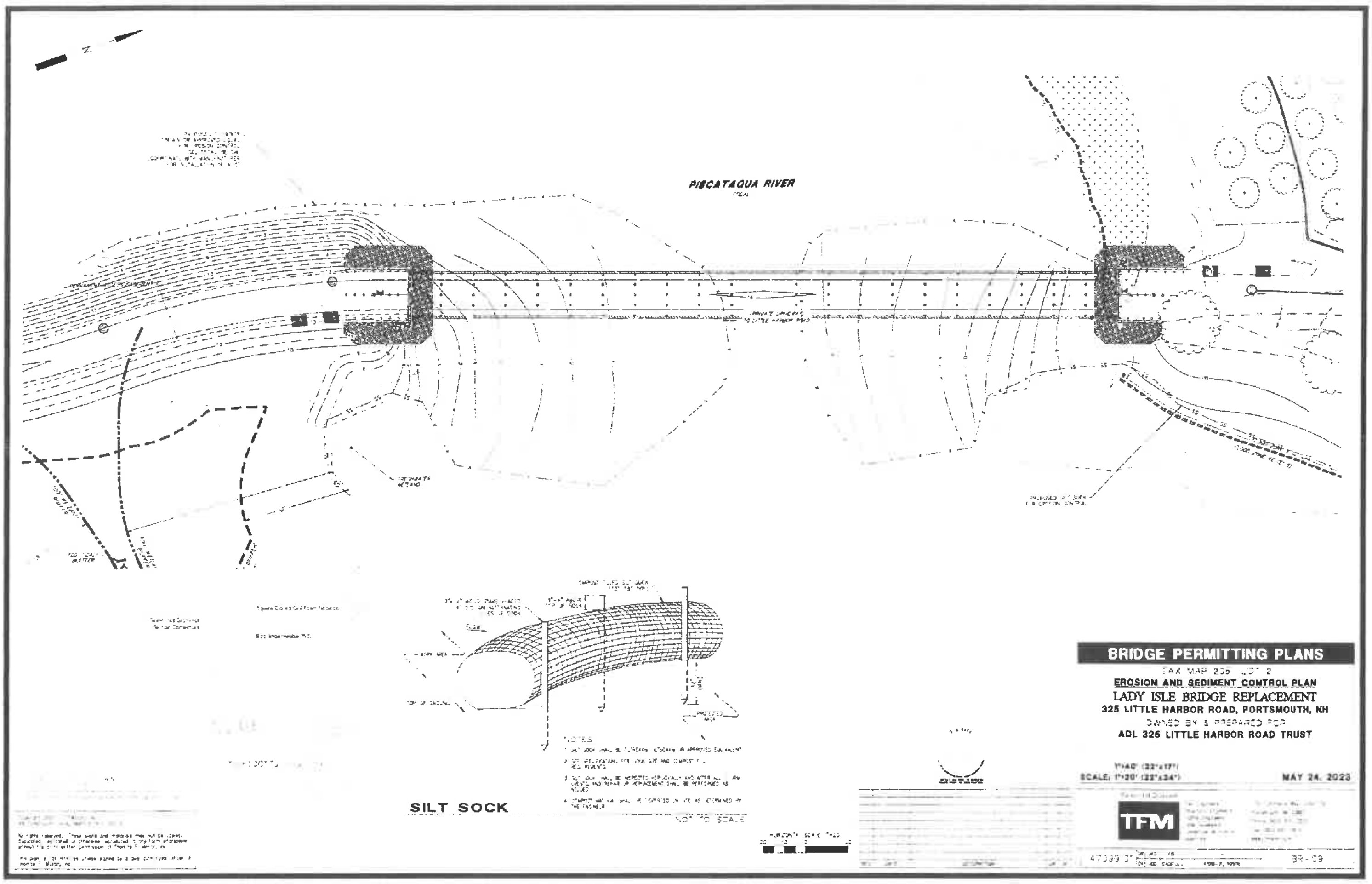
325 LITTLE HARBOR ROAD, PORTSMOUTH, NH

OWNED BY & PREPARED FOR

ADL 325 LITTLE HARBOR ROAD TRUST

SCALE: THIS (22"x34") MAY 24, 2023

TFM


PISCATAQUA RIVER
SILT SOCK
NOT TO SCALE
BRIDGE PERMITTING PLANS
TAX MAP 205 LOT 2
EROSION AND SEDIMENT CONTROL PLAN
LADY ISLE BRIDGE REPLACEMENT
325 LITTLE HARBOR ROAD, PORTSMOUTH, NH
OWNED BY & PREPARED FOR
ADL 325 LITTLE HARBOR ROAD TRUST
SCALE: 1"=20' (22"x34")
MAY 24, 2023
TFM
47099.01
BR-09

The State of New Hampshire

Department of Environmental Services

Robert R. Scott, Commissioner

NOTICE OF ACCEPTANCE OF PERMIT APPLICATION
LAND RESOURCES MANAGEMENT
ALTERATION OF TERRAIN BUREAU

RECEIVED
MAY 17 2024
By

May 8, 2024

PORTSMOUTH MUNICIPAL CLERK
1 JUNKINS AVE
PORTSMOUTH NH 03801

Re: Alteration of Terrain (AoT) Bureau Permit Application (RSA 485-A:17); NHDES File Number: 240507-093
Project Name: PROPOSED MIXED USE DEVELOPMENT
Subject Property: Tax Map# 123, Lot# 10,12,13,14

Dear Sir or Madam:

Pursuant to RSA 541-A:39, please be advised that the New Hampshire Department of Environmental Services (NHDES) AoT Bureau accepted an application on May 8, 2024 for the permit program and subject property referenced above. The application requests a permit to disturb approximately 110,528 square feet of earth at the subject property.

Pursuant to Env-Wq 1503.05 (f), the applicant is required to provide a copy of the application and plans to the municipality. If you have not received the required information, please contact the agent: **TIGHE & BOND C/O NEIL HANSEN, 177 CORPORATE DR, PORTSMOUTH NH 03801**.

If you wish to comment on the application, please submit your comments by **MAY 16 2024**. All comments should reference the NHDES file number, and mailed to the following address: **NHDES ALTERATION OF TERRAIN BUREAU, PO BOX 95, CONCORD NH 03302-0095**.

