PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

7:00 PM Public Hearings begin **July 21, 2022**

AGENDA

REGULAR MEETING 7:00pm

I. APPROVAL OF MINUTES

A. Approval of June 16, 2022 and June 23, 2022 meeting minutes.
B. Approval of June 29, 2022 special meeting minutes.
C. Approval of June 29, 2022 joint work session minutes.

II. DETERMINATIONS OF COMPLETENESS

SITE PLAN REVIEW

A. The request of **230 Commerce Way LLC (Owner and Applicant),** for Property located at **230 Commerce Way** requesting **Amended Site Plan Review Approval** to construct a new two-story building.

B. The request of **HCA Health Service of NH IINC (Owner),** for property located at **333 Borthwick Avenue** requesting Amended Site Plan Approval for an 8,700 square foot addition to the existing building.

III. PUBLIC HEARINGS -- OLD BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature.
If any person believes any member of the Board has a conflict of interest,
that issue should be raised at this point or it will be deemed waived.

A. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Preliminary and Final Subdivision approval to subdivide one existing lot with 65,365 square feet of lot area and 123.92 of frontage on Lafayette Road and 336.61 feet of frontage on Andrew Jarvis Drive into three lots as follows: Proposed Lot 1 with 18,434 square feet of lot area and 123.92 feet of frontage on Lafayette Road and 129.57 feet of frontage on Andrew Jarvis Drive, Proposed Lot 2 with 16,606 square feet of lot area and

102.04 feet of frontage on Andrew Jarvis Drive, and Proposed Lot 3 with 30,325 square feet of lot area and 107 feet of frontage on Andrew Jarvis Drive. Said property is located on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-82)

B. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Site Plan Approval and Conditional Use Permit Approval as permitted under Section 10814.40 of the Zoning Ordinance to subdivide the lot and construct two new single-family dwellings (one includes an attached accessory dwelling unit) in addition to the existing single-family dwelling. Said property is located on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-82)

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature.
If any person believes any member of the Board has a conflict of interest,
that issue should be raised at this point or it will be deemed waived.

A. The request of **230 Commerce Way LLC (Owner and Applicant),** for Property located at **230 Commerce Way** requesting **Amended Site Plan Review Approval** to construct a new two-story building with a 12,500 square foot footprint and totaling 25,000 square feet with associated site improvements including lighting, utilities and stormwater treatment/management systems. Said property is located on Assessor Map 216 Lot 1-5 and lies within the Office Research (OR) District. (LU-22-14)

B. The request of **230 Commerce Way LLC (Owner and Applicant),** for Property located at **230 Commerce Way** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for the installation of a treated stormwater drainage outfall, removal of 5,070 square feet of impervious surface, and 9,250 square feet of buffer enhancements within the 100 foot buffer area for associated construction outside the buffer area. Said property is located on Assessor Map 216 Lot 1-5 and lies within the Office Research (OR) District. (LU-22-14)

C. The request of **HCA Health Service of NH IINC (Owner),** for property located at **333 Borthwick Avenue** requesting Amended Site Plan Approval for an 8,700 square foot addition to the existing building with associated landscaping, utilities, sidewalk connectivity, and other related site work. Said property is located on Assessor Map 240 Lot 2-1 and lies within the Office Research (OR) District. (LU-22-35)

D. The request of **HCA Health Service of NH IINC (Owner),** for property located at **333 Borthwick Avenue** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for 200 square feet of permanent and 4,400 square feet of temporary impact to the inland wetland; and 13,000 square feet of permanent and 4,300 square feet of temporary impact to the 100 foot buffer area for associated expansion of hospital facilities. Said property is located on Assessor Map 240 Lot 2-1 and lies within the Office Research (OR) District. (LU-22-35)

E. The request of **Lancen and Sophie LaChance (Owner and Applicant),** for property located at **11 Fletcher Street** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for the installation of a stormwater underdrain outlet creating 140 square feet of permanent impact within the 100 foot wetland buffer. Said property is shown on Assessor Map 233 Lot 76-1 and lies within the Single Residence B (SRB) District. (LU-20-42)

F. The request of **Tom and Angela Mita (Owners and Applicants),** for property located at **81 Taft Road** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for 17 square feet of permeant disturbance to the buffer area for the construction of an expansion to the existing structure. Said property is shown on Assessor Map 247 Lot 87 and is lies within the Single Residence B (SRB) district. (LU-22-98)

G. The request of **The Fritz Family Revocable Living Trust, Owner**, for property located at **0 Patricia Drive** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance to replace an existing unfinished right-of-way with a new private road to access two lots as well as the installation of stormwater treatment infrastructure and wetland buffer plantings which will result in 1,738 square feet of temporary impact and 4,283 square feet of permanent impact to the wetland buffer. Said property is shown on Assessor Map 283 Lot 1 and lies within the Single Residence A (SRA) district. (LU-20-190)

V. OTHER BUSINESS

A. Hemlock / Patricia Drive Subdivision Extension Request

B. Public Involvement Summary Report

C. Chairman's Updates and Discussion Items

VI. ADJOURNMENT

https://us06web.zoom.us/webinar/register/WN_xSAF_eLtRKWLmLYR6TAuaQ

City of Portsmouth
Planning Department
1 Junkins Ave, 3rd Floor
Portsmouth, NH
(603)610-7216

Memorandum

To: Planning Board
From: Beverly Mesa-Zendt, Planning Director
Stefanie L. Casella, Planner
Date: July 15, 2022
Re: Recommendations for the July 21, 2022 Planning Board Meeting

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I. APPROVAL OF MINUTES

A. Approval of the June 16, 2022 and June 23, 2022 Minutes
B. Approval of the June 29, 2022 Special Meeting Minutes
C. Approval of the June 29, 2022 Joint Work Session Minutes

Planning Department Recommendation

1) Board members should determine if the draft minutes include all relevant details for the decision making process that occurred at the June 16, 2022 and June 23, 2022 meetings and vote to approve meeting minutes with edits if needed.

2) Board members should determine if the draft minutes include all relevant details for the decision making process that occurred at the June 29, 2022 meeting and vote to approve meeting minutes with edits if needed.

3) Board members should determine if the draft minutes include all relevant details for the joint work session that occurred June 29, 2022 meeting and vote to approve meeting minutes with edits if needed.

II. DETERMINATION OF COMPLETENESS

SITE PLAN REVIEW

A. The request of **230 Commerce Way LLC (Owner and Applicant),** for Property located at **230 Commerce Way** requesting **Amended Site Plan Review Approval** to construct a new two-story building.

B. The request of **HCA Health Service of NH IINC (Owner),** for property located at **333 Borthwick Avenue** requesting Amended Site Plan Approval for an 8,700 square foot addition to the existing building.

Planning Department Recommendations

1) Vote to determine that these applications are complete according to the Site Plan Review Regulations, (contingent on the granting of any required waivers under Sections III and IV of the agenda) and to accept the application for consideration.

III. PUBLIC HEARINGS – OLD BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

It is recommended that Item III.A and III.B be discussed together and voted on separately.

A motion is required to consider these items together.

A. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Preliminary and Final Subdivision approval to subdivide one existing lot with 65,365 square feet of lot area and 123.92 of frontage on Lafayette Road and 336.61 feet of frontage on Andrew Jarvis Drive into three lots as follows: Proposed Lot 1 with 18,434 square feet of lot area and 123.92 feet of frontage on Lafayette Road and 129.57 feet of frontage on Andrew Jarvis Drive, Proposed Lot 2 with 16,606 square feet of lot area and 102.04 feet of frontage on Andrew Jarvis Drive, and Proposed Lot 3 with 30,325 square feet of lot area and 107 feet of frontage on Andrew Jarvis Drive. Said property is located on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-82)

B. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Site Plan Approval and Conditional Use Permit Approval as permitted under Section 10814.40 of the Zoning Ordinance to subdivide the lot and construct two new single-family dwellings (one includes an attached accessory dwelling unit) in addition to the existing single-family dwelling. Said property is located on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-82)

Project Update

This application was continued from the June 23, 2022 Planning Board meeting with the request that the applicant meet with abutting property owners and discuss drainage plans for the proposed development and maintenance of the private road; and address the right of first refusal issue in writing.

Please see the following letters provided in your packets:

1. Letter dated June 29, 2022 to the Planning Director from Derek R. Durbin EsQ regarding a past deed and private covenant.
2. Letter dated June 29, 2022 to the Planning Board Chair from Jack Macek, EIT regarding drainage and request of the Planning Board to meet with the abutters.

A copy of the Access and Utility Easement Agreement has been provided in your packet which includes a summary of easement area maintenance responsibilities.

Please see below for original application analysis as found in the June 23, 2022 Staff

Memo.

Background

This proposal is for the subdivision of a single lot into three proposed lots, and the construction of two single-family dwelling units and an attached accessory dwelling unit. Other improvements associated with this project include, but are not limited to grading, utility installation, stormwater management, landscaping, and paving. The existing lot is located at 437 Lafayette Road and is identified on the City of Portsmouth Assessor's Map 229 as Lot 1, and is approximately 65,365 sf (1.50 ac) in size. The site is located in the Single Residence B (SRB) Zone and currently contains one single-family residential building and a detached garage.

Project Review, Decisions, and Recommendations

This application has been before the Technical Advisory Committee. Please see below for more information.

Staff Review

Attached accessory dwelling units must comply with standards set forth in the following sections of the Zoning Ordinance:

- 10.814.10
- 10.814.20
- 10.814.30
- 10.814.40

In granting a conditional use permit for an accessory dwelling unit, the Planning Board may modify a specific standard set forth in Sections 10.814.40 (below) including requiring additional or reconfigured off-street parking spaces, provided that the Board finds such modification will be consistent with the required findings in Section 10.814.60.

Required Standards (10.814.40)	Meets Standard	Does Not Meet Standard	Comments
10.814.41 An interior door shall be provided between the principal dwelling unit and the accessory dwelling unit.	√		Door provided from garage to ADU
10.814.42 The accessory dwelling unit shall not have more than two bedrooms and shall not be larger than 750 sq. ft. gross floor area. For the purpose of this provision, gross floor area shall not include existing storage space, shared entries, or other spaces not exclusive to the accessory dwelling unit	√		One Bedroom Provided / 747 SF

Required Standards (10.814.40)	Meets Standard	Does Not Meet Standard	Comments
10.814.43 Any exterior changes to the single-family dwelling shall maintain the appearance of a single-family dwelling. If there are two or more doors in the front of the dwelling, one door shall be designed as the principal entrance and the other doors shall be designed to appear to be secondary.	√		Presents as single family dwelling-The appearance of the single-family dwelling is maintained. There is one door located on the front of the dwelling that serves as the primary entrance to the principal dwelling unit. A second door is located on the east side of the AADU, which serves as the primary entrance for the AADU.
10.814.44 No portion of the AADU shall be closer to the front lot line than the existing front wall of the principal dwelling unit.	√		Attached Accessory Dwelling Unit is recessed from garage-No portion of the proposed AADU is located closer to the front lot line than the existing front wall of the principal dwelling unit.
10.814.451 An exterior wall of the AADU that faces a street on which the lot has frontage shall comprise no more than 40 percent of the total visible façade area of the dwelling as seen from that street.	√		The exterior wall of the AADU that faces the street on which the lot has frontage comprises of 18 percent of the total visible façade area of the dwelling.
10.814.452 The addition to or expansion of the existing single-family dwelling may include an increase in building height only as an upward expansion of the existing principal building with no increase in building footprint.	√		Both the principal structure and the DADU are new construction
10.814.453 The building height of any addition or expansion that includes an increase in building footprint shall be less than the building height of the existing principal building.	√		Both the principal structure and the DADU are new construction
10.814.454 The AADU shall be architecturally consistent with the existing principal dwelling through the use of similar materials, detailing, roof pitch, and other building design elements.	√		The proposed AADU will be architecturally consistent with the principal dwelling (see architectural plans).

Technical Advisory Committee (TAC) Review

On May 3, 2022 the Committee voted to recommend approval to the Planning Board with the following stipulations:

Subdivision:

Items to be addressed prior to Planning Board approval:

1) Access easements will be will be provided to allow access across all proposed lots for travel along Artwill Ave.
2) A maintenance agreement will be provided for proposed Artwill Ave. maintenance.
3) All easements will be identified with unique identifiers and corresponding easement table that lists all easements and their purpose.

Site Plan and Conditional Use Permit:
Items to be addressed prior to Planning Board approval:
1. All easements will be identified with unique identifiers and corresponding easement table that lists all easements and their purpose.

Prior to Building Permit Issuance:
2. Applicant will coordinate final water and sewer connections with Portsmouth Water.

3. The final water main connection under Andrew Jarvis Dr. will be determined by Portsmouth Water.

TAC Stipulation 1 as listed above has been satisfied with the latest submission as presented to the Planning Board. Stipulations 2 and 3 have been recommended conditions of approval.

Planning Board Review Criteria
Before granting a conditional use permit for an attached or detached ADU, the Planning Board shall make the following findings (10.814.60):

10.814.61 Exterior design of the ADU is consistent with the existing principal dwelling on the lot.

10.814.62 The site plan provides adequate and appropriate open space, landscaping and off-street parking for both the ADU and the primary dwelling.

10.814.63 The ADU will maintain a compatible relationship to adjacent properties in terms of location, design, and off-street parking layout, and will not significantly reduce the privacy of adjacent properties.

10.814.64 The ADU will not result in excessive noise, traffic or parking congestion.

Staff has asked the applicant to be prepared to address the required findings with the Planning Board.

Planning Department Recommendation
1) Vote to grant Preliminary and Final Subdivision Approval with the following stipulations:

<u>Conditions to be satisfied subsequent to final approval of subdivision but prior to commencement of any site work or construction activity:</u>

1.1) Lot numbers as determined by the Assessor shall be added to the final plat.

1.2) Property monuments shall be set as required by the Department of Public Works prior to the filing of the plat.

1.3) GIS data shall be provided to the Department of Public Works in the form as required by the City.

1.4) The final plat and all easement deeds shall be recorded concurrently at the Registry of Deeds by the City.

1.5) Any easement plans and deeds for which the City is a grantor or grantee shall been reviewed and approved by the Planning and Legal Departments and accepted by City Council.

1.6) Associated recording fees shall be paid to the City prior to recordation.

2) Vote to find that the application meets the requirements set forth in Section 10.814.60 of the Zoning Ordinance and to grant the Conditional Use Permit with the following stipulation:

2.1) Ownership will be in accordance with the requirements set forth in the Zoning Ordinance section 10.814.30.

10.814.32 Either the principal dwelling unit or the accessory dwelling unit shall be occupied by the owner of the dwelling as his or her principal place of residence. The owner shall provide documentation demonstrating to the satisfaction of the City that one of the units is his or her principal place of residence.
10.814.321 When the property is owned by one or more trusts, one of the dwelling units shall be the principal place of residence of the beneficiary(ies) of the trust(s).

3) Vote to grant Site Plan Approval with the following stipulations:

<u>Conditions to be satisfied subsequent to final approval of site plan but prior to commencement of any site work or construction activity:</u>

3.1) Applicant will coordinate final water and sewer connections with Portsmouth Water.

3.2) The final water main connection under Andrew Jarvis Dr. will be determined by Portsmouth Water.

3.3) Any easement plans and deeds for which the City is a grantor or grantee

shall been reviewed and approved by the Planning and Legal Departments and accepted by City Council.

3.4) The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

3.5) Associated recording fees shall be paid to the City prior to recordation.

<u>Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy:</u>

3.6) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance;

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

It is recommended that Item IV.A and IV.B be discussed together and voted on separately.

A motion is required to consider these items together.

A. The request of **230 Commerce Way LLC (Owner and Applicant),** for Property located at **230 Commerce Way** requesting **Amended Site Plan Review Approval** to construct a new two-story building with a 12,500 square foot footprint and totaling 25,000 square feet with associated site improvements including lighting, utilities and stormwater treatment/management systems. Said property is located on Assessor Map 216 Lot 1-5 and lies within the Office Research (OR) District. (LU-22-14)

B. The request of **230 Commerce Way LLC (Owner and Applicant),** for Property located at **230 Commerce Way** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for the installation of a treated stormwater drainage outfall, removal of 5,070 square feet of impervious surface, and 9,250 square feet of buffer enhancements within the 100 foot buffer area for associated construction outside the buffer area. Said property is located on Assessor Map 216 Lot 1-5 and lies within the Office Research (OR) District. (LU-22-14)

Background

The proposed project is located at 230 Commerce Way on the corner of Portsmouth Boulevard and Commerce way. The existing site currently consists of a 3-story office building with a large associated parking lot. The proposed project consists of a new 2-story building for veterinary care uses within the limits of the existing parking lot, modifications to the parking lot, and associated site improvements. The associated site improvements include the site lighting, underground utilities, stormwater treatment/ management system, and wetland buffer enhancements.

Project Review, Decisions, and Recommendations

This application has been before the Technical Advisory Committee, the Zoning Board of Adjustment, and the Conservation Commission. Please see below for more information.

Board of Adjustment

On Wednesday, February 23, 2022 the Zoning Board of Adjustment granted a Special Exception from Section 10.440 (Use #7.50) to allow a Veterinary Care use in Office Research (OR) district.

Technical Advisory Committee

On Tuesday, June 7, 2022 the Technical Advisory Committee recommended approval to the Planning Board with the following stipulations:

Items to be addressed prior to Planning Board approval:

1) Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment removal mitigation project.

2) New sewer man hole will be a cut in manhole and articulated as such on plan.

3) A note will be added to the plan to use non-combustible mulch on site.

4) Applicant will work with DPW to determine fair share contribution amount that will be dedicated to pedestrian multi-use path construction on Market Street.

5) A leader will be added to the plans to call out handicap parking access.

Conditions Subsequent:

6) Location of existing water mains on the property will be field verified by contractor in order to vet the design. If water mains need to be relocated it will be at the developer's expense with plans and necessary easements reviewed and approved by DPW.

Items 2, 3, 4, 5, and 6 (See note 23 on sheet C-101) of the above stipulations have been satisfied with the updated submission as provided to the Planning Board. The remaining stipulation been carried forward as recommended conditions of approval.

Conservation Commission

The Conservation Commission reviewed the application at the June 8, 2022 meeting. See below for the Staff analysis of criteria as stated in Section 10.1017.50 Of the Zoning Ordinance.

1. The land is reasonably suited to the use activity or alteration.
This project proposes to largely enhance the buffer through the removal of parking areas and plantings in the wetland buffer.
2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.
This project proposes a net reduction in paving in the wetland buffer and as such is a feasible and reasonable location for the project.
3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.
The way the project is designed the result will be a net improvement to wetland functional value for this and surrounding properties.
4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.
This project is proposing to reduce pavement areas and add new wetland buffer

plantings which is a net benefit for the site.

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

There will be some temporary disturbances from this project but overall the project should result in a net improvement to the wetland buffer.

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

The applicant is proposing to expand planted areas in the wetland buffer by 9,250 square feet

On Wednesday, June 8, 2022 the Conservation Commission unanimously recommended approval to the Planning Board with the following stipulations:

1) The applicant shall install signage along the edge of the protected buffer to note the protected wetland buffer and to prohibit pets from disturbing the wetland buffer.
2) Weed barrier used in landscape areas shall not be synthetic, rather only natural materials shall be used.

Both stipulations listed above have been satisfied in the updated submission as provided to the Planning Board.

Planning Department Recommendation

1) Vote to find that the application meets the criteria set forth in 10.1017.50 and to grant the Wetland Conditional Use Permit as presented.

2) Vote to grant Site Plan approval with the following conditions:

Conditions to be satisfied subsequent to final approval of site plan but prior to commencement of any site work or construction activity:

2.1) Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment removal mitigation project.

2.2) Any easement plans and deeds for which the City is a grantor or grantee shall been reviewed and approved by the Planning and Legal Departments and accepted by City Council.

2.3) The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

2.4) Associated recording fees shall be paid to the City prior to recordation.

2.5) The Applicant or its engineer shall submit a copy of a completed Land Use Development Tracking Form using the Pollutant Tracking and Accounting Program (PTAP) online portal currently managed by the UNH Stormwater Center or similar form approved by the City.

2.6) The applicant consult with the City Development Compliance Planner to determine if a Construction Management and Mitigation Plan (CMMP) is needed.

<u>Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy:</u>

2.7) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance;

2.8) A stormwater inspection and maintenance report shall be completed annually and copies shall be submitted for review to the City's Stormwater Division/ Public Works Department.

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

It is recommended that Item IV.C and IV.D be discussed together and voted on separately.

A motion is required to consider these items together.

C. The request of **HCA Health Service of NH IINC (Owner),** for property located at **333 Borthwick Avenue** requesting Amended Site Plan Approval for an 8,700 square foot addition to the existing building with associated landscaping, utilities, sidewalk connectivity, and other related site work. Said property is located on Assessor Map 240 Lot 2-1 and lies within the Office Research (OR) District. (LU-22-35)

D. The request of **HCA Health Service of NH IINC (Owner),** for property located at **333 Borthwick Avenue** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for 200 square feet of permanent and 4,400 square feet of temporary impact to the inland wetland; and 13,000 square feet of permanent and 4,300 square feet of temporary impact to the 100 foot buffer area for associated expansion of hospital facilities. Said property is located on Assessor Map 240 Lot 2-1 and lies within the Office Research (OR) District. (LU-22-35)

Background

The existing Portsmouth Regional Hospital is located at 333 Borthwick Ave, Portsmouth, NH 03801 (Map 240, Lot 2-1). The medical campus is located on the east side of Blue Star Turnpike (I-95), the west side of Borthwick Avenue, and can be accessed via multiple entrances from Borthwick Avenue.

The scope of the proposed Radiation Oncology project consists of internal renovations, and a 1-story building addition located on the southeast corner of the existing hospital building. Site improvements are anticipated to consist of the new building addition, new drive-under canopy and associated drive, sidewalk connectivity, new granite curb, new mobile imaging pad, and associated new utilities/ utility relocations.

The proposed footprint of the building addition is approximately ±8,700 square feet. The proposed sitework is anticipated to consist of asphalt, concrete, utility, landscape, and drive-under canopy demolition where the current patient discharge canopy and associated drive are located as well as removal of existing sidewalk and landscaping located along the south side of the existing hospital building.

Project Review, Decisions, and Recommendations

This application has been before the Technical Advisory Committee, the Zoning Board of Adjustment, and the Conservation Commission. Please see below for more information.

Zoning Board of Adjustment

On Tuesday April 26, 2022 the Zoning Board of Adjustment granted a variance from Section 10.531 of the Zoning Ordinance to allow a 40' front yard where 50' is required.

Conservation Commission

A portion of the project scope is located adjacent to and partially within a previously man-made stormwater management area which is now delineated as a city jurisdictional inland wetland and has an associated 100-ft wetland buffer, in which a portion of the site improvements will occur. A small amount of disturbance to the actual wetland is being proposed.

The Conservation Commission reviewed the application at the May 11, 2022 meeting. See below for the staff analysis of criteria as stated in Section 10.1017.50 Of the Zoning Ordinance.

1. The land is reasonably suited to the use activity or alteration.
The Portsmouth Regional Hospital has wetlands on the adjacent property and across the street. These are the wetlands which have the buffer that is being encroached upon. While this project does include impacts in wetlands the creation of wetlands and proposed planting should offset the impact to this stormwater wetland.

2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.
This site is very constrained by wetlands. While the proposed project is to impact within a wetland buffer the wetlands where the buffer originates from is across Borthwick Avenue and along the Liberty Mutual parking lot. This wetland is not of sufficient size to be jurisdictional and functions as a stormwater wetland. Given the size of the wetland is being expanded to accommodate the project and new wetland plantings are proposed this project is reasonable in this location. While it is likely the existing vegetation will eventually spread to the new pond area the applicant should propose a more robust planting mix to enhance the value of the wetland.

3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.
The value of this wetland is primarily for stormwater retention. The

proposed project should not impact the wetland values of surrounding wetlands as the functions should remain similar to how they exist today, especially if the planting plan is enhanced.

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

Given there is a direct wetland impact and temporary disturbances of the pond and buffer the key to managing this site over the long-term is an improved planting plan and management of the pond to insure it is functioning as intended to treat stormwater. To that end, the applicant should include a management plan for the pond to insure the expansion is successful over the long-term and that it is functioning as intended.

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

The proposed design does account for the filling of a portion of the pond by expanding the pond. Given the constraints of this site this appears to be the best alternative for this site.

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

The applicant has proposed a conservation seed mix and fescue/bluegrass seed mix for the disturbed areas. This should be enhanced with specific plantings for this site and include recommendations for long-term maintenance

On Wednesday, May 11, 2022 the Conservation Commission recommended approval to the Planning Board with the following stipulations:

1) The applicant shall include a planting plan (to be approved by the Planning Department).
2) The applicant shall include a maintenance plan (to be approved by the Planning Department).
3) NOFA standards shall be followed and included in the maintenance plan.
4) All erosion control measures shall be made of natural materials.

All stipulations have been satisfied with the updated submission as provided to the Planning Board.

<u>Technical Advisory Committee</u>

On Tuesday, June 7, 2022 the Technical Advisory Committee recommended approval to the Planning Board with the following stipulations:

Items to be addressed prior to Planning Board approval:

1) A trip generation memo will be submitted to DPW for review and approval.

2) Fire department connection line will be labeled as such.

3) New sewer manhole will be a cut in manhole.

4) Borthwick Ave handicap access ramp flooding will be addressed and approved by DPW.

Conditions Subsequent:

5) The wetland area adjacent to the emergency area will be dredged from Borthwick to the oxygen tank area to restore free flowing drainage. This will be done in conjunction with an associated wetland enhancement along the edges of this same area.

6) Prior to release of bond, Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment mitigation project that is proposed for the area from the oxygen tanks to the Route 1 bypass area.

Stipulations 1 and 2 above have been satisfied. The remaining stipulations have been carried forward as recommended conditions of approval.

Planning Department Recommendation

1) Vote to find that the application meets the criteria set forth in 10.1017.50 and to grant the Wetland Conditional Use Permit as presented.

2) Vote to grant Amended Site Plan approval with the following conditions:

Conditions to be satisfied subsequent to final approval of site plan but prior to commencement of any site work or construction activity:

2.1) New sewer manhole will be a cut in manhole.

2.2) Borthwick Ave handicap access ramp flooding will be addressed and approved by DPW.

2.3) Any easement plans and deeds for which the City is a grantor or grantee shall been reviewed and approved by the Planning and Legal Departments and accepted by City Council.

2.4) The site plan and any easement plans and deeds shall be recorded at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

2.5) Associated recording fees shall be paid to the City prior to recordation.

<u>Conditions to be satisfied subsequent to commencement of site work and construction activity but prior to release of surety bond or certificate of occupancy:</u>

2.6) The wetland area adjacent to the emergency area will be dredged from Borthwick to the oxygen tank area to restore free flowing drainage. This will be done in conjunction with an associated wetland enhancement along the edges of this same area.

2.7) Prior to release of bond, Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment mitigation project that is proposed for the area from the oxygen tanks to the Route 1 bypass area.

2.8) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance.

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

E. The request of **Lancen and Sophie LaChance (Owner and Applicant),** for property located at **11 Fletcher Street** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for the installation of a stormwater underdrain outlet creating 140 square feet of permanent impact within the 100 foot wetland buffer. Said property is shown on Assessor Map 233 Lot 76-1 and lies within the Single Residence B (SRB) District. (LU-20-42)

Project Background

This project began in 2020 to construct a new single family home on an existing vacant lot. The project has been granted the necessary variances to construct the home on the lot. A Wetland Conditional Use Permit is needed due to the location of a stormwater underdrain outlet located within the wetland buffer area. See below for details on the BOA considerations.

Zoning Board of Adjustment

On April 21, 2020 the Board of Adjustment granted variance from Section 10.521 to allow lot area and lot area per dwelling unit of 12,850 square feet where 15,000 square feet is required for each and 57 feet of continuous street frontage where 100 feet is required with the following stipulation:

1) An engineered drainage and water runoff evaluation must be conducted for any proposed development of the lot and this evaluation must be approved by the Department of Public Works and the Inspection Department before granting a Building Permit.

On April 19, 2022 the Board of Adjustment granted a 1-year variance approval extension with the following stipulation:

1) The drainage evaluation for the modified plans shall be done prior to the issuance of the building permit.

Project Review, Decisions, and Recommendations

The portion of this project for consideration by the Planning Board is the Wetland Condition Use Permit. See below for more details on the review by the Conservation Commission.

Conservation Commission

The Conservation Commission reviewed the application at the June 8, 2022 meeting. See below for the staff analysis of criteria as stated in Section 10.1017.50 Of the Zoning Ordinance.

1. The land is reasonably suited to the use activity or alteration.
The applicant has worked to keep the house including the site grading outside of the wetland buffer making the site reasonable for this project.
2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.
In consideration of the nearby adjacent home and site topography the applicant has proposed the drainage to move to the rear corner of the site to avoid impacts to the neighboring property. The stormwater design does not anticipate regular flow but needs this swale for large rain events.
3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.
The way the project is designed the majority of the stormwater will be infiltrated onsite. This swale outlet will accommodate large rain events and will not have an adverse effect on the adjacent wetland.
4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.
This project is proposing to outlet the stormwater pipe to the wetland buffer. In addition, the applicant is proposing to install some wetland buffer plantings adjacent to the proposed swale.
5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.
There will be a temporary disturbance from the installation of the drain line and a small disturbance from the swale but no impervious surface is proposed with this project.
6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.
The applicant is proposing to install some wetland buffer plantings and to restore the site after the temporary disturbance.

On June 8, 2022 the Conservation Commission unanimously recommended approval to the Planning Board with the following stipulations:

1) The applicant shall follow NOFA standards for landcare management https://cityofportsmouth-files.s3.amazonaws.com/agendas/2022/planning+board/7-21-2022+PB+AG.pdf
2) The applicant will develop a landscape plan including trees shrubs and wetland buffer seed mix as described at the meeting on June 8, 2022 to be reviewed and approved by staff.
3) The applicant shall develop a maintenance plan for the landscape installations described in the landscape plan.

The stipulations listed above have been satisfied in the updated submission as provided

to the Planning Board.

Planning Department Recommendation

1) *Vote to find that the application meets the criteria set forth in 10.1017.50 and to grant the Wetland Conditional Use Permit with the following stipulations:*

   1.1) The applicant shall follow NOFA standards for landcare management https://nofa.organiclandcare.net/wp-content/uploads/nofa_organic_land_care_standards_6thedition_2017_opt.pdf

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

F. The request of **Tom and Angela Mita (Owners and Applicants),** for property located at **81 Taft Road** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for 17 square feet of permeant disturbance to the buffer area for the construction of an expansion to the existing structure. Said property is shown on Assessor Map 247 Lot 87 and is lies within the Single Residence B (SRB) district. (LU-22-98)

Project Background

This project is proposing to extend an existing non-conforming building into the required setback area and the wetland buffer area. The applicant has obtained the necessary variances. A Wetland Conditional Use Permit is needed due to the location of the proposed extension in the buffer area. See below for details on the BOA consideration.

Zoning Board of Adjustment

On May 24, 2022 the Board of Adjustment granted the two following variances:

1) A Variance from Section 10.521 to allow a 17.5' secondary front yard where 30' is required.

2) A Variance from Section 10.321 to allow a nonconforming building or structure to be extended, reconstructed or enlarged without conforming to the requirements of the Ordinance

Project Review, Decisions, and Recommendations

The portion of this project for consideration by the Planning Board is the Wetland Condition Use Permit. See below for more details on the review by the Conservation Commission.

Conservation Commission

The Conservation Commission reviewed the application at the June 8, 2022 meeting. See below for analysis of criteria as stated in Section 10.1017.50 Of the Zoning Ordinance.

1. The land is reasonably suited to the use activity or alteration.
Given the small size of the addition and the fact that it is in an existing lawn area on the opposite side of the street from the wetland in question this is a reasonable request.

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

There is not an alternative location for the addition given the home exists, this is a reasonable request.

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

There will be no adverse effect from the proposed addition.

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

This project is proposing an addition 17 of square feet of which are in the buffer. It is not clear whether the maple tree shown will be able to be saved when this addition is complete.

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

This is a very small impact in the buffer in an area of lawn.

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

The lawn area will be lost to the addition but it will have little effect on the wetland across the street.

The Conservation Commission voted unanimously to approve this project with two stipulations:

1) The applicant shall follow NOFA standards for landcare management https://nofa.organiclandcare.net/wp-content/uploads/nofa_organic_land_care_standards_6thedition_2017_opt.pdf
2) The applicant will add additional wetland buffer plantings.

Planning Department Recommendation

1) Vote to find that the application meets the criteria set forth in 10.1017.50 and to grant the Wetland Conditional Use Permit with the following stipulations:

1.1) The applicant shall follow NOFA standards for landcare management https://nofa.organiclandcare.net/wp-content/uploads/nofa_organic_land_care_standards_6thedition_2017_opt.pdf

1.2) The applicant will add additional wetland buffer plantings.

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

G. The request of **The Fritz Family Revocable Living Trust, Owner**, for property located at **0 Patricia Drive** requesting Wetland Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance to replace an existing unfinished right-of-way with a new private road to access two lots as well as the installation of stormwater treatment infrastructure and wetland buffer plantings which will result in 1,738 square feet of temporary impact and 4,283 square feet of permanent impact to the wetland buffer. Said property is shown on Assessor Map 283 Lot 1 and lies within the Single Residence A (SRA) district. (LU-20-190)

This request is related to the subdivision approval extension request provided in V A, but can be considered separately.

Background

A request for a Wetland Conditional Use Permit was approved for this site on February 18, 2021. Section 10.1017.70 of the Zoning Ordinance provides the following.

10.1017.70 Expiration and Extension

10.1017.71 A conditional use permit shall expire one year after the date of approval by the Planning Board unless a building permit is issued prior to that date.

10.1017.72 The Planning Board may grant a one-year extension of a conditional use permit if the applicant submits a written request to the Planning Board prior to the expiration date. Any other extension may be granted only after a new public hearing on the reconsideration of the application.

The applicant has not met either of the aforementioned conditions and submitted a renewed application in accordance with the Zoning Ordinance.

Project Review, Decisions, and Recommendations

This project has been before the Conservation Commission, see below for more details on the review.

Conservation Commission

The Conservation Commission reviewed the application at the June 13, 2022 meeting. See below for staff analysis of criteria as stated in Section 10.1017.50

Of the Zoning Ordinance.

1. The land is reasonably suited to the use activity or alteration.
Existing roadway was already partially located within wetland buffer. This plan proposes to reduce the amount of impervious in the buffer by narrowing the road and restoring areas of existing pavement to be loamed and seeded to grass.
2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.
Due to existence of road, this plan has no other reasonable location to repave.
3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.
Given there is an existing roadway the addition of the stormwater treatment appears to be the least impacting alternative on this site.
4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.
The applicant is reconstructing the roadway in the existing pavement alignment and is only proposing to remove brush in areas where stormwater treatment is proposed.
5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.
The proposal will be reducing the amount of impervious surface near the buffer and within the buffer, and installing stormwater treatment to reduce impacts in the wetland buffer.
6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.
There appears to be no impact to the 25' vegetated buffer for this proposal.

The Conservation Commission voted 4-1 to approve this project with two stipulations:

1) The applicant shall require all winter maintenance personnel to have a Green Snow Pro certification.
2) The applicant will follow NOFA standards for land care.

The stipulations listed above have been carried forward as recommended conditions of approval.

Planning Department Recommendation

1) Vote to find that the application meets the criteria set forth in 10.1017.50 and to grant the Wetland Conditional Use Permit with the following stipulations:

1.1) The applicant shall follow NOFA standards for landcare management https://nofa.organiclandcare.net/wp-

content/uploads/nofa_organic_land_care_standards_6thedition_2017_opt.pdf

1.2) The applicant shall require all winter maintenance personnel to have a Green Snow Pro certification.

V. OTHER BUSINESS

A. Hemlock / Patricia Drive Subdivision Extension Request

Background and Prior Approval

The Planning Board, at its regularly scheduled meeting February 18, 2021, considered this application for Preliminary and Final Subdivision approval for a two-lot subdivision located on a private road currently known as Patricia Drive.

Subsequent to the Planning Board approval the following actions were taken:

- On March 15, 2022, the City Council voted to approve the conveyance by release deed of ownership of 7,860 square feet of roadway - as shown on the Plan labeled "Proposed Subdivision Plan: Tax Map 283 Lot 11 dated February 10, 2021", ("Roadway") and to approve renaming the private road to Hemlock Way.
- The Planning Directed granted a six month extension to the subdivision.

Private Road and City Conveyance

Since that time, questions have been raised by planning staff and the City Attorney's office regarding ownership of the private road (Hemlock), a paper street. After researching the issue and after consulting with the City Attorney's Office, it has been determined that:

1. The private road "Hemlock", although dedicated by plat, was never accepted by the City and, in accordance with RSA 231:51 and per case law, it now reverts back to abutting property owners. By way of background, dedications of paper streets made before 1893 are perpetual. Dedications made between 1893 and 1969 terminate automatically if not accepted within 20 years. The private road "Hemlock" was dedicated in 1965 and was not accepted by the City within 20 years of the dedication. Because the City did not accept "Hemlock" within 20 years of dedication, the dedication automatically terminates and ownership reverts to underlying lot owners, the abutters. This is now correctly reflected on the plat.
2. Staff, in consultation with the City Attorney's office, has determined that the area previously depicted as a private drive should now be reflected as an easement area by operation of law. The subdivision plan before the Planning Board, and subject to this extension request, accurately reflects the boundaries established by operation of law. The "private drive", while still reflected on the plat, represents an easement area consistent with the access requirements vested to all lots that were served by the now extinguished "paper street".
3. Access via the Patricia Drive is preserved for pursuant to Duchesnaye v. Silva, 118 N.H. 728 (1978), holding that the owners of lots abutting a former paper street retain an implied easement to pass over and develop

the area for access to those

Subdivision Rules and Regulations
The Section III E of Portsmouth Subdivision Rules and Regulations provide the following:

E. Approval Expiration and Extension

1. All stipulations of subdivision approval, including recording of the plat as required by the Planning Department, shall be completed within 6 months of the date of approval by the Planning Board.

2. The Planning Director may grant an extension of up to 6 months if he determines that the applicant has been unable to complete a stipulation due to circumstances beyond the applicant's control. Subdivision Rules and Regulations (rev. November 2020).

3. The applicant may apply to the Planning Board for an extension of the time for completion, which shall not exceed 18 months from the original date of Planning Board approval of the subdivision.

The applicant is requesting an extension of the subdivision approval. If approved, the extension will be in effect until August 18, 2022, after which time, if the applicant has not recorded the plat, the subdivision approval shall expire.

Staff has worked closely with the City Attorney's Office and has determined the clarification of ownership for the private drive does not result in a substantive change to the original subdivision but instead provides important and corrected information that would need to be evidenced on an approvable plat.

Planning Department Recommendation

1) Vote to grant and extension to the Planning Board Approval for Preliminary and Final Plat approval with the following stipulations:

1.1) The extension shall not exceed 18 months from the original date of Planning Board approval of the subdivision (February 18, 2021).

1.2) That all previous stipulations not previously addressed and approved by the Planning Board on February 18, 2021 be met prior to recordation at the Registry of Deeds.

1.3) That a release deed retaining public access and drainage rights to the City, be prepared for review and approval by the City Attorney and that such deed be fully executed by the City and all abutters. Any abutter choosing to waive their rights to the public road must submit their waiver in writing in a form acceptable by the Planning Director.

1.4) Update Plat note 3 on the subdivision plan to include the retention of rights to pass over for the abutting property owner.

V. OTHER BUSINESS

B. Public Involvement Summary Report

Background

On April 13, the Land Use Committee transmitted the 2022 Regulatory Work Plan to City Council for approval. On April 18, 2022 regular meeting, the City Council approved the 2022 regulatory work plan which included evaluation of proposed amendments for alignment with existing Master Plan goals, City Council adopted goals (2022-2023) and City Council adopted policies (Housing Policy). The work plan further identifies stakeholders and focus group members to be included in public outreach. The work plan consists of three phases:

1. **Phase 1: Code Clean-Up**
   Purpose: Improve regulatory implementation and align with legislative intent. Eliminate ambiguous sections that result in unintended consequences.
2. **Phase 2: Accessory Dwelling Unit Amendments (ADUs)**
   Purpose: Remove barriers and expand the number of eligible properties for ADUs and Senior Housing Facilities.
3. **Phase 3: Incentive Amendments**
   Purpose: Adjust incentives to place a higher emphasis on Workforce Housing.

Both Phase 2 and Phase 3 will include a public involvement summary which will identify key themes and concerns articulated and captured as part of the public involvement plan. This report summarized public involvement to date for Phase 2 amendments.

Phase 2 Public Involvement Plan

The intent of the Public Involvement Plan is to invite input from community members not typically involved with the city and to understand the on the ground experience from those most impacted by the decision making process. The Public Involvement Plan for updates to ADU regulations involves the following three phases.

1. **Small Focus Group Meetings.** Four meetings took place over the course of two weeks from June 9th to June 15th when staff and a representative/moderator from the Land Use Committee met with representatives from four groups of stakeholders:

   - Previous applicants,
   - Architects,
   - Engineers, and
   - Neighborhood representatives.

A list of attendees and full summary of comments is provided the Public Involvement Summary Report.

2. **ADU Direct Abutter Survey.** A survey was distributed to over 200 direct abutters of approved ADUs built within the last five years.
3. **Public Meetings and Public Hearings.** Additional input will be invited throughout the process and will help guide refinements to the proposed amendments.

Key Themes

The following key themes have emerged in the involvement process to date.

1. Process navigational support is needed.
2. Dimensional relief is both an obstacle and a protection.
3. There is considerable cost and risk in the process and this is a deterrent.
4. Regulations for ADUs need to be clear and implementable.
5. Foremost among abutters concerns are: parking, short term rentals, neighborhood character, and buffering and separation.
6. Abutters were generally positive about ADU's.

Next Steps

Draft amendments are currently in development and will be presented to City Council in the August- September timeframe of this year for review and transmittal to the Planning Board. **No action is required at this time.**

V. OTHER BUSINESS

C. Chairman's Updates and Discussion Items

VI. ADJOURNMENT

REGULAR MEETING
PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

7:00 PM **June 16, 2022**

MINUTES

MEMBERS PRESENT: Rick Chellman, Chairman; Corey Clark, Vice Chair; Karen Conard, City Manager; Joe Almeida, Facilities Manager; Beth Moreau, City Councilor; Greg Mahanna; Peter Harris; James Hewitt; Franco DiRienzo, Alternate; Andrew Samonas, Alternate;

ALSO PRESENT: Beverly M. Zendt, Planning Director; Peter Britz, Environmental Planner; Stefanie Casella, Planner 1

MEMBERS ABSENT: Jane Begala

REGULAR MEETING 7:00pm

I. APPROVAL OF MINUTES

Chairman Chellman commented that Mr. DiRienzo would vote tonight because Ms. Begala was absent.

A. Approval of the May 19, 2022, regular meeting minutes.

City Council Representative Moreau moved to approve the May 19, 2022, regular meeting minutes, seconded by Vice Chairman Clark. The motion passed by an 8-0-1 vote. Mr. Almeida abstained because he was not at the meeting.

B. Approval of the March 30, 2022 and May 5, 2022 special meeting minutes.

City Council Representative Moreay moved to approve the March 30, 2022, and May 5, 2022, special meeting minutes as presented, seconded by Vice Chairman Clark. The motion passed by an 8-0-1 vote. Mr. Almeida abstained because he was not at the meeting.

C. Approval of the May 19, 2022, site walk minutes.

Mr. Mahanna commented that the last bullet point should say "solid waste." There was also significant dialogue with City Attorney Sullivan at the beginning that was not reflected in the minutes. Chairman Chellman commented that City Attorney Sullivan's main point was that the Board should not be deliberating at the site walk. He described how the Board should interpret the information and noted that there should not be any deliberation until an application was being considered by the Board. The main point of the information was captured.

City Council Representative Moreau moved to approve the May 19, 2022, site walk minutes, seconded by Vice Chairman Clark with the following amendment:

1) Last bullet should read "solid waste"

The motion passed by an 8-0-1 vote. City Manager Conard abstained because she was not at the meeting.

II. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

A. The request of **North Church of Portsmouth (Owner),** for property located at **355 Spinney Road** requesting Preliminary and Final Subdivision approval

SPEAKING TO THE APPLICATION

City Council Representative Moreau moved to determine the application is complete according to the Subdivision Regulations, (contingent on the granting of any required waivers under Section III and IV of the agenda) and to accept the application for consideration, seconded by Vice Chairman Clark. The motion passed unanimously.

III. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

A. REQUEST TO POSTPONE The request of **Mastoran Restaurants Inc. (Owner),** and **Granite State Convenience (Applicant),** for property located at **2255 Lafayette Road** requesting Site Plan review and Conditional Use Approval for use 19.40 under Section 10.440 to allow a drive-thru facility as an accessory use to a permitted principal use in the Gateway Corridor Zone. Said property is shown on Assessor Map 272 Lot 3 and lies within the Gateway Corridor (G1) District. (LU-22-13) **REQUEST TO POSTPONE**

DISCUSSION AND DECISION OF THE BOARD

Mr. Mahanna moved to postpone consideration to the June 23, 2022, Planning Board meeting, seconded by Vice Chairman Clark. The motion passed unanimously.

B. The request of **North Church of Portsmouth (Owner),** for property located at **355 Spinney Road** requesting Preliminary and Final Subdivision approval to subdivide one existing lot with 146,666 square feet of lot area and 10,429.68 feet of frontage into two lots as follows: Proposed Lot 1 with 17,817 square feet of lot area and 117.6 feet of frontage, and Proposed Lot 2 with 128,849 square feet of lot area and 360.62 feet of lot frontage. Said property is located on Assessor Map 169 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-49)

SPEAKING TO THE APPLICATION

Liz Good from North Church of Portsmouth and Surveyor Nathan Amsden spoke to the application. Ms. Good commented that they were seeking subdivision approval for the lot with the parish house and parsonage. The parsonage was bequeathed to the church in the 1970s. Membership recently voted to move all operations to the downtown building in Market Square and put the parish house up for sale. They want to retain the parsonage. They have been to TAC and incorporated their feedback. They made the parsonage lot larger to follow the stone wall and encompass the sewer in the back. A dye test for the sewer running from the parish house showed that it is correctly marked and discharges at the Bypass.

Vice Chairman Clark questioned if the easement for the sewer going to the adjacent lot was all set. Mr. Amsden responded that the current easement applies to the lot, so a revised easement should be issued referencing the recorded plan. The easement has not moved.

Mr. Hewitt questioned if they were originally separate lots. Mr. Amsden responded that originally it was 3 separate lots.

PUBLIC HEARING

Chairman Chellman asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

1) Vice Chairman Clark moved to approve Preliminary and Final Subdivision as presented, seconded by Mr. Mahanna with the following stipulations:

1.1) Lot numbers as determined by the Assessor shall be added to the final plat prior to recordation with the Registry of Deeds.

1.2) Property monuments shall be set as required by the Department of Public Works prior to the filing of the plat.

1.3) GIS data shall be provided to the Department of Public Works in the form as required by the City.

1.4) The final plat and all easement deeds (if applicable) shall be recorded concurrently at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.

The motion passed unanimously.

C. The request of **404 Islington Street LLC (Owner),** for property located at **404 Islington Street** requesting a Conditional Use Permit under Section 10.1112.14 of the Zoning Ordinance to provide ten (10) parking spaced where thirteen (13) are required. Said property is shown on Assessor Map 145 Lot 33 and is located in the Historic District and the Character District 4L-2 (CD4-L2). (LU-22-74)

SPEAKING TO THE APPLICATION

Attorney John Bosen, John Chagnon from Ambit Engineering, and owner Timothy Johnson spoke to application. Mr. Bosen commented that they were requesting a CUP to provide 11 spaces for a 10-room inn where 13 spaces are required. The site currently operates as Martin Hill Inn and has 7 units with a caretaker cottage. With this project they will remove the caretaker suite and provide 10 units. The proposed parking has been vetted by staff and TAC. They will need a special exception from the zoning board because they are moving from a B&B to an inn. That application has been filed. The parking demand analysis shows that it is a negligible increase and will not alter the neighborhood. They believe it is sufficient parking on site. The owners of 54 Court St. will also provide 5 overflow spaces on their site if needed. They will allocate one space per unit, and there will be an online advance check in system. Guests will know the parking situation in advance. This property has been a bed and breakfast for many years and there will not be any exterior changes. There should be adequate parking.

City Council Representative Moreau questioned what the occupancy of each room was. Mr. Johnson responded that each room was dual occupancy.

Mr. Hewitt requested clarification on how many spaces they were proposing on site. Mr. Bosen responded that there are 10 spaces there today and they are proposing 11 spaces. The ordinance requires 13. Mr. Hewitt questioned if spaces 9 and 10 fit standard parking space measurements. Mr. Bosen responded that those are pre-existing non-conforming spaces. It is their position that those are grandfathered spaces. This was vetted with TAC. Mr. Hewitt questioned what the dimensions were. Mr. Chagnon responded that there was 20 feet between the buildings. There is plenty of room to park two cars.

Chairman Chellman questioned if they would be coming back for site plan approval. Mr. Chagnon responded that site plan approval was not required because there was no expansion of the building, no creation of 800 sf or more of impervious surface, and they were not creating 5 or

more parking spaces. They need a CUP for parking because of the change of use. Chairman Chellman questioned if they would need dimensional relief for the parking spaces. Ms. Zendt responded that TAC made the determination that these were existing no conforming spaces. They asked for some improvements to be made such as restriping and adding new pavement. None of that will trigger a site plan review. They did not request dimensional relief for the existing spots.

Chairman Chellman questioned if the parking situation worked for the existing inn with 7 rooms. Mr. Chagnon responded that the caretaker cottage used the Union St. parking. The rest of the spaces were for the guests. The inn has been in operation for many years and operated well with no issues. Chairman Chellman questioned if they were widening access to Union St. Mr. Chagnon confirmed they were.

Mr. Harris questioned if they knew of any other CUPs that had been granted for parking on Union St. City Council Representative Moreau responded that she did not know of any. Union St. has residential units who all have their own parking. That's the only bigger development in the area.

PUBLIC HEARING

Chairman Chellman asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

VCC moved to find off street adequate and approp with 1.1 stip, seconded by CCM.

1) Vice Chairman Clark moved to find that the number of off-street parking spaces provided will be adequate and appropriate for the proposed use of the property and to grant the conditional use permit as presented, seconded by City Council Representative Moreau with the following stipulation:

Prior to Building Permit Issuance:
1.1) Applicant obtains special exception approval per section 10.440 of the Zoning Ordinance.

Vice Chairman Clark commented that parking is a concern to everyone in this case 10 units with 11 spaces should work. It has worked in the past. They are assigning spaces and the remote check in should mitigate any issues.

City Council Representative Moreau commented that it is unlikely that there will be multiple coming for each room. The parking is appropriate based on the room occupancy.

Ms. Zendt commented that this has been operating historically as an inn, but it was owner occupied. Staff made the request that they get a special exception to make sure there is additional notification to the surrounding property owners.

The motion passed unanimously.

D. REQUEST TO POSTPONE The request of **James** and **Gail Sanders (Owners),** for property located at **445 Marcy Street** requesting Preliminary and Final Subdivision approval to subdivide one lot with 14,947 square feet of lot area and frontage on Marcy Street, Pray Street, and Partridge Street into two lots as follows: Proposed Lot 1 with 6,127 square feet of lot area and 102.43 feet of frontage on Marcy Street and 67.83 feet of frontage on Pray Street, Proposed Lot 2 with 8,820 square feet of lot area and 802 feet of frontage on Pray street and 62.44 feet of frontage on Partridge Street. Said property is located on Assessor Map 101 Lot 3 and lies within the General Residence B (GRB) and Historic Districts. (LU-22-79) **REQUEST TO POSTPONE**

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Clark moved to postpone consideration to the June 23, 2022, Planning Board meeting, seconded by Mr. Mahanna. The motion passed unanimously.

IV. CITY COUNCIL REFERRALS

A. REQUEST TO CONTINUE AND POSTPONE Public Hearing and consider a recommendation to the City Council for Zoning Ordinance Amendments to Building Height standards **TO THE JUNE 23, 2022 PLANNING BOARD MEETING**

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Clark moved to postpone consideration to the June 23, 2022, Planning Board meeting, seconded by Mr. Hewitt. The motion passed unanimously.

B. Consider a report back to the City Council on how to improve the work of the Demolition Committee.

DISCUSSION AND DECISION OF THE BOARD

City Council Representative Moreau commented that she was the Chair of the Demolition Review Committee since its implementation. The ordinance came about because neighbors were upset when a house that was outside of the Historic District or Board of Adjustment purview was torn down. There was no mechanism to have the public be heard. This entire ordinance was created for that. There is no NH legislative backing to have created this. If someone were to challenge it, then they would most likely win. However, this ordinance did save the Carey Cottage. This provides a space for the public to be heard and everyone to consider if there is

another option, but it cannot prevent a demolition. They can delay for 90 days. Some on the previous board wanted to extend the delay to 180 days, but ultimately that would have been too long. The ordinance could use some cleaning up. Today they send notice of a demolition and if anyone objects they have a hearing and the delays begin. They need to change the ordinance to ensure that a partial demolition doesn't become a full demolition without public notice.

Ms. Zendt noted that the memo was prepared by herself, Nick Cracknell, City Attorney Trevor McCourt and Shanti Wolph. The proposed revisions have been referred out to the Planning Board and HDC for recommendations to the City Council. The staff analysis includes things for consideration. There is not a lot of State support that allow for demolition prevention out of the Historic District, but notices and delays are typical. The intent of the recommendations was to set higher thresholds for demolition and extend the length for public discussion. It will provide the opportunity to extend discussions with the developer to come up with solutions or for someone to acquire it for restoration. All recommendations should be referred to City Council and there should be a detailed legal analysis too. The delay will be 90 days from the day of the hearing not the date of the submittal. That will give opportunity for people to record what is there or have discussions. If they wanted to add protections to historic resources, then they can do a survey to identify historic structures and create an ordinance.

Chairman Chellman questioned if this would be sent to legal for review before it went to City Council. Ms. Zendt responded that it would go to Council then to staff.

City Council Representative Moreau commented that it was good to start the 90-day timeline from the date of the hearing. Mr. Mahanna agreed. Mr. Mahanna questioned what the increased period referred to in item 4. Ms. Zendt responded that referred to the first bullet which increased from 50 years to 75 years. Mr. Mahanna commented that sometimes it is hard to tell how much a house can or cannot be saved until construction begins.

Mr. Samonas commented that it was a balancing act between preserving historic homes and improving a situation with a newer more efficient home. Mr. Mahanna added that sometimes it is hard to preserve a historic home and bring it up to code.

Mr. Almeida commented that it was good they did not extend the delay to 180 days. It can be hard because anyone can object to the project, and it will cause a delay. However, it can be good because the process has saved some buildings.

City Council Representative Moreau noted that in the past some read into the ordinance that people can have a say on what the building will look like. They worked to ensure that no language in the ordinance supported that. They don't have a right to tell people what a house can look like if it's not in the Historic District.

Chairman Chellman questioned how they could do this if they did not have any authority for it. City Council Representative Moreau responded that it's an ordinance. Unless someone takes it to court people follow the ordinance. Ms. Zendt agreed that at this point it valid because it has not been challenged. It is consistent with other communities' policies. Chairman Chellman

commented that it would be better to find a way to give it some authority. Preserving history is important, but it would be better to have rules that make sense.

City Attorney Sullivan commented that the City Council has requested a statement from legal on authority. Whether sufficient authority exists depends on what the City may want to do. The Planning Board should make a recommendation to proceed in a direction they want to see the City go. When it gets to the Council level, they will provide the most complete statement on authority. If they conclude there is no authority, then they will conclude there cannot be an ordinance.

Mr. Hewitt commented that Portsmouth used to have two Historic Districts. It could be an option to reactivate that area.

1) City Council Representative Moreau moved to recommend that the City Council consider implementing the recommendations of the DRC subject to a detailed legal analysis to ensure that the recommendations are in conformance with state law, case law, and best practices, seconded by Mr. Mahanna with the following change:

• Rather than extending the stay of demolition to 180 days, it would be advisable to commence the 90-day demolition delay period from the date of the public hearing required under Section 14.205. Additionally, expanded notification procedures to abutters would serve the purpose of broadening public awareness of impending demolitions and it would provide opportunities to affected community members to gain photographic records, influence the property owner to consider other courses of action, and to consider alternatives to demolition.

The motion passed unanimously.

V. OTHER BUSINESS

A. Consider a recommendation to City Council to accept a right-of-way easement which would incorporate a section of proposed roadway into the City's existing Sagamore Grove right of way.

DISCUSSION AND DECISION OF THE BOARD

Ms. Zendt commented that the memo outlines that the amendment would include the portion of Sagamore Ave. that is not currently in the easement.

Mr. Mahanna moved to recommend that City Council accept a right-of-way easement which would incorporate a section of the proposed roadway into the City's existing Sagamore Grove right of way, seconded by City Council Representative Moreau.

The motion passed unanimously.

B. Consider a recommendation to City Council to accept a right-of-way easement located on Albany Street requested by the Planning Board on January 27, 2022, as part of the project located at 89 Brewery Lane.

DISCUSSION AND DECISION OF THE BOARD

City Council Representative Moreau moved to recommend that the City Council accept a right-of-way easement, located on Albany Street, requested by the Planning Board on January 27, 2022 as part of the project located at 89 Brewery Lane, seconded by Vice Chairman Clark.

The motion passed unanimously.

C. Chairman's Update/Discussion.

Chairman Chellman noted that this was a placeholder that will be at the end of the agenda in case something comes up that the Board members wish to discuss. There have been discussions about other zoning amendments that aren't on the Land Use Committee's short-term radar. Staff is fully committed and engaged. They may have little bandwidth to address it immediately, but they are open to discussion.

City Council Representative Moreau provided a quick update on the Land Use Committee. They have just finished with the focus groups about ADUs. They have an intern starting to work on sending questions to abutters to gather more written data. After that they will report back on the feedback and red line changes they plan on making.

Mr. Hewitt commented that his biggest concern was the parking regulations. They need to ensure that projects are not getting approved with inadequate parking and then coming back to request more later. Chairman Chellman offered to provide the Board with a presentation explaining the ITE parking generation data and what the benefits and limitations are with it.

Mr. Harris agreed that parking was an ongoing concern especially for neighborhoods bordering downtown. They can't keep adding housing without changing the parking to go along with it. City Council Representative Moreau commented that she lives in the Islington Creek Neighborhood, and they have been in a pilot neighborhood parking program. The program has worked pretty well. It could work for other neighborhoods as well. Downtown workers are taking advantage of the parking program at the Foundry Garage. Ms. Zendt added that there was a parking RFP from Public Works and part of the study will look at how to maximize the utilization and optimization of parking. They will consider pricing to drive the demand and use programs effectively. It would be informative to look at that. Adding more parking incentivizes automobiles. When the scope is finalized, they will come before the Board to talk about deliverables, and timeline. Small tweaks on timing and metering can completely change the picture.

Chairman Chellman commented that these changes tie into regulation. To say Portsmouth should be car free is not realistic. Mr. Samonas added that he agreed with the

concerns on parking. As Portsmouth becomes more walkable and bikeable they could amend and adjust accordingly. Chairman Chellman noted that they have to be careful on how they promote the growth. The management is just as important. Reality and context need to be considered.

VI. ADJOURNMENT

Mr. Almeida moved to adjourn the meeting at 8:33 p.m., seconded by Vice Chairman Clark. The motion passed unanimously.

Respectfully submitted,

Becky Frey,
Secretary for the Planning Board

REGULAR MEETING
PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

7:00 PM **June 23, 2022**

MINUTES

MEMBERS PRESENT:	Rick Chellman, Chairman; Karen Conard, City Manager; Joe Almeida, Facilities Manager; Beth Moreau, City Councilor; Greg Mahanna; Peter Harris; James Hewitt;
ALSO PRESENT:	Beverly M. Zendt, Planning Director; Peter Britz, Environmental Planner; Stefanie Casella, Planner 1;
MEMBERS ABSENT:	Corey Clark, Vice Chair; Franco DiRienzo, Alternate; Andrew Samonas, Alternate; Jane Begala

I. APPROVAL OF MINUTES

A. Approval of the April, 21 regular meeting minutes

Conard moved to take item 4 G out of order, seconded by CCM. Conard it's at the end of the agenda and applicant said it was quick item. Nice to not make them wait to end of the meeting.
The motion passed unanimously.

CCM moved to bring forward 5 A out of order seconded by Joe. The motion passed unanimously.

CCM moved to approve minutes, Harris. The motion passed unanimously.

II. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

A. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Preliminary and Final Subdivision

CCM moved to det complete, Conard. The motion passed unanimously.

B. The request of **James** and **Gail Sanders (Owners),** for property located at **445 Marcy Street** requesting Preliminary and Final Subdivision

CCM moved to det complete, Conard. The motion passed unanimously.

SITE PLAN REVIEW

A. The request of **RIGZ Enterprises LLC (Owner),** for property located at **806 Route 1 Bypass** requesting Site Plan Review

CCM moved, conard. The motion passed unanimously.

B. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Site Plan Approval

CCM moved, conard. The motion passed unanimously.

C. The request of **Mastoran Restaurants Inc. (Owner),** and **Granite State Convenience (Applicant),** for property located at **2255 Lafayette Road** requesting Site Plan Review

CCM moved, conard. The motion passed unanimously.

III. PUBLIC HEARINGS – OLD BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

A. The request of **Mastoran Restaurants Inc. (Owner),** and **Granite State Convenience (Applicant),** for property located at **2255 Lafayette Road** requesting Site Plan review and Conditional Use Approval for use 19.40 under Section 10.440 to allow a drive-thru facility as an accessory use to a permitted principal use in the Gateway Corridor Zone. Said property is shown on Assessor Map 272 Lot 3 and lies within the Gateway Corridor (G1) District. (LU-22-13)

SPEAKING TO THE APPLICATION

Conard, CCM consider together. The motion passed unanimously.

John Bosen, Brad Pernaw, and Nicole Doucette spoke to the application. Bosen commented that Poroject been in the works since 2021 . worked iwht con comm, TAC and BOA on this. In full agreement with the staff memo stipulations.

Doucette – burger king prop across from water country. Expansive 73 parking space pavement lot. within the gateway dist. Proposing 4970ncommon mna roadside with drive thorugh, 26 spaces and10 at the pumps. 5 fueuling dispenser islands. Does include a drive thorugh and mobile pick up lane. 12 charging stations at the back for electric cars. Combo of tesla and universal. Drainage will have deep sunk catch basins hydro dynamic separators and oil water sep tank in the back. All goes into underground detention system at the back prop. From there will be pre treated then jelly fish treatment unit then to the wetland. Don't plan to impact any wetlands. The side area is a swale between the two properties and culvert from DOT. Sewer easement in the back of the prop that have rights to. Had an existing sewer service through the wetland. Older service that is broken up. Providing a new service out of the wetland. Existing sewer service will be removed in a=pavement and abandoned in the wetland to prvent impact. Erosion control will have stab const tactics, silt sakcs and silt fencing and slope stablilation blankets. Will be non-plastic netting. Don't need to go to AOT on this but feel this should be done. met with con comm and some comments because in wetland buffe rlmit fert using and agreeable to that. original comment to grade side area to catch snow melt there instead of going to wetland and that was incorp into the plan. Proposing English oak trees, honey locust on side and snow crab apple in the center. Then there will be bushes and ornamental grasses on the site as well. Con comm requested provide additional wetland planting on slooe and will incorp. Will need DES approval and needs to go to DOT. Pending review there. ZBA parking between bulding and road. more than one drive and less than 75% buidlng out. All variance. Will be an entrance only and exit only. Requesting 2 waivers. Got variance for 2 drive but in site plan reg too so asking for waiver as well. Also waiver for exiting distance for drive thorugh window and curve of the curb exiting lane. Have 34 feet and 40 feet is required there. Asking for cup for wetland. Decreasing the amout of impervious on the site. By about 3000 sf. Impervious in buffer 29 to 20K. 9000 sf in the buffer decrease. Disturbance ara in buffer 49K existing to 33 K. existing burger king pavement is against wetland line. Will be increasing setback on side and back edge. Drive through requesting cup for tha tin gateway corridor dist. Hope consider because currenlty one on the site. Will not be a new impact. Existing driangina not on site. Doing this will clean water and reduce disturbance. Feel environmentally it's an improvement. Signage plan shown got a varaiance for free standing. Will have outdoor seating on patio area.

CCM – make sure all snow plowed and kept out of buffe rhow managing that. Doucette – primarily will use front area first for snow removal and the other as secondary. Theere is a fence back there to make sure that no trash goes to wetlands. Side will be wegtlands. CCM silt fence and love the blankets. Objection to sock vs. fence. Douceete no problem.

Hewitt. – distance is 34 feet. Assume standard is there for larger vehicles to make that turn. Have you run turning temp. Doucette – try to keep all our drive thorughs 15 foot min. regulations says 18 and have more than enough radius there. The 40 feet have not seen that standard but have run truck truing tep and it works. Hewitt- future ev because not enough demand or expensive. Doucette – don't belive NH Pernaw – have a deal in place with Tesla and will dev at this site during const. have agreement with charage.point and hold up is DES releasing for that. will take some time for other projects submitted and improved. Charmn include trip gen for charging on site. Doucette – will need to follow up. Not required use as of yet. Did convenience store and looked inot diff of gas station and area of building to get greater of the 2. Chairman net increase or decrease. Doucette. Can follow up.

PUBLIC HEARING

No one.

DISCUSSION AND DECISION OF THE BOARD

CCM moved to approved meet criteria added stip for silt sock, seconded by Conard.

CCM – drivien by site and know wetlands back thee. Was concerned about what happen would encroach more. Pulling back is a positive. Huge increase in benift.

Harris – agreed big improvement.

The motion passed unanimously.

CCM moved to det placement of window, conard.

CCM – already a worse drive through now so this is an improvement.

The motion passed unanimously.

CCM. Meets criteria in zoning and grant, Conard.

The motion passed unanimously.

CCM moved to approve site plan 4.1-4.5, conard.

The motion passed unanimously.

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature. If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

A. The request of Mastoran Restaurants Inc. (Owner), and Granite State Convenience (Applicant), for property located at 2255 Lafayette Road requesting Wetland Conditional Use Permit Approval according to section 10.1017.5 of the Zoning ordinance to convert an existing fast food restaurant site into a retail fueling station and a convenience store/sandwich shop with drive-through window and a five fuel pump dispenser island and associated paving parking and stormwater system upgrades for the entire site creating an overall disturbance in the wetland buffer of 33,555 square feet. Said property is located on Assessor Map 272 Lot 3 and lies within the Gateway Corridor (G1) District. (LU-22-13)

DISCUSSION AND DECISION OF THE BOARD

B. The request of **James** and **Gail Sanders (Owners),** for property located at **445 Marcy Street** requesting Preliminary and Final Subdivision approval to subdivide one lot with 14,947 square feet of lot area and frontage on Marcy Street, Pray Street, and Partridge Street into two lots as follows: Proposed Lot 1 with 6,127 square feet of lot area and 102.43 feet of frontage on Marcy Street and 67.83 feet of frontage on Pray Street, Proposed Lot 2 with 8,820 square feet of lot area and 802 feet of frontage on Pray street and 62.44 feet of frontage on Partridge Street. Said property is located on Assessor Map 101 Lot 3 and lies within the General Residence B (GRB) and Historic Districts. (LU-22-79)

SPEAKING TO THE APPLICATION

Eric Weinrieb from Altus Engineering spoke to the application. Open parcel is the candy shack parcel. .34 acres frontage on marcy pray and partridge. 53 sf short of having legal area for 3 lots. Wanted 2 oversized lot instead sub division. Simple subdivions. 7 TAC conditions and addressed all 7 of them. 7 planning rec conditions and no objection to any of those.

CCM – what address will it have. Weinrieb – will go with the recommendation from fire dept. to be clear for 911 to send them to the driveway.

Hewitt – site plan address at 469 structure encroach on the new lot. Ew – yes existing encroachment. Hewitt – now the time to remedy it. EW – don't see a reason to. It's there and good relationship. Historical rights to do that. Zendt – that should be at request of prop owner who is being encroached upon. Sounds like no one has made that request.

PUBLIC HEARING

No one.

DISCUSSION AND DECISION OF THE BOARD

CCM moved to grant prelim and final with memo stip, seconded by Conard.
CCm – straight forward.
The motion passed unanimously.

C. The request of **RIGZ Enterprises LLC (Owner),** for property located at **806 Route 1 Bypass** requesting Site Plan Review for construction of 400 square feet of additional commercial space and site improvements. Said property is located on Assessor Map 161 Lot 43 and lies within the Business (B) District. (LU-22-81)

SPEAKING TO THE APPLICATION

Alex Ross spoke to the application. Simple small addition to the rear of the building. On the bypass against the strak st bridge. Currently city tabocco and bev center. Fully dev site but never been to a board before. A lot of opp for site improvement with landscapoign parkign fence and lighting. Implemented all TAC feedback. Rear of the building has some odd jogs would like to square that off with addition. Currently a drian line passes under the existing building. Worked with dpw on best solutuoin to re route. Drian line will go around rear of the buidlng. Added llandscapiong to bring into open space conformance. Worked with rear abutter about concenrs with dumpster location.utility plan showing re routing showing new sewer line to stark st. landscape plan to add as much landscaping as possible to bypass and rear and side.

CC – something going in snow storage area when now snow. Ross -alongs stark st. a lot of large gravel and rip rap from bridge so good palce to store snow.

PUBLIC HEARING

No one.

DISCUSSION AND DECISION OF THE BOARD

Mahanna moved to det waiver, seconded by CCM.

Mahanna – good way to move away from residents.

The motion passed unanimously.

Mahanna moved to grant site plan with memo stip, CCM.

Mahanna – vast improvement.

The motion passed unanimously.

D. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Preliminary and Final Subdivision approval to subdivide one existing lot with 65,365 square feet of lot area and 123.92 of frontage on Lafayette Road and 336.61 feet of frontage on Andrew Jarvis Drive into three lots as follows: Proposed Lot 1 with 18,434 square feet of lot area and 123.92 feet of frontage on Lafayette Road and 129.57 feet of frontage on Andrew Jarvis Drive, Proposed Lot 2 with 16,606 square feet of lot area and 102.04 feet of frontage on Andrew Jarvis Drive, and Proposed Lot 3 with 30,325 square feet of lot area and 107 feet of frontage on Andrew Jarvis Drive. Said property is located on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-82)

Conard D anf E, seconded by CCM. The motion passed unanimously.

SPEAKING TO THE APPLICATION

Justin Asic from TF Moran Corey Colwell, Joe Calderola, Derek Durbin. Asic – project prop 3 lot sub. Went to TAC in May and addressed all their comments. Site plan review for prop ADU. Site contains single family one story dwelling unit. Located south of Jarvis dr. prop site subdivided into 3 ltos. First int of artwill ave and Lafayette prop 2 story single family dwelling unit. Second lot will have exiting hosue. Third lot end of artwill ave. one story single family dwelling unit and an attached ADU. Other improvments include landscaping grading storm water management and utility installation. Utility existing house will be all same utilities except sewer will tie into artwill ave. coordinated with unitli eversource. Water and electric off Jarvis Dr. sewer along artwill ave. prop gravity sewer line on lot 1 runnign parallel to forced main and tie into manhole at int. site drainage existing site pitches form high point along Andrew Jarvis to low point on the lot. trying to match existing patterns as mmcuh as possible. Existing soils on site type b and well drained. 4 total rian gardens existing conditions driveway runs thorughartwill to existing drive. Reduce road width to 26 feet. Some wider sections because only redcuing pavement on north side ofth eroad to avoid abutter impact. Will be removing attached garage on site. Provdingi a decrease in 2 year storm.

CCM – having to extend length of Artwill ave to get third lot. Asic yes extending by 15 feet to add more space for adu parking adjacent to principle driveway. Wanted to provide enough space for someone ot back out and head out. CCM – cloe off entrance to Jarvis drive. Asic – yes closing with sidewalk.

Mahanna – road extending shared main private or city. Asic – private road. Mahanna – an existing main agreement with house there. Durbin – no. owned by artill LLc. One sitp from tac is to put na agreement in place. Have drafted that and sent to toher owners for review. Not. A lot fo feedback from them yet. Mahanna who will own it after subdivision is done. Durbin – road is currenty owned by LLC. 3 lot owners will own the road subject to rights of toher 2 exisitng oweners on the st. expanding rights by reserving easements for them if decide to connect to forced main. Assoc. with lots 1-3 and would pay for main and decision making. The other lots are benefiting lots.

CC – length stop at extend or can continue further east. Asic stops there. CC – anyone else have easement rights ove there. Asic do not believe so. Calderola – in the previous deed states that they can if ever shoose to open a driveway from their parkign lot can open onto that road but has not done tha.t

Hewitt low pressure sewer serving these. Asic – just lots 2 and 3 lot one will be gravity fed. Hewitt – main and ownership all on the lot owners. Asic – correct.

Mahanna – live in an PUD. Will mail be delivered to all the houses. Asic – each new lot will have a sep mail box. CCM – they also get trash pick up. It Is the same as chev ave. its something the city has done by practice but have not taken on ownership of th road. Mahanna –

city wont pick up trash in private. Durbin – the creation of this road recognized by city council city would have certain rights and one was to do the plowing and have certain main obligations on that road. Loosk like a public st in many respects but ownership left in private. Mahanna – insurance policy in place for raod. Durbin – liability lies with prop owner of existing lot. There are other examples like this through the city. Zendt – application may not have answer to this question so can follow up. Understand the question and have the service. Chairman – staff memo has discussion about main agreement to be provided and no in thte packet. If you want to make condition of discussion can do it then. Cannot settle tonight. Durbin – negotiated agreement between city and owner at that time for who would own what services. Not something we can change without council approval and not proposing any changes to that. hopig to keep existing relationship in place just providing more clarity for existing owners fo what those are and will assume responsibility for repaving lots 1-3.

Asic – propoed ADu is on lot 3. Principle dwelling is shown up to garge limit and prop AADu on east side. Qill be 747 sf and same finished floor evelation as strucutr.e. prior to plannigin received comments. In submission included a cover letter that lists the criteria in zoning ord and found that 14 items applicable to this proposed ADu. Listed the criteria and how conforming to each. List submitted by planning board are 4 critieria not on it. First states exterior design consistent with princpel. They will match and be consistent. Second site plan shall provide open space landscaping and off st parkgin for both. Propso adu on lot 3 currenlty has 26% more open space than required. Proposing landscaping in the back and front of the house. Existing buffer of trees and veg along prop line to the east. Lot of yard apsce and prop landsciong. Should conform. Adequate parkign for both. Propose 12 by 22 foot parkign space for adu. And sep drvie for house. Third adu will not results in parkign noise of traffic. Only proviifng one parkign space for adu. Total of 5 houses using orad. Should not increase traffic or congestion. Should not be any excessive noise. Fourth item adu maintain compatible relationship to adjent prop and not reduce privacy. Veg buffer between two lots. ADu 20-30 feet form prop line. Prop to east is church and parkign lot. should not reduce privacy. Building looks out at parkign lot.

Joe – seeing dev in isolation not a lot surrounding it. Is anything occurring here similr dev happens across st. doing anyting here that lmimts that prop owner from doing something. Potential for something to happen across the st. limit the righs of that ownrr. Broad question. Asic – existing driveawya to lot 5. Lot 4 additional driveway there. Don't veliebe would be prohibit any future use. Trying to add benefits to lots across the st. don't see adverse impact to lots. Surrounding area residential lots and then the highs school.

PUBLIC HEARING

Arthur Kareaks from St. Nicholas Greek Orthodox church enjoy right of way from artwill into parking lot. council asked to come to express church's concerns. Rightst in the deed have not been addressed. Have a right of first refusal that runs with our deed. For piece of prop 50 feet wide and 170 feet. Intended to connect jarvcie to artwill alog border of church. That right of first refusal never presented to us. Have not discussed with people. Asking planning to not approve this application.

Chris Chase 34 Artwill Ave. in early 70s council voted to give us the right to have trash and plowing pursuant to actually making Artwill a city road but never followed up on that. wife's family owned that prop since 1930s. been there a long time. Concerned reducing street size because of layout of the land. Half drive on the east side of the prop on downward hill. Have drain issues come to our side of the st. had to add a berm to prevent water from going in basements. The rain bersm coming now if dump onto Artwill during storm will come onto pro and flood it. Agreement for the yet to receive it. First time read it was 2 hours before meeting. If what sayis truok but haven't reviewed it. Neutral to the dev but concerned about parkign and flooding. Should be better addressed lot 5 no current plans to dev. May do it in the future but for now like the lawn.

Butch Richie 36 Artwill talked to dev have some minor and one major concern. Biggest issue is drainage. Road drops 8 feet and berm has helped but still a aconere. Narrowing st. but adding more impervious surface. 4 rain garden dump to east stide low spot. Where does it go form there. Already ppols. Can't go through to church. Freezes in the winter. During const hoping even if narrow can fire still get around. 2 inch water line runs under lot 1 and then will be under driveway. Hopingn not a problem but concerned about access. main agreement approval is pneigno on approval of this project.

Derke Durbin chase concern didn't reveie will get contact info and sned. Other concern about church alledge first right of refusal. Deed from 1966 for their prop and have reviewed it. Prop at 437 lafayette rd. transferred 3 times since 1966. More recently prop was actively marketed for sometime before purshce. Civil issue outside jursi of this board. our position clearly they have lost any right had ofver passage of time thorugh 3 conveyances. Over peiord of much longer than 20 year. Stated no converstaiotn but that is factually inaccurate. Spoek with tim phoenix on more than one occasion for this issue. It is a weak claim from the church and nothing this board should discuss and consider.

Asic – road width redcuton currenlty sections 35 feet wide private road doesn't not see need to be wide. Worked with fire dept. min width 26 feet and didn't see concern about shringking to that. adding houses and drives but looking to mitigate net impervious area. Not a uniform road now. Drainage ties into it. Existing drain issues on prop. Naturally pitches to low point. 9 test pits and found good infiltraiont rates. That's what using for rain gardens. Decreasing post dev runoff volumes. Will be capturing flows and directing to infiltration. Have outlet control structures during heavy storms. Providing adequate effort sand drain analysis shows prviding reductions. Anyting on yard will have infoltaiton but everything pitching to rain gardens. 2 inch water service does run down existing road and lot. reducing some pavement but waterline does stay under impervious road then under proposed driveway to water main. Because small portion of the line and already under roadway traveled on more ferwutly. d'n't see anyt issues with that. can look if needs to be deepened under const.

Second time:

Arthur Kareaks from St. Nicholas Greek Orthodox talked with tim phoenix twice and said they didn't want to discuss it. Secondly tim is not here we are a church and paying for him is expensie. Made the objection known.

Closed.

DISCUSSION AND DECISION OF THE BOARD

CC – subdivision and site plan cup approval. Did not notice note subdivision plan has right os first refusal stip land something lot is subject to. Don't know what to do with that. if it is as described 50 foot strip of land proposing to put building in part of that. needs to be resolved in some fashion.

CCM agree. Did not look at entire title and knowing whtehr or not been offered and. Transferred several times makes it a good legal case needs to be settled. Doesn't stop use from approving this. Still subject to that possibility. Building will not be built if the 50 foot stands. Lot is subject to first right of refusal in my opiniogn. Can let them fight it out in court.

Mahanna – not in faovr. 2 title issues need to be resolved. Egress through to the church havent' used yet. Lakc of main agreement being presented to us. Private rd. vs. city rd. need to resolve that.

Joe – agreement is not final yet. Is the agreement typicallay finalized before. Zendt – draft agreement that does address main. Was provided but noted with moreau would eewant to see executed before building permit was issued. Will be reviewed by the legal dept too.

CC – applicants favor drainage issues has been addressed in the plan. The licesnced engineers. Mahanna – 2 abutters against it that's my point. CC – unless expert testimony refuting it. Bound by it. CCM – allowed ot request third party review of it if don't trust the expert advice.

Mahanna – can we question deed easement agreement. CCM – that needs to be fought out in court between the parties. We are not a party to that so not our fight aas a city. CC – agree with that but if propose to deny based on drainage concerns that would not be acceptable. Can seek to engage outside inoput. Idk if can extend to right of firt refusal but concerned about puptting a building n top of it.

Joe – with drainage issue fact that it's not a city st. that city could address if problem to be corrected. But if issue is created out of our control to correct ti after approved. CC – creating another potential civil issue.

Harris – questioning opinion there do we know it takes into account the other lots concern. CCM – request postponement until have a chance to give evidence to abutters for proper drainage so no concenrs about issues.

CCM moved to postpone, conard. CCM – meet with abutters and review drainage bmps in place. Like their concerns and main agreement satisfied.

The motion passed unanimously.

CC – written statement status of right of first refusal.

E. The request of **Artwill LLC (Owner),** for property located at **437 Lafayette Road** requesting Site Plan Approval and Conditional Use Permit Approval as permitted under Section 10814.40 of the Zoning Ordinance to subdivide the lot and construct two new single-family dwellings (one includes an attached accessory dwelling unit) in addition to the existing single-family dwelling. Said property is located on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. (LU-22-82)

DISCUSSION AND DECISION OF THE BOARD

F. The request of **City of Portsmouth (Owner),** for property located at **329 Heritage Drive** requesting Wetland Conditional Use Permit approval according to section 10.1017.5 of the Zoning Ordinance to impact 1,490 square feet wetland buffer to replace equipment at an existing sewer pump station. Said property is located on Assessor Map 284 Lot 5 and lies within the Municipal (M) District. (LU-22-96)

SPEAKING TO THE APPLICATION

Tyler Reese spoke to the application. Wirght Pearce Jake Shactman. CUP for heritage dr. sewer pump station replacement project. Shactman city cup application pump station necessary to convey sewage. New pump station beenfits city by improving reliability access and safety. Site demo includes removing pump station shed fencing and piping. Existing site icy and muddy condisiotns. Prop impacts in buffer not proposing any direct wetland ipacts only temp for demo. Removing 220 sf impervious. And installing piping. Perm impacts new pump new gen and electrical control cabinet and proposed driveway. Proposing some plantings. Propos station is further awy from existing wetlands. Native shurbs prop sfor veg buffer. native wetland seed mix outside of the fencing and storm water improvments proposed to off set impervious area.

CC – why not considered public utility. Zendt thoguth we had talked about that TAC meetings public utilites did not need a permit for work in wetland. CCM – considered themselves exmept form having to do it but also been transparent with applications. CC – public and private utility exempt. CCM – just being upfront.

Hewitt – everything demoed on the site. Tyler – except existing wet well. Hewitt – how old. Tyler – 1976. Hewitt pretty much a rebuild . Tyler yes.

PUBLIC HEARING

no one.

DISCUSSION AND DECISION OF THE BOARD

CCM moved to fins satisfied, Mahanna.

The motion passed unanimously.

CCM moved to grant wetland cup as presented, Mahanna.

The motion passed unanimously.

G. The request of **Joan S. Rice Revocable Trust (Owner),** for property located at **460 FW Hartford Drive** requesting Wetland Conditional Use Permit Approval according to section 10.1017.5 of the Zoning ordinance to temporarily impact 275 square feet and permanently impact 5.2 square feet of inland wetland buffer to install a new fence where the impact is the wooden fence posts. Said property is located on Assessor Map 249 Lot 17 and lies within the Single Residence B (SRB) District. (LU-22-69)

SPEAKING TO THE APPLICATION

Rice ask to approve installation of split rail fence in back yard. 220 feet. Split rail design to be attractive. Abutters aupprot fence. Fence is needed to contain the dog.

Hewitt – going through the packet and see photo on display. Is the outline the fence proposal. Rice correct. will follow the outline of my lawn. Hewitt – split rail fence with cheainlink. Rice – it's a vinyl mesh.

PUBLIC HEARING

No one.

DISCUSSION AND DECISION OF THE BOARD

Mahanna moved to approve as presented, seconded by CCM. The motion passed unanimously.

V. CITY COUNCIL REFERRALS

A. Hold a Public Hearing and consider a recommendation to the City Council for Zoning Ordinance Amendments to Building Height standards.

SPEAKING TO THE APPLICATION

CCM - Looked at it last time. Like to move to next wed for quesirons because changes came in this afternoon.

Chairman – agreed. Not significant changes but should give everyone a chance to review them.

Hewitt friendly amendment thinking about postpongin it. Feel zoning is most important things we do as a planning board. warrants it's own meeting separate form the wetlands CUP training. Chairman – my understanding is we address the zoning before the CUP training. CCM – yes and they are mostly clean up no major changes. Have a lot of major changes coming that will need that time and meetings to themselves. These are at the tail end just want to make sure people can absorb. Will still go to city council and have public hearing there as well. Will consider separate meetings in the future for major changes. Hewitt agreed can address in Wednesday.

Zendt – suggested starting earlier. CCM – 6:00 pm should be enough. Zendt – training should be 6:30-8:30.

CCM – moved 6 pm wdnesday, seconded by Joe.

Hewitt – can we be assured we won't be getting any changes. Zendt the last minut changes were a result of requests from members of this board. as we move forward may want to have a comment cut off time. To help with review. Chairman – any further changes can come to the meeting Wednesday.

The motion passed unanimously.

PUBLIC HEARING

DISCUSSION AND DECISION OF THE BOARD

VI. OTHER BUSINESS

A. Chairman's Update/Discussion

CC – placeholder. City manager

DISCUSSION AND DECISION OF THE BOARD

VII. ADJOURNMENT

Conard moved to adjourn, Harris. The motion passed unanimously. 9:15 pm.
Respectfully submitted,

Rebecca Frey,

Minutes, Planning Board Meeting, June 23, 2022

Secretary for the Planning Board

REGULAR MEETING
PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

6:00 PM **June 29, 2022**

MINUTES

MEMBERS PRESENT: Rick Chellman, Chairman; Corey Clark, Vice Chair; Karen Conard, City Manager (present on Zoom); Joe Almeida, Facilities Manager; Beth Moreau, City Councilor; Greg Mahanna; Peter Harris; James Hewitt; Alternate; Andrew Samonas, Alternate

ALSO PRESENT: Beverly M. Zendt, Planning Director; Peter Britz, Environmental Planner; Stefanie Casella, Planner 1;

MEMBERS ABSENT: Jane Begala; Franco DiRienzo,

I. CALL TO ORDER

Chairman Chellman called the meeting to order at 6:00 p.m.

II. CITY COUNCIL REFERRALS

A. Continue the public hearing and consider a recommendation to the City Council for Zoning Ordinance Amendments to Building Height standards.
***Please note this item was postponed from the June 23, 2022 Planning Board meeting.**

SPEAKING TO THE PROPOSED AMENDMENTS

Ms. Zendt commented that on May 5, 2022, the Board received a draft for zoning amendments to building height requirements and structural code clean up. They have had a public hearing, and worked with Board Members, Staff, and Community Members on feedback. The fourth version was presented at the June 23, 2022, Planning Board Meeting. It was continued to tonight. The purpose is to provide clarity to certain ambiguity in the code around building height and design guidelines. The intent is to make it more understandable for the Board and community.

QUESTIONS FROM THE BOARD

Mr. Harris questioned who was setting the priorities for the changes coming to the Planning Board. City Council Representative Moreau commented that the City Council set this priority based on goals they set.

Chairman Chellman added that the Council gave a set of priorities to the Land Use Committee. The Planning Board can set priorities of its own volition as well. The process they are following tonight is a directive that came from Council. They started looking at this because of a difference in interpretation on building height. After looking at the ordinance they realized other things needed some clean up. This became a little bit bigger because they are doing their due diligence.

Mr. Mahanna commented that clean-up is good but some of these changes will benefit developers. City Council Representative Moreau noted that they can recommend all or parts of the proposal.

Mr. Hewitt questioned if there would be a presentation on this tonight. Chairman Chellman responded that Staff was present to answer questions, but they do not have time for a full presentation and public comment. Staff can provide a brief comment.

Mr. Cracknell commented that there were four major parts to the amendments. The first is making changes to the building height map. The second is dealing with corner and through lots. It addressed how to apportion multiple building heights. The third is related to civic properties. They are currently exempt from 60% of the dimensional controls, but there is ambiguity in the remaining code about whether or not they need relief or what standards apply. They either need to fill the gaps or treat them as exempt from all dimensional controls. The fourth and final is dealing with the definitions of building height and addressing artificial filling. There are also some changes that address decorative elements to a roof and modifying the definition of a penthouse.