Please provide a copy of this notice to all interested departments, boards and commissions. Also note that under current state law and regulations, NHDES is not authorized to consider local zoning and regulatory issues pertaining to a project; these must be addressed at the local level.

If you have any questions, please contact the NHDES Alteration of Terrain Bureau at (603) 271-3568.

Sincerely,

Alteration of Terrain Bureau
Land Resources Management

cc: NORTH MILL POND HOLDINGS LLC EBEN TORMEY
TIGHE & BOND NEIL HANSEN

31 RAYNES LLC C/O PORTSMOUTH CHEVROLET, 203 MAPLEWOOD AVENUE LLC
ONE RAYNES AVE LLC, 299 VAUGHAN ST LLC C/O CHATHARTES PRIVATE INVESTMENTS

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

May 15, 2024

KIMBERLEY S/THOMAS P LYNG
333 NEW CASTLE AVE
PORTSMOUTH NH 03801

Re: Request for More Information – Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)
NHDES File Number: 2024-00792
Subject Property: 333 New Castle Ave, Portsmouth, Tax Map #207, Lot #2

Dear Applicant:

On May 15, 2024, the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau reviewed the above-referenced Standard Dredge and Fill Wetlands Permit Application (Application). Pursuant to RSA 482-A:3, XIV(a)(2) and Rules Env-Wt 100 through 900, NHDES Wetlands Bureau determined the following additional information is required to complete its evaluation of the Application:

1. Please provide a statement from the Pease Development Authority Division of Ports and Harbors ("DP&H") chief harbormaster, or designee, for the subject location relative to the two proposed structures' impact on navigation in accordance with Env-Wt 603.09(a).

Please submit the required information as soon as practicable. Pursuant to RSA 482-A:3, XIV(a)(2), **the required information must be received by NHDES Wetlands Bureau within 60 days of the date of this request (no later than July 14, 2024), or the Application will be denied**. Should additional time be necessary to submit the required information, an extension of the 60-day time period may be requested. Requests for additional time must be received prior to the deadline in order to be approved. In accordance with applicable statutes and regulations, the applicant is also expected to provide copies of the required information to the municipal clerk and all other interested parties. Pursuant to RSA 482-A:3, XIV(a)(3), NHDES Wetlands Bureau will approve or deny the Application within 30 days of receipt of all required information, or schedule a public hearing, if required by RSA 482-A or associated rules.

If you have any questions, please contact me at Alexander.D.Feuti@des.nh.gov or (603) 271-2917.

Sincerely,

Alexander Feuti
Wetlands Specialist, Wetlands Bureau
Land Resources Management, Water Division

Copied: Jaqueline Boudreau, Haley Ward Inc
Municipal Clerk/Conservation Commission

The State of New Hampshire

Department of Environmental Services

Robert R. Scott, Commissioner

May 15, 2024

RECEIVED
MAY 22 2024
By

CITY OF PORTSMOUTH
C/O PETER RICE
680 PEVERLY HILL RD
PORTSMOUTH NH 03801

Re: Approved Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)
NHDES File Number: 2023-02503
Subject Property: Maplewood Ave, Portsmouth, Tax Map/Block/Lot(s): 123/no block/ROW

Dear Owner:

On May 15, 2024, the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau approved the above-referenced application to dredge and fill 1,291 square feet (SF) of tidal waters and impact 2,763 SF of the previously developed upland tidal buffer zone to rehabilitate an existing culvert by applying a 4.5-inch thick, spray-on geopolymer lining, remove 206 SF of the existing culvert footings to maintain hydraulic capacity of the crossing, replace riprap in-kind, and replace stormwater outfalls. Temporarily impact 18,665 SF of tidal waters and 8,405 SF of previously developed upland tidal buffer zone for construction access and erosion and sediment controls.

Permanent Waiver Granted: Permanently reduce the tree score within three waterfront buffer grid segments below the requirement per RSA 483-B:9, V, (a)(2)(D)(iv) for the purposes of rehabilitating an existing bridge.

Temporary Waiver Granted: Temporarily reduce the tree score within six waterfront buffer grid segments below the requirement per RSA 483-B:9, V, (a)(2)(D)(iv) for the purposes of rehabilitating an existing bridge. Restoration planting required to replace the points to meet RSA 483-B:9, V(a)(2)(D)(iv) within six waterfront buffer grids.

In accordance with RSA 482-A:10, RSA 21-O:14, and Rules Ec-Wet 100-200, **any person aggrieved by this decision may file a Notice of Appeal directly with the NH Wetlands Council (Council) within 30 days of the decision date, May 15, 2024**. Every ground claiming the decision is unlawful or unreasonable must be fully set forth in the Notice of Appeal. Only the grounds set forth in the Notice of Appeal are considered by the Council. Information about the Council, including Council Rules, is available at https://www.nhec.nh.gov/wetlands-council/about. For appeal related issues, contact the Council Appeals Clerk at (603) 271-3650.

In accordance with RSA 482-A:3, II(a) and Env-Wt 313.02(b), as your project is a major project located in a great pond or in public waters of the state, your application must also be approved by the Governor and the Executive Council. Upon expiration of the appeal period, a redacted copy of the file is submitted to the Governor and the Executive Council for their consideration. Information about the Governor and the Executive Council is available at https://www.nh.gov/council/.