Mr. Hewitt questioned what notifications about these proposed changes went out to the public. Ms. Zendt responded that if a change directly effects 100 abutters or less, then the City must do direct notification. If it is more than that, then it is considered more of a legislative change and direct notification is not required. Staff worked with the City Attorneys to determine what was required for notification. The notification was posted in the Planning Board agenda and in the newspaper.

Mr. Mahanna noted that they were proposing changes to building heights in the Historic District, but the HDC has authority on those building heights. Chairman Chellman clarified that they were setting a standard height and the HDC had the authority to dictate the height within that standard in the Historic District.

Mr. Almeida commented that the design of the building determines the success of it more than the height of the building.

Mr. Cracknell commented that the building height standards set on the map are as they are today. The changes to the map are only making it explicit to the applicant and public that HDC has authority to set the height between the minimum and the maximum. The HDC cannot create a new maximum and they cannot go below the minimum.

Mr. Mahanna commented that they should not be raising the heights of buildings. Foundry Place should not be that high. Mr. Cracknell responded that everything permitted around Foundry Place is 60 feet. Lot 1 is 60 feet tall, lot 2 is a park, lot 3 will be 50 feet. The corner is a 60-foot building. This was solidifying the height. That is why they used it. They are adding this because Foundry Place didn't exist when they adopted the building height map.

Chairman Chellman noted that at the last meeting they requested a visual of the overlay with an aerial photo and the 3-D model. Mr. Cracknell responded that they do have an aerial of the Foundry Place neighborhood. Some of the 3-D modeling is available online and was done by the applicants. The City did not produce them.

PUBLIC HEARING

Rick Becksted of 1395 Islington St. commented that there has not been adequate time or notification for this. The Planning Board should have a work session on this. The public hearing and notification were for the previous meeting. This is impacting prominent neighborhoods and people are on summer vacation. This should be handled in the fall. There is not enough information for the public or the Board.

Paige Trace of 27 Hancock St. spoke as the President of the National Society of Colonial Dames of NH. They own the Moffat Ladd house. Ms. Trace was concerned that the height limits were proposed to change on all four sides of that property, and they were not noticed. They are trying to protect the property, not sell it. The Planning Board should consider that there was no transparency on this. There would be more public comment if there was more notification. This seems like spot zoning.

Duncan MacCallum of 556 State St. commented that he was against the proposed zoning changes. They look like the zoning amendments were drafted by developers. The building heights should be lowered not raised. This could destroy the character of the downtown. Mr. MacCallum also thought it seemed like spot zoning. The HDC does have the authority to dictate the height but in practice they never do it. That should be taken under consideration.

Petra Huda of 280 South St. commented that the Planning Board should vote no on this tonight. This is a blatant attempt to circumvent variances and the BOA. It seems like spot zoning. Developers will benefit from the change of the height in the Hanover Garage and Foundry Place areas. The Planning Board has not had sufficient information. They should postpone it until they get more information.

FX Bruton represented Coventry Assets who own the building at 1 Congress St. Spot zoning typically relates to use changes like changing to an industrial zone in a residential zone. It does not speak to the changes tonight. The City Council has asked the Planning Board to look at the changes they've considered and give a recommendation. There is another process where the Planning Board can look at their own changes. That is not what is in front of them tonight. The proposed change is an attempt to make this parcel similar to the surrounding parcels. Mr. Cracknell mentioned this was an attempt to make it more consistent. The Planning Board should make a recommendation to Council as requested and respect the process.

Esther Kennedy of 41 Pickering Ave. commented that one developer just asked the Board to pass these changes and only talked about one property. This meeting was originally scheduled for 6:30 p.m. but it was changed to 6 p.m. It also did not say there would be a public comment. Residents don't want more mass and bigger buildings. The Board has to consider what they want Portsmouth to be. If they are looking at height, they should also look at parking. They should look at everything and the public should be more involved.

Elizabeth Bratter of 159 McDonough St. commented that there were many proposed changes, and it is overwhelming. It would be helpful for the public to have a presentation that explains the reasoning behind why the change are proposed and the wording around them. Some of the changes to the ordinance will protect neighborhoods better. Some of the changes came about because of public complaints. The ordinances should be as black and white as possible to prevent any gray area. They are trying to clean that up. There should be a presentation to explain that. Ms. Bratter's biggest complaint was having 2 heights on one lot.

DISCUSSION AND DECISION OF THE BOARD

Chairman Chellman commented that they have had a number of meetings to talk about this and Mr. Cracknell did make a presentation in detail at a prior meeting. This is not a last-minute proposal. By nature of any proposed zoning change a landowner's property will be affected. It is not uncommon for one landowner to bring their issue forward. These proposed changes are not trying to cater to a developer. People may not like it and the Board may not pass it but that is separate from catering to developers.

Vice Chairman Clark commented that he was in favor or tabling the height map changes and recommending the rest of the proposed changes on.

Mr. Mahanna commented that they should continue all of it to a future meeting.

Mr. Hewitt commented that they should have a separate meeting to address this, and it should include a new presentation.

City Council Representative Moreau commented that they should move to continue this to the August meeting and schedule a work session or special meeting on this before that as well.

Mr. Mahanna moved to continue this item to the August 18, 2022, Planning Board Meeting with a work session to be scheduled before that meeting, seconded by Mr. Almeida.

Mr. Almeida commented that it was worth repeating that they are not doing any of this in secret. Chairman Chellman agreed. They did not have a line item on this agenda for public input, but it was a continued public hearing. By definition that meant there would be public input.

Mr. Samonas commented that there have been valid points from the Board, Staff, and the public. They do need to consider the residual impact on neighborhoods and the timing of it all. When they have public input, they get information from a different lens. There could be another

platform for a more dynamic public presentation and for the Board to receive the information. That should be considered.

The motion passed unanimously.

III. ADJOURNMENT

Chairman Chellman concluded this portion of the meeting at 6:58 p.m.

Respectfully submitted,

Becky Frey,
Secretary for the Planning Board

JOINT WORK SESSION
PLANNING BOARD AND CONSERVATION COMMISSION
PORTSMOUTH, NEW HAMPSHIRE

EILEEN DONDERO FOLEY COUNCIL CHAMBERS
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

6:30 PM **June 29, 2022**

MINUTES

PLANNING BOARD

MEMBERS PRESENT: Rick Chellman, Chairman; Corey Clark, Vice Chair; Karen Conard, City Manager (Present on Zoom); Joe Almeida, Facilities Manager; Beth Moreau, City Councilor; Greg Mahanna; Peter Harris; James Hewitt; Andrew Samonas, Alternate

MEMBERS ABSENT: Jayne Begala; Franco DiRienzo, Alternate,

CONSERVATION COMMISSION

MEMBERS PRESENT: Barbara McMillan, Chair; Samantha Collins, Vice Chair (Present on Zoom); Allison Tanner, Abigail Gindele, Alternate; Thaddeus Jankowski (Present on Zoom)

MEMBERS ABSENT: Jessica Blasko; Henry Mellynchuk; Lynn Vaccaro; Mika Court, Alternate

ALSO PRESENT: Beverly M. Zendt, Planning Director; Peter Britz, Environmental Planner; Stefanie Casella, Planner 1; Kate Homet, Associate Environmental Planner

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I. Training Session with Attorney Stephen Buckley, *NH Municipal Association* and Sandy Crystall, formerly with New Hampshire Department of Environmental Services regarding State regulations related to Wetland Conditional Use Permits.

Planning Board Chairman Chellman called the meeting to order at 7:05 PM and introduced Attorney Stephan Buckley, Legal Services Counsel at the NH Municipal Association, and Sandy Crystall, Professional Wetland Scientist (formerly with the New Hampshire Department of Environmental Services).

Attorney Buckley introduced himself and his role at the New Hampshire Municipal Associate where he provides legal services to member communities around the State. Attorney Buckley's

presentation focused on the enabling legislature and relevant case law relating to the Wetland Conditional Use Permits with special attention to the following:

- NH RSA 674:21 – Innovative Land Use Controls
- Relationships and comparisons to Special Exceptions (NH RSA 674:33)
- Takings Clause and Standards

Ms. Crystall then introduced herself and began her portion of the presentation where she discussed the practical application and process of Wetland Conditional Use Permits with special attention to the following:

- Code structure
- The relationship between Wetland Conditional Use Permits and the City of Portsmouth Master Plan
- Wetland buffer anatomy and functions
- The 6 wetland conditional use permit criteria defined in the Portsmouth Zoning Ordinance
- Site walks
- Wetland resource protection considerations
- New Hampshire Department of Environmental Services wetland rules

II. Q&A session with Stephen Buckley and members of the Planning Board, and Members of the Conservation Commission.

Members of the Planning Board and Conservation Commission asked questions relating to zoning interpretations, spirit and intent of the current zoning, goals for future zoning amendments, standards for a functioning assessment, how the process in Portsmouth compares to other communities in the area, species population consideration, and State level permitting needs and triggers.

III. ADJOURNMENT

The Board Adjourned at 8:35 pm.

Respectfully submitted by Stefanie Casella, Planner for the City of Portsmouth

TFM Since 1968
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

NEW HAMPSHIRE 200

June 29, 2022

Rick Chellman, Chair
City of Portsmouth Planning Board
1 Junkins Ave, 3rd Floor
Portsmouth, NH 03801

RE: Planning Board Subdivision & Site Plan Review Applications
Proposed 3-Lot Subdivision, 437 Lafayette Road, Portsmouth, Tax Map 229, Lot 1

Dear Mr. Chellman:

The above-referenced project was presented to the Planning Board at the June 23rd meeting. TF Moran, Inc. is resubmitting the following plans and supporting documents on behalf of the Applicant, Artwill LLC. These materials have not been revised or updated since the first Planning Board submission, and copies of each item have been uploaded to the City's Online Land Use Application (LU-22-82) via Viewpoint.

- **Letter of Authorization**
- **Site Plan Application Checklist**
- **Subdivision Application Checklist**
- **TAC Notice of Decision Letters**
- **Abutters List**
- **Eversource Will Serve Letter**
- **Unitil Will Serve Letter**
- **Drainage Report dated April 19, 2022**
- **Plans titled "Site Development Plans, Tax Map 229 Lot 1, Proposed 3 Lot Subdivision, 437 Lafayette Road, Portsmouth, New Hampshire", prepared by TFMoran, Inc., dated April 19, 2022, last revised May 25, 2022**
- **Architectural Drawings, prepared by Smithfield Construction, Inc.**
- **NHDES Sewer Connection Permit Application**

In addition to the items listed above, four supplementary documents are being included in this submission. These documents are listed below and have been incorporated in an effort to address comments that arose during the public hearing. Hard copies of the following items have been delivered to the City and uploaded to the Online Land Use Application.

- **Revised Access and Utility Easement Agreement**
- **Letter to Planning Board from Attorney Derek Durbin**
- **City Council Meeting Minutes of May 1, 1972**
- **Drainage Memorandum, dated June 29, 2022**

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Planning Board Subdivision & Site Plan Review Applications **June 29, 2022**
Proposed 3-Lot Subdivision, 437 Lafayette Road, Portsmouth, Tax Map 229, Lot 1

We appreciate you consideration of these matters and respectfully request to be placed on the upcoming agenda for the Planning Board meeting on July 21, 2022.

If you have any questions or concerns, please do not hesitate to contact us.

Respectfully,
TFMoran, Inc.

Justin Macek, EIT
Project Manager

JSM/jcc

cc:

Joe Caldarola, Smithfield Construction, Inc. (via joe@smithfieldconstruction.com)

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

NEW HAMPSHIRE 200

Letter of Authorization

I, Joeseph Caldarola of Artwill, LLC, PO Box 370, Portsmouth, NH, hereby authorize TFMoran, Inc., 170 Commerce Way, Suite 102, Portsmouth, NH, to act on my behalf concerning property owned by Artwill, LLC, located at 437 Lafayette Road, Portsmouth, NH, known as Tax Map 229, Lot 1.

I hereby appoint TFMoran, Inc. as my agent to act on my behalf in the review process, to include any required signatures.

Joseph Caldarola — Client Name

3/1/22 — Date

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
NH 03801
T(603) 472-4488 www.tfmoran.com

TFMoran, Inc. Seacoast Division
170 Commerce Way–Suite 102, Portsmouth,
T(603) 431-2222

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: Artwill, LLC Date Submitted: 4/19/2022

Application # (in City's online permitting): LU-22-82

Site Address: 437 Lafayette Road Map: 229 Lot: 1

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Submitted via Viewpoint	N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	Submitted digitally via Viewpoint, and one hard copy submitted to Planning Dept.	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	N/A	N/A
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	C-03	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	S-01 (Existing) C-03 (Proposed)	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	C-00	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	S-01	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	C-00	N/A
☑	List of reference plans. **(2.5.3.1H)**	S-01 & S-03	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	C-01	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	S-01	N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☐	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	No wetlands within project vicinity	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	All plan sheets	N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	C-00	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**	S-01	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	S-01 & S-03	
☑	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	- Plan sheet C-03 -Architectural Drawings	
☑	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	C-03 & C-09	
☑	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	C-03	
☑	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	S-01 & C-05	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	S-01 & C-05	

☑	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	S-01, C-05, C-11	
☐	**8. Solid Waste Facilities: (2.5.4.3H)**	N/A (Residential Trash Pickup)	
	• The size, type and location of solid waste facilities.		
☑	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	C-03: Snow storage C-04: Stormwater design C-11: Stormwater design	
☐	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	N/A	
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	N/A	
☑	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	S-01, C-02, C-06, C-15	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	S-01, C-04	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	S-01, S-03, C-03	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	S-01 & S-03	
☐	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	N/A	
☐	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	N/A	
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	-C-05 (Drainage Plan) -Drainage Report	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	Drainage Report Appendix J (NHDES OneStop Map)	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	-C-05, C-07, C-08, C-10 -Drainage Report	
☑	Inspection and Maintenance Plan **(7.6.5)**	Drainage Report Appendix L	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	C-00	
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: a. Calculations relating to stormwater runoff; b. Information on composition and quantity of water demand and wastewater generated; c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; d. Estimates of traffic generation and counts pre- and post-construction; e. Estimates of noise generation; f. A Stormwater Management and Erosion Control Plan; g. Endangered species and archaeological / historical studies; h. Wetland and water body (coastal and inland) delineations; i. Environmental impact studies. **(2.5.3.2B)**	a. Drainage Report b. NHDES Sewer Connection Application and Water Demand Report to be provided at Planning Board submittal. c. N/A d. N/A e. N/A f. C-04, C-07, C-08; and Drainage Report g. N/A h. N/A i. N/A	
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	Will Serve Letters (Eversource and Unitil)	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	C-00	
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	C-03 Note #5	N/A
☐	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "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." **(2.13.3)**	C-03 Note #6 Note #7	N/A

Applicant's Signature: _____ **Date:** 4/19/2022

City of Portsmouth, New Hampshire

Subdivision Application Checklist

This subdivision application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision review requirements. Please refer to the Subdivision review regulations for full details.

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Owner: Artwill, LLC Date Submitted: 4/19/2022

Applicant: Joe Cardarola

Phone Number: 603-674-5204 E-mail: joe@smithfieldconstruction.com

Site Address 1: 437 Lafayette Road Map: 229 Lot: 1

Site Address 2: _____ Map: _____ Lot: _____

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
✓	Completed Application form. **(III.C.2-3)**	Submitted online & (1) copy to City	N/A
✓	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. **(III.C.4)**	Submitted online & (1) copy to City	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✓	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. **(Section IV.1/V.1)**	C-00	☑ Preliminary Plat ☑ Final Plat	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✓	**Preliminary Plat** Names and addresses of all adjoining property owners. **(Section IV.2)** **Final Plat** Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. **(Section V.2)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A
✓	North point, date, and bar scale. **(Section IV.3/V3)**	Required on all Plan Sheets	☑ Preliminary Plat ☑ Final Plat	N/A
✓	Zoning classification and minimum yard dimensions required. **(Section IV.4/V.4)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A
✓	**Preliminary Plat** Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). **(Section IV.5)** **Final Plat** Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. **(Section V.5)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A
✓	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. **(Section IV.6)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A
✓	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. **(Section V.6/ IV.7)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A
✓	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. **(Section IV.8/V.7)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✓	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that my influence the design of the subdivision. **(Section IV.9/V.8)**	S-01 & S-03	☑ Preliminary Plat ☑ Final Plat	N/A
✓	**Preliminary Plat** Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. **(Section IV.10)** **Final Plat** Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1"=50' and a vertical scale of 1"=5', showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. **(Section V.9)**	S-03, C-03, C-05	☑ Preliminary Plat ☑ Final Plat	N/A
✓	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. **(Section IV.10)**	S-01 & C-04 (Existing & Proposed contours and grades shown on plans)	☑ Preliminary Plat ☑ Final Plat	N/A
☐	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. **(Section IV.11)**	N/A	☑ Preliminary Plat ☑ Final Plat	N/A
☐	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. **(Section IV.12/ V.12)**	S-01 (Subdivision only contains 3 proposed lots)	☑ Preliminary Plat ☑ Final Plat	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✓	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. **(Section V.10)**	C-00 (Dates and permit numbers pending)	☐ Preliminary Plat ☑ Final Plat	N/A
	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. **(Section V.11)**	N/A (Subdivision only contains 3 proposed lots)	☐ Preliminary Plat ☑ Final Plat	N/A
✓	Location of all permanent monuments. **(Section V.12)**	S-01	☐ Preliminary Plat ☑ Final Plat	N/A

General Requirements[1]			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Basic Requirements: (VI.1)**		N/A
☑	a. Conformity to Official Plan or Map	All sheets	
☐	b. Hazards	N/A	
☑	c. Relation to Topography	S-01	
☐	d. Planned Unit Development	NA	
☑	**2. Lots: (VI.2)**		N/A
☑	a. Lot Arrangement	S-03 & C-03	
☑	b. Lot sizes	S-03 & C-03	
☐	c. Commercial and Industrial Lots	N/A	
☑	**3. Streets: (VI.3)**		N/A
☑	a. Relation to adjoining Street System	a. S-03 & C-03	
☑	b. Street Rights-of-Way	b. S-03 & C-03	
☑	c. Access	c. S-03 & C-03	
☑	d. Parallel Service Roads	d. S-03 & C-03	
☑	e. Street Intersection Angles	e. S-03 (To be prov.)	
☑	f. Merging Streets	f. S-03 & C-03	
☑	g. Street Deflections and Vertical Alignment	g. S-03 & C-03	
☐	h. Marginal Access Streets	h. N/A	
☐	i. Cul-de-Sacs	i. N/A	
☑	j. Rounding Street Corners	j. C-03	
☐	k. Street Name Signs	k. NA	
☑	l. Street Names	l. S-03 & C-03	
☐	m. Block Lengths	m. N/A	
☐	n. Block Widths	n. N/A	
☑	o. Grade of Streets	o. S-01 & C-04	
☐	p. Grass Strips	p. N/A	
☑	**4. Curbing: (VI.4)**	C-03 & C-04	N/A
☑	**5. Driveways: (VI.5)**	S-03 & C-03	N/A
☑	**6. Drainage Improvements: (VI.6)**	C-04	N/A
☑	**7. Municipal Water Service: (VI.7)**	S-01 & C-05	N/A
☑	**8. Municipal Sewer Service: (VI.8)**	S-01 & C-05	N/A
☑	**9. Installation of Utilities: (VI.9)**	C-05	N/A
☐	a. All Districts		
☐	b. Indicator Tape		
☑	**10. On-Site Water Supply: (VI.10)**	C-05	N/A
☐	**11. On-Site Sewage Disposal Systems: (VI.11)**	N/A	N/A
☑	**12. Open Space: (VI.12)**	S-03 & C-03	N/A
☑	a. Natural Features	a. S-01	
☑	b. Buffer Strips	b. C-03 & C-06	
☐	c. Parks	c. NA	
☑	d. Tree Planting	d. C-06	
☐	**13. Flood Hazard Areas: (VI.13)**	N/A	N/A
☐	a. Permits		
☐	b. Minimization of Flood Damage		
☐	c. Elevation and Flood-Proofing Records		
☐	d. Alteration of Watercourses		
☑	**14. Erosion and Sedimentation Control (VI.14)**	C-07 & C-08	N/A

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
☑ ☑ ☐	**15. Easements (VI.15)** a. Utilities b. Drainage	a. S-03 b. NA	N/A
☑	**16. Monuments: (VI.16)**	S-01	N/A
☑	**17. Benchmarks: (VI.17)**	S-01	N/A
☑	**18. House Numbers (VI.18)**	S-03 & C-03 (Final unit numbers TBD)	N/A

Design Standards			
	Required Items for Submittal	**Indicate compliance and/or provide explanation as to alternative design**	**Waiver Requested**
☑	**1. Streets have been designed according to the design standards required under Section (VII.1).** a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	Yes	N/A
☑	**2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2).** a. Design b. Standards of Construction	Yes	
☑	**3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3).** a. Design b. Lift Stations c. Materials d. Construction Standards	Yes	
☑	**4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4).** a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction	Yes	

Applicant's/Representative's Signature: _____ **Date:** 4/19/2022

[1] See City of Portsmouth, NH Subdivision Rules and Regulations for details.

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

TECHNICAL ADVISORY COMMITTEE

May 9, 2022

Artwill, LLC
PO Box 370
Portsmouth , New Hampshire 03801

RE: Preliminary and Final Subdivision approval for property located at 437 Lafayette Road (LU-22-82)

Dear Property Owner:

The Technical Advisory Committee, at its regularly scheduled meeting of Thursday, May 3, 2022, considered your application for Preliminary and Final Subdivision approval to subdivide one existing lot with 65,365 square feet of lot area and 123.92 of frontage on Lafayette Road and 336.61 feet of frontage on Andrew Jarvis Drive into three lots as follows: Proposed Lot 1 with 18,434 square feet of lot area and 123.92 feet of frontage on Lafayette Road and 129.57 feet of frontage on Andrew Jarvis Drive, Proposed Lot 2 with 16,606 square feet of lot area and 102.04 feet of frontage on Andrew Jarvis Drive, and Proposed Lot 3 with 30,325 square feet of lot area and 107 feet of frontage on Andrew Jarvis Drive. Said property is shown on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. As a result of said consideration, the Committee voted to **recommend approval** to the Planning Board with the following stipulations:

Items to be addressed prior to Planning Board approval:

1. Access easements will be will be provided to allow access across all proposed lots for travel along Artwill Ave.

2. A maintenance agreement will be provided for proposed Artwill Ave. maintenance.

3. All easements will be identified with unique identifiers and corresponding easement table that lists all easements and their purpose.

4. Gas line is to be installed under Artwill Ave and service shall come from the new line and explore feasibility of servicing the existing unit from Artwill Ave.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, June 16, 2022**. One (1) hard copy of all plans and supporting reports and exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than **Wednesday, May 25, 2022**.

Per Section 2.5 of the Site Plan Regulations, a site plan review application to the Planning Board must include all applicable information and supporting materials including but not limited to the following items:

- *Full updated plan set*
- *Draft Easements*
- *Drainage Analysis*
- *Traffic Studies*
- *Etc.*

All comments, corrections, and conditions identified as "Items to be addressed before Planning Board submittal' must be resolved/corrected for the Planning Board application submittal to be deemed complete.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Beverly Mesa-Zendt,
Planning Director

cc:

Justin Macek, TF Moran, Inc.

#45407.120

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

TECHNICAL ADVISORY COMMITTEE

May 9, 2022

Artwill, LLC
PO Box 370
Portsmouth , New Hampshire 03801

RE: Site Plan approval and Conditional Use Permit approval for property located at 437 Lafayette Road (LU-22-82)

Dear Property Owner:

The Technical Advisory Committee, at its regularly scheduled meeting of Thursday, May 3, 2022, considered your application for Site Plan approval and Conditional Use Permit approval as permitted under Section 10814.40 of the Zoning Ordinance to subdivide the lot and construct two new single-family dwellings (one includes an attached dwelling unit) in addition to the existing single-family dwelling. Said property is shown on Assessor Map 229 Lot 1 and lies within the Single Residence B (SRB) District. As a result of said consideration, the Committee voted to **recommend approval** to the Planning Board with the following stipulations:

Items to be addressed prior to Planning Board approval:
1. All easements will be identified with unique identifiers and corresponding easement table that lists all easements and their purpose.

Prior to Building Permit Issuance:
2. Applicant will coordinate final water and sewer connections with Portsmouth Water.
3. The final water main connection under Andrew Jarvis Dr. will be determined by Portsmouth Water.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, June 16, 2022**. One (1) hard copy of all plans and supporting reports and exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than **Wednesday, May 25, 2022**.

Per Section 2.5 of the Site Plan Regulations, a site plan review application to the Planning Board must include all applicable information and supporting materials including but not limited to the following items:

- *Full updated plan set*
- *Draft Easements*
- *Drainage Analysis*
- *Traffic Studies*
- *Etc.*

All comments, corrections, and conditions identified as "Items to be addressed before Planning Board submittal' must be resolved/corrected for the Planning Board application submittal to be deemed complete.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Beverly Mesa-Zendt,
Planning Director

cc:

Justin Macek, TF Moran, Inc.

Artwill
PO Box 370
PORTSMOUTH, NH 03801

ST. NICHOLAS GREEK
ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE
PORTSMOUTH, NH 03801

KARONA LLC
36 ARTWILL AVENUE
PORTSMOUTH, NH 03801

KRISTIN M. &
CHRISTOPHER M. CHASE
34 ARTWILL AVENUE
PORTSMOUTH, NH 03801

FRIENDS OF LAFAYETTE HOUSE
PO BOX 4545
PORTSMOUTH, NH 03802

CHURCH OF JESUS CHRIST
C/O TAX DIVISION
50E NORTH TEMPLE STREET
FLOOR 22
SALT LAKE CITY, UT 84150

TERRY A. & ANDREA C. SMITH
7 ANDREW JARVIS DRIVE
PORTSMOUTH, NH 03801

VINCENT A. & ALICIA B. RICCO
440 LAFAYETTE ROAD
PORTSMOUTH, NH 03801

CINDI S. BLANCHETTE
95 GREENLEAF AVENUE
PORTSMOUTH, NH 03801

TFMORAN, INC.
170 COMMERCE WAY - SUITE 102
PORTSMOUTH, NH 03801

Artwill
PO Box 370
PORTSMOUTH, NH 03801

ST. NICHOLAS GREEK
ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE
PORTSMOUTH, NH 03801

KARONA LLC
36 ARTWILL AVENUE
PORTSMOUTH, NH 03801

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PORTSMOUTH, NH 03801

CINDI S. BLANCHETTE
95 GREENLEAF AVENUE
PORTSMOUTH, NH 03801

TFMORAN, INC.
170 COMMERCE WAY - SUITE 102
PORTSMOUTH, NH 03801

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Abutters List

Smithfield Construction
437 Lafayette Road, Portsmouth, NH
May 24, 2022
45407-120

Assessors Map		Abutter Name	Mailing Address
Map	Lot		
229	1	Artwill	PO Box 370 PORTSMOUTH, NH 03801
229	2	ST. NICHOLAS GREEK ORTHODOX CHURCH	40 ANDREW JARVIS DRIVE PORTSMOUTH, NH 03801
229	4	KARONA LLC	36 ARTWILL AVENUE PORTSMOUTH, NH 03801
229	5	KRISTIN M. & CHRISTOPHER M. CHASE	34 ARTWILL AVENUE PORTSMOUTH, NH 03801
230	23A	FRIENDS OF LAFAYETTE HOUSE	PO BOX 4545 PORTSMOUTH, NH 03802
230	24	CHURCH OF JESUS CHRIST C/O TAX DIVISION	50E NORTH TEMPLE STREET FLOOR 22 SALT LAKE CITY, UT 84150
230	25	TERRY A. & ANDREA C. SMITH	7 ANDREW JARVIS DRIVE PORTSMOUTH, NH 03801
231	1	VINCENT A. & ALICIA B. RICCO	440 LAFAYETTE ROAD PORTSMOUTH, NH 03801
231	59	CINDI S. BLANCHETTE	95 GREENLEAF AVENUE PORTSMOUTH, NH 03801
Civil Engineers / Surveyor		TFMoran, Inc.	170 Commerce Way - Suite 102 Portsmouth, NH 03801

EVERSOURCE ENERGY

March 1, 2022

1700 Lafayette Road
Portsmouth, NH 03801

Michael J Busby
603-436-7708 x555-5678
michael.busby@eversource.com

Joseph Caldarola, Manager
Artwill LLC
170 Dennett Street #2
Portsmouth, NH 03801

Dear Mr. Caldarola:

I am responding to your request to confirm the availability of electric service for the proposed 437 Lafayette Road Lots 1, 2 and 3, Portsmouth, NH project being constructed for/by Artwill LLC.

The proposed project consists of two new single family building lots, each with one residential unit. The proposed development will be constructed along Artwill Street.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up utility plan. The proposed building service will be fed from a new riser pole to be determined by Eversource Engineering as depicted on Site Layout Plan 3 lot subdivision. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed overhead and underground facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "Proposed 3 Lot Subdivision 437 Lafayette Rd Portsmouth NH" dated April 19,2022 shows transformer locations to service your proposed project.

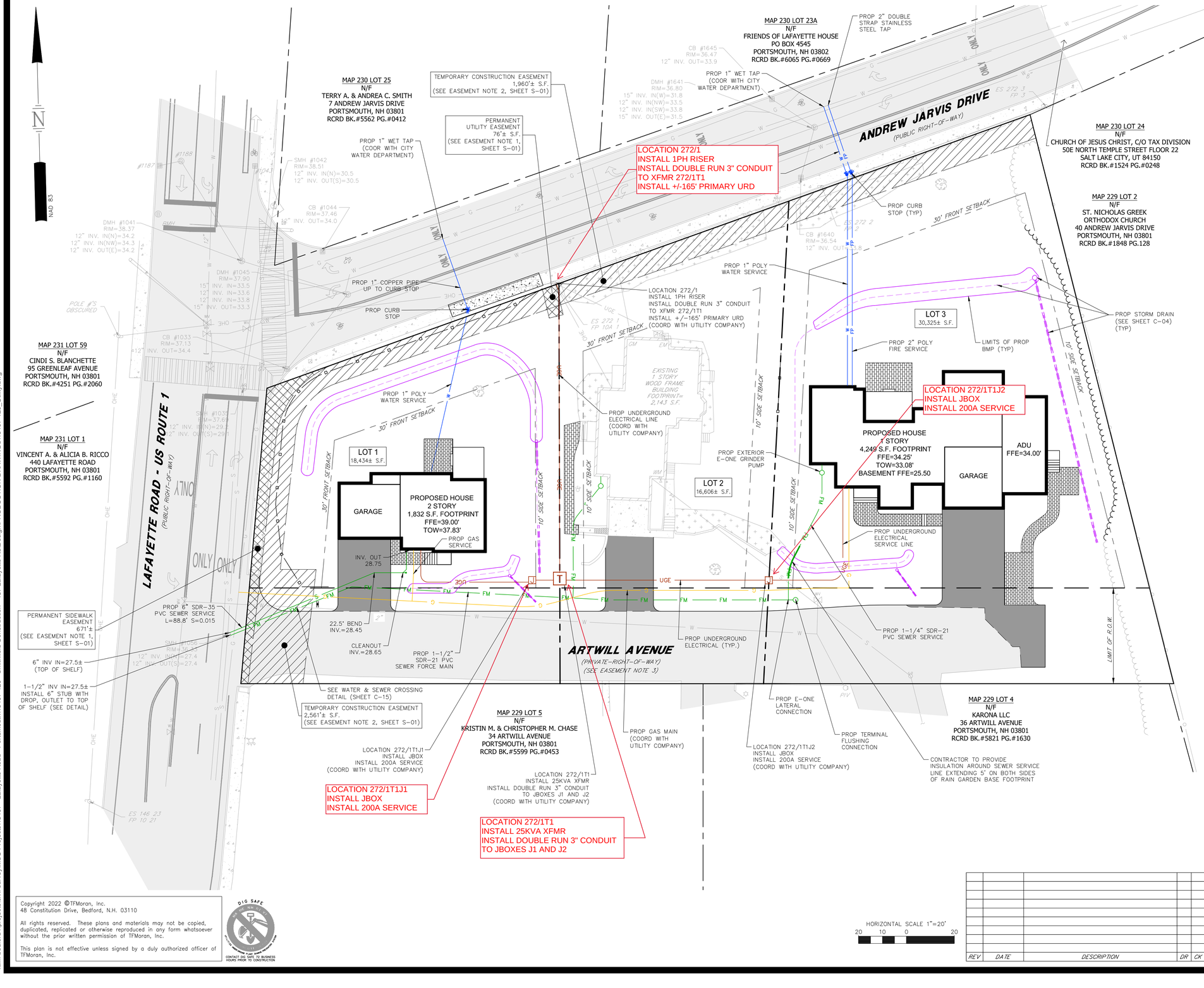
Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Portsmouth Office, 603-436-7708 Ext. 555-5678

Respectfully.

Paul Bednarz
NH Eastern Regional Engineering, Eversource

cc: (via e-mail)
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource



NOTES

1. SEE UTILITY NOTES ON SHEET C-01.
2. CONTRACTOR SHALL COORDINATE WITH CITY OF PORTSMOUTH DPW PRIOR TO CONSTRUCTING SEWER MANHOLE CONNECTION.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

UTILITY PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

DIG SAFE
811 OR 1-888-DIG-SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

PROJ. #	45407-120	DR	JSM	FB		C-05
		CK	JCC	CADFILE	45407-120_UTILITY	

February 24, 2022

Artwill LLC
PO Box 267
Portsmouth NH 03802-0267

RE: Natural Gas Availability to 437 Lafayette Rd Portsmouth NH Project

Dear Mr. Caldarola

Unitil's natural gas division has reviewed the requested site for natural gas service.

Unitil hereby confirms natural gas service will be available to 437 Lafayette Rd Portsmouth NH Project, to serve two single family homes.

Installation is pending an authorized installation agreement with Artwill, LLC and a street opening approval from the City of Portsmouth DPW.

Let me know if you have any questions. You can email me at oliver@unitil.com. My phone number is 603-294-5174.

Sincerely,

Janet Oliver
Senior Business Development Representative

CUSTOMER ENERGY SOLUTIONS
325 West Road
Portsmouth, NH 03801

T 888.486.4845 www.unitil.com

Project #45407.120

DRAINAGE ANALYSIS

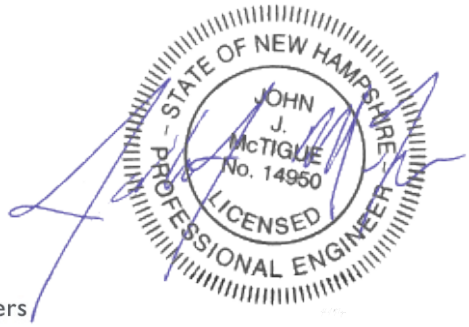
F O R

Proposed 3 Lot Subdivision

437 Lafayette Road
Portsmouth, NH
Rockingham County

Tax Map 229, Lot 1

April 19, 2022



Prepared By:

TFM Since 1968

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

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Contents

Table of Figures

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1.0 - SUMMARY & PROJECT DESCRIPTION

This project includes the subdivision of a single lot into three proposed lots, and the construction of two new homes. The existing lot is located at 437 Lafayette Road and is identified on the City of Portsmouth Assessor's Map 229 as Lot 1, and is approximately 65,365 sf (1.50 ac) in size. The site is located in the Single Residence B (SRB) Zone and currently contains one residential building. The site is bordered by Lafayette Road to the west, Andrew Jarvis Drive to the north, Artwill Avenue to the south, and Saint Nocholas Greek Orthodox Church to the east. The immediate area surrounding the site consists of mostly residential buildings, and the Portsmouth High School is located at the end of Andrew Jarvis Drive to the east.

The proposed subdivision includes three lots in total with access being provided through Artwill Avenue. The first lot is located at the intersection of Lafayette Road and Artwill Avenue and is 18,434 sf (0.42 ac) in size. A two-story residential house (1,832 sf footprint) is proposed on the first lot, with a screened porch and backyard patio area. The second lot is located in the middle of the subdivision and is 16,606 sf (0.38 ac) in size. This lot contains the existing one-story residential house (2,143 sf footprint). The existing house footprint is to remain the same in proposed conditions, and a new walkway is being proposed along the west property line. The third lot is located to the east of lot two and is 30,325 sf (0.70 ac) in size. A one-story residential house (4,249 sf footprint) is proposed on the third lot, with an attached accessory dwelling unit (AADU), backyard patio, and deck. The ADDU is located on the east side of the principle dwelling unit and has a gross area of 747 sf. Associated improvements include, but are not limited to, utility installation, stormwater management, grading, residential driveways, and landscaping.

This analysis has been completed to verify the project will not pose adverse stormwater effects on-site and off-site. The post-development stormwater management system has been designed to reduce peak runoff rates, runoff volume, risk of erosion and sedimentation, and to improve stormwater runoff quality. There is no increase in runoff from the post-development conditions compared to the pre-development conditions in any of the analyzed storm events. In addition, Best Management Practices will be employed to assure stormwater quality both during and after construction. The following summarizes the findings from the study.

2.0 - CALCULATION METHODS

The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour storm events. The software program, HydroCAD version 10.10-7a[1] was utilized to calculate the peak runoff rates from these storm events. The program estimates the peak rates using the TR-20 method. A Type III storm pattern was used in the model. Rainfall frequencies for the analyzed region were also incorporated into the model. Rainfall frequencies from the higher of the Extreme Precipitation Rates from Cornell University's Northeast Regional Climate Center (see Appendix A) were used to determine the storm-event intensities, see Table 1. The site lies within the Great Bay Region, and the rainfalls were increased to take this into account. Design standards were taken from the New Hampshire Stormwater Manual, December 2008[2].

[1] HydroCAD version 10.10-7a, HydroCAD Software Solutions LLC, Chocorua, NH, 2013.
[2] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

	24-HOUR RAINFALL RATES		
Storm-Event (year)	Cornell University Rainfall (in)	Factor of Increase For the Great Bay Region	Design Rainfall (in)
2	3.22	115%	3.70
10	4.88	115%	5.61
25	6.19	115%	7.12
50	7.41	115%	8.52

Table 1 – 24-Hour Rainfall Rates

Time of Concentration (Tc) is the time it takes for water to flow from the hydraulically most remote point in the watershed (with the longest travel time) to the watershed outlet. This time is determined by calculating the time it takes runoff to travel this route under one of three hydrologic conditions: sheet flow, shallow concentrated flow, or channel flow. Because the Intensity-Duration-Frequency (IDF) curve is steep with short Tc's, estimating the actual intensity is subject to error and overestimates actual runoff. Due to this, the Tc's are adjusted to a minimum of 6 minutes.

The proposed stormwater management system has been designed to capture the majority of new impervious area introduced to the site as part of this development, consisting of residential roofs, driveways, patios, and walkways. Within the drainage analysis limits, the amount of impervious area not treated in pre-development conditions (18,435 s.f.) is less than the impervious area not treated in post-development conditions (14,689 s.f.).

3.0 – EXISTING SITE CONDITIONS

The soils within the proposed area of disturbance are identified in accordance with the Natural Resources Conservation Service (NRCS) Web Soil Survey Report (see Appendix H). This report identifies the soils within the disturbed project area entirely as Urban Land-Canton Complex. The soil composition is estimated to consist of approximately 55% urban land, 20% canton and similar soils, and 25% minor components. This soil type is considered to be well drained and NRCS categorizes the soil as hydrologic soil group (HSG) A. Test pits were performed throughout the project site, and the western half of the existing lot displayed significantly higher infiltration rates than the eastern half. To account for these field observations, the western half of the analysis area was modeled as HSG-A soils and the eastern half as HSG-B soils in both pre- and post-development conditions.

Due to existing grade along the north and west borders of the subject lot, very minimal runoff enters the project analysis area from off-site locations. The site currently drains to the southeast corner of the property to a flatter area where runoff ultimately discharges to adjacent properties to the south and east. The NRCS Web Soil Survey Report identifies an area downstream of the analysis limits as Udorthents (smoothed). Limited information is provided with regards to this soil's physical and hydrologic attributes.

4.0 - PRE-DEVELOPMENT CONDITIONS

The pre-development condition is characterized by three watersheds. Pre-development subcatchment areas are depicted on the attached plan entitled "Pre-Development Drainage Map," Sheet D-01 (see Appendix K).

Stormwater runoff from the site that does not infiltrate into the ground, drains to the southeast corner of the site to existing point of interest (EPOI-01). Runoff throughout the existing site is generated from grassed and paved areas, as well as the roof of the existing house.

In the pre-development conditions, the total impervious area is 18,434 sf over a total drainage analysis area of 65,306 sf.

5.0 - POST-DEVELOPMENT CONDITIONS

The post-development condition is characterized by seven watersheds. Post-development subcatchment areas are depicted on the attached plan entitled "Post-Development Drainage Map," sheet D-02 (see Appendix K).

In the post-development condition, the total impervious area is 23,198 sf over a total drainage analysis area of 65,306 sf. Impervious area from the project consists of three residential buildings, driveways, patios, decks, walkways, and pavement on Artwill Avenue. Four raingardens are proposed to treat and mitigate the stormwater runoff from the impact of the new impervious area from the proposed development.

The proposed project maintains or reduces peak rates of runoff compared to existing conditions for all storm events, in accordance with City stormwater regulations. For Channel protection, the State Regulations require analysis between the pre-development to post-development 2-year 24-hour storm event volumes that flow into major water bodies. In post-development condition, there is not an increase in in runoff volume during the 2-year 24-hour storm event, and there are no adverse effects on the abutting properties from the proposed stormwater management system. See Table 2 for storm event flow and volume summary.

Appendices B and D summarizes all 24-hour storm events for pre- and post-development drainage calculations using HydroCAD analysis. Appendices C and E provide a full summary of the 10-year, 24-hour storm for the pre- and post-development drainage calculations using HydroCAD analysis.

Analysis Point ID	2-Year (Flow - cfs)		2-Year (Volume – acre/ft)		10-Year (Flow - cfs)		25-Year (Flow - cfs)		50-Year (Flow - cfs)	
	Pre-Dev.	Post Dev.	Pre-Dev.	Post Dev.	Pre-Dev.	Post Dev.	Pre-Dev.	Post Dev.	Pre-Dev.	Post Dev.
POI-1	1.9	1.2	0.2	0.1	3.6	3.0	5.3	5.1	7.0	6.5

Table 2- Pre and Post Flows

6.0 – REGULATORY COMPLIANCE

The project shall meet the stricter of the stormwater standards identified in the New Hampshire Department of Environmental Services (DES) Env-Wq 1500 Alteration of Terrain Regulations and City stormwater management regulations.

6.1 – ALTERATION OF TERRAIN (AOT) CRITERIA

The following regulatory requirements are provided to show the project conformance to the applicable criteria of the NHDES Env-Wq 1500 Alteration of Terrain Regulations which include and are not limited to the following:

Env-Wq 1507.03(a) Pollutant Discharge Minimization Requirements: Stormwater treatment practices described in Env-Wq 1508.03 through Env-Wq 1508.10 shall be acceptable methods for minimizing pollutant discharges to surface waters.

Stormwater is treated using bioretention systems which are considered a filtration BMP. Specifically, there are a total of four rain gardens throughout the site that provide filtration treatment and have the ability to infiltrate some runoff into the ground. The rain gardens are designed in accordance with the applicable criteria of Env-Wq 1508.06 as follows:

Per 1508.06(e), the volume of the practice shall be large enough to contain the WQV without depending on infiltration. Refer to the corresponding BMP Worksheet in Appendix F for verification.

Per 1508.06(f), the practice completely drains the WQV within 72 hours or less. Refer to the corresponding BMP Worksheet in Appendix F for verification.

Env-Wq 1507.03(c) Pollutant Discharge Minimization Requirements: Stormwater treatment practices shall be designed with infiltration rates in accordance with Env-Wq 1504.14

Per 1508.06(a), the design infiltration rate of underlaying native soil was considered in accordance with Env-Wq 1504.14. The design infiltration rate for each subsurface infiltration basin is the average from each infiltration test in each basin. Refer to the corresponding Infiltration Rate Calculations in Appendix I for verification.

Env-Wq 1507.03(e) Pollutant Discharge Minimization Requirements: Stormwater treatment practices shall be designed for the WQV/WQF, calculated in accordance with Env-Wq 1504.10 and Env-Wq 1504.11.

The regulation is met. Refer to the corresponding BMP Worksheets in Appendix F.

Env-Wq 1507.04(a) Groundwater Recharge Requirements: The proposed development shall reduce to the maximum extent practicable by using groundwater recharge practices as described in Env-Wq 1508.16.

The regulation is met. Refer to the corresponding BMP Worksheet in Appendix F for verification.

Env-Wq 1507.04(c) Groundwater Recharge Requirements: Design Infiltration rates for groundwater recharge practices shall be determined in accordance with Env-Wq 1504.14.

Design infiltration rates were obtained per Ksat testing using a Constant Compact Head Permeameter (Amoozemeter) per Env-Wq 1504.14(d). The design infiltration rate for each subsurface infiltration basin is the average from each infiltration test in each basin. Refer to the corresponding Infiltration Rate Calculations in Appendix I for verification.

Env-Wq 1507.05 Channel Protection Requirements: The 2-year 24-hour post development peak rate shall not exceed the pre-development peak flow rate for all flows leaving the site and the conditions of Env-Wq 1507.05(b), Env-Wq 1507.05(b)(2), or Env-Wq 1507.05(b)(3).

The 2-year, 24-hour post-development peak flow rate generated from the proposed disturbance is equal to or less than the 2-year, 24-hour pre-development peak flow rate and the 2 year, 24-hour post-development storm volume, directed to the nearest water body has not increased over the pre-development volume by more than 0.1 acre-feet.

The regulation is met. Refer to Table 2 for peak discharge rate and 2-year stormwater volume comparisons.

Env-Wq 1507.06 Control Peak Runoff: The 2-year, 10-year and 50-year 24-hour post development peak rate shall not exceed the pre-development peak flow rate for all flows leaving the site.

The regulation is met. Refer to Table 2 for peak discharge rate comparison.

7.0 – BEST MANAGEMENT PRACTICES

Best Management Practices will be developed in accordance with the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008*[3] to formulate a plan that assures stormwater quality both during and after construction. The intent of the outlined measures is to minimize erosion and sedimentation during construction, stabilize and protect the site from erosion after construction is complete and mitigate any adverse impacts to stormwater quality resulting from development. Best Management Practices for this project include:

- Temporary practices to be implemented during construction.

- Permanent practices to be implemented after construction.

7.1 – TEMPORARY PRACTICES

1. Erosion, sediment, and stormwater detention measures must be installed as directed by the engineer.
2. All disturbed areas, as well as loam stockpiles, shall be seeded and contained by a silt barrier.
3. Silt barriers must be installed prior to any construction commencing. All erosion control devices including silt barriers and storm drain inlet filters shall be inspected

[3] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

at least once per week and following any rainfall. All necessary maintenance shall be completed within twenty-four (24) hours.

4. Any silt barriers found to be failing must be replaced immediately. Sediment is to be removed from behind the silt fence if found to be one-third the height of the silt barrier or greater.
5. Any area of the site, which has been disturbed and where construction activity will not occur for more than twenty-one (21) days, shall be temporarily stabilized by mulching and seeding.
6. No construction materials shall be buried on-site.
7. After all areas have been stabilized, temporary practices are to be removed, and the area they are removed from must be smoothed and revegetated.
8. Areas must be temporarily stabilized within 14 days of disturbance or seeded and mulched within 3 days of final stabilization.
9. After November 15th, incomplete driveways or parking areas must be protected with a minimum of 3" of crushed gravel, meeting the standards of NHDOT item 304.3.
10. An area shall be considered stable if one of the following has occurred:
    a) Base course gravels are 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 rip rap has been installed.
    d) Erosion control blankets have been properly installed.

7.2 – PERMANENT PRACTICES

The objectives for developing permanent Best Management Practices for this site include the following:

1. Maintain existing runoff flow characteristics.
    a) Drainage is structured to minimize any offsite increase in runoff.
2. Treatment BMP's are established to ensure the water quality.
3. Maintenance schedules are set to safeguard the long term working of the stormwater BMP's.

A Stormwater Management Operations & Maintenance Manual is provided to ensure the proper functioning of the system over time.

7.3 – BEST MANAGEMENT PRACTICE EFFICIENCIES

Appendix E of Volume 2 of the New Hampshire Stormwater [4] lists the pollutant removal efficiencies of various BMP's. All proposed BMP's meet all state and City requirements for

[4] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

total suspended solids (TSS) and pollutant removal, Total Nitrogen (TN), and Total Phosphorous (TP).

Bioretention Systems (rain gardens) have a 90% TSS removal efficiency, 65% TN removal efficiency, and 65% TP efficiency.

Proposed Rain Gardens #1-4 receive runoff from yards, residential roofs, and potions of residential driveways. Due to the nature of the areas contributing runoff to the rain gardens, no pretreatment is required.

7.3.1 – LID PRACTICES

Bioretention Areas, including rain gardens, are considered to be a Low Impact Design (LID) filtering practice. The goal of LID systems is to mimic a site's precondition hydrology by infiltrating, filtering, storming, evaporating and detaining stormwater but use of natural landscape features. These treatments filter and detain the stormwater. They use natural processes, such as soil filtration, evapotranspiration (from the vegetation in the system) and anaerobic and aerobic treatment of stormwater. They detain the stormwater and release it to mimic the predevelopment storm flows.

The inclusion of rain gardens in the proposed site design allows for stormwater to infiltrate back into the ground. During heavier storm events, a perforated subdrain located below each rain garden's filtration layer has the ability to convey treated flows to other areas on-site to prevent extended ponding periods. Each rain garden is equipped with an outlet control structure that regulates discharge rates during these heavier storms through the implementation of orifices and overflow grates.

8.0 – CONCLUSION

The proposed stormwater management system will treat, infiltrate, and mitigate the runoff generated from the proposed development and provide protection of groundwater and surface waters as required through the Alteration of Terrain Bureau and City stormwater management regulations. Furthermore, the stormwater management for this project has been designed to pose no adverse effects on the surrounding properties.

Respectfully,
TFMoran, Inc.

Justin Macek, EIT
Project Manager

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APPENDIX A – EXTREME PRECIPITATION RATES

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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.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.769 degrees West
Latitude	43.058 degrees North
Elevation	0 feet
Date/Time	Fri, 07 Jan 2022 14:42:09 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.82	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.66	2.93	**1yr**	2.36	2.82	3.23	3.95	4.56	**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	3.22	3.58	**2yr**	2.85	3.44	3.94	4.69	5.34	**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	4.08	4.59	**5yr**	3.61	4.41	5.05	5.95	6.72	**5yr**
10yr	0.41	0.65	0.82	1.12	1.45	1.89	**10yr**	1.25	1.73	2.23	2.90	3.76	4.88	5.54	**10yr**	4.32	5.33	6.10	7.12	8.00	**10yr**
25yr	0.48	0.76	0.97	1.34	1.77	2.34	**25yr**	1.53	2.14	2.78	3.63	4.75	6.19	7.12	**25yr**	5.47	6.84	7.82	9.05	10.08	**25yr**
50yr	0.54	0.86	1.10	1.54	2.07	2.76	**50yr**	1.79	2.53	3.29	4.33	5.67	7.41	8.60	**50yr**	6.56	8.27	9.45	10.84	12.01	**50yr**
100yr	0.60	0.97	1.25	1.77	2.42	3.26	**100yr**	2.09	2.98	3.91	5.16	6.78	8.88	10.40	**100yr**	7.85	10.00	11.42	13.00	14.31	**100yr**
200yr	0.67	1.10	1.43	2.05	2.83	3.84	**200yr**	2.44	3.52	4.62	6.14	8.10	10.64	12.58	**200yr**	9.41	12.10	13.80	15.59	17.07	**200yr**
500yr	0.80	1.31	1.71	2.49	3.48	4.77	**500yr**	3.00	4.38	5.77	7.72	10.24	13.52	16.18	**500yr**	11.96	15.56	17.73	19.84	21.56	**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	0.73	0.88	**1yr**	0.63	0.86	0.92	1.33	1.68	2.24	2.51	**1yr**	1.98	2.42	2.87	3.18	3.90	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.06	3.46	**2yr**	2.71	3.33	3.83	4.56	5.09	**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	3.80	4.21	**5yr**	3.36	4.05	4.73	5.55	6.26	**5yr**
10yr	0.39	0.59	0.74	1.03	1.33	1.60	**10yr**	1.15	1.57	1.81	2.39	3.06	4.39	4.88	**10yr**	3.88	4.70	5.47	6.44	7.22	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.76	3.54	4.73	5.93	**25yr**	4.19	5.70	6.69	7.84	8.72	**25yr**
50yr	0.48	0.73	0.91	1.31	1.77	2.17	**50yr**	1.53	2.12	2.35	3.07	3.93	5.35	6.85	**50yr**	4.73	6.58	7.78	9.10	10.07	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.47	**100yr**	1.74	2.42	2.63	3.41	4.35	6.01	7.91	**100yr**	5.32	7.61	9.06	10.58	11.63	**100yr**
200yr	0.59	0.89	1.13	1.64	2.29	2.82	**200yr**	1.97	2.75	2.94	3.78	4.79	6.74	9.14	**200yr**	5.97	8.79	10.54	12.32	13.45	**200yr**
500yr	0.69	1.02	1.32	1.92	2.72	3.37	**500yr**	2.35	3.29	3.41	4.31	5.46	7.85	11.06	**500yr**	6.94	10.63	12.87	15.10	16.29	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.99	3.16	**1yr**	2.65	3.04	3.59	4.38	5.06	**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	3.43	3.71	**2yr**	3.04	3.56	4.09	4.84	5.64	**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	4.35	4.96	**5yr**	3.85	4.77	5.39	6.38	7.16	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.93	2.28	3.10	3.95	5.35	6.20	**10yr**	4.73	5.96	6.81	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	5.14	7.80	8.33	**25yr**	6.90	8.01	9.13	10.34	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.59	5.00	6.31	9.76	10.44	**50yr**	8.64	10.04	11.41	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	6.15	7.75	12.21	13.07	**100yr**	10.81	12.57	14.25	15.68	17.08	**100yr**
200yr	0.92	1.39	1.76	2.55	3.55	4.65	**200yr**	3.07	4.55	5.33	7.57	9.51	15.32	16.39	**200yr**	13.56	15.76	17.82	19.33	20.90	**200yr**
500yr	1.15	1.70	2.19	3.19	4.53	6.04	**500yr**	3.91	5.90	6.92	10.01	12.52	20.70	22.10	**500yr**	18.32	21.25	23.96	25.47	27.32	**500yr**

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APPENDIX B – PRE-DEVELOPMENT CALCULATIONS

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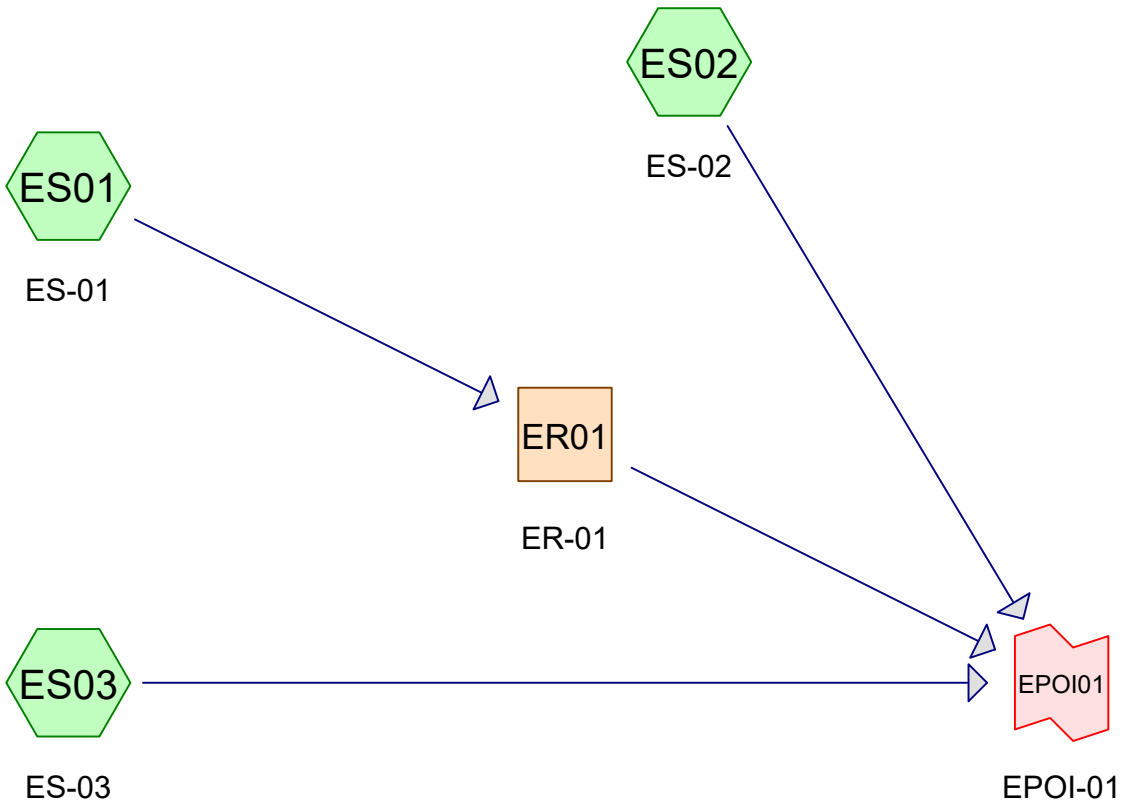
Pre-Development
Drainage



Subcat Reach Pond Link

Routing Diagram for 45407-120_Pre & Post Development
Prepared by TFMoran Inc., Printed 4/18/2022

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45407-120_Pre & Post Development

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.03	68	<50% Grass cover, Poor, HSG A (ES01)
0.04	79	<50% Grass cover, Poor, HSG B (ES02)
0.30	39	>75% Grass cover, Good, HSG A (ES01, ES03)
0.63	61	>75% Grass cover, Good, HSG B (ES02, ES03)
0.12	98	Paved parking, HSG A (ES01)
0.17	98	Paved parking, HSG B (ES02, ES03)
0.08	98	Roofs, HSG A (ES01, ES03)
0.06	98	Roofs, HSG B (ES02)
0.08	60	Woods, Fair, HSG B (ES02, ES03)
1.50	**68**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.53	HSG A	ES01, ES03
0.97	HSG B	ES02, ES03
0.00	HSG C	
0.00	HSG D	
0.00	Other	
1.50		**TOTAL AREA**

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

Subcatchment ES01: ES-01 Runoff Area=19,795 sf 29.23% Impervious Runoff Depth>1.10"
Flow Length=165' Tc=6.5 min CN=WQ Runoff=0.5 cfs 0.0 af

Subcatchment ES02: ES-02 Runoff Area=38,970 sf 17.93% Impervious Runoff Depth>1.20"
Flow Length=286' Tc=7.6 min CN=WQ Runoff=1.0 cfs 0.1 af

Subcatchment ES03: ES-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>3.05"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=0.5 cfs 0.0 af

Reach ER01: ER-01 Avg. Flow Depth=0.06' Max Vel=1.36 fps Inflow=0.5 cfs 0.0 af
n=0.023 L=250.0' S=0.0220 '/' Capacity=23.0 cfs Outflow=0.5 cfs 0.0 af

Link EPOI01: EPOI-01 Inflow=1.9 cfs 0.2 af
Primary=1.9 cfs 0.2 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.2 af Average Runoff Depth = 1.36"
71.77% Pervious = 1.08 ac 28.23% Impervious = 0.42 ac

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

Subcatchment ES01: ES-01 Runoff Area=19,795 sf 29.23% Impervious Runoff Depth>1.95"
Flow Length=165' Tc=6.5 min CN=WQ Runoff=0.8 cfs 0.1 af

Subcatchment ES02: ES-02 Runoff Area=38,970 sf 17.93% Impervious Runoff Depth>2.45"
Flow Length=286' Tc=7.6 min CN=WQ Runoff=2.2 cfs 0.2 af

Subcatchment ES03: ES-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>4.81"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=0.7 cfs 0.1 af

Reach ER01: ER-01 Avg. Flow Depth=0.08' Max Vel=1.61 fps Inflow=0.8 cfs 0.1 af
n=0.023 L=250.0' S=0.0220 '/' Capacity=23.0 cfs Outflow=0.7 cfs 0.1 af

Link EPOI01: EPOI-01 Inflow=3.6 cfs 0.3 af
Primary=3.6 cfs 0.3 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.3 af Average Runoff Depth = 2.54"
71.77% Pervious = 1.08 ac 28.23% Impervious = 0.42 ac

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

Subcatchment ES01: ES-01 Runoff Area=19,795 sf 29.23% Impervious Runoff Depth>2.77"
Flow Length=165' Tc=6.5 min CN=WQ Runoff=1.1 cfs 0.1 af

Subcatchment ES02: ES-02 Runoff Area=38,970 sf 17.93% Impervious Runoff Depth>3.58"
Flow Length=286' Tc=7.6 min CN=WQ Runoff=3.3 cfs 0.3 af

Subcatchment ES03: ES-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>6.22"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=0.9 cfs 0.1 af

Reach ER01: ER-01 Avg. Flow Depth=0.10' Max Vel=1.83 fps Inflow=1.1 cfs 0.1 af
n=0.023 L=250.0' S=0.0220 '/' Capacity=23.0 cfs Outflow=1.1 cfs 0.1 af

Link EPOI01: EPOI-01 Inflow=5.3 cfs 0.4 af
Primary=5.3 cfs 0.4 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.5 af Average Runoff Depth = 3.60"
71.77% Pervious = 1.08 ac 28.23% Impervious = 0.42 ac

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

Subcatchment ES01: ES-01 Runoff Area=19,795 sf 29.23% Impervious Runoff Depth>3.63"
Flow Length=165' Tc=6.5 min CN=WQ Runoff=1.6 cfs 0.1 af

Subcatchment ES02: ES-02 Runoff Area=38,970 sf 17.93% Impervious Runoff Depth>4.71"
Flow Length=286' Tc=7.6 min CN=WQ Runoff=4.4 cfs 0.4 af

Subcatchment ES03: ES-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>7.55"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=1.1 cfs 0.1 af

Reach ER01: ER-01 Avg. Flow Depth=0.12' Max Vel=2.03 fps Inflow=1.6 cfs 0.1 af
n=0.023 L=250.0' S=0.0220 '/' Capacity=23.0 cfs Outflow=1.5 cfs 0.1 af

Link EPOI01: EPOI-01 Inflow=7.0 cfs 0.6 af
Primary=7.0 cfs 0.6 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.6 af Average Runoff Depth = 4.67"
71.77% Pervious = 1.08 ac 28.23% Impervious = 0.42 ac

APPENDIX C – PRE-DEVELOPMENT CALCULATIONS (10-YEAR STORM EVENT)

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Summary for Subcatchment ES01: ES-01

Runoff = 0.8 cfs @ 12.09 hrs, Volume= 0.1 af, Depth> 1.95"
Routed to Reach ER01 : ER-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
12,608	39	>75% Grass cover, Good, HSG A
1,400	68	<50% Grass cover, Poor, HSG A
664	98	Roofs, HSG A
5,123	98	Paved parking, HSG A
19,795		Weighted Average
14,008		70.77% Pervious Area
5,787		29.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0550	0.27		**Sheet Flow, Grass Yard** Grass: Short n= 0.150 P2= 3.70"
0.4	65	0.0230	3.08		**Shallow Concentrated Flow, Grass Yard** Paved Kv= 20.3 fps
6.5	165	Total			

Summary for Subcatchment ES02: ES-02

Runoff = 2.2 cfs @ 12.11 hrs, Volume= 0.2 af, Depth> 2.45"
Routed to Link EPOI01 : EPOI-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
26,796	61	>75% Grass cover, Good, HSG B
1,553	79	<50% Grass cover, Poor, HSG B
3,632	60	Woods, Fair, HSG B
2,444	98	Roofs, HSG B
4,545	98	Paved parking, HSG B
38,970		Weighted Average
31,981		82.07% Pervious Area
6,989		17.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0750	0.31		**Sheet Flow, Grass Yard (East)** Grass: Short n= 0.150 P2= 3.70"
1.7	141	0.0375	1.36		**Shallow Concentrated Flow, Grass Yard (East)** Short Grass Pasture Kv= 7.0 fps
0.5	45	0.0750	1.37		**Shallow Concentrated Flow, Brush** Woodland Kv= 5.0 fps
7.6	286	Total			

Summary for Subcatchment ES03: ES-03

Runoff = 0.7 cfs @ 12.09 hrs, Volume= 0.1 af, Depth> 4.81"
Routed to Link EPOI01 : EPOI-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
525	61	>75% Grass cover, Good, HSG B
0	79	<50% Grass cover, Poor, HSG B
0	98	Roofs, HSG B
2,744	98	Paved parking, HSG B
337	39	>75% Grass cover, Good, HSG A
2,915	98	Roofs, HSG A
20	60	Woods, Fair, HSG B
6,541		Weighted Average
882		13.48% Pervious Area
5,659		86.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0425	2.00		**Sheet Flow, Paved Road** Smooth surfaces n= 0.011 P2= 3.70"
1.0	190	0.0250	3.21		**Shallow Concentrated Flow, Paved Road** Paved Kv= 20.3 fps
1.8	100	0.0170	0.91		**Shallow Concentrated Flow, Grass Shoulder** Short Grass Pasture Kv= 7.0 fps
2.4					**Direct Entry, Min Tc**
6.0	390	Total			

Summary for Reach ER01: ER-01

The Manning's Number used is an average of rough pavement and short grassed area. The reach channel is off the shoulder of the road in grassed area, however as the channel water elevation rises, pavement is introduced to the channel side slopes.

Inflow Area = 0.45 ac, 29.23% Impervious, Inflow Depth > 1.95" for 10-Year event
Inflow = 0.8 cfs @ 12.09 hrs, Volume= 0.1 af
Outflow = 0.7 cfs @ 12.12 hrs, Volume= 0.1 af, Atten= 5%, Lag= 1.7 min
Routed to Link EPOI01 : EPOI-01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.61 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.47 fps, Avg. Travel Time= 8.9 min

Peak Storage= 115.1 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.08' , Surface Width= 6.59'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 23.0 cfs

5.00' x 0.50' deep channel, n= 0.023 Rough Pavement + Short Grass
Side Slope Z-value= 10.0 '/' Top Width= 15.00'
Length= 250.0' Slope= 0.0220 '/'
Inlet Invert= 31.00', Outlet Invert= 25.50'

‡

Summary for Link EPOI01: EPOI-01

Inflow Area = 1.50 ac, 28.23% Impervious, Inflow Depth > 2.53" for 10-Year event
Inflow = 3.6 cfs @ 12.11 hrs, Volume= 0.3 af
Primary = 3.6 cfs @ 12.11 hrs, Volume= 0.3 af, Atten= 0%, Lag= 0.0 min

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

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APPENDIX D – POST-DEVELOPMENT CALCULATIONS

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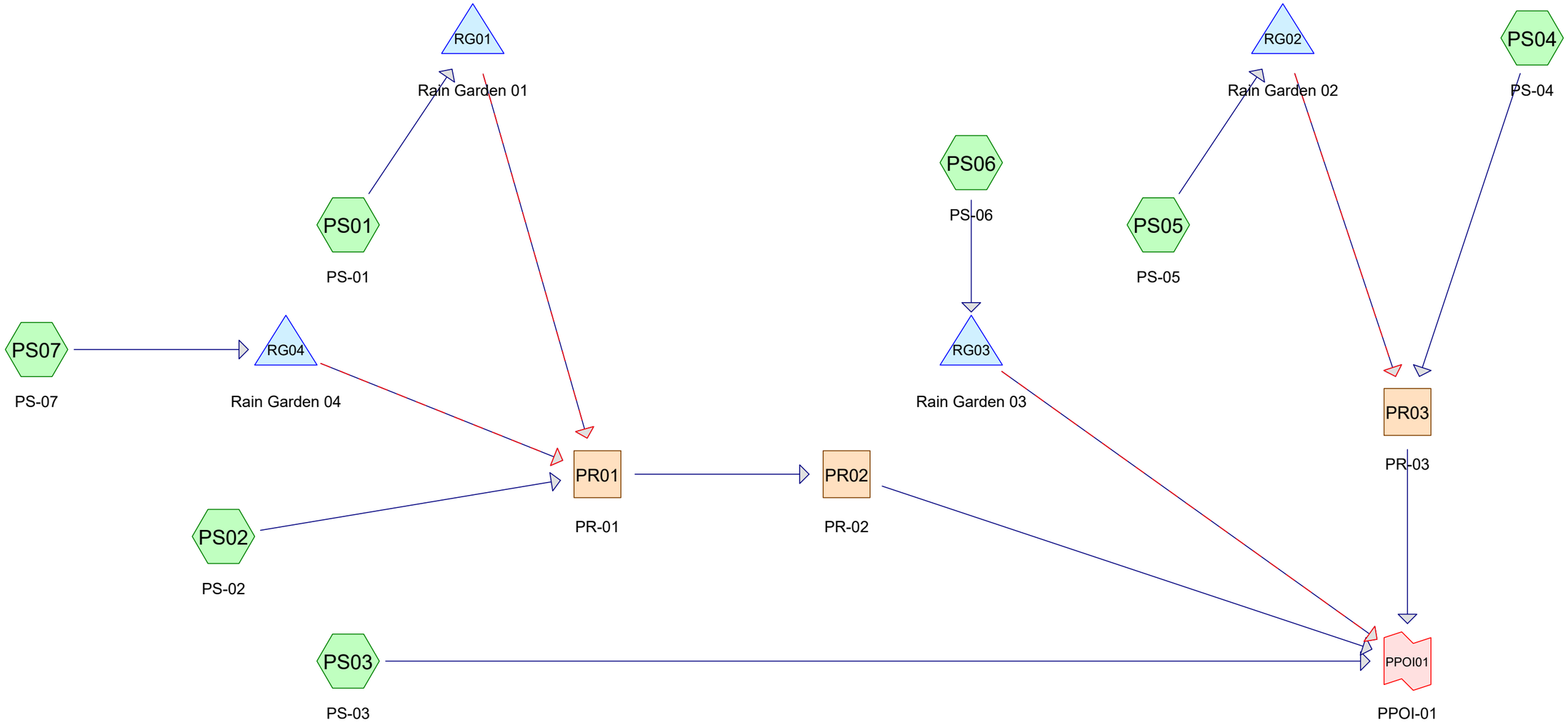
Post-Development
Drainage



Subcat Reach Pond Link

Routing Diagram for 45407-120_Pre & Post Development
Prepared by TFMoran Inc., Printed 4/18/2022
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45407-120_Pre & Post Development

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.04	68	<50% Grass cover, Poor, HSG A (PS01, PS02, PS07)
0.04	79	<50% Grass cover, Poor, HSG B (PS04, PS05, PS06)
0.30	39	>75% Grass cover, Good, HSG A (PS01, PS02, PS03, PS07)
0.54	61	>75% Grass cover, Good, HSG B (PS03, PS04, PS05, PS06)
0.06	98	Paved parking, HSG A (PS01, PS02, PS07)
0.20	98	Paved parking, HSG B (PS03, PS04, PS05, PS06)
0.13	98	Roofs, HSG A (PS01, PS02, PS03, PS07)
0.14	98	Roofs, HSG B (PS04, PS05, PS06)
0.04	60	Woods, Fair, HSG B (PS03, PS04)
1.50	**70**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.53	HSG A	PS01, PS02, PS03, PS07
0.97	HSG B	PS03, PS04, PS05, PS06
0.00	HSG C	
0.00	HSG D	
0.00	Other	
1.50		**TOTAL AREA**

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

SubcatchmentPS01: PS-01 Runoff Area=11,255 sf 16.98% Impervious Runoff Depth>0.72"
Flow Length=71' Slope=0.0280 '/' Tc=6.1 min CN=WQ Runoff=0.2 cfs 0.0 af

SubcatchmentPS02: PS-02 Runoff Area=6,297 sf 34.43% Impervious Runoff Depth>1.29"
Flow Length=149' Tc=6.0 min CN=WQ Runoff=0.2 cfs 0.0 af

SubcatchmentPS03: PS-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>3.05"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=0.5 cfs 0.0 af

SubcatchmentPS04: PS-04 Runoff Area=17,880 sf 38.38% Impervious Runoff Depth>1.74"
Flow Length=245' Tc=8.1 min CN=WQ Runoff=0.7 cfs 0.1 af

SubcatchmentPS05: PS-05 Runoff Area=15,305 sf 22.05% Impervious Runoff Depth>1.38"
Flow Length=70' Tc=6.2 min CN=WQ Runoff=0.5 cfs 0.0 af

SubcatchmentPS06: PS-06 Runoff Area=5,793 sf 35.75% Impervious Runoff Depth>1.72"
Flow Length=72' Slope=0.0694 '/' Tc=6.0 min CN=WQ Runoff=0.2 cfs 0.0 af

SubcatchmentPS07: PS-07 Runoff Area=2,235 sf 51.59% Impervious Runoff Depth>1.85"
Tc=6.0 min CN=WQ Runoff=0.1 cfs 0.0 af

Reach PR01: PR-01 Avg. Flow Depth=0.04' Max Vel=0.99 fps Inflow=0.2 cfs 0.0 af
n=0.022 L=25.0' S=0.0200 '/' Capacity=14.6 cfs Outflow=0.2 cfs 0.0 af

Reach PR02: PR-02 Avg. Flow Depth=0.03' Max Vel=1.04 fps Inflow=0.2 cfs 0.0 af
n=0.022 L=210.0' S=0.0262 '/' Capacity=16.7 cfs Outflow=0.2 cfs 0.0 af

Reach PR03: PR-03 Avg. Flow Depth=0.05' Max Vel=0.73 fps Inflow=0.7 cfs 0.1 af
n=0.030 L=60.0' S=0.0117 '/' Capacity=21.9 cfs Outflow=0.6 cfs 0.1 af

Pond RG01: Rain Garden 01 Peak Elev=33.09' Storage=153.1 cf Inflow=0.2 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.0 cfs 0.0 af

Pond RG02: Rain Garden 02 Peak Elev=32.87' Storage=876.7 cf Inflow=0.5 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.1 cfs 0.0 af

Pond RG03: Rain Garden 03 Peak Elev=29.94' Storage=363.6 cf Inflow=0.2 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.1 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.1 cfs 0.0 af

Pond RG04: Rain Garden 04 Peak Elev=31.94' Storage=111.3 cf Inflow=0.1 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.0 cfs 0.0 af

Link PPOI01: PPOI-01 Inflow=1.2 cfs 0.1 af
Primary=1.2 cfs 0.1 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.2 af Average Runoff Depth = 1.57"
64.48% Pervious = 0.97 ac 35.52% Impervious = 0.53 ac

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

SubcatchmentPS01: PS-01 Runoff Area=11,255 sf 16.98% Impervious Runoff Depth>1.42"
Flow Length=71' Slope=0.0280 '/' Tc=6.1 min CN=WQ Runoff=0.3 cfs 0.0 af

SubcatchmentPS02: PS-02 Runoff Area=6,297 sf 34.43% Impervious Runoff Depth>2.23"
Flow Length=149' Tc=6.0 min CN=WQ Runoff=0.3 cfs 0.0 af

SubcatchmentPS03: PS-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>4.81"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=0.7 cfs 0.1 af

SubcatchmentPS04: PS-04 Runoff Area=17,880 sf 38.38% Impervious Runoff Depth>3.14"
Flow Length=245' Tc=8.1 min CN=WQ Runoff=1.2 cfs 0.1 af

SubcatchmentPS05: PS-05 Runoff Area=15,305 sf 22.05% Impervious Runoff Depth>2.69"
Flow Length=70' Tc=6.2 min CN=WQ Runoff=1.0 cfs 0.1 af

SubcatchmentPS06: PS-06 Runoff Area=5,793 sf 35.75% Impervious Runoff Depth>3.13"
Flow Length=72' Slope=0.0694 '/' Tc=6.0 min CN=WQ Runoff=0.4 cfs 0.0 af

SubcatchmentPS07: PS-07 Runoff Area=2,235 sf 51.59% Impervious Runoff Depth>3.04"
Tc=6.0 min CN=WQ Runoff=0.1 cfs 0.0 af

Reach PR01: PR-01 Avg. Flow Depth=0.05' Max Vel=1.17 fps Inflow=0.3 cfs 0.0 af
n=0.022 L=25.0' S=0.0200 '/' Capacity=14.6 cfs Outflow=0.3 cfs 0.0 af

Reach PR02: PR-02 Avg. Flow Depth=0.04' Max Vel=1.24 fps Inflow=0.3 cfs 0.0 af
n=0.022 L=210.0' S=0.0262 '/' Capacity=16.7 cfs Outflow=0.3 cfs 0.0 af

Reach PR03: PR-03 Avg. Flow Depth=0.10' Max Vel=1.07 fps Inflow=1.9 cfs 0.2 af
n=0.030 L=60.0' S=0.0117 '/' Capacity=21.9 cfs Outflow=1.9 cfs 0.2 af

Pond RG01: Rain Garden 01 Peak Elev=33.85' Storage=383.3 cf Inflow=0.3 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.0 cfs 0.0 af

Pond RG02: Rain Garden 02 Peak Elev=33.00' Storage=1,023.1 cf Inflow=1.0 cfs 0.1 af
Discarded=0.0 cfs 0.0 af Primary=0.6 cfs 0.0 af Secondary=0.2 cfs 0.0 af Outflow=0.8 cfs 0.1 af

Pond RG03: Rain Garden 03 Peak Elev=29.98' Storage=378.3 cf Inflow=0.4 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.2 cfs 0.0 af Secondary=0.2 cfs 0.0 af Outflow=0.4 cfs 0.0 af

Pond RG04: Rain Garden 04 Peak Elev=33.66' Storage=217.1 cf Inflow=0.1 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.0 cfs 0.0 af

Link PPOI01: PPOI-01 Inflow=3.0 cfs 0.3 af
Primary=3.0 cfs 0.3 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.4 af Average Runoff Depth = 2.81"
64.48% Pervious = 0.97 ac 35.52% Impervious = 0.53 ac

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

SubcatchmentPS01: PS-01 Runoff Area=11,255 sf 16.98% Impervious Runoff Depth>2.15"
Flow Length=71' Slope=0.0280 '/' Tc=6.1 min CN=WQ Runoff=0.5 cfs 0.0 af

SubcatchmentPS02: PS-02 Runoff Area=6,297 sf 34.43% Impervious Runoff Depth>3.12"
Flow Length=149' Tc=6.0 min CN=WQ Runoff=0.4 cfs 0.0 af

SubcatchmentPS03: PS-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>6.22"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=0.9 cfs 0.1 af

SubcatchmentPS04: PS-04 Runoff Area=17,880 sf 38.38% Impervious Runoff Depth>4.36"
Flow Length=245' Tc=8.1 min CN=WQ Runoff=1.8 cfs 0.1 af

SubcatchmentPS05: PS-05 Runoff Area=15,305 sf 22.05% Impervious Runoff Depth>3.86"
Flow Length=70' Tc=6.2 min CN=WQ Runoff=1.5 cfs 0.1 af

SubcatchmentPS06: PS-06 Runoff Area=5,793 sf 35.75% Impervious Runoff Depth>4.35"
Flow Length=72' Slope=0.0694 '/' Tc=6.0 min CN=WQ Runoff=0.6 cfs 0.0 af

SubcatchmentPS07: PS-07 Runoff Area=2,235 sf 51.59% Impervious Runoff Depth>4.08"
Tc=6.0 min CN=WQ Runoff=0.2 cfs 0.0 af

Reach PR01: PR-01 Avg. Flow Depth=0.06' Max Vel=1.32 fps Inflow=0.4 cfs 0.0 af
n=0.022 L=25.0' S=0.0200 '/' Capacity=14.6 cfs Outflow=0.4 cfs 0.0 af

Reach PR02: PR-02 Avg. Flow Depth=0.05' Max Vel=1.40 fps Inflow=0.4 cfs 0.0 af
n=0.022 L=210.0' S=0.0262 '/' Capacity=16.7 cfs Outflow=0.4 cfs 0.0 af

Reach PR03: PR-03 Avg. Flow Depth=0.14' Max Vel=1.30 fps Inflow=3.3 cfs 0.2 af
n=0.030 L=60.0' S=0.0117 '/' Capacity=21.9 cfs Outflow=3.2 cfs 0.2 af

Pond RG01: Rain Garden 01 Peak Elev=35.61' Storage=748.8 cf Inflow=0.5 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.0 cfs 0.0 af

Pond RG02: Rain Garden 02 Peak Elev=33.04' Storage=1,028.1 cf Inflow=1.5 cfs 0.1 af
Discarded=0.0 cfs 0.0 af Primary=0.9 cfs 0.1 af Secondary=0.7 cfs 0.0 af Outflow=1.5 cfs 0.1 af

Pond RG03: Rain Garden 03 Peak Elev=29.99' Storage=383.3 cf Inflow=0.6 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.3 cfs 0.0 af Secondary=0.3 cfs 0.0 af Outflow=0.6 cfs 0.0 af

Pond RG04: Rain Garden 04 Peak Elev=33.87' Storage=280.8 cf Inflow=0.2 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.0 cfs 0.0 af

Link PPOI01: PPOI-01 Inflow=5.1 cfs 0.4 af
Primary=5.1 cfs 0.4 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.5 af Average Runoff Depth = 3.92"
64.48% Pervious = 0.97 ac 35.52% Impervious = 0.53 ac

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

SubcatchmentPS01: PS-01 Runoff Area=11,255 sf 16.98% Impervious Runoff Depth>2.93"
Flow Length=71' Slope=0.0280 '/' Tc=6.1 min CN=WQ Runoff=0.7 cfs 0.1 af

SubcatchmentPS02: PS-02 Runoff Area=6,297 sf 34.43% Impervious Runoff Depth>4.02"
Flow Length=149' Tc=6.0 min CN=WQ Runoff=0.6 cfs 0.0 af

SubcatchmentPS03: PS-03 Runoff Area=6,541 sf 86.52% Impervious Runoff Depth>7.55"
Flow Length=390' Tc=6.0 min CN=WQ Runoff=1.1 cfs 0.1 af

SubcatchmentPS04: PS-04 Runoff Area=17,880 sf 38.38% Impervious Runoff Depth>5.55"
Flow Length=245' Tc=8.1 min CN=WQ Runoff=2.3 cfs 0.2 af

SubcatchmentPS05: PS-05 Runoff Area=15,305 sf 22.05% Impervious Runoff Depth>5.02"
Flow Length=70' Tc=6.2 min CN=WQ Runoff=1.9 cfs 0.1 af

SubcatchmentPS06: PS-06 Runoff Area=5,793 sf 35.75% Impervious Runoff Depth>5.54"
Flow Length=72' Slope=0.0694 '/' Tc=6.0 min CN=WQ Runoff=0.8 cfs 0.1 af

SubcatchmentPS07: PS-07 Runoff Area=2,235 sf 51.59% Impervious Runoff Depth>5.11"
Tc=6.0 min CN=WQ Runoff=0.3 cfs 0.0 af

Reach PR01: PR-01 Avg. Flow Depth=0.07' Max Vel=1.47 fps Inflow=0.6 cfs 0.1 af
n=0.022 L=25.0' S=0.0200 '/' Capacity=14.6 cfs Outflow=0.6 cfs 0.1 af

Reach PR02: PR-02 Avg. Flow Depth=0.06' Max Vel=1.56 fps Inflow=0.6 cfs 0.1 af
n=0.022 L=210.0' S=0.0262 '/' Capacity=16.7 cfs Outflow=0.5 cfs 0.1 af

Reach PR03: PR-03 Avg. Flow Depth=0.16' Max Vel=1.41 fps Inflow=4.0 cfs 0.3 af
n=0.030 L=60.0' S=0.0117 '/' Capacity=21.9 cfs Outflow=4.1 cfs 0.3 af

Pond RG01: Rain Garden 01 Peak Elev=35.87' Storage=1,103.8 cf Inflow=0.7 cfs 0.1 af
Discarded=0.0 cfs 0.0 af Primary=0.0 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.1 cfs 0.1 af

Pond RG02: Rain Garden 02 Peak Elev=33.06' Storage=1,028.1 cf Inflow=1.9 cfs 0.1 af
Discarded=0.0 cfs 0.0 af Primary=1.0 cfs 0.1 af Secondary=0.8 cfs 0.0 af Outflow=1.8 cfs 0.1 af

Pond RG03: Rain Garden 03 Peak Elev=29.99' Storage=387.6 cf Inflow=0.8 cfs 0.1 af
Discarded=0.0 cfs 0.0 af Primary=0.3 cfs 0.0 af Secondary=0.5 cfs 0.0 af Outflow=0.8 cfs 0.1 af

Pond RG04: Rain Garden 04 Peak Elev=33.90' Storage=291.8 cf Inflow=0.3 cfs 0.0 af
Discarded=0.0 cfs 0.0 af Primary=0.1 cfs 0.0 af Secondary=0.0 cfs 0.0 af Outflow=0.1 cfs 0.0 af

Link PPOI01: PPOI-01 Inflow=6.5 cfs 0.5 af
Primary=6.5 cfs 0.5 af

Total Runoff Area = 1.50 ac Runoff Volume = 0.6 af Average Runoff Depth = 5.01"
64.48% Pervious = 0.97 ac 35.52% Impervious = 0.53 ac

APPENDIX E – POST-DEVELOPMENT CALCULATIONS (10-YEAR STORM EVENT)

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Summary for Subcatchment PS01: PS-01

Runoff = 0.3 cfs @ 12.09 hrs, Volume= 0.0 af, Depth> 1.42"
Routed to Pond RG01 : Rain Garden 01

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
8,038	39	>75% Grass cover, Good, HSG A
1,306	68	<50% Grass cover, Poor, HSG A
1,624	98	Roofs, HSG A
287	98	Paved parking, HSG A
11,255		Weighted Average
9,344		83.02% Pervious Area
1,911		16.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	71	0.0280	0.20		**Sheet Flow, Grass Yard** Grass: Short n= 0.150 P2= 3.70"

Summary for Subcatchment PS02: PS-02

Runoff = 0.3 cfs @ 12.09 hrs, Volume= 0.0 af, Depth> 2.23"
Routed to Reach PR01 : PR-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
3,621	39	>75% Grass cover, Good, HSG A
508	68	<50% Grass cover, Poor, HSG A
0	36	Woods, Fair, HSG A
157	98	Roofs, HSG A
2,011	98	Paved parking, HSG A
6,297		Weighted Average
4,129		65.57% Pervious Area
2,168		34.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	65	0.0400	0.22		**Sheet Flow, Grass Yard** Grass: Short n= 0.150 P2= 3.70"
0.4	35	0.0250	1.31		**Sheet Flow, Driveway/Road** Smooth surfaces n= 0.011 P2= 3.70"
0.1	27	0.0250	3.21		**Shallow Concentrated Flow, Road** Paved Kv= 20.3 fps
0.1	22	0.0250	2.87	5.75	**Channel Flow, Swale** Area= 2.0 sf Perim= 9.0' r= 0.22' n= 0.030 Short grass
0.5					**Direct Entry, Min Tc**
6.0	149	Total			

Summary for Subcatchment PS03: PS-03

Runoff = 0.7 cfs @ 12.09 hrs, Volume= 0.1 af, Depth> 4.81"
Routed to Link PPOI01 : PPOI-01

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
525	61	>75% Grass cover, Good, HSG B
0	79	<50% Grass cover, Poor, HSG B
0	98	Roofs, HSG B
2,744	98	Paved parking, HSG B
337	39	>75% Grass cover, Good, HSG A
2,915	98	Roofs, HSG A
20	60	Woods, Fair, HSG B
6,541		Weighted Average
882		13.48% Pervious Area
5,659		86.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0425	2.00		**Sheet Flow, Paved Road** Smooth surfaces n= 0.011 P2= 3.70"
1.0	190	0.0250	3.21		**Shallow Concentrated Flow, Paved Road** Paved Kv= 20.3 fps
1.8	100	0.0170	0.91		**Shallow Concentrated Flow, Grass Shoulder** Short Grass Pasture Kv= 7.0 fps
2.4					**Direct Entry, Min Tc**
6.0	390	Total			

Summary for Subcatchment PS04: PS-04

Runoff = 1.2 cfs @ 12.12 hrs, Volume= 0.1 af, Depth> 3.14"
Routed to Reach PR03 : PR-03

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
9,038	61	>75% Grass cover, Good, HSG B
154	79	<50% Grass cover, Poor, HSG B
1,352	98	Roofs, HSG B
5,502	98	Paved parking, HSG B
1,826	60	Woods, Fair, HSG B
8	98	Paved parking, HSG B
17,880		Weighted Average
11,018		61.62% Pervious Area
6,862		38.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.0500	0.26		**Sheet Flow, Grass Yard** Grass: Short n= 0.150 P2= 3.70"
0.9	80	0.0450	1.48		**Shallow Concentrated Flow, Side Yard (East Property Line)** Short Grass Pasture Kv= 7.0 fps
0.4	30	0.0600	1.22		**Shallow Concentrated Flow, Woods Side Yard** Woodland Kv= 5.0 fps
0.5	35	0.0140	1.20	4.57	**Channel Flow, Wooded Swale** Area= 3.8 sf Perim= 19.0' r= 0.20' n= 0.050 Scattered brush, heavy weeds
8.1	245	Total			

Summary for Subcatchment PS05: PS-05

Runoff = 1.0 cfs @ 12.10 hrs, Volume= 0.1 af, Depth> 2.69"
Routed to Pond RG02 : Rain Garden 02

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
10,534	61	>75% Grass cover, Good, HSG B
1,397	79	<50% Grass cover, Poor, HSG B
3,141	98	Roofs, HSG B
233	98	Paved parking, HSG B
0	60	Woods, Fair, HSG B
15,305		Weighted Average
11,931		77.95% Pervious Area
3,374		22.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	20	0.0250	0.10		**Sheet Flow, Landscape** Grass: Dense n= 0.240 P2= 3.70"
2.9	50	0.0900	0.29		**Sheet Flow, Back Yard** Grass: Short n= 0.150 P2= 3.70"
6.2	70	Total			

Summary for Subcatchment PS06: PS-06

Runoff = 0.4 cfs @ 12.09 hrs, Volume= 0.0 af, Depth> 3.13"
Routed to Pond RG03 : Rain Garden 03

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
3,415	61	>75% Grass cover, Good, HSG B
307	79	<50% Grass cover, Poor, HSG B
1,803	98	Roofs, HSG B
268	98	Paved parking, HSG B
0	60	Woods, Fair, HSG B
5,793		Weighted Average
3,722		64.25% Pervious Area
2,071		35.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	72	0.0694	0.28		**Sheet Flow, Grass Yard** Grass: Short n= 0.150 P2= 3.70"
1.7					**Direct Entry, Min Tc**
6.0	72	Total			

Summary for Subcatchment PS07: PS-07

Explanation for "Tc to Account for Porous Pavers"
Per HydroCAD.net - When modeling porous pavement, a Tc value of 790 minutes has produced good predictions for final discharge from porous pavement with a 41" base (this approach has been studied by UNH Stormwater Center). It is believed that a proportional Tc can be used for smaller base thicknesses, as long as the layers remain proportional and in accordance with the UNH Specifications.