Sincerely,

Philip Trowbridge, P.E., Manager
Land Resources Management, Water Division

Enclosure: Copy of Decision

Copied: Agent
Municipal Clerk/Conservation Commission
Abutters
Assistant Administrator, Wetlands Bureau

FILE #2023-02503
CITY OF PORTSMOUTH
PORTSMOUTH

DECISION DATE:
May 15, 2024

DECISION:
Dredge and fill 1,291 square feet (SF) of tidal waters and impact 2,763 SF of the previously developed upland tidal buffer zone to rehabilitate an existing culvert by applying a 4.5-inch thick, spray-on geopolymer lining, remove 206 SF of the existing culvert footings to maintain hydraulic capacity of the crossing, replace riprap in-kind, and replace stormwater outfalls. Temporarily impact 18,665 SF of tidal waters and 8,405 SF of previously developed upland tidal buffer zone for construction access and erosion and sediment controls.

Permanent Waiver Granted: Permanently reduce the tree score within three waterfront buffer grid segments below the requirement per RSA 483-B:9, V, (a)(2)(D)(iv) for the purposes of rehabilitating an existing bridge.

Temporary Waiver Granted: Temporarily reduce the tree score within six waterfront buffer grid segments below the requirement per RSA 483-B:9, V, (a)(2)(D)(iv) for the purposes of rehabilitating an existing bridge. Restoration planting required to replace the points to meet RSA 483-B:9, V(a)(2)(D)(iv) within six waterfront buffer grids.

CONDITIONS:
1. All work shall be done in accordance with approved plan sheets dated December 2023, and revised through April 2024, by Hoyle, Tanner, & Associates, Inc., and received by the NH Department of Environmental Services (NHDES) on December 21, 2023, and April 25, 2024, and the approved revegetation plan dated April 2024, by Hoyle, Tanner, & Associates, Inc, received by the NH Department of Environmental Services (NHDES) on April 25, 2024, in accordance with Env-Wt 307.16.
2. In accordance with Env-Wt 307.07, all development activities associated with any project shall be conducted in compliance with applicable requirements of RSA 483-B and Env-Wq 1400 during and after construction.
3. In accordance with Env-Wt 307.12(h), any trees cut in an area of authorized temporary impacts shall be cut at ground level with the shrub and tree roots left intact, to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area.
4. All waterfront buffer planting as shown on the approved plans shall be completed prior to final construction demobilization at the site as required to ensure compliance with RSA 483-B:9, V(a)(2)(D)(i) through (iv).
5. The plantings shall be inspected at the beginning and end of the growing season for a period of 3 years after initial plantings have been completed during which time any failed plantings shall immediately be replaced by the City of Portsmouth as required to ensure compliance with RSA 483-B:9, V(a)(2)(D)(i) through (iv).
6. At the completion of the 3 year monitoring period, the City of Portsmouth shall submit a report including photographs of the planted buffer to the Department as required in order to ensure compliance with RSA 483-B:9, V(a)(2)(D)(i) through (iv).
7. Work on stream crossings that requires any work in areas that are subject to flowing water shall maintain normal flows and prevent water quality degradation during the work by using best management practices, such as temporary by-pass pipes, culverts, or cofferdams in accordance with Env-Wt 904.02(b).
8. In-stream work shall be done only when the tide is seaward of the work area in accordance with Env-Wt 904.02(a)(2).
9. In accordance with Env-Wt 307.03(f)(1), a cofferdam or other turbidity control shall be used to enclose a dredging project conducted in or along the shoreline of a stream, river, creek, or any other surface water, provided that a coffer dam shall not be installed during periods of high flow.
10. In accordance with Env-Wt 307.03(f)(2), a coffer dam or other turbidity control shall be removed after work within the coffer dam or other turbidity control is completed, the contained water has returned to background clarity, and when removing the structure will not cause or contribute to a violation of Env-Wt 307.03(c)(6).
11. No activity shall be conducted in such a way as to cause or contribute to any violation of surface water quality standards per Env-Wt 307.03(a).

12. All work including management of soil stockpiles, shall be conducted so as to minimize erosion, minimize sediment transfer to surface waters or wetlands, and minimize turbidity in surface waters and wetlands per Env-Wt 307.03(b).
13. In accordance with Env-Wt 307.03(c)(3), water quality control measures shall be installed prior to start of work and in accordance with the manufacturer's recommended specifications.
14. In accordance with Env-Wt 307.03(c)(1), water quality control measures shall be selected and implemented based on the size and nature of the project and the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to jurisdictional areas.
15. In accordance with Env-Wt 307.10(c), turbidity controls shall be installed prior to construction and maintained during construction such that no turbidity escapes the immediate dredge area; and remain in place until suspended particles have settled and water at the work site has returned to normal clarity.
16. In accordance with Env-Wt 307.03(c)(2), water quality control measures shall be comprised of wildlife-friendly erosion control materials if erosion control blankets are utilized.
17. In accordance with Env-Wt 307.03(c)(5), water quality control measures shall be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction.
18. In accordance with Env-Wt 307.03(c)(6), water quality control measures shall remain in place until all disturbed surfaces are stabilized to a condition in which soils on the site will not experience accelerated or unnatural erosion by achieving and maintaining a minimum of 85% vegetative cover using an erosion control seed mix, whether applied in a blanket or otherwise, that is certified by its manufacturer as not containing any invasive species; or placing and maintaining a minimum of 3 inches of non-erosive material such as stone.
19. In accordance with Env-Wt 307.03(c)(7), temporary water quality control methods shall be removed upon completion of work when compliance with Env-Wt 307.03(c)(6) is achieved.
20. In accordance with Env-Wt 307.05(e), to prevent the use of soil or seed stock containing nuisance or invasive species, the contractor responsible for work shall follow Best Management Practices for the Control of Invasive and Noxious Plant Species (Invasive Plant BMPs).
21. In accordance with Env-Wt 307.11(b), limits of fill shall be clearly identified prior to commencement of work and controlled in accordance with Env-Wt 307.03 to ensure that fill does not spill over or erode into any area where filling is not authorized.
22. In accordance with Env-Wt 307.11(a), fill shall be clean sand, gravel, rock, or other material that meets the project's specifications for its use; and does not contain any material that could contaminate surface or groundwater or otherwise adversely affect the ecosystem in which it is used.
23. Wetlands and surface waters where permanent impacts are not authorized shall be restored to their pre-impact conditions and elevation by replacing the removed soil and vegetation in their pre-construction location and elevation such that post-construction soil layering and vegetation schemes are as close as practicable to pre-construction conditions in accordance with Env-Wt 307.11(j) and Env-Wt 307.12(i).
24. In accordance with Env-Wt 307.11(c), slopes shall be immediately stabilized to prevent erosion into adjacent wetlands or surface waters.
25. In accordance with Env-Wt 307.12(a), within 3 days of final grading or temporary suspension of work in an area that is in or adjacent to surface waters, all exposed soil areas shall be stabilized by seeding and mulching, if during the growing season; or mulching with tackifiers on slopes less than 3:1 or netting and pinning on slopes steeper than 3:1 if not within the growing season.
26. In accordance with Env-Wt 307.15(a), heavy equipment shall not be operated in any jurisdictional area unless specifically authorized by this permit.
27. In accordance with Env-Wt 307.03(h), equipment shall be staged and refueled outside of jurisdictional areas (unless allowed) and in accordance with Env-Wt 307.15.

28. In accordance with Env-Wt 307.03(g)(1), the person in charge of construction equipment shall inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
29. In accordance with Env-Wt 307.03(g)(3) and (4), the person in charge of construction equipment shall maintain oil spill kits and diesel fuel spill kits, as applicable to the type(s) and amount(s) of oil and diesel fuel used, on site so as to be readily accessible at all times during construction; and train each equipment operator in the use of the spill kits.
30. In accordance with Env-Wt 307.03(g)(2), the person in charge of construction equipment shall repair any leaks prior to using the equipment in an area where such fluids could reach groundwater, surface waters, or wetlands.