Since the proposed porous paver thickness is 20" (4" paver, 2" bedding course, 6" base course, 8" sub-base course), a proportional Tc value of 385 min would be consistent with the aforementioned information from HydroCAD.net. As a result, a direct value of 380.5 minutes is being entered to create a total Tc value of 385 minutes for the subcatchment.

Runoff = 0.1 cfs @ 12.09 hrs, Volume= 0.0 af, Depth> 3.04"
Routed to Pond RG04 : Rain Garden 04

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.61"

Area (sf)	CN	Description
962	39	>75% Grass cover, Good, HSG A
120	68	<50% Grass cover, Poor, HSG A
898	98	Roofs, HSG A
255	98	Paved parking, HSG A
2,235		Weighted Average
1,082		48.41% Pervious Area
1,153		51.59% Impervious Area

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

Summary for Reach PR01: PR-01

Inflow Area = 0.45 ac, 26.44% Impervious, Inflow Depth > 0.71" for 10-Year event
Inflow = 0.3 cfs @ 12.09 hrs, Volume= 0.0 af
Outflow = 0.3 cfs @ 12.09 hrs, Volume= 0.0 af, Atten= 0%, Lag= 0.3 min
Routed to Reach PR02 : PR-02

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.17 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.32 fps, Avg. Travel Time= 1.3 min

Peak Storage= 6.4 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.05' , Surface Width= 5.93'
Bank-Full Depth= 0.40' Flow Area= 3.6 sf, Capacity= 14.6 cfs

5.00' x 0.40' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 10.0 '/' Top Width= 13.00'
Length= 25.0' Slope= 0.0200 '/'
Inlet Invert= 31.50', Outlet Invert= 31.00'

‡

Summary for Reach PR02: PR-02

[61] Hint: Exceeded Reach PR01 outlet invert by 0.04' @ 12.10 hrs

Inflow Area = 0.45 ac, 26.44% Impervious, Inflow Depth > 0.71" for 10-Year event
Inflow = 0.3 cfs @ 12.09 hrs, Volume= 0.0 af
Outflow = 0.3 cfs @ 12.12 hrs, Volume= 0.0 af, Atten= 6%, Lag= 1.7 min
Routed to Link PPOI01 : PPOI-01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.24 fps, Min. Travel Time= 2.8 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 9.8 min

Peak Storage= 47.3 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.04' , Surface Width= 5.83'
Bank-Full Depth= 0.40' Flow Area= 3.6 sf, Capacity= 16.7 cfs

5.00' x 0.40' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 10.0 '/' Top Width= 13.00'
Length= 210.0' Slope= 0.0262 '/'
Inlet Invert= 31.00', Outlet Invert= 25.50'

‡

Summary for Reach PR03: PR-03

Inflow Area = 0.76 ac, 30.85% Impervious, Inflow Depth > 2.48" for 10-Year event
Inflow = 1.9 cfs @ 12.16 hrs, Volume= 0.2 af
Outflow = 1.9 cfs @ 12.17 hrs, Volume= 0.2 af, Atten= 2%, Lag= 0.8 min
Routed to Link PPOI01 : PPOI-01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.07 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 0.27 fps, Avg. Travel Time= 3.7 min

Peak Storage= 103.5 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.10' , Surface Width= 19.05'
Bank-Full Depth= 0.40' Flow Area= 9.2 sf, Capacity= 21.9 cfs

15.00' x 0.40' deep channel, n= 0.030 Short grass
Side Slope Z-value= 20.0 '/' Top Width= 31.00'
Length= 60.0' Slope= 0.0117 '/'
Inlet Invert= 26.00', Outlet Invert= 25.30'

‡

Summary for Pond RG01: Rain Garden 01

Inflow Area = 0.26 ac, 16.98% Impervious, Inflow Depth > 1.42" for 10-Year event
Inflow = 0.3 cfs @ 12.09 hrs, Volume= 0.0 af
Outflow = 0.0 cfs @ 11.75 hrs, Volume= 0.0 af, Atten= 88%, Lag= 0.0 min
Discarded = 0.0 cfs @ 11.75 hrs, Volume= 0.0 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.0 af
Routed to Reach PR01 : PR-01
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.0 af
Routed to Reach PR01 : PR-01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 33.85' @ 13.06 hrs Surf.Area= 753 sf Storage= 383.3 cf

Plug-Flow detention time= 75.7 min calculated for 0.0 af (100% of inflow)
Center-of-Mass det. time= 75.4 min (879.1 - 803.7)

Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	720.0 cf	**Pond Area (Irregular)** Listed below (Recalc) -Impervious
#2	34.00'	225.9 cf	**Filter Media (Irregular)** Listed below (Recalc) -Impervious 1,129.5 cf Overall x 20.0% Voids
#3	32.58'	427.7 cf	**Gravel & Pea Gravel (Irregular)** Listed below (Recalc) 1,069.3 cf Overall x 40.0% Voids
		1,373.6 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
35.50	753	309.0	0.0	0.0	753
36.00	2,262	329.0	720.0	720.0	1,781

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
34.00	753	309.0	0.0	0.0	753
35.50	753	309.0	1,129.5	1,129.5	1,217

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
32.58	753	309.0	0.0	0.0	753
34.00	753	309.0	1,069.3	1,069.3	1,192

Device	Routing	Invert	Outlet Devices
#1	Primary	32.83'	**8.0" Round Culvert** L= 55.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 32.83' / 32.00' S= 0.0151 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Discarded	32.58'	**2.150 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#3	Secondary	35.95'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68

2.72 2.81 2.92 2.97 3.07 3.32

#4	Device 1	35.85'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	35.75'	**1.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.0 cfs @ 11.75 hrs HW=32.62' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=32.58' TW=31.50' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.0 cfs)
  ├**4=Grate** (Controls 0.0 cfs)
  └**5=Orifice** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=32.58' TW=31.50' (Dynamic Tailwater)
└**3=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Summary for Pond RG02: Rain Garden 02

Inflow Area = 0.35 ac, 22.05% Impervious, Inflow Depth > 2.69" for 10-Year event
Inflow = 1.0 cfs @ 12.10 hrs, Volume= 0.1 af
Outflow = 0.8 cfs @ 12.17 hrs, Volume= 0.1 af, Atten= 20%, Lag= 4.7 min
Discarded = 0.0 cfs @ 6.85 hrs, Volume= 0.0 af
Primary = 0.6 cfs @ 12.17 hrs, Volume= 0.0 af
  Routed to Reach PR03 : PR-03
Secondary = 0.2 cfs @ 12.17 hrs, Volume= 0.0 af
  Routed to Reach PR03 : PR-03

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 33.00' @ 12.17 hrs Surf.Area= 637 sf Storage= 1,023.1 cf

Plug-Flow detention time= 140.5 min calculated for 0.1 af (75% of inflow)
Center-of-Mass det. time= 48.4 min (855.3 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	475.2 cf	**Pond Area (Irregular)** Listed below (Recalc) -Impervious
#2	31.00'	191.1 cf	**Filter Media (Irregular)** Listed below (Recalc) -Impervious 955.5 cf Overall x 20.0% Voids
#3	29.58'	361.8 cf	**Gravel & Pea Gravel (Irregular)** Listed below (Recalc) 904.5 cf Overall x 40.0% Voids
		1,028.1 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
32.50	637	202.0	0.0	0.0	637
33.00	1,303	324.0	475.2	475.2	5,745

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
31.00	637	202.0	0.0	0.0	637
32.50	637	202.0	955.5	955.5	940

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
29.58	637	202.0	0.0	0.0	637
31.00	637	202.0	904.5	904.5	924

Device	Routing	Invert	Outlet Devices
#1	Primary	29.33'	**8.0" Round Culvert** L= 112.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.33' / 26.00' S= 0.0297 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Discarded	29.58'	**0.350 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#3	Device 1	32.85'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	32.75'	**1.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	32.95'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.0 cfs @ 6.85 hrs HW=29.62' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.5 cfs @ 12.17 hrs HW=32.99' TW=26.10' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.5 cfs of 2.6 cfs potential flow)
  ├**3=Grate** (Weir Controls 0.5 cfs @ 1.22 fps)
  └**4=Orifice** (Orifice Controls 0.0 cfs @ 2.14 fps)

Secondary OutFlow Max=0.2 cfs @ 12.17 hrs HW=32.99' TW=26.10' (Dynamic Tailwater)
└**5=Broad-Crested Rectangular Weir** (Weir Controls 0.2 cfs @ 0.48 fps)

Summary for Pond RG03: Rain Garden 03

Inflow Area = 0.13 ac, 35.75% Impervious, Inflow Depth > 3.13" for 10-Year event
Inflow = 0.4 cfs @ 12.09 hrs, Volume= 0.0 af
Outflow = 0.4 cfs @ 12.10 hrs, Volume= 0.0 af, Atten= 0%, Lag= 0.5 min
Discarded = 0.0 cfs @ 2.95 hrs, Volume= 0.0 af
Primary = 0.2 cfs @ 12.10 hrs, Volume= 0.0 af
Routed to Link PPOI01 : PPOI-01
Secondary = 0.2 cfs @ 12.10 hrs, Volume= 0.0 af
Routed to Link PPOI01 : PPOI-01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 29.98' @ 12.10 hrs Surf.Area= 240 sf Storage= 378.3 cf

Plug-Flow detention time= 144.4 min calculated for 0.0 af (77% of inflow)
Center-of-Mass det. time= 57.5 min (846.3 - 788.8)

Volume	Invert	Avail.Storage	Storage Description
#1	29.50'	182.2 cf	**Pond Area (Irregular)** Listed below (Recalc) -Impervious
#2	28.00'	72.0 cf	**Filter Media (Irregular)** Listed below (Recalc) -Impervious 360.0 cf Overall x 20.0% Voids
#3	26.58'	136.3 cf	**Gravel & Pea Gravel (Irregular)** Listed below (Recalc) 340.8 cf Overall x 40.0% Voids
		390.5 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
29.50	240	125.0	0.0	0.0	240
30.00	505	140.0	182.2	182.2	563

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
28.00	240	125.0	0.0	0.0	240
29.50	240	125.0	360.0	360.0	428

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
26.58	240	125.0	0.0	0.0	240
28.00	240	125.0	340.8	340.8	418

Device	Routing	Invert	Outlet Devices
#1	Primary	28.00'	**6.0" Round Culvert** L= 13.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.00' / 27.70' S= 0.0231 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Discarded	26.58'	**0.150 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#3	Device 1	29.90'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	29.83'	**1.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	29.95'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.0 cfs @ 2.95 hrs HW=26.61' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.2 cfs @ 12.10 hrs HW=29.98' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.2 cfs of 1.2 cfs potential flow)
  ├**3=Grate** (Weir Controls 0.2 cfs @ 0.90 fps)
  └**4=Orifice** (Orifice Controls 0.0 cfs @ 1.55 fps)

Secondary OutFlow Max=0.2 cfs @ 12.10 hrs HW=29.98' TW=0.00' (Dynamic Tailwater)
└**5=Broad-Crested Rectangular Weir** (Weir Controls 0.2 cfs @ 0.40 fps)

Summary for Pond RG04: Rain Garden 04

Inflow Area = 0.05 ac, 51.59% Impervious, Inflow Depth > 3.04" for 10-Year event
Inflow = 0.1 cfs @ 12.09 hrs, Volume= 0.0 af
Outflow = 0.0 cfs @ 11.35 hrs, Volume= 0.0 af, Atten= 93%, Lag= 0.0 min
Discarded = 0.0 cfs @ 11.35 hrs, Volume= 0.0 af
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0.0 af
Routed to Reach PR01 : PR-01
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0.0 af
Routed to Reach PR01 : PR-01

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 33.66' @ 13.75 hrs Surf.Area= 205 sf Storage= 217.1 cf

Plug-Flow detention time= 167.2 min calculated for 0.0 af (100% of inflow)
Center-of-Mass det. time= 167.0 min (927.8 - 760.8)

Volume	Invert	Avail.Storage	Storage Description
#1	33.50'	156.7 cf	**Pond Area (Irregular)** Listed below (Recalc) -Impervious
#2	32.00'	61.5 cf	**Filter Media (Irregular)** Listed below (Recalc) -Impervious 307.5 cf Overall x 20.0% Voids
#3	30.58'	116.4 cf	**Gravel & Pea Gravel (Irregular)** Listed below (Recalc) 291.1 cf Overall x 40.0% Voids
		334.6 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
33.50	205	108.0	0.0	0.0	205
34.00	436	121.0	156.7	156.7	449

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
32.00	205	108.0	0.0	0.0	205
33.50	205	108.0	307.5	307.5	367

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
30.58	205	108.0	0.0	0.0	205
32.00	205	108.0	291.1	291.1	358

Device	Routing	Invert	Outlet Devices
#1	Primary	31.50'	**6.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 31.50' / 31.40' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Discarded	30.58'	**2.150 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#3	Secondary	33.95'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88

2.85 3.07 3.20 3.32

#4	Device 1	33.85'	**12.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	33.75'	**1.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.0 cfs @ 11.35 hrs HW=30.62' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=30.58' TW=31.50' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.0 cfs)
  ├**4=Grate** (Controls 0.0 cfs)
  └**5=Orifice** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=30.58' TW=31.50' (Dynamic Tailwater)
└**3=Broad-Crested Rectangular Weir**(Controls 0.0 cfs)

Summary for Link PPOI01: PPOI-01

Inflow Area = 1.50 ac, 35.52% Impervious, Inflow Depth > 2.16" for 10-Year event
Inflow = 3.0 cfs @ 12.15 hrs, Volume= 0.3 af
Primary = 3.0 cfs @ 12.15 hrs, Volume= 0.3 af, Atten= 0%, Lag= 0.0 min

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

APPENDIX F – BMP WORKSHEETS

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FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.07)

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Type/Node Name: **Rain Garden 01 (RG-01)**

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).	
0.26	ac	A = Area draining to the practice	
0.04	ac	A_I = Impervious area draining to the practice	
0.17	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.20	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.05	ac-in	WQV= 1" x Rv x A	
191	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
48	cf	25% x WQV (check calc for sediment forebay volume)	
143	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
753	sf	A_{SA} = Surface area of the practice	
2.15	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)	
1.4	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
34.00	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
30.40	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
26.64	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
34.00	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
7.36	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
3.60	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
35.87	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
36.00	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**
501	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	C-11	Note what sheet in the plan set contains the filter course specification	
4.0	:1	Pond side slopes	**≥ 3:1**
Sheet	C-06	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: The rain garden is equipped with an underdrain to promote pond drainage during heavier storm events. The pond drains via infiltration alone in less than 72 hours.

Stage-Area-Storage for Pond RG01: Rain Garden 01

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
32.58	**753**	0.0
32.63	753	15.1
32.68	753	30.1
32.73	753	45.2
32.78	753	60.2
32.83	753	75.3
32.88	753	90.4
32.93	753	105.4
32.98	753	120.5
33.03	753	135.5
33.08	753	150.6
33.13	753	165.7
33.18	753	180.7
33.23	753	195.8
33.28	753	210.8
33.33	753	225.9
33.38	753	241.0
33.43	753	256.0
33.48	753	271.1
33.53	753	286.1
33.58	753	301.2
33.63	753	316.3
33.68	753	331.3
33.73	753	346.4
33.78	753	361.4
33.83	753	376.5
33.88	753	391.6
33.93	753	406.6
33.98	753	421.7
34.03	753	432.2
34.08	753	439.8
34.13	753	447.3
34.18	753	454.8
34.23	753	462.3
34.28	753	469.9
34.33	753	477.4
34.38	753	484.9
34.43	753	492.5
34.48	753	500.0
34.53	753	507.5
34.58	753	515.1
34.63	753	522.6
34.68	753	530.1
34.73	753	537.6
34.78	753	545.2
34.83	753	552.7
34.88	753	560.2
34.93	753	567.8
34.98	753	575.3
35.03	753	582.8
35.08	753	590.4
35.13	753	597.9

Bottom Filter Elev

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
35.18	753	605.4
35.23	753	612.9
35.28	753	620.5
35.33	753	628.0
35.38	753	635.5
35.43	753	643.1
35.48	753	650.6
35.53	753	677.2
35.58	753	721.2
35.63	753	771.3
35.68	753	828.1
35.73	753	891.8
35.78	753	962.9
35.83	753	1,041.7
35.88	753	1,128.8
35.93	753	1,224.5
35.98	753	**1,329.1**

1" Orifice Elevation

Volume of Storage
927 cf - 426 cf = 501 cf
(See BMP Worksheet)

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NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Rain Garden 02 (RG-02)**

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).	
0.35	ac	A = Area draining to the practice	
0.08	ac	A_I = Impervious area draining to the practice	
0.22	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.25	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.09	ac-in	WQV= 1" x Rv x A	
315	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
79	cf	25% x WQV (check calc for sediment forebay volume)	
236	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
Calculate time to drain if system IS NOT underdrained:			
637	sf	A_{SA} = Surface area of the practice	
0.35	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)	
17.0	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ 72-hrs
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	≤ 72-hrs
31.00	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
30.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
28.03	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
31.00	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	≥ 1'
2.97	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	≥ 1'
1.00	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	≥ 1'
33.06	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
33.00	ft	Elevation of the top of the practice	
NO		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**
494	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	C-11	Note what sheet in the plan set contains the filter course specification	
4.0	:1	Pond side slopes	**≥ 3:1**
Sheet	C-06	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: The rain garden is equipped with an underdrain to promote pond drainage during heavier storm events. The pond drains via infiltration alone in less than 72 hours.

Stage-Area-Storage for Pond RG02: Rain Garden 02

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
29.58	**637**	0.0
29.63	637	12.7
29.68	637	25.5
29.73	637	38.2
29.78	637	51.0
29.83	637	63.7
29.88	637	76.4
29.93	637	89.2
29.98	637	101.9
30.03	637	114.7
30.08	637	127.4
30.13	637	140.1
30.18	637	152.9
30.23	637	165.6
30.28	637	178.4
30.33	637	191.1
30.38	637	203.8
30.43	637	216.6
30.48	637	229.3
30.53	637	242.1
30.58	637	254.8
30.63	637	267.5
30.68	637	280.3
30.73	637	293.0
30.78	637	305.8
30.83	637	318.5
30.88	637	331.2
30.93	637	344.0
30.98	637	356.7
31.03	637	365.6
31.08	637	372.0
31.13	637	378.4
31.18	637	384.7
31.23	637	391.1
31.28	637	397.5
31.33	637	403.9
31.38	637	410.2
31.43	637	416.6
31.48	637	423.0
31.53	637	429.3
31.58	637	435.7
31.63	637	442.1
31.68	637	448.4
31.73	637	454.8
31.78	637	461.2
31.83	637	467.6
31.88	637	473.9
31.93	637	480.3
31.98	637	486.7
32.03	637	493.0
32.08	637	499.4
32.13	637	505.8
32.18	637	512.1
32.23	637	518.5
32.28	637	524.9
32.33	637	531.3
32.38	637	537.6
32.43	637	544.0
32.48	637	550.4
32.53	637	572.5
32.58	637	607.5
32.63	637	645.3
32.68	637	686.3
32.73	637	730.3
32.78	637	777.7
32.83	637	828.5
32.88	637	882.7
32.93	637	940.7
32.98	637	**1,002.3**
33.03	637	**1,028.1**
33.08	637	1,028.1
33.13	637	1,028.1

Bottom Filter Elev

1" Orifice Elevation

Volume of Storage
855 cf - 361 cf = 494 cf
(See BMP Worksheet)

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NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Rain Garden 03 (RG-03)**

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).	
0.13	ac	A = Area draining to the practice	
0.05	ac	A_I = Impervious area draining to the practice	
0.36	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.38	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.05	ac-in	WQV= 1" x Rv x A	
177	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
44	cf	25% x WQV (check calc for sediment forebay volume)	
133	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
Calculate time to drain if system IS NOT underdrained:			
240	sf	A_{SA} = Surface area of the practice	
0.15	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)	
59.0	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ 72-hrs
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	≤ 72-hrs
28.00	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
26.75	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
23.08	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
28.00	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	≥ 1'
4.92	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	≥ 1'
1.25	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	≥ 1'
29.99	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
30.00	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**
178	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	C-11	Note what sheet in the plan set contains the filter course specification	
4.0	:1	Pond side slopes	**≥ 3:1**
Sheet	C-06	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: The rain garden is equipped with an underdrain to promote pond drainage during heavier storm events. The pond drains via infiltration alone in less than 72 hours.

Stage-Area-Storage for Pond RG03: Rain Garden 03

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
26.58	**240**	0.0
26.63	240	4.8
26.68	240	9.6
26.73	240	14.4
26.78	240	19.2
26.83	240	24.0
26.88	240	28.8
26.93	240	33.6
26.98	240	38.4
27.03	240	43.2
27.08	240	48.0
27.13	240	52.8
27.18	240	57.6
27.23	240	62.4
27.28	240	67.2
27.33	240	72.0
27.38	240	76.8
27.43	240	81.6
27.48	240	86.4
27.53	240	91.2
27.58	240	96.0
27.63	240	100.8
27.68	240	105.6
27.73	240	110.4
27.78	240	115.2
27.83	240	120.0
27.88	240	124.8
27.93	240	129.6
27.98	240	134.4
28.03	240	137.8
28.08	240	140.2
28.13	240	142.6
28.18	240	145.0
28.23	240	147.4
28.28	240	149.8
28.33	240	152.2
28.38	240	154.6
28.43	240	157.0
28.48	240	159.4
28.53	240	161.8
28.58	240	164.2
28.63	240	166.6
28.68	240	169.0
28.73	240	171.4
28.78	240	173.8
28.83	240	176.2
28.88	240	178.6
28.93	240	181.0
28.98	240	183.4
29.03	240	185.8
29.08	240	188.2
29.13	240	190.6

Bottom Filter Elev

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
29.18	240	193.0
29.23	240	195.4
29.28	240	197.8
29.33	240	200.2
29.38	240	202.6
29.43	240	205.0
29.48	240	207.4
29.53	240	215.7
29.58	240	228.9
29.63	240	243.3
29.68	240	258.9
29.73	240	275.8
29.78	240	293.9
29.83	240	313.4
29.88	240	334.3
29.93	240	356.7
29.98	240	**380.5**
30.03	240	**390.5**

1" Orifice Elevation

Volume of Storage
313 cf - 135 cf = 178 cf
(See BMP Worksheet)

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NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Rain Garden 04 (RG-04)**

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).	
0.05	ac	A = Area draining to the practice	
0.03	ac	A_I = Impervious area draining to the practice	
0.51	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.51	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.03	ac-in	WQV= 1" x Rv x A	
94	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
24	cf	25% x WQV (check calc for sediment forebay volume)	
71	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
205	sf	A_{SA} = Surface area of the practice	
1.20	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)	
4.6	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
32.00	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
30.15	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
27.97	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
32.00	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
4.03	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
1.85	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
33.90	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
34.00	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**
129	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	C-11	Note what sheet in the plan set contains the filter course specification	
4.0	:1	Pond side slopes	**≥ 3:1**
Sheet	C-06	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: The rain garden is equipped with an underdrain to promote pond drainage during heavier storm events. The pond drains via infiltration alone in less than 72 hours.

Stage-Area-Storage for Pond RG04: Rain Garden 04

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	
30.58	**205**	0.0	
30.63	205	4.1	
30.68	205	8.2	
30.73	205	12.3	
30.78	205	16.4	
30.83	205	20.5	
30.88	205	24.6	
30.93	205	28.7	
30.98	205	32.8	
31.03	205	36.9	
31.08	205	41.0	
31.13	205	45.1	
31.18	205	49.2	
31.23	205	53.3	
31.28	205	57.4	
31.33	205	61.5	
31.38	205	65.6	
31.43	205	69.7	
31.48	205	73.8	
31.53	205	77.9	
31.58	205	82.0	
31.63	205	86.1	
31.68	205	90.2	
31.73	205	94.3	
31.78	205	98.4	
31.83	205	102.5	
31.88	205	106.6	
31.93	205	110.7	
31.98	205	114.8	Bottom Filter Elev
32.03	205	117.7	
32.08	205	119.7	
32.13	205	121.8	
32.18	205	123.8	
32.23	205	125.9	
32.28	205	127.9	
32.33	205	130.0	
32.38	205	132.0	
32.43	205	134.1	
32.48	205	136.1	
32.53	205	138.2	
32.58	205	140.2	
32.63	205	142.3	
32.68	205	144.3	
32.73	205	146.4	
32.78	205	148.4	
32.83	205	150.5	
32.88	205	152.5	
32.93	205	154.6	
32.98	205	156.6	
33.03	205	158.7	
33.08	205	160.7	
33.13	205	162.8	

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	
33.18	205	164.8	
33.23	205	166.9	
33.28	205	168.9	
33.33	205	171.0	
33.38	205	173.0	
33.43	205	175.1	
33.48	205	177.1	
33.53	205	184.3	
33.58	205	195.6	
33.63	205	207.9	
33.68	205	221.3	
33.73	205	235.7	1" Orifice Elevation
33.78	205	251.3	
33.83	205	268.1	
33.88	205	286.1	
33.93	205	305.4	
33.98	205	**326.0**	

Volume of Storage
244 cf - 115 cf = 129 cf
(See BMP Worksheet)

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APPENDIX G – RIPRAP CALCULATIONS

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Proposed 3 Lot Subdivision
437 Lafayette Road
4/19/2022

RIPRAP OUTLET PROTECTION

Location: FES-01

Design Flow =	Q =	0.01	cfs
Tailwater =	Tw =	0.446667	feet
Pipe Dia.=	Do =	0.67	feet

TW>=1/2Do -> La = Length = 3.0Q/Do^(3/2) + 7Do = **0.0** feet

Implementing a 2ft x 2ft pad

W_1 = Width = 3Do+(0.4)(La)= **2.0** feet **(or Width of Channel)**

W_2 = Width = 3Do= **2.0** feet

D = Depth = (1.5)(d50)= **9** inches **(or Min. 9")**

d_{50} = (0.02/Tw)(Q/Do)$^{\wedge(4/3)}$= **6.00** inches **(or Min. 6")**

Rock Riprap Gradation

% by weight passing given the D_{50} Size		Size of stone (inches)		
100		9.00	-	12.00
85		7.80	-	10.80
50		6.00	-	9.00
15		1.80	-	3.00

(See Last Page of Calculations for 25-Year Flows)

Proposed 3 Lot Subdivision
437 Lafayette Road
4/19/2022

RIPRAP OUTLET PROTECTION

Location: FES-02

Design Flow =	Q =	0.87	cfs
Tailwater =	Tw =	0.446667	feet
Pipe Dia.=	Do =	0.67	feet

TW>=1/2Do -> La = Length = 3.0Q/Do^(3/2) + 7Do = **3.0** feet

W_1 = Width = 3Do+(0.4)(La)= **3.0** feet **(or Width of Channel)**

W_2 = Width = 3Do= **2.0** feet

D = Depth = (1.5)(d50)= **9** inches **(or Min. 9")**

d_{50} = (0.02/Tw)(Q/Do)^(4/3)= **6.00** inches **(or Min. 6")**

Rock Riprap Gradation

% by weight passing given the D_{50} Size		Size of stone (inches)		
100		9.00	-	12.00
85		7.80	-	10.80
50		6.00	-	9.00
15		1.80	-	3.00

(See Last Page of Calculations for 25-Year Flows)

Proposed 3 Lot Subdivision
437 Lafayette Road
4/19/2022

RIPRAP OUTLET PROTECTION

Location: FES-03

Design Flow =	Q =	0.27	cfs
Tailwater =	Tw =	0.333333	feet
Pipe Dia.=	Do =	0.5	feet

TW>=1/2Do -> La = Length = 3.0Q/Do^(3/2) + 7Do = **1.0** feet

Implementing a 2ft x 2ft pad

W_1 = Width = 3Do+(0.4)(La)= **2.0** feet **(or Width of Channel)**

W_2 = Width = 3Do= **1.5** feet

D = Depth = (1.5)(d50)= **9** inches **(or Min. 9")**

d_{50} = (0.02/Tw)(Q/Do)$^{\wedge(4/3)}$= **6.00** inches **(or Min. 6")**

Rock Riprap Gradation

% by weight passing given the D_{50} Size		Size of stone (inches)		
100		9.00	-	12.00
85		7.80	-	10.80
50		6.00	-	9.00
15		1.80	-	3.00

(See Last Page of Calculations for 25-Year Flows)

Proposed 3 Lot Subdivision
437 Lafayette Road
4/19/2022

RIPRAP OUTLET PROTECTION

Location: FES-04

Design Flow =	Q =	0.03	cfs
Tailwater =	Tw =	0.333333	feet
Pipe Dia.=	Do =	0.5	feet

TW>=1/2Do -> La = Length = 3.0Q/Do^(3/2) + 7Do = **0.0** feet

Implementing a 2ft x 2ft pad

W_1 = Width = 3Do+(0.4)(La)= **1.5** feet **(or Width of Channel)**

W_2 = Width = 3Do= **1.5** feet

D = Depth = (1.5)(d50)= **9** inches **(or Min. 9")**

d_{50} = (0.02/Tw)(Q/Do)$^{\wedge(4/3)}$= **6.00** inches **(or Min. 6")**

Rock Riprap Gradation

% by weight passing given the D_{50} Size		Size of stone (inches)		
100		9.00	-	12.00
85		7.80	-	10.80
50		6.00	-	9.00
15		1.80	-	3.00

(See Last Page of Calculations for 25-Year Flows)

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

Pond RG01: Rain Garden 01 Peak Elev=35.61' Storage=748.8 cf Inflow=0.49 cfs 0.0 af
Discarded=0.04 cfs 0.0 af Primary=0.00 cfs 0.0 af Secondary=0.00 cfs 0.0 af Outflow=0.04 cfs 0.0 af

Pond RG02: Rain Garden 02 Peak Elev=33.04' Storage=1,028.1 cf Inflow=1.45 cfs 0.1 af
Discarded=0.01 cfs 0.0 af Primary=0.87 cfs 0.1 af Secondary=0.67 cfs 0.0 af Outflow=1.54 cfs 0.1 af

Pond RG03: Rain Garden 03 Peak Elev=29.99' Storage=383.3 cf Inflow=0.61 cfs 0.0 af
Discarded=0.00 cfs 0.0 af Primary=0.27 cfs 0.0 af Secondary=0.34 cfs 0.0 af Outflow=0.61 cfs 0.0 af

Pond RG04: Rain Garden 04 Peak Elev=33.87' Storage=280.8 cf Inflow=0.20 cfs 0.0 af
Discarded=0.01 cfs 0.0 af Primary=0.03 cfs 0.0 af Secondary=0.00 cfs 0.0 af Outflow=0.04 cfs 0.0 af

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APPENDIX H - NRCS WEB SOIL SURVEY

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United States Department of Agriculture

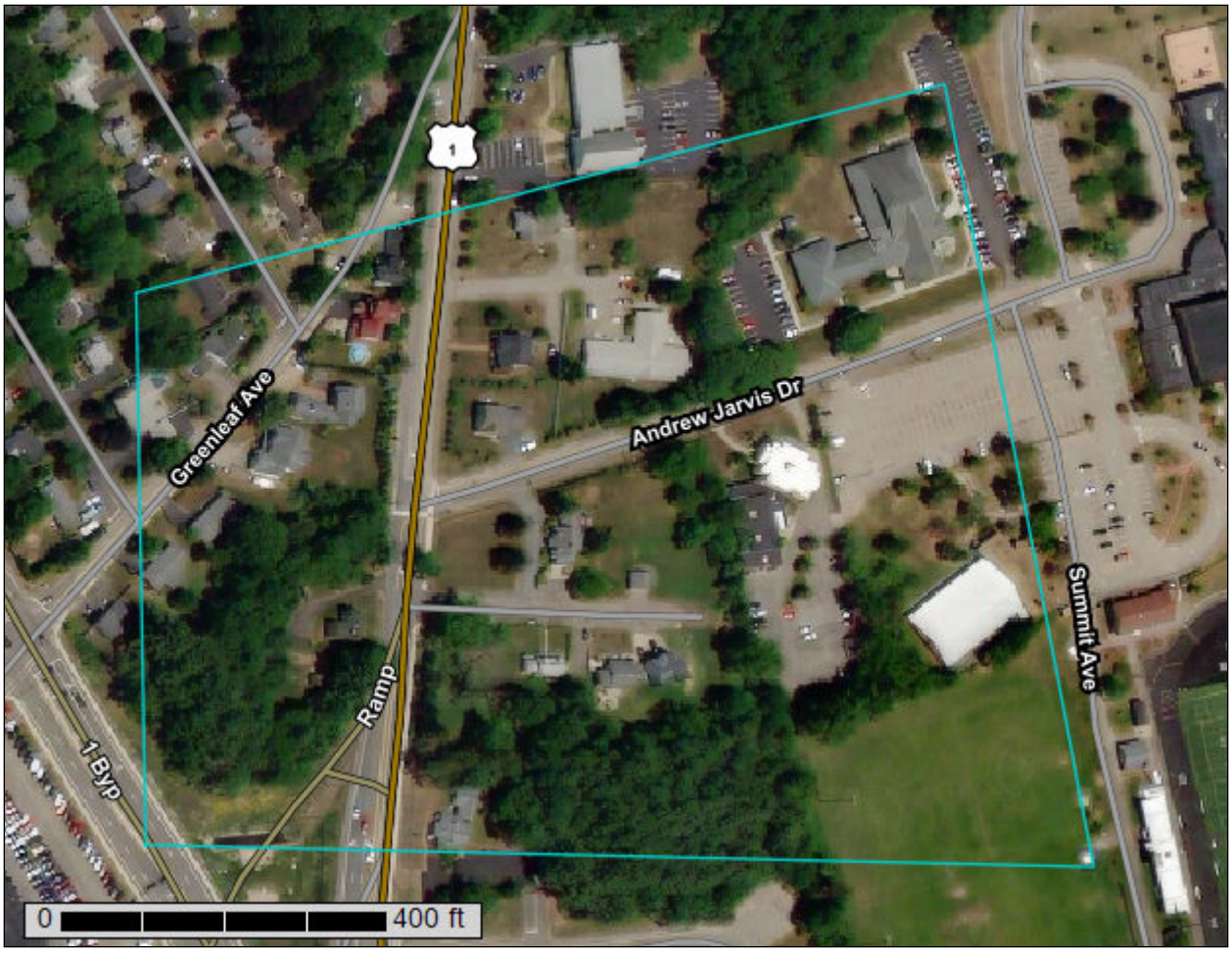
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire

437 Lafayette Road



January 7, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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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: 1:2,470 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 24, Aug 31, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Jun 14, 2017

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
299	Udorthents, smoothed	2.6	12.8%
799	Urban land-Canton complex, 3 to 15 percent slopes	17.9	87.2%
Totals for Area of Interest		**20.5**	**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

299—Udorthents, smoothed

Map Unit Setting

National map unit symbol: 9cmt
Elevation: 0 to 840 feet
Mean annual precipitation: 44 to 49 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Properties and qualities

Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

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

Squamscott and scitico

Percent of map unit: 4 percent
Landform: Marine terraces
Hydric soil rating: Yes

Walpole

Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

Chatfield

Percent of map unit: 4 percent
Hydric soil rating: No

Scituate and newfields

Percent of map unit: 4 percent
Hydric soil rating: No

Boxford and eldridge

Percent of map unit: 4 percent
Hydric soil rating: No

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APPENDIX I - TEST PIT LOGS & INFILTRATION CALCULATIONS

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Test Pit Report

For

Smith Field Construction

437 Lafayette Road,

Portsmouth, NH

Prepared For

437 Lafayette Road Subdivision

45407.120

PREPARED BY

TFMoran, Inc.

48 Constitution Drive

Bedford, NH 03110

January 25th & February 1st, 2022

Test Pit 1 January 25th, 2022

0-13” 10YR 5/3 Brown, Loam, Massive, Friable, Anthropogenic Fill (Asphalt, Brick)

13-20” AB 10YR 7/6 Yellow, Loam, Blocky, Friable, Gravely <5% Rock (Iron Stone)

20-55” B1 Gley 1 7N Gray, Sandy Loam, massive, pliable

55- 65” B2 10YR 5/1 Gray, Coarse Sand, Friable, Massive, > 15% Angular Rock Fragment (Iron Stone)

REDOX @ 20” 10YR 7/8 Common Distinct >15%

Soil Series: Walpole

EST Wet: 20” Below Grade

OBS WT: 39” Below Grade (Apparent →)

Ledge: > 65” Below Grade

Test Pit 2 January 25th, 2022

0-15” A 10YR 4/3 Brown, Loam, Massive

15-17” 10YR 7/6 Yellow, Sandy Loam, friable, granular

17-27” Gley 1 7/N light gray, Sandy Loam, friable, granular

27-52” 10YR 6/6 Brownish Yellow, Loam, friable, massive

52-77” 10YR 5/1 Gray, Course Sand, Friable, Gravely, granular

REDOX @ 26” 10YR 7/8 Common Distinct

Soil Series: Walpole

EST Wet: 26” Below Grade

OBS WT: 51” Below Grade (Apparent ↑)

Ledge: 77” Below Grade

Test Pit 3 January 25th, 2022

0-16” 10YR 4/3 Brown, Loam, aggregated, friable

16-27” 10YR 6/6 Brownish Yellow, Loam, aggregated, friable, Gravely >5%

27-52” 10YR 7/2 Light Gray, Loamy Sand, aggregated, Friable Gravely >15%

52-84” 10YR 8/1 White, Sandy Clay Loam, Platey, indurate

REDOX @: 41” 10YR 7/8 Common Distinct >15%

Soil Series: Canton - Chatfield Complex

EST Wet: 41” Below Grade

OBS WT: 84” Below Grade (Apparent ↘)

Ledge: 84” Below Grade

Test Pit 4 January 25th, 2022

0-18” 10YR 5/4 Yellowish Brown, Loam, Friable, Aggregate

18-27” 10YR 6/6 Brownish Yellow, Sandy Loam, Gravely >5%, Friable, Aggregate

27-37” 10YR 6/2 Light Brownish Grey, Loamy Sand, > 15% Angular Rock Fragment (Iron Stone)

37-65” 10YR 7/8 Yellow, Decaying Bedrock, Angular Cobble, Iron Stone

REDOX @: 5R 3/8 Common Distinct >15%

Soil Series: Chatfield

EST Wet: 37” Below Grade

OBS WT: 56” Below Grade (Apparent ↑)

Ledge: 65” Below Grade

Test Pit 5 January 25th, 2022

0-10” 10YR 4/3 Brown, Loamy Sand, aggregate, friable, gravely >5%

10-31” 10YR 5/4 Yellowish Brown, Course Sand, Granular, Friable, gravely >15%

31-57” Gley 1 5/N Gray, Clay, Decayed Bedrock, Boulders >5%, Massive

REDOX @: 31” 5R 3/8 Common Distinct >15%

Soil Series: Chatfield – Maybid Complex

EST Wet: 31” Below Grade

OBS WT: > 57”

Ledge: 57” Below Grade

Test Pit 6 January 25th, 2022

0-12” 10YR 4/3 Brown, Sandy Loam, Aggregate, Friable

12-16” 10YR 7/2 Light Gray, Sand, granular, friable, gravely >5%

16-28” 10YR 7/1 Light Gray, Fine Sand, Granular, Friable

28-42” 10YR 7/3 Very Pale Brown, Sandy Loam, Aggregate, friable, heterogeneous

42-47” Gley 1 5/5G-1 Greenish Gray, Sandy Clay Loam, Platey, Indurate

47-96” Gley 2 8/5BG Light Greenish Gray, Clay, Massive, Indurate, homogeneous

REDOX @42” 5R 3/8 Common Distinct >15%

Soil Series: Canton Complex (Anthropogenic)

EST Wet: 42” Below Grade

OBS WT: 79” Below Grade (Apparent →)

Ledge: > 96”

Test Pit 7 January 25th, 2022

0-18” 10YR 4/2 Dark Grayish Brown, Sandy Loam, Friable, blocky

18-42” 10YR 7/4 Very pale Brown, Fine Sand, granular, friable

42-54” 10YR 6/6 Brownish Yellow, Course Sand, granular, friable

54-65” 10YR 5/8 Yellowish Brown, Sandy Loam, heterogeneous, friable

65-72” Gley 2 4/10B Dark Blueish Gray, Sandy Clay Loam, Platey, Indurate

72-102” Gley 2 7/10B Light Blueish Gray, Clay, Massive, Indurate

REDOX @ 57” 5R 3/8 Common Distinct >15%

Soil Series: Canton Complex (Anthropogenic)

EST Wet: 57” Below Grade

OBS WT: 93” Below Grade (Apparent ↑)

Ledge: >102”

Test Pit 8 January 25th, 2022

0-14” 10YR 4/2 Dark Grayish Brown, Loamy Sand, friable, blocky

14-42” 10YR 7/4 Very pale Brown, Fine Sand, aggregate, friable, > 15% Cobble River Stone

42-50” Gley 1 5/5G_/1 Greenish Gray, Sandy Clay Loam, Aquatard present (Iron Stone), Massive, Indurate

50-55” 10YR 6/4 Light Yellowish Brown, Sandy Clay Loam, Inclusion, heterogeneous, Massive, Indurate

55-103” Gley 2 8/5BG Light Greenish Gray, Clay, Indurate, massive

REDOX @ 42 5R 3/8 Common Distinct >15% (Aquatard (Potentially Anthropogenic))

Soil Series: Canton Complex (Anthropogenic)

EST Wet: 42” Below Grade

Test Pit 8 January 25th, 2022 (Cont'd)

OBS WT: 101" Below Grade (Apparent ↑)

Ledge: > 103"

Test Pit 9 January 25th, 2022

0-9" 10YR 4/3 Brown, Loam, blocky, friable, gravely >5%

9-23" 10YR 5/6 Yellowish Brown, Loamy Sand, granular, , > 15% Angular Rock Fragment (Iron Stone)

23-54" 10YR 7/2 light Grey, Sandy Loam, Indurate, massive, heterogeneous, > 15% Angular Rock Fragment (Iron Stone)

REDOX @ 5R 4/6 Common Distinct >15%

Soil Series: Walpole

EST Wet: 30" Below Grade

OBS WT: > 54"

Ledge: 54" Below Grade

Test Pit 10 February 1st, 2022

0-12" 10YR 4/4 Dark Yellowish Brown, Loamy Sand, Blocky, Friable, Cobble >15%, Homogeneous Soil

12-23" 10YR 6/3 Pale Brown, Sandy Loam, aggregate, friable, Cobble >15%, Homogeneous soil

23-36" 10YR 6/2 Light Brownish Grey, Course Sand, granular, Heterogeneous, Cobble >15%, Very Course particles <5%

36-66" 10YR 5/4 Yellowish Brown, Loamy Sand, massive, Indurate > 25% Angular Rock Fragment (Iron Stone)

Test Pit 10 February 1st, 2022 (Cont'd)

66-76" 10YR 5/4 Yellowish Brown, Sandy Loam, massive, Indurate, decaying ledge, > 55% Angular Rock Fragment (Iron Stone)

REDOX @ 52 – 58 10YR 5/6 Common Distinct >15%

Soil Series: Canton – Walpole Complex

EST Wet: 52" Below Grade

OBS WT: >76"

Ledge: 76" Below Grade

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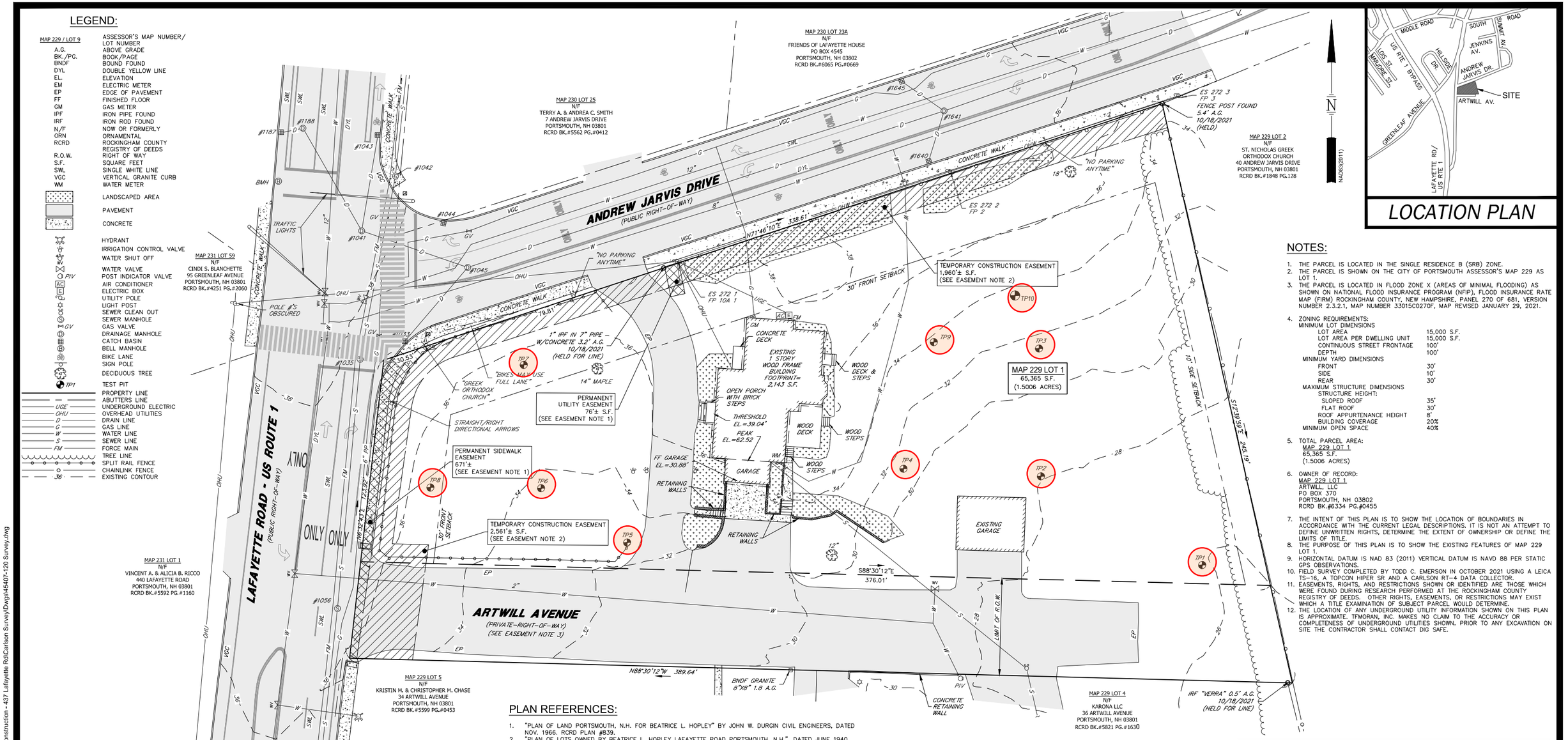
LEGEND:

MAP 229 / LOT 9	ASSESSOR'S MAP NUMBER/ LOT NUMBER
A.G.	ABOVE GRADE
BK./PG.	BOOK/PAGE
BNDF	BOUND FOUND
DYL	DOUBLE YELLOW LINE
EL.	ELEVATION
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
GM	GAS METER
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
N/F	NOW OR FORMERLY
ORN	ORNAMENTAL
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
R.O.W.	RIGHT OF WAY
S.F.	SQUARE FEET
SWL	SINGLE WHITE LINE
VGC	VERTICAL GRANITE CURB
WM	WATER METER
	LANDSCAPED AREA
	PAVEMENT
	CONCRETE
	HYDRANT
	IRRIGATION CONTROL VALVE
	WATER SHUT OFF
	WATER VALVE
PIV	POST INDICATOR VALVE
AC	AIR CONDITIONER
E	ELECTRIC BOX
	UTILITY POLE
	LIGHT POST
	SEWER CLEAN OUT
S	SEWER MANHOLE
GV	GAS VALVE
D	DRAINAGE MANHOLE
	CATCH BASIN
T	BELL MANHOLE
	BIKE LANE
	SIGN POLE
	DECIDUOUS TREE
TP1	TEST PIT
	PROPERTY LINE
	ABUTTERS LINE
UGE	UNDERGROUND ELECTRIC
OHU	OVERHEAD UTILITIES
D	DRAIN LINE
G	GAS LINE
W	WATER LINE
S	SEWER LINE
FM	FORCE MAIN
	TREE LINE
	SPLIT RAIL FENCE
	CHAINLINK FENCE
36	EXISTING CONTOUR



LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE SINGLE RESIDENCE B (SRB) ZONE.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 229 AS LOT 1.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X (AREAS OF MINIMAL FLOODING) AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP), FLOOD INSURANCE RATE MAP (FIRM) ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, VERSION NUMBER 2.3.2.1, MAP NUMBER 33015C0270F, MAP REVISED JANUARY 29, 2021.
4. ZONING REQUIREMENTS:

MINIMUM LOT DIMENSIONS	
LOT AREA	15,000 S.F.
LOT AREA PER DWELLING UNIT	15,000 S.F.
CONTINUOUS STREET FRONTAGE	100'
DEPTH	100'
MINIMUM YARD DIMENSIONS	
FRONT	30'
SIDE	10'
REAR	30'
MAXIMUM STRUCTURE DIMENSIONS	
STRUCTURE HEIGHT:	
SLOPED ROOF	35'
FLAT ROOF	30'
ROOF APPURTENANCE HEIGHT	8'
BUILDING COVERAGE	20%
MINIMUM OPEN SPACE	40%

5. TOTAL PARCEL AREA:
   MAP 229 LOT 1
   65,365 S.F.
   (1.5006 ACRES)
6. OWNER OF RECORD:
   MAP 229 LOT 1
   ARTWILL, LLC
   PO BOX 370
   PORTSMOUTH, NH 03802
   RCRD BK.#6334 PG.#0455
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING FEATURES OF MAP 229 LOT 1.
9. HORIZONTAL DATUM IS NAD 83 (2011) VERTICAL DATUM IS NAVD 88 PER STATIC GPS OBSERVATIONS.
10. FIELD SURVEY COMPLETED BY TODD C. EMERSON IN OCTOBER 2021 USING A LEICA TS-16, A TOPCON HIPER SR AND A CARLSON RT-4 DATA COLLECTOR.
11. EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL WOULD DETERMINE.
12. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.

PLAN REFERENCES:

1. "PLAN OF LAND PORTSMOUTH, N.H. FOR BEATRICE L. HOPLEY" BY JOHN W. DURGIN CIVIL ENGINEERS, DATED NOV. 1966. RCRD PLAN #839.
2. "PLAN OF LOTS OWNED BY BEATRICE L. HOPLEY LAFAYETTE ROAD PORTSMOUTH, N.H.", DATED JUNE 1940, REVISED FROM ORIGINAL PLAN BY JOHN W. DURGIN, REVISED MAY, 1946, REVISED FEB. 1957. RCRD PLAN #2637.
3. "STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION CONSTRUCTION PLANS FEDERAL AID PROJECT OF PROPOSED BRIDGE REMOVAL BRIDGE NO. 173/071 & RECONFIGURATION OF US ROUTE 1 BYPASS AND US ROUTE 1 (LAFAYETTE ROAD) FEDERAL PROJECT X-A000(994) NH PROJECT NO. 13455-A, CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM", APPROVED 6/27/12. RCRD PLAN #13455.
4. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO-R37-A, CITY OF PORTSMOUTH ROCKINGHAM COUNTY". PLAN #50031.
5. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO. 37 LAFAYETTE ROAD". PLAN #50147.
6. "CORRECTIVE SEWER EASEMENT PLAN OVER LAND OF KARONA, LLC 36 ARTWILL AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCEL 229-4 FOR KARONA, LLC" BY JAMES VERRA AND ASSOCIATES, INC., DATED 1/19/2021. RCRD PLAN #C-42611.
7. "SUBDIVISION PLAN OF LAND OF J. PHILIP MCCAFFERY FOR GREAT BAY SCHOOL AND TRAINING CENTER LAFAYETTE RD. COUNTY OF ROCKINGHAM PORTSMOUTH NH", BY RICHARD P. MILLETTE AND ASSOCIATES, DATED DEC. 1981, WITH REV.1 FROM 1/7/82. RCRD PLAN #D-10590.
8. "SUBDIVISION PLAN TAX MAP 230 - LOT 23 OWNER: GREAT BAY SCHOOL AND TRAINING CENTER FOR LEMIEUX BUILDERS, INC." 417 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED SEPTEMBER 2013, WITH REVISION 2 DATED 12/23/13. RCRD PLAN #D-38079.
9. "EASEMENT PLAN TAX MAP 230 - LOT 25 D.R. LEMIEUX BUILDERS, INC. TO THE CITY OF PORTSMOUTH 7 ANDREW JARVIS DRIVE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED JUNE 2014, WITH REVISION 2 DATED 7/25/14. RCRD PLAN #D-38417.
10. "EASEMENT PLAN TAX MAP 229 - LOT 1 HARLON P. WILLIS REVOCABLE TRUST AND JEAN P. WILLIS REVOCABLE TRUST TO THE CITY OF PORTSMOUTH 437 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED OCTOBER 26, 2015, WITH REVISION 1 DATED 10/26/2015. RCRD PLAN #D-40626.
11. "EASEMENT PLAN TAX MAP 229 - LOT 5 KRISTEN M. CHASE AND CHRISTOPHER M. CHASE TO THE CITY OF PORTSMOUTH 34 ARTWILL AVENUE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED JANUARY 20, 2016, WITH REVISION 2 DATED 12/2/2016. RCRD PLAN #D-40627.
12. "INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE IN THE CITY OF PORTSMOUTH ROCKINGHAM COUNTY STATE OF NEW HAMPSHIRE PREPARED FOR CITY OF PORTSMOUTH DEPT OF PUBLIC WORKS" BY GREENMAN-PEDERSON, INC., DATED 12/22/17.

EASEMENT NOTES:

1. MAP 229 LOT 1 IS SUBJECT TO PERMANENT EASEMENTS FOR THE INSTALLATION & MAINTENANCE OF A PUBLIC SIDEWALK AND FOR THE INSTALLATION & MAINTENANCE OF TRAFFIC SIGNAL EQUIPMENT. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 1 & 3).
2. MAP 229 LOT 1 IS SUBJECT TO TEMPORARY EASEMENTS FOR THE PURPOSE OF INSTALLING AND MAINTAINING A SIDEWALK. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 2 & 4).
3. MAP 229 LOT 1 IS SUBJECT TO RIGHTS OVER A PORTION OF THE PREMISES SHOWN AS "ARTWILL AVENUE" GRANTED TO MAP 229 LOT 2 FOR THE PURPOSES OF INGRESS & EGRESS, CONNECTION TO A 2 INCH WATERLINE AND THE EXTENSION THEREOF, CONNECTION TO THE CITY SEWER ON LAFAYETTE ROAD AND THE RIGHT TO FIRST REFUSAL TO PURCHASE A 50 FOOT STRIP OF LAND. SEE RCRD BK.1848 PG. 128.
4. MAP 229 LOT 1 HAS THE BENEFIT OF A 20' WIDE SEWER EASEMENT FOR REPAIR AND MAINTENANCE ACROSS LAND OF MAP 229 LOT 4. SEE RCRD BK. 6236 PG. 731 AND PLAN REFERENCE 6.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN OCTOBER, 2021. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.
I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

DIG SAFE
811 IT'S THE LAW
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

20 10 0 20
Graphic Scale in Feet

LICENSED LAND SURVEYOR _____ DATE _____

REV.	DATE	DESCRIPTION	DR	CK

TAX MAP 229 LOT 1
EXISTING CONDITIONS PLAN
SMITHFIELD CONSTRUCTION
437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
ARTWILL, LLC

SCALE: 1" = 20' (22x34)
1" = 40' (11x17)
MARCH 1, 2022

Seacoast Division
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.tfmoran.com

FILE	DR	FB	
45407-120	CK	CADFILE	S-1

Mar 01, 2022 - 2:30pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Carlson Survey\Dwgs\45407-120 Survey.dwg

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TEST PIT LOG

SITE: 437 LAFAYETTE ROAD, PORTSMOUTH, NH
LOGGED BY: PAUL O'HANLON, TFM, INC.
DATE: 1/25/2022

Test Pit #1:

0–13" 10YR 5/3 BROWN, LOAM, MASSIVE, FRIABLE, ANTHROPOGENIC FILL (ASPHALT, BRICK)
13–20" AB 10YR 7/6 YELLOW, LOAM, BLOCKY, FRIABLE, GRAVELY <5% ROCK (IRON STONE)
20–55" B1 GLEY 1 7N GRAY, SANDY LOAM, MASSIVE, PLIABLE
55– 65" B2 10YR 5/1 GRAY, COARSE SAND, FRIABLE, MASSIVE, > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
REDOX @ 20" 10YR 7/8 COMMON DISTINCT >15%
SOIL SERIES: WALPOLE
EST WET: 20" BELOW GRADE
OBS WT: 39" BELOW GRADE (APPARENT →)
LEDGE: > 65" BELOW GRADE

Test Pit #2:

0–15"A 10YR 4/3 BROWN, LOAM, MASSIVE
15–17" 10YR 7/6 YELLOW, SANDY LOAM, FRIABLE, GRANULAR
17–27" GLEY 1 7/N LIGHT GRAY, SANDY LOAM, FRIABLE, GRANULAR
27–52" 10YR 6/8 BROWNISH YELLOW, LOAM, FRIABLE, MASSIVE
52–77" 10YR 5/1 GRAY, COURSE SAND, FRIABLE, GRAVELY, GRANULAR
REDOX @ 26" 10YR 7/8 COMMON DISTINCT
SOIL SERIES: WALPOLE
EST WET: 26" BELOW GRADE
OBS WT: 51" BELOW GRADE (APPARENT ↑)
LEDGE: 77" BELOW GRADE

Test Pit #3:

0–16" 10YR 4/3 BROWN, LOAM, AGGREGATED, FRIABLE
16–27" 10YR 6/6 BROWNISH YELLOW, LOAM, AGGREGATED, FRIABLE, GRAVELY >5%
27–52" 10YR 7/2 LIGHT GRAY, LOAMY SAND, AGGREGATED, FRIABLE GRAVELY >15%
52–84" 10YR 8/1 WHITE, SANDY CLAY LOAM, PLATEY, INDURATE
REDOX @: 41" 10YR 7/8 COMMON DISTINCT >15%
SOIL SERIES: CANTON – CHATFIELD COMPLEX
EST WET: 41" BELOW GRADE
OBS WT: 84" BELOW GRADE (APPARENT ↘)
LEDGE: 84" BELOW GRADE

Test Pit #4:

0–18" 10YR 5/4 YELLOWISH BROWN, LOAM, FRIABLE, AGGREGATE
18–27" 10YR 6/6 BROWNISH YELLOW, SANDY LOAM, GRAVELY >5%, FRIABLE, AGGREGATE
27–37" 10YR 6/2 LIGHT BROWNISH GREY, LOAMY SAND, > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
37–65" 10YR 7/8 YELLOW, DECAYING BEDROCK, ANGULAR COBBLE, IRON STONE
REDOX @: 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CHATFIELD
EST WET: 37" BELOW GRADE
OBS WT: 56" BELOW GRADE (APPARENT ↑)
LEDGE: 65" BELOW GRADE

Test Pit #5:

0–10" 10YR 4/3 BROWN, LOAMY SAND, AGGREGATE, FRIABLE, GRAVELY >5%
10–31" 10YR 5/4 YELLOWISH BROWN, COURSE SAND, GRANULAR, FRIABLE, GRAVELY >15%
31–57" GLEY 1 5/N GRAY, CLAY, DECAYED BEDROCK, BOULDERS >5%, MASSIVE
REDOX @: 31" 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CHATFIELD – MAYBID COMPLEX
EST WET: 31" BELOW GRADE
OBS WT: > 57"
LEDGE: 57" BELOW GRADE

TEST PIT LOG

SITE: 437 LAFAYETTE ROAD, PORTSMOUTH, NH
LOGGED BY: PAUL O'HANLON, TFM, INC.
DATE: 1/25/2022

Test Pit #6:

0–12" 10YR 4/3 BROWN, SANDY LOAM, AGGREGATE, FRIABLE
12–16" 10YR 7/2 LIGHT GRAY, SAND, GRANULAR, FRIABLE, GRAVELY >5%
16–28" 10YR 7/1 LIGHT GRAY, FINE SAND, GRANULAR, FRIABLE
28–42" 10YR 7/3 VERY PALE BROWN, SANDY LOAM, AGGREGATE, FRIABLE, HETEROGENEOUS
42–47" GLEY 1 5/5G–1 GREENISH GRAY, SANDY CLAY LOAM, PLATEY, INDURATE
47–96" GLEY 2 8/5BG LIGHT GREENISH GRAY, CLAY, MASSIVE, INDURATE, HOMOGENEOUS
REDOX @42" 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CANTON COMPLEX (ANTHROPOGENIC)
EST WET: 42" BELOW GRADE
OBS WT: 79" BELOW GRADE (APPARENT →)
LEDGE: > 96"

Test Pit #7:

0–18" 10YR 4/2 DARK GRAYISH BROWN, SANDY LOAM, FRIABLE, BLOCKY
18–42" 10YR 7/4 VERY PALE BROWN, FINE SAND, GRANULAR, FRIABLE
42–54" 10YR 6/6 BROWNISH YELLOW, COURSE SAND, GRANULAR, FRIABLE
54–65" 10YR 5/8 YELLOWISH BROWN, SANDY LOAM, HETEROGENEOUS, FRIABLE
65–72" GLEY 2 4/10B DARK BLUEISH GRAY, SANDY CLAY LOAM, PLATEY, INDURATE
72–102" GLEY 2 7/10B LIGHT BLUEISH GRAY, CLAY, MASSIVE, INDURATE
REDOX @ 57" 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CANTON COMPLEX (ANTHROPOGENIC)
EST WET: 57" BELOW GRADE
OBS WT: 93" BELOW GRADE (APPARENT ↑)
LEDGE: >102"

Test Pit #8:

0–14" 10YR 4/2 DARK GRAYISH BROWN, LOAMY SAND, FRIABLE, BLOCKY
14–42" 10YR 7/4 VERY PALE BROWN, FINE SAND, AGGREGATE, FRIABLE, > 15% COBBLE RIVER STONE
42–50" GLEY 1 5/5G_/1 GREENISH GRAY, SANDY CLAY LOAM, AQUATARD PRESENT (IRON STONE), MASSIVE, INDURATE
50–55" 10YR 6/4 LIGHT YELLOWISH BROWN, SANDY CLAY LOAM, INCLUSION, HETEROGENEOUS, MASSIVE, INDURATE
55–103" GLEY 2 8/5BG LIGHT GREENISH GRAY, CLAY, INDURATE, MASSIVE
REDOX @ 42 5R 3/8 COMMON DISTINCT >15% (AQUATARD (POTENTIALLY ANTHROPOGENIC))
SOIL SERIES: CANTON COMPLEX (ANTHROPOGENIC)
EST WET: 42" BELOW GRADE
OBS WT: 101" BELOW GRADE (APPARENT ↑)
LEDGE: > 103"

Test Pit #9:

0–9"10YR 4/3 BROWN, LOAM, BLOCKY, FRIABLE, GRAVELY >5%
9–23" 10YR 5/6 YELLOWISH BROWN, LOAMY SAND, GRANULAR, , > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
23–54" 10YR 7/2 LIGHT GREY, SANDY LOAM, INDURATE, MASSIVE, HETEROGENEOUS, > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
REDOX @ 5R 4/6 COMMON DISTINCT >15%
SOIL SERIES: WALPOLE
EST WET: 30" BELOW GRADE
OBS WT: > 54"
LEDGE: 54" BELOW GRADE

TEST PIT LOG

SITE: 437 LAFAYETTE ROAD, PORTSMOUTH, NH
LOGGED BY: PAUL O'HANLON, TFM, INC.
DATE: 2/1/2022

Test Pit #10:

0–12" 10YR 4/4 DARK YELLOWISH BROWN, LOAMY SAND, BLOCKY, FRIABLE, COBBLE >15%, HOMOGENEOUS SOIL
12–23" 10YR 6/3 PALE BROWN, SANDY LOAM, AGGREGATE, FRIABLE, COBBLE >15%, HOMOGENEOUS SOIL
23–36" 10YR 6/2 LIGHT BROWNISH GREY, COURSE SAND, GRANULAR, HETEROGENEOUS, COBBLE >15%, VERY COURSE PARTICLES <5%
36–66" 10YR 5/4 YELLOWISH BROWN, LOAMY SAND, MASSIVE, INDURATE > 25% ANGULAR ROCK FRAGMENT (IRON STONE)
66–76" 10YR 5/4 YELLOWISH BROWN, SANDY LOAM, MASSIVE, INDURATE, DECAYING LEDGE, > 55% ANGULAR ROCK FRAGMENT (IRON STONE)
REDOX @ 52 – 58 10YR 5/6 COMMON DISTINCT >15%
SOIL SERIES: CANTON – WALPOLE COMPLEX
EST WET: 52" BELOW GRADE
OBS WT: >76"
LEDGE: 76" BELOW GRADE

REV.	DATE	DESCRIPTION	DR	CK

TAX MAP 229 LOT 1

TEST PITS LOGS

SMITHFIELD CONSTRUCTION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

OWNED BY

ARTWILL, LLC

SCALE: N.T.S.

MARCH 1, 2022

Seacoast Division

TFM

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
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FILE	45407-120	DR		FB		S-2
		CK		CADFILE		

Mar 01, 2022 - 2:31pm
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Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-3 - Back Yard of Lot 3 - Hole #1

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 45.0 cm
Depth to Impervious Layer or ESHWT = 104.1 cm 41 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	26.5	-	-		-	-	-	-	-	-	-	-			
2	0.5	20	0.000753	25.5	1.0	0.008	1	20	2400	1.8072	0.711	59.1	0.000753	0.0006	1.808	0.712	1.337	0.526
3	1	20	0.000753	24.9	0.6	0.008	1	20	1440	1.08432	0.427	59.1	0.000753	0.0006	1.085	0.427	0.802	0.316
4	1.5	20	0.000753	24.2	0.7	0.008	1	20	1680	1.26504	0.498	59.1	0.000753	0.0006	1.266	0.498	0.936	0.368
5	2	20	0.000753	23.5	0.7	0.008	1	20	1680	1.26504	0.498	59.1	0.000753	0.0006	1.266	0.498	0.936	0.368
6	2.5	20	0.000753	22.8	0.7	0.008	1	20	1680	1.26504	0.498	59.1	0.000753	0.0006	1.266	0.498	0.936	0.368
7	3	20	0.000753	22.2	0.6	0.008	1	20	1440	1.08432	0.427	59.1	0.000753	0.0006	1.085	0.427	0.802	0.316
8	3.5	20	0.000753	21.7	0.5	0.008	1	20	1200	0.9036	0.356	59.1	0.000753	0.0006	0.904	0.356	0.668	0.263
Average Ksat based on readings 2-7											0.470					0.470		0.347

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-3 - Back Yard of Lot 3 - Hole #2

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 52.0 cm
Depth to Impervious Layer or ESHWT = 104.1 cm 41 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	27	-	-		-	-	-	-	-	-	-	-			
2	0.5	16	0.001057	25.4	1.6	0.008	1	20	3840	4.05888	1.5980	52.1	0.001057	0.0007	4.058	1.5974	2.794	1.100
3	1	16	0.001057	24.5	0.9	0.008	1	20	2160	2.28312	0.8989	52.1	0.001057	0.0007	2.282	0.899	1.571	0.619
4	1.5	16	0.001057	23.4	1.1	0.008	1	20	2640	2.79048	1.0986	52.1	0.001057	0.0007	2.790	1.0982	1.921	0.756
5	2	16	0.001057	22.5	0.9	0.008	1	20	2160	2.28312	0.8989	52.1	0.001057	0.0007	2.282	0.899	1.571	0.619
6	2.5	16	0.001057	21.6	0.9	0.008	1	20	2160	2.28312	0.8989	52.1	0.001057	0.0007	2.282	0.899	1.571	0.619
7	3	16	0.001057	20.7	0.9	0.008	1	20	2160	2.28312	0.8989	52.1	0.001057	0.0007	2.282	0.899	1.571	0.619
8	3.5	16	0.001057	19.9	0.8	0.008	1	20	1920	2.02944	0.7990	52.1	0.001057	0.0007	2.029	0.799	1.397	0.550
Average Ksat based on readings 2,4-8											0.8789					0.879		0.605

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-3 - Back Yard of Lot 3 - Hole #3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 46.0 cm
Impervious Layer or ESHWT = 104.1 cm 41 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	42.0	-	-		-	-	-	-	-	-	-	-			
2	0.5	19	0.000815	40.8	1.2	0.008	1	20	2880	2.3472	0.924	58.1	0.000815	0.0006	2.347	0.924	1.694	0.667
3	1	19	0.000815	39.9	0.9	0.008	1	20	2160	1.7604	0.693	58.1	0.000815	0.0006	1.760	0.693	1.271	0.500
4	1.5	19	0.000815	39.0	0.9	0.008	1	20	2160	1.7604	0.693	58.1	0.000815	0.0006	1.760	0.693	1.271	0.500
5	2	19	0.000815	38.0	1.0	0.008	1	20	2400	1.956	0.770	58.1	0.000815	0.0006	1.956	0.770	1.412	0.556
6	2.5	19	0.000815	37.2	0.8	0.008	1	20	1920	1.5648	0.616	58.1	0.000815	0.0006	1.565	0.616	1.129	0.445
7	3	19	0.000815	36.4	0.8	0.008	1	20	1920	1.5648	0.616	58.1	0.000815	0.0006	1.565	0.616	1.129	0.445
8	3.5	19	0.000815	35.6	0.8	0.008	1	20	1920	1.5648	0.616	58.1	0.000815	0.0006	1.565	0.616	1.129	0.445
											0.724					0.724		0.522

* NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read
H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Hole #1	0.5
Hole #2	0.9
Hole #3	0.7
Average	**0.7**

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 4/25/2024
Location: TP-4 Between Lots 2 and 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 46.0 cm
Depth to Impervious Layer or ESHWT = 94.0 cm 37 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	33.0	-	-		-	-	-	-	-	-	-	-			
2	1	14	0.001288	32.4	0.6	0.017	1	20	720	0.92736	0.3651	48.0	0.001288	0.0009	0.928	0.365	0.613	0.241
3	2	14	0.001288	31.8	0.6	0.017	1	20	720	0.92736	0.3651	48.0	0.001288	0.0009	0.928	0.365	0.613	0.241
4	3	14	0.001288	31.3	0.5	0.017	1	20	600	0.7728	0.3043	48.0	0.001288	0.0009	0.773	0.304	0.511	0.201
5	4	14	0.001288	30.8	0.5	0.017	1	20	600	0.7728	0.3043	48.0	0.001288	0.0009	0.773	0.304	0.511	0.201
6	5	14	0.001288	30.4	0.4	0.017	1	20	480	0.61824	0.2434	48.0	0.001288	0.0009	0.618	0.243	0.409	0.161
7	6	14	0.001288	22.2	8.2	0.017	1	20	9840	12.67392	4.9897	48.0	0.001288	0.0009	12.677	4.991	8.381	3.300
Average Ksat based on readings 1-6											0.3164					0.316		0.724

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-4 Between Lots 2 and 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 38.0 cm
Depth to Impervious Layer or ESHWT = 94.0 cm 37 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s*	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	27.2	-	-		-	-	-	-	-	-	-	-			
2	2	15	0.001163	26.5	0.7	0.033	1	20	420	0.48846	0.1923	56.0	0.001163	0.0007	0.489	0.192	0.305	0.120
3	4	15	0.001163	26	0.5	0.033	1	20	300	0.3489	0.1374	56.0	0.001163	0.0007	0.349	0.137	0.218	0.086
4	6	15	0.001163	25.9	0.1	0.033	1	20	60	0.06978	0.0275	56.0	0.001163	0.0007	0.070	0.027	0.044	0.017
5	8	15	0.001163	25.4	0.5	0.033	1	20	300	0.3489	0.1374	56.0	0.001163	0.0007	0.349	0.137	0.218	0.086
Average Ksat based on readings 1-3											0.1648					0.165		0.103

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer (ESHW - Depth of Auger Hole in cm)

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 4/25/2024
Location: TP-4 Between Lots 2 and 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 43.0 cm
Impervious Layer or ESHWT = 94.0 cm 37 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	37.0	-	-		-	-	-	-	-	-	-	-			
2	1	15	0.001163	36.0	1.0	0.017	1	20	1200	1.3956	0.549	51.0	0.001163	0.0008	1.396	0.550	0.931	0.367
3	2	15	0.001163	35.5	0.5	0.017	1	20	600	0.6978	0.275	51.0	0.001163	0.0008	0.698	0.275	0.466	0.183
4	3	15	0.001163	35.0	0.5	0.017	1	20	600	0.6978	0.275	51.0	0.001163	0.0008	0.698	0.275	0.466	0.183
5	4	15	0.001163	34.5	0.5	0.017	1	20	600	0.6978	0.275	51.0	0.001163	0.0008	0.698	0.275	0.466	0.183
6	5	15	0.001163	34.0	0.5	0.017	1	20	600	0.6978	0.275	51.0	0.001163	0.0008	0.698	0.275	0.466	0.183
Average Ksat based on readings 3-6											0.275					0.275		0.183

* NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read
H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Hole #1	0.3
Hole #2	0.2
Hole #3	0.3
Average	**0.3**

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP 5 - SE Corner of Lot 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 32.0 cm
Depth to Impervious Layer or ESHWT = 78.7 cm 31 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s*	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	46.8	-	-		-	-	-	-	-	-	-	-			
2	2	11	0.00182817	44.5	2.3	0.033	2	105	7245	13.24512	5.2146	46.7	0.001827	0.0010	13.238	5.212	7.368	2.901
3	3	11	0.00182817	43.8	0.7	0.017	2	105	4410	8.062249	3.1741	46.7	0.001827	0.0010	8.058	3.173	4.485	1.766
4	4	11	0.00182817	43.3	0.5	0.017	2	105	3150	5.75875	2.2672	46.7	0.001827	0.0010	5.756	2.266	3.203	1.261
5	5	11	0.00182817	42.8	0.5	0.017	2	105	3150	5.75875	2.2672	46.7	0.001827	0.0010	5.756	2.266	3.203	1.261
6	6	11	0.00182817	42.2	0.6	0.017	2	105	3780	6.910499	2.7207	46.7	0.001827	0.0010	6.907	2.719	3.844	1.513
Average Ksat based on readings 3-6											2.6073					2.606		1.450

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer (ESHW - Depth of Auger Hole in cm)

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP 5 - SE Corner of Lot 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 37.0 cm
Depth to Impervious Layer or ESHWT = 78.7 cm 31 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	32.7	-	-		-	-	-	-	-	-	-	-			
2	1	16	0.001057	31.8	0.9	0.017	2	105	5670	5.99319	2.360	41.7	0.001057	0.0008	5.991	2.359	4.778	1.881
3	2	16	0.001057	31.1	0.7	0.017	2	105	4410	4.66137	1.835	41.7	0.001057	0.0008	4.660	1.835	3.716	1.463
4	3	16	0.001057	30.2	0.9	0.017	2	105	5670	5.99319	2.360	41.7	0.001057	0.0008	5.991	2.359	4.778	1.881
5	4	16	0.001057	29.4	0.8	0.017	2	105	5040	5.32728	2.097	41.7	0.001057	0.0008	5.325	2.097	4.247	1.672
6	5	16	0.001057	28.7	0.7	0.017	2	105	4410	4.66137	1.835	41.7	0.001057	0.0008	4.660	1.835	3.716	1.463
7	6	16	0.001057	28	0.7	0.017	2	105	4410	4.66137	1.835	41.7	0.001057	0.0008	4.660	1.835	3.716	1.463
Average Ksat based on readings											2.054					2.053		1.637

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Hole #1	2.6
Hole #2	2.1
Average	**2.4**

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-7 Back of Lot 1

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 28.0 cm
Depth to Impervious Layer or ESHWT = 236.2 cm 93 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	26.0	-	-		-	-	-	-	-	-	-	-			
2	1	12	0.0016137	24.8	1.2	0.017	2	105	7560	12.19959	4.8030	208.2	0.001613	0.0003	12.193	4.801	2.086	0.821
3	2	12	0.0016137	24.1	0.7	0.017	2	105	4410	7.11643	2.8017	208.2	0.001613	0.0003	7.113	2.800	1.217	0.479
4	3	12	0.0016137	23.3	0.8	0.017	2	105	5040	8.133062	3.2020	208.2	0.001613	0.0003	8.129	3.200	1.391	0.547
5	4	12	0.0016137	22.5	0.8	0.017	2	105	5040	8.133062	3.2020	208.2	0.001613	0.0003	8.129	3.200	1.391	0.547
6	5	12	0.0016137	21.8	0.7	0.017	2	105	4410	7.11643	2.8017	208.2	0.001613	0.0003	7.113	2.800	1.217	0.479
7	6	12	0.0016137	20.9	0.9	0.017	2	105	5670	9.149695	3.6022	208.2	0.001613	0.0003	9.145	3.600	1.564	0.616
Average Ksat based on readings 3-7											3.1219					3.120		0.534

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-7 Back of Lot 1

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 36.0 cm
Depth to Impervious Layer or ESHWT = 236.2 cm 93 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s*	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	15.5	-	-		-	-	-	-	-	-	-	-			
2	1	8	0.00284801	14.5	1.0	0.017	2	105	6300	17.94247	7.0640	200.2	0.002847	0.0003	17.933	7.060	2.061	0.811
3	2	8	0.00284801	13.7	0.8	0.017	2	105	5040	14.35398	5.6512	200.2	0.002847	0.0003	14.347	5.648	1.649	0.649
4	3	8	0.00284801	12.8	0.9	0.017	2	105	5670	16.14822	6.3576	200.2	0.002847	0.0003	16.140	6.354	1.855	0.730
5	4	8	0.00284801	12.2	0.6	0.017	2	105	3780	10.76548	4.2384	200.2	0.002847	0.0003	10.760	4.236	1.236	0.487
6	5	8	0.00284801	11.5	0.7	0.017	2	105	4410	12.55973	4.9448	200.2	0.002847	0.0003	12.553	4.942	1.443	0.568
7	6	8	0.00284801	10.8	0.7	0.017	2	105	4410	12.55973	4.9448	200.2	0.002847	0.0003	12.553	4.942	1.443	0.568
Average Ksat based on readings 3-7											5.2273					5.225		0.600

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer (ESHW - Depth of Auger Hole in cm)

Project No: 45407.12 Date: 1/25/2022

Project Name: 437 Lafatette Road - Portsmouth, NH Location: TP-7 Back of Lot 1

For 5 cm Auger

A of Auger Hole = 19.6 cm^2

Radius of Hole = 2.5 cm

Depth of Auger Hole = 34 cm

Impervious Layer or ESHWT = 236.2 cm 93 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	38.5	-	-		-	-	-	-	-	-	-	-			
2	1	8.5	0.00262191	37.9	0.6	0.017	2	105	3780	9.910837	3.902	202.2	0.002621	0.0003	9.906	3.900	1.209	0.476
3	2	8.5	0.00262191	37.1	0.8	0.017	2	105	5040	13.21445	5.203	202.2	0.002621	0.0003	13.208	5.200	1.612	0.635
4	3	8.5	0.00262191	36.4	0.7	0.017	2	105	4410	11.56264	4.552	202.2	0.002621	0.0003	11.557	4.550	1.410	0.555
5	4	8.5	0.00262191	35.7	0.7	0.017	2	105	4410	11.56264	4.552	202.2	0.002621	0.0003	11.557	4.550	1.410	0.555
6	6	8.5	0.00262191	34.5	1.2	0.033	2	105	3780	9.910837	3.902	202.2	0.002621	0.0003	9.906	3.900	1.209	0.476
Average Ksat based on readings 3-6											4.552					4.550		0.555

* NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water

A Coefficient A from CCHP Manual - Approximate for Glover Solution

d Distinance from top of water to outflow of CCHP (D-H)

A1 Calculated Coefficient A for Glover Solution (H>2s)

B1 Calculated Coefficient A for Glover Solution (H<2s)

s Distance from bottom of auger hole to impereable layer

Hole #1	3.1
Hole #2	5.2
Hole #3	4.6
Average	**4.3**

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-10 Back of Lot 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 34.0 cm
Depth to Impervious Layer or ESHWT = 159.0 cm 63 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	34.5	-	-		-	-	-	-	-	-	-	-			
2	1	20	0.00075386	33.3	1.2	0.017	1	20	1440	1.085555	0.4274	125.0	0.000753	0.0003	1.085	0.427	0.461	0.182
3	2	20	0.00075386	31.5	1.8	0.017	1	20	2160	1.628332	0.6411	125.0	0.000753	0.0003	1.628	0.641	0.692	0.272
4	3	20	0.00075386	30.0	1.5	0.017	1	20	1800	1.356944	0.5342	125.0	0.000753	0.0003	1.356	0.534	0.576	0.227
5	4	20	0.00075386	28.5	1.5	0.017	1	20	1800	1.356944	0.5342	125.0	0.000753	0.0003	1.356	0.534	0.576	0.227
5	5	20	0.00075386	27.0	1.5	0.017	1	20	1800	1.356944	0.5342	125.0	0.000753	0.0003	1.356	0.534	0.576	0.227
Average Ksat based on readings 3-7											0.5609					0.561		0.238

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-10 Back of Lot 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 46.0 cm
Depth to Impervious Layer or ESHWT = 159.0 cm 63 in (From Ground Surface

										Approximate Glover Solution		Glover Solution						
															if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow	Saturated Hydraulic Conductivity (K_{sat})		s*	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr	cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	42	-	-		-	-	-	-	-	-	-	-			
2	0.5	26	0.00050145	37.9	4.1	0.008	1	20	9840	4.934274	1.9426	113.0	0.000501	0.0003	4.932	1.942	2.783	1.096
3	1	26	0.00050145	34.4	3.5	0.008	1	20	8400	4.212185	1.6583	113.0	0.000501	0.0003	4.210	1.657	2.376	0.935
4	1.5	26	0.00050145	31.8	2.6	0.008	1	20	6240	3.129052	1.2319	113.0	0.000501	0.0003	3.127	1.231	1.765	0.695
5	2	26	0.00050145	29.8	2.0	0.008	1	20	4800	2.406963	0.9476	113.0	0.000501	0.0003	2.406	0.947	1.358	0.535
6	2.5	26	0.00050145	28.2	1.6	0.008	1	20	3840	1.92557	0.7581	113.0	0.000501	0.0003	1.925	0.758	1.086	0.428
7	3	26	0.00050145	26.6	1.6	0.008	1	20	3840	1.92557	0.7581	113.0	0.000501	0.0003	1.925	0.758	1.086	0.428
8	3.5	26	0.00050145	25.4	1.2	0.008	1	20	2880	1.444178	0.5686	113.0	0.000501	0.0003	1.443	0.568	0.815	0.321
9	4	26	0.00050145	24.2	1.2	0.008	1	20	2880	1.444178	0.5686	113.0	0.000501	0.0003	1.443	0.568	0.815	0.321
10	4.5	26	0.00050145	23	1.2	0.008	1	20	2880	1.444178	0.5686	113.0	0.000501	0.0003	1.443	0.568	0.815	0.321
Average Ksat based on readings 3-7											0.6444					0.644		0.363

NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read

H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer (ESHW - Depth of Auger Hole in cm)

Project No: 45407.12
Project Name: 437 Lafatette Road - Portsmouth, NH

Date: 1/25/2022
Location: TP-10 Back of Lot 3

For 5 cm Auger

A of Auger Hole = 19.6 cm^2
Radius of Hole = 2.5 cm
Depth of Auger Hole = 32 cm
Impervious Layer or ESHWT = 159.0 cm 63 in (From Ground Surface

											Approximate Glover Solution		Glover Solution						
																if s>2H		if s<2H	
Reading #	Time Interval	H	Coefficient A	Reading	Δ	Elapsed Time	# On Azm	Conv. Factor (Area)	Outflow		Saturated Hydraulic Conductivity (K_{sat})		s	A1	B1	Saturated Hydraulic Conductivity (K_{sat})		Saturated Hydraulic Conductivity (K_{sat})	
	min	cm	l/cm	cm	cm	hrs	cm	cm^3	cm^3/hr		cm/hr	in/hr	cm			cm/hr	in/hr	cm/hr	in/hr
1	0	-	-	35.0	-	-		-	-		-	-	-	-	-	-			
2	0.5	14	0.001288	33.4	1.6	0.008	1	20	3840		4.94592	1.947	127.0	0.001288	0.0004	4.947	1.948	1.524	0.600
3	1	14	0.001288	32.6	0.8	0.008	1	20	1920		2.47296	0.974	127.0	0.001288	0.0004	2.474	0.974	0.762	0.300
4	1.5	14	0.001288	31.8	0.8	0.008	1	20	1920		2.47296	0.974	127.0	0.001288	0.0004	2.474	0.974	0.762	0.300
5	2	14	0.001288	31.1	0.7	0.008	1	20	1680		2.16384	0.852	127.0	0.001288	0.0004	2.164	0.852	0.667	0.263
6	2.5	14	0.001288	30.4	0.7	0.008	1	20	1680		2.16384	0.852	127.0	0.001288	0.0004	2.164	0.852	0.667	0.263
7	3	14	0.001288	29.6	0.8	0.008	1	20	1920		2.47296	0.974	127.0	0.001288	0.0004	2.474	0.974	0.762	0.300
8	3.5	14	0.001288	28.9	0.7	0.008	1	20	1680		2.16384	0.852	127.0	0.001288	0.0004	2.164	0.852	0.667	0.263
Average Ksat based on readings 3-6												0.913					0.913		0.281