FINDINGS:

1. This project is classified as a major impact project per Rule Env-Wt 903.01(g)(3)(b), for a project to rehabilitate a tier 4 stream crossing.
2. On September 13, 2023, the Department received correspondence from the NH Fish and Game Department (NHF&G) dated June 9, 2022, stating that "[NHF&G] do not expect impacts to [the protected anadromous fish species] as a result of this project."
3. NHDES finds that the project as approved and conditioned will not have an unreasonable adverse impact on the value of such areas as sources of nutrients for finfish, crustacea, shellfish and wildlife of significant value, nor will it damage or destroy habitats and reproduction areas for plants, fish and wildlife of importance.
4. No comments were received by NHDES from the Portsmouth Conservation Commission about this application.
5. On December 19, 2023, the applicant obtained a statement from the Pease Development Authority, Division of Ports and Harbors regarding the projects impact on navigation and passage stating, "[w]e examined the proposed site and found that the structure will have no negative effect on navigation in the channel," per Rule Env-Wt 603.09.
6. Per Rule Env-Wt 313.01(a)(5), and as required by RSA 482-A:11, II, this permit for work to dredge or fill will not 'infringe on the property rights or unreasonably affect the value or enjoyment of property of abutting owners'.
7. In accordance with RSA 483-B:9, V, (i) the commissioner shall have the authority to grant waivers from the minimum standards of this section. Such authority shall be exercised if the commissioner deems that strict compliance with the minimum standards of this section will provide no material benefit to the public and have no material adverse effect on the environment or the natural resources of the state.
8. In accordance with RSA 483-B:9, V(a)(2)(D)(v), the department shall not approve any application that would result in a combined vegetation score of less than the minimum score required where the segment initially meets the minimum score or would result in any reduction of the point score where the segment does not initially meet the minimum score.
9. The project as proposed would result in the removal of trees in nine waterfront buffer grid segments, reducing the point score below the minimum point score required by RSA 483-B:9, V(a)(2)(D)(iv), to install riprap for erosion protection adjacent to the bridge footings, replace a stormwater outfall, and to construct a temporary construction laydown and access area.
10. The Applicant requested a permanent waiver of RSA 483-B:9, V(a)(2)(D)(v) to reduce a waterfront buffer segment point score in three waterfront buffer grids within the right of way such that it will permanently fail to meet the minimum point score.
11. Granting a permanent waiver of RSA 483-B:9, V(a)(2)(D)(v) would have no significant adverse effects on the environment or the natural resources of the state.
12. The Applicant requested a temporary waiver of RSA 483-B:9, V(a)(2)(D)(v) to reduce a waterfront buffer segment point score in six waterfront buffer grids such that they will temporarily fail to meet the minimum point score.

13. The Applicant has proposed planting of 1-5 replacement trees in each of the waterfront grids segments up to the minimum point score that will result in no net reduction of points each segment, and to replace the existing shrubs and ground covers in-kind in order to comply with RSA 483-B:9, V(a)(2)(D)(iv).
14. Granting a temporary waiver of RSA 483-B:9, V(a)(2)(D)(v) would have no significant adverse effects on the environment or the natural resources of the state.
15. Permit conditions include monitoring the plantings for 3 years with a report submitted to the Department and the requirement that any plants lost shall be replaced by the permittee.
16. The strict compliance with the minimum standards of this section will not provide material benefit to the public and will have no material adverse effect on the environment or the natural resources of the state and therefore, the requirements for a permanent and temporary waiver to RSA 483-B:9, V(a)(2)(D)(v).
17. NHDES finds that the requirements for a public hearing, as established in RSA 482-A, do not apply as the project will not have a significant environmental impact, as defined in New Hampshire Administrative Rule Env-Wt 104.19, on the resources protected by RSA 482-A, and, is not of substantial public interest, as defined in New Hampshire Administrative Rule Env-Wt 104.32.
18. The Department finds that the project as proposed and conditioned meets the requirements of RSA 482-A and the Wetlands Program Code of Administrative Rules Chapters Env-Wt 100-1000.

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

May 17, 2024

EVERSOURCE ENERGY
C/O KURT NELSON
13 LEGENDS DR
HOOKSETT NH 03106

Re: Request for More Information – Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)
NHDES File Number: 2024-00559
Subject Property: 3171/3111, 339, And T13 Right Of Ways, Greenland & Portsmouth

Dear Applicant:

On May 17, 2024, the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau reviewed the above-referenced Standard Dredge and Fill Wetlands Permit Application (Application). Pursuant to RSA 482-A:3, XIV(a)(2) and Rules Env-Wt 100 through 900, NHDES Wetlands Bureau determined the following additional information is required to complete its evaluation of the Application:

1- Classification of Wetlands. Please update your plans and impact tables to include separately identify the federal Cowardin classification for each wetland. Currently, several classes are grouped together. NHDES is required to track and report impacts per each separate Cowardin classes (PFO, PSS, etc.).

2- Protected Shoreland. Per Env-Wt 311.09 (d)(1), please confirm that no part of the project overlaps with the protected shoreland as defined by RSA 483-B. If there is overlap, please delineate the reference line on your plans and send NHDES the updated plans showing compliance with RSA 483-B.

3- Tidal areas. Per Env-Wt 311.09(a), please confirm that no project overlaps with the tidal buffer zone or tidal limits under RSA 482-A:4 or Env-Wt 600. Where any portion of the project is in tidal waters, the tidal buffer zone, or other coastal resources, please ensure all plans, resource specific assessments, and information are included as required by Env-Wt 600. Here are some examples: NH Online Forms System - Coastal Resource Worksheet. Version 2.0; NH Online Forms System - Protected Tidal Zone Project-Specific Worksheet for Standard Application. Version 1.1. Based on plan sheet 1 of 9, your project is crossing through Tier 4 Stream Pickering Brook.

4- Avoidance and Minimization: Based on the current information and in accordance with Env-Wt 521.05(a)(2), Env-Wt 521.03(c), Env-Wt 311.07, Env-Wt 313.03 and Env-Wt 311.07(b)(3), please demonstrate that potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized by specifically addressing the following:
   a. PRA: Per Env-Wt 311.07(b), please clarify whether your project can be located away from the Floodplain wetland adjacent to a Tier 3 or away from the tidal river PRA.
   b. On plan page 1, is it possible to remove the access path between proposed structure 4 and 5 on the 3171, and access each structure from opposite directions, to avoid impacts to Pickering Brook, Floodplain wetland, Tidal waters, and Prime Wetlands identified as GW-1?
   c. According to the Wetland Permit Planning Tool, NHDES has found that *all* matting from structure 19 to 26 on the 3111-distribution line appear to be in Very Poorly Drained Soils. Please provide a statement

addressing the delineation report and how your CWS concluded that this area of the project did not meet the criteria for Very Poorly Drained Soils.

d. Please provide updated communication with Department of Transportation (DOT) as entrance from Spaulding Turnpike to project location appears to require confirmation from their department.
e. On plan page 5, around structure 33 on the 3171 line, is all the matting necessary in the northern corner of the work envelope? Please explain the rationale.
f. On plan page 8, is it possible to shift the mats around structures 3 and 4 on the 339 line outside of wetland identified as PW-6, as there is documented scarring around those structures.
    i. Additionally, please see the two aerial views below from 2022 and 2023. Please provide NHDES with records of past permits for permanent wetlands impacts and identify compensatory mitigation where appropriate for these areas. Also, please review the methods and success measures for past restoration approaches. Where permanent impacts have been documented, please include a full restoration plan with plantings and schedule to restore these areas.

g. On plan page 9, is it possible to access structure 9 on the T13 line via the access path from structure 10, to avoid further impacts to wetland identified as PW-12, rather than gaining access from structure 8?