* NOTE: Could not keep a steady H reading in the Hole - Infiltrating beyond equipment ability to read
H Steady Head (amount of water in auger hole from bottom of the hole to the surface of the water
A Coefficient A from CCHP Manual - Approximate for Glover Solution
d Distinance from top of water to outflow of CCHP (D-H)
A1 Calculated Coefficient A for Glover Solution (H>2s)
B1 Calculated Coefficient A for Glover Solution (H<2s)
s Distance from bottom of auger hole to impereable layer

Hole #1	0.6
Hole #2	0.6
Hole #3	0.9
Average	**0.7**

APPENDIX J – NHDES ONE STOP DATAMAPPER

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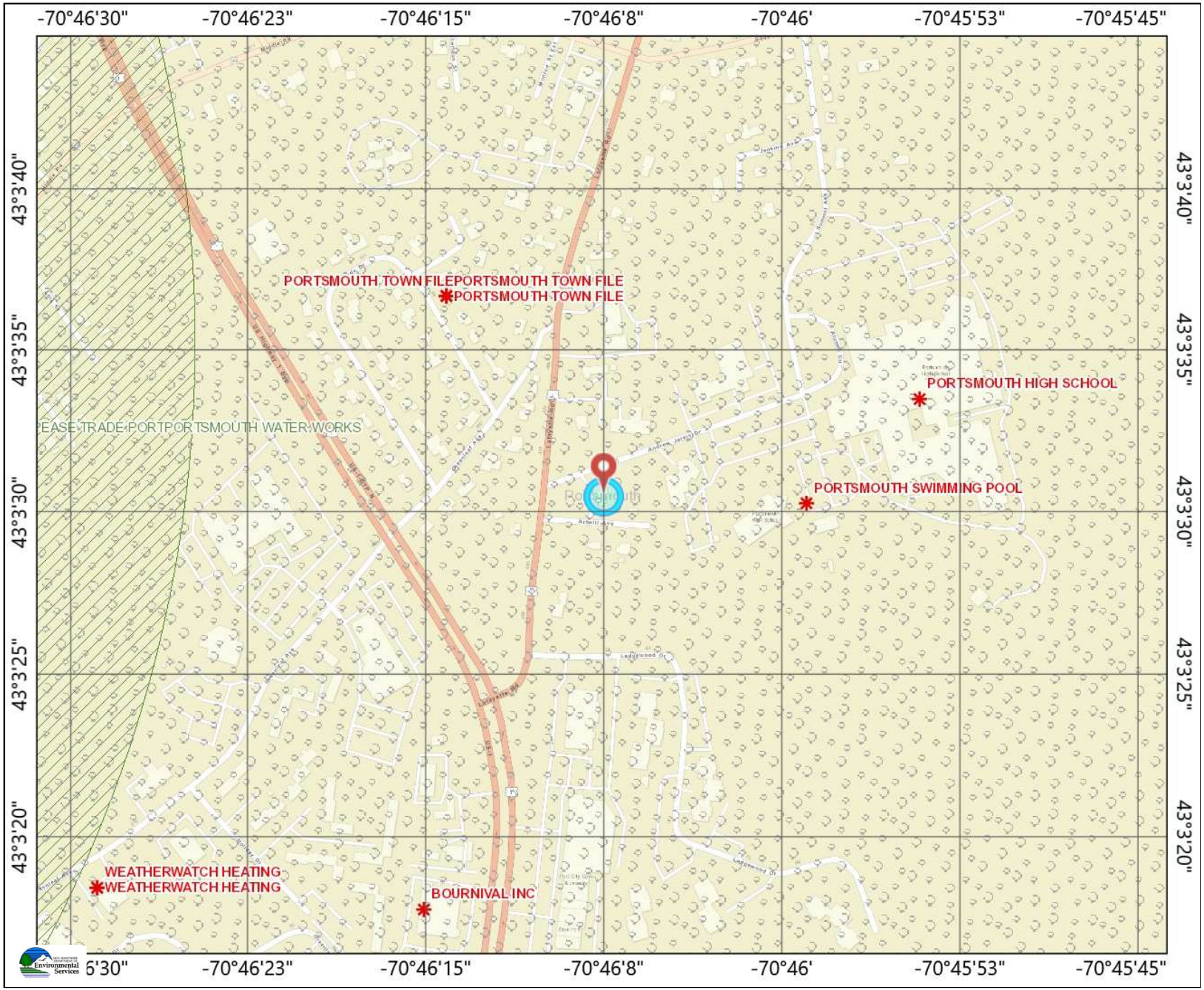
437 Lafayette Road - AoT Screening Layers



Legend

- Remediation Sites
- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification / GA1
- Groundwater Classification / GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarte Buffer
- Class A - All Features
- All Lakes, with a Quarter Mil Buffer
- Outstanding Resource Wate Watersheds
- Surface Waters with Impairn 2016 with Quarter Mile Buffe
- Watersheds with Chloride Impairments 2016

Map Scale

1: 5,000

Map Generated: 1/25/2022

Notes

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APPENDIX K - PRE AND POST-DEVELOPMENT DRAINAGE PLANS

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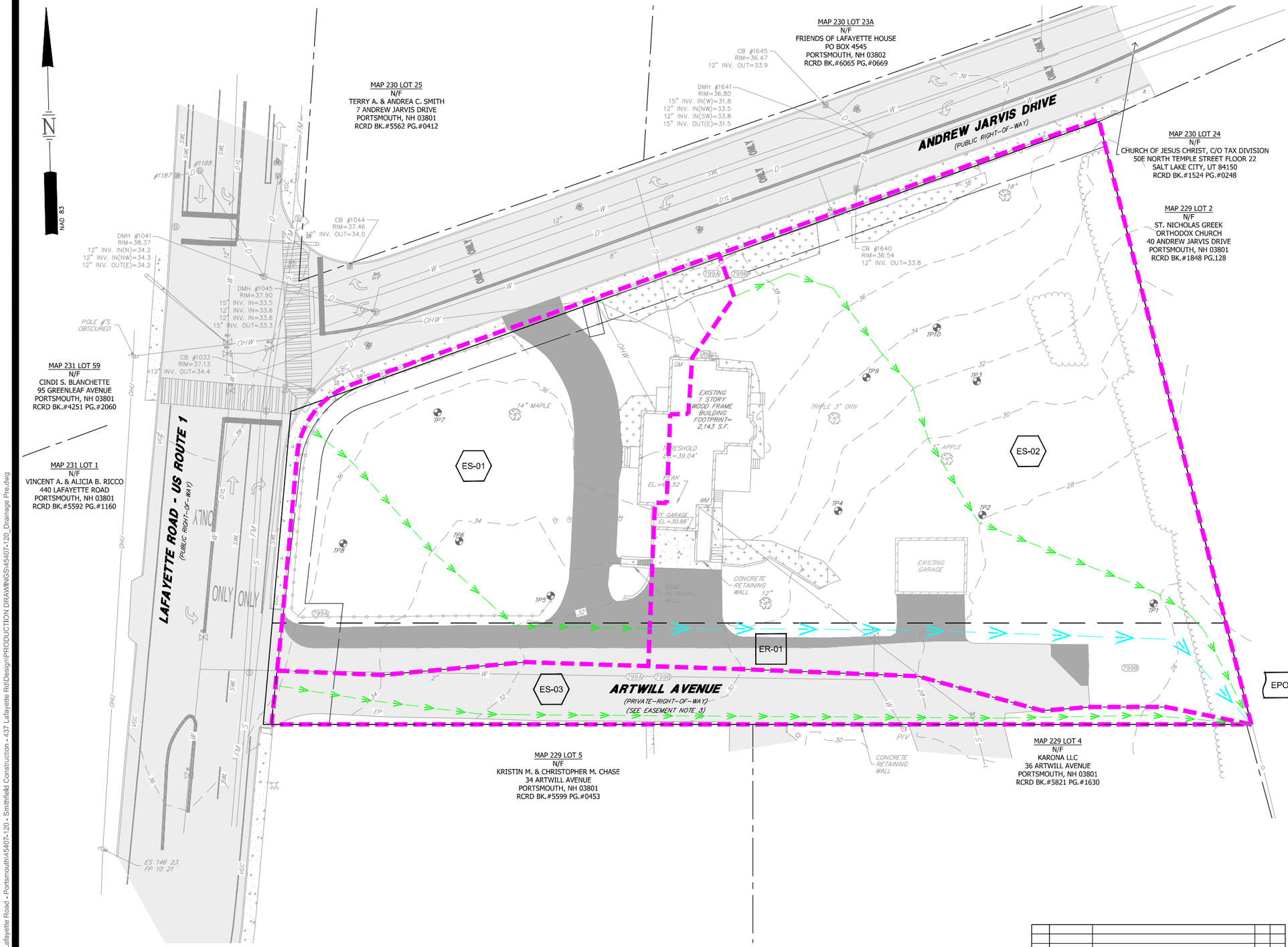

LEGEND

- PROPERTY LINE
- LIMITS OF DRAINAGE SUBCATCHMENT
- XXX — SOIL GROUP BREAKLINE
- FLOW PATH (Tc LINE)
- REACH
- EPOI-01 — EXISTING POINT OF INTEREST
- ES-1 — EXISTING SUBCATCHMENT AREA
- ER-1 — EXISTING REACH

SOIL LEGEND (PER SITE SPECIFIC SOIL SURVEY)

SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP
799*	UBRAN LAND-CANTON COMPLEX 3% - 15% SLOPES	A (BASED ON FIELD INFILTRATION RATES)
799*	UBRAN LAND-CANTON COMPLEX 3% - 15% SLOPES	B (BASED ON FIELD INFILTRATION RATES)

*ENTIRE PROPERTY IDENTIFIED AS URBAN LAND-CANTON COMPLEX.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

PRE-DEVELOPMENT DRAINAGE MAP

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR
ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")

APRIL 19, 2022

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	45407-120	DR	JSM	FB		D-01
		CK	JCC	CADFILE	45407-120_DRAINAGE PRE	

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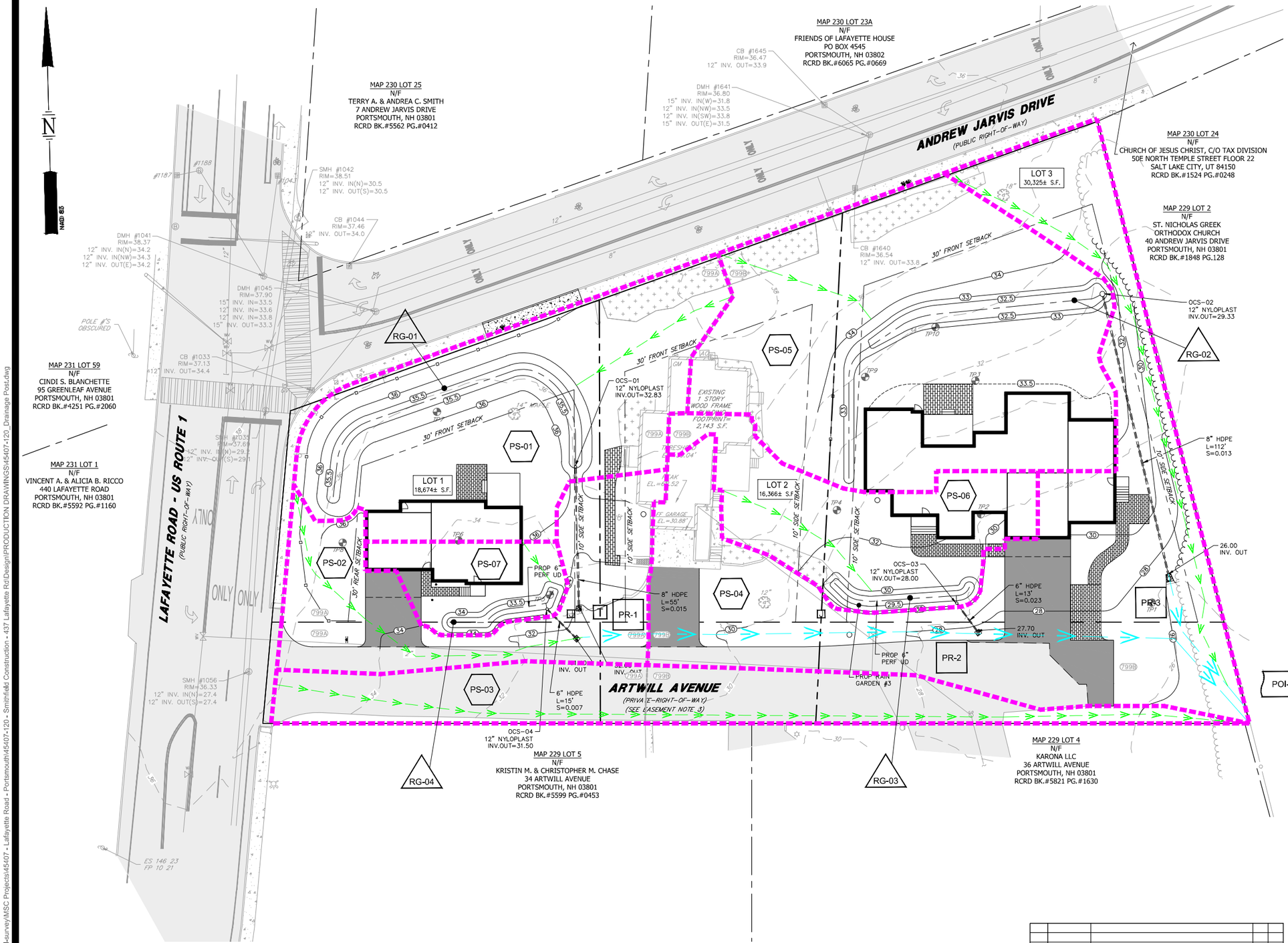

LEGEND

- PROPERTY LINE
- LIMITS OF DRAINAGE SUBCATCHMENT
- XXX — SOIL GROUP BREAKLINE
- FLOW PATH (Tc LINE)
- REACH
- POI-1 — POINT OF INTEREST
- PS-1 — PROPOSED SUBCATCHMENT AREA
- PS-1 — PROPOSED POND
- PR-01 — PROPOSED REACH

SOIL LEGEND (PER SITE SPECIFIC SOIL SURVEY)

SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP
799*	UBRAN LAND-CANTON COMPLEX 3% - 15% SLOPES	A (BASED ON FIELD INFILTRATION RATES)
799*	UBRAN LAND-CANTON COMPLEX 3% - 15% SLOPES	B (BASED ON FIELD INFILTRATION RATES)

*ENTIRE PROPERTY IDENTIFIED AS URBAN LAND-CANTON COMPLEX.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

POST-DEVELOPMENT DRAINAGE MAP

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR
ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")
APRIL 19, 2022

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	45407-120	DR	JSM	FB		D-02
		CK	JCC	CADFILE	45407-120_DRAINAGE POST	

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APPENDIX L – OPERATION AND MAINTENANCE MANUAL

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Project #45407.120

STORMWATER MANAGEMENT SYSTEM OPERATION & MAINENANCE MANUAL

F O R

Proposed 3 Lot Subdivision

437 Lafayette Road
Portsmouth, New Hampshire
Rockingham County

Tax Map 229, Lot 1

April 19, 2022

Prepared By:

TFM Since 1968

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

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Table of Contents

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Maintenance of Property

TFMoran, Inc., has prepared the following Stormwater Management System Operation & Maintenance Plan for Artwill, LLC at 437 Lafayette Road, Portsmouth, New Hampshire. The intent of this plan is to provide the owner (Artwill, LLC), and future property managers/owners of the site with a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this development. This includes all temporary and permanent stormwater and erosion control measures during construction.

Plans

Refer to the Site Development Plans prepared by TFMoran, Inc. for Tax Map 229 Lot 1, Proposed 3 Lot Subdivision, 437 Lafayette Road, Portsmouth, New Hampshire, dated April 19, 2022. See Appendix A in this manual for the "Stormwater Operation and Maintenance Plan" identifying locations of stormwater practices described hereon.

Owner Responsibility

The current owners, and their successors of the property, are required to submit a copy of the Operations and Maintenance Report completed on a yearly basis to the City of Portsmouth Planning Department and Public Works Department by December 31st. The future successor includes but is not limited to the individual lot owners. This report should be prepared by a qualified inspector with working knowledge of the site. The owner shall be responsible for the following inspection and maintenance program which is necessary in order to keep the Stormwater Management System functioning properly. These measures will help reduce potential environmental impacts. By following the enclosed procedures, Artwill, LLC and its successors will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site-generated stormwater runoff.

The owner and future owners are the responsible party for the following record keeping activities further identified in this Operation & Maintenance Manual:

- Conduct reporting, inspection, and maintenance activities in accordance with the "Inspection and Maintenance Checklist Requirements" and if applicable "Regular Inspection and Maintenance Guidance" provided by University of New Hampshire Stormwater Center (UNHSC);
- Document each inspection and maintenance activity with the "Inspection and Maintenance Log" and if applicable "Checklist for Inspection" provided by University of New Hampshire Stormwater Center (UNHSC);
- Photograph each practice that is subject to the "Inspection and Maintenance Checklist Requirements" at each inspection of that stormwater practice;
- Document actions taken if invasive species begin to grow in the stormwater management system; and
- Document each application of deicing material applied to the site with the "Deicing Log"

All record keeping required by the Operation & Maintenance Manual shall be maintained by the responsible party and be made available to the applicable regulatory agencies (i.e. NHDES AoT Bureau, City of Portsmouth, etc.) upon request. Logs and reports required by this Operation & Maintenance Manual should be prepared by a qualified inspector with working knowledge of the site. This manual and associated records shall be transferred to any future owners. All current and future owners must comply with RSA 485-A:17, Env-Wq 1500, the permit, and all conditions contained in the permit.

The following inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. These measures will greatly help to reduce potential environmental impacts. By following the enclosed procedures, Artwill, LLC and its successors will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site-generated stormwater runoff.

General Inspection and Maintenance Requirements

Temporary stormwater, sediment and erosion control measures that require maintenance on the site during construction include, but are not limited to, the following:

- Stabilized construction entrance;
- Silt sock barriers;
- Inlet protection; and
- Construction dumpster area, if used.

Permanent stormwater, sediment and erosion control measures that require maintenance on the site include, but are not limited, to the following:

- Litter/trash removal;
- Dumpster area maintenance;
- Pavement sweeping;
- Surface maintenance related to deicing/plowing;
- Rip-rap protection;
- Bioretention systems;
- Outlet control structures;
- Emergency spillway;
- Catch basins;
- Drip line stone trench; and
- Culvert pipes.

Inspection and Maintenance Checklist Requirements

By implementing the following procedures, current owners will be able to maintain the functional design of the Stormwater Management System and maximize the systems ability to remove sediment and other contaminants from site-generated stormwater runoff. The owner shall conduct inspection and maintenance activities in accordance with the following checklist:

	Frequency	***Inspect***	***Action***
Temporary Controls			
Stabilized Construction Entrance	Weekly	• Inspect adjacent roadway for sediment tracking • Inspect stone for sediment accumulation	• Sweep adjacent roadways as soon as sediment is tracked • Top dress with additional stone when necessary to prevent tracking
Litter/Trash Removal	Routinely	• Inspect site especially construction areas	• Remove debris and clean areas as necessary
Construction Dumpster Area Maintenance (if used)	Routinely	• Dumpster Areas	• Remove any accumulated debris and dispose of properly
Silt Sock Barrier	Weekly	• Inspect accumulated sediment level, rips and tears	• Repair or replace damaged lengths • Remove and dispose accumulated sediment once level reaches 1/3 of barrier
Gravel	Spring and Fall	• Inspect gravel for ruts and depth	• Replace gravel as necessary, regrade as necessary to maintain design grades, remove any accumulated gravel washed from roadway

	Frequency	***Inspect***	***Action***
Permanent Controls			
Rip Rap Outlet Protection	Spring and Fall and after rainstorms exceeding 2.5 inches in 24 hrs	• Inspect for damage or displaced stones • Inspect for torn or visible fabric	• Repair and replace stone and / or fabric immediately • Remove accumulated sediment, trash and blocking materials

	Frequency	***Inspect***	***Action***
Permanent Controls			
Infiltration Basin	Spring and Fall and after rainstorms exceeding 2.5 inches in 24 hrs	• Inspect level of accumulated sediment	• Remove accumulated sediment
		• Inspect for debris	• Remove debris from inlet and outlets
		• Inspect outlet structures	• Repair as necessary
		• Inspect vegetative cover	• Mow embankments and removed woody vegetation
		• Inspect embankments and spillways	• Repair embankments and spillways as necessary
		• Inspect infiltration function within 72-hrs following a rainfall event	• Restore infiltration by removing accumulated sediments and reconstruction of the infiltration basin if deemed necessary
Landscape (not including Bioretention Systems)	Spring	• Mulch: Inspect mulch areas for trash and debris and thickness of mulch	• Remove weeds and debris. Top dress with new mulch when necessary
	Spring	• Trees and Shrubs: Inspect for broken, weak or diseased branches and debris	• Prune to maintain shape to avoid splitting, remove broken, weak or diseased branches, replace as necessary
	As necessary	• Lawn	• Mow as required
	Spring and Fall	• Inspect landscaped areas for debris and litter	• Remove debris and litter as necessary
Bioretention System	1st few months when rainfall exceeds 2.5” in a 24 hr period	• Inspect drawdown time: required to drawdown in 72 hrs or the standing water covers more than 15% of the surface after 48 hrs	• Remove the top few inches of discolored material and rake or till the remaining material as needed

	Frequency	***Inspect***	***Action***
Permanent Controls			
	4 times for 1st yr, then Spring and Fall	• Inspect for animal burrows and short circuits in the system	• Repair soil erosion from and fill holes and lightly compact
		• Inspect inlet and outlet for debris and leaves	• Remove material with rakes where possible rather than heavy construction equipment to avoid compaction of the gravel wetland surface
		• Inspect the filter bed	• Remove sediment as necessary. If more than 2" of filter material is removed, replace with the design filter media specified
		• Inspect vegetation for distress during extended periods without rain	• Water as necessary
	Spring and Fall	• Inspect Drawdown time: required to drawdown in 72 hrs or the standing water covers more than 15% of the surface after 48 hrs	• Remove the top few inches of discolored material and rake or till the remaining material as needed
	Annually	• Inspect inlet and outlet for erosion	• Repair or replace as necessary
		• Inspect vegetative cover	• Reinforcement plantings should be performed if 50% cover is not established in 2 yrs.
	Additionally, refer to the most currently available documents from UNHSC (attached for reference): "Regular Inspection Maintenance Guidance" and "Checklist for Inspection". If there are discrepancies between the UNHSC documents and this Manual's checklist requirements, the stricter requirements shall override.		
Conventional Pavement	Spring and Fall	• Inspect pavement for debris	• Sweeping as required

	Frequency	***Inspect***	***Action***
Permanent Controls			
Drainage (Catch Basins / Drop Inlets)	Spring and Fall	• Inspect for sediment • Inspect for hydrocarbons • Inspect Hoods	• If sump is more than half full of sediment, remove sediment as necessary • Remove and dispose of properly • Repair and replace as necessary
Drip Line Stone Trench	Spring and Fall	• Inspect for debris and vegetation	• Clean and remove debris and vegetation as necessary
Drain Manholes and Yard Drains	Spring and Fall	• Inspect for accumulated sediment and debris	• Clean any material upon inspection and deposit of properly
Inlet Protection (temporary during construction)	During construction and after measurable rainfall	• Inspect for accumulated sediment	• Empty sediment bag if more than ½ filled with sediment or debris. Replace bag if torn or punctured to ½" diameter or greater on the lower half of the bag
Culvert Pipe	Spring and Fall	• Inspect for obstructions	• Remove and dispose of debris properly, Remove upstream debris to prevent future clogging • Repair/replace if pipe becomes crushed or deteriorated
Emergency Spillway	Spring and Fall	• Inspect for erosion, sediment accumulation, stone loss, and presence of invasive species	• Remove debris and accumulated sediment (sediment accumulation should not exceed 3") • Repair eroded areas • Remove invasive species and vegetation • Replace stone as necessary

	Frequency	*Inspect*	*Action*
Permanent Controls			
Outlet Control Structure	Annually	• Inspection for debris or sediment buildup • Inspect structure	• Remove sediment and debris as necessary • Remove debris covering orifice or v-notch • Repair as necessary

Landscaping

Maintenance of landscaping to follow the NOFA Standards for Organic Land Care, 6th Edition, Practices for the Design and Maintenance of Ecological Landscapes. ("NOFA Standards for Organic Land Care." NOFA Standards for Organic Land Care 6th Edition Practices for the Design and Maintenance of Ecological Landscapes, Northeast Organic Farming Association of Connecticut, Inc, 2017, http://www.organiclandcare.net/sites/default/files/nofa_organic_land_care_standards_6thedition_2017_opt.pdf.)

Inspection and Maintenance Records and Annual Report

A detailed, written record of all logs, reports, photographs required by this Operation & Maintenance Manual must be kept by the owner and future property owners or assigns and/or condominium association of the property. The property owner shall submit records to the City of Portsmouth Department of Public Works and Planning Department yearly. Addresses listed below:

Planning Director
Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, NH 03801

Director of Public Works
Department of Public Works
680 Peverly Hill Road
Portsmouth, NH 03801

The attached forms are provided to assist the property manager with the inspection and maintenance of the Stormwater Management System. The "Inspection and Maintenance Log" (Attachment 1) and "Deicing Log" (Attachment 2) on the following pages are blank copies to aid in record keeping required by this Operation & Maintenance Manual.

Supplement the "Inspection and Maintenance Log" with the most currently available "Checklist for Inspections" from UNHSC (attached to this Manual for reference). Each inspection or maintenance activity shall include photographs of each practice that is subject to the "Inspection and Maintenance Checklist Requirements" at each inspection of that stormwater practice. Log actions taken if invasive species begin to grow in the stormwater management system as required per the attached "Control of Invasive Plants".

For all surface maintenance related activities related to deicing/plowing, complete the “Deicing Log” to track the amount and type of deicing materials applied to the site. Snow shall be stored in designated snow storage areas which have been designed to drain on-site and receive treatment via the stormwater management system prior to infiltration or discharge.

Owner's Certification

Contact Information

Owner:	Artwill, LLC
Contact Person	Joe Caldarola
	PO Box 370
	Portsmouth, NH 03801
	(603) 674-5204
	joe@smithfieldconstruction.com

I have reviewed this document and understand the responsibilities contained. I agree to perform the required maintenance on the stormwater management system.

Owner's Signature (future owner's and successors, if applicable)

Print Name

Title

Date

Any inquiries in regard to the design, function, and/or maintenance of any one of the above mentioned facilities or tasks shall be directed to the project engineer:

TFMoran, Inc., Seacoast Division
170 Commerce Way, Suite 102
Portsmouth, NH 03801
(603) 431-2222

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ATTACHMENT 1

Inspection and Maintenance Log

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Attachment 1

Inspection and Maintenance Log

BMP/System Component	Date Inspected	Inspector	Cleaning/Repair Needed (list items/comments)	Date of Cleaning/Repair	Performed By

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ATTACHMENT 2

Deicing Log

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Attachment 2

Deicing Log

Deicing Material Used	Amount of Deicing Material Applied	Date of Application	Logged By

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APPENDIX A

Stormwater Operation & Maintenance Plan

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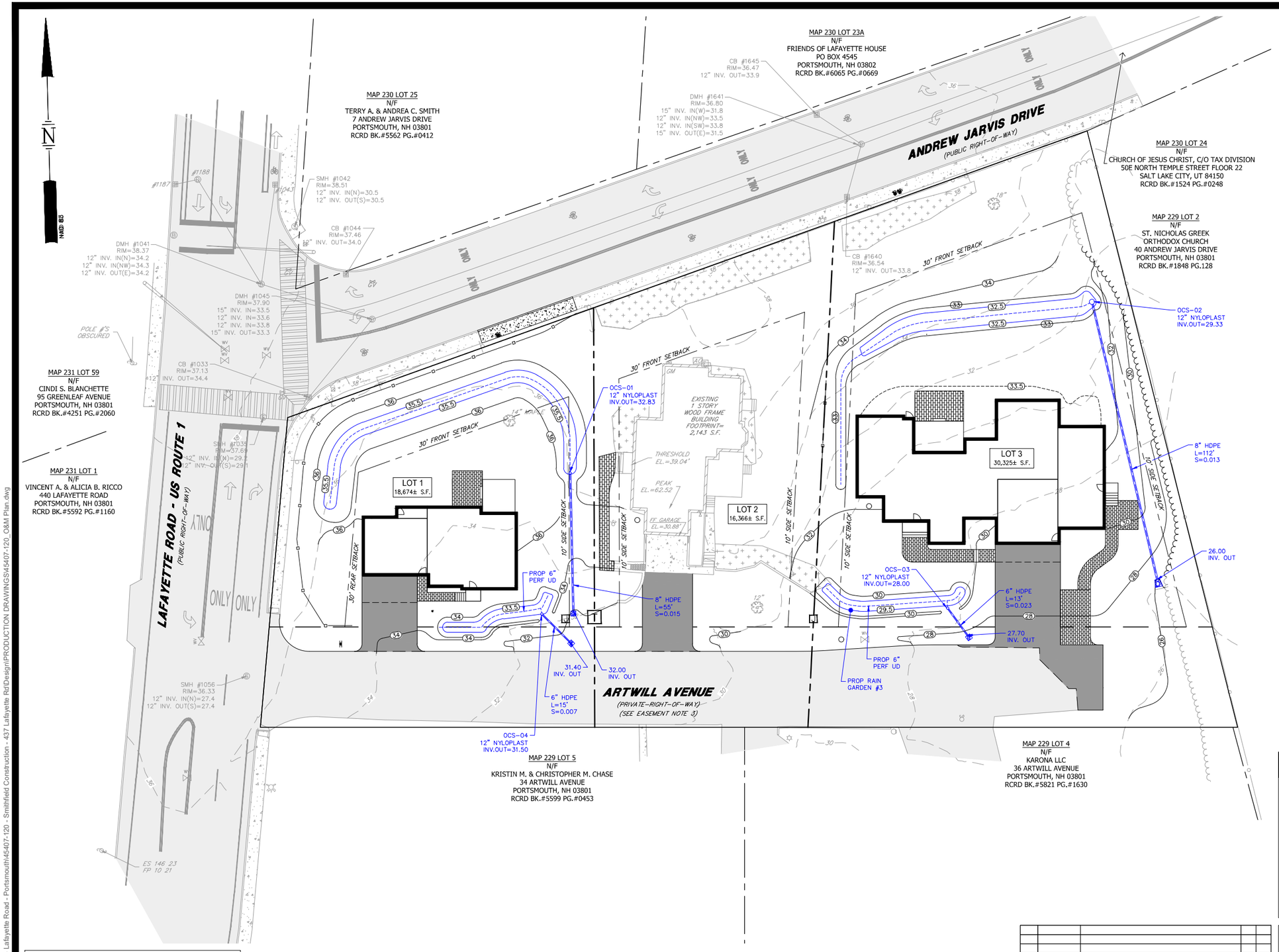

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

STORMWATER OPERATION & MAINTENANCE PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR
ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	JSM	FB		
45407-120	CK	JCC	CADFILE	45407-120_O&M PLAN	O&M-01

May 09, 2022 - 2:39pm
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APPENDIX B

UNHSC Regular Inspection and Maintenance Guidelines
for Bioretention Systems

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Regular Inspection and Maintenance Guidance for Bioretention Systems / Tree Filters

Maintenance of bioretention systems and tree filters can typically be performed as part of standard landscaping. Regular inspection and maintenance is critical to the effective operation of bioretention systems and tree filters to insure they remain clear of leaves and debris and free draining. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less frequent maintenance needs depending on a variety of factors including but not limited to: the occurrence of large storm events, overly wet or dry periods, regional hydrologic conditions, and the upstream land use.

ACTIVITIES

The most common maintenance activity is the removal of sediment and organic debris from the system and bypass structures. Visual inspections are routine for system maintenance. This includes looking for standing water, accumulated leaves, holes in the soil media, signs of plant distress, and debris and sediment accumulation in the system. Vegetation coverage is integral to the performance of the system, including infiltration rate and nutrient uptake. Vegetation care is important to system productivity and health.

ACTIVITY	FREQUENCY
CLOGGING AND SYSTEM PERFORMANCE	
A record should be kept of the time to drain for the system completely after a storm event. The system should drain completely within 72 hours.	After every major storm in the first few months, then annually at minimum.
Check to insure the filter surface remains well draining after storm events. **Remedy**: If filter bed is clogged, draining poorly, or standing water covers more than 50% of the surface 48 hours after a precipitation event, then remove top few inches of discolored material. Till, or rake remaining material as needed.	
Check inlets and outlets for leaves and debris. **Remedy**: Rake in and around the system to clear it of debris. Also, clear the inlet and overflow if obstructed.	Quarterly initially, annually as a minimum thereafter.
Check for animal burrows and short-circuiting in the system. **Remedy:** Soil erosion from short circuiting or animal boroughs should be repaired when they occur. The holes should be filled and lightly compacted	
Inspect inlets and outlets to ensure good condition and no evidence of deterioration. Check to see if high-flow bypass is functioning. **Remedy:** Repair or replace any damaged structural parts, inlets, outlets, sidewalls.	
VEGETATION	
Check for robust vegetation coverage throughout the system and dead or dying plants. **Remedy:** Vegetation should cover > 75% of the system and should be cared for as needed.	Annually or as needed

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APPENDIX C

UNHSC Checklist for Inspection of Bioretention System

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CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM / TREE FILTERS

Location:
Inspector:
Date:
Time:
Site Conditions:
Days Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Initial Inspection After Planting		
Plants are stable, roots not exposed	**S** **U**	
Surface is at design level, no evidence of preferential flow/shoving	**S** **U**	
Inlet and outlet/bypass are functional	**S** **U**	
2. Debris Cleanup (1 time/year minimum, Spring/Fall)		
Litter, leaves, and dead vegetation removed from the system	**S** **U**	
Prune/mow vegetation	**S** **U**	
3. Standing Water (1 time/year and/or after large storm events)		
No evidence of standing water after 24-48 hours since rainfall	**S** **U**	
4. Vegetation Condition and Coverage		
Vegetation condition good with good coverage (typically > 75%)	**S** **U**	
5. Other Issues		
Note any additional issues not previously covered.	**S** **U**	

Corrective Action Needed	Due Date
1.	
2.	
3.	
Inspector Signature	**Date**

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APPENDIX D

Control of Invasive Plants

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CONTROL OF INVASIVE PLANTS

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described on the following pages. They should be controlled as described on the following pages.

Background:

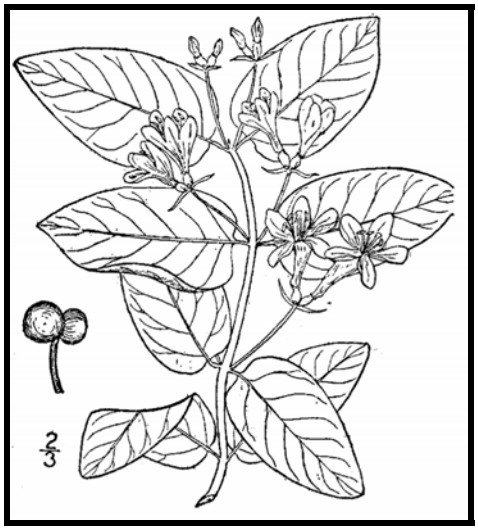
Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

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

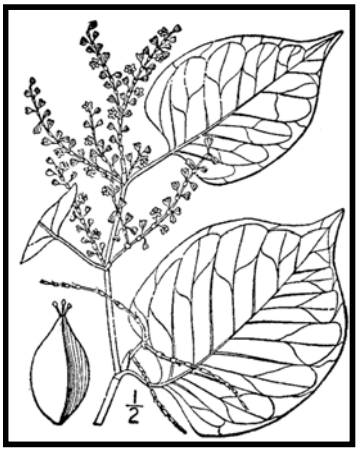
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

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

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PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

APRIL 19, 2022
LAST REVISED: MAY 25, 2022

GENERAL INFORMATION

OWNER
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802

APPLICANT
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802

PREPARED FOR
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802

RESOURCE LIST

PLANNING/ZONING DEPARTMENT
1 JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7216

BUILDING DEPARTMENT
1 JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7243
ROBERT MARSILIA,
CHIEF BUILDING INSPECTOR

PUBLIC WORKS
600 PEVERLY HILL RD
PORTSMOUTH, NH 03801
603-472-1530
PETER RICE, PUBLIC WORKS DIRECTOR

POLICE DEPARTMENT
3 JUNKINS AVE
PORTSMOUTH, NH 03801
603-427-1510
MARK NEWPORT, CHIEF

FIRE DEPARTMENT
170 COURT ST
PORTSMOUTH, NH 03801
603-427-1515
PATRICK HOWE, CHIEF

ASSOCIATED PROFESSIONALS
ARCHITECT
SMITHFIELD CONSTRUCTION, INC.
PO BOX 370
PORTSMOUTH, NH 03802
603-674-5204

VICINITY PLAN

INDEX OF SHEETS

SHEET	SHEET TITLE
C-00	COVER
C-01	NOTES & LEGEND
S-01	EXISTING CONDITIONS PLAN
S-02	SUBDIVISION PLAN
C-02	SITE PREPARATION & DEMOLITION PLAN
C-03	SITE LAYOUT PLAN
C-04	GRADING & DRAINAGE PLAN
C-05	UTILITY PLAN
C-06	LANDSCAPE PLAN
C-07	EROSION CONTROL PLAN
C-08	EROSION CONTROL NOTES
C-09	TRUCK TURNING PLAN
C-10 - C-15	DETAILS
REFERENCE PLANS BY ASSOCIATED PROFESSIONALS	
-	ARCHITECTURAL ELEVATION PLAN

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
CITY PLANNING BOARD SITE PLAN REVIEW	-	-	-
CITY PLANNING BOARD SUBDIVISION REVIEW	-	-	-
CITY PLANNING BOARD CONDITIONAL USE PERMIT FOR AADU	-	-	-
NHDES SEWER CONNECTION PERMIT	-	-	-

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1
COVER
PROPOSED 3 LOT SUBDIVISION
437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
OWNED BY & PREPARE FOR
ARTWILL, LLC

SCALE: AS SHOWN **APRIL 19, 2022**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED
PROFESSIONAL ENGINEER

DIG SAFE
CALL BEFORE YOU DIG
811 OR 1-888-DIG-SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.

REV	DATE	DESCRIPTION	DR	CK
1	5/23/2022	UPDATE LAST REVISED DATE.	JSM	JJM

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	45407-120	DR	JSM	FB	-	C-00
PRT		CK	JCC	CADFILE	45407-120_COVER	

LEGEND

PROPOSED

- PROPERTY LINE
- ZONING LINE
- EASEMENT
- BASELINE
- FLOODPLAIN
- EDGE OF WATERBODY
- EDGE OF WETLAND
- SETBACK (WETLAND)
- SETBACK (STRUCTURE)
- SETBACK (PARKING)
- SETBACK (LANDSCAPE)
- GRAVEL ROAD
- EOP — EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB
- CC — CONCRETE CURB
- ICC — INTEGRATED CONCRETE CURB
- BIT — BITUMINOUS ASPHALT CURB
- CCB — CAPE COD BERM
- SAWCUT
- BUILDING
- BUILDING ROOF OVERHANG
- BUILDING FOUNDATION
- BUILDING ENTRANCE
- OVERHEAD DOOR
- TREE LINE
- FENCE (CHAIN LINK)
- FENCE (WIRE)
- FENCE (STOCKADE)
- GUARDRAIL
- STONE WALL
- RETAINING WALL
- SILT FENCE
- SS — SILT SOCK
- SOIL BOUNDARY
- LIMIT OF GRADING
- XX — CONTOUR
- 100.50 TC / 100.00 BC OR 100.00 FG — PROPOSED SPOT GRADE
- (100.50) FG — EXISTING SPOT GRADE
- ## — PARKING COUNT
- DSLY — YELLOW DOUBLE SOLID LINE
- SSLY — YELLOW SINGLE SOLID LINE
- SSLW — WHITE SINGLE SOLID LINE
- SBLW — WHITE SINGLE BROKEN LINE
- STOP BAR
- CROSSWALK
- ACCESSIBLE PARKING SYMBOL
- PAVEMENT ARROW
- TRAFFIC FLOW ARROW (NOT PAINTED)
- SIGN (SINGLE POST)
- SIGN (DOUBLE POST)
- SIGN (PYLON)
- SIGN (MONUMENT)
- BOLLARD
- D — DUMPSTER PAD

PROPOSED

- CONCRETE
- GRAVEL
- HEAVY DUTY PAVEMENT
- CONSTRUCTION ENTRANCE
- SNOW STORAGE
- RIPRAP
- INLET PROTECTION
- FLOW ARROW
- DRAIN LINE
- DRAINAGE SWALE
- STORMWATER BMP
- S — SEWER LINE
- FM — SEWER FORCE MAIN LINE
- W — WATER LINE
- G — GAS LINE
- OHE — OVERHEAD UTILITY LINE
- UGE — UNDERGROUND UTILITY LINE
- CATCH BASIN
- DRAIN INLET
- OUTLET CONTROL STRUCTURE
- ROOF DRAIN
- DRAIN CLEANOUT
- DRAIN MANHOLE
- FARED END SECTION
- SEWER CLEAN OUT
- SEWER MANHOLE
- SEWER VENT
- DRAIN/SEWER/WATER PLUG OR CAP
- HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER GATE VALVE
- WATER SHUTOFF
- THRUST BLOCK
- WATER METER
- WATER MANHOLE
- WELL
- GAS GATE VALVE
- GAS SHUT OFF
- GAS METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- TRAFFIC CONTROL CABINET
- ELECTRIC HANDHOLE
- ELECTRIC PULL BOX
- ELECTRIC METER
- FLOOD LIGHT
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- T — TRANSFORMER PAD
- B-# — BORING LOCATION
- TP-# — TEST PIT LOCATION
- IT-# — INFILTRATION TEST LOCATION
- MW-# — MONITORING WELL

ABBREVIATIONS

GENERAL

ABAN	ABANDON
AC	ACRES
ADJ	ADJUST
APPROX	APPROXIMATE
BC	BOTTOM OF CURB
BIT	BITUMINOUS
BK/PG	BOOK & PAGE
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
BS	BOTTOM OF SLOPE
BW	BOTTOM OF WALL
CONC	CONCRETE
COORD	COORDINATE
DIA	DIAMETER
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FFE	FINISHED FLOOR ELEVATION
FND	FOUNDATION
HP	HIGH POINT
INV	INVERT ELEVATION
IT	INFILTRATION TEST
L	LENGTH
LF	LINEAR FEET
LSA	LANDSCAPE AREA
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
NHFG	NEW HAMPSHIRE FISH & GAME
NTS	NOT TO SCALE
OC	ON CENTER
PAVE	PAVEMENT
PERF	PERFORATED
PROP	PROPOSED
R	RADIUS
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
REM	REMOVE
RET	RETAIN
RIM	RIM ELEVATION
ROW	RIGHT OF WAY
S	SLOPE
SF	SQUARE FEET
SW	SIDEWALK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TP	TEST PIT
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
WCR	ACCESSIBLE WHEELCHAIR RAMP
W/	WITH

UTILITIES

CB	CATCH BASIN
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COND	CONDUIT
DCB	DOUBLE CATCH BASIN
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FES	FLARED END SECTION
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
LP	LIGHT POLE
OCS	OUTLET CONTROL STRUCTURE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
SOS	SEDIMENT OIL SEPARATOR
TSV	TAPPING SLEEVE, VALVE, AND BOX
UP	UTILITY POLE

DIG SAFE — CALL 811 OR 1-888-DIG-SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

GENERAL NOTES

1. THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.
2. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
3. THE SUBDIVISION PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
4. ALL IMPROVEMENTS SHOWN ON THE 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 CITY PLANNING BOARD.
5. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF PORTSMOUTH, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK TO CONFORM TO CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE CITY AND/OR STATE SHALL COMPLY WITH APPLICABLE STANDARDS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY, AND/OR STATE AGENCY.
6. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF ENV-WQ 1500. THE SITE CONTRACTOR SHALL NOTIFY THE ENGINEER IN ADVANCE OF CONSTRUCTION OF EACH STORMWATER FACILITY TO COORDINATE REQUIRED INSPECTIONS. THE CONTRACTOR SHALL TAKE PROGRESS PHOTOS DURING CONSTRUCTION OF ALL STORMWATER DRAINAGE COMPONENTS AND SEND TO THE ENGINEER.
7. SEE EXISTING CONDITIONS PLAN FOR THE HORIZONTAL AND VERTICAL DATUM.
8. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
9. CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENTS.
10. PRIOR TO COMMENCING ANY SITE WORK, ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.
11. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
12. TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
13. TEMPORARY FENCING SHALL BE PROVIDED AND COVERED WITH A FABRIC MATERIAL TO CONTROL DUST MITIGATION.
14. ALL DEMOLITION SHALL INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKWAYS, AND ANY OTHER ADJACENT OPERATING FACILITIES. PRIOR WRITTEN PERMISSION FROM THE OWNER/DEVELOPER AND LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.
15. REFER TO ARCHITECTURAL PLANS FOR LAYOUT OF BUILDING FOUNDATIONS AND CONCRETE ELEMENTS WHICH ABUT THE BUILDING SUCH AS STAIRS, SIDEWALKS, LOADING DOCK RAMPS, PADS, AND COMPACTOR PADS. DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.
16. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
17. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
18. CONTRACTOR'S GENERAL RESPONSIBILITIES:
    A. BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS AND CONDITIONS OF ALL PROJECT-SPECIFIC PERMITS AND APPROVALS AS LISTED ON THE COVER SHEET TO THESE PLANS OR OTHERWISE REQUIRED.
    B. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.
    C. EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.
    D. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
    E. TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST, AND UNSIGHTLY DEBRIS. CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT BETWEEN THE HOURS OF 7:00 AM AND 9:00 PM, MONDAY THROUGH FRIDAY IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL ORDINANCES AND REGULATIONS OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE.
    F. MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
    G. IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
    H. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
    I. PROTECT NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
    J. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
    K. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
    L. VERIFY LAYOUT OF PROPOSED BUILDING FOUNDATIONS WITH ARCHITECT AND THAT PROPOSED FOUNDATION MEETS PROPERTY LINE AND/OR WETLAND SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.
    M. PROVIDE AN AS-BUILT PLAN AT THE COMPLETION OF THE PROJECT TO THE PLANNING DIRECTOR AND PER CITY REGULATIONS.
    N. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.
    O. AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.

GRADING & DRAINAGE NOTES

1. THE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
2. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
4. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT SOIL AND GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEER'S RECOMMENDED METHODS TO ADDRESS ANY SOIL AND GROUNDWATER ISSUES THAT ARE FOUND ON SITE, INCLUDING AND NOT LIMITED TO DEWATERING METHODS, PERIMETER DRAINS AND TIE INTO STORMWATER MANAGEMENT SYSTEM, ETC.
5. COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
6. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES.
7. COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR ROOF DRAIN INFORMATION.
8. LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS, AND ALIGNMENTS.
9. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE, RAMPS, AND LOADING AREAS.
10. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE AND SHALL NOT POND WATER DEEPER THAN 1/4" FOR A PERIOD OF MORE THAN 15 MINUTES AFTER FLOODING.
11. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
12. ALL SIDEWALK AND OTHER CURB REVEALS SHALL BE 6" WITH A TOLERANCE OF PLUS OR MINUS 3/8". WHERE SIDEWALK IS TO BE FLUSH, THE PAVEMENT REVEAL SHALL BE 1/4" WITH A TOLERANCE OF 1/8".
13. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE PRIOR TO INSTALLATION OF FINISHED PAVEMENT.
14. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
15. STORMWATER DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
16. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
17. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
18. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER, AND MULCH.
19. DENSITY REQUIREMENTS:

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

*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 D-6938.

UTILITY NOTES

1. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
2. ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES, AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
4. COORDINATE ALL WORK ADJACENT TO PROPOSED BUILDINGS WITH ARCHITECTURAL BUILDING DRAWINGS. CONFIRM UTILITY PENETRATIONS AND INVERT ELEVATIONS ARE COORDINATED PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY, AND/OR PRIVATE UTILITY COMPANY.
7. 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 THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
8. ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH TELEPHONE, CABLE, AND ELECTRIC COMPANIES REGARDING NUMBER, SIZE, AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
9. SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). FORCE MAINS AND FITTINGS SHALL CONFORM TO NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. ALL SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. SANITARY MANHOLES SHALL CONFORM TO NHDES WATER DIVISION WASTEWATER ENGINEERING BUREAU STANDARDS AND SPECIFICATIONS SHOWN HEREON.
10. ON-SITE WATER DISTRIBUTION SHALL BE TO CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5' COVER. WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10' MINIMUM. WHERE A SANITARY LINE CROSSES A WATER LINE, SEWER LINE MUST BE CONSTRUCTED OF FORCE MAIN MATERIALS (PER ENV-WQ 704.08) FROM BUILDING OR MANHOLE TO MANHOLE, OR SUBSTITUTE RUBBER-GASKETED PRESSURE PIPE FOR THE SAME DISTANCE. WHEN SANITARY LINES PASS BELOW WATER LINES, LAY PIPE SO THAT NO JOINT IN THE SANITARY LINE WILL BE CLOSER THAN 6' HORIZONTALLY TO THE WATER LINE.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL LOCATIONS WHERE WATER LINE CHANGES DIRECTIONS OR CONNECTS TO ANOTHER WATER LINE.
12. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
13. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
14. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING, AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
15. PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT, AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
16. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
17. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	PRIVATE
SEWER	MUNICIPAL
WATER	MUNICIPAL
GAS	UNITIL
ELECTRIC	EVERSOURCE
TELEPHONE	CONSOLIDATED COMMUNICATIONS FKA FAIRPOINT COMMUNICATIONS
CABLE	COMCAST

STATE OF NEW HAMPSHIRE — JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

NOTES & LEGEND

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: NTS **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

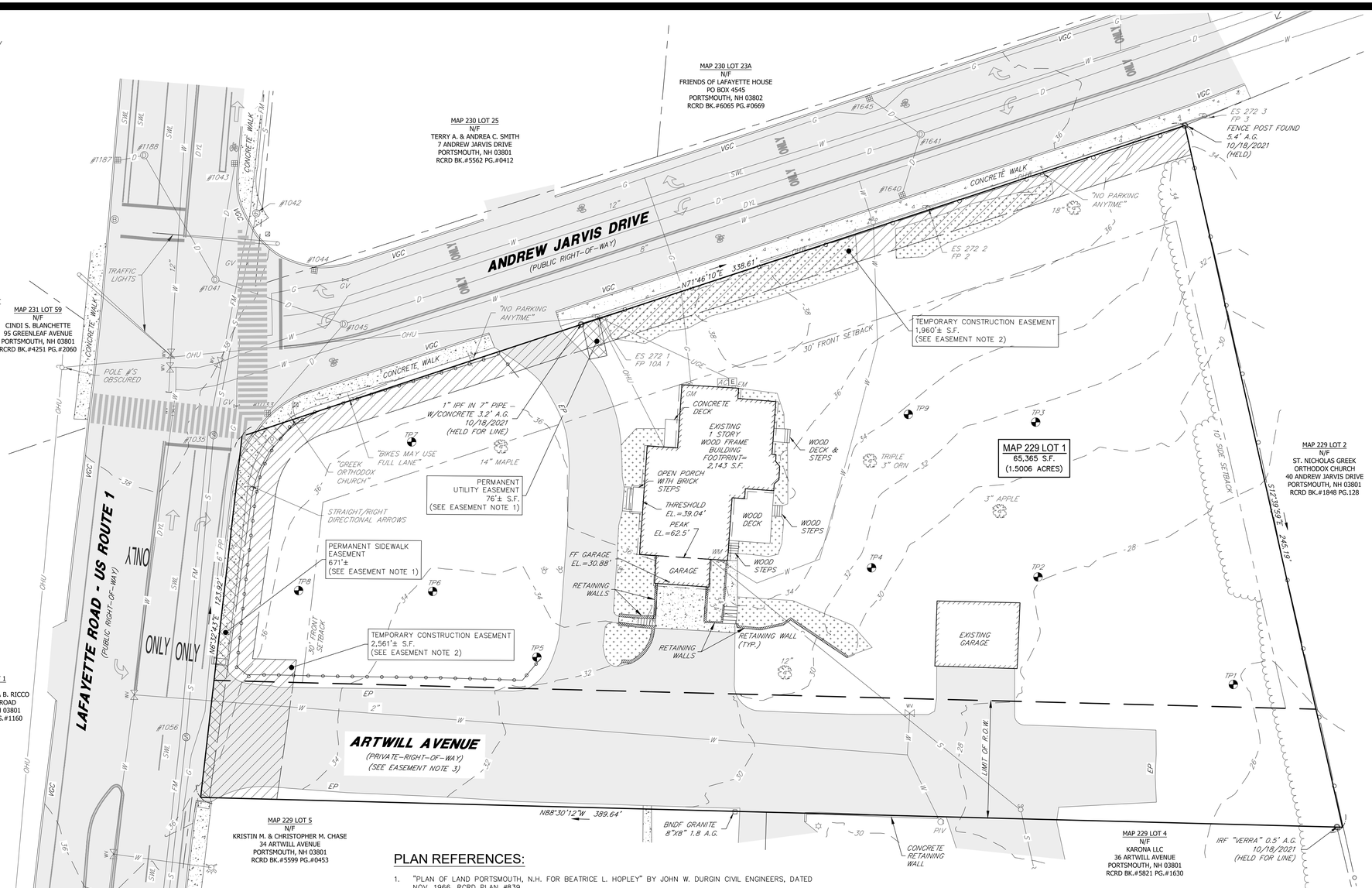
TFM — Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

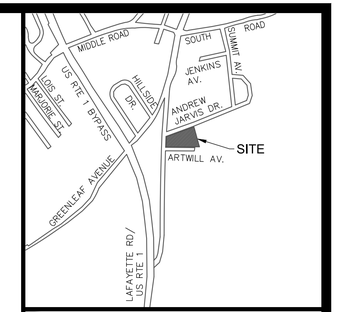
FILE	45407-120	DR	JSM	FB	–	C-01
		CK	JCC	CADFILE	45407-120_NOTES	

May 23, 2022 - 4:05pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Notes.dwg

LEGEND:

MAP 229 / LOT 9	ASSESSOR'S MAP NUMBER / LOT NUMBER
A.G.	ABOVE GRADE
BK./PG.	BOOK/PAGE
BNDF	BOUND FOUND
DYL	DOUBLE YELLOW LINE
EL.	ELEVATION
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
GM	GAS METER
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
N/F	NOW OR FORMERLY
ORN	ORNAMENTAL
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
R.O.W.	RIGHT OF WAY
S.F.	SQUARE FEET
SWL	SINGLE WHITE LINE
VGC	VERTICAL GRANITE CURB
WM	WATER METER
	LANDSCAPED AREA
	PAVEMENT
	CONCRETE
	HYDRANT
	IRRIGATION CONTROL VALVE
	WATER SHUT OFF
	WATER VALVE
PIV	POST INDICATOR VALVE
AC	AIR CONDITIONER
E	ELECTRIC BOX
	UTILITY POLE
	LIGHT POST
	SEWER CLEAN OUT
S	SEWER MANHOLE
GV	GAS VALVE
D	DRAINAGE MANHOLE
CB	CATCH BASIN
B	BELL MANHOLE
	BIKE LANE
	SIGN POLE
	DECIDUOUS TREE
TP1	TEST PIT
	PROPERTY LINE
	ABUTTERS LINE
UGE	UNDERGROUND ELECTRIC
OHU	OVERHEAD UTILITIES
D	DRAIN LINE
G	GAS LINE
W	WATER LINE
S	SEWER LINE
FM	FORCE MAIN
	TREE LINE
	SPLIT RAIL FENCE
	CHAINLINK FENCE
36	EXISTING CONTOUR





LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE SINGLE RESIDENCE B (SRB) ZONE.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 229 AS LOT 1.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X (AREAS OF MINIMAL FLOODING) AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP), FLOOD INSURANCE RATE MAP (FIRM) ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, VERSION NUMBER 2.3.2.1, MAP NUMBER 33015C0270F, MAP REVISED JANUARY 29, 2021.
4. ZONING REQUIREMENTS:

MINIMUM LOT DIMENSIONS	
LOT AREA	15,000 S.F.
LOT AREA PER DWELLING UNIT	15,000 S.F.
CONTINUOUS STREET FRONTAGE	100'
DEPTH	100'
MINIMUM YARD DIMENSIONS	
FRONT	30'
SIDE	10'
REAR	30'
MAXIMUM STRUCTURE DIMENSIONS	
STRUCTURE HEIGHT:	
SLOPED ROOF	35'
FLAT ROOF	30'
ROOF APPURTENANCE HEIGHT	8'
BUILDING COVERAGE	20%
MINIMUM OPEN SPACE	40%

5. TOTAL PARCEL AREA:
   MAP 229 LOT 1
   65,365 S.F.
   (1.5006 ACRES)
6. OWNER OF RECORD:
   MAP 229 LOT 1
   ARTWILL, LLC
   PO BOX 370
   PORTSMOUTH, NH 03802
   RCRD BK.#6334 PG.#0455
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING FEATURES OF MAP 229 LOT 1.
9. HORIZONTAL DATUM IS NAD 83 (2011) VERTICAL DATUM IS NAVD 88 PER STATIC GPS OBSERVATIONS.
10. FIELD SURVEY COMPLETED BY TODD C. EMERSON IN OCTOBER 2021 USING A LEICA TS-16, A TOPCON HIPER SR AND A CARLSON RT-4 DATA COLLECTOR.
11. EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL WOULD DETERMINE.
12. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.

PLAN REFERENCES:

1. "PLAN OF LAND PORTSMOUTH, N.H. FOR BEATRICE L. HOPLEY" BY JOHN W. DURGIN CIVIL ENGINEERS, DATED NOV. 1966. RCRD PLAN #839.
2. "PLAN OF LOTS OWNED BY BEATRICE L. HOPLEY LAFAYETTE ROAD PORTSMOUTH, N.H.", DATED JUNE 1940, REVISED FROM ORIGINAL PLAN BY JOHN W. DURGIN, REVISED MAY, 1946, REVISED FEB. 1957. RCRD PLAN #2637.
3. "STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION CONSTRUCTION PLANS FEDERAL AID PROJECT OF PROPOSED BRIDGE REMOVAL BRIDGE NO. 173/071 & RECONFIGURATION OF US ROUTE 1 BYPASS AND US ROUTE 1 (LAFAYETTE ROAD) FEDERAL PROJECT X-A000(994) NH PROJECT NO. 13455-A, CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM", APPROVED 6/27/12. RCRD PLAN #13455.
4. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO-R37-A, CITY OF PORTSMOUTH ROCKINGHAM COUNTY". PLAN #50031.
5. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO. 37 LAFAYETTE ROAD". PLAN #50147.
6. "CORRECTIVE SEWER EASEMENT PLAN OVER LAND OF KARONA, LLC 36 ARTWILL AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCEL 229-4 FOR KARONA, LLC" BY JAMES VERRA AND ASSOCIATES, INC., DATED 1/19/2021. RCRD PLAN #C-42611.
7. "SUBDIVISION PLAN OF LAND OF J. PHILIP MCCAFFERY FOR GREAT BAY SCHOOL AND TRAINING CENTER LAFAYETTE RD. COUNTY OF ROCKINGHAM PORTSMOUTH NH", BY RICHARD P. MILLETTE AND ASSOCIATES, DATED DEC. 1981, WITH REV.1 FROM 1/7/82. RCRD PLAN #D-10590.
8. "SUBDIVISION PLAN TAX MAP 230 – LOT 23 OWNER: GREAT BAY SCHOOL AND TRAINING CENTER FOR LEMIEUX BUILDERS, INC." 417 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED SEPTEMBER 2013, WITH REVISION 2 DATED 12/23/13. RCRD PLAN #D-38079.
9. "EASEMENT PLAN TAX MAP 230 – LOT 25 D.R. LEMIEUX BUILDERS, INC. TO THE CITY OF PORTSMOUTH 7 ANDREW JARVIS DRIVE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED JUNE 2014, WITH REVISION 2 DATED 7/25/14. RCRD PLAN #D-38417.
10. "EASEMENT PLAN TAX MAP 229 – LOT 1 HARLON P. WILLIS REVOCABLE TRUST AND JEAN P. WILLIS REVOCABLE TRUST TO THE CITY OF PORTSMOUTH 437 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED OCTOBER 26, 2015, WITH REVISION 1 DATED 10/26/2015. RCRD PLAN #D-40626.
11. "EASEMENT PLAN TAX MAP 229 – LOT 5 KRISTEN M. CHASE AND CHRISTOPHER M. CHASE TO THE CITY OF PORTSMOUTH 34 ARTWILL AVENUE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED JANUARY 20, 2016, WITH REVISION 2 DATED 12/2/2016. RCRD PLAN #D-40627.
12. "INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE IN THE CITY OF PORTSMOUTH ROCKINGHAM COUNTY STATE OF NEW HAMPSHIRE PREPARED FOR CITY OF PORTSMOUTH DEPT OF PUBLIC WORKS" BY GREENMAN-PEDERSON, INC., DATED 12/22/17.

EASEMENT NOTES:

1. MAP 229 LOT 1 IS SUBJECT TO PERMANENT EASEMENTS FOR THE INSTALLATION & MAINTENANCE OF A PUBLIC SIDEWALK AND FOR THE INSTALLATION & MAINTENANCE OF TRAFFIC SIGNAL EQUIPMENT. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 1 & 3).
2. MAP 229 LOT 1 IS SUBJECT TO TEMPORARY EASEMENTS FOR THE PURPOSE OF INSTALLING AND MAINTAINING A SIDEWALK. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 2 & 4).
3. MAP 229 LOT 1 IS SUBJECT TO RIGHTS OVER A PORTION OF THE PREMISES SHOWN AS "ARTWILL AVENUE" GRANTED TO MAP 229 LOT 2 FOR THE PURPOSES OF INGRESS & EGRESS, CONNECTION TO A 2 INCH WATERLINE AND THE EXTENSION THEREOF, CONNECTION TO THE CITY SEWER ON LAFAYETTE ROAD AND THE RIGHT TO FIRST REFUSAL TO PURCHASE A 50 FOOT STRIP OF LAND. SEE RCRD BK.1848 PG. 128.
4. MAP 229 LOT 1 HAS THE BENEFIT OF A 20' WIDE SEWER EASEMENT FOR REPAIR AND MAINTENANCE ACROSS LAND OF MAP 229 LOT 4. SEE RCRD BK. 6236 PG. 731 AND PLAN REFERENCE 6.

DIG SAFE
ME NH RI VT
811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

20 10 0 20
Graphic Scale in Feet

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN OCTOBER, 2021. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.
I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 844 — J. COREY COLWELL — SIGNATURE

LICENSED LAND SURVEYOR

2022-05-25
DATE

REV.	DATE	DESCRIPTION	DR	CK
1	5/25/2022	NO REVISIONS THIS SHEET	BMK	JCC

TAX MAP 229 LOT 1
EXISTING CONDITIONS PLAN
SMITHFIELD CONSTRUCTION
437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
ARTWILL, LLC

SCALE: 1" = 20' (22x34)
1" = 40' (11x17)
APRIL 19, 2022

Seacoast Division
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.tfmoran.com

FILE	DR	ID	FB		
45407-120	CK	JCC	CADFILE	583	S-01

May 24, 2022 - 2:54pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Carlson Survey\Dwgs\45407-120 Survey.dwg

TEST PIT LOG

SITE: 437 LAFAYETTE ROAD, PORTSMOUTH, NH
LOGGED BY: PAUL O'HANLON, TFM, INC.
DATE: 1/25/2022

Test Pit #1:

0–13" 10YR 5/3 BROWN, LOAM, MASSIVE, FRIABLE, ANTHROPOGENIC FILL (ASPHALT, BRICK)
13–20" AB 10YR 7/6 YELLOW, LOAM, BLOCKY, FRIABLE, GRAVELY <5% ROCK (IRON STONE)
20–55" B1 GLEY 1 7N GRAY, SANDY LOAM, MASSIVE, PLIABLE
55– 65" B2 10YR 5/1 GRAY, COARSE SAND, FRIABLE, MASSIVE, > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
REDOX @ 20" 10YR 7/8 COMMON DISTINCT >15%
SOIL SERIES: WALPOLE
EST WET: 20" BELOW GRADE
OBS WT: 39" BELOW GRADE (APPARENT →)
LEDGE: > 65" BELOW GRADE

Test Pit #2:

0–15"A 10YR 4/3 BROWN, LOAM, MASSIVE
15–17" 10YR 7/6 YELLOW, SANDY LOAM, FRIABLE, GRANULAR
17–27" GLEY 1 7/N LIGHT GRAY, SANDY LOAM, FRIABLE, GRANULAR
27–52" 10YR 6/6 BROWNISH YELLOW, LOAM, FRIABLE, MASSIVE
52–77" 10YR 5/1 GRAY, COURSE SAND, FRIABLE, GRAVELY, GRANULAR
REDOX @ 26" 10YR 7/8 COMMON DISTINCT
SOIL SERIES: WALPOLE
EST WET: 26" BELOW GRADE
OBS WT: 51" BELOW GRADE (APPARENT ↑)
LEDGE: 77" BELOW GRADE

Test Pit #3:

0–16" 10YR 4/3 BROWN, LOAM, AGGREGATED, FRIABLE
16–27" 10YR 6/6 BROWNISH YELLOW, LOAM, AGGREGATED, FRIABLE, GRAVELY >5%
27–52" 10YR 7/2 LIGHT GRAY, LOAMY SAND, AGGREGATED, FRIABLE GRAVELY >15%
52–84" 10YR 8/1 WHITE, SANDY CLAY LOAM, PLATEY, INDURATE
REDOX @: 41" 10YR 7/8 COMMON DISTINCT >15%
SOIL SERIES: CANTON – CHATFIELD COMPLEX
EST WET: 41" BELOW GRADE
OBS WT: 84" BELOW GRADE (APPARENT ↘)
LEDGE: 84" BELOW GRADE

Test Pit #4:

0–18" 10YR 5/4 YELLOWISH BROWN, LOAM, FRIABLE, AGGREGATE
18–27" 10YR 6/6 BROWNISH YELLOW, SANDY LOAM, GRAVELY >5%, FRIABLE, AGGREGATE
27–37" 10YR 6/2 LIGHT BROWNISH GREY, LOAMY SAND, > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
37–65" 10YR 7/8 YELLOW, DECAYING BEDROCK, ANGULAR COBBLE, IRON STONE
REDOX @: 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CHATFIELD
EST WET: 37" BELOW GRADE
OBS WT: 56" BELOW GRADE (APPARENT ↑)
LEDGE: 65" BELOW GRADE

Test Pit #5:

0–10" 10YR 4/3 BROWN, LOAMY SAND, AGGREGATE, FRIABLE, GRAVELY >5%
10–31" 10YR 5/4 YELLOWISH BROWN, COURSE SAND, GRANULAR, FRIABLE, GRAVELY >15%
31–57" GLEY 1 5/N GRAY, CLAY, DECAYED BEDROCK, BOULDERS >5%, MASSIVE
REDOX @: 31" 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CHATFIELD – MAYBID COMPLEX
EST WET: 31" BELOW GRADE
OBS WT: > 57"
LEDGE: 57" BELOW GRADE

TEST PIT LOG

SITE: 437 LAFAYETTE ROAD, PORTSMOUTH, NH
LOGGED BY: PAUL O'HANLON, TFM, INC.
DATE: 1/25/2022

Test Pit #6:

0–12" 10YR 4/3 BROWN, SANDY LOAM, AGGREGATE, FRIABLE
12–16" 10YR 7/2 LIGHT GRAY, SAND, GRANULAR, FRIABLE, GRAVELY >5%
16–28" 10YR 7/1 LIGHT GRAY, FINE SAND, GRANULAR, FRIABLE
28–42" 10YR 7/3 VERY PALE BROWN, SANDY LOAM, AGGREGATE, FRIABLE, HETEROGENEOUS
42–47" GLEY 1 5/5G–1 GREENISH GRAY, SANDY CLAY LOAM, PLATEY, INDURATE
47–96" GLEY 2 8/5BG LIGHT GREENISH GRAY, CLAY, MASSIVE, INDURATE, HOMOGENEOUS
REDOX @42" 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CANTON COMPLEX (ANTHROPOGENIC)
EST WET: 42" BELOW GRADE
OBS WT: 79" BELOW GRADE (APPARENT →)
LEDGE: > 96"

Test Pit #7:

0–18" 10YR 4/2 DARK GRAYISH BROWN, SANDY LOAM, FRIABLE, BLOCKY
18–42" 10YR 7/4 VERY PALE BROWN, FINE SAND, GRANULAR, FRIABLE
42–54" 10YR 6/6 BROWNISH YELLOW, COURSE SAND, GRANULAR, FRIABLE
54–65" 10YR 5/8 YELLOWISH BROWN, SANDY LOAM, HETEROGENEOUS, FRIABLE
65–72" GLEY 2 4/10B DARK BLUEISH GRAY, SANDY CLAY LOAM, PLATEY, INDURATE
72–102" GLEY 2 7/10B LIGHT BLUEISH GRAY, CLAY, MASSIVE, INDURATE
REDOX @ 57" 5R 3/8 COMMON DISTINCT >15%
SOIL SERIES: CANTON COMPLEX (ANTHROPOGENIC)
EST WET: 57" BELOW GRADE
OBS WT: 93" BELOW GRADE (APPARENT ↑)
LEDGE: >102"

Test Pit #8:

0–14" 10YR 4/2 DARK GRAYISH BROWN, LOAMY SAND, FRIABLE, BLOCKY
14–42" 10YR 7/4 VERY PALE BROWN, FINE SAND, AGGREGATE, FRIABLE, > 15% COBBLE RIVER STONE
42–50" GLEY 1 5/5G_/1 GREENISH GRAY, SANDY CLAY LOAM, AQUATARD PRESENT (IRON STONE), MASSIVE, INDURATE
50–55" 10YR 6/4 LIGHT YELLOWISH BROWN, SANDY CLAY LOAM, INCLUSION, HETEROGENEOUS, MASSIVE, INDURATE
55–103" GLEY 2 8/5BG LIGHT GREENISH GRAY, CLAY, INDURATE, MASSIVE
REDOX @ 42 5R 3/8 COMMON DISTINCT >15% (AQUATARD (POTENTIALLY ANTHROPOGENIC))
SOIL SERIES: CANTON COMPLEX (ANTHROPOGENIC)
EST WET: 42" BELOW GRADE
OBS WT: 101" BELOW GRADE (APPARENT ↑)
LEDGE: > 103"

Test Pit #9:

0–9"10YR 4/3 BROWN, LOAM, BLOCKY, FRIABLE, GRAVELY >5%
9–23" 10YR 5/6 YELLOWISH BROWN, LOAMY SAND, GRANULAR, , > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
23–54" 10YR 7/2 LIGHT GREY, SANDY LOAM, INDURATE, MASSIVE, HETEROGENEOUS, > 15% ANGULAR ROCK FRAGMENT (IRON STONE)
REDOX @ 5R 4/6 COMMON DISTINCT >15%
SOIL SERIES: WALPOLE
EST WET: 30" BELOW GRADE
OBS WT: > 54"
LEDGE: 54" BELOW GRADE

TEST PIT LOG

SITE: 437 LAFAYETTE ROAD, PORTSMOUTH, NH
LOGGED BY: PAUL O'HANLON, TFM, INC.
DATE: 2/1/2022

Test Pit #10:

0–12" 10YR 4/4 DARK YELLOWISH BROWN, LOAMY SAND, BLOCKY, FRIABLE, COBBLE >15%, HOMOGENEOUS SOIL
12–23" 10YR 6/3 PALE BROWN, SANDY LOAM, AGGREGATE, FRIABLE, COBBLE >15%, HOMOGENEOUS SOIL
23–36" 10YR 6/2 LIGHT BROWNISH GREY, COURSE SAND, GRANULAR, HETEROGENEOUS, COBBLE >15%, VERY COURSE PARTICLES <5%
36–66" 10YR 5/4 YELLOWISH BROWN, LOAMY SAND, MASSIVE, INDURATE > 25% ANGULAR ROCK FRAGMENT (IRON STONE)
66–76" 10YR 5/4 YELLOWISH BROWN, SANDY LOAM, MASSIVE, INDURATE, DECAYING LEDGE, > 55% ANGULAR ROCK FRAGMENT (IRON STONE)
REDOX @ 52 – 58 10YR 5/6 COMMON DISTINCT >15%
SOIL SERIES: CANTON – WALPOLE COMPLEX
EST WET: 52" BELOW GRADE
OBS WT: >76"
LEDGE: 76" BELOW GRADE

REV.	DATE	DESCRIPTION	DR	CK
1	5/25/2022	NO REVISIONS THIS SHEET	BMK	JCC

TAX MAP 229 LOT 1

TEST PITS LOGS

SMITHFIELD CONSTRUCTION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

OWNED BY

ARTWILL, LLC

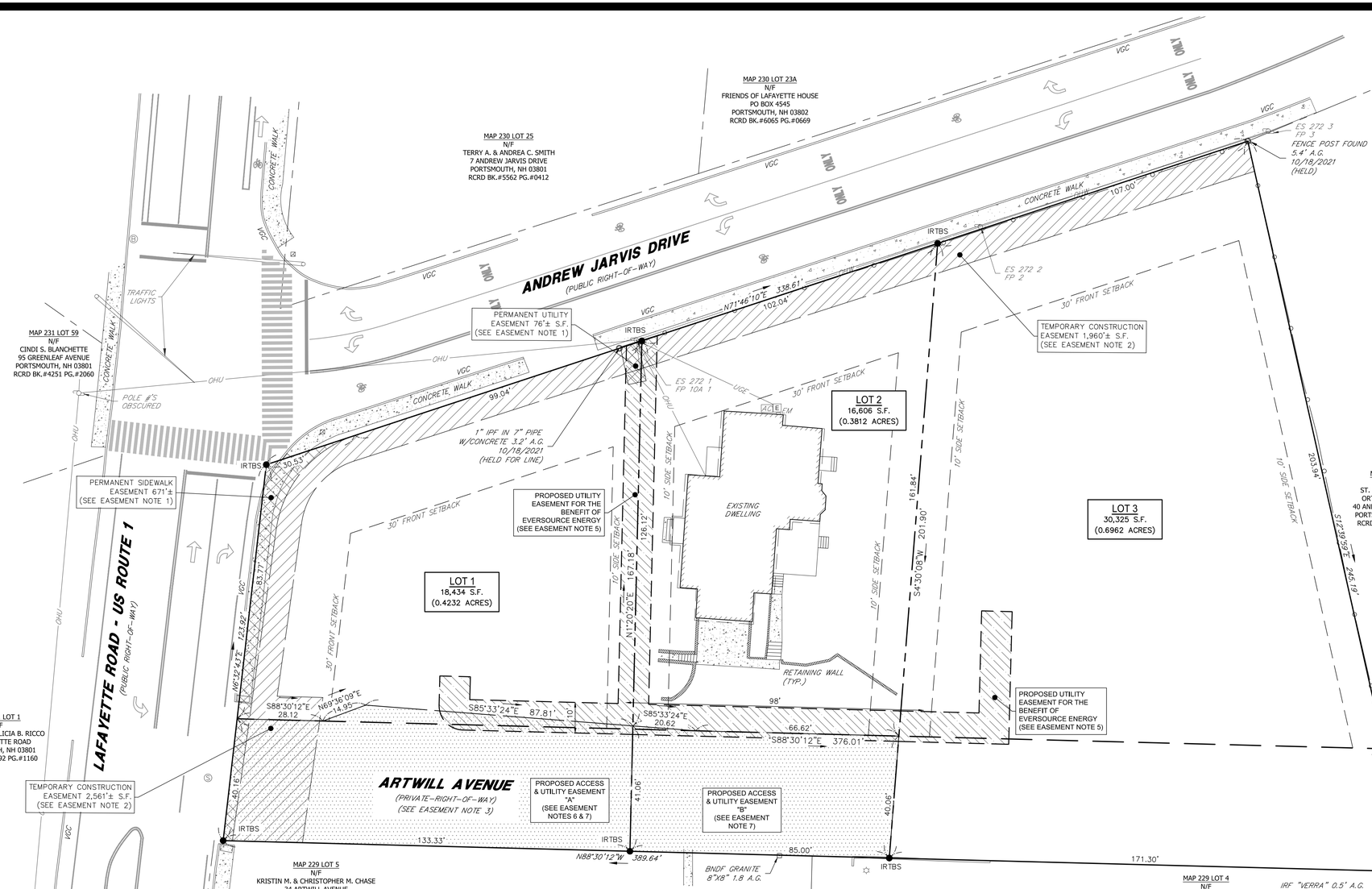
SCALE: N.T.S.

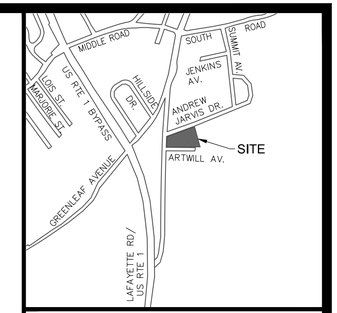
APRIL 19, 2022

Seacoast Division
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431–2222
Fax (603) 431–0910
www.tfmoran.com

FILE	45407-120	DR		FB		S-02
		CK		CADFILE		

May 24, 2022 - 2:55pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Carlson Survey\Dwgs\45407-120 Survey.dwg





LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE SINGLE RESIDENCE B (SRB) ZONE.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 229 AS LOT 1.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X (AREAS OF MINIMAL FLOODING) AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP), FLOOD INSURANCE RATE MAP (FIRM) ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, VERSION NUMBER 2.3.2.1, MAP NUMBER 33015C0270F, MAP REVISED JANUARY 29, 2021.
4. ZONING REQUIREMENTS:

	SRB
MINIMUM LOT DIMENSIONS:	
LOT AREA	15,000 S.F.
LOT AREA PER DWELLING UNIT	15,000 S.F.
CONTINUOUS STREET FRONTAGE	100'
DEPTH	100'
MINIMUM YARD DIMENSIONS	
FRONT	30'
SIDE	10'
REAR	30'
MAXIMUM STRUCTURE DIMENSIONS	
STRUCTURE HEIGHT:	
SLOPED ROOF	35'
FLAT ROOF	30'
ROOF APPURTENANCE HEIGHT	8'
BUILDING COVERAGE	20%
MINIMUM OPEN SPACE	40%

5. TOTAL PARCEL AREA:

MAP 229 LOT 1	PROPOSED LOT 1	PROPOSED LOT 2	PROPOSED LOT 3
65,365 S.F.	18,434 S.F.	16,606 S.F.	30,325 S.F.
(1.5006 ACRES)	(0.4232 ACRES)	(0.3812 ACRES)	(0.6962 ACRES)

6. OWNER OF RECORD:
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802
RCRD BK.#6334 PG.#455
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE MAP 229 LOT 1 INTO 3 RESIDENTIAL LOTS.
9. HORIZONTAL DATUM IS NAD 83 (2011) VERTICAL DATUM IS NAVD 88 PER STATIC GPS OBSERVATIONS.
10. FIELD SURVEY COMPLETED BY TODD C. EMERSON IN OCTOBER 2021 USING A LEICA TS-16, A TOPCON HIPER SR AND A CARLSON RT-4 DATA COLLECTOR.
11. EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL WOULD DETERMINE.
12. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL CONTACT DIG SAFE.

EASEMENT NOTES:

1. MAP 229 LOT 1 IS SUBJECT TO PERMANENT EASEMENTS FOR THE INSTALLATION & MAINTENANCE OF A PUBLIC SIDEWALK AND FOR THE INSTALLATION & MAINTENANCE OF TRAFFIC SIGNAL EQUIPMENT. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 1 & 3).
2. MAP 229 LOT 1 IS SUBJECT TO TEMPORARY EASEMENTS FOR THE PURPOSE OF INSTALLING AND MAINTAINING A SIDEWALK. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 2 & 4).
3. MAP 229 LOT 1 IS SUBJECT TO RIGHTS OVER A PORTION OF THE PREMISES SHOWN AS "ARTWILL AVENUE" GRANTED TO MAP 229 LOT 2 FOR THE PURPOSES OF INGRESS & EGRESS, CONNECTION TO A 2 INCH WATERLINE AND THE EXTENSION THEREOF, CONNECTION TO THE CITY SEWER ON LAFAYETTE ROAD AND THE RIGHT TO FIRST REFUSAL TO PURCHASE A 50 FOOT STRIP OF LAND. SEE RCRD BK.1848 PG. 128.
4. MAP 229 LOT 1 HAS THE BENEFIT OF A 20' WIDE SEWER EASEMENT FOR REPAIR AND MAINTENANCE ACROSS LAND OF MAP 229 LOT 4. SEE RCRD BK. 6236 PG. 731 AND PLAN REFERENCE 6.
5. LOTS 1, 2 & 3 ARE SUBJECT TO A PROPOSED UTILITY EASEMENT FOR THE BENEFIT OF EVERSOURCE ENERGY. SAID EASEMENT SHALL BE LOCATED 5 FEET EACH SIDE OF THE AS-BUILT LOCATION OF THE UNDERGROUND UTILITY LINES SERVICING THE BUILDINGS.
6. LOT 1 IS SUBJECT TO PROPOSED ACCESS & UTILITY EASEMENT "A" FOR THE BENEFIT OF LOT 2. SAID EASEMENT IS TO INCLUDE A PORTION OF ARTWILL AVENUE AND 5 FEET EACH SIDE OF THE AS-BUILT LOCATION OF THE PROPOSED SEWER FORCE MAIN.
7. LOTS 1 & 2 ARE SUBJECT TO PROPOSED ACCESS & UTILITY EASEMENTS "A" & "B" FOR THE BENEFIT OF LOT 3. SAID EASEMENT IS TO INCLUDE A PORTION OF ARTWILL AVENUE AND 5 FEET EACH SIDE OF THE AS-BUILT LOCATION OF THE PROPOSED SEWER FORCE MAIN.

LEGEND:

MAP 137 LOT 11	ASSESSORS MAP AND LOT NUMBER
A.G.	ABOVE GRADE
BK. PG.	BOOK / PAGE
BNDF	BOUND FOUND
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
IRTBS	IRON ROD TO BE SET
N/F	NOW OR FORMERLY
PEP	PROPOSED EDGE OF PAVEMENT
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
S.F.	SQUARE FEET
TYP.	TYPICAL
VGC	VERTICAL GRANITE CURB
	DRILL HOLE FOUND/SET
	IRON PIPE/ROD FOUND
	BOUND FOUND
	UTILITY POLE
T	PROPOSED TRANSFORMER
J	PROPOSED JUNCTION
S	SEWER MANHOLE
	SIGNAL MAST
OHU	OVERHEAD UTILITIES
	CHAINLINK FENCE
	SPLIT RAIL FENCE
	BOUNDARY LINE
	PROPOSED LOT LINE
	YARD SETBACK
UGU	PROPOSED UNDERGROUND UTILITY LINE
S	PROPOSED SEWER LINE
FM	PROPOSED SEWER FORCE MAIN
	CONCRETE
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	PROPOSED UTILITY EASEMENT
	PROPOSED ACCESS & UTILITY EASEMENT

PLAN REFERENCES:

1. "PLAN OF LAND PORTSMOUTH, N.H. FOR BEATRICE L. HOPLEY" BY JOHN W. DURGIN CIVIL ENGINEERS, DATED NOV. 1966. RCRD PLAN #839.
2. "PLAN OF LOTS OWNED BY BEATRICE L. HOPLEY LAFAYETTE ROAD PORTSMOUTH, N.H.", DATED JUNE 1940, REVISED FROM ORIGINAL PLAN BY JOHN W. DURGIN, REVISED MAY, 1946, REVISED FEB. 1957. RCRD PLAN #2637.
3. "STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION CONSTRUCTION PLANS FEDERAL AID PROJECT OF PROPOSED BRIDGE REMOVAL BRIDGE NO. 173/071 & RECONFIGURATION OF US ROUTE 1 BYPASS AND US ROUTE 1 (LAFAYETTE ROAD) FEDERAL PROJECT X-A000(994) NH PROJECT NO. 13455-A, CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM", APPROVED 6/27/12. RCRD PLAN #13455.
4. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO-R37-A, CITY OF PORTSMOUTH ROCKINGHAM COUNTY". PLAN #50031.
5. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO. 37 LAFAYETTE ROAD". PLAN #50147.
6. "CORRECTIVE SEWER EASEMENT PLAN OVER LAND OF KARONA, LLC 36 ARTWILL AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCEL 229-4 FOR KARONA, LLC" BY JAMES VERRA AND ASSOCIATES, INC., DATED 1/19/2021. RCRD PLAN #C-42611.
7. "SUBDIVISION PLAN OF LAND OF J. PHILIP MCCAFFERY FOR GREAT BAY SCHOOL AND TRAINING CENTER LAFAYETTE RD. COUNTY OF ROCKINGHAM PORTSMOUTH NH", BY RICHARD P. MILLETTE AND ASSOCIATES, DATED DEC. 1981, WITH REV.1 FROM 1/7/82. RCRD PLAN #D-10590.
8. "SUBDIVISION PLAN TAX MAP 230 - LOT 23 OWNER: GREAT BAY SCHOOL AND TRAINING CENTER FOR LEMIEUX BUILDERS, INC." 417 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED SEPTEMBER 2013, WITH REVISION 2 DATED 12/23/13. RCRD PLAN #D-38079.
9. "EASEMENT PLAN TAX MAP 230 - LOT 25 D.R. LEMIEUX BUILDERS, INC. TO THE CITY OF PORTSMOUTH 7 ANDREW JARVIS DRIVE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED JUNE 2014, WITH REVISION 2 DATED 7/25/14. RCRD PLAN #D-38417.
10. "EASEMENT PLAN TAX MAP 229 - LOT 1 HARLON P. WILLIS REVOCABLE TRUST AND JEAN P. WILLIS REVOCABLE TRUST TO THE CITY OF PORTSMOUTH 437 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED OCTOBER 26, 2015, WITH REVISION 1 DATED 10/26/2015. RCRD PLAN #D-40626.
11. "EASEMENT PLAN TAX MAP 229 - LOT 5 KRISTEN M. CHASE AND CHRISTOPHER M. CHASE TO THE CITY OF PORTSMOUTH 34 ARTWILL AVENUE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED JANUARY 20, 2016, WITH REVISION 2 DATED 12/2/2016. RCRD PLAN #D-40627.