5- Removal of existing lines T-13 and removal of the Resistance Substation: Please clarify whether removal of Line T-13 and Removal of the Resistance Substation are within jurisdictional wetlands or coastal resource areas. If so, please include the specific impacts and methods for restoration in these areas.

6- Prime Wetlands: Please know pursuant to RSA 482-A, the department shall not grant a permit with respect to any project to be undertaken in an area mapped, designated and files as a prime wetland pursuant to RSA 482-A: 15, or within 100 feet of any prime wetlands where a 100 foot buffer, unless the department is able to find clear and convincing evidence on the *basis of all information considered by the department, that the proposed project, either alone or in conjunction with other human activity, will not result in the significant net loss of any of the values set forth in RSA 482-A:1.* Please specifically explain what on-site protective measures will be taken to protect the Municipally Designated prime wetlands functions and values. Please review the prime wetlands report filed by the City of Portsmouth and provide this information to NHDES in your proposal to identify protective measures for proposed impacts to Portsmouth Designated prime wetland functions and values.

7- Mitigation: Per Env-Wt 313.04, once permanent impacts are proposed within a Priority Resource Area (PRA), the applicant must mitigate for all remaining permanent impacts throughout the entire project. In your application under Section 11 it indicates a total of 825 SF permanent impacts, all impacts need to be included in your mitigation calculations. For prime wetlands mitigation, per Env-Wt 704.03, the applicant shall obtain concurrence from the local Conservation Commission regarding proposed mitigation plans for Prime Wetlands. Per Env-Wt 801.03(b), please confirm whether the municipality specifically concurred on the use of the in-lieu fee payment as a form of mitigation.

8- Fish and Game/NHB coordination: In accordance with Env-Wt 521.06(a)(4), please provide communication with

New Hampshire Fish & Game (NHF&G) for the City of Portsmouth, including correspondence and their finalized BMP recommendations.

9- Public Hearing: Please note that pursuant to RSA 482-A:8, the department is required to hold a public hearing for projects with significant impact on the resources protected by this chapter or of substantial public interest. Per Env-Wt 104.19 "Significant environmental impact" includes a project that impacts more than one acre of non-tidal wetlands.

Please submit the required information as soon as practicable. Pursuant to RSA 482-A:3, XIV(a)(2), **the required information must be received by NHDES Wetlands Bureau within 60 days of the date of this request (no later than July 16, 2024), or the Application will be denied**. Should additional time be necessary to submit the required information, an extension of the 60-day time period may be requested. Requests for additional time must be received prior to the deadline in order to be approved. In accordance with applicable statutes and regulations, the applicant is also expected to provide copies of the required information to the municipal clerk and all other interested parties.

Based on NHDES review your project has 5,000 square feet or greater of non-tidal wetlands impacts. To ensure that you obtain permitting under the Clean Water Act, please contact the U.S. Army Corps of Engineers (USACE) at 1-978-318-8832, 1-978-318-8295, or by email at cenae-r-nh@usace.army.mil to see if additional mitigation may be required from the USACE.

Pursuant to RSA 482-A:3, XIV(a)(3), NHDES Wetlands Bureau will approve or deny the Application within 30 days of receipt of all required information, or schedule a public hearing, if required by RSA 482-A or associated rules.

If you have any questions, please contact me at MaryAnn.Tilton@des.nh.gov or (603) 271-2147.

Sincerely,

Mary Ann Tilton
Assistant Bureau Administrator, Wetlands Bureau
Land Resources Management, Water Division

Copied: Conor Madison, GZA
Greenland Municipal Clerk/Conservation Commission
Portsmouth Municipal Clerk/Conservation Commission