Graphic Scale in Feet
20 10 0 20

DIG SAFE
MA ME NH RI VT
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CALL 811 TOLL FREE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

REV.	DATE	DESCRIPTION	DR	CK
1	5/25/2022	REVISED UTILITY EASEMENT	BMK	JCC

PURSUANT TO NEW HAMPSHIRE REVISED STATUTES ANNOTATED 676:18, II, III AND IV AND 672:14:

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN OCTOBER 2021. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.
I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

STATE OF NEW HAMPSHIRE
No. 844
J. COREY COLWELL
LICENSED LAND SURVEYOR
SIGNATURE

LICENSED LAND SURVEYOR

2022-05-25
DATE

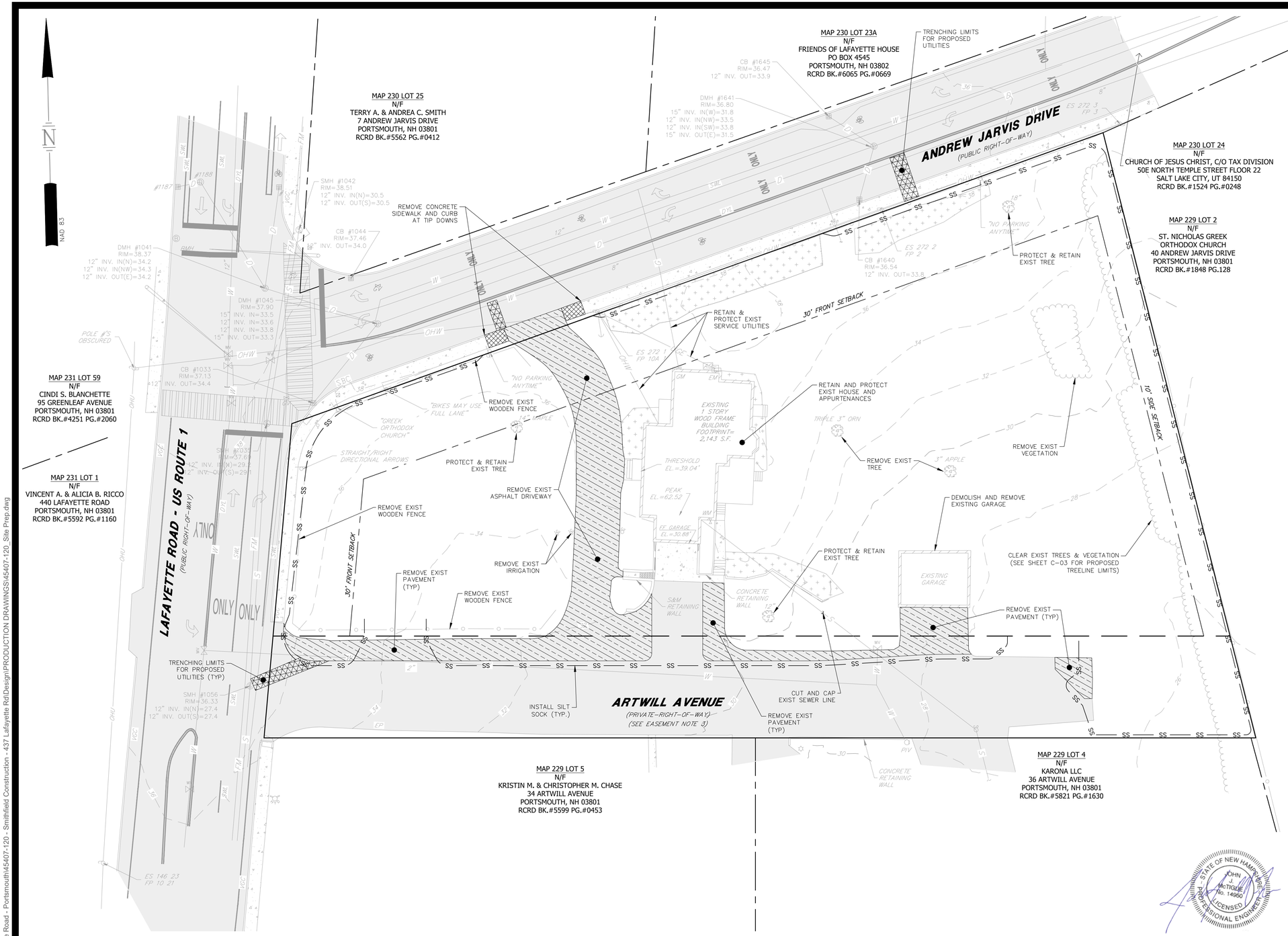
TAX MAP 229 LOT 1
SUBDIVISION PLAN
PROPOSED 3-LOT SUBDIVISION
437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
ARTWILL, LLC

SCALE: 1" = 20' (22x34)
1" = 40' (11x17)
APRIL 19, 2022

Seacoast Division
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.tfmoran.com

FILE	DR	MVP	FB		
45407-120	CK	JCC	CAD/FILE	583	S-03

May 24, 2022 - 3:24pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Carlson Survey\Dwgs\45407-120 Survey.dwg



NOTES

1. SEE NOTES ON SHEET C-01.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATIONS, SIZE, AND ELEVATIONS OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY DEMOLITION. THE LOCATIONS SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DEMOLITION TO DETERMINE APPROPRIATE ACTION TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
4. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
5. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
6. CONSTRUCTION DEBRIS AND INVASIVE SPECIES SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
7. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PLACE ORANGE CONSTRUCTION FENCING AROUND EACH TREE TO BE RETAINED THROUGHOUT CONSTRUCTION. NO STOCKPILES OF MATERIAL ARE PERMITTED WITHIN THE DRIP LINE OF THE TREES TO BE SAVED.
8. CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY IF ANY TREES ARE DAMAGED DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE NOTES

TO MINIMIZE EROSION AND SEDIMENTATION DUE TO CONSTRUCTION, CONSTRUCTION SHALL FOLLOW THIS GENERAL CONSTRUCTION SEQUENCE.

MODIFICATIONS TO THE SEQUENCE NECESSARY DUE TO THE CONTRACTOR'S SCHEDULE SHALL INCLUDE APPROPRIATE TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES.

THE CONTRACTOR SHALL SCHEDULE WORK SUCH THAT ANY CONSTRUCTION AREA IS STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE EXCEPT AS NOTED BELOW. NO MORE THAN 5 ACRES OF DISTURBED LAND SHALL BE UNSTABILIZED AT ANY ONE TIME.

THE PROJECT SHALL BE MANAGED SO THAT IT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER ARC 3800 RELATIVE TO INVASIVE SPECIES.

DO NOT TRAFFIC EXPOSED SOIL SURFACE OF INFILTRATION SYSTEMS WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO STORMWATER BMP'S. STORMWATER RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'S ARE STABILIZED.

DO NOT PLACE STORMWATER BMP'S INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

AFTER THE INFILTRATION SYSTEM IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE THE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

1. NOTIFY EASEMENT OWNERS PRIOR TO COMMENCEMENT OF WORK.
2. INSTALL ALL PERIMETER EROSION PROTECTION MEASURES AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. STORMWATER TREATMENT PONDS AND SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
4. DURING CONSTRUCTION EVERY EFFORT SHALL BE MADE TO MANAGE SURFACE RUNOFF QUALITY.
5. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT BARRIERS, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED. (TEMPORARY SEED MIXTURE OF WINTER RYE APPLIED AT A RATE OF 2.5 LBS/1000 SF SHALL BE USED).
6. CONDUCT MAJOR EARTHWORK, INCLUDING CLEARING AND GRUBBING, WITHIN THE LIMITS OF WORK. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
7. ALL STRIPPED TOPSOIL AND OTHER EARTH MATERIALS SHALL BE STOCKPILED OUTSIDE THE IMMEDIATE WORK AND WETLAND AREAS. A SILT BARRIER SHALL BE CONSTRUCTED AROUND THESE PILES IN A MANNER TO PROVIDE ACCESS AND AVOID SEDIMENT OUTSIDE OF THE WORK AREA.
8. CONSTRUCT BUILDING PAD AND COMMENCE NEW BUILDING CONSTRUCTION.
9. CONSTRUCT TEMPORARY CULVERTS AND DIVERSIONS AS REQUIRED.
10. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH.
11. PERFORM EARTHWORK NECESSARY TO ESTABLISH ROUGH GRADING AROUND PARKING FIELDS AND ACCESS DRIVES. MANAGE EXPOSED SOIL SURFACES TO AVOID TRANSPORTING SEDIMENTS INTO WETLANDS. PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. INSTALL SUBSURFACE UTILITIES (WATER, SEWER, GAS, ELECTRIC, COMMUNICATIONS, DRAINAGE, DRAINAGE FACILITIES, ETC.).
13. CONSTRUCT PROPOSED ROADWAY, RAIN GARDENS, GRAVEL WETLANDS AND DRAINAGE SWALES. ALL DITCHES, SWALES, AND GRAVEL WETLANDS SHALL BE FULLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
14. COMPLETE BUILDING AND ALL OFF-SITE IMPROVEMENTS.
15. COMPLETE SEEDING AND MULCHING. SEED TO BE APPLIED WITH BROADCAST SPREADER OR BY HYDRO-SEEDING, THEN ROLLED, RAKED, OR DRAGGED TO ASSURE SEED/SOIL CONTACT.
16. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE BECOME FIRMLY ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE.
17. DURING THE COURSE OF THE WORK AND UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT DEPOSITS, EITHER ON OR OFF SITE, INCLUDING CATCH BASINS, AND SUMPS, DRAIN PIPES AND DITCHES, CURB LINES, ALONG SILT BARRIERS, ETC. RESULTING FROM SOIL AND/OR CONSTRUCTION OPERATIONS.
18. SEE WINTER CONSTRUCTION SEQUENCE FOR WORK CONDUCTED AFTER OCTOBER 15TH.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

SITE PREPARATION & DEMOLITION PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **APRIL 19, 2022**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14960
LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK
1	5/23/2022	REVISE UTILITY TRENCHING LIMITS.	JSM	JJM

DIG SAFE
CONTACT DIG SAFE - 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	CK			
45407-120	JSM	JCC	FB	CADFILE	45407-120_SITE PREP

C-02

May 23, 2022 - 4:05pm
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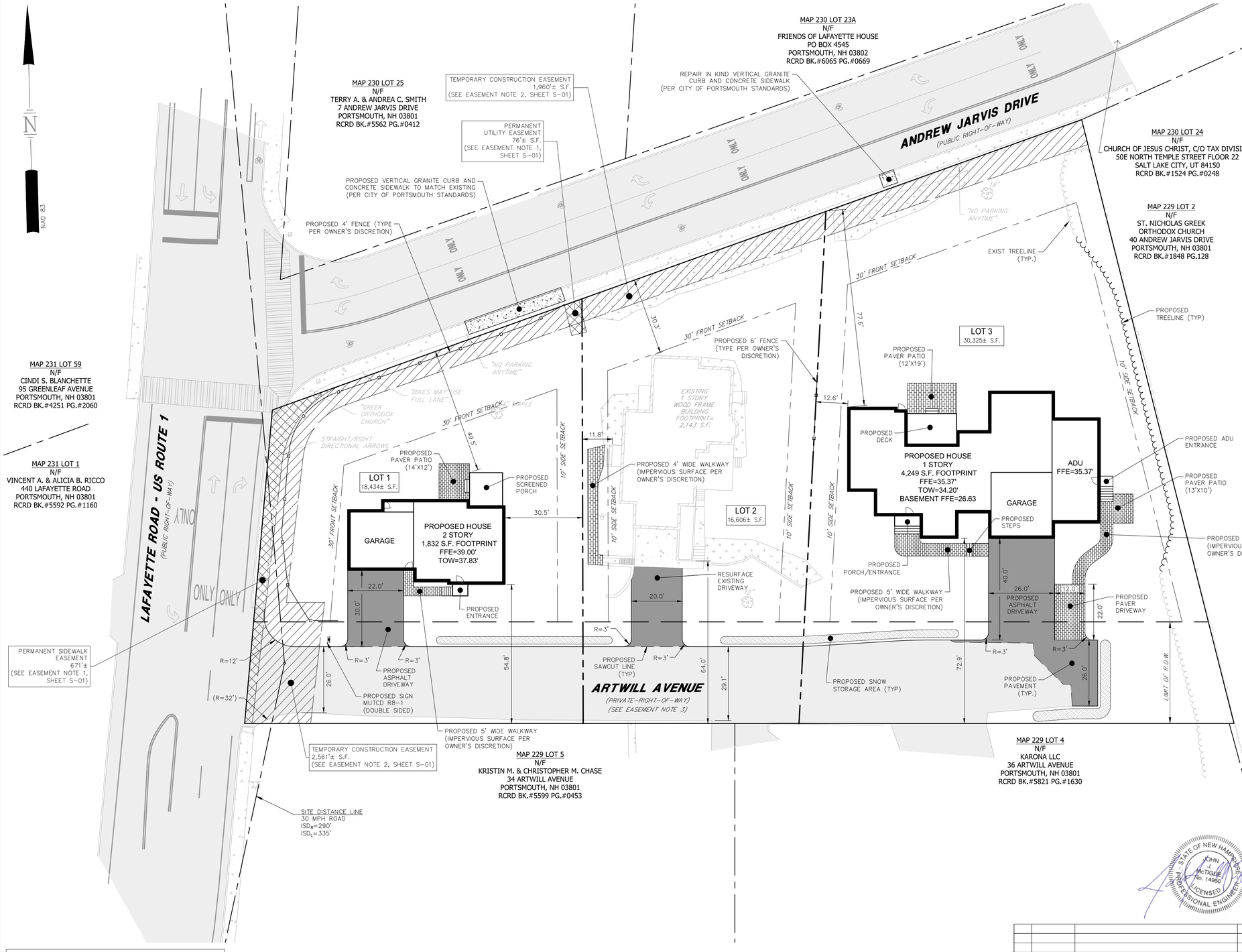

SITE DATA

OWNER OF RECORD OF MAP 229 LOT 1:
HARLON P. WILLIS REVOCABLE TRUST & JEAN P. WILLIS REVOCABLE TRUST
437 LAFAYETTE ROAD, PORTSMOUTH, NH 03801

DEED REFERENCE TO PARCEL IS BK.#3537 PG.#1327

AREA OF PARCEL = 65,365± S.F. OR 1.5006± ACRES

ZONED: SINGLE RESIDENCE B (SRB)
EXISTING USE: 1 LOT, SINGLE FAMILY DWELLING UNIT
PROPOSED USE: 3 LOTS, 3 SINGLE FAMILY DWELLING UNITS

THE PURPOSE OF THIS PLAN IS TO DEPICT TWO PROPOSED SINGLE FAMILY DWELLING UNIT WITH ACCESS ALONG ARTWELL AVENUE. ASSOCIATED IMPROVEMENTS NOT SHOWN ON THIS PLAN INCLUDE AND ARE NOT LIMITED TO GRADING, STORMWATER MANAGEMENT SYSTEMS, UTILITIES, LIGHTING, AND LANDSCAPING.

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED: LOT 1:	LOT 2:	LOT 3:
MINIMUM LOT DIMENSIONS:				
LOT AREA	15,000 S.F.	18,434 S.F.	16,606 S.F.	30,325 S.F.
LOT FRONTAGE	30 FT	129.6 FT	102.0 FT	107.0 FT
DEPTH	100 FT	105.6 FT	142.4 FT	179.7 FT
MINIMUM YARD DIMENSIONS:				
FRONT	30 FT	49.5 FT	30.3 FT	77.6 FT
SIDE	10 FT	30.5 FT	11.8 FT	12.6 FT
REAR	30 FT	54.8 FT	64.0 FT	72.9 FT
MAXIMUM STRUCTURE DIMENSIONS:				
SLOPED ROOF	35 FT	35 FT	27.5± FT	35 FT
ROOF APPURTENANCE HEIGHT	8 FT	>8 FT	>8 FT	>8 FT
BUILDING LOT COVERAGE	20% (MAX)	11.2%	14.9%	15.1%
MINIMUM SETBACKS/BUFFER:				
BUILDING FRONT	30 FT	30 FT	30 FT	30 FT
BUILDING SIDE	10 FT	10 FT	10 FT	10 FT
BUILDING REAR	30 FT	30 FT	30 FT	30 FT
MINIMUM OPEN SPACE	40%	61.4%	60.6%	66.5%

PARKING REQUIREMENTS

PARKING SPACES	1.3 SPACES/UNIT	2 SPACES*	2 SPACES	2 SPACES	3 SPACES

*LOT 3 CONTAINS (2) UNITS AND REQUIRES 3 SPACES

NOTES

1. SEE NOTES ON SHEET C-01.
2. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
3. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE CITY ZONING ORDINANCE AND SITE PLAN REGULATIONS.
4. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLAND BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.
5. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
6. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
7. 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.

SIGN LEGEND

ID	SIGN	SIZE (INCHES) WIDTH	SIZE (INCHES) HEIGHT	DESIGN (COLORING, TEXT SIZE, SPACING, SHAPE, RETROFLECTIVITY, ETC.)	NO. OF SIGNS
R8-1	NO PARKING ON PAVEMENT	18	24	REFER TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS	2

NOTE:
1. HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS AND ADA REGULATIONS.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

SITE LAYOUT PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **APRIL 19, 2022**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED PROFESSIONAL ENGINEER

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

DIG SAFE
811 OR 1-888-DIG-SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
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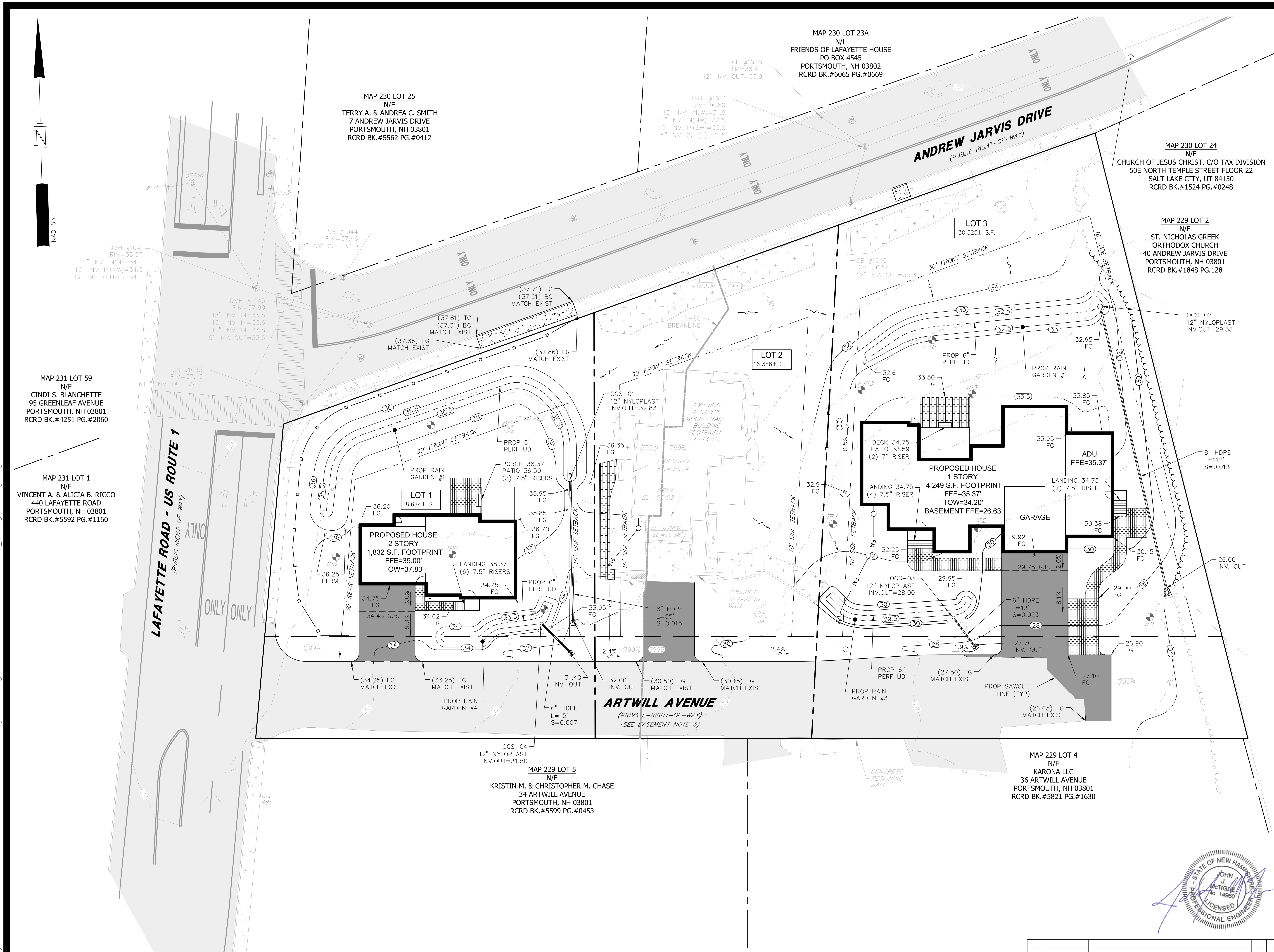
PROJ. #	45407-120	DR	JSM	FB		C-03
		CK	JCC	CADFILE	45407-120_SITE LAYOUT	



NOTES

1. SEE NOTES ON SHEET C-01.
2. SEE SHEET C-11 FOR RAIN GARDEN DETAILS.
3. ALL DOORS AND GARAGE ENTRANCES SHALL BE AT FINISHED FLOOR ELEVATION UNLESS OTHERWISE NOTED.
4. PROPOSED SPOT GRADES ARE PROVIDED TO THE NEAREST 0.05. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE FINISHED GRADES MEET ADA STANDARDS FOR WHEEL CHAIR RAMPS, HANDICAP SPACES AND ACCESS AISLES, CROSSWALKS, SIDEWALKS, ETC.
5. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
6. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
7. ALL PROPOSED DRAINAGE PIPES SHALL BE 12" AND HDPE, UNLESS OTHERWISE NOTED ON THE PLAN.
8. DRAINAGE PIPES WITH LESS THAN 3' COVER SHALL BE INSULATED (SEE UTILITY TRENCH DETAIL) AND DRAINAGE CATCH BASINS WITH LESS THAN 3.5' OF COVER OVER INVERTS SHALL USE SLAB TOP CATCH BASIN (SEE DETAILS).
9. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND ARCHITECTURAL PLANS FOR SUBDRAINAGE SYSTEMS FOR THE BUILDING FOUNDATION. SUBDRAINAGE MUST DAYLIGHT OR TIE INTO THE STORMWATER MANAGEMENT SYSTEM. COORDINATE SUBDRAINAGE SYSMTEM DESIGN WITH THE ENGINEER OF RECORD.

SOIL LEGEND (PER SITE SPECIFIC SOIL SURVEY)

SYMBOL	DESCRIPTION	HYDROLOGIC SOIL GROUP
799*	UBRAN LAND-CANTON COMPLEX 3% - 15% SLOPES	A (BASED ON FIELD INFILTRATION RATES)
799*	UBRAN LAND-CANTON COMPLEX 3% - 15% SLOPES	B (BASED ON FIELD INFILTRATION RATES)

*ENTIRE PROPERTY IDENTIFIED AS URBAN LAND-CANTON COMPLEX.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

GRADING & DRAINAGE PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR
ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")

APRIL 19, 2022

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED
PROFESSIONAL ENGINEER

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV	DATE	DESCRIPTION	DR	CK
1	5/18/2022	REVISE FFE OF HOUSE ON LOT #3.	JSM	JCC

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

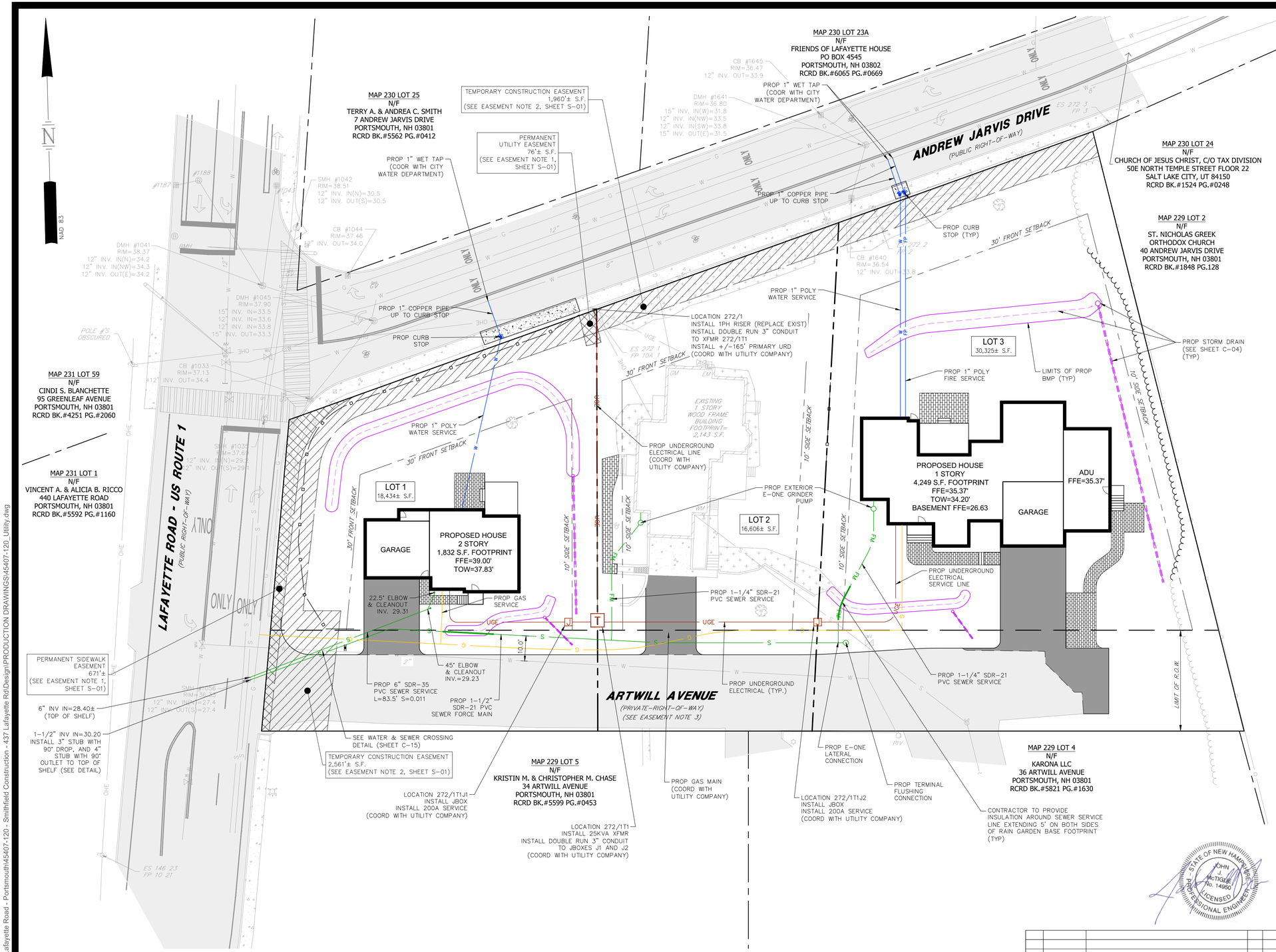
45407-120 | DR JSM | FB | CK JCC | CADFILE 45407-120_GRADING & DRAINAGE | C-04

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

May 23, 2022 - 4:25pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Grading & Drainage.dwg

NOTES

1. SEE UTILITY NOTES ON SHEET C-01.
2. CONTRACTOR SHALL COORDINATE WITH CITY OF PORTSMOUTH DPW PRIOR TO CONSTRUCTING SEWER MANHOLE CONNECTION.



SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

UTILITY PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")

APRIL 19, 2022

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14060 LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK
1	5/13/2022	ADD GAS MAIN AND CHANGE FIRE SERVICE TO 1"	JSM	JCC

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
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Bedford, NH 03110
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FILE	45407-120	DR	JSM	FB		C-05
		CK	JCC	CADFILE	45407-120_UTILITY	

May 23, 2022 - 4:06pm
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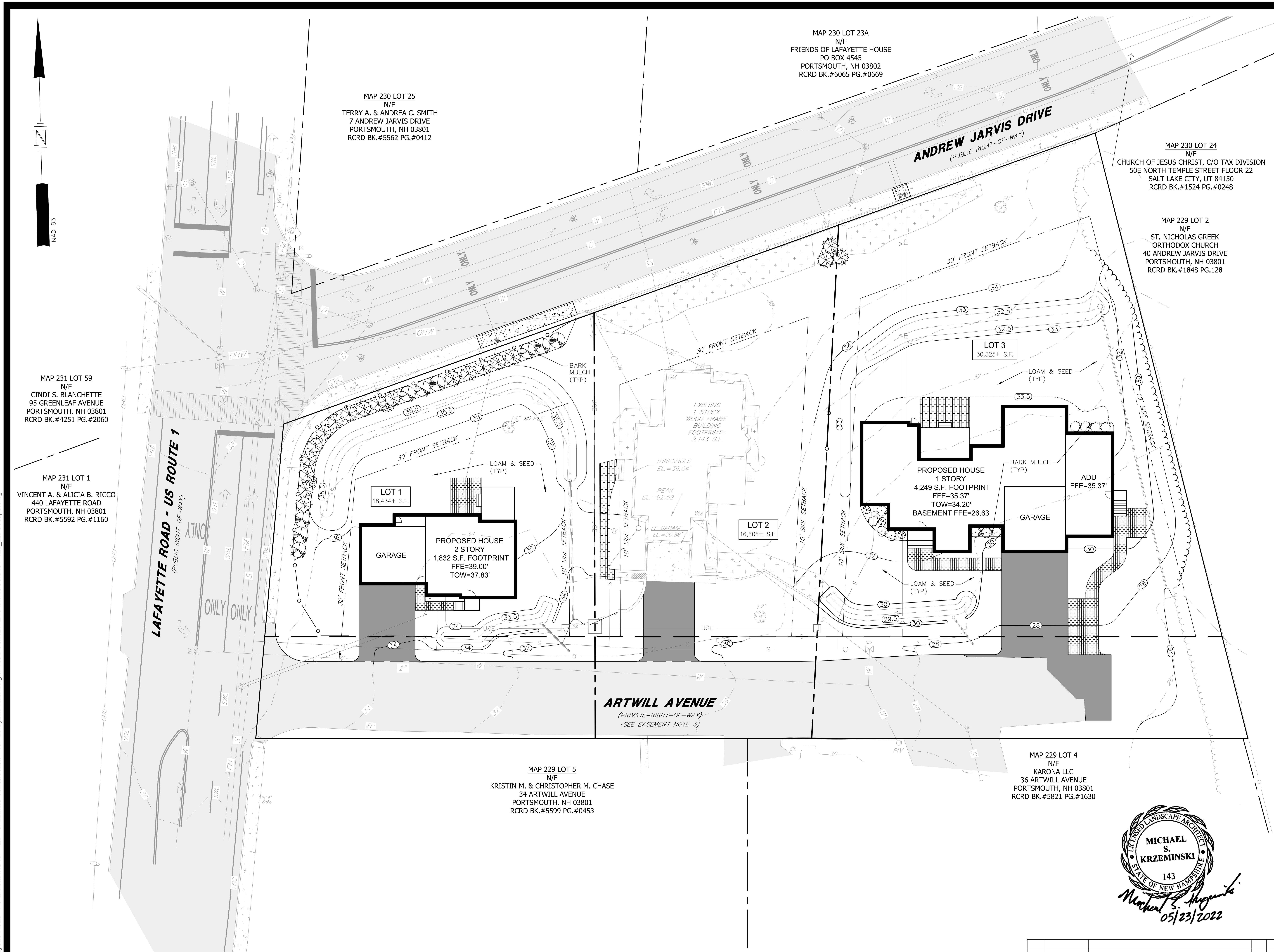

LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
	3	CLETHRA ALNIFOLIA 'HUMMINGBIRD' HUMMINGBIRD SUMMERSWEET	2 GAL.	CONT.
	9	FORSYTHIA 'LYNWOOD GOLD' LYNWOOD GOLD FORSYTHIA	5' TO 6'	B&B
	4	HYDRANGEA ARBORESCENS 'INCREDIBALL' INCREDIBALL SMOOTH HYDRANGEA	3 GAL.	CONT.
	5	JUNIPERUS VIRGINIANA 'GREY OWL' GREY OWL EASTERN RED CEDAR	3 GAL.	CONT.
	19	THUJA O. 'TECHNY' MISSION ARBORVITAE	5' TO 6'	B&B

LANDSCAPE NOTES

1. CONTRACTOR WILL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWNWORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES WILL IMMEDIATELY BE REPORTED TO THE LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE, SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
2. CONTRACTOR WILL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
3. SEE PLANTING DETAILS AND IF INCLUDED, SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE APPROPRIATE ARRANGEMENTS TO PROVIDE ALL PLANTS AND MATERIALS TO ACCOMMODATE PLANTING WITHIN THE TIME ALLOWED BY THE CONSTRUCTION SCHEDULE.
6. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 15TH UNLESS OTHERWISE NOTED IN SPECIFICATIONS. THERE WILL BE NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT BY PROVIDING ADDITIONAL WATERING.
7. ALL PLANTS WILL BE NURSERY GROWN.
8. PLANTS WILL BE IN ACCORDANCE, AT A MINIMUM, WITH CURRENT EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION.
9. TREES WILL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 PART 1, "TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE STANDARD PRACTICES".
10. PLANTS MATERIAL IS SUBJECT TO APPROVAL / REJECTION BY THE LANDSCAPE ARCHITECT AT THE SITE AND AT THE NURSERY.
11. ALL PLANTS WILL BE MOVED WITH ROOT SYSTEMS AS SOLID UNITS AND WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. NO PLANT WILL BE ACCEPTED WHEN BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE WILL BE HEELED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL AND THEN WATERING. DURING TRANSPORT, ALL PLANT MATERIALS WILL BE WRAPPED WITH WIND PROOF COVERING.
12. NEWLY PLANTED MATERIAL WILL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL GRADE OF THE PLANT PRIOR TO DIGGING.
13. PROPOSED TREES OVERHANGING SIDEWALKS, ROADS OR PARKING WILL BEGIN BRANCHING NATURALLY (NOT PRUNED) AT 6' HEIGHT.
14. MULCH FOR PLANTED AREAS (NOT INCLUDING RAIN GARDENS) WILL BE AGED SHREDDED PINE BARK, PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS UNLESS OTHERWISE SHOWN.
15. PLANT MATERIAL WILL BE LOCATED OUTSIDE BUILDING DRIPLINES AND ROOF VALLEY POINTS OF CONCENTRATION TO PREVENT DAMAGE TO PLANTS. CLARIFY DISCREPANCIES WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
16. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, WILL RECEIVE SIX (6) INCH LOAM AND SEED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
17. TREE STAKES AND WRAP WILL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR. CONTRACTOR WILL REMOVE.
18. ALL PLANT GROUPINGS WILL BE IN MULCH BEDS UNLESS OTHERWISE SPECIFIED OR NOTED ON PLANS. WHERE MULCHED PLANT BED ABUTS LAWN, PROVIDE TURF CUT EDGE.
19. ALL PLANT BEDS WILL INTERSECT WITH PAVEMENT AT 90 DEGREES UNLESS OTHERWISE NOTED ON PLANS.
20. ALL PLANT BED EDGES WILL BE SMOOTH AND CONSISTENT IN LAYOUT OF RADII AND TANGENTS. IRREGULAR, WAVY EDGES WILL NOT BE ACCEPTED.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

LANDSCAPE PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")

APRIL 19, 2022

REV	DATE	DESCRIPTION	DR	CK
1	5/20/2022	MINOR GRADING AND LANDSCAPING REVISIONS.	JSM	MK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
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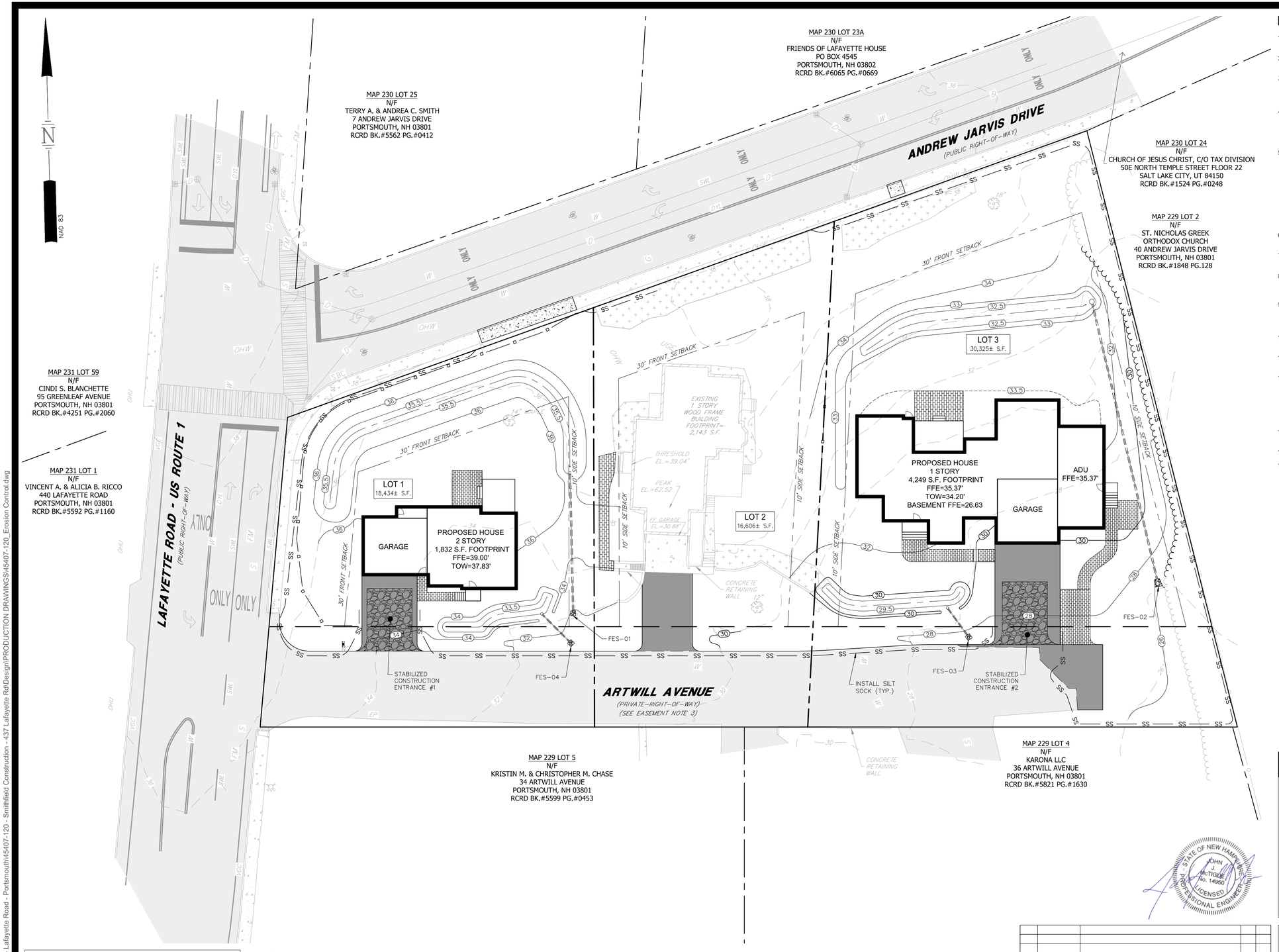
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	JSM	FB		
45407-120	CK	JCC	CADFILE	45407-120_LANDSCAPE	C-06

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION



NOTES

1. SEE NOTES ON SHEET C-01, EROSION CONTROL NOTES ON SHEET C-08, EROSION CONTROL DETAILS ON SHEET C-10, AND THE APPROVED SWPPP, AS APPLICABLE.
2. INSTALL SILT BARRIER ALONG THE PERIMETER OF THE AREA TO BE DISTURBED AS FIRST ORDER OF WORK.
3. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED. INLET PROTECTION BARRIERS SHALL BE IN PLACE AT ALL CATCH BASINS PRIOR TO THE DISTURBANCE OF SOIL.
4. DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. IT SHALL BE ACCOMPLISHED BY THE UNIFORM APPLICATION OF CALCIUM CHLORIDE AT THE RATE OF 1-1/2 POUNDS PER SQUARE YARD BY MEANS OF A LIME SPREADER OR OTHER APPROVED METHOD. WATER MAY ALSO BE USED FOR DUST CONTROL, AND APPLIED BY SPRINKLING WITH WATER TRUCK DISTRIBUTORS, AS REQUIRED.
5. THE SITE WILL REQUIRE A USEPA NPDES PERMIT FOR STORMWATER DISCHARGE FOR THE SITE CONSTRUCTION IF THE DISTURBANCE EXCEEDS ONE ACRE. THE CONSTRUCTION SITE OPERATOR SHALL DEVELOP AND IMPLEMENT A CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT WHICH SHALL REMAIN ON SITE AND MADE ACCESSIBLE TO THE PUBLIC. THE SITE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE. A COMPLETED NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO NPDES PERMITTING AUTHORITY WITHIN 30 DAYS AFTER EITHER OF THE FOLLOWING CONDITIONS HAVE BEEN MET: FINAL STABILIZATION HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE FOR, OR ANOTHER OPERATOR/PERMITTEE HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
6. SILT PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS CONTAINED IN THIS PLAN SET.
7. CONSTRUCT JUTE MATTING ON ALL SLOPES STEEPER THAN 3:1, DISTURBED AREAS SLOPING TOWARDS WETLANDS AND ALL LOCATIONS SHOWN ON PLAN.
8. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RAIN STORM OF 0.10" OR GREATER. REPAIR/MODIFY SILT BARRIER AS NECESSARY TO MAXIMIZE FILTER EFFICIENCY. REMOVE SEDIMENT WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
9. PROVIDE SILT BARRIERS AT THE BASE OF CUT AND FILL SLOPES UNTIL COMPLETION OF THE PROJECT OR UNTIL VEGETATION BECOMES ESTABLISHED ON SLOPES. EROSION PROTECTION BELOW FILL SLOPES SHALL BE PLACED IMMEDIATELY AFTER CLEARING, PRIOR TO EMBANKMENT CONSTRUCTION.
10. ALL DISTURBED AREAS SHALL BE REVEGETATED AS QUICKLY AS POSSIBLE. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
11. ALL WORK AREAS TO BE STABILIZED AT THE END OF EACH WORK DAY AND PRIOR TO ANY PREDICTED SIGNIFICANT RAIN EVENT.
12. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    - A. BASE COURSE GRAVELS, WHICH MEET THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2, ARE 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 RIP RAP HAS BEEN INSTALLED
    - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
13. ALL CATCH BASINS, MANHOLES, AND DRAIN LINES SHALL BE THOROUGHLY CLEANED OF ALL SEDIMENT AND DEBRIS AFTER ALL AREAS HAVE BEEN STABILIZED.
14. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SLOPE STABILITY DURING CONSTRUCTION.
15. THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

EROSION CONTROL PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **APRIL 19, 2022**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED
PROFESSIONAL ENGINEER

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV	DATE	DESCRIPTION	DR	CK
1	5/23/2022	REVISED GRADING.	JSM	JJM

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SOIL CHARACTERISTICS

THE SOIL IN THE VICINITY OF THE SITE CONSIST OF URBAN LAND–CANTON COMPLEX, THE MAJORITY OF THE SOIL IS HSG TYPE A AND TYPE B.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 46,875 SQUARE FEET (1.076 ACRES). CONSTRUCTION SHALL BE PHASED TO LIMIT DISTURBED AREAS TO LESS THAN 5 ACRES.

CRITICAL NOTE: THIS DRAWING IS PROVIDED FOR GENERAL GUIDANCE. ALL SPECIAL EROSION CONTROL MEASURES MUST BE EXECUTED IN ACCORDANCE WITH APPLICABLE CURRENT STATE AND LOCAL REGULATIONS, APPROVED SWPPP, AND PERMIT REQUIREMENTS.

SEQUENCE OF MAJOR ACTIVITIES

1. INSTALL PERIMETER CONTROLS, STABILIZED CONSTRUCTION ENTRANCE, AND TEMPORARY EROSION CONTROL MEASURES PER APPROVED SITE DEVELOPMENT PLANS, PERMITS, OR SWPPP IF REQUIRED, PRIOR TO EARTH MOVING OPERATIONS.
2. DEMOLISH EXISTING SITE WORK DESIGNATED FOR REMOVAL.
3. INSTALL STORMWATER TREATMENT PONDS AND SWALES BEFORE ROUGH GRADING THE SITE.
4. COMPLETE MAJOR GRADING OF SITE.
5. CONSTRUCT BUILDING PAD, STORMWATER SYSTEM, AND SITE UTILITIES.
6. CONSTRUCT PARKING LOT.
7. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND SITE IS STABILIZED, REMOVE ALL INLET PROTECTION, SILT BARRIERS, AND SEDIMENT THAT HAS BEEN TRAPPED BY THESE DEVICES.
8. CONSULT APPLICABLE REGULATIONS, PERMITS, CONDITIONS, AND APPROVED SWPPP FOR CONDITIONS RELATED TO NOTICE OF TERMINATION, IF REQUIRED.

EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL 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. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

1. BASE COURSE GRAVELS, WHICH MEET THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2, HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
3. A MINIMUM OF 3" OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

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 BARRIERS. ALL STORM DRAIN INLETS SHALL BE PROVIDED WITH BARRIER FILTERS. STONE RIPRAP SHALL BE PROVIDED AT THE OUTLETS OF DRAINAGE PIPES WHERE EROSIVE VELOCITIES ARE ENCOUNTERED.

OFF SITE VEHICLE TRACKING

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.

INSTALLATION, MAINTENANCE, AND INSPECTION OF EROSION AND SEDIMENT CONTROLS

A. GENERAL

THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.

1. STABILIZATION OF ALL SWALES, DITCHES, AND PONDS IS REQUIRED PRIOR TO DIRECTING FLOW TO THEM.
2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME. (5 AC MAX)
3. ALL CONTROL MEASURES WILL BE INSPECTED IN ACCORDANCE WITH APPLICABLE REGULATIONS, PERMITS, AND CONDITIONS AND[a] FOR PROJECTS REQUIRING A NPDES EPA CGP AND DISCHARGING TO A NON–SENSITIVE WATERBODY, AT LEAST EVERY 7 DAYS OR EVERY 14 DAYS AND AFTER A 0.25 INCHES RAIN EVENT OR GREATER.
4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT BARRIER WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE BARRIER.
6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
9. IF INSPECTIONS ARE REQUIRED OR THE PROJECT IS SUBJECT TO A NPDES EPA CGP, THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE, AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

B. FILTERS / BARRIERS

1. SILT SOCKS

   A. KNOTTED MESH NETTING MATERIAL SHALL BE DELIVERED TO SITE IN A 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" MATERIAL, FILLED WITH COMPOST CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
PH	TMECC 04.11–A	5.0 TO 8.0
PARTICLE SIZE	TMECC 02.02–B	2" SIEVE AND MIN. 60% GREATER THAN THE 3/8" SIEVE
MOISTURE CONTENT		STND TESTING < 60%

   MATERIAL SHALL BE RELATIVELY FREE OF INERT OR FOREIGN MAN–MADE MATERIALS

   MATERIAL SHALL BE WEED FREE AND DERIVED FROM A WELL–DECOMPOSED SOURCE OF ORGANIC MATTER, FREE FROM ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH.

   B. SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK SHALL BE REMOVED ONCE IT HAS REACHED 1/3 OF THE EXPOSED HEIGHT OF THE SILT SOCK.

   C. SILT BARRIER SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAS BEEN PERMANENTLY STABILIZED.

2. SEQUENCE OF INSTALLATION

   SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.

3. MAINTENANCE

   A. SILT BARRIERS SHALL BE INSPECTED WEEKLY AND 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 BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.

   B. SHOULD THE FABRIC 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.

   C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) THE HEIGHT OF THE BARRIER.

   D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFIRM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

C. MULCHING

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' OF WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE, TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.

   B. REQUIRED MULCHING WITHIN A SPECIFIED TIME PERIOD.

   THE TIME PERIOD CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON AN AREA, WHERE THE LENGTH OF TIME VARIES 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.

2. GUIDELINES FOR WINTER MULCH APPLICATION.

   WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 6,000 POUNDS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH.

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.

D. VEGETATIVE PRACTICE

1. AFTER ROUGH GRADING OF THE SUBGRADE HAS BEEN COMPLETED AND APPROVED, THE SUB GRADE SURFACE SHALL BE SCARIFIED TO A DEPTH OF 4". THEN, FURNISH AND INSTALL A LAYER OF LOAM PROVIDING A ROLLED THICKNESS AS SPECIFIED IN THESE PLANS. ANY DEPRESSIONS WHICH MAY OCCUR DURING ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM, REGRADED AND REROLLED UNTIL THE SURFACE IS TRUE TO THE FINISHED LINES AND GRADES. ALL LOAM NECESSARY TO COMPLETE THE WORK UNDER THIS SECTION SHALL BE SUPPLIED BY THE SITE SUBCONTRACTOR.
2. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, DEBRIS, GLASS, STUMPS, LITTER, AND OTHER FOREIGN MATERIAL, AS WELL AS STONES OVER 1" IN DIAMETER, SHALL BE REMOVED FROM THE LOAM AND DISPOSED OF OFF SITE. THE LOAM SHALL BE RAKED SMOOTH AND EVEN.
3. THE LOAM SHALL BE PREPARED TO RECEIVE SEED BY REMOVING STONES, FOREIGN OBJECTS AND GRADING TO ELIMINATE WATER POCKETS AND IRREGULARITIES PRIOR TO PLACING SEED. FINISH GRADING SHALL RESULT IN STRAIGHT UNIFORM GRADES AND SMOOTH, EVEN SURFACES WITHOUT IRREGULARITIES TO LOW POINTS.
4. SHAPE THE AREAS TO THE LINES AND GRADES REQUIRED. THE SITE SUBCONTRACTOR'S ATTENTION IS DIRECTED TO THE SCHEDULING OF LOAMING AND SEEDING OF GRADED AREAS TO PERMIT SUFFICIENT TIME FOR THE STABILIZATION OF THESE AREAS. IT SHALL BE THE SITE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE AREAS DURING THE CONSTRUCTION PERIOD AND REGRADE, LOAM AND RESEED ANY DAMAGED AREAS.
5. ALL AREAS DISTURBED BY CONSTRUCTION WITHIN THE PROPERTY LINES AND NOT COVERED BY STRUCTURES, PAVEMENT, OR MULCH SHALL BE LOAMED AND SEEDED.
6. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
7. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10–20–20 FERTILIZER.
8. 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.
9. 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" AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
10. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH THAT BLOWS OR WASHES AWAY SHALL BE REPLACED IMMEDIATELY AND ANCHORED USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.
11. 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.
12. THE SITE SUBCONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED, INCLUDING CUTTING, AS SPECIFIED HEREIN AFTER UNDER MAINTENANCE AND PROTECTION.
13. UNLESS OTHERWISE APPROVED, SEEDING SHALL BE DONE DURING THE APPROXIMATE PERIODS OF EARLY SPRING TO SEPTEMBER 30, WHEN SOIL CONDITIONS AND WEATHER ARE SUITABLE FOR SUCH WORK. IN NO CASE SHALL THE WEED CONTENT EXCEED 1 PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. FOR TEMPORARY PLANTINGS AFTER SEPTEMBER 30, TO EARLY SPRING AND FOR TEMPORARY PROTECTION OF DISTURBED AREAS:

    A. FOLLOW ABOVE SLOPE, LOAM DEPTH AND GRADING REQUIREMENTS.
    B. FERTILIZER SHALL BE SPREAD AND WORKED INTO THE SURFACE AT A RATE OF 500 POUNDS PER ACRE.

    MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:

WINTER RYE (FALL SEEDING)	2.5 LBS/1,000 SF
OATS (SPRING SEEDING)	2.0 LBS/1,000 SF
MULCH	1.5 TONS/ACRE

E. CATCH BASIN INLET PROTECTION

1. INLET BASKET STRUCTURE

   A. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO DISTURBING PAVEMENT AND SHALL REMAIN IN PLACE AND MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

   B. MOLD 6X6, 42 LB. WIRE SUPPORT AROUND INLET FRAME AND GRATE AND EXTEND 6" BEYOND SIDES. SECURE FILTER FABRIC TO WIRE SUPPORT.

   C. THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:

      GRAB STRENGTH: 45 LB. MINIMUM IN ANY PRINCIPAL DIRECTION (ASTM D1682)
      MULLEN BURST STRENGTH: MIN. 60PSI (ASTM D774)

   D. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 GPM.

   E. THE INLET PROTECTION SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

   F. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

F. WINTER CONSTRUCTION SEQUENCE

1. ALL PROPOSED POST–DEVELOPMENT LANDSCAPED 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 SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT 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 EVENT.
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 WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER ALL TRAVEL SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOWFALL AFTER EACH STORM EVENT.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

FOR SINGLE/DUPLEX FAMILY SUBDIVISIONS, WHEN LOT DEVELOPMENT IS NOT PART OF THE PERMIT, THEN LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

WASTE DISPOSAL

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

SPILL PREVENTION

1. MATERIAL MANAGEMENT PRACTICES
   THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:

   GOOD HOUSEKEEPING:
   THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:

   A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.

   B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.

   C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

   D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

   E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

   F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.

   HAZARDOUS PRODUCTS:
   THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

   A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.

   B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.

   C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

2. PRODUCT SPECIFICATION PRACTICES
   THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

   PETROLEUM PRODUCTS:
   ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

   FERTILIZERS:
   FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

   PAINTS:
   ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

   CONCRETE TRUCKS:
   CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA DESIGNATED ON SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL 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 WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.

F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.

G. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

DUST CONTROL

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

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STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14950
LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

EROSION CONTROL NOTES

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
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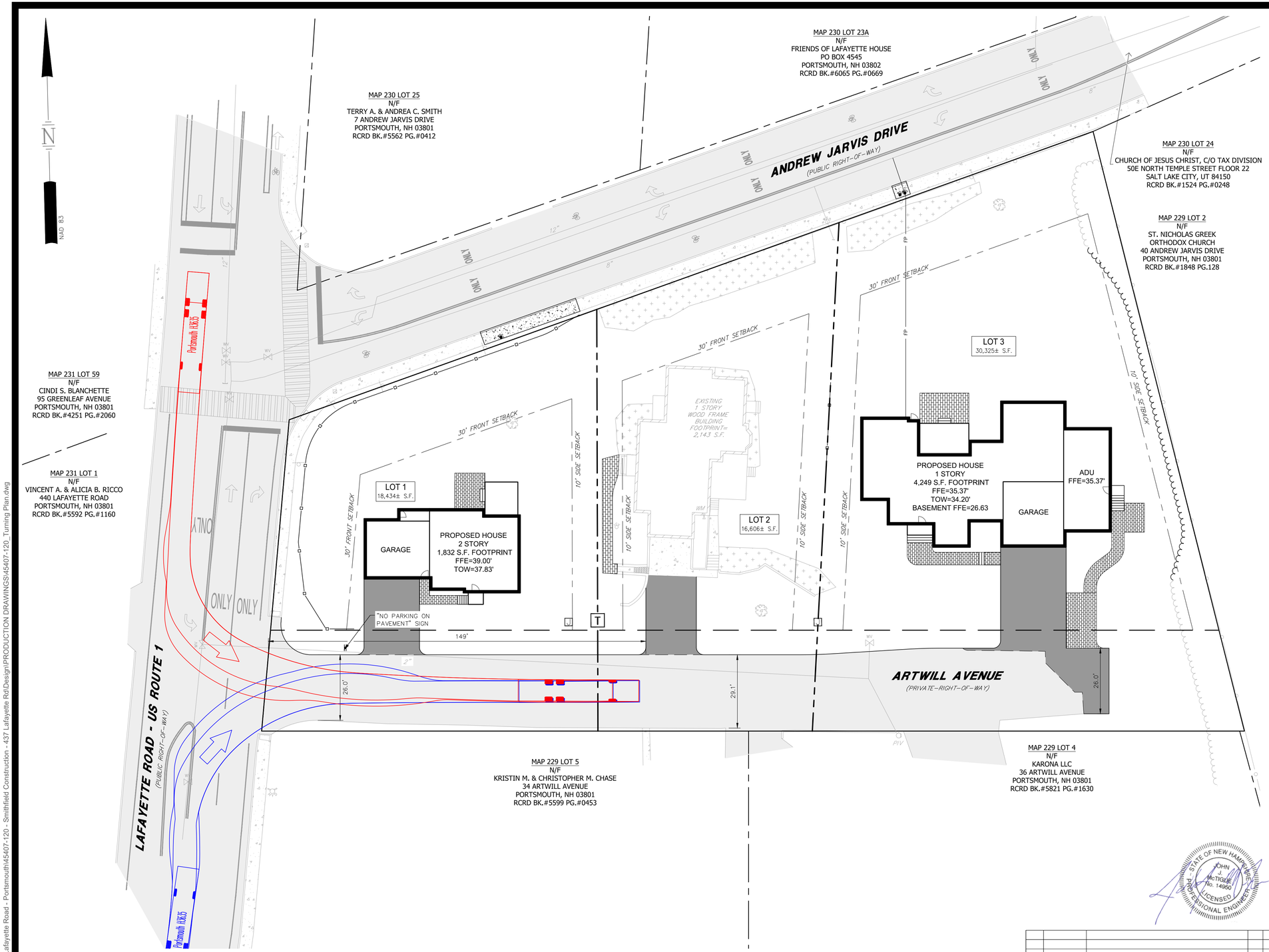

NOTES

1. PROPOSED HOUSE ON LOT #3 SHALL BE EQUIPPED WITH FIRE SPRINKLERS FOR FIRE SUPPRESSION.

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV	DATE	DESCRIPTION	DR	CK

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

TRUCK TURNING PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34") **APRIL 19, 2022**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14960 LICENSED PROFESSIONAL ENGINEER

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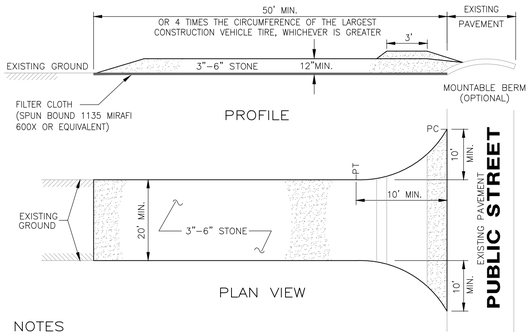
FILE	45407-120	DR	JSM	FB		C-09
		CK	JCC	CADFILE	45407-120_TURNING PLAN	

May 23, 2022 - 4:07pm
P:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Turning Plan.dwg

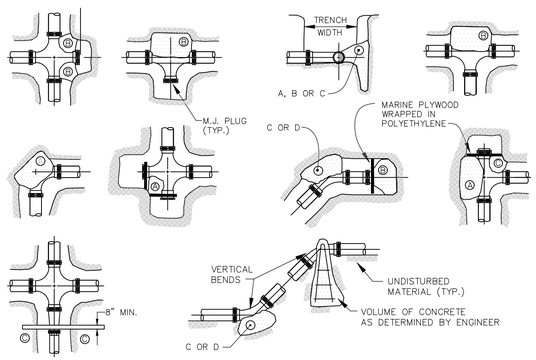


NOTES

1. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE 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.
4. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



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 PIPE 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 MECHANICAL JOINT PIPE IS USED, MECHANICAL JOINT PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN ESTABLISHED RULES AND PROCEDURES.

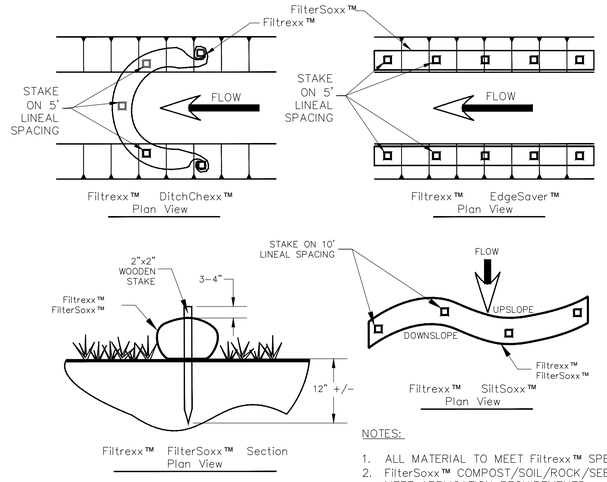
TEST PRESSURE = 200psi

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

THRUST BLOCKS

NOT TO SCALE

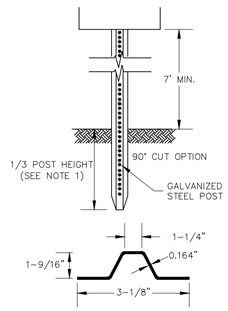


NOTES:

1. ALL MATERIAL TO MEET Filtrexx™ SPECIFICATIONS
2. FilterSoxx™ COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
4. SIZE OF SOCK TO BE PER MANUFACTURER'S SPECIFICATIONS

FILTREXX™ FILTERSOXX™ STAKING

NOT TO SCALE

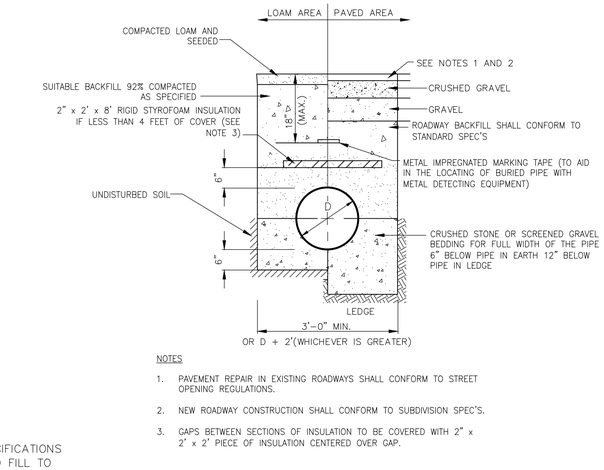


LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 – 1080)
FINISH: SHALL BE PAINTED WITH 2 COATS OF AN APPROVED MEDIUM GREEN BAKED-ON OR AIR-DRIED PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTE:
1. WHERE LEDGE APPLICATION EXISTS, DRILL & GROUT TO A MINIMUM OF 2'.
2. ALL SIGNAGE SHALL FOLLOW THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES STANDARDS AND NHDOT STANDARDS.
3. SIGN, HARDWARE, AND INSTALLATION SHALL CONFORM TO THE LATEST NHDOT STANDARD SPECIFICATIONS.

SIGN POST

NOT TO SCALE

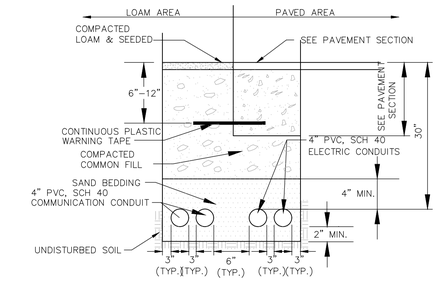


NOTES

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.
3. GAPS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2" x 2' x 2' PIECE OF INSULATION CENTERED OVER GAP.

SEWER TRENCH WITH OPTIONAL INSULATION

NOT TO SCALE

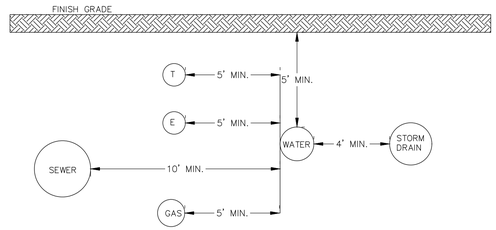


NOTES

1. ELECTRIC SERVICE INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES.
2. COMMUNICATION SERVICE INSTALLATION SHALL MEET ALL CONSTRUCTION REQUIREMENTS.
3. ACTUAL NUMBER OF CONDUITS TO BE DETERMINED BY RESPECTIVE COMPANIES.
4. VERIFY INSTALLATION REQUIREMENTS WITH RESPECTIVE COMPANIES.

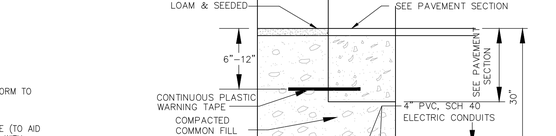
ELECTRIC/COMMUNICATIONS CONDUIT

NOT TO SCALE



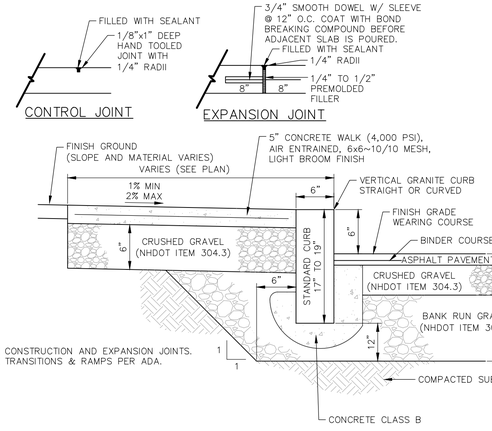
TYPICAL UTILITY SEPARATION DETAIL

NOT TO SCALE



PAVEMENT SAWCUT

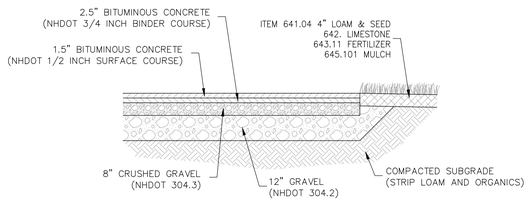
NOT TO SCALE



NOTES:
1. PROVIDE CONSTRUCTION AND EXPANSION JOINTS.
2. PROVIDE TRANSITIONS & RAMPS PER ADA.

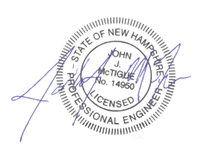
CONCRETE SIDEWALK WITH VERTICAL GRANITE CURB

NOT TO SCALE



PAVEMENT SECTION/LOAM & SEED DETAIL

NOT TO SCALE



SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
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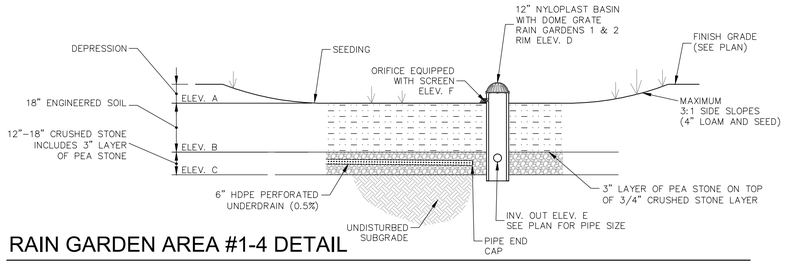
FILE 45407-120 | DR JSM | CK JCC | FB | CADFILE 45407-120_DETAILS | C-10



RAIN GARDEN AREA #1-4 DETAIL

NOT TO SCALE

SEEDING

1. USE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES BY NEW ENGLAND WETLAND PLANTS, INC. OR EQUIVALENT.
2. SEED AT A RATE OF 1LB/1250SF. APPLY TO BARE SOIL. LIGHTLY MULCH WITH CLEAN WEED FREE STRAW.

	ELEV.			
	RG #1	RG #2	RG #3	RG #4
A	35.50	32.50	29.50	33.50
B	34.00	31.00	28.00	32.00
C	32.58	29.58	26.58	30.58
D	35.85	32.85	29.90	33.85
E*	32.83	29.33	28.00	31.50
F	35.75 1" ORIFICE	32.75 1" ORIFICE	29.83 1" ORIFICE	33.75 1" ORIFICE

* SEE GRADING AND DRAINAGE PLAN FOR CULVERT SIZES.

RAIN GARDEN CONSTRUCTION

1. CLEAR AND GRUB THE AREA WHERE THE RAIN GARDEN AREAS ARE TO BE LOCATED. STOCKPILE LOAM FOR REUSE ON SLOPES.
2. GRADE RAIN GARDEN AREAS ACCORDING TO PLAN AND DETAILS. SIDE SLOPES SHALL HAVE 4" LOAM AND SEED AND A SLOPE NOT TO EXCEED 3:1. BOTTOM OF RAIN GARDEN AREAS TO BE CONSTRUCTED WITH MANUFACTURED SOIL (SEE RAIN GARDEN CONSTRUCTION DETAIL). SPECIFIC PLANTINGS SHALL BE PLACED IN THE FACILITY ACCORDING TO THE LANDSCAPE PLAN PLANTING DETAIL.
3. RAIN GARDEN SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES EXCLUDING MULCH. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE RAIN GARDEN AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATION.
4. THE USDA TEXTURAL CLASSIFICATION OF THE SANDY SOIL SHALL BE LOAMY SAND OR SANDY LOAM.
5. THE ENGINEERED SOIL – SEE ENGINEERED SOIL MIX NOTES.
   A. SOILS TO BE TESTED AND APPROVED BY THE ENGINEER OF RECORD. ENGINEER SHALL SUBMIT LETTER OF VERIFICATION TO THE CITY.
9. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT EQUIPMENT & VEHICLE TRAFFIC FROM DRIVING IN THE AREA OF THE PROPOSED RAIN GARDEN AREA DURING CONSTRUCTION.
10. AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES. THE BASIN BOTTOM SHOULD BE LEVELED PRIOR TO BACKFILLING WITH CRUSHED STONE AND RAIN GARDEN SOIL MIXTURE.
11. AASHTO #57 STONE CAN BE USED IN PLACE OF 3/4" CRUSHED STONE.

RAIN GARDEN MAINTENANCE

MAINTENANCE SCHEDULE TO BEGIN AFTER CONSTRUCTION IS FINISHED AND BASIN STABILIZATION IS COMPLETE.

1. CONTRACTOR AND LAND OWNERS TO PERFORM SCHEDULED MAINTENANCE ON THE RAIN GARDENS.
2. REGULAR WATERING DURING THE FIRST FEW WEEKS AFTER PLANTING AND DURING HOT, DRY SPELLS, ESPECIALLY IN THE FIRST TWO YEARS AFTER PLANTING. AFTER THE FIRST TWO YEARS AND ONCE PLANTS ARE ESTABLISHED, WATERING SHOULD ONLY BE NECESSARY DURING DROUGHT CONDITIONS.
3. FOR THE FIRST YEAR, FREQUENT AND AGGRESSIVE WEEDING MONTHLY DURING GROWING SEASON. REMOVE ONLY INVASIVE SPECIES.
4. TWICE PER YEAR, INSPECT SPILLWAYS AND REMOVE ANY ACCUMULATED DEBRIS OR SEDIMENT TO ENSURE PROPER FUNCTIONALITY.
5. ONCE A YEAR TRIM AND PRUNE EXCESS VEGETATION. DEAD, DYING, DISEASED, OR HAZARDOUS BRANCHES SHOULD BE TRIMMED AND REMOVED AS THEY OCCUR.
6. ONCE A YEAR INSPECT RAIN GARDEN FOR DEAD OR DYING VEGETATION. REPLACE VEGETATION AS NEEDED. NEW PLANTS SHOULD BE PLACED IN THE SAME LOCATION AS THE OLD PLANT, OR AS NEAR AS POSSIBLE TO THE OLD LOCATION. NEW PLANTS SHOULD BE THE NATIVE AND SAME OR EQUIVALENT VARIETY.
7. DO NOT MOW GARDEN.
8. ONCE A YEAR, INSPECT BOTTOM OF RAIN GARDEN. MAINTAIN A 2–3" LAYER OF MULCH. REPLACE AS REQUIRED.
9. DURING INSPECTIONS, REMOVE ANY TRASH, ACCUMULATED DEBRIS OR SEDIMENT.
10. ONCE A YEAR INSPECT BERM FOR SETTLING. ADD COMPACTED SOIL AND REPLANT AS NEEDED.
11. ONCE A YEAR IN THE FALL THE SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME AFTER A RAINFALL EVENT THAT EXCEEDS 1.0 INCHES IN A 24–HOUR PERIOD. THE SYSTEM SHOULD BE CHECKED TO CONFIRM THAT IT COMPLETELY DRAINS IN 72–HOUR AFTER THE RAINFALL EVENT. IF THE GARDEN DOES NOT DRAIN, A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION OR INFILTRATION FUNCTIONS, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS.
12. ONCE A YEAR TEST PLANTING BED FOR PH. IF THE PH IS BELOW 5.2, LIMESTONE SHOULD BE APPLIED. IF THE PH IS ABOVE 8.0, IRON SULFATE AND SULFUR SHOULD BE APPLIED.

ENGINEERED SOIL MIX

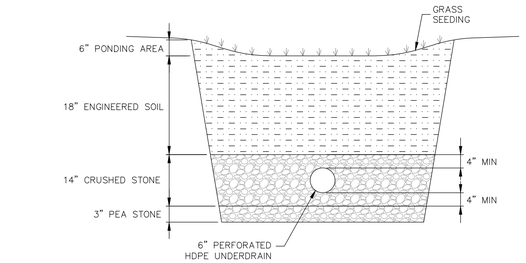
1. THE ENGINEERED SOIL IS MADE OF IS 10% WOOD CHIPS, 35% LOAM, AND 55% SAND.
2. LOAM SHALL MEET THE USDA TEXTURAL CLASSIFICATION OF LOAMY FINE SAND.
3. SAND SHALL BE CONCRETE SAND MEETING ASTM C–33 SPECIFICATION.
4. WOOD CHIPS SHALL BE SHREDDED WOOD, WOOD CHIPS, GROUND BARK, OR WOOD WASTE; OF UNIFORM TEXTURE AND FREE OF STONES, STICKS, SOIL, OR TOXIC MATERIALS
5. SOIL REACTION: PH OF 6 TO 7.
6. CEC OF TOTAL SOIL: MINIMUM 10 MEQ/100 ML AT PH OF 7.0.
7. BASIS–OF–DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS INDICATED ON DRAWINGS
8. BASIC PROPERTIES: MANUFACTURED SOIL SHALL NOT CONTAIN THE FOLLOWING:
   A. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, ASPHALT, BRICKS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, SOLID WASTE, AND OTHER EXTRANEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
   B. UNSUITABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 5 PERCENT BY DRY WEIGHT OF THE MANUFACTURED SOIL.
   C. LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 0.187 INCHES (4.76 MM) IN ANY DIMENSION.

ENGINEERED SOIL MIX PARTICLE SIZE DISTRIBUTION (PSD)			
PSD UPPER LIMIT		PSD LOWER LIMIT	
SIEVE #	% Passing	SIEVE #	% PASSING
4	100	4	100
10	95	10	95
40	40	40	15
200	20	200	15
<200	5	<200	5

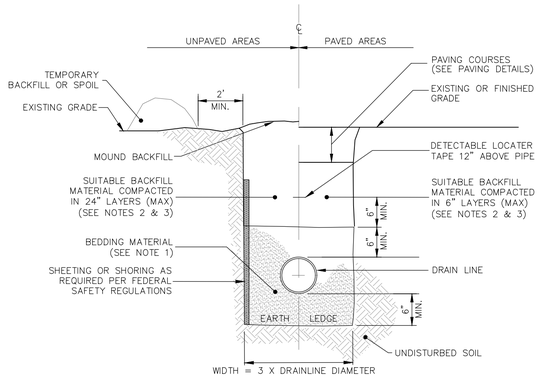
RAIN GARDEN INSPECTION SCHEDULE

1. RAIN GARDEN TO BE INSPECTED BY THE DESIGN ENGINEER FOR EACH STAGE OF CONSTRUCTION.
2. PHASES OF CONSTRUCTION BEING:
   A. EXCAVATION OF THE RAIN GARDEN BASIN, INCLUDING ROTOTILLING.
   B. INSTALLATION OF THE CRUSHED STONE
   C. INSTALLATION OF THE ENGINEERED SOIL
   D. INSTALLATION OF THE OUTLET STRUCTURE AND UNDERDRAIN IN THE OUTLET STONE TRENCHES
3. SAMPLE OF THE INDIVIDUAL COMPONENTS OF THE ENGINEERED SOIL TO BE PROVIDED AND APPROVED PRIOR BEING COMBINED AND INSTALLED. SAMPLE CRUSHED STONE TO BE PROVIDED AND APPROVED PRIOR TO INSTALLATION.
4. ENGINEER TO VERIFY MIX RATIO OF ENGINEERED SOIL MIX.

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION



RAIN GARDEN TYPICAL SECTION



NOTES

1. BEDDING – BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED STONE SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS. NORMAL PIPE BEDDING IS CRUSHED STONE TO THE HAUNCH OF THE PIPE AND SAND BEDDING 6" ABOVE THE CROWN. IF THE TOP OF THE PIPE IS LESS THAN 30" FROM FINISH GRADE, BED PIPE COMPLETELY IN STONE UP TO 6" ABOVE PIPE CROWN. UNDERDRAIN TO HAVE 4" MINIMUM OF STONE OVER PIPE OR AS NECESSARY TO BE IN CONTACT WITH GRAVEL LAYER OF SELECTS ABOVE.
2. COMPACTION – ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T99, METHOD C.
3. SUITABLE MATERIAL – IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6" IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
4. BASE COURSE AND PAVEMENT – SHALL MEET THE REQUIREMENT OF THE NHDOT LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DIVISION 300 AND 400 RESPECTIVELY.

TRENCH FOR DRAIN LINE

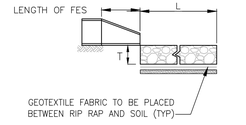
NOT TO SCALE

MAINTENANCE:

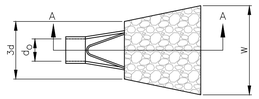
THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12".
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. ADD ANIMAL SCREEN TO FLARED END SECTION OUTLET.



SECTION A–A



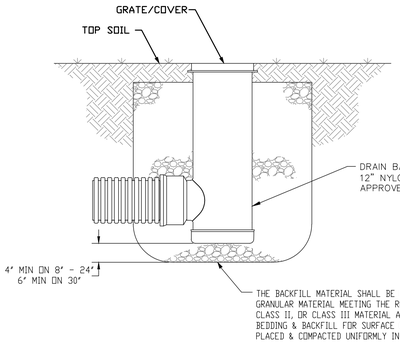
RIPRAP DIMENSIONS				
LOCATION	FES01	FES02	FES03	FES04
d50 STONE SIZE (IN)	6	6	6	6
L– LENGTH OF APRON (FT)	2	3	2	2
W–WIDTH OF APRON (FT)	2	3	2	2
T–DEPTH OF APRON (IN)	9	9	9	9

% OF WEIGHT SMALLER THAN THE GIVEN SIZE | SIZE OF STONE (INCHES)

100	9.00 TO 12.00
85	7.80 TO 10.80
50	6.00 TO 9.00
15	1.80 TO 3.00

RIP RAP AND FLARED END SECTION WITH OUTLET PROTECTION

NOT TO SCALE

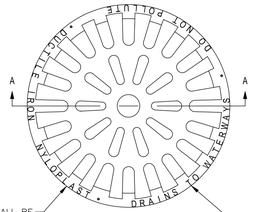


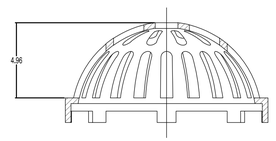
DRAIN BASIN NON-TRAFFIC INSTALLATION

NOT TO SCALE

1299CGD

APPROX. DRAIN AREA = 82.87 SQ IN
APPROX. WEIGHT = 18.50 LBS





SECTION A–A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70–50–05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

12" DOME GRATE

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

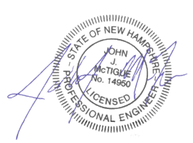
PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**



REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
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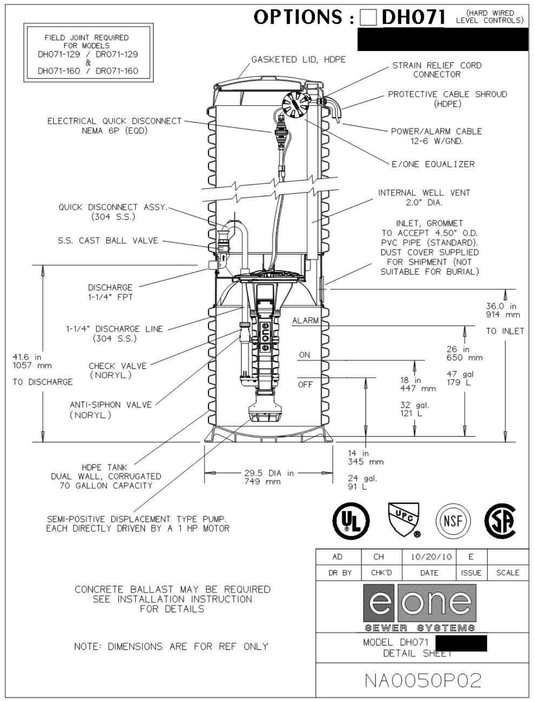
FILE	45407–120	DR	JSM	FB		C–11
		CK	JCC	CADFILE	45407–120_DETAILS	



AD	CH	10/20/10	E	
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

MODEL DH071 [redacted]
DETAIL SHEET

NA0050P02

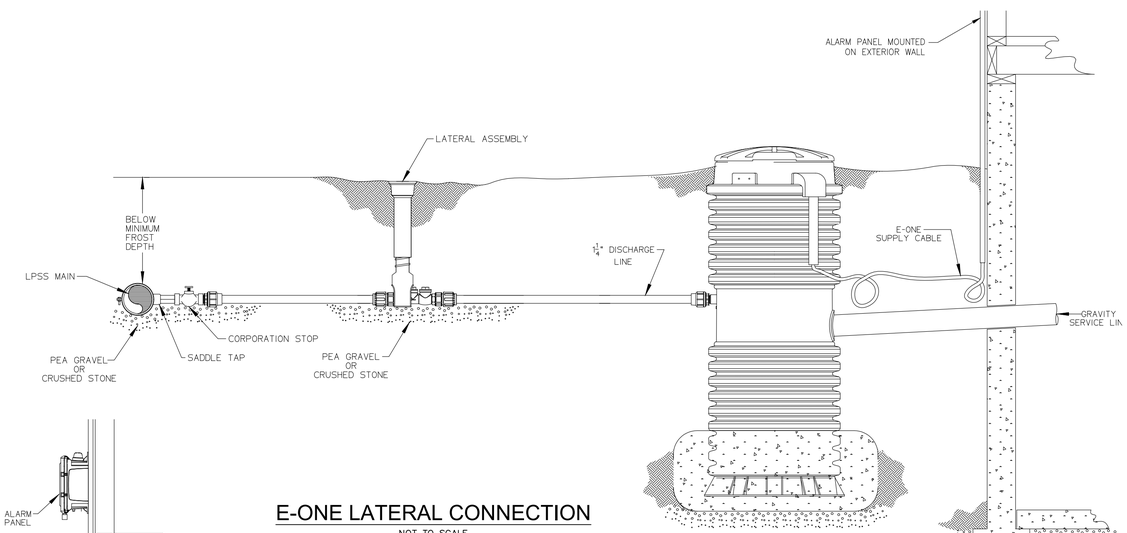
PRESSURE SEWER TESTING NOTES

1. PIPE AND JOINT MATERIALS:
   A. PRESSURE SEWERS SHALL BE CONSTRUCTED OF DUCTILE IRON (DI), HIGH DENSITY POLYETHYLENE (HDPE), OR PVC MATERIAL.
   B. PRESSURE SEWERS SHALL BE TREATED AS GRAVITY SEWERS FOR PURPOSES OF FOUNDATION BEDDING AND BACKFILL REQUIREMENTS.
   C. PVC PIPE USED PRESSURE SEWERS SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM D2241 OR ASTM D1785 STANDARDS IN EFFECT WHEN THE PIPE IS MANUFACTURED.
   D. HDPE PIPE USED FOR PRESSURE SEWERS SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM D3035 STANDARD IN EFFECT WHEN THE PIPE IS MANUFACTURED.
   E. IF DI PIPE IS USED IN AN ENVIRONMENT THAT COULD CAUSE CORROSION OR OTHER DETERIORATION OF OR DAMAGE TO AN IRON PIPE, OR OTHERWISE REDUCE THE TYPICAL LIFE EXPECTANCY OF THE PIPE, SUCH AS MAY OCCUR WITH CERTAIN SOIL TYPES, LOW PH LEVELS, OR WATER CONDITIONS, THE PIPE SHALL BE PROTECTED AGAINST CORROSION, SUCH AS WITH CATHODIC PROTECTION.
2. TESTING: THE COMPLETED SEWER SERVICE SHALL BE SUBJECTED TO A THIRD PARTY LEAKAGE TEST ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING) PRESSURE SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 5 OF THE AWWA C600, "INSTALLATION OF CAST IRON WATER MAINS AND THEIR APPURTENANCES"STANDARD IN EFFECT WHEN THE TEST IS CONDUCTED AT A PRESSURE EQUAL TO THE GREATER OF 150 PERCENT OF THE DESIGN OPERATING TOTAL DYNAMIC HEAD OR AT LEAST 100 PSI.
3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
5. SEWER SERVICE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 6 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 11. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.
6. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
7. THE CENTERLINE OF ALL BUILDING CONNECTIONS SHALL ENTER THE TOP HALF OF THE SEWER.
8. ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
9. PRESSURE SEWERAGE SHALL HAVE AN ISOLATION VALVE OR CURB STOP VALVE INSTALLED AT THE PROPERTY LINE / LIMITED COMMON AREA. IF A CHECK VALVE IS USED AT THE PROPERTY LINE, THE VALVE SHALL BE INSTALLED WITHIN A VAULT TO FACILITATE MAINTENANCE.
10. WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.
11. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33/C33M STONE SIZE 67 AND FREE FROM CLAY, LOAM AND ORGANNIC MATTER. THE EXCAVATION SHALL BE PROPERLY DEWATERED WHILE PLACING BEDDING MATERIAL AND SETTING OF THE BASE OR POURING CONCRETE.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%-55% PASSING	3/8 INCH SCREEN
0%-10% PASSING	#4 SIEVE
0%-5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

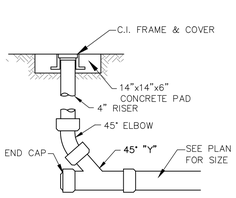
12. LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS.
13. INTERNAL STEPS IN MANHOLES ARE PROHIBITED PER PORTSMOUTH DPW STANDARDS.



E-ONE LATERAL CONNECTION

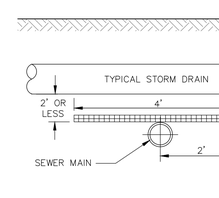
NOT TO SCALE

environment one CORPORATION

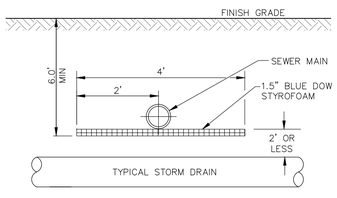


SEWER CLEAN OUT

NOT TO SCALE



CONDITION I

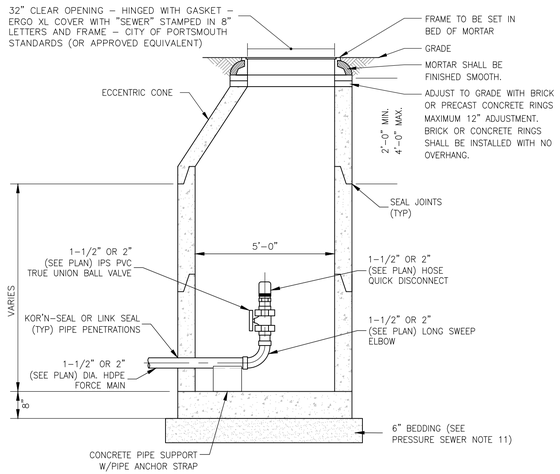


CONDITION II

NOTES:
1. THE LENGTH OR WIDTH OF INSULATION SHALL EXTEND 1 STORM DRAIN PIPE DIAMETER BEYOND THE EDGE OF STORM DRAIN PIPE IN EACH DIRECTION OR A MINIMUM OF 2' BEYOND THE CENTERLINE OF THE STORM DRAIN PIPE, WHICHEVER IS GREATER.
2. ALL BUTT JOINT SEAMS TO BE OVERLAPPED WITH A 1' PIECE OF INSULATION CENTERED OVER SEAM.
3. 18" VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN WATER MAIN/SERVICES AND SEWER MAIN/SERVICES, WATER OVER SEWER.

INSULATION AT STORM DRAIN & SEWER MAIN CROSSINGS

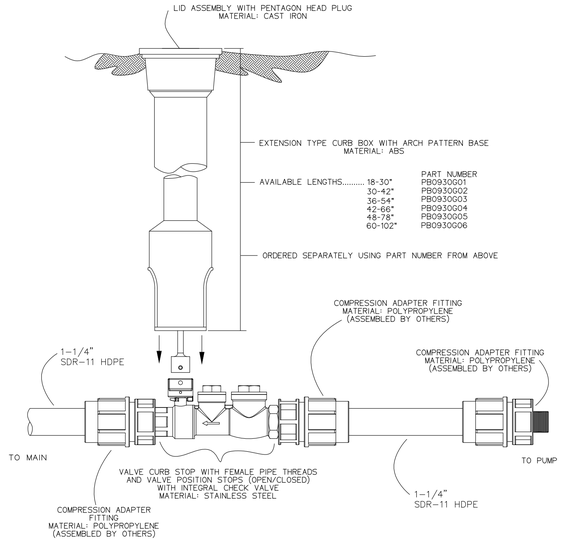
NOT TO SCALE



E-ONE TERMINAL FLUSHING MANHOLE

NOT TO SCALE

NOTES:
1. MANHOLE FRAME & GRATE SHALL BE NEENAH R-3589-A OR APPROVED EQUAL.
2. ALL COMPONENTS SHALL BE DESIGNED FOR HS-20 LOADING.
3. REINFORCING SHALL CONFORM TO ASTM 185 OR ASTM 1497 & ASTM A615, GRADE 60.
4. ALL CONCRETE SHALL BE NHDOT CLASS A.
5. LARGER DIAMETER STRUCTURES SHALL BE USED AS REQUIRED DUE TO NUMBER, ORIENTATION OR SIZE OF PIPES AT THE STRUCTURE.
6. "CL" USED AT ALL LOCATIONS WITHOUT CURB AND "C" TO BE USED AT ALL TO NUMBER, SIZE OR ORIENTATION OF PIPES AT THE BASIN.
7. ALL CASTINGS SHALL BE MADE IN THE USA.
8. INSTALL PIPE SUPPORTS ON THE SWEEP ELBOW.
9. ALL PIPE FITTINGS ARE TO BE RESTRAINED JOINT STYLE.
   A. HDPE TO BE FUSION, ELECTROFUSION OR MECHANICAL JOINT.
   B. PVC WOULD BE SOLVENT GLUE.
   C. ALL JOINTS TO BE THREADED AND PRESSURE RATED TO 200 PSI
10. MANHOLE STRUCTURES SHALL MEET THE DESIGN REQUIREMENTS OF ENV-WQ 704.12 THROUGH ENV-WQ 704.17.
11. A.R.I. D-025 STAINLESS STEEL AIR RELEASE VALVE OR EQUIVALENT.



NOTES:
1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
   *FOR SS FITTING INTO SS THREAD, USE EITHER PIPE DOPE OR TEFLON TAPE, NOT BOTH
3. ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
5. TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G02
6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

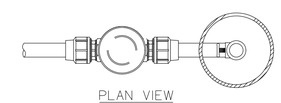
KIT PARTS ARE NOT ASSEMBLED

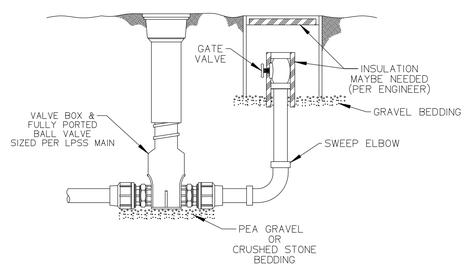
SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT
1-1/2" SDR 11 HDPE PIPE

NA0330P03





E-ONE TERMINAL FLUSHING CONNECTION

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: AS SHOWN **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK
1	5/23/2022	ADDED PRESSURE SEWER TESTING NOTES.	JSM	JJM

TFM © Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive, Bedford, NH 03110
Phone (603) 472-4488
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www.tfmoran.com

FILE	45407-120	DR	JSM	FB		C-12
		CK	JCC	CADFILE	45407-120_DETAILS	

DIG SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

May 23, 2022 - 4:07pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Details.dwg

SEWER SERVICE NOTES

1. MINIMUM SIZE PIPE FOR SEWER SERVICE SHALL BE FOUR INCHES.

2. PIPE AND JOINT MATERIALS:
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	*ABS (COMPOSITES WALL)	8" THROUGH 15"

*PVC: POLY VINYL CHLORIDE
*ABS: ACRYLONITRILE-BUTADIENE-STYRENE

      2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

         ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680, POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322).

         JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.

   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.

      1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
         A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
         A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
      2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
         A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS

3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5. TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURERS' INSTRUCTIONS USING A BOLTED, CLAMPED OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER.

6. SEWER SERVICE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 6 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

   THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4" INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7. TESTING: THE COMPLETED SEWER SERVICE SHALL BE SUBJECTED TO A THIRD PARTY LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)

   A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.

   B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.

   C. DRY FLUORESCENE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWN-STREAM MANHOLE.

   LEAKAGE OBSERVED IN ANY ONE OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.

8. ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9. WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.

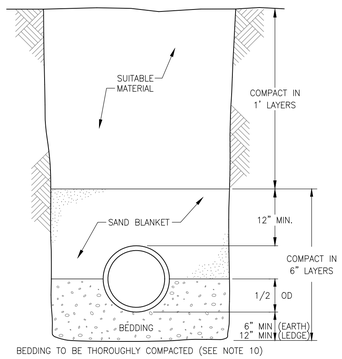
10. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%-55% PASSING	3/8 INCH SCREEN
0%-10% PASSING	#4 SIEVE
0%-5% PASSING	#8 SIEVE

   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

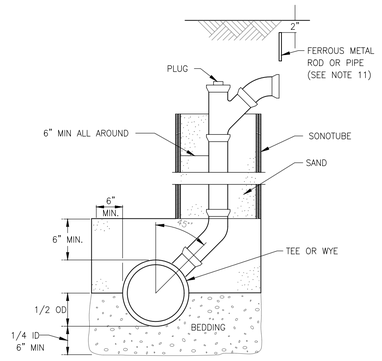
11. LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.

12. CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE SEWER CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.



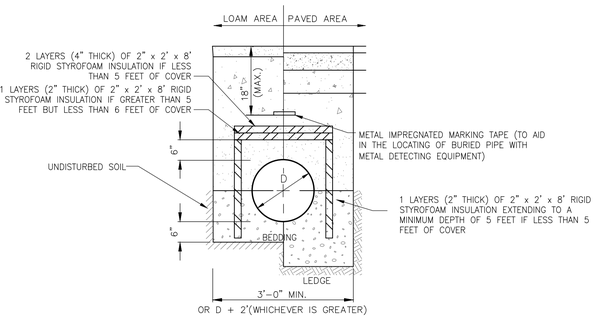
BEDDING TO BE THOROUGHLY COMPACTED (SEE NOTE 10)

TRENCH CROSS-SECTION
NOT TO SCALE



BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

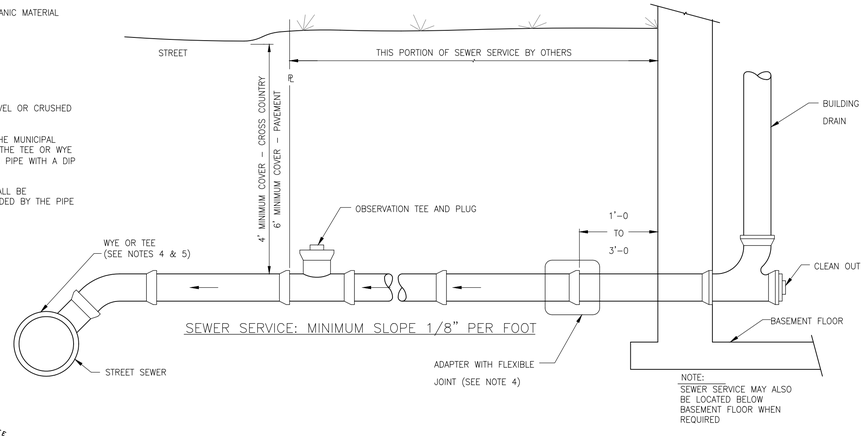
CHIMNEY (SEE NOTE 12)
NOT TO SCALE



NOTES

1. GAPS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2" x 2' x 2' PIECE OF INSULATION CENTERED OVER GAP.

SEWER TRENCH WITH INSULATION
NOT TO SCALE



NOTE:
SEWER SERVICE MAY ALSO BE LOCATED BELOW BASEMENT FLOOR WHEN REQUIRED

SEWER SERVICE DETAILS
NOT TO SCALE

GRAVITY SEWER NOTES

1. MINIMUM SIZE PIPE FOR GRAVITY SEWER SHALL BE 8-INCHES.

2. PIPE AND JOINT MATERIALS FOR PLASTIC SEWER PIPE SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034-04a	* PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679-03	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F794-03	PVC (RIBBED WALL)	8" THROUGH 36"
F1760-01(2005)e1	PVC, RECYCLED	ALL DIAMETERS

*PVC: POLY VINYL CHLORIDE

3. PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5 PERCENT PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2412-02 DURING MANUFACTURE.

4. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212-96(a)(2003)e1 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

5. DUCTILE-IRON PIPE, FITTINGS AND JOINTS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA).

   AWWA C151/A21.51-02 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536-84 (2004) DUCTILE IRON CASTINGS.

   AWWA C151/A21.51-02 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.

   JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO AWWA C151/A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS.

6. CONCRETE PIPE SHALL CONFORM TO AWWA C302-04.

7. PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS SHALL CONFORM TO AWWA C301-99.

   JOINTS SEALS FOR CONCRETE CYLINDER PIPE SHALL BE OIL RESISTANT ELASTOMERIC MATERIAL CONFORMING TO ASWWA C301-99 SPECIFICATIONS.

8. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

9. GRAVITY SEWER PIPE TESTING SHALL BE AS FOLLOWS:

   ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.

   LOW PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:

   ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR".

   UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE".

10. ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED AND SHALL BE TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE AND VISUALLY INSPECT USING LAMP TEST.

11. ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS AND NO MORE THAN 90 DAYS FOLLOWING INSTALLATION.

12. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5 PERCENT OF THE AVERAGE INSIDE DIAMETER.

13. TRENCH CONSTUCTION SHALL CONFORM TO THE FOLLOWING:

    SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6' BELOW GRADE IN ALL ROADWAY LOCATIONS AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS COUNTRY LOCATIONS.

    WHERE SEWER LINES CROSS WATER PIPES, A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. AT SEWER/WATER INTERSECTIONS, A MINIMUM OF 6 FEET SHALL BE PROVIDED FROM THE WATER LINE TO THE SEWER PIPE JOINT. 12" SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE REQUIRED BETWEEN SEWER LINES AND ALL OTHER PIPES.

    TRENCH DIMENSIONS FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER, THE ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES AND FOR PIPE 15 INCHES AND LARGER, THE ALLOWABLE WIDTH SHALL BE EQUAL TO THE PIPES OUTSIDE DIAMETER PLUS 24 INCHES.

    PIPE TRENCH BEDDING MATERIAL AND FILL MATERIAL FOR EXCAVATION BELOW GRADE SHALL BE SCREENED GRAVEL OR CRUSHED STONE TO ASTM C33-03 STONE SIZE NO. 67. THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ANY ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSED THE 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE. IN LIEU OF A SAND BLANKET, A STONE ENVELOPE 6 INCHES THICK COMPLETELY AROUND THE PIPE USING 3/4-INCH STONE MAY BE USED.

    PIPE BEDDING MATERIAL SHALL EXTEND FROM A HORIZONTAL PLANE THROUGH THE PIPE AXIS TO 6-INCHES BELOW THE BOTTOM OF THE OUTSIDE SURFACE OF THE PIPE.

    PIPE SAND BLANKET MATERIAL SHALL COVER THE PIPE A MINIMUM OF 12 INCHES ABOVE THE CROWN OF THE OUTSIDE SURFACE.

    COMPACTION SHALL BE IN 12-INCH LAYERS FOR BEDDING AND BLANKET MATERIALS.

    BACKFILL MATERIAL SHALL BE IN 3-FOOT LAYERS TO THE GROUND SURFACE EXCEPT FOR ROAD CONSTRUCTION WHERE THE FINAL 3-FEET SHALL BE COMPACTED IN 12-INCH LAYERS TO THE ROAD BASE SURFACE.

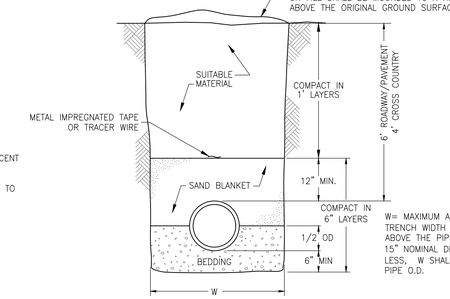
    TRENCH BACKFILL MATERIAL IN ROADWAY LOCATIONS SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION, EXCLUDING DEBRIS, PAVEMENT PIECES, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT, CLAY, EXCAVATED LEDGE, ROCKS OVER 6 INCHES IN THE LARGEST DIMENSION, OR ANY OTHER UNSUITABLE MATERIAL NOT APPROVED BY THE ENGINEER.

    TRENCH BACKFILL AT CROSS-COUNTRY LOCATIONS SHALL BE AS DESCRIBED ABOVE EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED. BACKFILL SHALL BE MOUNDED 6-INCHES ABOVE ORIGINAL GROUND.

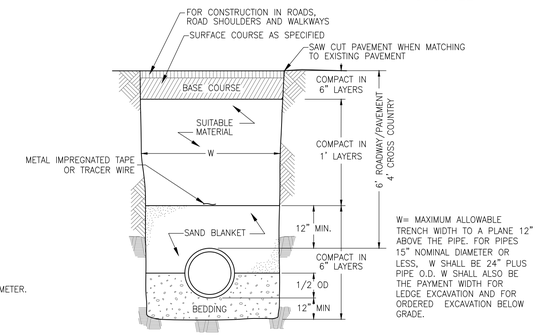
    BASE COURSE MATERIALS FOR TRENCH REPAIRS SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.

    WHERE SHEETING IS PLACED ALONG SIDE OF THE PIPE AND EXTENDS BELOW MID-DIAMETER, THE SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE AND AT LEAST 3 FEET BELOW FINISH GRADE.

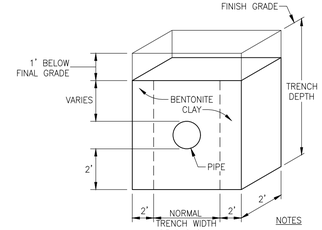
    TRENCHES FOR SEWER PIPES WITH SLOPES OVER 0.08 FEET PER FOOT AND TRENCHES FOR SEWER PIPES BELOW THE SEASONAL HIGH GROUND WATER LEVEL SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET TO PREVENT POTENTIAL DISTURBANCE TO PIPE BEDDING AND BLANKET MATERIALS.



EARTH CONSTRUCTION
NOT TO SCALE



LEDGE CONSTRUCTION
NOT TO SCALE



INSTALL AT CENTER OF EACH GRAVITY PIPE RUN

NOTES

1. DAM SHALL BE LOCATED EVERY 300' OF SEWER PIPE RUN.
2. NO FITTING SHALL BE LOCATED WITHIN 4' OF DAM.

SEWER TRENCH DAM
NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

JOHN J. MCTIGUE No. 14950 — STATE OF NEW HAMPSHIRE — LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

PRT		DR	JSM	FB		
	45407-120	CK	JCC	CADFILE	45407-120_DETAILS	C-13

DIG SAFE — CALL 811 OR 1-800-344-7233 — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

GENERAL NOTES

1. IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2. BARRELS, CONE SECTIONS AND CONCRETE GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AND SHALL CONFORM ENV-WQ 704.12 & 704.13.

3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478-06.

4. BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.

5. MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.

6. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.

7. ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.

8. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.

9. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT. APPROVED ELASTOMERIC SEALANTS ARE:
   - SIKAFLEX-12-SL
   - SONNEBORN BUILING PRODUCTS-SONOLASTIC SL-1

10. THE MINIMUM INTERNAL DIAMETER OF MANHOLES SHALL BE 48 INCHES. FOR SEWERS LARGER THAN 24-INCH DIAMETER. MANHOLE DIAMETERS SHALL BE INCREASED SO AS TO PROVIDE AT LEAST 12-INCHES OF SHELF ON EACH SIDE OF THE SEWER.

11. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE TO ENV-WQ 704.17.

    (a) ALL MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST IN ACCORDANCE WITH THE ASTM C1244 STARNDARD IN EFFECT WHEN THE TESTING IS PERFORMED.

    (b) THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:

        1. THE INITIAL VACUUM GUAGE TEST PRESSURE SHALL BE 10 INCHES Hg.

        2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR 1-INCH Hg PRESSURE DROP TO 9 INCHES SHALL BE:

            A. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP.

            B. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP.

            C. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.

    (c) THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (b) ABOVE.

    (d) INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETE.

    (e) FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS, UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENT TO GRADE.

12. BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL COMPLY WITH ASTM C32-05, CLAY OR SHALE, FOR GRADE SS HARD BRICK.

13. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
    (a) 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
    (b) 4.5 PARTS SAND, 1 PART CEMENT AND 0.5 PART HYDRATED LIME

    CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05. HYDRATED LIME SHALL BE TYPE S CONFORMING TO ASTM C207-06 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES". SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO ASTM C33-03 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES".

14. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED OR PRECAST CONCRETE SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

15. FRAMES AND COVERS: FRAMES AND COVERS: SEWER MANHOLE FRAMES AND COVERS SHALL BE CITY OF PORTSMOUTH STANDARD, AND SHALL BE PURCHASED AND PICKED UP AT PORTSMOUTH DEPARTMENT OF PUBLIC WORKS WATER DEPARTMENT. THEY SHALL BE OF HEAVY DUTY DESIGN, CLASS 30, CONFORMING TO ASTM A48/48M AND PROVIDE A 30-INCH CLEAR OPENING. THE CASTING SHALL BE OF EVEN GRAINED CAST IRON, SMOOTH, AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS. CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION.

16. BEDDING: PRECAST BASES SHALL BE PLACED ON A 6-INCH LAYER OF COMPACTED BEDDING MATERIAL THAT CONFORMS TO ASTM C33-03 NO. 67 STONE AND FREE FROM CLAY, LOAM AND ORGANNIC MATTER. THE EXCAVATION SHALL BE PROPERLY DEWATERED WHILE PLACING BEDDING MATERIAL AND SETTING OF THE BASE OR POURING CONCRETE. WATER-STOPS SHALL BE USED AT THE HORIZONTAL JOINT OF THE CAST-IN-PLACE MANHOLES.

100% PASSING	1" SCREEN
90-100% PASSING	3/4" SCREEN
20-55% PASSING	3/8" SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

17. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WIbHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION: (a) WITHIN 48 INCHES FOR REINFORCED CONCRETE PIPE (RCP). (b) WITHIN 60 INCHES FOR PVC PIPE LARGER THAN 15" DIAMETER.

18. NO FLEXIBLE JOINT SHALL BE REQUIRED FOR DUCTILE IRON PIPE OR PVC PIPE UP THROUGH 15-INCH DIAMETER.

19. INTERNAL STEPS ARE PROHIBITED PER CITY OF PORTSMOUTH DPW STANDARDS.

20. REFERENCE NHDES ENV-WQ 700 IN PLACE OF ASTM STANDARDS.

21. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS FOLLOWS:

    A. ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES.

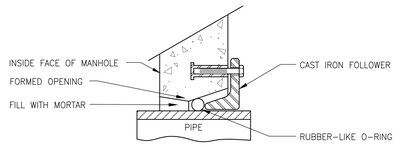
    B. CAST INTO WALL OR SECUREED WITH STAINLESS STEEL CLAMPS.

    C. ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH THE SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING.

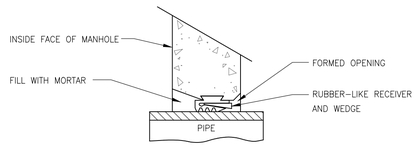
    D. NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.

22. THE INVERT OF THE INCOMING PIPE SHALL BE NO MORE THAN 6 INCHES ABOVE THE OUTGOING PIPE UNLESS A DROP ENTRY IS USED.

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION



RES-SEAL
(OR ACCEPTABLE SUBSTITUTE)



PRESS-WEDGE II
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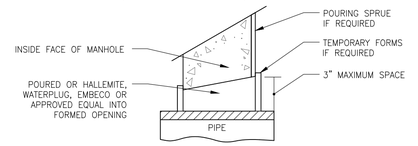

MORTARED JOINT
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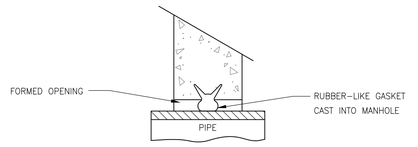

A-LOK
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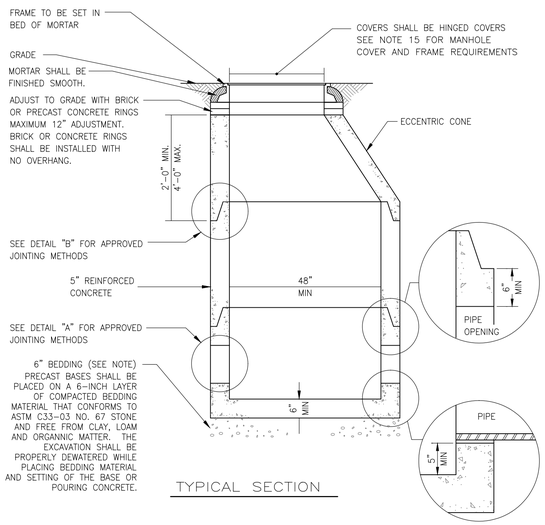
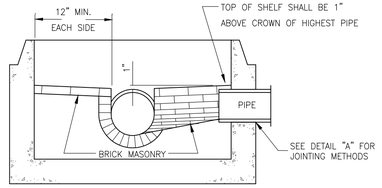


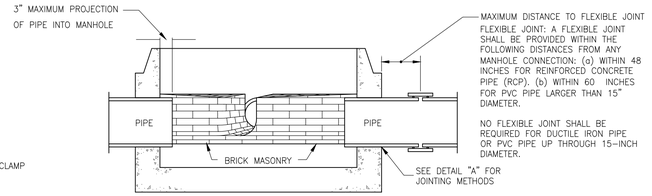
TYPICAL SECTION

NOTES:

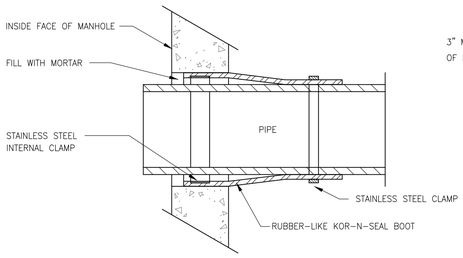
1. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.
3. BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6" ABOVE THE PIPE CROWN.
4. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
5. NO STEPS ARE ALLOWED PER EXETER DPW STANDARDS.
6. BITUMINOUS COATING.



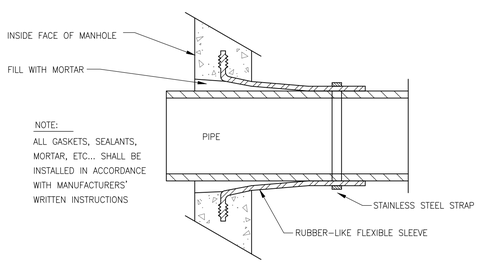
SECTION "B-B"



SECTION "A-A"

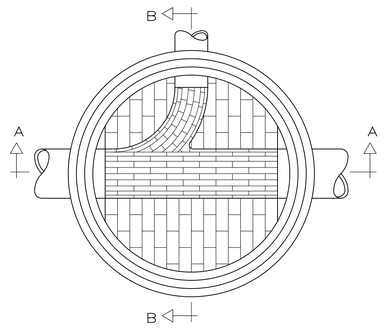


KOR-N-SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)



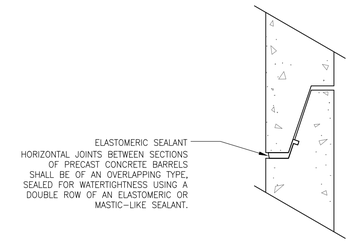
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

DETAIL "A" - PIPE TO MANHOLE JOINTS



TYPICAL MANHOLE - PLAN VIEW

STANDARD MANHOLE

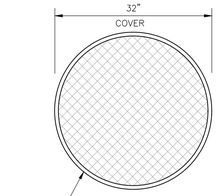


ELASTOMERIC SEALANT

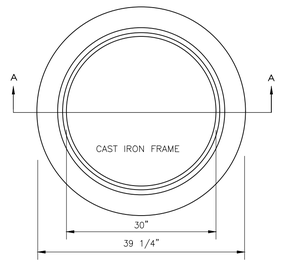
NOTES:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

STATE OF NEW HAMPSHIRE APPROVED PRODUCTS
A) SIKAFLEX-12-SL
B) SONNEBORN BUILDING PRODUCTS SONOLASTIC SL-1

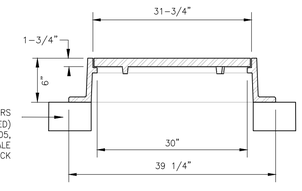
DETAIL "B" - HORIZONTAL JOINTS



COVER



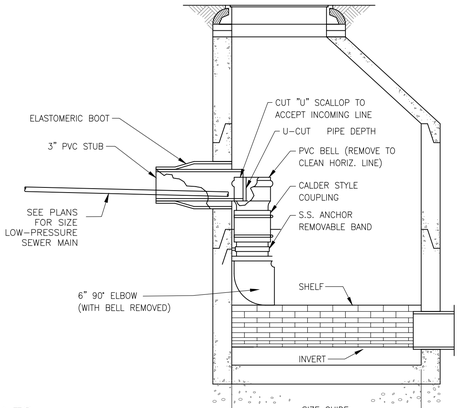
PLAN VIEW



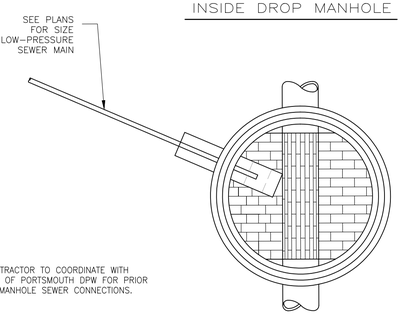
SECTION A-A

BRICK RISERS (IF REQUIRED)
ASTM C32-05, CLAY OR SHALE
SS HARD BRICK

MANHOLE FRAME & COVER



INSIDE DROP MANHOLE



NOTES:
1. CONTRACTOR TO COORDINATE WITH CITY OF PORTSMOUTH DPW FOR PRIOR TO MANHOLE SEWER CONNECTIONS.

PLAN VIEW

PRESSURE TO GRAVITY SEWER DETAIL

SCALE: N.T.S

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
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May 23, 2022 - 4:08pm
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LANDSCAPE GUARANTEE AND MAINTENANCE NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES OF WATERING.
2. CONTRACTOR WILL BEGIN WATERING IMMEDIATELY AFTER PLANTING. ALL PLANTS WILL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS WILL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON BUT NOT LESS THAN ONE YEAR.
3. WATER ALL LAWNS AS REQUIRED. DO NOT LET NEWLY PLANTED LAWNS DRY OUT DURING THE FIRST FOUR WEEKS MINIMUM.
4. ALL NEW LAWNS WILL BE MAINTAINED AND MOWED A MINIMUM THREE (3) TIMES BEFORE REQUESTING REVIEW BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR ACCEPTANCE. MAINTENANCE AND MOWING WILL CONTINUE UNTIL ACCEPTED BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE IS ISSUED IN WRITING.
5. THE CONTRACTOR WILL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOWING LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE (1) YEAR PERIOD WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.
6.
7. ALL DAY LILIES WILL BE DEADHEADED AND CUT BACK EVERY FALL. ALL ORNAMENTAL GRASSES WILL BE CUT BACK EVERY FALL OR EARLY SPRING.
8. DECIDUOUS PLANT MATERIAL INSTALLED AFTER SEPTEMBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO STAGE OF LEAF PHYSIOLOGY. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.
9. EVERGREEN PLANT MATERIAL INSTALLED AFTER OCTOBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO END OF GROWTH SEASON. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.

HYDROSEEDING NOTES

1. HYDROSEEDING MAY BE USED AS AN ALTERNATE METHOD OF SEEDING. THE APPLICATION OF LIMESTONE AS NECESSARY, FERTILIZER AND GRASS SEED MAY BE ACCOMPLISHED IN ONE OPERATION BY THE USE OF A SPRAYING MACHINE APPROVED BY THE LANDSCAPE ARCHITECT OR CIVIL ENGINEER. THE MATERIALS SHALL BE MIXED WITH WATER IN THE MACHINE AND SHALL CONFORM TO RELATIVE REQUIREMENTS OF SECTION 644 OF NH. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. (FOR MASSACHUSETTS PROJECTS PLUG IN – SECTION 765.65 OF MASS. DPW CURRENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES).

INVASIVE PLANT NOTES

1. EXISTING NON–NATIVE, INVASIVE PLANT SPECIES WILL BE IDENTIFIED, REMOVED, DESTROYED AND LEGALLY DISPOSED OF OFF–SITE IN ACCORDANCE WITH THE LATEST UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION METHODS OF DISPOSING NON–NATIVE INVASIVE PLANTS. SEE "MANAGE AND CONTROL INVASIVES" AND PROPERLY DISPOSE OF INVASIVE PLANTS".

PRICING & CONSTRUCTION DOCUMENT NOTES

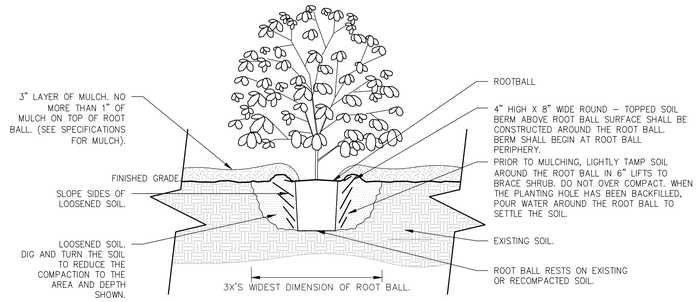
1. CONTRACTOR WILL PRICE PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE PLANTINGS GRAPHICALLY SHOWN ON THESE DRAWINGS OR IN PLANT LIST, WHICHEVER IS GREATER. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
2. CONTRACTOR WILL VERIFY PRIOR TO PRICING IF SITE SOILS ARE VERY POORLY DRAINING OR IF LEDGE IS PRESENT. IF CONTRACTOR ENCOUNTERS VERY POORLY DRAINING SOILS (BATH TUB EFFECT) OR LEDGE THAT IMPACTS PROPOSED PLANTING PLAN, NOTIFY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE FOR DIRECTION PRIOR TO PRICING AND AGAIN PRIOR TO PERFORMING ANY WORK.
3. PARKING AREA PLANTED ISLANDS WILL HAVE MINIMUM OF 1'–0" TOPSOIL PLACED TO THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
4. EXISTING TREES SHOWN ON THE PLAN WILL REMAIN UNDISTURBED. ALL EXISTING TREES SHOWN TO REMAIN WILL BE PROTECTED WITH A 4–FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK.
5. CONTRACTOR WILL STAKE OR PLACE ON GROUND ALL PROPOSED PLANT MATERIALS PER PLAN. CONTACT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
6. COORDINATE WITH LANDSCAPE ARCHITECT'S CONTRACTED NUMBER OF SITE VISITS WHEN PLANNING FOR INSPECTION. NOTIFY LANDSCAPE ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF REQUESTED SITE VISIT.
7. CONTRACTOR WILL DEVELOP A WRITTEN WATERING SCHEDULE AND WILL SUBMIT WATERING SCHEDULE TO OWNERS' REPRESENTATIVE. CONTRACTOR WILL WATER ALL NEW PLANTS INCLUDING LAWNS THAT ARE NOT "IRRIGATED" VIA A PERMANENT IRRIGATION SYSTEM FOR THE FIRST 12 MONTHS.

PORTSMOUTH NOTES

1. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNER'S WILL BE RESPONSIBLE FOR THE MAINTENANCE AND OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS INDICATED ON THESE PLAN(S).
2. ALL REQUIRED PLANT MATERIAL WILL BE TENDED TO AND KEPT FREE OF REFUSE AND DEBRIS.
3. ALL REQUIRED FENCES AND WALLS WILL BE MAINTAINED IN GOOD REPAIR.
4. THE PROPERTY OWNER WILL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
5.
6. ALL IMPROVEMENTS SHOWN ON THIS PLAN WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THIS PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES WILL BE MADE TO THIS PLAN WITHOUT THE WRITTEN APPROVAL OF THE PORTSMOUTH PLANNING BOARD OR PLANNING DIRECTOR.
7. THE LANDSCAPE PLAN WILL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
8. MAINTENANCE OF LANDSCAPING TO FOLLOW THE NOFA STANDARDS FOR ORGANIC LAND CARE 6TH EDITION PRACTICES FOR THE DESIGN AND MAINTENANCE OF ECOLOGICAL LANDSCAPES. ("NOFA STANDARDS FOR ORGANIC LAND CARE," NOFA STANDARDS FOR ORGANIC LAND CARE 6TH EDITION PRACTICES FOR THE DESIGN AND MAINTENANCE OF ECOLOGICAL LANDSCAPES, NORTHEAST ORGANIC FARMING ASSOCIATION OF CONNECTICUT, INC, 2017, HTTP://WWW.ORGANICLANDCARE.NET/SITES/DEFAULT/FILES/NOFA_ORGANIC_LAND_CARE_STANDARDS_6THEDITION_2017_OPT.PDF.)

SEEDING NOTES

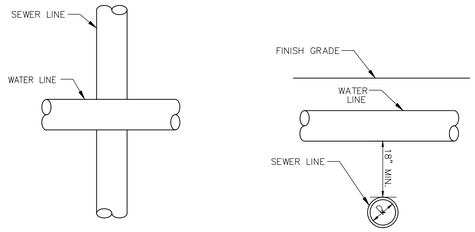
1. SLOPES UP TO AND INCLUDING 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA.
2. SLOPES STEEPER THAN 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA. SEE CIVIL FOR ADDITIONAL EROSION CONTROL MEASURES.
3. GENERAL SEED WILL BE NHDOT SPECIFICATION SECTION 644, TABLE 644–1–PARK SEED TYPE 15, INCLUDING NOTES TO TABLE 1, 2 & 3.



SECTION VIEW

SHRUB PLANTING

NOT TO SCALE



PLAN VIEW PROFILE VIEW

NOTES:

1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18" MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
2. PROTECTION OF WATER SUPPLIES:
   A. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
   B. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTED RADII ESTABLISHED IN ENV–WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.
   C. SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
   D. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV–WQ 704.06.
   E. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
      a. VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER AND
      b. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.

WATER & SEWER CROSSING

NOT TO SCALE

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE – JOHN J. McTIGUE No. 14050 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

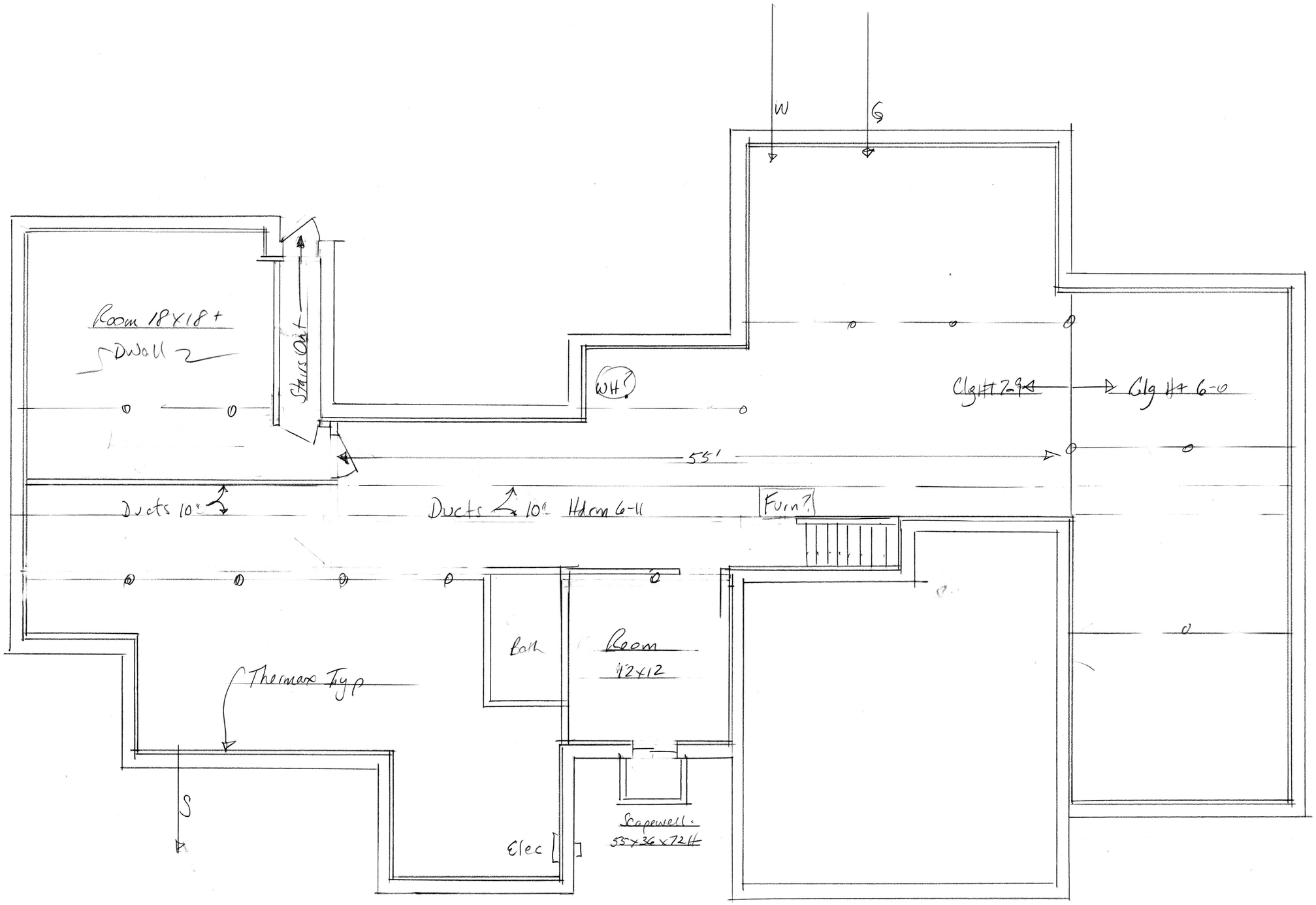
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472–4488
Fax (603) 472–9747
www.tfmoran.com

FILE	45407–120	DR	JSM	FB		C–15
		CK	JCC	CADFILE	45407–120_DETAILS	

62-0
22-0
14-0
26-0
Patio
Elev 37.11
Scr Porch
Elev 38.37
B-4
12-8
5½
4-6½
1-10
¾
6-9¾
6-9¾
7¼
7¼
13-6
4-9
6-3
5-9
33-6
14-0
12-0
3-9
1-0
12-7¼
3½
3-2
16-0¾
FF 39.0
5½
5=1
5½
10-10
10-2¾
5=0¾
7¼
7¼
7¼
FP
Electric Service
2' Planter Shlp
3-6 Wall
4-6
6-0
2-6
6"
2-6
13-6
31-0
33-6
31-0
33-6
13-4
22-8

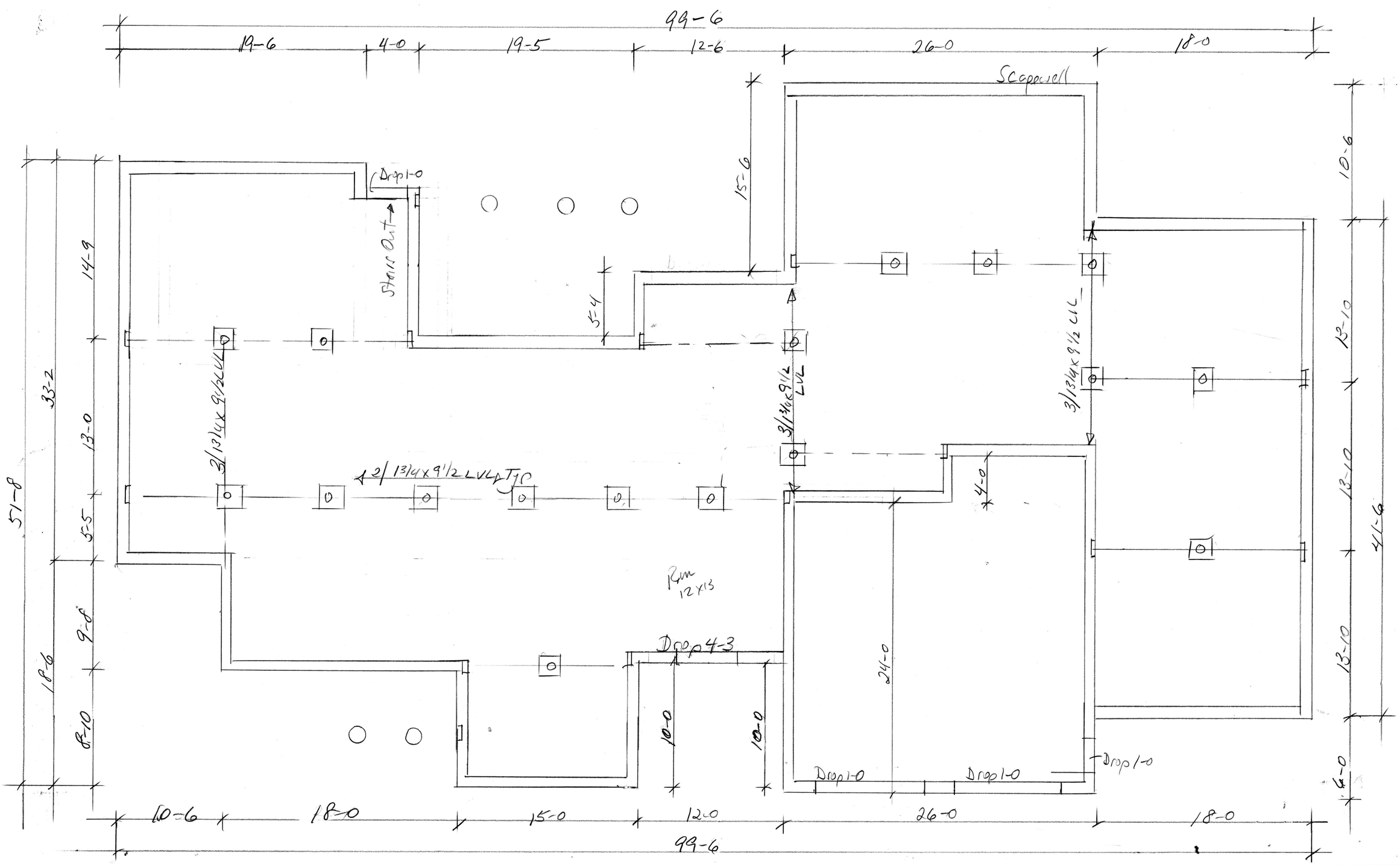
Lot 1	437 Lafayette Rd
SCALE: 1/4	APPROVED BY:
DRAWN BY	
DATE: 4/6/22	REVISED 5/10/22
Smithfield	
First Floor Plan	DRAWING NUMBER

Finished Area 26x34-6 897sf
3859-2
12x15
12x14-8
Clg Ht 8-1 1/4
3665-3
MBR
18-4x14
Deck
19x12
Bsmt Stairs Out
Beam B
6x8 Essen
3672-3
Bfast
12x11
Pantry
9-0x5-6
Linen
42" Van
Clg Ht 8-1 1/4
Clg Ht 10'-1 1/4
LR
17(19)x18
WIC
10x8-2
Linen
Counter
Beam
? Add Upper Cabs ?
Beam A 20'6" + Brngs
Cntr 11x4
10' of cabs
Pipe Railing
Oak Treads
Bench
BINS
DN
Ref
Rg
3-9
10-10
Garage
25x23
624sf
18' LR
18' DR
Clg Ht 8-1 1/4
Study
8x9
Entry
2854 Csmt Egress
Table
4x10
DR
13-10x18-0
11-9 Base Only
3053 Casements Triple
2828 Awning
Porch
10x4
This area drop bottom Chord of Trusses 2'
Three: 3418 Awning mulled to 3472 DH Field Mull
3859-2
Clg Ht 8-1 1/4
BR
14-9x12-6
Closet
Cubbies
4' Sh
42" Van
W/D
W27 B27
W30 B30
Ref
Pantry
B30
Sink
DW
B-30
1/2 wall
Table
5x2-6
LR
14-9x13-0
TV
Couch
Ch
3672
3672
18x41-6 747sf
18-0
58-0
41-6
10-6
18-0
15-0
558sf
12-0
26
Outside
26x58' Deep
2/20/22 Lot 3 Artwill 1/4"=1'
House 2817 sf
Overall 99-6



Lot 3 Antwill

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/12/22		REVISED
Smithfield		
Basement Floor Plan		DRAWING NUMBER



8" PC Walls on 8x16 Footers 3500psi Min Wall Ht 7-10, 2/#4 Bars on Footers & on bottom + top tier (6 total)

Int Footers 2'x2'x8"

Lot 3 Artwill

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/10/22		REVISED
Smithfield Foundation Plan		DRAWING NUMBER

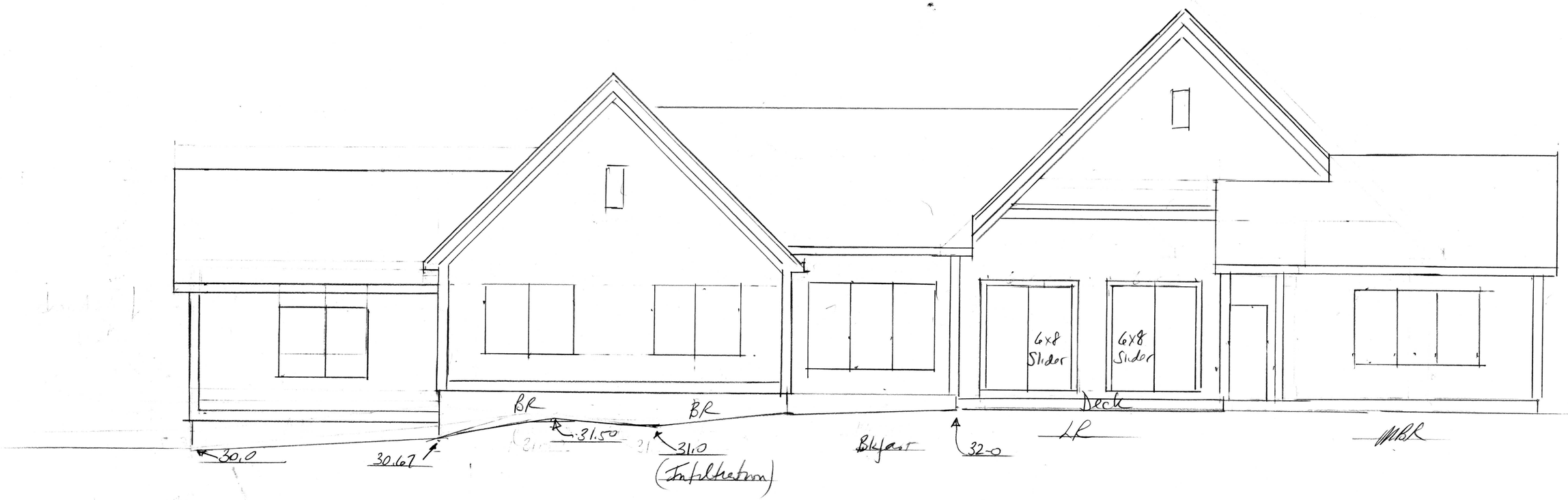
Lot 3 Arctwell

SCALE:	APPROVED BY:	DRAWN BY
DATE: 2/12/22		REVISED

Smithfield

Front Elev w/ ADU - 1/4"

DRAWING NUMBER



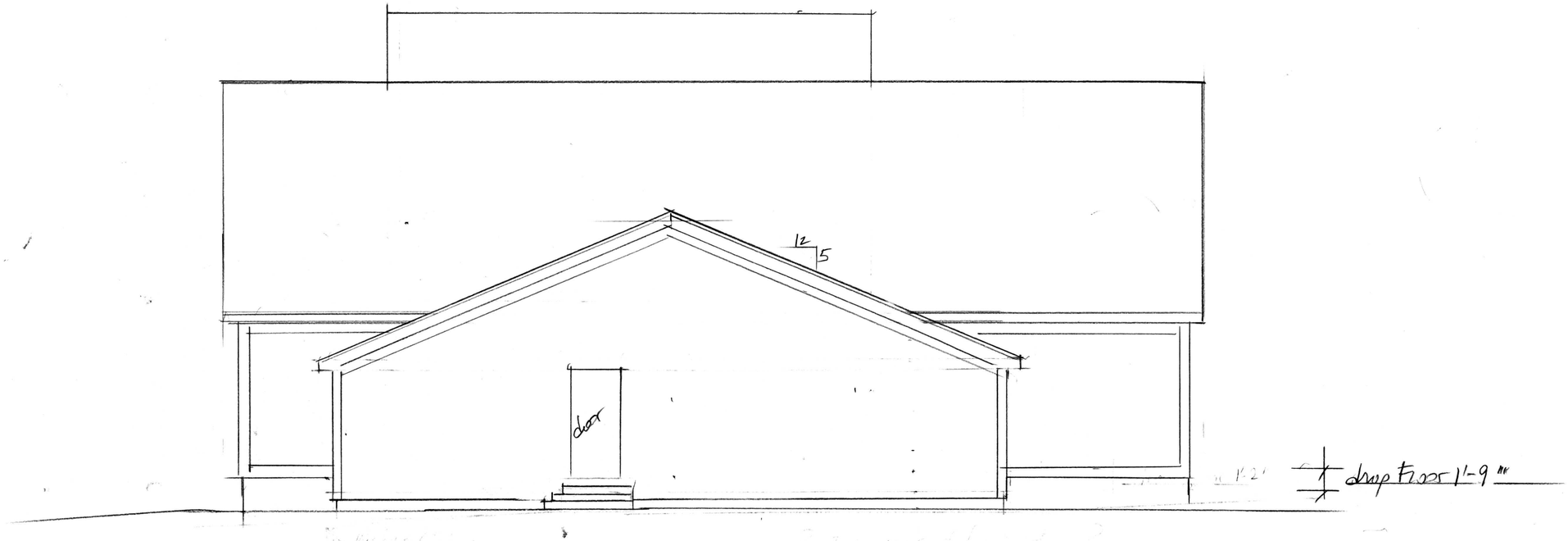
Lot 3 Artwell

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/12/22		REVISED

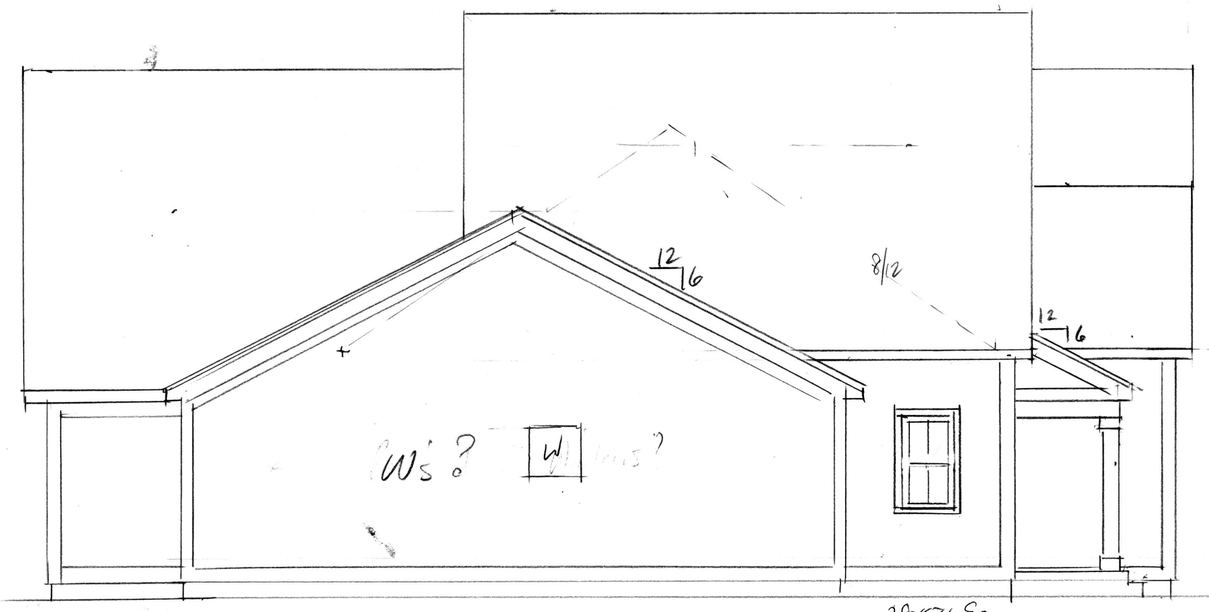
Smithfield

Rear Elev w/Swale

DRAWING NUMBER



Right Elevation



Left Elevation

Lot 3 Antwill

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/12/22		REVISED

Smithfield

Side Elevations

DRAWING NUMBER

99-6

19-6 | 23-6 | 12-6 | 26-0 | 18-0

2/PT 2x12 + 1/2" ply

PT 2x10x14 160C

15-6

15-3

30-6

15-3

10-6

13-10

11-6

13-10

6-0

14-9

33-2

13-0

51-8

5-5

8-8

18-6

9-10

All AJS 150 11 7/8 240C

PT 2x6 160C Triple Beam → 5-0

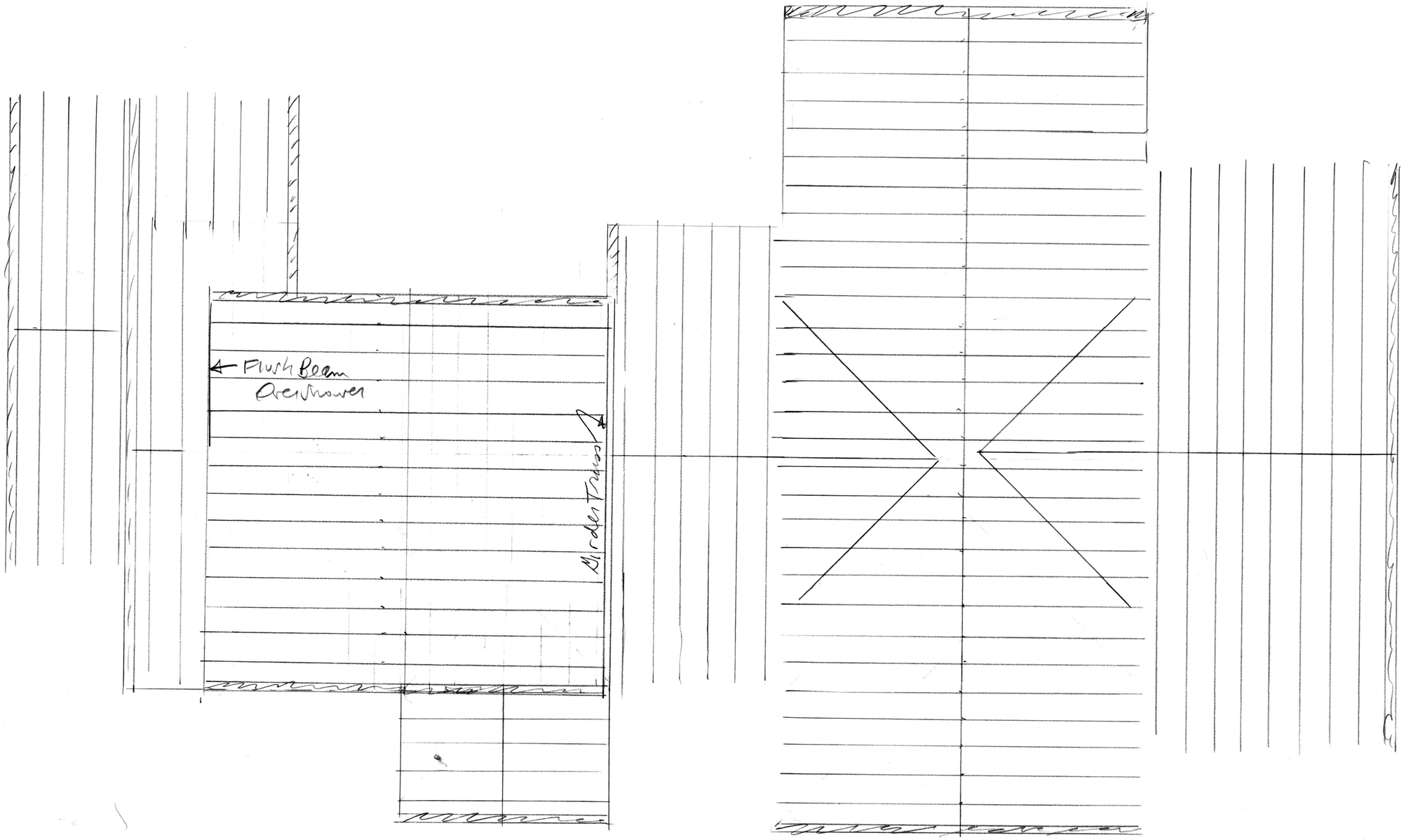
8-0

8-6 | 20-0 | 15-0 | 12-8 | 25-4 | 18-8

99-6

1 of 3 Artwork

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/10/22		REVISED
Smith Gold		
1st Fl Framing Plan		DRAWING NUMBER



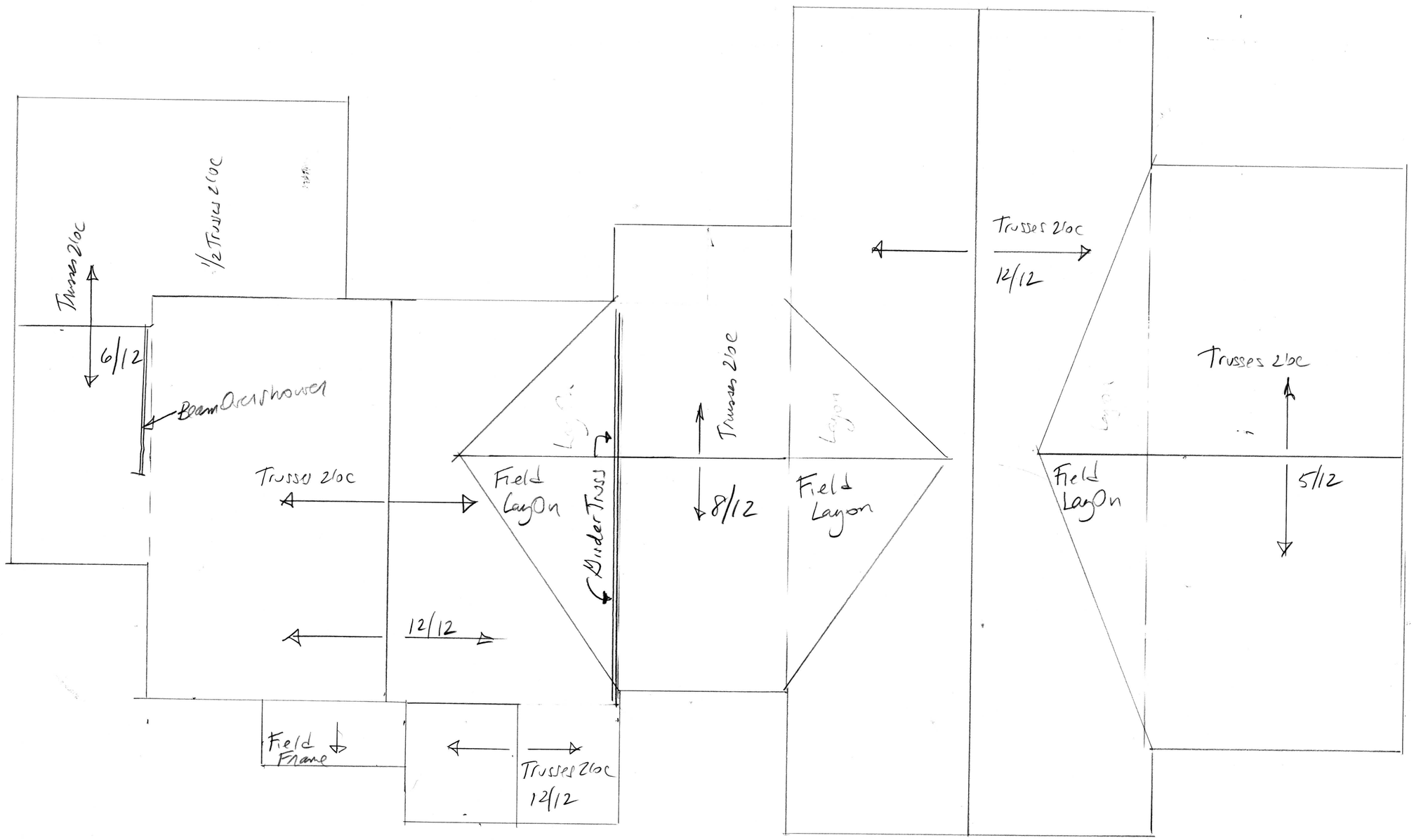
Lot 3 Antwill

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/12		REVISED

Smith for 66

Truss Plan

DRAWING NUMBER



Lot 3 Arctwill

SCALE: 3/16	APPROVED BY:	DRAWN BY
DATE: 2/12		REVISED
Smithfield		
Roof Diagram + Trusses		DRAWING NUMBER

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Job #45407.120

NHDES

Application for Sewer Connection Permit

F O R

Proposed 3-Lot Subdivision

437 Lafayette Road
Portsmouth, New Hampshire

Tax Map 229, Lot 1

May 20, 2022

Prepared By:

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com

TFMoran, Inc. Seacoast Division
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

NEW HAMPSHIRE 200

May 25, 2022

Dennis Greene, PE
NHDES Wastewater Engineering Bureau
29 Hazen Drive
PO Box 95
Concord, NH 03302

via email: dennis.greene@des.nh.gov & robert.daniel@des.nh.gov

RE: NHDES Sewer Connection Permit Application Submittal
437 Lafayette Road – Artwill, LLC – Tax Map 229 Lot 1
Project #45407.120

Dear Mr. Greene:

On behalf of our client, Artwill, LLC, please find a NHDES Application for Sewer Connection Permit submission relative to the above-referenced project. The following materials are included in this submission:

- **Check in the amount of $1,800.00 to Treasurer State of NH for permit fees**
- **Application for Sewer Connection Permit (City signature pending)**
- **Calculated Design Sewer Flow & NHDES Env-Wq 1000 Table 1008-1: Unit Design Flow**
- **Environmental One Corportation Pressure Sewer Design Report, dated May 19, 2022**
- **Partial Set of Site Development Plans titled "Proposed 3 Lot Subdivision, 437 Lafayette Road, Portsmouth, New Hampshire", prepared by TFMoran, Inc., dated April 19, 2022, last revised May 25, 2022 (1 copy - 22"x34"). Sheets included in this submittal:**
  - **C-00 Cover**
  - **C-01 Notes & Legend**
  - **S-01 Existing Conditions Plan**
  - **C-05 Utility Plan**
  - **C-12 – C-14 Details**

Project Description

This proposal is for the subdivision of a single lot into three proposed lots, and the construction of two single-family dwelling units and an attached accessory dwelling unit. Other improvements associated with this project include but not limited to grading, utility installation, stormwater management, landscaping, and paving. The existing lot is located at 437 Lafayette Road and is identified on the City of Portsmouth Assessor's Map 229 as Lot 1, and is approximately 65,365 sf (1.50 ac) in size. The site is

NHDES Sewer Connection Permit Application Submittal
437 Lafayette Road – Artwill, LLC – Tax Map 229 Lot 1
Project #45407.120

May 25, 2022

located in the Single Residence B (SRB) Zone and currently contains one single-family residential building and a detached garage.

The proposed house on Lot #1 is to be serviced by a 6" PVC gravity sewer line, which will tie into an existing manhole at the intersection of Lafayette Road and Artwill Ave. The houses on Lots #2 and #3 will be serviced by 1-1/4" PVC pressure sewer lines that will each connect to a proposed 1-1/2" PVC force main line that runs along Artwill Ave before ultimately connecting to the existing sewer manhole at the intersection.

The proposed project consists of 84 linear feet (LF) of 6" SDR-35 PVC pipe, 239 LF of 1-1/2" SRD-11 PVC pipe, 105 LF of 1-1/4" SDR-11 PVC pipe, two cleanouts along the gravity sewer service line, two E/One grinder pumps, and a terminal flushing manhole for the pressure sewer main.

The City of Portsmouth is concurrently reviewing this application. Any revisions based on their comments will be circled on the plans and forwarded to you.

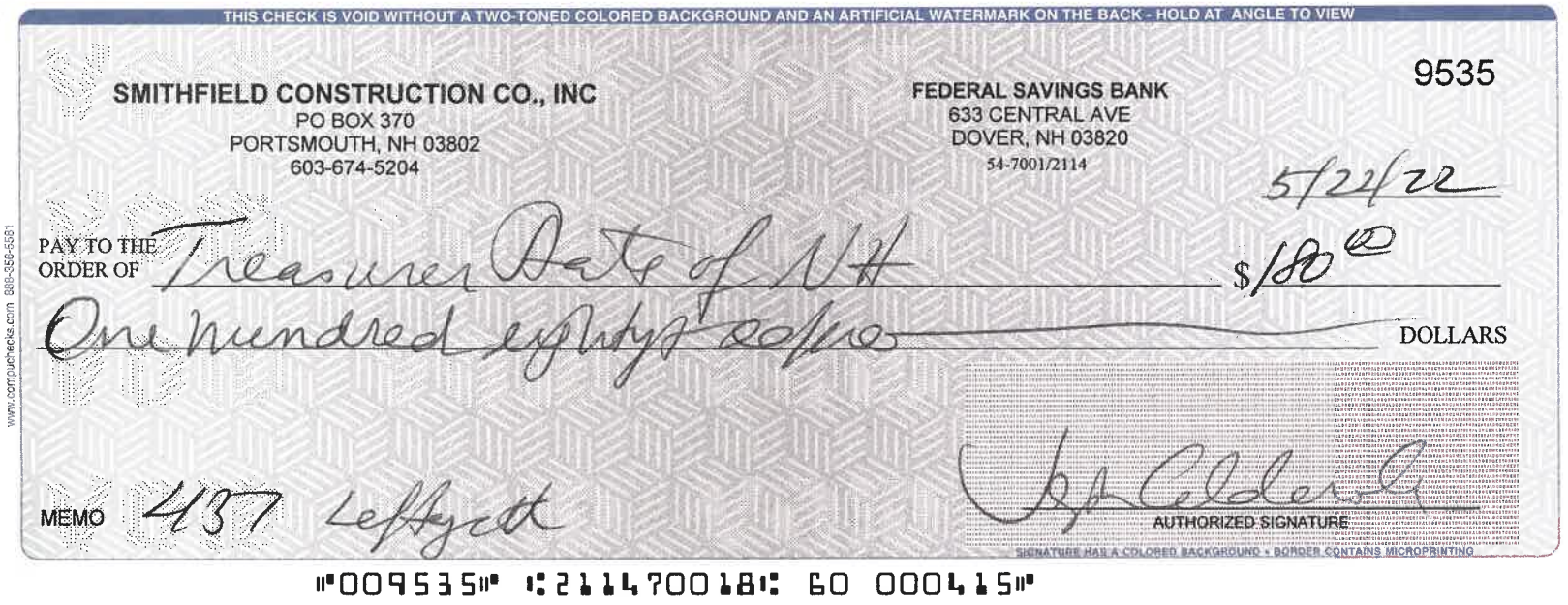
If you have any questions or concerns, please do not hesitate to contact us.

Respectfully,
TFMoran, Inc.

Justin Macek, EIT
Project Manager

JSM/sdr

cc: Joe Caldarola, Smithfield Construction, Inc. (via joe@smithfieldconstruction.com)



THIS CHECK IS VOID WITHOUT A TWO-TONED COLORED BACKGROUND AND AN ARTIFICIAL WATERMARK ON THE BACK - HOLD AT ANGLE TO VIEW

SMITHFIELD CONSTRUCTION CO., INC
PO BOX 370
PORTSMOUTH, NH 03802
603-674-5204

FEDERAL SAVINGS BANK
633 CENTRAL AVE
DOVER, NH 03820
54-7001/2114

9535

5/24/22

PAY TO THE ORDER OF Treasurer State of NH $ 180.00

One hundred eighty 00/100 DOLLARS

MEMO 437 Left yoke

AUTHORIZED SIGNATURE

SIGNATURE HAS A COLORED BACKGROUND • BORDER CONTAINS MICROPRINTING

www.compuchecks.com 888-356-5581

"009535" ⑆211470018⑆ 60 000415"

NHDES-W-09-008

APPLICATION FOR SEWER CONNECTION PERMIT
Water Division/Wastewater
Engineering Bureau Design Review Section

RSA/Rule: RSA 485-A:37 / Env-Wq 703.07

TYPE OR PRINT CLEARLY

Use this application for Sewer Connection Permit to request NHDES review/approval for any proposed sewerage design. Under RSAs 485 and 485-A, design plans for new sewerage facilities – whether publicly or privately owned, and regardless of design flow – must be submitted to NHDES for review/approval action at least 30 days prior to construction. Pursuant to Env-Wq 703, design submittals must include 1 set of engineering plans/specifications, pertinent design calculations, the required fee, and a Municipal Certification (signed by an authorized municipal official, see page 2).

1. Engineer of Record - Contact Information		
Engineer / Contact: Justin Macek	*Company: TFMoran Inc.*	
Mailing Address: 170 Commerce Way, Suite 102		
Town/City: Portsmouth	*State:* NH	*ZIP:* 03801
Phone Number: 603-431-2222	*Email: jmacek@tfmoran.com*	

2. Description of Proposed Work (check all that apply)	
☐	An extension of a collector or interceptor;
☐	A sewage pumping station greater than 50 gpm or serving more than one building;
☒	A proposed sewer that serves more than one building or that requires a manhole at the connection.

Project Name or Description: Smithfield Construction - 3 Lot Subdivision - Residential		
Project Location - Street Address: 437 Lafayette Road		
Project Location - Town / City: Portsmouth		
Name Of Receiving WWTF: Portsmouth Wastewater Treatment Plant		
Average Design Flow (ADF, gal/day): 1,800		
Proposed Sewer Length (Linear ft)	Pipe Diameter (inches)	Pipe Material
84	6	SDR-35 PVC
239	1-1/2	SDR-11 PVC
105	1-1/4	SDR-11 PVC

3. Required Fee	
☒	Sewer connection design submittals must be accompanied by a review fee payment based on the project's average design flow - $0.10 per gal/day ("a dime a gallon") for design flows up to 10,000 gal/day, plus $0.05 per gal/day for any flows in excess thereof.
☐	A fee of $200 per plan sheet shall be paid for review of modifications to privately owned pump stations, force mains, interceptors, and wastewater treatment facilities which are not associated with an increase in wastewater flow.
☐	Fees are not required of municipalities for municipal projects.
Fee Enclosed: $180.00	Please make checks payable to "Treasurer State of NH".

Italics indicate items are optional.

RSA/Rule: RSA 485-A:37 / Env-Wq 703.07

4. Municipal Certification	
On behalf of this Proposed 3-Lot Subdivision,the Town or City of Portsmouth hereby provides the following municipal certification.	
The municipal sewage collection system and wastewater treatment facilities have been demonstrated, pursuant to Env-Wq 703.07(d), to have adequate processing capability for the proposed added hydraulic flow and organic flow at the time of connection. The proposed sewer connection and/or sewerage design meet with the approval of the local jurisdictional authority.	
Name Of Municipal Official (Project Location): *Terry Desmarais, P.E.*	Title: City Engineer
Signature:	Date:
Email Address: tldesmarais@cityofportsmouth.com	
When the Receiving WWTF is in a different Municipality from that of the Project Location, the following additional certification is required.	
Name Of WWTF Official (Host Community):	Title:
Signature:	Date:
Email Address:	

Submit completed application package to:

NHDES Wastewater Engineering Bureau
Design Review Section
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

NOTE: A Separate INDUSTRIAL WASTEWATER INDIRECT DISCHARGE REQUEST (IDR) May be Required For Industrial Waste Contributions, Depending On Quantity And Quality. For Further Information, Contact The Industrial Pretreatment Supervisor Of The Wastewater Engineering Bureau At (603)-271-2052.

Project	**Proposed 3-Lot Subdivision**	Date: 5/20/2022
Location	**437 Lafayette Road**	
	Portsmouth, NH	

Unit Sewer Flows

Total Number of Units	3	
Based on	100%	4 Bedroom Units

4 Bedroom Houses

Residences Single Family - 2 Bedroom	300
Additional Flow for 2 Additional Bedroom	300
Gallons Perd Day per 4 Bedroom Unit	600

Design Sewer Flows

	Number of Units	GPD/ Unit	GPD
Number of 4 Bedroom	3	600	1,800
Total Design Flow	3		1,800

State Fee

Cost per GPD	$ 0.10	1,800	$ 180.00
Total Cost			$ 180.00

(2) Metered water readings for uses that are as similar as possible to the proposed use, taking into consideration factors such as occupancy and frequency of use, determined as specified in (d), below.

(d) Design flows based on metered water readings shall be calculated:

(1) By finding the average of water meter readings over a period of time that is representative of the volume of water used and multiplying the average by a minimum peaking factor of 2 for commercial light flow or a maximum peaking factor of 3 for commercial heavy flow; or

(2) By measuring not less than 6 months of consecutive daily meter readings, including the month(s) of heaviest use for uses that are seasonal in nature, and using the highest daily flow without application of a peaking factor;

(e) The unit design flow figures referenced in (b) and (c), above, shall be as listed in Table 1008-1, below, subject to (f), below:

Table 1008-1: Unit Design Flow Figures

Use	**Unit Design Flow**
AIRPORTS	5 GPD/Transient plus 10 GPD/Employee
APARTMENTS	See Dwellings
BARS, LOUNGES	See Food Service
BED & BREAKFAST	60 GPD/Guest, based on the greater of 2 guests per room or the actual number of guests the room is designed to accommodate, plus 10 GPD/Employee
BUNKHOUSE	60 GPD/Person
CAMPS:	
Campground with Central Comfort Station	45 GPD/site, plus 20 GPD/Site for the dump station
Recreational Campgrounds with 3-way hookups	60 GPD/Site
Construction Camps	50 GPD/Person
Day Camps (not including meals)	15 GPD/Person
Dining Facility	3 GPD/Person/meal
Residential Youth Recreation Camps	25 GPD/Person plus 3 GPD/Person/meal
CATERERS – Function Rooms	12 GPD/patron
CHURCHES:	
Sanctuary Seating	3 GPD/Seat
Church Suppers	12 GPD/Seat
COUNTRY CLUBS – PRIVATE	
Dining Room	10 GPD/Seat
Snack Bar	10 GPD/Seat
Locker & Showers	20 GPD/Locker
DAY CARE CENTERS	10 GPD/Person
DENTISTS	10 GPD/Chair plus 35 GPD/Staff Member
DOCTOR'S OFFICES	250 GPD/Doctor
DOG KENNELS	50 GPD/Kennel, with one dog per kennel
DWELLINGS:	
Apartment - Studio or One-Bedroom	225 GPD
Apartment - 2 or More Bedrooms	150 GPD/Bedroom
Residence - Single-Family	300 GPD plus 150 GPD for each bedroom over 2
Residence - Duplex	300 GPD plus 150 GPD for each bedroom over 2 for each unit
Rooming House – With Meals	60 GPD/Person
Rooming House – Without Meals	40 GPD/Person
Senior Housing	See Senior Housing

Environment One Corporation

Pressure Sewer Preliminary

Cost and Design Analysis

For

437 Lafayette Rd-Portsmouth NH

Prepared For:
Justin Macek TF Moran
170 Commerce Way - Suite 102
Portsmouth NH 03801
Tel: (603) 431-2222
Fax:
Prepared By: D.Coppola
May 19, 2022

PRELIMINARY PRESSURE SEWER - PIPE SIZING AND BRANCH ANALYSIS

Prepared By:
D.Coppola

437 Lafayette Rd-Portsmouth NH

May 19, 2022

Zone Number	Connects to Zone	Number of Pumps in Zone	Accum Pumps in Zone	Gals/day per Pump	Max Flow Per Pump (gpm)	Max Sim Ops	Max Flow (GPM)	Pipe Size (inches)	Max Velocity (FPS)	Length of Main this Zone	Friction Loss Factor (ft/100 ft)	Friction Loss This Zone	Accum Fric Loss (feet)	Max Main Elevation	Minimum Pump Elevation	Static Head (feet)	Total Dynamic Head (ft)
This spreadsheet was calculated using pipe diameters for: SDR21PVC										Friction loss calculations were based on a Constant for inside roughness "C" of:							150
1.00	1.00	2	2	600	11.00	2	22.00	1.50	3.04	238.00	2.15	5.12	5.12	30.00	24.00	6.00	11.12

Note: This analysis is valid only with the use of progressive cavity type grinder pumps as manufactured by Environment One.

\\CWMDFS02\Home - Remote\dcoppola\My Documents\EONE\New Hampshire\Portsmouth\437 Lafayette Rd\437 Lafayette Rd.EOne

PRELIMINARY PRESSURE SEWER - ACCUMULATED RETENTION TIME (HR)

Prepared By:
D.Coppola

437 Lafayette Rd-Portsmouth NH

May 19, 2022

Zone Number	Connects to Zone	Accumulated Total of Pumps this Zone	Pipe Size (inches)	Gallons per 100 lineal feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Fluid Changes per Day	Average Retention Time (Hr)	Accumulated Retention Time (Hr)
This spreadsheet was calculated using pipe diameters for:			SDR21PVC					Gals per Day per Dwelling		200
1.00	1.00	2	1.50	12.07	238.00	28.73	1,200	41.77	0.57	0.57

Note: This analysis is valid only with the use of progressive cavity type grinder pumps as manufactured by Environment One

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info@frmahony.com

E/ONE Pressure System Design Report

For

437 Lafayette Rd

Portsmouth, NH

May 19, 2022

SERVICE OPERATIONS
30 DuPaul Street
Southbridge, MA 01550
D: (508) 765-0051
F: (508) 765-1244

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May 19th, 2022

Justin Macek, EIT
Civil Project Engineer
TFMoran Seacoast Division
170 Commerce Way - Suite 102
Portsmouth, NH 03801
(603) 431-2222
RE: 437 Lafayette Rd Portsmouth, NH

Dear Justin;

This preliminary design analysis examines the use of the E/One Pressure Sewer System for your project. E/One is celebrating 50 years of installation and O&M experience along with considerable research and development leading to continuous product and system improvements. E/One remains the worldwide industry standard and industry leader in the pressure sewer technology. The unique characteristics of the E/One Pressure Sewer approach provides not only a technical solution, but also an economic advantage to be realized with low up front and O&M costs.

System Analysis

Using the information you provided, we ran the enclosed preliminary pressure sewer pipe sizing analysis. This was run through our Low Pressure Sewer Design Software that employs our Flow Velocity and Friction Head Loss vs. Pumps in Simultaneous Operation Spreadsheet. We have used the surface topography provided to make our analyses.

Zone Layout

Using the preliminary information we laid this into a single 1 1/2 inch flow zone discharging into a gravity main on Lafayette Rd.

Computations are based on the Hazen-Williams formula for friction loss, using calculations of cross-sectional area and flow rate to determine pipe sizes that create ”self-cleaning” velocities of 2.0 fps or higher. A "C" factor of 150, SDR 21 PVC pipe and the average expected daily volumes for single family homes are also used in this analysis.

The highest Total Dynamic Head generated is approximately 13 feet which is

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comprised of static head and friction loss in the proposed pipelines. This is well below our pump's continuous-run rating of 185 ft, and well within its intermittent, i.e., normal, operating range. Flow velocity throughout the system meets or exceeds 2 fps. These characteristics and low retention time indicate that this will be a reliable, low-maintenance system.

Design Flows & System Velocity

We normally use average daily flows for system designs rather than the peak design flows commonly used for gravity sewer sizing. We do this because the system is sealed and void of inflow and infiltration commonly allowed for in gravity sewer designs. We size the system for an average daily flow of 600+/- gpd generally for single family homes. The pumps selected are rated to flows up to 700 gpd thus peak flows are easily handled. We size the pipelines for the proper scouring velocity based on the pump's output which has a consistent flow rate over a wide range of head conditions. We then look at the pipeline retention time to optimize the line size for the lowest retention that will pass wastewater in a short period of time to reduce sediment in the lines and prevent odor issues. This makes for a very reliable and maintenance free wastewater collection system.

Often we are asked to use the published "State" design values from various flow tables in order to secure approval. We can do this; but then we run the reports based on the actual predicted average flow to optimize the line size as mentioned above.

Many of our installations have seen flows that more closely mirror the EPA water use goals of 70 gpd/capita. We also look at seasonal uses a little more closely due to greater reductions in flow in the offseason. In applications of this type we look to find the best for both seasons.

Appurtenances

- Cleanouts, Air/Vacuum Release

Our normal recommendations for valve placement are as follows: flushing connections at 1,000' to 1,500' intervals and at branch ends and junctions; isolation valves at branch junctions; and air release valves at peaks of 25 ft. or more and/or at intervals of 2,000 to 2,500 ft. We recommend one flushing manhole labeled on PDF FRMA markup.

- Service Laterals and Check Valves

Common practice in pressure sewers requires the ability to isolate each lot with a corporation stop off the main and service lateral kit to the lot line. E/One now requires that each pump connection be isolated with a combination curb stop/redundant check valve.

E/One has developed a true wastewater rated check valve which is built in to our stainless steel lateral kit shown in this report. These components are rated to 235 psi and with standard connection fittings rated to 150 psi. These items are included in the budget analyses and shown in this report.

We strongly advise against the use of waterworks check valves as they are not rated for sewage environments. We do not like to recommend brass due to concerns for corrosion. **WEF Manual of Practice FD-12, Second Edition**, page 45 speaks to the limited success of brass or bronze alloys.

> "Besides corrosion considerations, brass is subject to de-alloying, while some bronze, such as 85-5-5, will give better performance. The terms *brass* and *bronze* are used loosely, despite having different meanings; the engineer is advised to evaluate these materials with caution."

We have also seen PVC body check valves with pressure rating to 150 psi that do not have the same rating for back pressure on the check valve. This can result in damage to the check valve and pumping issues as the check valve disc can become dislodged under pressure and then become a line obstruction.

- Corporation Stops/ Mainline Connections

Connections to the main pressure line do not require WYE type fittings. We commonly use a TEE or saddle connection. We isolate each connection to the main line with a stainless steel corporation valve in the same manner used for other utilities such as gas and water services.

We recommend that the service laterals connect to the mainline and do not need to enter a cleanout manhole or other structure. These connections are very similar to a connection of a water service off of a water main.

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Budget Notes

We show our outdoor Model DH071-93 station. We show this model in our budget we can formally quote when project gets closer. Please note budget does not include freight.

Costs of pipeline excavation and pump installation are best obtained from sources in your region. You may be better able to determine these costs.

I am looking forward to working with you on this and future projects. Please contact me if you have any questions or require additional information.

Best regards,

Daryl Coppola
Outside Sales Engineer
781-820-5808
dcoppola@frmahony.com

Enclosures

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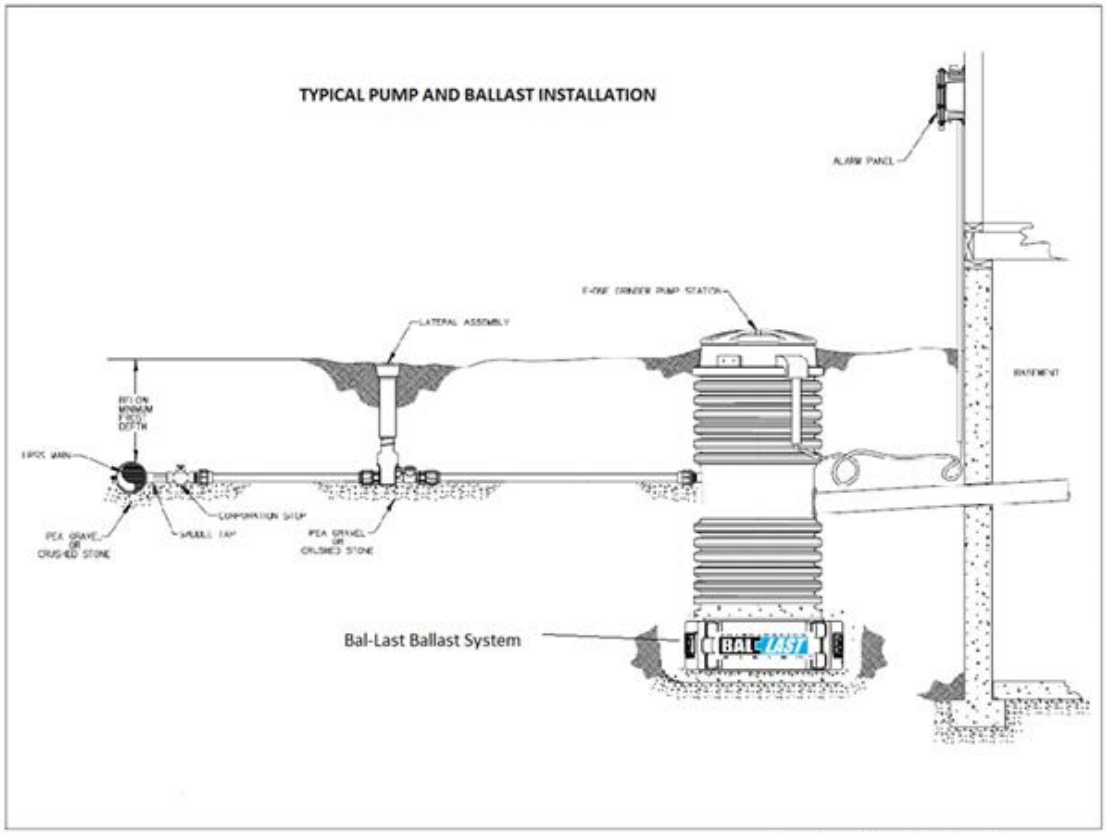

This image shows the typical layout of an outdoor pump unit for single-family home use. The pump unit is furnished complete, ready for installation. The installer needs to confirm the power cord length and discharge and inlet configuration. Standard products are supplied with 32 foot power supply cable. Standard inlets are 4-inch Schedule 40 Grommets (@ zero degrees) with 1-1/4 inch discharge (@ 180 degrees). Other configurations are available.

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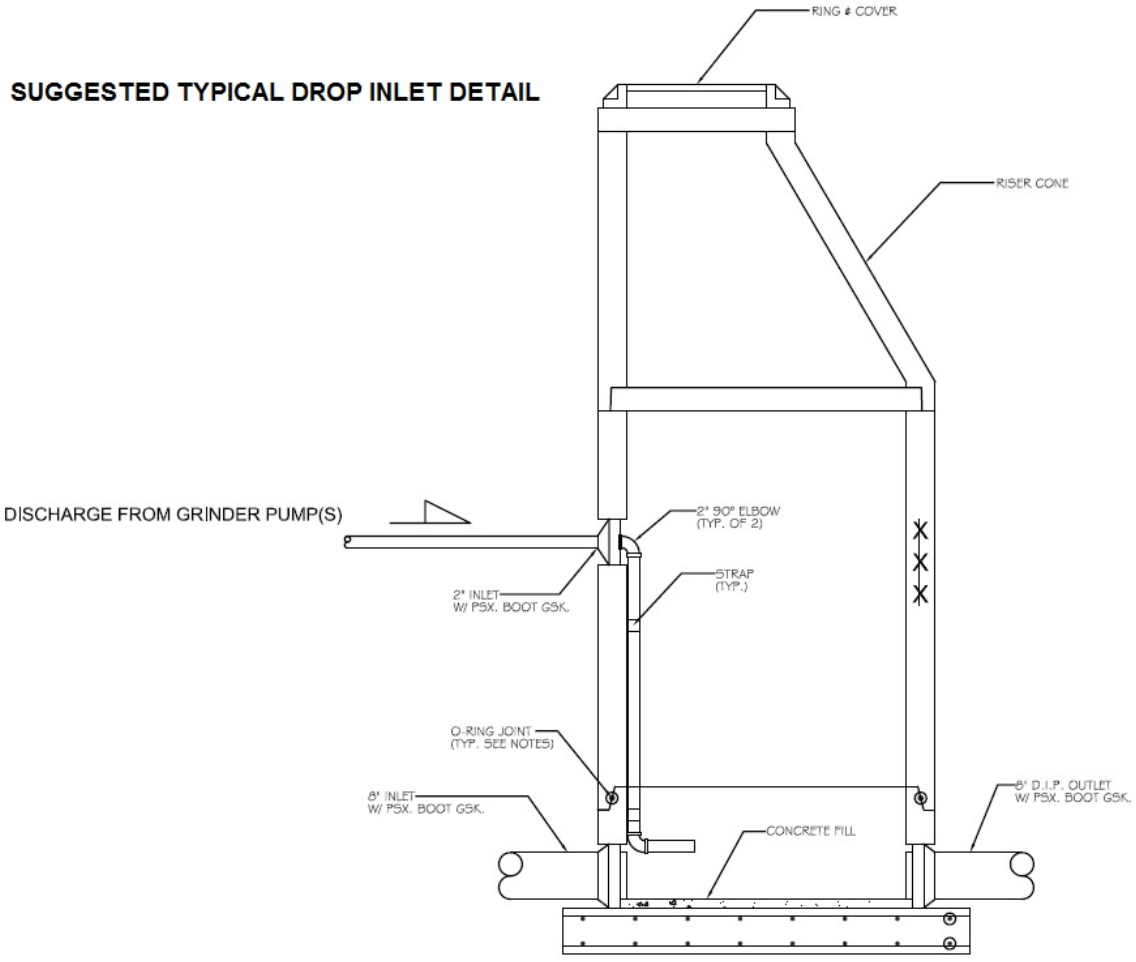
SUGGESTED TYPICAL DROP INLET DETAIL



IN-LINE MANHOLE
ELEVATION VIEW

This detail is shown as a concept sketch when major grade adjustments are required. We recommend that smaller inlet lines match the crown of outlet gravity sewer lines in all cases in order to direct flow to properly drain to the gravity sewer

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Standard alarm panels are the Sentry® panel mounted outside of the home as shown in the drawing (above).
Options include emergency generator connection (see photo) and Redundant alarm Remote Sentry® panel shown. Other panel configurations are available. See the partial listing of panel options below.

- Basic Panels include circuit breaker for the pump and separate breaker for the alarm. These panels include alarm light, alarm buzzer and alarm silence button. ***All F. R. Mahony panels are equipped with dry contacts to enable the connection of the Remote Sentry® (battery powered redundant alarm panel option)***

- Standard options include auto transfer generator connection shown above. This panel provides automatic power transfer without having to open the alarm panel or having to operate any manual transfer switching. This feature can be added to the basic panel or the panels offered below.

- Popular options include the **"Protection Package"** which monitors and protects the system from:
  - Pump Run Dry Condition (Pump running out of water)
  - Pump Overpressure Condition (Closed valve)
  - Brownout Condition (Main voltage under 12% of nameplate)
  - High Liquid Level

- The **"Protect Plus"** panel features offer the same items in the "Protection Package" plus the following:
  - High & Low Amperage draw by the pump
  - High & Low voltage to the pump
  - Extended Runtime by the pump (indicating wear or excessive flow) (field adjustable settings)
  - Monitoring of:
    - Real-time Pump Voltage and Current
    - Cycles & Hours (can be reset)
    - Minimum & Maximum Amperage (can be reset)
    - Minimum, Maximum, Average, and Last Run Cycle (in minutes, can be reset)

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Emergency Generator Transfer Options.

The indoor pump units may be furnished with a receptacle for connection of emergency power supplies. The image to the right shows the connection receptacle on the right side of our Sentry panels. This connection may be connected by your electrician to a remote connection port outside of the home.

Wiring must be performed by a licensed electrician and conforming to NEC and local electrical codes.

The box (left) is shown in the face view (face up) and is intended to be mounted on the outside wall to permit connection of a portable generator to the receptacle on the bottom. Generator operation must always be in well ventilated areas outside of any living space.

The pump may be operated under emergency power provided the automatic transfer option is selected with the Sentry® panel. Normal pump run times are short and should not require the continuous connection of a generator. A single portable generator may be used to service several homes effectively.

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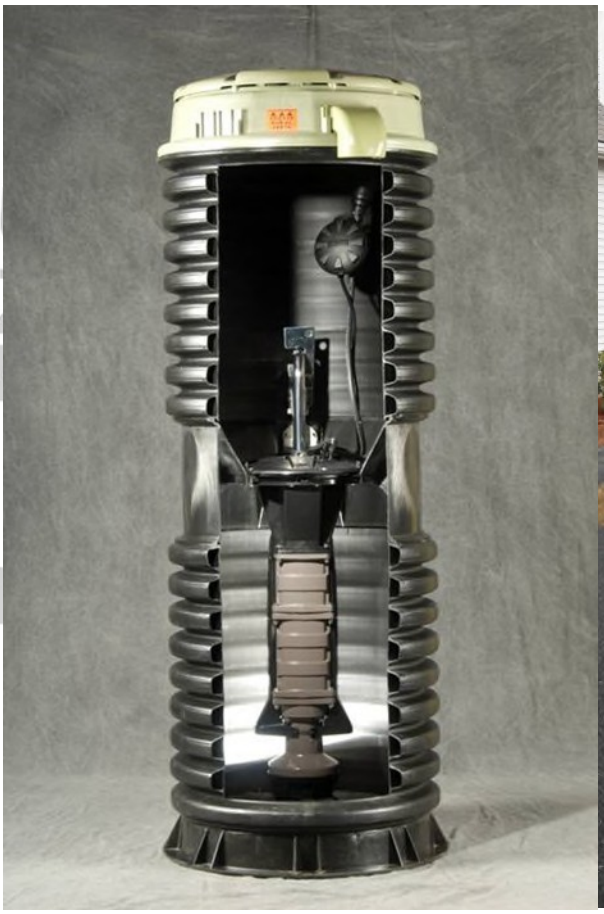
Other station configurations are available for higher flow requirements. Please contact us for more information. Additional information may be found at www.eone.com

Model DH071-93 Outdoor Pump With Bal-Last™



The outdoor model is complete - ready for installation and connection to exterior plumbing and power supply. This unit is fully tested for operation and factory leak tested. No assembly is required and there are no floats to adjust. The pump is furnished complete with the alarm panel and direct bury power supply cable.
Standard cable length is 32 feet with 50, 75, and 100 and up to 150 foot cables available. (See Alarm Panel options above)

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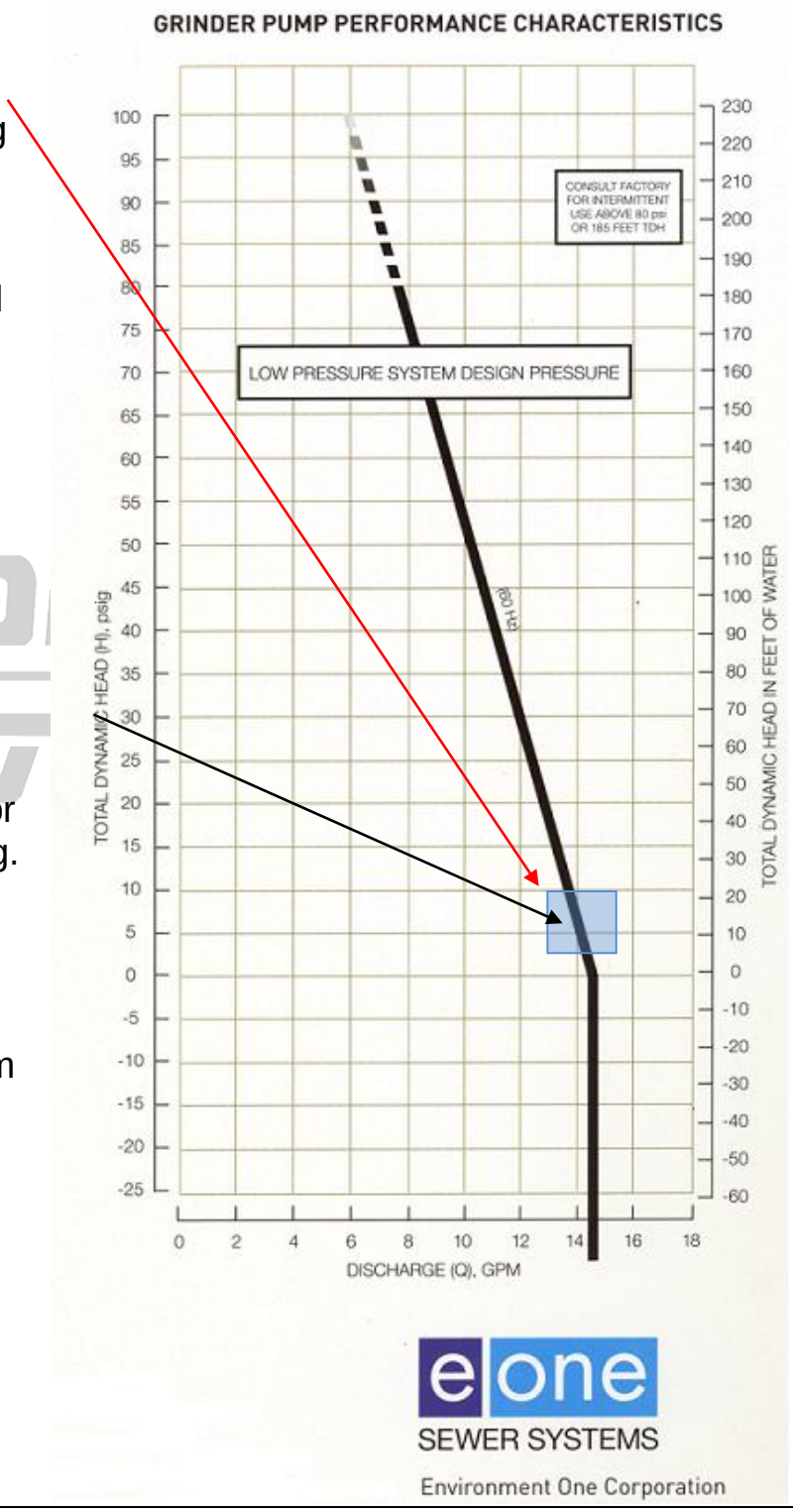
Operation Conditions

11.12 Feet is the highest TDH at simultaneous operating conditions with the expected number of pumps operating in each zone, or the head of an individual pump operating in a single zone condition.

Operating range of E/One pumps from 0-185 feet TDH and from 0 to -60 feet TDH.

Your System Range

Anti-siphon valves in E/One cores provide for negative head pumping. In common systems with negative heads of 25-30 feet or more we recommend the use of combination air/vacuum release valves as described below.



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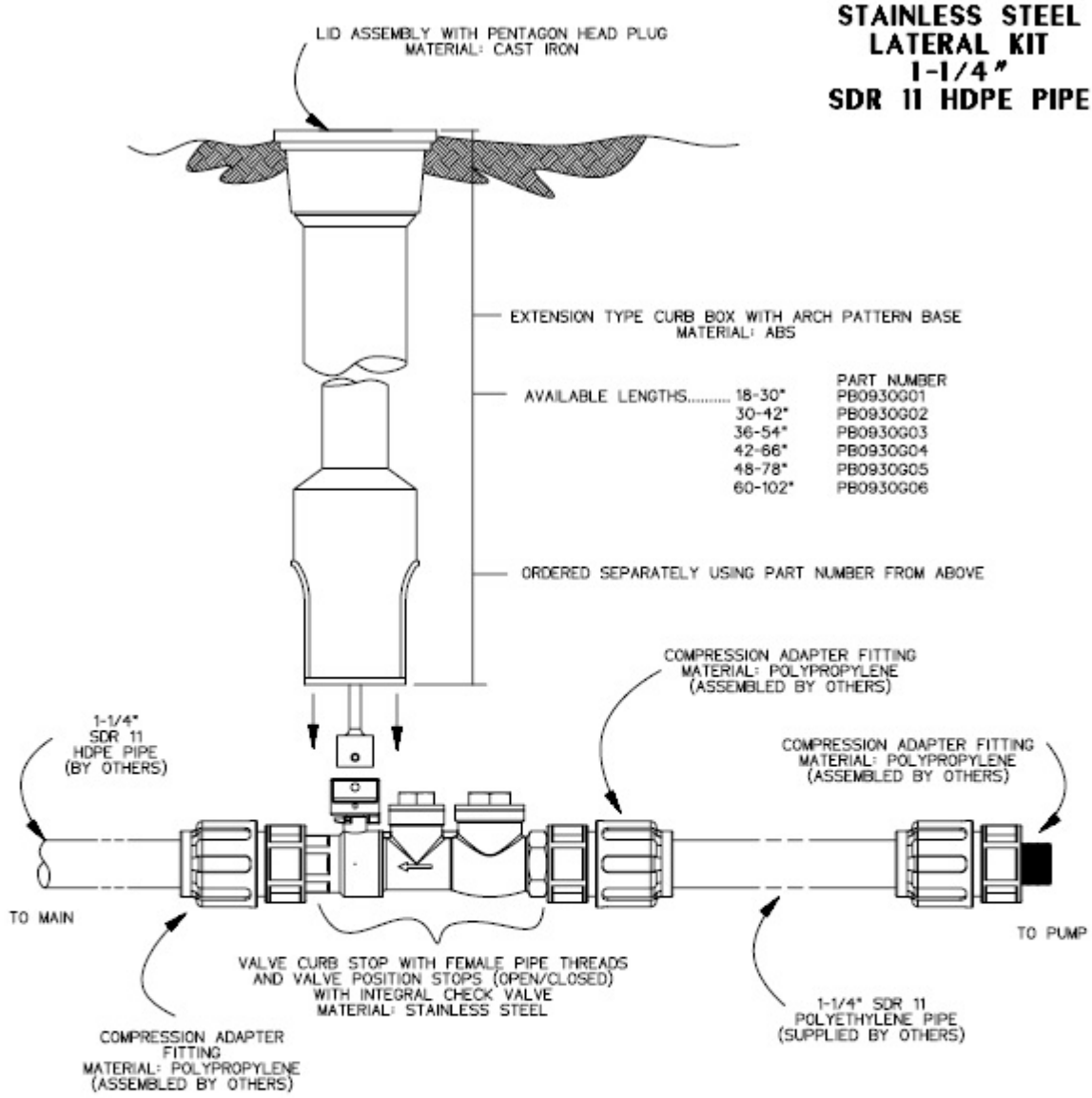
STAINLESS STEEL LATERAL KIT 1-1/4" SDR 11 HDPE PIPE



KIT PARTS ARE NOT ASSEMBLED

NOTES:

1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
3. ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
5. TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G01
6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

SGS	DN	11/02/11	A	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one
SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT
1-1/4" SDR 11 HDPE PIPE

NA0330P02

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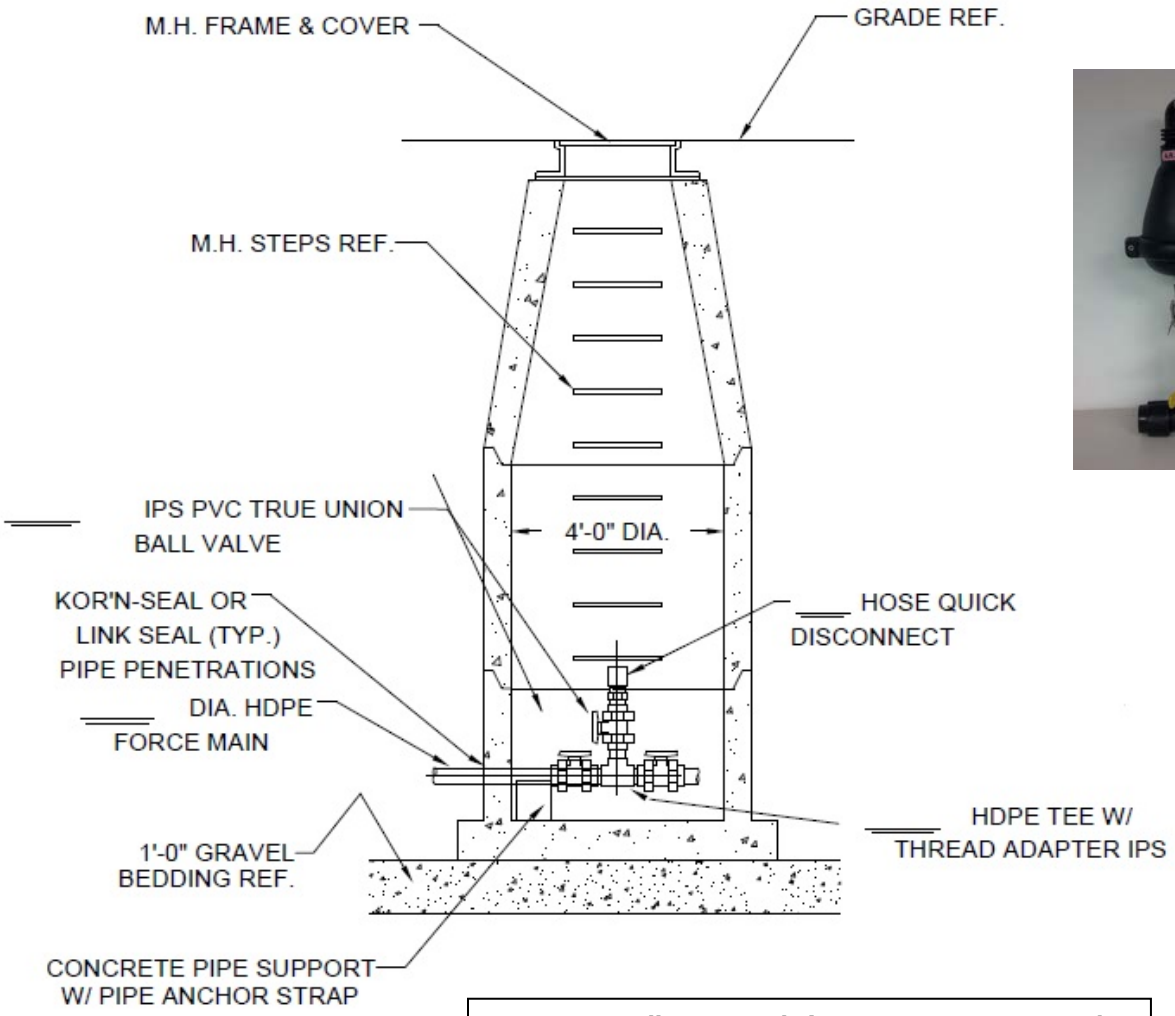
Example of Typical Cleanout Detail

(Optional Air/Vacuum Valve shown –right)



Designer/Installer must include proper pipe supports with corrosion resistant (Stainless Steel) hardware. Supports will vary depending on cleanout configuration.

Cleanout detail can be modified to match typical installation needs. Inline shut offs may be added to isolate flow direction. Image shown is flow through cleanout. These structures can be terminal end of line cleanouts, or junction cleanouts as may be required. Optional air and vacuum relief valves may be added when required.

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

APRIL 19, 2022
LAST REVISED: MAY 25, 2022

GENERAL INFORMATION

OWNER
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802

APPLICANT
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802

PREPARED FOR
MAP 229 LOT 1
ARTWILL, LLC
P.O. BOX 370
PORTSMOUTH, NH 03802

RESOURCE LIST

PLANNING/ZONING DEPARTMENT
1 JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7216

BUILDING DEPARTMENT
1 JUNKINS AVE
PORTSMOUTH, NH 03801
603-610-7243
ROBERT MARSILIA,
CHIEF BUILDING INSPECTOR

PUBLIC WORKS
600 PEVERLY HILL RD
PORTSMOUTH, NH 03801
603-472-1530
PETER RICE, PUBLIC WORKS DIRECTOR

POLICE DEPARTMENT
3 JUNKINS AVE
PORTSMOUTH, NH 03801
603-427-1510
MARK NEWPORT, CHIEF

FIRE DEPARTMENT
170 COURT ST
PORTSMOUTH, NH 03801
603-427-1515
PATRICK HOWE, CHIEF

ASSOCIATED PROFESSIONALS
ARCHITECT
SMITHFIELD CONSTRUCTION, INC.
PO BOX 370
PORTSMOUTH, NH 03802
603-674-5204

VICINITY PLAN

INDEX OF SHEETS

SHEET	SHEET TITLE
C-00	COVER
C-01	NOTES & LEGEND
S-01	EXISTING CONDITIONS PLAN
S-02	SUBDIVISION PLAN
C-02	SITE PREPARATION & DEMOLITION PLAN
C-03	SITE LAYOUT PLAN
C-04	GRADING & DRAINAGE PLAN
C-05	UTILITY PLAN
C-06	LANDSCAPE PLAN
C-07	EROSION CONTROL PLAN
C-08	EROSION CONTROL NOTES
C-09	TRUCK TURNING PLAN
C-10 - C-15	DETAILS
REFERENCE PLANS BY ASSOCIATED PROFESSIONALS	
-	ARCHITECTURAL ELEVATION PLAN

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
CITY PLANNING BOARD SITE PLAN REVIEW	-	-	-
CITY PLANNING BOARD SUBDIVISION REVIEW	-	-	-
CITY PLANNING BOARD CONDITIONAL USE PERMIT FOR AADU	-	-	-
NHDES SEWER CONNECTION PERMIT	-	-	-

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1
COVER
PROPOSED 3 LOT SUBDIVISION
437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
OWNED BY & PREPARE FOR
ARTWILL, LLC

SCALE: AS SHOWN **APRIL 19, 2022**

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED
PROFESSIONAL ENGINEER

DIG SAFE
CALL BEFORE YOU DIG
811 OR 1-888-DIG-SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.

REV	DATE	DESCRIPTION	DR	CK
1	5/23/2022	UPDATE LAST REVISED DATE.	JSM	JJM

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Structural Engineers
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Land Surveyors
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FILE	45407-120	DR	JSM	FB	-	C-00
PRT		CK	JCC	CADFILE	45407-120_COVER	

LEGEND

PROPOSED

- PROPERTY LINE
- ZONING LINE
- EASEMENT
- BASELINE
- FLOODPLAIN
- EDGE OF WATERBODY
- EDGE OF WETLAND
- SETBACK (WETLAND)
- SETBACK (STRUCTURE)
- SETBACK (PARKING)
- SETBACK (LANDSCAPE)
- GRAVEL ROAD
- EOP — EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB
- CC — CONCRETE CURB
- ICC — INTEGRATED CONCRETE CURB
- BIT — BITUMINOUS ASPHALT CURB
- CCB — CAPE COD BERM
- SAWCUT
- BUILDING
- BUILDING ROOF OVERHANG
- BUILDING FOUNDATION
- BUILDING ENTRANCE
- OVERHEAD DOOR
- TREE LINE
- FENCE (CHAIN LINK)
- FENCE (WIRE)
- FENCE (STOCKADE)
- GUARDRAIL
- STONE WALL
- RETAINING WALL
- SILT FENCE
- SS — SILT SOCK
- SOIL BOUNDARY
- LIMIT OF GRADING
- XX — CONTOUR
- 100.50 TC / 100.00 BC OR 100.00 FG — PROPOSED SPOT GRADE
- (100.50) FG — EXISTING SPOT GRADE
- ## — PARKING COUNT
- DSLY — YELLOW DOUBLE SOLID LINE
- SSLY — YELLOW SINGLE SOLID LINE
- SSLW — WHITE SINGLE SOLID LINE
- SBLW — WHITE SINGLE BROKEN LINE
- STOP BAR
- CROSSWALK
- ACCESSIBLE PARKING SYMBOL
- PAVEMENT ARROW
- TRAFFIC FLOW ARROW (NOT PAINTED)
- SIGN (SINGLE POST)
- SIGN (DOUBLE POST)
- SIGN (PYLON)
- SIGN (MONUMENT)
- BOLLARD
- D — DUMPSTER PAD

PROPOSED

- CONCRETE
- GRAVEL
- HEAVY DUTY PAVEMENT
- CONSTRUCTION ENTRANCE
- SNOW STORAGE
- RIPRAP
- INLET PROTECTION
- FLOW ARROW
- DRAIN LINE
- DRAINAGE SWALE
- STORMWATER BMP
- S — SEWER LINE
- FM — SEWER FORCE MAIN LINE
- W — WATER LINE
- G — GAS LINE
- OHE — OVERHEAD UTILITY LINE
- UGE — UNDERGROUND UTILITY LINE
- CATCH BASIN
- DRAIN INLET
- OUTLET CONTROL STRUCTURE
- ROOF DRAIN
- DRAIN CLEANOUT
- DRAIN MANHOLE
- FARED END SECTION
- SEWER CLEAN OUT
- SEWER MANHOLE
- SEWER VENT
- DRAIN/SEWER/WATER PLUG OR CAP
- HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER GATE VALVE
- WATER SHUTOFF
- THRUST BLOCK
- WATER METER
- WATER MANHOLE
- WELL
- GAS GATE VALVE
- GAS SHUT OFF
- GAS METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- TRAFFIC CONTROL CABINET
- ELECTRIC HANDHOLE
- ELECTRIC PULL BOX
- ELECTRIC METER
- FLOOD LIGHT
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- T — TRANSFORMER PAD
- B-# — BORING LOCATION
- TP-# — TEST PIT LOCATION
- IT-# — INFILTRATION TEST LOCATION
- MW-# — MONITORING WELL

ABBREVIATIONS

GENERAL

ABAN	ABANDON
AC	ACRES
ADJ	ADJUST
APPROX	APPROXIMATE
BC	BOTTOM OF CURB
BIT	BITUMINOUS
BK/PG	BOOK & PAGE
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
BS	BOTTOM OF SLOPE
BW	BOTTOM OF WALL
CONC	CONCRETE
COORD	COORDINATE
DIA	DIAMETER
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FFE	FINISHED FLOOR ELEVATION
FND	FOUNDATION
HP	HIGH POINT
INV	INVERT ELEVATION
IT	INFILTRATION TEST
L	LENGTH
LF	LINEAR FEET
LSA	LANDSCAPE AREA
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
NHFG	NEW HAMPSHIRE FISH & GAME
NTS	NOT TO SCALE
OC	ON CENTER
PAVE	PAVEMENT
PERF	PERFORATED
PROP	PROPOSED
R	RADIUS
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
REM	REMOVE
RET	RETAIN
RIM	RIM ELEVATION
ROW	RIGHT OF WAY
S	SLOPE
SF	SQUARE FEET
SW	SIDEWALK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TP	TEST PIT
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
WCR	ACCESSIBLE WHEELCHAIR RAMP
W/	WITH

UTILITIES

CB	CATCH BASIN
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COND	CONDUIT
DCB	DOUBLE CATCH BASIN
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FES	FLARED END SECTION
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
LP	LIGHT POLE
OCS	OUTLET CONTROL STRUCTURE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
SMH	SEWER MANHOLE
SOS	SEDIMENT OIL SEPARATOR
TSV	TAPPING SLEEVE, VALVE, AND BOX
UP	UTILITY POLE

DIG SAFE — CALL 811 OR 1-888-DIG-SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

GENERAL NOTES

1. THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.
2. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
3. THE SUBDIVISION PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
4. ALL IMPROVEMENTS SHOWN ON THE 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 CITY PLANNING BOARD.
5. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF PORTSMOUTH, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK TO CONFORM TO CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE CITY AND/OR STATE SHALL COMPLY WITH APPLICABLE STANDARDS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY, AND/OR STATE AGENCY.
6. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF ENV-WQ 1500. THE SITE CONTRACTOR SHALL NOTIFY THE ENGINEER IN ADVANCE OF CONSTRUCTION OF EACH STORMWATER FACILITY TO COORDINATE REQUIRED INSPECTIONS. THE CONTRACTOR SHALL TAKE PROGRESS PHOTOS DURING CONSTRUCTION OF ALL STORMWATER DRAINAGE COMPONENTS AND SEND TO THE ENGINEER.
7. SEE EXISTING CONDITIONS PLAN FOR THE HORIZONTAL AND VERTICAL DATUM.
8. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
9. CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENTS.
10. PRIOR TO COMMENCING ANY SITE WORK, ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.
11. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
12. TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
13. TEMPORARY FENCING SHALL BE PROVIDED AND COVERED WITH A FABRIC MATERIAL TO CONTROL DUST MITIGATION.
14. ALL DEMOLITION SHALL INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKWAYS, AND ANY OTHER ADJACENT OPERATING FACILITIES. PRIOR WRITTEN PERMISSION FROM THE OWNER/DEVELOPER AND LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.
15. REFER TO ARCHITECTURAL PLANS FOR LAYOUT OF BUILDING FOUNDATIONS AND CONCRETE ELEMENTS WHICH ABUT THE BUILDING SUCH AS STAIRS, SIDEWALKS, LOADING DOCK RAMPS, PADS, AND COMPACTOR PADS. DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.
16. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
17. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
18. CONTRACTOR'S GENERAL RESPONSIBILITIES:
    A. BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS AND CONDITIONS OF ALL PROJECT-SPECIFIC PERMITS AND APPROVALS AS LISTED ON THE COVER SHEET TO THESE PLANS OR OTHERWISE REQUIRED.
    B. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.
    C. EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.
    D. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
    E. TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST, AND UNSIGHTLY DEBRIS. CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT BETWEEN THE HOURS OF 7:00 AM AND 9:00 PM, MONDAY THROUGH FRIDAY IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL ORDINANCES AND REGULATIONS OF THE CITY OF PORTSMOUTH, NEW HAMPSHIRE.
    F. MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
    G. IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
    H. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
    I. PROTECT NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
    J. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
    K. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
    L. VERIFY LAYOUT OF PROPOSED BUILDING FOUNDATIONS WITH ARCHITECT AND THAT PROPOSED FOUNDATION MEETS PROPERTY LINE AND/OR WETLAND SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.
    M. PROVIDE AN AS-BUILT PLAN AT THE COMPLETION OF THE PROJECT TO THE PLANNING DIRECTOR AND PER CITY REGULATIONS.
    N. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.
    O. AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.

GRADING & DRAINAGE NOTES

1. THE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
2. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
4. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT SOIL AND GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEER'S RECOMMENDED METHODS TO ADDRESS ANY SOIL AND GROUNDWATER ISSUES THAT ARE FOUND ON SITE, INCLUDING AND NOT LIMITED TO DEWATERING METHODS, PERIMETER DRAINS AND TIE INTO STORMWATER MANAGEMENT SYSTEM, ETC.
5. COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
6. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES.
7. COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR ROOF DRAIN INFORMATION.
8. LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS, AND ALIGNMENTS.
9. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE, RAMPS, AND LOADING AREAS.
10. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE AND SHALL NOT POND WATER DEEPER THAN 1/4" FOR A PERIOD OF MORE THAN 15 MINUTES AFTER FLOODING.
11. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
12. ALL SIDEWALK AND OTHER CURB REVEALS SHALL BE 6" WITH A TOLERANCE OF PLUS OR MINUS 3/8". WHERE SIDEWALK IS TO BE FLUSH, THE PAVEMENT REVEAL SHALL BE 1/4" WITH A TOLERANCE OF 1/8".
13. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE PRIOR TO INSTALLATION OF FINISHED PAVEMENT.
14. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
15. STORMWATER DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
16. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
17. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
18. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER, AND MULCH.
19. DENSITY REQUIREMENTS:

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

*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 D-6938.

UTILITY NOTES

1. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
2. ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES, AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
4. COORDINATE ALL WORK ADJACENT TO PROPOSED BUILDINGS WITH ARCHITECTURAL BUILDING DRAWINGS. CONFIRM UTILITY PENETRATIONS AND INVERT ELEVATIONS ARE COORDINATED PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY, AND/OR PRIVATE UTILITY COMPANY.
7. 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 THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
8. ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH TELEPHONE, CABLE, AND ELECTRIC COMPANIES REGARDING NUMBER, SIZE, AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
9. SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). FORCE MAINS AND FITTINGS SHALL CONFORM TO NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. ALL SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH NH CODE OF ADMINISTRATIVE RULES ENV-WQ 700. SANITARY MANHOLES SHALL CONFORM TO NHDES WATER DIVISION WASTEWATER ENGINEERING BUREAU STANDARDS AND SPECIFICATIONS SHOWN HEREON.
10. ON-SITE WATER DISTRIBUTION SHALL BE TO CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5' COVER. WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10' MINIMUM. WHERE A SANITARY LINE CROSSES A WATER LINE, SEWER LINE MUST BE CONSTRUCTED OF FORCE MAIN MATERIALS (PER ENV-WQ 704.08) FROM BUILDING OR MANHOLE TO MANHOLE, OR SUBSTITUTE RUBBER-GASKETED PRESSURE PIPE FOR THE SAME DISTANCE. WHEN SANITARY LINES PASS BELOW WATER LINES, LAY PIPE SO THAT NO JOINT IN THE SANITARY LINE WILL BE CLOSER THAN 6' HORIZONTALLY TO THE WATER LINE.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL LOCATIONS WHERE WATER LINE CHANGES DIRECTIONS OR CONNECTS TO ANOTHER WATER LINE.
12. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
13. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
14. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING, AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
15. PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT, AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
16. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
17. THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	PRIVATE
SEWER	MUNICIPAL
WATER	MUNICIPAL
GAS	UNITIL
ELECTRIC	EVERSOURCE
TELEPHONE	CONSOLIDATED COMMUNICATIONS FKA FAIRPOINT COMMUNICATIONS
CABLE	COMCAST

STATE OF NEW HAMPSHIRE — JOHN J. McTIGUE No. 14950 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

NOTES & LEGEND

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: NTS **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

TFM — Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
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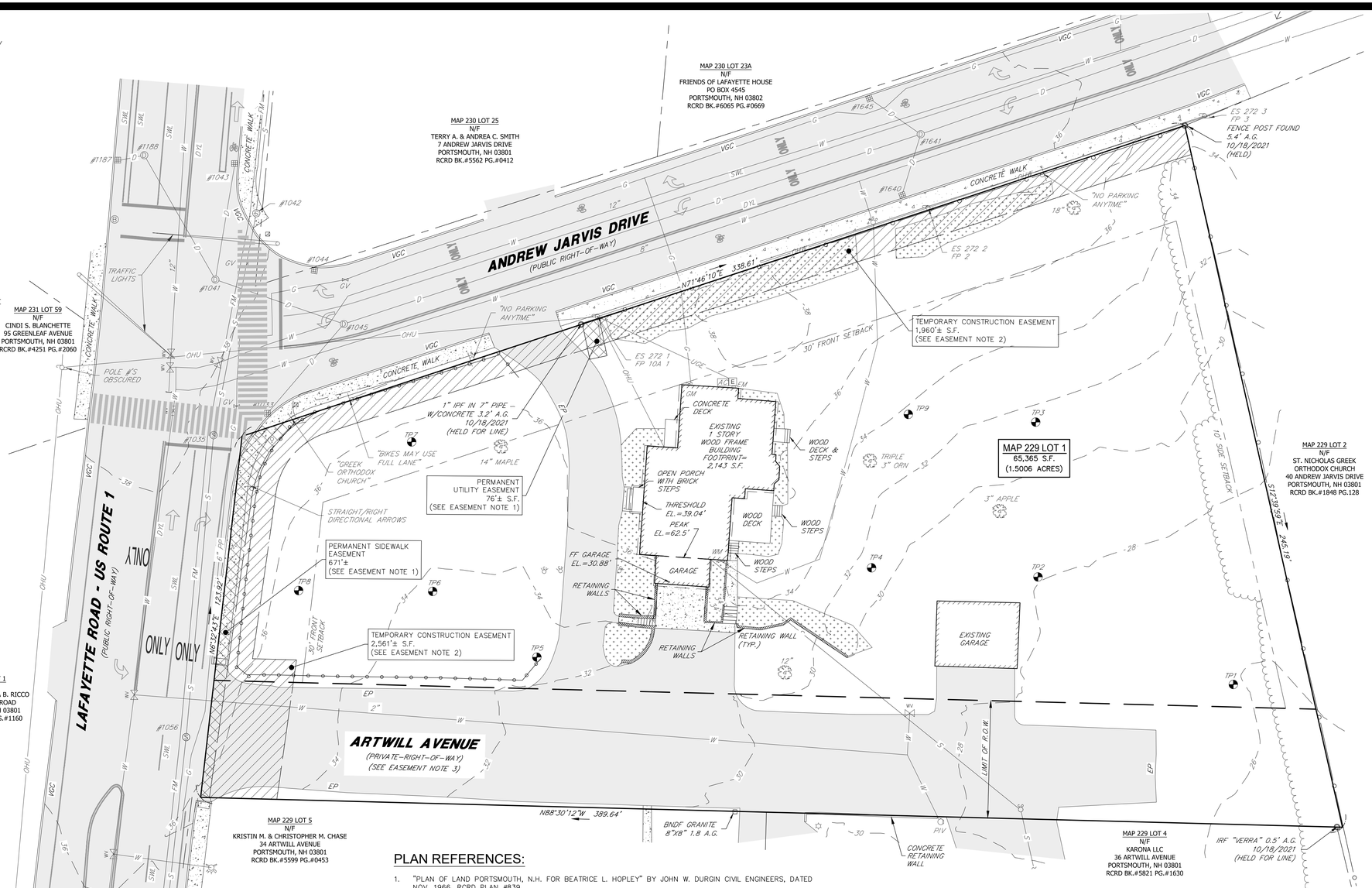
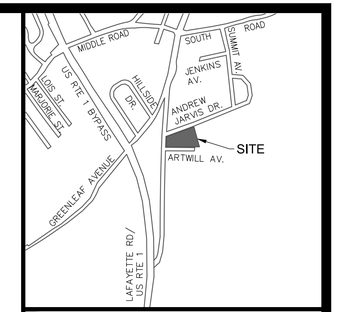
FILE	45407-120	DR	JSM	FB	–	C-01
		CK	JCC	CADFILE	45407-120_NOTES	

May 23, 2022 - 4:05pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Notes.dwg

LEGEND:

MAP 229 / LOT 9	ASSESSOR'S MAP NUMBER / LOT NUMBER
A.G.	ABOVE GRADE
BK./PG.	BOOK/PAGE
BNDF	BOUND FOUND
DYL	DOUBLE YELLOW LINE
EL.	ELEVATION
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
GM	GAS METER
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
N/F	NOW OR FORMERLY
ORN	ORNAMENTAL
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
R.O.W.	RIGHT OF WAY
S.F.	SQUARE FEET
SWL	SINGLE WHITE LINE
VGC	VERTICAL GRANITE CURB
WM	WATER METER
	LANDSCAPED AREA
	PAVEMENT
	CONCRETE
	HYDRANT
	IRRIGATION CONTROL VALVE
	WATER SHUT OFF
	WATER VALVE
PIV	POST INDICATOR VALVE
AC	AIR CONDITIONER
E	ELECTRIC BOX
	UTILITY POLE
	LIGHT POST
	SEWER CLEAN OUT
S	SEWER MANHOLE
GV	GAS VALVE
D	DRAINAGE MANHOLE
CB	CATCH BASIN
B	BELL MANHOLE
	BIKE LANE
	SIGN POLE
	DECIDUOUS TREE
TP1	TEST PIT
	PROPERTY LINE
	ABUTTERS LINE
UGE	UNDERGROUND ELECTRIC
OHU	OVERHEAD UTILITIES
D	DRAIN LINE
G	GAS LINE
W	WATER LINE
S	SEWER LINE
FM	FORCE MAIN
	TREE LINE
	SPLIT RAIL FENCE
	CHAINLINK FENCE
36	EXISTING CONTOUR





LOCATION PLAN

NOTES:

1. THE PARCEL IS LOCATED IN THE SINGLE RESIDENCE B (SRB) ZONE.
2. THE PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 229 AS LOT 1.
3. THE PARCEL IS LOCATED IN FLOOD ZONE X (AREAS OF MINIMAL FLOODING) AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP), FLOOD INSURANCE RATE MAP (FIRM) ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 270 OF 681, VERSION NUMBER 2.3.2.1, MAP NUMBER 33015C0270F, MAP REVISED JANUARY 29, 2021.
4. ZONING REQUIREMENTS:

MINIMUM LOT DIMENSIONS	
LOT AREA	15,000 S.F.
LOT AREA PER DWELLING UNIT	15,000 S.F.
CONTINUOUS STREET FRONTAGE	100'
DEPTH	100'
MINIMUM YARD DIMENSIONS	
FRONT	30'
SIDE	10'
REAR	30'
MAXIMUM STRUCTURE DIMENSIONS	
STRUCTURE HEIGHT:	
SLOPED ROOF	35'
FLAT ROOF	30'
ROOF APPURTENANCE HEIGHT	8'
BUILDING COVERAGE	20%
MINIMUM OPEN SPACE	40%

5. TOTAL PARCEL AREA:
   MAP 229 LOT 1
   65,365 S.F.
   (1.5006 ACRES)
6. OWNER OF RECORD:
   MAP 229 LOT 1
   ARTWILL, LLC
   PO BOX 370
   PORTSMOUTH, NH 03802
   RCRD BK.#6334 PG.#0455
7. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH THE CURRENT LEGAL DESCRIPTIONS. IT IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP OR DEFINE THE LIMITS OF TITLE.
8. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING FEATURES OF MAP 229 LOT 1.
9. HORIZONTAL DATUM IS NAD 83 (2011) VERTICAL DATUM IS NAVD 88 PER STATIC GPS OBSERVATIONS.
10. FIELD SURVEY COMPLETED BY TODD C. EMERSON IN OCTOBER 2021 USING A LEICA TS-16, A TOPCON HIPER SR AND A CARLSON RT-4 DATA COLLECTOR.
11. EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL WOULD DETERMINE.
12. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.

PLAN REFERENCES:

1. "PLAN OF LAND PORTSMOUTH, N.H. FOR BEATRICE L. HOPLEY" BY JOHN W. DURGIN CIVIL ENGINEERS, DATED NOV. 1966. RCRD PLAN #839.
2. "PLAN OF LOTS OWNED BY BEATRICE L. HOPLEY LAFAYETTE ROAD PORTSMOUTH, N.H.", DATED JUNE 1940, REVISED FROM ORIGINAL PLAN BY JOHN W. DURGIN, REVISED MAY, 1946, REVISED FEB. 1957. RCRD PLAN #2637.
3. "STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION CONSTRUCTION PLANS FEDERAL AID PROJECT OF PROPOSED BRIDGE REMOVAL BRIDGE NO. 173/071 & RECONFIGURATION OF US ROUTE 1 BYPASS AND US ROUTE 1 (LAFAYETTE ROAD) FEDERAL PROJECT X-A000(994) NH PROJECT NO. 13455-A, CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM", APPROVED 6/27/12. RCRD PLAN #13455.
4. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO-R37-A, CITY OF PORTSMOUTH ROCKINGHAM COUNTY". PLAN #50031.
5. "STATE OF NEW HAMPSHIRE STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT LAFAYETTE ROAD NO. 37 LAFAYETTE ROAD". PLAN #50147.
6. "CORRECTIVE SEWER EASEMENT PLAN OVER LAND OF KARONA, LLC 36 ARTWILL AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCEL 229-4 FOR KARONA, LLC" BY JAMES VERRA AND ASSOCIATES, INC., DATED 1/19/2021. RCRD PLAN #C-42611.
7. "SUBDIVISION PLAN OF LAND OF J. PHILIP MCCAFFERY FOR GREAT BAY SCHOOL AND TRAINING CENTER LAFAYETTE RD. COUNTY OF ROCKINGHAM PORTSMOUTH NH", BY RICHARD P. MILLETTE AND ASSOCIATES, DATED DEC. 1981, WITH REV.1 FROM 1/7/82. RCRD PLAN #D-10590.
8. "SUBDIVISION PLAN TAX MAP 230 – LOT 23 OWNER: GREAT BAY SCHOOL AND TRAINING CENTER FOR LEMIEUX BUILDERS, INC." 417 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED SEPTEMBER 2013, WITH REVISION 2 DATED 12/23/13. RCRD PLAN #D-38079.
9. "EASEMENT PLAN TAX MAP 230 – LOT 25 D.R. LEMIEUX BUILDERS, INC. TO THE CITY OF PORTSMOUTH 7 ANDREW JARVIS DRIVE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY AMBIT ENGINEERING, INC., DATED JUNE 2014, WITH REVISION 2 DATED 7/25/14. RCRD PLAN #D-38417.
10. "EASEMENT PLAN TAX MAP 229 – LOT 1 HARLON P. WILLIS REVOCABLE TRUST AND JEAN P. WILLIS REVOCABLE TRUST TO THE CITY OF PORTSMOUTH 437 LAFAYETTE ROAD CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED OCTOBER 26, 2015, WITH REVISION 1 DATED 10/26/2015. RCRD PLAN #D-40626.
11. "EASEMENT PLAN TAX MAP 229 – LOT 5 KRISTEN M. CHASE AND CHRISTOPHER M. CHASE TO THE CITY OF PORTSMOUTH 34 ARTWILL AVENUE CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE" BY GPI GREENMAN-PEDERSEN, INC., DATED JANUARY 20, 2016, WITH REVISION 2 DATED 12/2/2016. RCRD PLAN #D-40627.
12. "INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE IN THE CITY OF PORTSMOUTH ROCKINGHAM COUNTY STATE OF NEW HAMPSHIRE PREPARED FOR CITY OF PORTSMOUTH DEPT OF PUBLIC WORKS" BY GREENMAN-PEDERSON, INC., DATED 12/22/17.

EASEMENT NOTES:

1. MAP 229 LOT 1 IS SUBJECT TO PERMANENT EASEMENTS FOR THE INSTALLATION & MAINTENANCE OF A PUBLIC SIDEWALK AND FOR THE INSTALLATION & MAINTENANCE OF TRAFFIC SIGNAL EQUIPMENT. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 1 & 3).
2. MAP 229 LOT 1 IS SUBJECT TO TEMPORARY EASEMENTS FOR THE PURPOSE OF INSTALLING AND MAINTAINING A SIDEWALK. SEE RCRD BK. 5888 PG. 1860 AND PLAN REFERENCE 10 (PARCELS 2 & 4).
3. MAP 229 LOT 1 IS SUBJECT TO RIGHTS OVER A PORTION OF THE PREMISES SHOWN AS "ARTWILL AVENUE" GRANTED TO MAP 229 LOT 2 FOR THE PURPOSES OF INGRESS & EGRESS, CONNECTION TO A 2 INCH WATERLINE AND THE EXTENSION THEREOF, CONNECTION TO THE CITY SEWER ON LAFAYETTE ROAD AND THE RIGHT TO FIRST REFUSAL TO PURCHASE A 50 FOOT STRIP OF LAND. SEE RCRD BK.1848 PG. 128.
4. MAP 229 LOT 1 HAS THE BENEFIT OF A 20' WIDE SEWER EASEMENT FOR REPAIR AND MAINTENANCE ACROSS LAND OF MAP 229 LOT 4. SEE RCRD BK. 6236 PG. 731 AND PLAN REFERENCE 6.

DIG SAFE
ME NH RI VT
811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

20 10 0 20
Graphic Scale in Feet

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY THOSE UNDER MY DIRECT SUPERVISION AND ARE THE RESULT OF A FIELD SURVEY CONDUCTED IN OCTOBER, 2021. THIS SURVEY CONFORMS TO THE ACCURACY REQUIREMENTS OF AN URBAN SURVEY OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS.
I FURTHER CERTIFY THAT THIS SURVEY IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, AND THE FIELD TRAVERSE SURVEY EXCEEDS A PRECISION OF 1:15,000.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 844 — J. COREY COLWELL — SIGNATURE

LICENSED LAND SURVEYOR

2022-05-25
DATE

REV.	DATE	DESCRIPTION	DR	CK
1	5/25/2022	NO REVISIONS THIS SHEET	BMK	JCC

TAX MAP 229 LOT 1
EXISTING CONDITIONS PLAN
SMITHFIELD CONSTRUCTION
437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
COUNTY OF ROCKINGHAM
OWNED BY
ARTWILL, LLC

SCALE: 1" = 20' (22x34)
1" = 40' (11x17)
APRIL 19, 2022

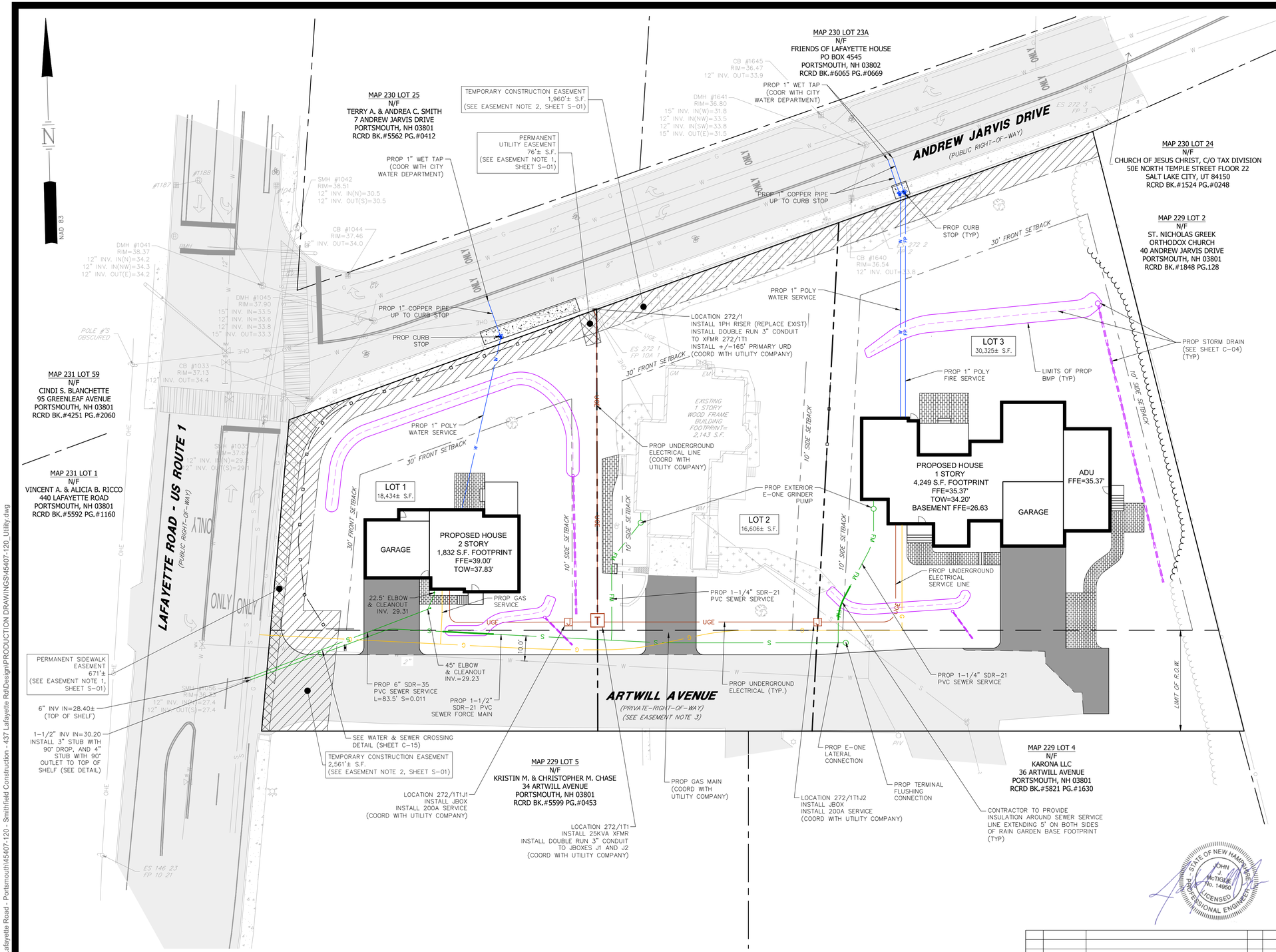
Seacoast Division
TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.tfmoran.com

FILE	DR	ID	FB		
45407-120	CK	JCC	CADFILE	583	S-01

May 24, 2022 - 2:54pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Carlson Survey\Dwgs\45407-120 Survey.dwg

NOTES

1. SEE UTILITY NOTES ON SHEET C-01.
2. CONTRACTOR SHALL COORDINATE WITH CITY OF PORTSMOUTH DPW PRIOR TO CONSTRUCTING SEWER MANHOLE CONNECTION.



SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

UTILITY PLAN

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

1"=40' (11"X17")
SCALE: 1"=20' (22"X34")

APRIL 19, 2022

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE No. 14060 LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK
1	5/13/2022	ADD GAS MAIN AND CHANGE FIRE SERVICE TO 1"	JSM	JCC

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	45407-120	DR	JSM	FB		C-05
		CK	JCC	CADFILE	45407-120_UTILITY	

May 23, 2022 - 4:06pm
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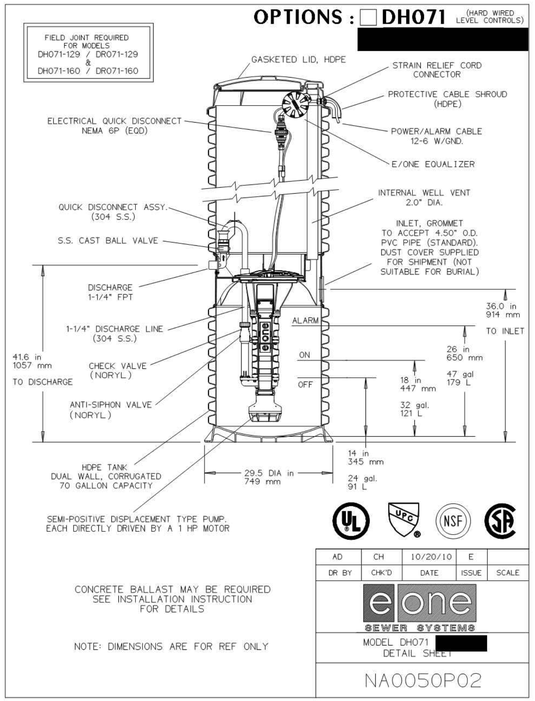


AD	CH	10/20/10	E	
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

MODEL DH071 [redacted]
DETAIL SHEET

NA0050P02

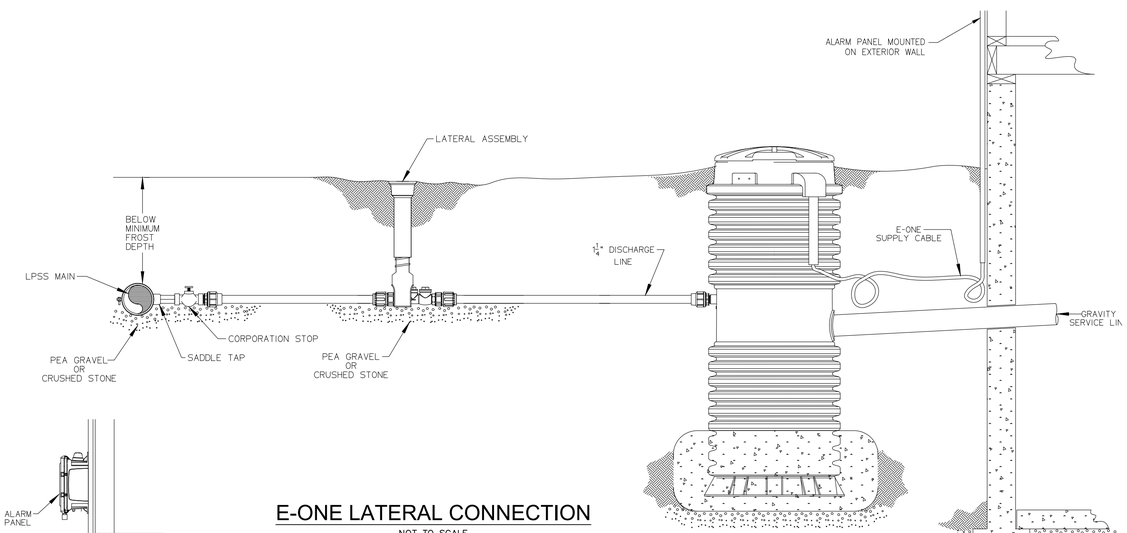
PRESSURE SEWER TESTING NOTES

1. PIPE AND JOINT MATERIALS:
   A. PRESSURE SEWERS SHALL BE CONSTRUCTED OF DUCTILE IRON (DI), HIGH DENSITY POLYETHYLENE (HDPE), OR PVC MATERIAL.
   B. PRESSURE SEWERS SHALL BE TREATED AS GRAVITY SEWERS FOR PURPOSES OF FOUNDATION BEDDING AND BACKFILL REQUIREMENTS.
   C. PVC PIPE USED PRESSURE SEWERS SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM D2241 OR ASTM D1785 STANDARDS IN EFFECT WHEN THE PIPE IS MANUFACTURED.
   D. HDPE PIPE USED FOR PRESSURE SEWERS SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM D3035 STANDARD IN EFFECT WHEN THE PIPE IS MANUFACTURED.
   E. IF DI PIPE IS USED IN AN ENVIRONMENT THAT COULD CAUSE CORROSION OR OTHER DETERIORATION OF OR DAMAGE TO AN IRON PIPE, OR OTHERWISE REDUCE THE TYPICAL LIFE EXPECTANCY OF THE PIPE, SUCH AS MAY OCCUR WITH CERTAIN SOIL TYPES, LOW PH LEVELS, OR WATER CONDITIONS, THE PIPE SHALL BE PROTECTED AGAINST CORROSION, SUCH AS WITH CATHODIC PROTECTION.
2. TESTING: THE COMPLETED SEWER SERVICE SHALL BE SUBJECTED TO A THIRD PARTY LEAKAGE TEST ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING) PRESSURE SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 5 OF THE AWWA C600, "INSTALLATION OF CAST IRON WATER MAINS AND THEIR APPURTENANCES"STANDARD IN EFFECT WHEN THE TEST IS CONDUCTED AT A PRESSURE EQUAL TO THE GREATER OF 150 PERCENT OF THE DESIGN OPERATING TOTAL DYNAMIC HEAD OR AT LEAST 100 PSI.
3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
5. SEWER SERVICE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 6 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 11. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.
6. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
7. THE CENTERLINE OF ALL BUILDING CONNECTIONS SHALL ENTER THE TOP HALF OF THE SEWER.
8. ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
9. PRESSURE SEWERAGE SHALL HAVE AN ISOLATION VALVE OR CURB STOP VALVE INSTALLED AT THE PROPERTY LINE / LIMITED COMMON AREA. IF A CHECK VALVE IS USED AT THE PROPERTY LINE, THE VALVE SHALL BE INSTALLED WITHIN A VAULT TO FACILITATE MAINTENANCE.
10. WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.
11. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33/C33M STONE SIZE 67 AND FREE FROM CLAY, LOAM AND ORGANNIC MATTER. THE EXCAVATION SHALL BE PROPERLY DEWATERED WHILE PLACING BEDDING MATERIAL AND SETTING OF THE BASE OR POURING CONCRETE.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%-55% PASSING	3/8 INCH SCREEN
0%-10% PASSING	#4 SIEVE
0%-5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

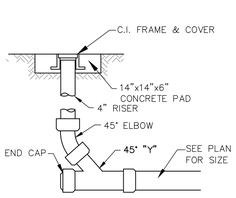
12. LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS.
13. INTERNAL STEPS IN MANHOLES ARE PROHIBITED PER PORTSMOUTH DPW STANDARDS.



E-ONE LATERAL CONNECTION

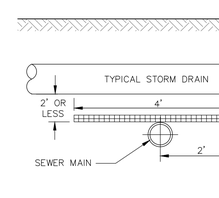
NOT TO SCALE

environment one CORPORATION

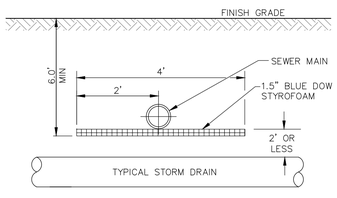


SEWER CLEAN OUT

NOT TO SCALE



CONDITION I

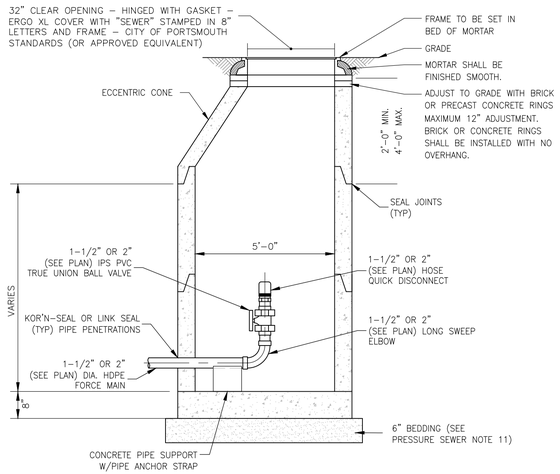


CONDITION II

NOTES:
1. THE LENGTH OR WIDTH OF INSULATION SHALL EXTEND 1 STORM DRAIN PIPE DIAMETER BEYOND THE EDGE OF STORM DRAIN PIPE IN EACH DIRECTION OR A MINIMUM OF 2' BEYOND THE CENTERLINE OF THE STORM DRAIN PIPE, WHICHEVER IS GREATER.
2. ALL BUTT JOINT SEAMS TO BE OVERLAPPED WITH A 1' PIECE OF INSULATION CENTERED OVER SEAM.
3. 18" VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN WATER MAIN/SERVICES AND SEWER MAIN/SERVICES, WATER OVER SEWER.

INSULATION AT STORM DRAIN & SEWER MAIN CROSSINGS

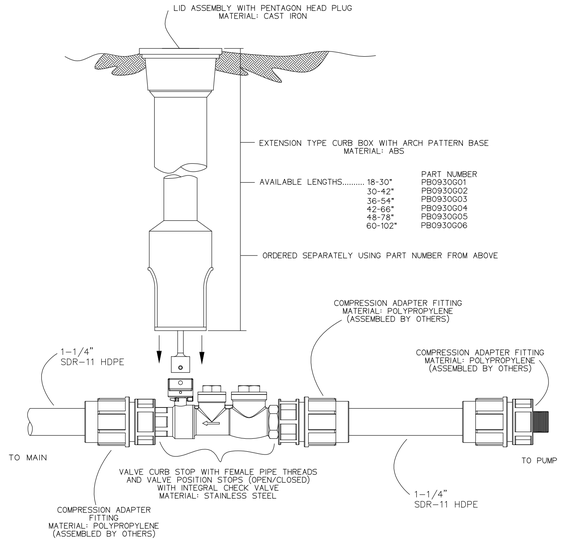
NOT TO SCALE



E-ONE TERMINAL FLUSHING MANHOLE

NOT TO SCALE

NOTES:
1. MANHOLE FRAME & GRATE SHALL BE NEENAH R-3589-A OR APPROVED EQUAL.
2. ALL COMPONENTS SHALL BE DESIGNED FOR HS-20 LOADING.
3. REINFORCING SHALL CONFORM TO ASTM 185 OR ASTM 1497 & ASTM A615, GRADE 60.
4. ALL CONCRETE SHALL BE NHDOT CLASS A.
5. LARGER DIAMETER STRUCTURES SHALL BE USED AS REQUIRED DUE TO NUMBER, ORIENTATION OR SIZE OF PIPES AT THE STRUCTURE.
6. "CL" USED AT ALL LOCATIONS WITHOUT CURB AND "C" TO BE USED AT ALL TO NUMBER, SIZE OR ORIENTATION OF PIPES AT THE BASIN.
7. ALL CASTINGS SHALL BE MADE IN THE USA.
8. INSTALL PIPE SUPPORTS ON THE SWEEP ELBOW.
9. ALL PIPE FITTINGS ARE TO BE RESTRAINED JOINT STYLE.
   A. HDPE TO BE FUSION, ELECTROFUSION OR MECHANICAL JOINT.
   B. PVC WOULD BE SOLVENT GLUE.
   C. ALL JOINTS TO BE THREADED AND PRESSURE RATED TO 200 PSI
10. MANHOLE STRUCTURES SHALL MEET THE DESIGN REQUIREMENTS OF ENV-WQ 704.12 THROUGH ENV-WQ 704.17.
11. A.R.I. D-025 STAINLESS STEEL AIR RELEASE VALVE OR EQUIVALENT.



NOTES:
1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
   *FOR SS FITTING INTO SS THREAD, USE EITHER PIPE DOPE OR TEFLON TAPE, NOT BOTH
3. ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
5. TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G02
6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

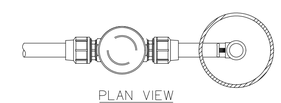
KIT PARTS ARE NOT ASSEMBLED

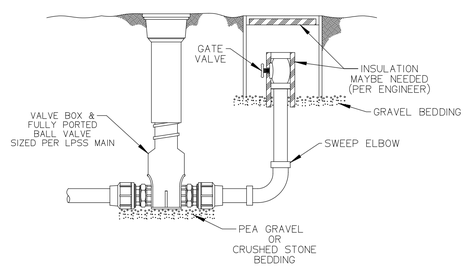
SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT
1-1/2" SDR 11 HDPE PIPE

NA0330P03





E-ONE TERMINAL FLUSHING CONNECTION

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: AS SHOWN **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK
1	5/23/2022	ADDED PRESSURE SEWER TESTING NOTES.	JSM	JJM

TFM © Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists
48 Constitution Drive, Bedford, NH 03110
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Fax (603) 472-9747
www.tfmoran.com

FILE	45407-120	DR	JSM	FB		C-12
		CK	JCC	CADFILE	45407-120_DETAILS	

DIG SAFE — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

May 23, 2022 - 4:07pm
F:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Details.dwg

SEWER SERVICE NOTES

1. MINIMUM SIZE PIPE FOR SEWER SERVICE SHALL BE FOUR INCHES.

2. PIPE AND JOINT MATERIALS:
   A. PLASTIC SEWER PIPE
      1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	*ABS (COMPOSITES WALL)	8" THROUGH 15"

*PVC: POLY VINYL CHLORIDE
*ABS: ACRYLONITRILE-BUTADIENE-STYRENE

      2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

         ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680, POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322).

         JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.

   B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.

      1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
         A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
         A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
      2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
         A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS

3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5. TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURERS' INSTRUCTIONS USING A BOLTED, CLAMPED OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER.

6. SEWER SERVICE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 6 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

   THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4" INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7. TESTING: THE COMPLETED SEWER SERVICE SHALL BE SUBJECTED TO A THIRD PARTY LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)

   A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.

   B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.

   C. DRY FLUORESCENE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWN-STREAM MANHOLE.

   LEAKAGE OBSERVED IN ANY ONE OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.

8. ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9. WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.

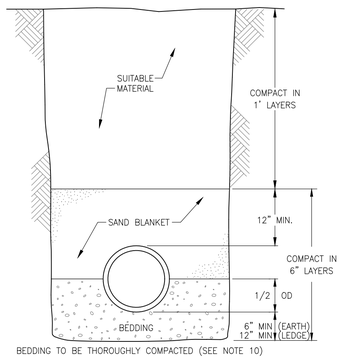
10. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%-55% PASSING	3/8 INCH SCREEN
0%-10% PASSING	#4 SIEVE
0%-5% PASSING	#8 SIEVE

   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

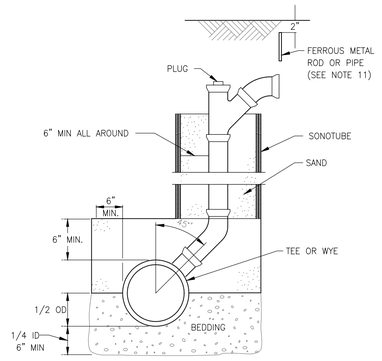
11. LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.

12. CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE SEWER CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.



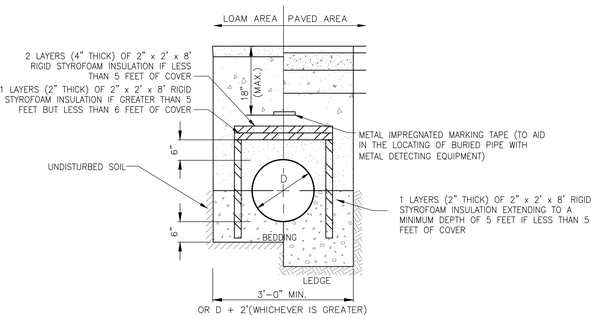
BEDDING TO BE THOROUGHLY COMPACTED (SEE NOTE 10)

TRENCH CROSS-SECTION
NOT TO SCALE



BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

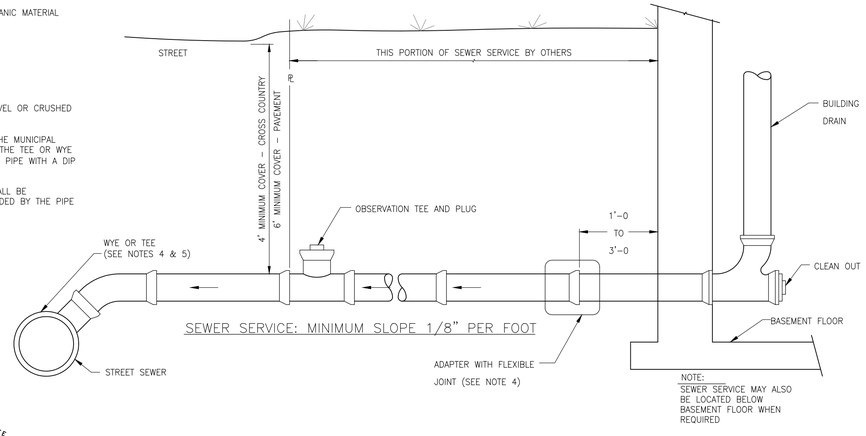
CHIMNEY (SEE NOTE 12)
NOT TO SCALE



NOTES

1. GAPS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2" x 2' x 2' PIECE OF INSULATION CENTERED OVER GAP.

SEWER TRENCH WITH INSULATION
NOT TO SCALE



NOTE:
SEWER SERVICE MAY ALSO BE LOCATED BELOW BASEMENT FLOOR WHEN REQUIRED

SEWER SERVICE DETAILS
NOT TO SCALE

GRAVITY SEWER NOTES

1. MINIMUM SIZE PIPE FOR GRAVITY SEWER SHALL BE 8-INCHES.

2. PIPE AND JOINT MATERIALS FOR PLASTIC SEWER PIPE SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034-04a	* PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679-03	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F794-03	PVC (RIBBED WALL)	8" THROUGH 36"
F1760-01(2005)e1	PVC, RECYCLED	ALL DIAMETERS

*PVC: POLY VINYL CHLORIDE

3. PLASTIC SEWER PIPE SHALL HAVE A PIPE STIFFNESS RATING OF AT LEAST 46 POUNDS PER SQUARE INCH AT 5 PERCENT PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2412-02 DURING MANUFACTURE.

4. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212-96(a)(2003)e1 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

5. DUCTILE-IRON PIPE, FITTINGS AND JOINTS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA).

   AWWA C151/A21.51-02 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536-84 (2004) DUCTILE IRON CASTINGS.

   AWWA C151/A21.51-02 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.

   JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO AWWA C151/A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS.

6. CONCRETE PIPE SHALL CONFORM TO AWWA C302-04.

7. PRESTRESSED CONCRETE CYLINDER PIPE AND FITTINGS SHALL CONFORM TO AWWA C301-99.

   JOINTS SEALS FOR CONCRETE CYLINDER PIPE SHALL BE OIL RESISTANT ELASTOMERIC MATERIAL CONFORMING TO ASWWA C301-99 SPECIFICATIONS.

8. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

9. GRAVITY SEWER PIPE TESTING SHALL BE AS FOLLOWS:

   ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.

   LOW PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:

   ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR".

   UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE".

10. ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED AND SHALL BE TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE AND VISUALLY INSPECT USING LAMP TEST.

11. ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS AND NO MORE THAN 90 DAYS FOLLOWING INSTALLATION.

12. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5 PERCENT OF THE AVERAGE INSIDE DIAMETER.

13. TRENCH CONSTUCTION SHALL CONFORM TO THE FOLLOWING:

    SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6' BELOW GRADE IN ALL ROADWAY LOCATIONS AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS COUNTRY LOCATIONS.

    WHERE SEWER LINES CROSS WATER PIPES, A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. AT SEWER/WATER INTERSECTIONS, A MINIMUM OF 6 FEET SHALL BE PROVIDED FROM THE WATER LINE TO THE SEWER PIPE JOINT. 12" SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE REQUIRED BETWEEN SEWER LINES AND ALL OTHER PIPES.

    TRENCH DIMENSIONS FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER, THE ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES AND FOR PIPE 15 INCHES AND LARGER, THE ALLOWABLE WIDTH SHALL BE EQUAL TO THE PIPES OUTSIDE DIAMETER PLUS 24 INCHES.

    PIPE TRENCH BEDDING MATERIAL AND FILL MATERIAL FOR EXCAVATION BELOW GRADE SHALL BE SCREENED GRAVEL OR CRUSHED STONE TO ASTM C33-03 STONE SIZE NO. 67. THE PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ANY ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSED THE 1/2-INCH SIEVE AND A MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE. IN LIEU OF A SAND BLANKET, A STONE ENVELOPE 6 INCHES THICK COMPLETELY AROUND THE PIPE USING 3/4-INCH STONE MAY BE USED.

    PIPE BEDDING MATERIAL SHALL EXTEND FROM A HORIZONTAL PLANE THROUGH THE PIPE AXIS TO 6-INCHES BELOW THE BOTTOM OF THE OUTSIDE SURFACE OF THE PIPE.

    PIPE SAND BLANKET MATERIAL SHALL COVER THE PIPE A MINIMUM OF 12 INCHES ABOVE THE CROWN OF THE OUTSIDE SURFACE.

    COMPACTION SHALL BE IN 12-INCH LAYERS FOR BEDDING AND BLANKET MATERIALS.

    BACKFILL MATERIAL SHALL BE IN 3-FOOT LAYERS TO THE GROUND SURFACE EXCEPT FOR ROAD CONSTRUCTION WHERE THE FINAL 3-FEET SHALL BE COMPACTED IN 12-INCH LAYERS TO THE ROAD BASE SURFACE.

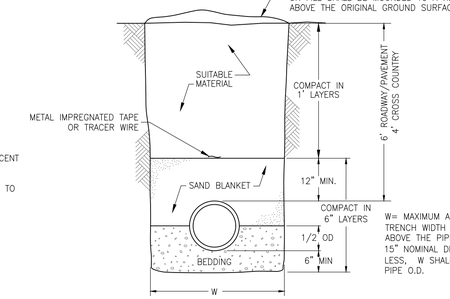
    TRENCH BACKFILL MATERIAL IN ROADWAY LOCATIONS SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION, EXCLUDING DEBRIS, PAVEMENT PIECES, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT, CLAY, EXCAVATED LEDGE, ROCKS OVER 6 INCHES IN THE LARGEST DIMENSION, OR ANY OTHER UNSUITABLE MATERIAL NOT APPROVED BY THE ENGINEER.

    TRENCH BACKFILL AT CROSS-COUNTRY LOCATIONS SHALL BE AS DESCRIBED ABOVE EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED. BACKFILL SHALL BE MOUNDED 6-INCHES ABOVE ORIGINAL GROUND.

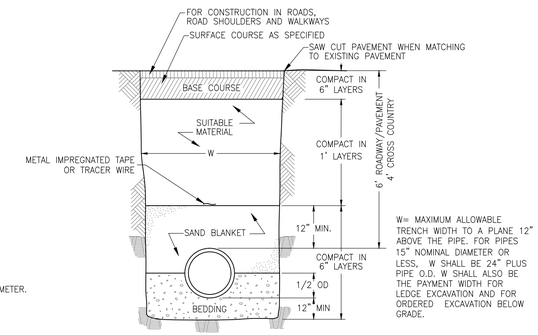
    BASE COURSE MATERIALS FOR TRENCH REPAIRS SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.

    WHERE SHEETING IS PLACED ALONG SIDE OF THE PIPE AND EXTENDS BELOW MID-DIAMETER, THE SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE AND AT LEAST 3 FEET BELOW FINISH GRADE.

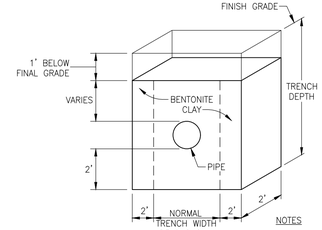
    TRENCHES FOR SEWER PIPES WITH SLOPES OVER 0.08 FEET PER FOOT AND TRENCHES FOR SEWER PIPES BELOW THE SEASONAL HIGH GROUND WATER LEVEL SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET TO PREVENT POTENTIAL DISTURBANCE TO PIPE BEDDING AND BLANKET MATERIALS.



EARTH CONSTRUCTION
NOT TO SCALE



LEDGE CONSTRUCTION
NOT TO SCALE



INSTALL AT CENTER OF EACH GRAVITY PIPE RUN

NOTES

1. DAM SHALL BE LOCATED EVERY 300' OF SEWER PIPE RUN.
2. NO FITTING SHALL BE LOCATED WITHIN 4' OF DAM.

SEWER TRENCH DAM
NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

JOHN J. MCTIGUE No. 14950 — STATE OF NEW HAMPSHIRE — LICENSED PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

PRT		DR	JSM	FB		
	45407-120	CK	JCC	CADFILE	45407-120_DETAILS	C-13

DIG SAFE — CALL 811 OR 1-800-344-7233 — CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

GENERAL NOTES

1. IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2. BARRELS, CONE SECTIONS AND CONCRETE GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AND SHALL CONFORM ENV-WQ 704.12 & 704.13.

3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478-06.

4. BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.

5. MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.

6. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.

7. ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.

8. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.

9. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT. APPROVED ELASTOMERIC SEALANTS ARE:
   - SIKAFLEX-12-SL
   - SONNEBORN BUILING PRODUCTS-SONOLASTIC SL-1

10. THE MINIMUM INTERNAL DIAMETER OF MANHOLES SHALL BE 48 INCHES. FOR SEWERS LARGER THAN 24-INCH DIAMETER. MANHOLE DIAMETERS SHALL BE INCREASED SO AS TO PROVIDE AT LEAST 12-INCHES OF SHELF ON EACH SIDE OF THE SEWER.

11. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE TO ENV-WQ 704.17.

    (a) ALL MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST IN ACCORDANCE WITH THE ASTM C1244 STARNDARD IN EFFECT WHEN THE TESTING IS PERFORMED.

    (b) THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:

        1. THE INITIAL VACUUM GUAGE TEST PRESSURE SHALL BE 10 INCHES Hg.

        2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR 1-INCH Hg PRESSURE DROP TO 9 INCHES SHALL BE:

            A. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP.

            B. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP.

            C. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.

    (c) THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (b) ABOVE.

    (d) INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETE.

    (e) FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS, UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENT TO GRADE.

12. BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL COMPLY WITH ASTM C32-05, CLAY OR SHALE, FOR GRADE SS HARD BRICK.

13. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
    (a) 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
    (b) 4.5 PARTS SAND, 1 PART CEMENT AND 0.5 PART HYDRATED LIME

    CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05. HYDRATED LIME SHALL BE TYPE S CONFORMING TO ASTM C207-06 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES". SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO ASTM C33-03 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES".

14. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED OR PRECAST CONCRETE SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

15. FRAMES AND COVERS: FRAMES AND COVERS: SEWER MANHOLE FRAMES AND COVERS SHALL BE CITY OF PORTSMOUTH STANDARD, AND SHALL BE PURCHASED AND PICKED UP AT PORTSMOUTH DEPARTMENT OF PUBLIC WORKS WATER DEPARTMENT. THEY SHALL BE OF HEAVY DUTY DESIGN, CLASS 30, CONFORMING TO ASTM A48/48M AND PROVIDE A 30-INCH CLEAR OPENING. THE CASTING SHALL BE OF EVEN GRAINED CAST IRON, SMOOTH, AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS. CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION.

16. BEDDING: PRECAST BASES SHALL BE PLACED ON A 6-INCH LAYER OF COMPACTED BEDDING MATERIAL THAT CONFORMS TO ASTM C33-03 NO. 67 STONE AND FREE FROM CLAY, LOAM AND ORGANNIC MATTER. THE EXCAVATION SHALL BE PROPERLY DEWATERED WHILE PLACING BEDDING MATERIAL AND SETTING OF THE BASE OR POURING CONCRETE. WATER-STOPS SHALL BE USED AT THE HORIZONTAL JOINT OF THE CAST-IN-PLACE MANHOLES.

100% PASSING	1" SCREEN
90-100% PASSING	3/4" SCREEN
20-55% PASSING	3/8" SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE

17. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WIbHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION: (a) WITHIN 48 INCHES FOR REINFORCED CONCRETE PIPE (RCP). (b) WITHIN 60 INCHES FOR PVC PIPE LARGER THAN 15" DIAMETER.

18. NO FLEXIBLE JOINT SHALL BE REQUIRED FOR DUCTILE IRON PIPE OR PVC PIPE UP THROUGH 15-INCH DIAMETER.

19. INTERNAL STEPS ARE PROHIBITED PER CITY OF PORTSMOUTH DPW STANDARDS.

20. REFERENCE NHDES ENV-WQ 700 IN PLACE OF ASTM STANDARDS.

21. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS FOLLOWS:

    A. ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES.

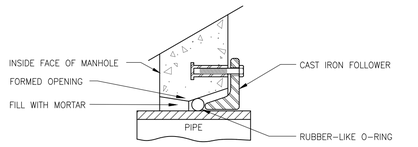
    B. CAST INTO WALL OR SECUREED WITH STAINLESS STEEL CLAMPS.

    C. ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH THE SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING.

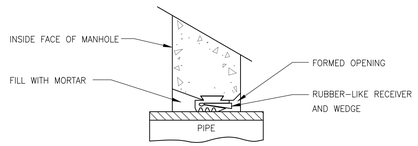
    D. NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.

22. THE INVERT OF THE INCOMING PIPE SHALL BE NO MORE THAN 6 INCHES ABOVE THE OUTGOING PIPE UNLESS A DROP ENTRY IS USED.

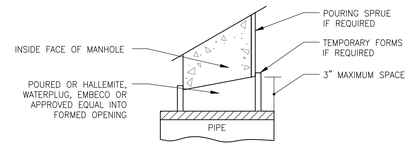
DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION



RES-SEAL
(OR ACCEPTABLE SUBSTITUTE)



PRESS-WEDGE II
(OR ACCEPTABLE SUBSTITUTE)



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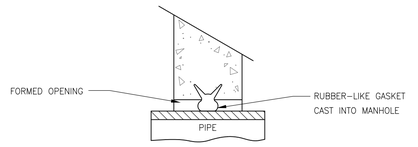
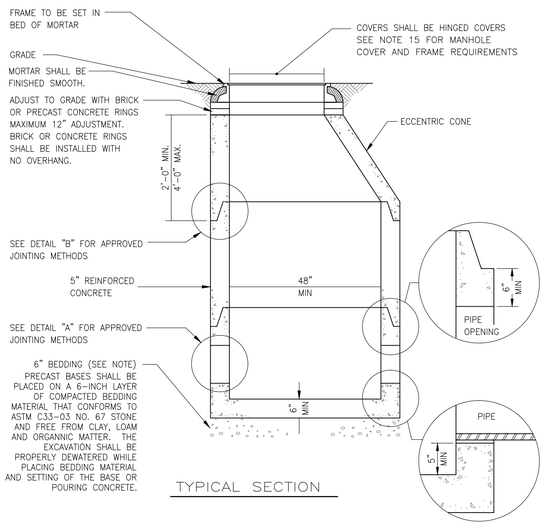


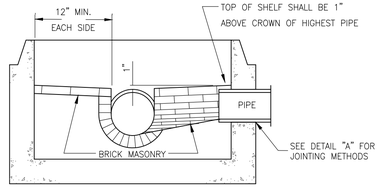
A-LOK
(OR ACCEPTABLE SUBSTITUTE)



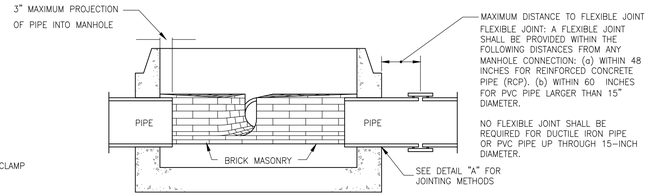
TYPICAL SECTION

NOTES:

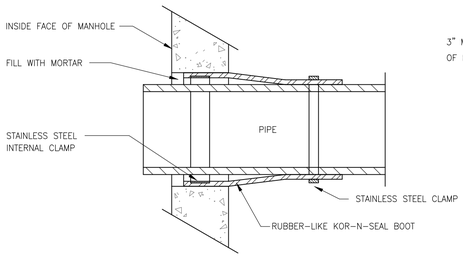
1. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.
3. BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6" ABOVE THE PIPE CROWN.
4. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
5. NO STEPS ARE ALLOWED PER EXETER DPW STANDARDS.
6. BITUMINOUS COATING.



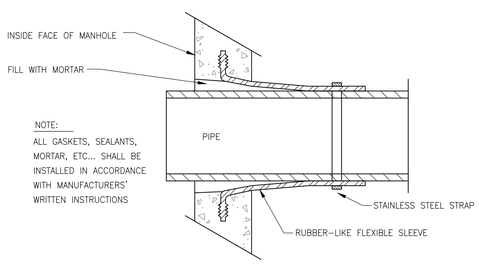
SECTION "B-B"



SECTION "A-A"

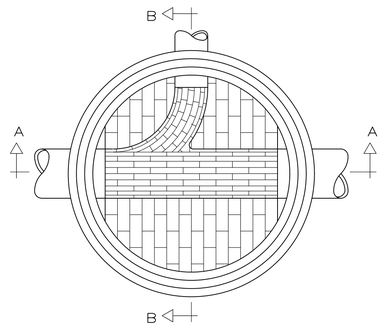


KOR-N-SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)



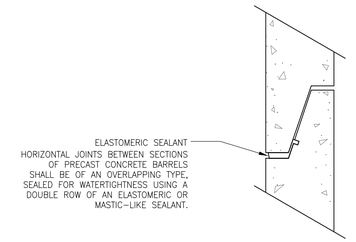
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

DETAIL "A" - PIPE TO MANHOLE JOINTS



TYPICAL MANHOLE - PLAN VIEW

STANDARD MANHOLE

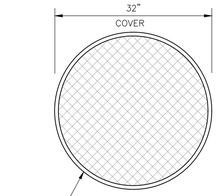


ELASTOMERIC SEALANT

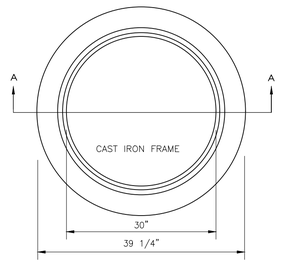
NOTES:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

STATE OF NEW HAMPSHIRE APPROVED PRODUCTS
A) SIKAFLEX-12-SL
B) SONNEBORN BUILDING PRODUCTS SONOLASTIC SL-1

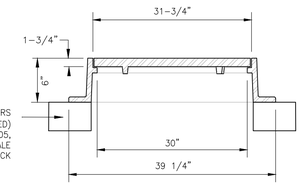
DETAIL "B" - HORIZONTAL JOINTS



COVER



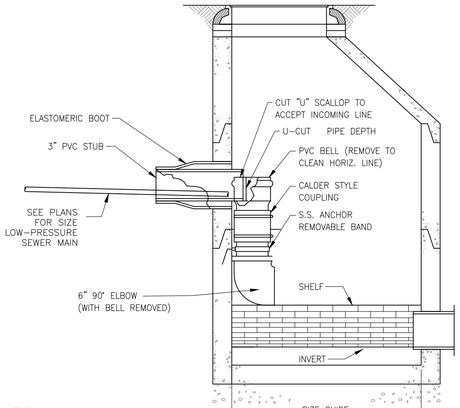
PLAN VIEW



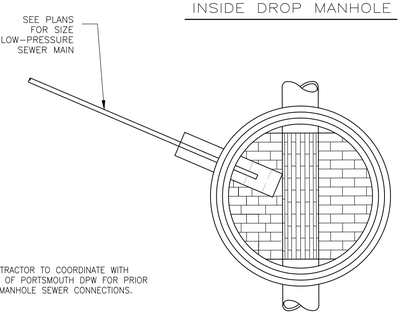
SECTION A-A

BRICK RISERS (IF REQUIRED)
ASTM C32-05, CLAY OR SHALE
SS HARD BRICK

MANHOLE FRAME & COVER



INSIDE DROP MANHOLE



NOTES:
1. CONTRACTOR TO COORDINATE WITH CITY OF PORTSMOUTH DPW FOR PRIOR TO MANHOLE SEWER CONNECTIONS.

PLAN VIEW

PRESSURE TO GRAVITY SEWER DETAIL

SCALE: N.T.S

STATE OF NEW HAMPSHIRE
JOHN J. McTIGUE
No. 14950
LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	45407-120	DR	JSM	FB		C-14
		CK	JCC	CADFILE	45407-120_DETAILS	

May 23, 2022 - 4:08pm
P:\MSC Projects\45407 - Lafayette Road - Portsmouth\45407-120 - Smithfield Construction - 437 Lafayette Rd\Design\PRODUCTION DRAWINGS\45407-120_Details.dwg

LANDSCAPE GUARANTEE AND MAINTENANCE NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES OF WATERING.
2. CONTRACTOR WILL BEGIN WATERING IMMEDIATELY AFTER PLANTING. ALL PLANTS WILL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS WILL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON BUT NOT LESS THAN ONE YEAR.
3. WATER ALL LAWNS AS REQUIRED. DO NOT LET NEWLY PLANTED LAWNS DRY OUT DURING THE FIRST FOUR WEEKS MINIMUM.
4. ALL NEW LAWNS WILL BE MAINTAINED AND MOWED A MINIMUM THREE (3) TIMES BEFORE REQUESTING REVIEW BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR ACCEPTANCE. MAINTENANCE AND MOWING WILL CONTINUE UNTIL ACCEPTED BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE IS ISSUED IN WRITING.
5. THE CONTRACTOR WILL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOWING LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE (1) YEAR PERIOD WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.
6.
7. ALL DAY LILIES WILL BE DEADHEADED AND CUT BACK EVERY FALL. ALL ORNAMENTAL GRASSES WILL BE CUT BACK EVERY FALL OR EARLY SPRING.
8. DECIDUOUS PLANT MATERIAL INSTALLED AFTER SEPTEMBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO STAGE OF LEAF PHYSIOLOGY. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.
9. EVERGREEN PLANT MATERIAL INSTALLED AFTER OCTOBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO END OF GROWTH SEASON. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.

HYDROSEEDING NOTES

1. HYDROSEEDING MAY BE USED AS AN ALTERNATE METHOD OF SEEDING. THE APPLICATION OF LIMESTONE AS NECESSARY, FERTILIZER AND GRASS SEED MAY BE ACCOMPLISHED IN ONE OPERATION BY THE USE OF A SPRAYING MACHINE APPROVED BY THE LANDSCAPE ARCHITECT OR CIVIL ENGINEER. THE MATERIALS SHALL BE MIXED WITH WATER IN THE MACHINE AND SHALL CONFORM TO RELATIVE REQUIREMENTS OF SECTION 644 OF NH. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. (FOR MASSACHUSETTS PROJECTS PLUG IN – SECTION 765.65 OF MASS. DPW CURRENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES).

INVASIVE PLANT NOTES

1. EXISTING NON–NATIVE, INVASIVE PLANT SPECIES WILL BE IDENTIFIED, REMOVED, DESTROYED AND LEGALLY DISPOSED OF OFF–SITE IN ACCORDANCE WITH THE LATEST UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION METHODS OF DISPOSING NON–NATIVE INVASIVE PLANTS. SEE "MANAGE AND CONTROL INVASIVES" AND PROPERLY DISPOSE OF INVASIVE PLANTS".

PRICING & CONSTRUCTION DOCUMENT NOTES

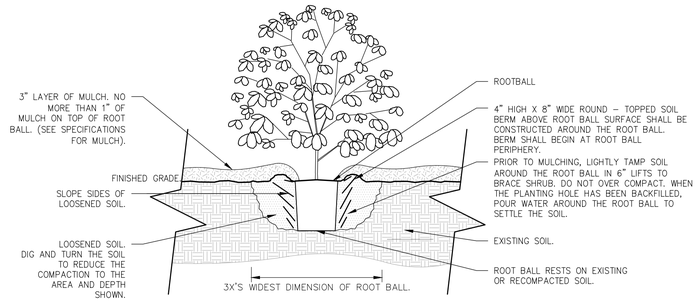
1. CONTRACTOR WILL PRICE PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE PLANTINGS GRAPHICALLY SHOWN ON THESE DRAWINGS OR IN PLANT LIST, WHICHEVER IS GREATER. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
2. CONTRACTOR WILL VERIFY PRIOR TO PRICING IF SITE SOILS ARE VERY POORLY DRAINING OR IF LEDGE IS PRESENT. IF CONTRACTOR ENCOUNTERS VERY POORLY DRAINING SOILS (BATH TUB EFFECT) OR LEDGE THAT IMPACTS PROPOSED PLANTING PLAN, NOTIFY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE FOR DIRECTION PRIOR TO PRICING AND AGAIN PRIOR TO PERFORMING ANY WORK.
3. PARKING AREA PLANTED ISLANDS WILL HAVE MINIMUM OF 1'–0" TOPSOIL PLACED TO THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
4. EXISTING TREES SHOWN ON THE PLAN WILL REMAIN UNDISTURBED. ALL EXISTING TREES SHOWN TO REMAIN WILL BE PROTECTED WITH A 4–FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK.
5. CONTRACTOR WILL STAKE OR PLACE ON GROUND ALL PROPOSED PLANT MATERIALS PER PLAN. CONTACT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
6. COORDINATE WITH LANDSCAPE ARCHITECT'S CONTRACTED NUMBER OF SITE VISITS WHEN PLANNING FOR INSPECTION. NOTIFY LANDSCAPE ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF REQUESTED SITE VISIT.
7. CONTRACTOR WILL DEVELOP A WRITTEN WATERING SCHEDULE AND WILL SUBMIT WATERING SCHEDULE TO OWNERS' REPRESENTATIVE. CONTRACTOR WILL WATER ALL NEW PLANTS INCLUDING LAWNS THAT ARE NOT "IRRIGATED" VIA A PERMANENT IRRIGATION SYSTEM FOR THE FIRST 12 MONTHS.

PORTSMOUTH NOTES

1. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNER'S WILL BE RESPONSIBLE FOR THE MAINTENANCE AND OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS INDICATED ON THESE PLAN(S).
2. ALL REQUIRED PLANT MATERIAL WILL BE TENDED TO AND KEPT FREE OF REFUSE AND DEBRIS.
3. ALL REQUIRED FENCES AND WALLS WILL BE MAINTAINED IN GOOD REPAIR.
4. THE PROPERTY OWNER WILL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
5.
6. ALL IMPROVEMENTS SHOWN ON THIS PLAN WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THIS PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES WILL BE MADE TO THIS PLAN WITHOUT THE WRITTEN APPROVAL OF THE PORTSMOUTH PLANNING BOARD OR PLANNING DIRECTOR.
7. THE LANDSCAPE PLAN WILL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
8. MAINTENANCE OF LANDSCAPING TO FOLLOW THE NOFA STANDARDS FOR ORGANIC LAND CARE 6TH EDITION PRACTICES FOR THE DESIGN AND MAINTENANCE OF ECOLOGICAL LANDSCAPES. ("NOFA STANDARDS FOR ORGANIC LAND CARE," NOFA STANDARDS FOR ORGANIC LAND CARE 6TH EDITION PRACTICES FOR THE DESIGN AND MAINTENANCE OF ECOLOGICAL LANDSCAPES, NORTHEAST ORGANIC FARMING ASSOCIATION OF CONNECTICUT, INC, 2017, HTTP://WWW.ORGANICLANDCARE.NET/SITES/DEFAULT/FILES/NOFA_ORGANIC_LAND_CARE_STANDARDS_6THEDITION_2017_OPT.PDF.)

SEEDING NOTES

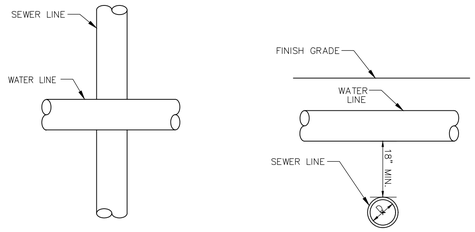
1. SLOPES UP TO AND INCLUDING 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA.
2. SLOPES STEEPER THAN 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA. SEE CIVIL FOR ADDITIONAL EROSION CONTROL MEASURES.
3. GENERAL SEED WILL BE NHDOT SPECIFICATION SECTION 644, TABLE 644–1–PARK SEED TYPE 15, INCLUDING NOTES TO TABLE 1, 2 & 3.



SECTION VIEW

SHRUB PLANTING

NOT TO SCALE



PLAN VIEW PROFILE VIEW

NOTES:

1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18" MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
2. PROTECTION OF WATER SUPPLIES:
   A. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
   B. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTED RADII ESTABLISHED IN ENV–WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.
   C. SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
   D. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV–WQ 704.06.
   E. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
      a. VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER AND
      b. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.

WATER & SEWER CROSSING

NOT TO SCALE

DIG SAFE
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE – JOHN J. McTIGUE No. 14050 LICENSED PROFESSIONAL ENGINEER

SITE DEVELOPMENT PLANS

TAX MAP 229 LOT 1

DETAILS

PROPOSED 3 LOT SUBDIVISION

437 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE

OWNED BY & PREPARE FOR

ARTWILL, LLC

SCALE: **APRIL 19, 2022**

REV	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472–4488
Fax (603) 472–9747
www.tfmoran.com

FILE	45407–120	DR	JSM	FB		C–15
		CK	JCC	CADFILE	45407–120_DETAILS	

Transfer Stamps: $0.00
Non-Contractual Transfer

ACCESS AND UTILITY EASEMENT AGREEMENT

This Access and Utility Easement Agreement is made by and between Artwill LLC, a New Hampshire Limited Liability Company, of 437 Lafayette Road, Portsmouth, NH 03801, Karona LLC, a New Hampshire Limited Liability Company, of 36 Artwill Avenue, Portsmouth, NH 03801, and Christopher M. Chase and Kristin M. Chase, a married couple, of 34 Artwill Avenue, Portsmouth, NH 03801 ("Chase")

WITNESSETH

WHEREAS, Artwill LLC is the owner of three (3) parcels of land with the buildings thereon located in the City of Portsmouth, County of Rockingham, State of New Hampshire, identified as "Lot 1", "Lot 2", and "Lot 3" on a subdivision plan entitled, "Tax Map 229, Lot 1 Subdivision Plan Proposed 3-Lot Subdivision 437 Lafayette Road, Portsmouth, New Hampshire County of Rockingham Owned by Artwill LLC", dated April 19, 2022, as revised May 25, 2022 or, and recorded in Rockingham County Registry of Deeds (the "RCRD") as Plan #D-_____ (the "Subdivision Plan"). *See* Warranty Deed, dated September 27, 2021, and recorded in the RCRD at Book 6334, Page 455; and

WHEREAS, Karona LLC is the owner of real property at 36 Artwill Avenue, Portsmouth, NH 03801, identified on Portsmouth Tax Map 229 as Lot 4 (the "Karona Property"). *See* Foreclosure Deed, dated May 18, 2017, recorded in the RCRD at Book 5821, Page 1630; and

WHEREAS, Chase is the owner of real property at 34 Artwill Avenue, Portsmouth, NH 03801, identified on Portsmouth Tax Map 229, as Lot 5 (the "Chase Property"). *See* Warranty Deed, dated March 3, 2015, recorded in the RCRD at Book 5599, Page 0453; and

WHEREAS, Lot 1, Lot 2, Lot 3, the Karona Property and the Chase Property are all accessed by a private street known referred to and known as "Artwill Avenue", as shown on the Subdivision Plan; and

WHEREAS, Artwill Avenue comprises portions of Lot 1, Lot 2, and Lot 3 as shown on the Subdivision Plan; and

WHEREAS, Artwill LLC is the owner of Artwill Avenue by virtue of its ownership of Lot 1, Lot 2 and Lot 3; and

WHEREAS, Artwill LLC wishes to enter into an agreement with Karona LLC and Chase to clarify, grant, reserve and agree upon certain easement rights and landowner obligations in Artwill Avenue relative to access and utilities.

NOW THEREFORE, in consideration for the mutual covenants, promises and representations contained herein and other good and valuable consideration, the Parties hereby enter into the following Access and Utility Easement Agreement.

I. ACCESS EASEMENTS

A. Reservation of Access Easement for Lot 2

Artwill LLC hereby reserves a perpetual access easement for the benefit of Lot 2 and its future owners across Lot 1 to pass and repass by vehicle, foot, and other lawful modes of transportation over that portion of Artwill Avenue that is located within the boundaries of Lot 1. This access easement right shall be held in common with the future owner of Lot 3, Karona LLC and Chase.

B. Reservation of Access Easement for Lot 3

Artwill LLC hereby reserves a perpetual access easement for the benefit of Lot 3 and its future owners across Lot 1 and Lot 2 to pass and repass by vehicle, foot, and other lawful modes of transportation over that portion of Artwill Avenue that is located within the boundaries of Lot 1 and Lot 2. This access easement right shall be held in common with the future owner of Lot 2, Karona LLC, and Chase.

C. Access Easement for Chase Property

Chase shall have a perpetual access easement across Lot 1 and Lot 2 to pass and repass by vehicle, foot, and other lawful modes of transportation over that portion of Artwill Avenue that is located within the boundaries of Lot 1 and Lot 2. This access easement right shall be held in common with the future owners of Lot 2 (as to access across Lot 1) and Lot 3, and Karona LLC.

D. Access Easement for Karona LLC Property

Karona LLC shall have a perpetual access easement across Lot 1, Lot 2, and Lot 3 to pass and repass by vehicle, foot, and other lawful modes of transportation over that portion of Artwill Avenue that is located within the boundaries of Lot 1, Lot 2 and Lot 3. This access easement right shall be held in common with the future owners of Lot 2 (as to access across Lot 1), Lot 3 (as to access across Lot 1 and Lot 2), and Chase (as to access across Lot 1 and Lot 2).

E. Easement Area Maintenance Responsibilities

The owners of Lot 1, Lot 2, Lot 3, the Chase Property and the Karona LLC Property (each a "Lot Owner" and collectively the "Lot Owners") shall be equally responsible to:

(1) Remove snow, ice and debris from Artwill Avenue in a timely fashion if such service is not provided for by the City of Portsmouth;

(2) Periodically inspect and assess the condition of Artwill Avenue;

(3) Maintain, repair, replace and improve Artwill Avenue as necessary, in accordance with City standards for roadway maintenance, repair, replacement and/or improvement standards, to provide for safe and convenient access; and

(4) Prohibit any encroachments from being located within Artwill Avenue that would interfere with, frustrate, or make difficult the intended use of the street as contemplated herein; and

(5) Contribute equally to the costs associated with performing the obligations set forth herein.

F. Easement Area Financial Responsibilities

The Lot Owners shall be equally financially responsible for the necessary maintenance, repair, replacement and improvement of Artwill Avenue, except as otherwise provided for herein. If any Lot Owner incurs a greater share of costs associated with necessary maintenance, repair, replacement or improvement of the street as a result of any other Lot Owner's failure to contribute its share of the costs, the Lot Owner(s) paying the greater share of costs shall be entitled to reimbursement from the other Lot Owner(s) for their proportionate share of the costs within thirty (30) days of delivering written notice of the costs incurred together with receipts or other reasonable evidence thereof. If any written request for reimbursement remains unpaid beyond thirty (30) days from when written notice was delivered, the Lot Owner paying the greater share of costs may bring legal action to collect the unpaid balance against the other Lot Owner and shall be entitled to a lien for the same. The prevailing party in any such action shall be entitled to reasonable costs and attorney fees incurred.

G. Initial Restoration of Artwill Avenue.

Artwill LLC agrees to repave and restore Artwill Avenue to the condition in which it was found or better condition following substantial completion of the homes and related improvements on Lots 1, 2 and 3. This shall include top coating the existing paving if necessary to restore the paving to its prior condition. It shall also include removing and replacing any portions of the existing paving that have deteriorated to the point that it longer can serve as an acceptable base coat as determined by paving industry standards. Following this, the Lot Owners shall be equally and jointly responsible for Artwill Avenue pursuant to subsections E and F above.

II. UTILITY EASEMENTS

A. Wastewater Discharge

1. Reservation of Easement for Lot 2 to Force Main

Artwill LLC hereby reserves a perpetual easement for the benefit of Lot 2 to discharge wastewater through the Force Main running through that portion of Artwill Avenue located within the boundaries of Lot 1. This easement right shall be held in common with the owners of the *benefiting lots*, as that term is more specifically defined below in Section 5. If any damage or disturbance is caused to any portion of Artwill Avenue as a result of the owner of Lot 2 exercising its easement rights, including but not limited to maintenance or repair of any sewer pipe benefiting Lot 2, the owner shall comply with the obligations set forth in Section I.E(3) above, which is hereby incorporated by reference.

2. Reservation of Easement for Lot 3 to Force Main

Artwill LLC hereby reserves a perpetual easement for the benefit of Lot 3 to discharge wastewater through the Force Main running through that portion of Artwill Avenue located within the boundaries of Lot 1 and Lot 2. This easement right shall be held in common with the owners of the *benefiting lots,* as that term is more specifically defined below in Section 5. If any damage or disturbance is caused to any portion of Artwill Avenue as a result of the owner of Lot 2 exercising its easement rights, including but not limited to maintenance or repair of any sewer pipe benefiting Lot 2, the owner shall comply with the obligations set forth in Section I.E(3) above, which is hereby incorporated by reference

3. Reservation of Easement for Chase Property to Force Main

Artwill LLC hereby reserves a perpetual easement for the benefit of the Chase Property to install a sewer pipe through Lot 1 to connect to the Force Main, to discharge wastewater through the Force Main running through that portion of Artwill Avenue located within the boundaries of Lot 1, and to maintain, repair, replace and improve said sewer line. The right to discharge wastewater through the Force Main shall be held in common with the owners of the other *benefiting lots.*

The easement area shall be five feet (5') in width on either side of the sewer pipe running through Lot 1 to the point of connection to the Force Main. The owner of the Chase Property shall be responsible for restoring any damage or disturbance caused to Lot 1 after exercising their rights within the easement area and shall comply with the obligations set forth in Section I.E(3) above, which is hereby incorporated by reference.

4. Reservation of Easement for Karona LLC Property to Force Main

Artwill LLC hereby reserves a perpetual easement for the benefit of the Karona LLC Property to install a sewer pipe through Lot 2 to connect to the Force Main, to discharge wastewater through the Force Main running through that portion of Artwill Avenue located within the boundaries of Lot 1 and Lot 2, and to maintain, repair, replace and improve said sewer line. The right to discharge wastewater through the Force Main shall be held in common with the owners of the other *benefiting lots.*

The easement area shall be five feet (5') in width on either side of the sewer pipe running through Lot 2 to the point of connection with the Force Main. The owner of the Karona LLC Property shall be responsible for restoring any damage or disturbance caused to Lot 2 after exercising their rights within the easement area and shall comply with the obligations set forth in Section I.E(3) above, which is hereby incorporated by reference.

5. Easement in Common to Force Main

The owners of the *benefiting lots* (individually a "Lot Owner" and collectively the "Lot Owners") shall have an easement in common with one another a width of feet (5') on either side of the Force Main through Lot 1, Lot 2, and Lot 3 to perform necessary maintenance, repair, replacement and improvement to the Force Main. The Lot Owners shall be collectively responsible for performing necessary maintenance, repair, replacement and improvement to the Force Main.

For purposes of Section II of this Easement Agreement, "benefiting lots" shall mean those lots those that are actually connected to and discharge wastewater through the Force Main.

Any portions of Lot 1, Lot 2 or Lot 3 that are damaged or disturbed as a result of performing necessary maintenance, repair, replacement and improvement to the Force Main shall be restored by the Lot Owners within a reasonable time, in accordance with Section I.A(3) above, which is hereby incorporated by reference.

Each Lot Owner shall be individually responsible for the maintenance, repair, replacement and improvement of any sewer line or portion thereof benefiting their lot to the point of connection to the Force Main and any costs associated therewith.

6. Easement Area Maintenance Responsibilities

The owners of the *benefiting lots* shall be equally responsible to:

(a) Periodically inspect and assess the condition of the Force Main;

(b) Maintain, repair, replace and improve the Force Main as necessary so that it functions properly for its intended purpose;

(c) Prohibit any encroachments from being located within Artwill Avenue that would interfere with, frustrate, or make difficult access, maintenance, repair, replacement and improvement of the Force Main;

(d) Contribute to the costs associated with performing the obligations set forth herein.

Any owner of a *benefiting lot* causing damage to the Force Main shall be responsible to the owners of the other *benefiting lots* for any repair costs.

7. Easement Area Financial Responsibilities

The owners of the *benefiting lots* shall be equally financially responsible for the maintenance, repair, replacement and improvement of the Force Main, except as otherwise provided for herein. If any owner of a *benefiting lot* incurs a greater share of costs associated with necessary maintenance, repair, replacement or improvement of the Force Main as a result of any other *benefiting lot* owner's failure to contribute its share of the costs, the owner of the *benefiting lot* paying the greater share of costs shall be entitled to reimbursement from the other *benefiting lot* owners for their proportionate share of the costs within thirty (30) days of delivering written notice of the costs incurred together with receipts or other reasonable evidence thereof. If any written request for reimbursement remains unpaid beyond thirty (30) days from when written notice was delivered, the owner of the *benefiting lot* paying the greater share of costs may bring legal action to collect the unpaid balance against the other *benefiting lot* owners and shall be entitled to a lien for the same. The prevailing party in any such action shall be entitled to reasonable costs and attorney fees incurred.

B. Electricity

1. Reservation of Reciprocal Easements for Lot 1 and Lot 2

Artwill LLC hereby reserves perpetual easements that are reciprocal in nature benefiting and burdening Lot 1 and Lot 2 for purposes of drawing electricity from any underground electric lines installed along the common boundary of Lot 1 and Lot 2. Said easements shall be subject to any future restrictions and obligations placed upon Lot 1, Lot 2 and Lot 3 by the utility company as a condition of supplying electricity through the underground electric lines.

2. Reservation of Easement for Lot 3

Artwill LLC hereby reserves a perpetual easement for the benefit of Lot 3 for the purpose of drawing electricity from any underground electric lines installed along the common boundary of Lot 1 and Lot 2. The benefit of said easement shall be held in common with the owners of Lot 1 and Lot 2 and shall be subject to any future restrictions and obligations placed upon Lot 1, Lot 2 and Lot 3 by the utility company as a condition of supplying electricity through the underground electric lines.

III. MISCELLANOUS

A. Written Notice

Any written notice required under this Easement Agreement shall be valid if sent by certified mail or hand-delivered to the Party's last known address listed with the City of Portsmouth Assessing Department.

B. Amendment

This Easement Agreement and the rights contained herein may only be amended by written agreement of the Party(ies) that would be affected thereby, which agreement shall be recorded in the Rockingham County Registry of Deeds.

C. Bind and Inure

This Easement Agreement and the rights and obligations contained herein shall be binding upon and inure to the benefit of the Parties hereto and their respective heirs, successors and assigns.

D. Non-Contractual Transfer

This foregoing is a non-contractual transfer that is exempt from the New Hampshire Real Estate Transfer Tax pursuant to RSA 78-B:2, IX.

[SEPARATE SIGNATURE PAGES TO FOLLOW]

Executed this _____day of _____, 2022.

ARTWILL LLC

_____
Joseph S. Caldarola, Member/Manager
Duly Authorized

_____
Nicola Douglass, Member/Manager
Duly Authorized

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

This _____day of _____, 2022 personally appeared, Joseph S. Caldarola and Nicola Douglass, in their capacities as members/managers of Artwill LLC, duly authorized, known to me, or satisfactorily proven, to be the persons whose names are subscribed to the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

Before me,

_____
Notary Public:
Commission expires:

Executed this _____day of _____, 2022.

KARONA LLC

_____
[Insert Name] [Insert Title, Duly Authorized]

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

This _____day of _____, 2022 personally appeared, _____, in their capacity as member/manager of Karona LLC, duly authorized, known to me, or satisfactorily proven, to be the persons whose names is subscribed to the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

Before me,

_____
Notary Public:
Commission expires:

Executed this _____day of _____, 2022.

_____
Kristin M. Chase

_____
Christopher M. Chase

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

This _____day of _____, 2022 personally appeared, Christopher M. Chase and Kristin M. Chase, known to me, or satisfactorily proven, to be the persons whose names are subscribed to the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

Before me,

_____
Notary Public:
Commission expires:

DURBIN LAW

Derek R. Durbin, Esq.
603.287.4764
derek@durbinlawoffices.com

June 29, 2022

Beverly Zendt, Planning Director
City of Portsmouth
Planning Board
1 Junkins Avenue
Portsmouth, NH 03801

Email: bmzendt@cityofportsmouth.com

Subject: Subdivision/Site Plan Review Applications of Artwill LLC
Property: 437 Lafayette Road, Portsmouth

Dear Beverly,

As you know, this Office represents Artwill LLC in connection with its applications for subdivision and site plan review before the Planning Board relative to its property located at 437 Lafayette Road (the "Property"). During the public hearing on these applications on June 23rd, a member of St. Nicholas Greek Orthodox Church testified that its parish has a right of first refusal over a 50' wide strip of the Property and cited to a past deed to its property from 1966. A copy of the deed was distributed to the Board. Subsequently, member Moreau called it a "title issue" and expressed concern with deliberating on the applications until the matter is resolved. Other members appeared to concur. The applications were then continued to the July meeting.

As a general rule, private covenants cannot be considered in an application for approval of a subdivision and the granting of subdivision approval will not eliminate restrictive covenants which are placed on the property. A building permit cannot be denied to a landowner who is otherwise entitled to it even if the proposed use would violate private deed restrictions. 15 Land Use Planning and Zoning § 37.09, Loughlin (2021); 5 E. Ziegler, Rathkopf's The Law of Zoning and Planning § 82.2. In the case of Price v. Planning Board, the NH Supreme Court found that a claimed right-of-way across a portion of the land being proposed for a subdivision gave the aggrieved party standing to appeal the granting of the subdivision but did not constitute grounds for its denial. 120 N.H. 481 (1980).

The existence of private restrictions or minor boundary disputes or other disputes between landowners are frequently raised as objections to the granting of subdivision approval. Planning boards need to be mindful of the fact that as a general rule, these private disputes should not enter

into the local review process. Frequently, alleged problems with private restrictions of boundary disputes, real or imagined, are raised simply to deny an applicant his right to develop his land. If the landowner meets all of the board's requirements, approval should be granted. If the landowner does not meet the requirements, approval should obviously be denied. If an abutter has legitimate rights under a private restriction, it is up to that abutter to enforce those rights by a private action. 15 Land Use Planning and Zoning § 37.09, Loughlin (2021).

It is my opinion that the Board has no jurisdiction to consider the Church's alleged first right of refusal in determining whether the site plan review and subdivision applications meet the requirements of the City's land use regulations. To do otherwise would be a departure from past precedence of the Board and NH case law. It is also important to point out that my Client's position is that the right of first refusal lapsed as a result of the Church's failure to act upon over the past 56 years during which there have been at least 3 conveyances of the Property. My Client understands that the Church may not be happy about any adjacent development of the land occurring, but raising this issue now in front of a land use board rather than at the time the property was marketed for sale is untimely and suggests an alternate intent.

If you would like to discuss my opinion above, please do not hesitate to contact me.

Sincerely,

Derek R. Durbin, Esq.

Voting in the affirmative--Councilman McMaster, Chaisson ,Fransoso, and Levy.

Voting in the negative--Mayor Brady, Councilmen Wholey, Graves and Keefe.

The Chair declared the motion defeated.

Councilman Levy then moved and it was voted that the matter be brought up for reconsideration at the May 15 meeting.

VI. PRESENTATION AND CONSIDERATION OF WRITTEN COMMUNICATIONS

A. Letter from Sylvester G. Carroll of Carroll Realty, Inc. offering 1½ acres of land on Jones Avenue to the City for temporary use at no charge.

Upon motion by Councilman Keefe it was voted to accept the letter and place it on file and thank him for the offer.

Councilman Levy asked that the City Manager and Recreation Director look at the land and see if it could be used for recreational purposes and report back to the Council.

B. Letter from Public Utilities Commission regarding water service to the town of Durham.

Mr. Canney said it was clearly evident from the letter that the Commission would in no way allow the City of Portsmouth to set the water rates for the town of Durham, In view of the existing requirement and the vote of the City Council his office would take no further action to allow the Town of Durham to tap into the Portsmouth water system.

Upon motion by Councilman Keefe it was voted to accept the City Manager's recommendation.

C. Letter from David Barnaby requesting that the City assist the Atlantic Heights PTA to clean up the area adjacent to the School and install playground equipment there.

Upon motion by Councilman Keefe it was voted that the Recreation Department together with Mr. Cusick of the School Department see if something could be done to install playground equipment there and that the City Manager work with the Committee and report back at the May 15 meeting.

D. Letter from Raymond H. Philbrick, Portsmouth Shrine Club thanking the Council for a donation to send handicapped and retarded children from Portsmouth to the Shrine Circus in Manchester.

Upon motion by Councilman McMaster it was voted to accept the letter and place it on file.

E. Letter from Portsmouth Chamber of Commerce regarding the facts surrounding the removal of the tourist information center from the rotary traffic circle.

Upon motion by Councilman Levy it was voted to accept the communication and place it on file.

Mayor Brady said he would attempt to obtain State Funds to continue an information center at the traffic circle.

F. Petition from John C. Barry etal for the acceptance of Sylvester Street by the city.

Upon motion by Councilman Keefe it was voted that the Public Works Department be instructed to pick up rubbish and provide snow plowing for Sylvester Street and Artwill Avenue and that the City Engineer investigate the feasibility of acceptance and report back to the Council.

REGULAR MEETING - PUBLIC HEARING

VIOLETTE MEETING ROOM
MAY 1, 1972

PORTSMOUTH, N.H.
TIME: 7:00 P.M.

I. CALL TO ORDER

The Portsmouth City Council met in its regular monthly meeting on May 1, 1972 with His Honor Mayor Arthur F. Brady,Jr. presiding.

II. ROLL CALL

PRESENT: Mayor Brady, Councilmen Wholey, McMaster,Chaisson, Fransoso, Levy,Graves and Keefe.

ABSENT: Councilman Thomson

III. INVOCATION

The Chair asked for a moment of silent prayer.

IV. PLEDGE OF ALLEGIANCE

Councilman Graves led in the Pledge of Allegiance.

V. Upon motion by Councilman Keefe it was voted to accept the minutes of March 27 and April 3 as received.

PUBLIC HEARING

The Chair called the Public Hearing to order on the Ordinance amendment dealing with the Board of Health.

The Chair called for all those who wished to speak in favor or against the ordinance.

Mrs. Kathleen Athanasiou, a Director of the Portsmouth District Nurses Association spoke in favor of the Ordinance and submitted the name of Mrs. Shirley Ouprie a member of the Association as a member of the Board of Health.

After several calls from the Chair no one else appeared to speak on the ordinance.

The Chair called the Public Hearing Closed.

The Chair then recessed the meeting and went into a work session with the School Department to consider its request for a $102,000. Supplemental Appropriation and approximately $50,000. to be returned from the School Lunch Program.

Acting School Board Chairman Rubin Jaffe and Robert Iafolla presented the case for the School Department. Both said that they were certain that additional revenues coming to the School Department by June would more than cover the deficit which Iafolla declared was an honest mistake.

At the conclusion of the work session Councilman Wholey moved that the City Attorney prepare the proper resolutions with the proper sums and present it to the Council for its consideration and a public hearing be held.

The motion received a second and a roll call vote was requested.

Voting in the affirmative--Mayor Brady, Councilman Wholey, Graves and Keefe. Voting in the negative--Councilman McMaster, Chaisson, Fransoso and Levy.

The Chair declared the motion defeated.

Councilman Chaisson then moved to table action until June 30.

A roll call vote was requested.

G. Petition to rezone land on Lafayette Road and Ocean Road from Neighborhood and SR-2 District to General Business District.

Upon motion by Councilman Graves it was voted to refer the petition to the Planning Board.

VII. REPORTS AND COMMUNICATIONS FROM CITY OFFICIALS.

A. Acceptance of 2½ acres of land from Tamposi Corporation off Lafayette Road for conservation and open space.

Mrs. Clotilde Straus of the Conservation Commission spoke briefly in favor of accepting the property.

Mr. Canney asked that the Council act favorably on the matter.

Upon motion by Councilman Keefeit was voted that the City accept the deed to the property.

B. Notice of removal from table of Ramsay petition to rezone land on Woodbury Avenue to Central Business District.

Councilman Thomson said he would like the matter placed on the Agenda for the May 15 meeting.

C. Request from Planning Board for $500. of city funds to match with $1,250. Ford Foundation Grant to fund preparation of an open space plan for the City.

Mrs. Clotilde Straus spoke in favor of the appropriation. There wassome discussion on the use of in-kind services of the Planning Department.

Mrs. Straus was requested to check it out and report back at the next meeting.

D. Appointments.

The Chair appointed and the Council confirmed the following:

Mosquito Control Committee: Lt. Col Donald E. Read, Mrs. Therese Mackey, Kay Anthansasiou, Charles Vaughn and David Dodge.

Recreation Board: Lucy Anderson, John McGee, Paul Ananaia and Robert Stella.

Trustee of Trust Funds: Arthur Splaine

It was voted to table the appointment of Ralph W. Kinch and Thomas Connors to the Board of Adjustment until May 15.

E. Farragut School Committee Report

Councilman Wholey said it was the recommendation of the Committee that the building was not suitable for school purposes.

Councilman Levy said that discussion be deferred until the School Board Budget Session.

Councilman McMaster moved and it was voted totable action until the Budget work session with the School Department.

VIII. CONSIDERATION OF RESOLUTIONS AND ORDINANCES.

A. Proclamation proclaiming week of May 1 Seacoast United Jewish Appeal Week.

Upon motion by Councilman Wholey it was voted that the proclamation be adopted.

B. Second reading of Ordinance dealing with Board of Health.

Upon motion by Councilman Wholey it was voted that the Ordinance pass its second reading by title only.

Upon motion by Councilman Wholey it was voted to so far suspend the

rules to allow the third reading.

Upon motion by Councilman Wholey it was voted that the Ordinance pass its third reading by title only.

C. First reading of Ordinance dealing with the Community Center and City Hall Parking (amendment for police station parking).

Councilman McMaster moved that the first reading be tabled.

A roll call vote was requested.

Voting in the affirmative--Councilman McMaster, Chaisson, Levy and Fransoso.

Voting in the negative --Mayor Brady, Councilmen Wholey, Graves, Keefe and Brady.

The Chair declared the motion defeated.

Councilman Wholey then moved that the Ordinance pass its first reading by title only.

A roll call vote was requested.

Voting in the affirmative--Mayor Brady, Councilmen Wholey, Graves, and Keefe.

Voting in the negative--Councilman McMaster, Chaisson, Fransoso, and Levy.

The Chair declared the motion defeated.

D. Adoption of Capital Improvement Budget.

There was considerable debate on whether the budget should be adopted or accepted and placed on file.

Mr. Canney said the budget was a planning tool to guide the City and outline its possible needs over the coming years.

Councilman Chaisson called it a "dream budget".

Councilman Wholey, Fransoso and Graves spoke in favor of adoption.

Councilman Levy and Keefe spoke in opposition.

Councilman Graves moved that the budget be adopted.

The motion passed on a voice vote.

X. MISCELLANEOUS BUSINESS

A. Councilman McMaster asked that the City Manager and the Recreation Director report back on the feasiblity of using Pierce Island for mini-bikes.

B. Councilman Chaisson said he would like to serve notice that he was going to reconsider his vote on the four cruisers requested by the Police Department at the June 5 meeting.

C. Councilman Keefe said he would like to congratulate the City Marshal for enforcing the parking regulations downtown.

D. Councilman Chaisson said he would like to see the work sessions broadcast on the local radio stations. He so moved.

The motion received a second and after some discussion a roll call vote was requested.
Voting in the affirmative--Councilman Chaisson and Levy.

Voting in the negative--Mayor Brady, Councilmen Wholey,McMaster Fransoso,Graves and Keefe.
The Chair declared the motion defeated.

Upon motion by Councilman Keefe the meeting adjourned at 10 p.m.

P. E. O'Donnell, City Clerk

TFM Since 1968
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

NEW HAMPSHIRE 200

June 29, 2022

Rick Chellman, Chair
City of Portsmouth Planning Board
1 Junkins Ave, 3rd Floor
Portsmouth, NH 03801

RE: Drainage Memorandum
Proposed 3-Lot Subdivision, 437 Lafayette Road, Portsmouth, Tax Map 229, Lot 1

Dear Mr. Chellman:

The above-referenced project was presented to the Planning Board at the June 23rd meeting. During the public hearing, abutters on the opposite side of Artwill Avenue (Map 229, Lot 4 and Map 229, Lot 5) voiced potential concerns with regards to existing drainage issues experienced on their property, as well as future concerns with those drainage issues becoming more significant as a result of the proposed development.

Following the public hearing, the Applicant, Artwill LLC, and a representative from TF Moran Inc. met with both abutters on-site to inspect the existing drainage conditions and to discuss the stormwater management plan associated with the proposed development. During this meeting on June 27th, field measurements were taken to illustrate that Artwill Avenue is a crowned road, which hinders the ability for stormwater runoff generated on the property north of Artwill Avenue (Tax Map 229, Lot 1) to reach and adversely impact the two properties to the south. This notion is confirmed by the survey work performed as part of this development.

In addition, during the meeting, portions of the Drainage Analysis Report and the proposed Grading & Drainage Plan were collectively reviewed and discussed to enforce the fact that, despite the two houses being proposed as part of the development, stormwater peak runoff rates are being reduced during the design storm events required for analysis by the City of Portsmouth Site Plan Review Regulations.

Verbal acknowledgement transpired among all in attendance that the proposed stormwater management plan has been designed such that the existing drainage along Artwill Avenue will be improved in post-development conditions.

If you would like to discuss the information provided above, please do not hesitate to contact me.

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com

2022 BOB AWARDS

TFMoran, Inc. Seacoast Division
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222

Drainage Memorandum **June 29, 2022**
Proposed 3-Lot Subdivision, 437 Lafayette Road, Portsmouth, Tax Map 229, Lot 1

Respectfully,
TFMoran, Inc.

Justin Macek, EIT
Project Manager

JSM/jcc

cc:

Joe Caldarola, Smithfield Construction, Inc. (via joe@smithfieldconstruction.com)

K0076-038
June 29, 2022

Mr. Rick Chellman, Chairman
City of Portsmouth Planning Board
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Site Plan Review & Wetlands Conditional Use Permit Applications**
Proposed 2-story Building, 230 Commerce Way, Portsmouth, NH

Dear Chairman Chellman:

On behalf of 230 Commerce Way, LLC (owner/applicant), we are pleased to submit via the City of Portsmouth online permitting system the following information to support a request for a Site Plan Review and Wetland Conditional Use Permit for the above referenced project:

- One (1) full size & one (1) half size copy of the Site Plan Set last, last revised June 29, 2022;
- TAC & CC Stipulation Response Report, dated June 29, 2022;
- Site Review Checklist dated, May 24, 2022;
- Drainage Analysis Memorandum, dated May 24, 2022;
- Long-Term Operation & Maintenance Plan, dated May 24, 2022;
- Fire Truck Turning Exhibit, last revised June 29, 2022;
- Trip Generation Analysis Memorandum, dated May 24, 2022;
- Eversource Will Service Letter dated, May 24, 2022;
- Unitil Will Service Letter dated, May 12, 2022;
- 100' Wetland Buffer Impact Exhibit, last revised June 29, 2022;
- Green Building Statement, dated May 24, 2022;

The proposed project is located at 230 Commerce Way on the corner of Portsmouth Boulevard and Commerce way, on property identified as Map 216 Lot 1-5 on the City of Portsmouth Tax Maps. The existing site currently consists of a 3-story office building with a large associated parking lot. The proposed project consists of a new 2-story building for veterinary care uses within the limits of the existing parking lot, modifications to the parking lot, and associated site improvements. The associated site improvements include the site lighting, underground utilities, stormwater treatment/management system, and wetland buffer enhancements.

Land Use Permit Applications

Site Plan Review Permit

The project will require a Site Plan Review Permit for the site improvements described above in the project summary. The project has previously been before the Planning Board for Conceptual Consultation, and Conservation Commission and the Technical Advisory Committee (TAC) for work sessions. On June 7, 2022, TAC recommended to the Planning Board that a Site Plan Review Permit be granted with stipulations. Enclosed with this package is a Stipulation Report addressing each of the TAC stipulations of approval.

Wetland Conditional Use Permit

A portion of the proposed work is located in the 100-foot wetland buffer thus requiring a Conditional Use Permit per Section 10.1017 of the Zoning Ordinance. As a result of the project there is going to be a reduction of existing impervious area within the wetland buffer of approximately 5,070 SF. The project is also proposing 9,250 SF of buffer enhancement area. On June 8, 2022, the Conservation Commission (CC) voted to recommend approval to the Planning Board for Wetland Conditional Use Permit, with stipulations. Enclosed with this package is a Stipulation Report addressing each of the CC stipulations.

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 which consists of an office building and parking lot and is suited for enhancement. The proposed project site lies partially within a previously wetland buffer area. The proposed project will result in impervious surface reduction in the buffer and buffer enhancement. Advanced stormwater treatment is also part of the proposed project which will improve the quality of the runoff to the wetland from the project 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 building is limited by the 75-foot side yard setbacks that are required in the Office Research (OR) zone. The proposed project design reduces the impervious surface within the 100’ buffer and proposes to replace existing pavement and lawn areas with wetland buffer seed mix and plant native shrubs and trees.

(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 consists of building, parking area and no existing stormwater treatment. The proposed project designs site and landscape plans enhance the previously disturbed buffer area given the existing condition and provide treatment of stormwater runoff where none currently exists.

(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 no alteration to any natural woodland or wetlands area. The area impacted consists of mainly of impervious surfaces. Any temporary disturbances of the wetland buffer for construction of the stormwater outlet and removal of existing pavement 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 and improve water quality through stormwater treatment. Impervious surfaces have been

reduced from the existing condition. The proposed project will reduce the impervious area within the 100-foot wetland buffer.

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

The proposed project design within the vegetated buffer strip is limited to construction of the stormwater outlet from the stormwater collection and treatment system. The existing property has no stormwater treatment measures. The proposed project will collect and treat the onsite impervious surfaces prior to discharging to the on-site wetland. Implementing these treatment measures will help improve the water quality runoff discharging to the wetland. In order for this system to work, disturbances with the buffer strip are necessary. Areas temporarily disturbed for the construction of the outlet will be restored following construction. The landscape plan proposes restoring the disturbed areas within the foot wetland buffer with a wetland buffer seed mix, and the addition of several native trees and shrubs.

We trust the above described and enclosed materials address the criteria and requirements for the Planning Board to grant a Site Plan Review Permit and Wetland Conditional Use Permit for the proposed project. We respectfully request to be placed on the Planning Board agenda for July 21, 2022. If you have any questions or need any additional information, please contact Neil Hansen by phone at (603) 294-9213 or by email at nahansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

CC: 230 Commerce Way, LLC
Nelson Architecture & Interior, Inc.
City of Portsmouth Technical Advisory Committee
City of Portsmouth Conservation Commission

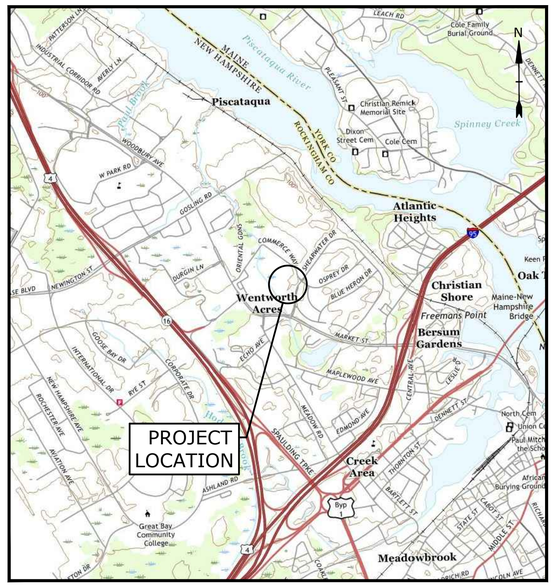
j:\k\k0076 the kane company - general proposals\0076-038 portsmouth blvd\report_evaluation\applications\city of portsmouth\20220629 pb submission\cover letter.docx

PROPOSED 2-STORY BUILDING

230 COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE
MAY 24, 2022
LAST REVISED: JUNE 29, 2022

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	06/29/2022
1 OF 5	TOPOGRAPHIC PLAN	04/19/2022
2 OF 5	TOPOGRAPHIC PLAN	04/19/2022
3 OF 5	TOPOGRAPHIC PLAN	04/19/2022
4 OF 5	TOPOGRAPHIC PLAN	04/19/2022
5 OF 5	TOPOGRAPHIC PLAN	04/19/2022
C-101	DEMOLITION PLAN	06/29/2022
C-102	SITE PLAN	06/29/2022
C-103	GRADING, DRAINAGE & EROSION CONTROL PLAN	06/29/2022
C-104	UTILITY PLAN	06/29/2022
C-105	LANDSCAPE PLAN	06/29/2022
C-501	EROSION CONTROL NOTES & DETAILS SHEET	06/29/2022
C-502	DETAILS SHEET	06/29/2022
C-503	DETAILS SHEET	06/29/2022
C-504	DETAILS SHEET	06/29/2022
C-505	DETAILS SHEET	06/29/2022
C-506	DETAILS SHEET	06/29/2022
C-701	PHOTOMETRICS PLAN	06/29/2022
A-200	ELEVATIONS	05/23/2022
A-201	ELEVATIONS	05/23/2022

LIST OF PERMITS		
FEDERAL	STATUS	DATE
CONSTRUCTION GENERAL PERMIT	PENDING	
LOCAL		
SITE PLAN REVIEW PERMIT	PENDING	



LOCATION MAP
SCALE: 1" = 2,000'

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.

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 – 6/29/22

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN – No. 15227 – LICENSED PROFESSIONAL ENGINEER – 6/29/22

APPLICANT / OWNER:
230 Commerce Way, LLC
210 Commerce Way, Suite 300
Portsmouth, NH 03801
603.559.9666

SURVEY CONSULTANT:
DOUCET SURVEY INC
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

ARCHITECT (OWNER):
Nelson Worldwide, LLC
99 Chauncy St 10th Floor
Boston, MA 02111
6170.751.5886

WETLAND CONSULTANT:
Gove Environmental Services, INC
8 Continental Dr Bldg 2 Unit H
Exeter, NH 03833
603.778.0644

ARCHITECT (TENANT):
Capone Architecture
18 Shipyard Dr #2a
Hingham, MA 02043
617.875.0786

PB SUBMISSION SET
COMPLETE SET 20 SHEETS

811 DigSafe MA-ME-NH-RI-VT

Last Save Date: June 29, 2022 10:06 AM By: CML
Plot Date: Wednesday, June 29, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_CS.dwg Layout Tab: T&B_CS_22x34

DOUCET SURVEY, LLC
NHSPC (NAD83 / 2011)

ABUTTERS
TAX MAP 216, LOT 1–2
COMMERCE CENTER AT PORTMSOUTH
273 CORPORATE DRIVE, SUITE 150
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3507, PAGE 2405

TAX MAP 216, LOT 1–8
195 COMMERCE WAY LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5418, PAGE 1358

TAX MAP 216, LOT 1–8A
BEACON HARBOR TRUST LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5877, PAGE 2905

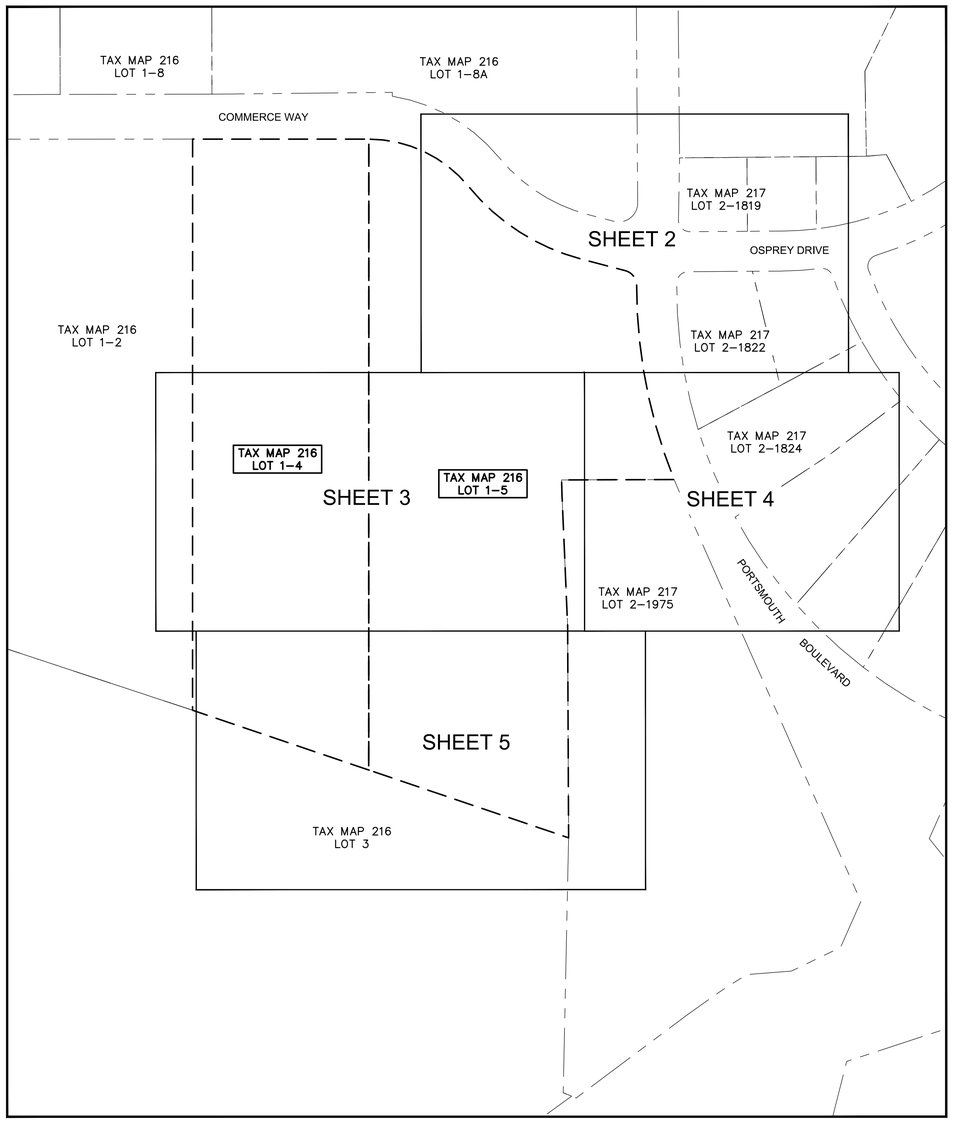
TAX MAP 216, LOT 3
BROMLEY PORTSMOUTH LLC
C/O QUINCY & CO. INC.
57 DEDHAM AVENUE
NEEDHAM, MA 02492
R.C.R.D. BOOK 4486, PAGE 2167

TAX MAP 217, LOT 2–1819
BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3474, PAGE 866

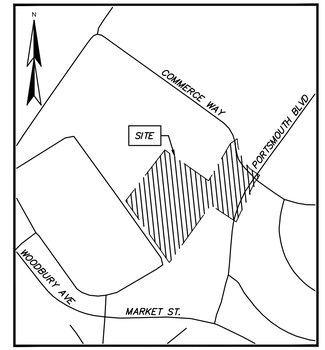
TAX MAP 217, LOT 2–1822
MARTIN A. TORRES REV. TRUST
MARTIN A. TORRES, TRUSTEE
2 OSPREY DRIVE
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3543, PAGE 89

TAX MAP 217, LOT 2–1824
JAMES J. MCGOVERN IRREVOCABLE TRUST
19 SANDERLING WAY
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 4895, PAGE 2707

TAX MAP 217, LOT 2–1975
BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3507, PAGE 118



KEY MAP



LOCATION MAP (n.t.s.)

LEGEND

APPROXIMATE LOT LINE	PAD MOUNTED TRANSFORMER
APPROXIMATE ABUTTERS LOT LINE	ELECTRIC BOX
STONE WALL	UTILITY BOX
CHAIN LINK FENCE	CATCH BASIN
GUARDRAIL	DRAIN MANHOLE
OVERHEAD WIRE	ELECTRIC MANHOLE
SEWER LINE	TELEPHONE MANHOLE
DRAIN LINE	SEWER MANHOLE
SEWER LINE (PER CITY GIS)	CLEANOUT
DRAIN LINE (PER CITY GIS)	CONIFEROUS TREE
UNDERGROUND ELECTRIC LINE	DECIDUOUS TREE
MAJOR CONTOUR LINE	CONIFEROUS SHRUB
MINOR CONTOUR LINE	DECIDUOUS BUSH
TREE LINE	BORING LOCATION
SHRUB LINE	ACCESSIBLE PARKING SPACE
EDGE OF WETLAND	TYP. TYPICAL
EDGE OF WATER	CONC. CONCRETE
WETLAND AREA	HDWL HEADWALL
CONCRETE	TH THRESHOLD ELEVATION
LANDSCAPED AREA	EP EDGE OF PAVEMENT
CRUSHED STONE	VGC VERTICAL GRANITE CURB
BRICK	SGC SLOPED GRANITE CURB
UTILITY POLE & GUY WIRE	SWL SINGLE WHITE LINE
UTILITY POLE W/LIGHT	SYL SINGLE YELLOW LINE
LIGHT POLE W/ARM	DYL DOUBLE YELLOW LINE
LIGHT POLE (MULTI–ARMS)	GM GAS METER
SIGN	"HP" HANDICAP PARKING SIGN
BOLLARD	"NP" NO PARKING SIGN
FIRE HYDRANT	"R" RESERVED PARKING SIGN
WATER GATE VALVE	• A–1 WETLAND FLAG
WATER SHUTOFF VALVE	
GAS REGULATOR	
VENT PIPE	

NOTES:

1. REFERENCE:
   TAX MAP 216, LOT 1–4
   210 COMMERCE WAY LLC
   210 COMMERCE WAY, SUITE 300
   PORTSMOUTH, NH 03801
   R.C.R.D. BOOK 5418, PAGE 1360
   D.S. PROJECT NO. 5864

   TAX MAP 216, LOT 1–5
   230 COMMERCE WAY LLC
   210 COMMERCE WAY, SUITE 300
   PORTSMOUTH, NH 03801
   R.C.R.D. BOOK 5418, PAGE 1364
2. FIELD SURVEY PERFORMED BY DOUCET SURVEY DURING FEBRUARY 2022 USING A TRIMBLE S7 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
3. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
4. VERTICAL DATUM IS BASED ON APPROXIMATE NAVD88(GEOID12A) (±.2') DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
5. 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.
6. WETLANDS WERE NOT DELINEATED ON SITE. ANY FLAGS LOCATED WERE FROM A PREVIOUS DELINEATION.
7. 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.
8. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVED PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON–SITE.
9. 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.
10. OVERALL PARCEL BOUNDARIES AS SHOWN HEREON ARE BASED ON NEW HAMPSHIRE'S GRANIT GIS DATA AND ARE IN THEIR ORIGINAL LOCATION. THE PARCEL BOUNDARIES HAVE NOT BEEN ADJUSTED TO MATCH FOUND PROPERTY MONUMENTS OR THE EDGE OF RIGHT OF WAY AS DETERMINED BY THE SURVEYOR.

100 0 100 200
SCALE: 1 INCH = 100 FT.

TOPOGRAPHIC PLAN
FOR
RW NORFOLK HOLDING, LLC
PROPERTIES OF
210 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-5)
COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	04/19/22	ADDITIONAL TOPOGRAPHY (SPRING)	P.C.L.

DRAWN BY: P.C.L.	DATE: FEBRUARY 23, 2022
CHECKED BY: M.W.F.	DRAWING NO. 5864A
JOB NO. 5896	SHEET 1 OF 5

DOUCET SURVEY LLC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
Offices in Bedford & Keene, NH and Kennebunk, ME
http://www.doucetsurvey.com

DOUCET SURVEY, LLC

NHSPCS (NAD83/2011)

TBM 6864A
NAIL FND. UP 12"
IN POLE PSNH 316/6 W/COND.
ELEV.=67.19'

CB 3130
RIM ELEV.=59.2'
(2201) 12" RCP INV.=56.0'
SUMP=55.9'

SMH 2154
RIM ELEV.=58.3'
(A) 8" VCP TOP=53.3'
(B) 8" VCP INV.=52.7'
(3127) 8" VCP INV.=52.7'
(2630) 8" VCP INV.=52.6'

CB 2928
RIM ELEV.=58.4'
(2267) 12" RCP INV.=56.1'
SUMP=52.8'

CB 2201
RIM ELEV.=59.2'
(3130) 12" RCP INV.=55.8'
(2184) 12" RCP INV.=55.6'

NO OUTLET /NP

DMH 2184
RIM ELEV.=58.4'
(2201) 12" RCP INV.=55.0'
(2187) 12" RCP INV.=55.0'
(2196) 12" RCP INV.=54.9'

SMH 3127
RIM ELEV.=58.4'
(A) 6" VCP INV.=53.6'
(2185) 8" VCP INV.=53.3'
(2154) 8" VCP INV.=53.2'

CB 2187
RIM ELEV.=58.4'
FILLED WITH ICE

MAYBE PULL? FILLED W/ICE

CB 2187
RIM ELEV.=58.4'
OUT OF SCOPE

SMH 2185
RIM ELEV.=64.7'
(A) 4" PVC INV.=59.9'
(B) 4" PVC INV.=58.0'
(C) 4" PVC OBSTRUCTED
(D) 8" VCP INV.=55.9'
(3127) 8" VCP INV.=55.5'

CB 1915
RIM ELEV.=59.5'
OUT OF SCOPE

CB 1867
RIM ELEV.=60.4'
(1866) 12" RCP RECESSED
SUMP=53.9'

CB 1866
RIM ELEV.=59.7'
(1867) 12" RCP INV.=57.0'
(2267) 12" RCP INV.=56.9'
SUMP=53.8'

CB 2196
RIM ELEV.=57.7'
(2184) 12" RCP INV.=53.9'
(2387) 12" RCP INV.=53.9'
SUMP=50.9'

CB 2267
RIM ELEV.=57.7'
(2928) 12" RCP INV.=55.4'
(1866) 12" RCP RECESSED
(2343) UNK. RECESSED
SUMP=55.5'

TBM 5864B
X-CUT IN BOLT
OVER MAIN OF HYDRANT
ELEV.=58.38'

COMMERCE WAY

OSPREY DRIVE

PORTSMOUTH BOULEVARD

BUILDING

SHEET 2
SHEET 3

SHEET 2
SHEET 4

SCALE: 1 INCH = 20 FT.

TOPOGRAPHIC PLAN
FOR
RW NORFOLK HOLDING, LLC
PROPERTIES OF
210 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-5)
COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

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DRAWN BY:	P.C.L.	DATE:	FEBRUARY 23, 2022
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JOB NO.	5896	SHEET	2 OF 5

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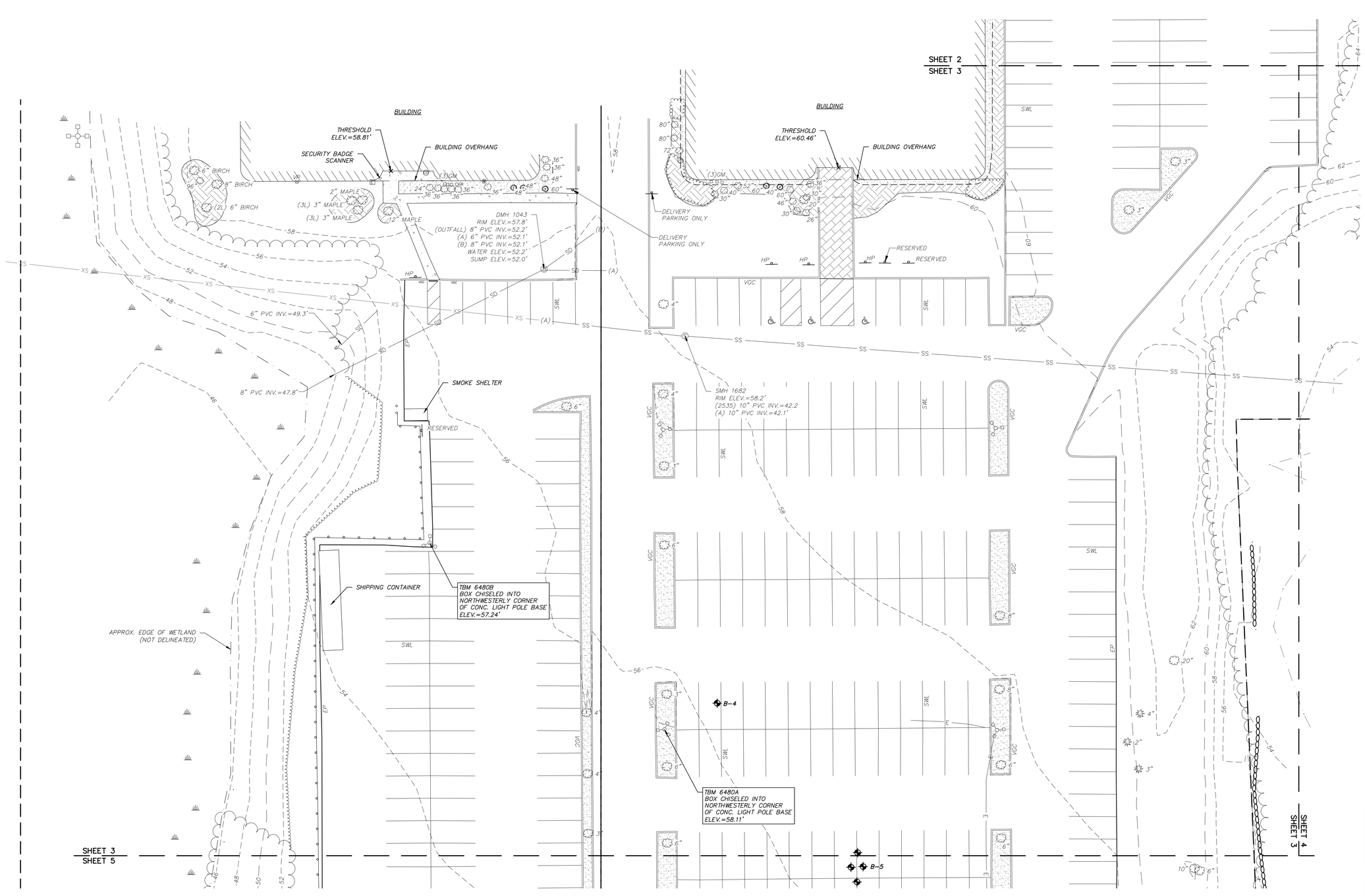

SCALE: 1 INCH = 20 FT.

TOPOGRAPHIC PLAN
FOR
RW NORFOLK HOLDING, LLC
PROPERTIES OF
210 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-5)
COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

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DRAWN BY: P.C.L.	DATE: FEBRUARY 23, 2022
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JOB NO. 5896	SHEET 3 OF 5

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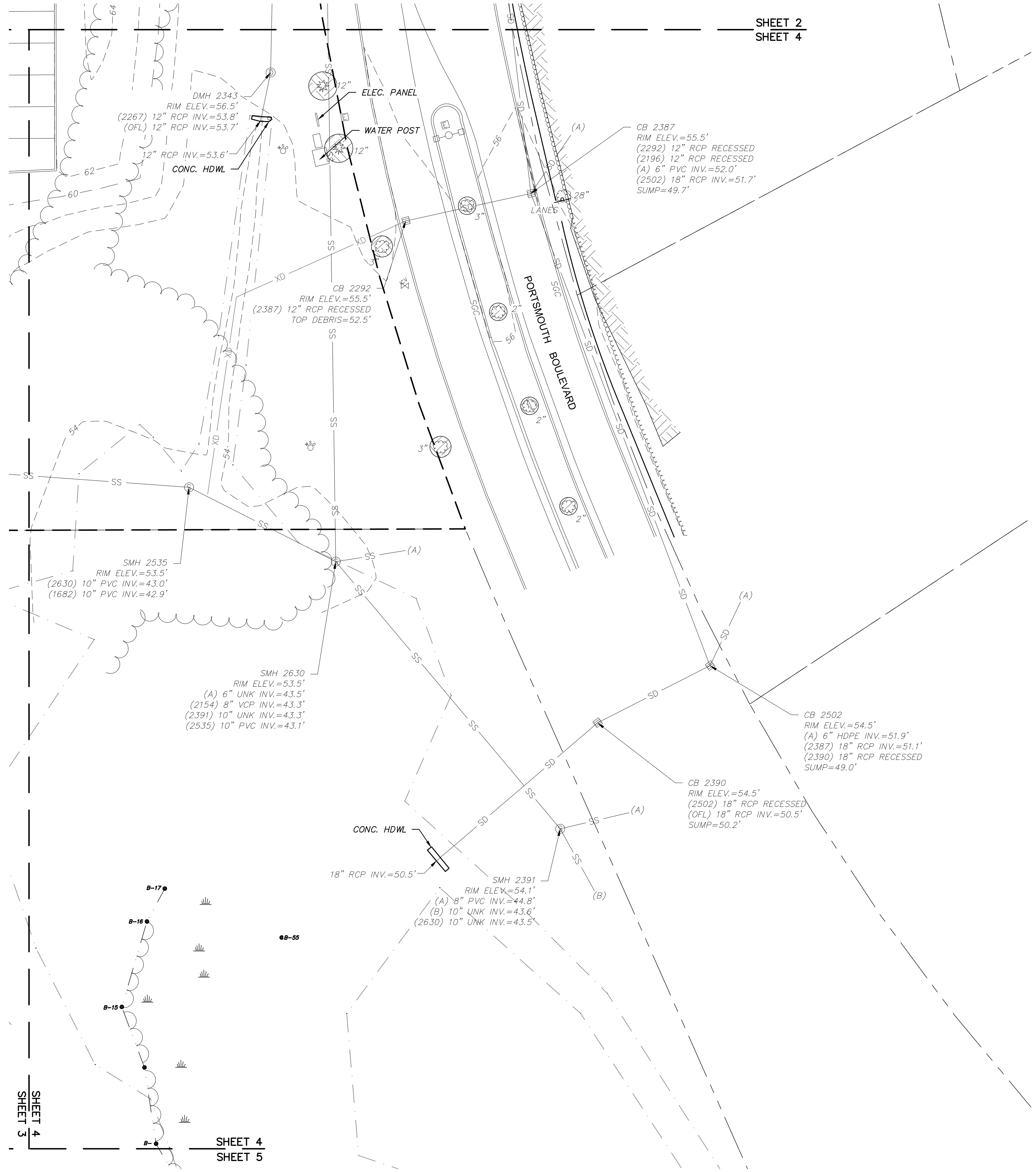

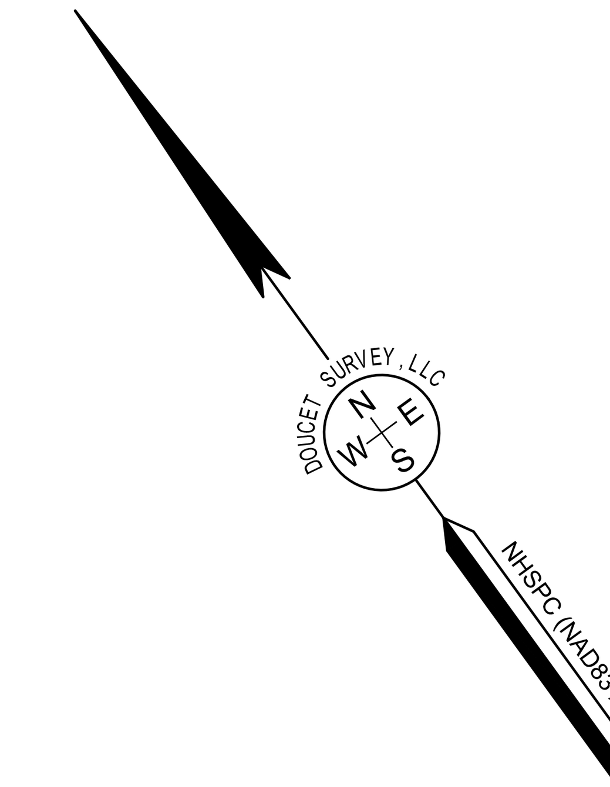

20 0 20 40

SCALE: 1 INCH = 20 FT.

TOPOGRAPHIC PLAN
FOR
RW NORFOLK HOLDING, LLC
PROPERTIES OF
210 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-5)
COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
1	04/19/22	ADDITIONAL TOPOGRAPHY (SPRING)	P.C.L.

DRAWN BY: P.C.L.	DATE: FEBRUARY 23, 2022
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SHEET 3
SHEET 5

SHEET 4
SHEET 5

SHEET 3
SHEET 4

APPROX. EDGE OF WETLAND
(NOT DELINEATED)

GATE (TYP.)

EP

SWL

VGC

B-5

B-2

CONC BLOCK WALL

6" OAK

HEADWALL
(INVERT NOT FOUND)

APPROX. EDGE OF WETLAND
(NOT DELINEATED)

MH 2768
RIM ELEV.=48.4'
OUT OF SCOPE

HEADWALL
(INVERT NOT FOUND)

B-11

DOUCET SURVEY, LLC

NHSPCS (NAD83/2011)

20 0 20 40

SCALE: 1 INCH = 20 FT.

TOPOGRAPHIC PLAN
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PROPERTIES OF
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(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
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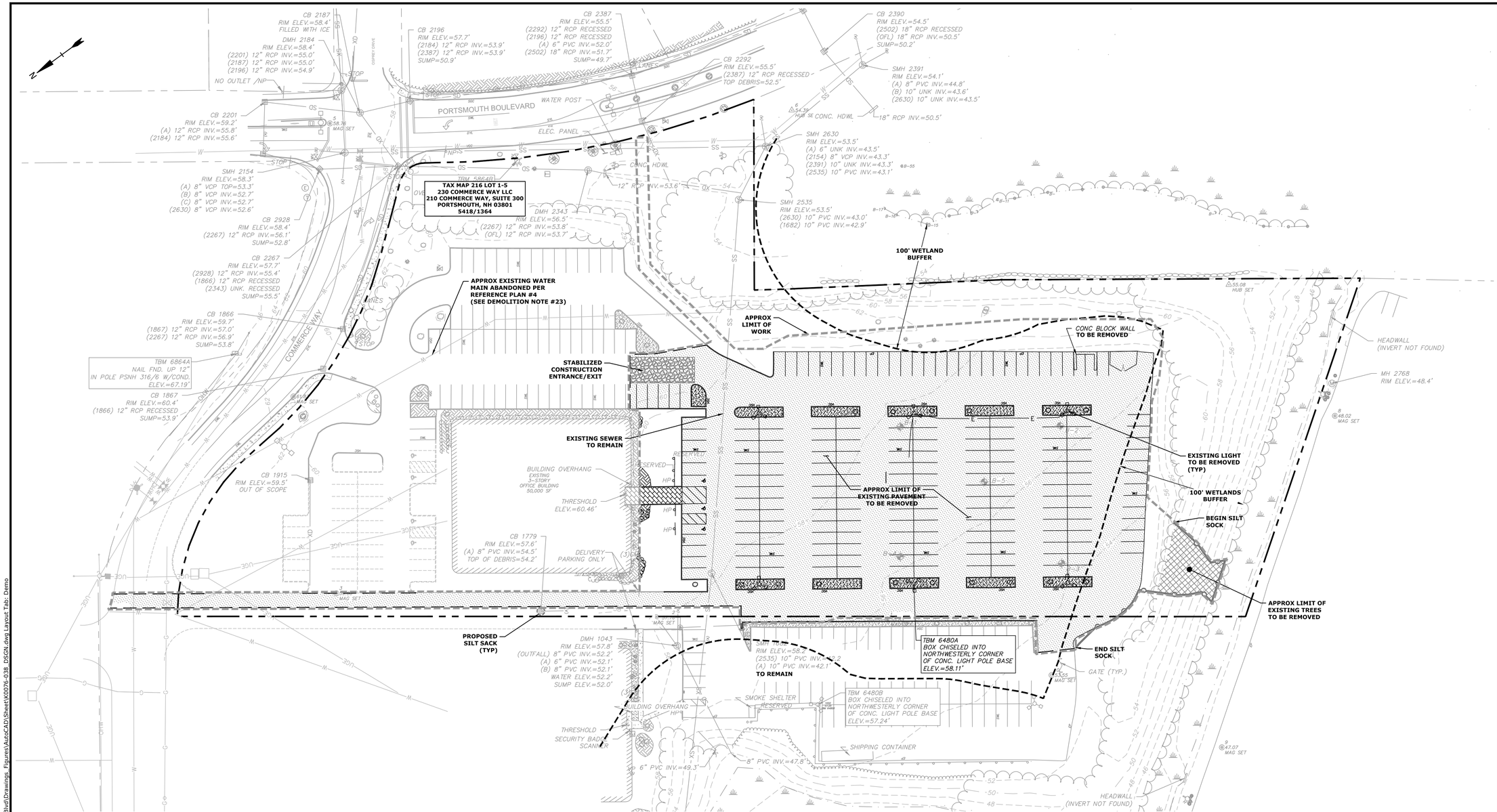

DEMOLITION NOTES:

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. 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.
3. 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.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. 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.
6. 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.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR 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.
9. 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.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. 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.
12. 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.
13. ALL ITEMS WITHIN THE LIMIT OF WORK ARE TO REMAIN UNLESS SPECIFICALLY IDENTIFIED TO BE REMOVED OR OTHERWISE ALTERED BY THE CONTRACTOR. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, MANHOLES, CATCH BASINS, UNDERGROUND PIPING & UTILITIES, POLES, STAIRS, STRUCTURES, FENCES, RAMPS, BUILDING FOUNDATIONS, TREES, AND LANDSCAPING. THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER IF THE TREATMENT OF CERTAIN ITEMS IS UNCLEAR.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. 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.
16. 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.
17. 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.
18. 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.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. 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.
21. 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.
22. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
23. LOCATION OF EXISTING WATER MAINS ON THE PROPERTY WILL BE FIELD VERIFIED BY CONTRACTOR IN ORDER TO VET THE DESIGN. IF WATER MAINS NEED TO BE RELOCATED IT WILL BE AT THE DEVELOPER'S EXPENSE WITH PLANS AND NECESSARY EASEMENTS REVIEWED AND APPROVED BY DPW.

LEGEND

- APPROXIMATE LOT LINE
- APPROXIMATE ABUTTERS LOT LINE
- STONE WALL
- CHAIN LINK FENCE
- GUARDRAIL
- OHW — OVERHEAD WIRE
- SS — SEWER LINE
- SD — DRAIN LINE
- XS — SEWER LINE (PER CITY GIS)
- XD — DRAIN LINE (PER CITY GIS)
- E — UNDERGROUND ELECTRIC LINE
- 100 — MAJOR CONTOUR LINE
- 98 — MINOR CONTOUR LINE
- TREE LINE
- SHRUB LINE
- EDGE OF WETLAND
- EDGE OF WATER
- WETLAND AREA
- CONCRETE
- LANDSCAPED AREA
- CRUSHED STONE
- BRICK
- UTILITY POLE & GUY WIRE
- UTILITY POLE W/LIGHT
- LIGHT POLE W/ARM
- LIGHT POLE (MULTI-ARMS)
- SIGN
- BOLLARD
- FIRE HYDRANT
- WATER GATE VALVE
- WATER SHUTOFF VALVE
- GAS REGULATOR
- VENT PIPE
- PAD MOUNTED TRANSFORMER
- ELECTRIC BOX
- UTILITY BOX
- CATCH BASIN
- DRAIN MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- CLEANOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- DECIDUOUS BUSH
- BORING LOCATION
- ACCESSIBLE PARKING SPACE
- TYP. TYPICAL
- CONC. CONCRETE
- HDWL HEADWALL
- TH THRESHOLD ELEVATION
- EP EDGE OF PAVEMENT
- VGC VERTICAL GRANITE CURB
- SGC SLOPED GRANITE CURB
- SWL SINGLE WHITE LINE
- SYL SINGLE YELLOW LINE
- DYL DOUBLE YELLOW LINE
- GM GAS METER
- "HP" HANDICAP PARKING SIGN
- "NP" NO PARKING SIGN
- "R" RESERVED PARKING SIGN
- WETLAND FLAG
- A-1

DEMOLITION LEGEND

- APPROXIMATE LIMIT OF WORK
- APPROXIMATE LIMIT OF SAW CUT
- EXISTING CURB TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF CLEARING
- TBR TO BE REMOVED
- APPROX APPROXIMATE

EXISTING CONDITIONS PLAN & WETLANDS NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY DOUCET SURVEY, DATED FEBRUARY.
2. JAMES GOVE, CERTIFIED WETLAND SCIENTIST #51, OF GOVE ENVIRONMENTAL CONSULTANTS, INC. OF EXETER, NH, PERFORMED THE WETLAND MAPPING FOR FLAGS A-1 THROUGH A-58 AND B-1 THROUGH B-18 ON SEPTEMBER 23, 2020 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

REFERENCE PLANS:

1. "CONDITIONAL USE PLAN" PREPARED BY ERIC C. MITCHELL & ASSOC. INC., DATED DECEMBER 18, 2020.
2. "LOT LINE ADJUSTMENT PLAN TAX MAP R-17, LOT 2-1975 SHEARWATER DRIVE / DOVECKIE WAY / MARKET STREET PORTSMOUTH, NH SCALE: 1"=40' DATE: AUG. 1999" PREPARED BY CLD CONSULTING ENGINEERS, MANCHESTER, NH R.C.R.D. PLAN #D-28384.
3. "TOPOGRAPHIC PLAN", SHEETS 1 THRU 5, PREPARED BY DOUCET SURVEY, DATED APRIL 19, 2022.
4. "PROPOSED ROADWAY IMPROVEMENTS", PREPARED BY TIGHE & BOND, DATED MARCH 21, 2014.

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
6/29/22

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
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SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

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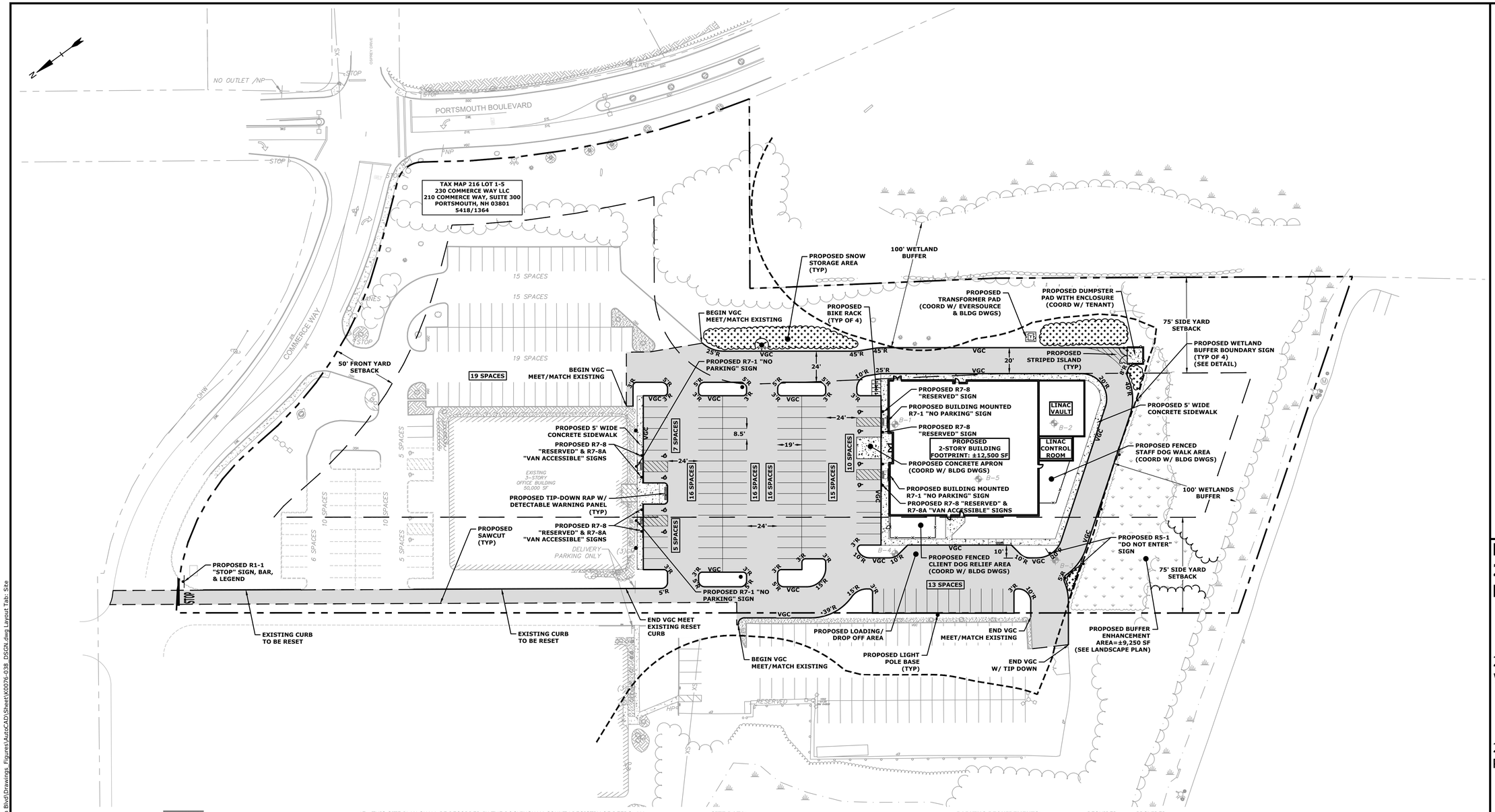
DEMOLITION PLAN

SCALE: AS SHOWN

C-101

Last Save Date: June 29, 2022 11:42 AM By: CML
Plot Date: June 29, 2022 11:42 AM By: Craig M. Langton
T&B File Location: I:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Demo



SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES SHALL BE THERMOPLASTIC MATERIAL. THERMOPLASTIC MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO AASHTO M249. (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT 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 PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
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. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
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. SEE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
17. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. 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.
18. 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 THAT 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.
19. ALL TREES TO BE PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
20. THE APPLICANT SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.

SITE DATA:

LOCATION:TAX MAP 216, LOT 5
230 COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

ZONING DISTRICT: OFFICE RESEARCH
WETLANDS OVERLAY

ALLOWED USE: PROFESSIONAL / BUSINESS OFFICE
VETERINARY CARE[1]

DIMENSIONAL REQUIREMENTS:	REQUIRED	PROVIDED
MINIMUM LOT AREA:	3 ACRES	±5.6 ACRES
MINIMUM STREET FRONTAGE:	300 FT	±675 FT
MAXIMUM BUILDING COVERAGE:	30%	±10%
MINIMUM OPEN SPACE:	30%	±52%
PROPOSED BUILDING MINIMUM SETBACKS:		
• FRONT:	50 FT	±412 FT
• SIDE:	75 FT	±76 FT
• REAR:	50 FT	±172 FT
PROPOSED BUILDING MAXIMUM HEIGHT:	60 FT	<60 FT

(1) - SPECIAL EXCEPTION FROM SECTION 10.440 FOR VETERINARY CARE USE GRANTED ON FEBRUARY 28, 2022.

PARKING REQUIREMENTS:	REQUIRED	PROVIDED
PARKING STALL LAYOUT:		
• STANDARD 90°	8.5' X 19'	8.5' X 19'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 1-WAY TRAFFIC	14 FT	20 FT
PARKING SPACE REQUIREMENTS:	REQUIRED	PROVIDED
OFFICE: 1 / 350 SF = 50,000 SF / 350 SF/SPACE =	143 SPACES	
VETERINARY CARE: 1 / 500 SF = 25,000 SF / 500 SF/SPACE =	50 SPACES	
MINIMUM REQUIRED PARKING:	193 SPACES	
MAXIMUM PARKING (120% OF MINIMUM):	232 SPACES	202 SPACES[1]

(1) - INCLUDES 12 ADA PARKING SPACES

LEGEND

	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	PROPOSED VERTICAL GRANITE CURB
SGC	PROPOSED SLOPED GRANITE CURB

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS — No. 12378 — LICENSED PROFESSIONAL ENGINEER — 6/29/22

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN — No. 15227 — LICENSED PROFESSIONAL ENGINEER — 6/29/22

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

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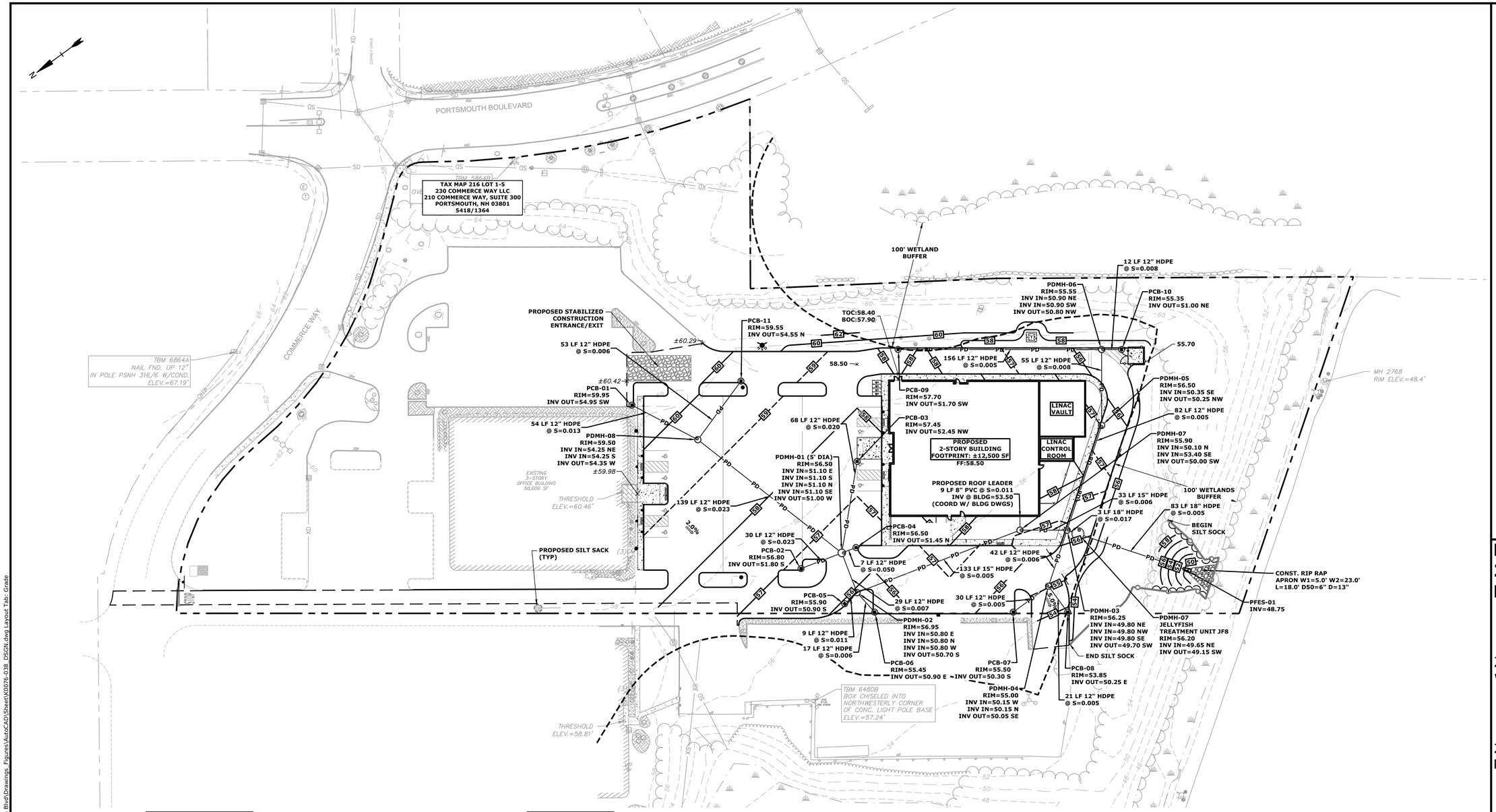
SITE PLAN

SCALE: AS SHOWN

C-102

Last Save Date: June 29, 2022 11:42 AM By: CML
Plot Date: Wednesday, June 29, 2022 11:42 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Site



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. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. 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.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. 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.
12. 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.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
14. AREAS DISTURBED WITHIN THE 25' VEGETATED BUFFER BY HEADWALLS AND CULVERT CONSTRUCTION SHALL BE LOAMED, SEEDED WITH NEW ENGLAND WILDLIFE AND CONSERVATION SEED MIX AND STABILIZED WITH JUTE MESH.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY 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.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

- 50 — PROPOSED CONTOUR LINE
- 51 — PROPOSED CONTOUR LINE
- PD PD — PROPOSED DRAIN LINE
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DRAIN MANHOLE

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER — 6/29/22

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER — 6/29/22

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0 40' 80'
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GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

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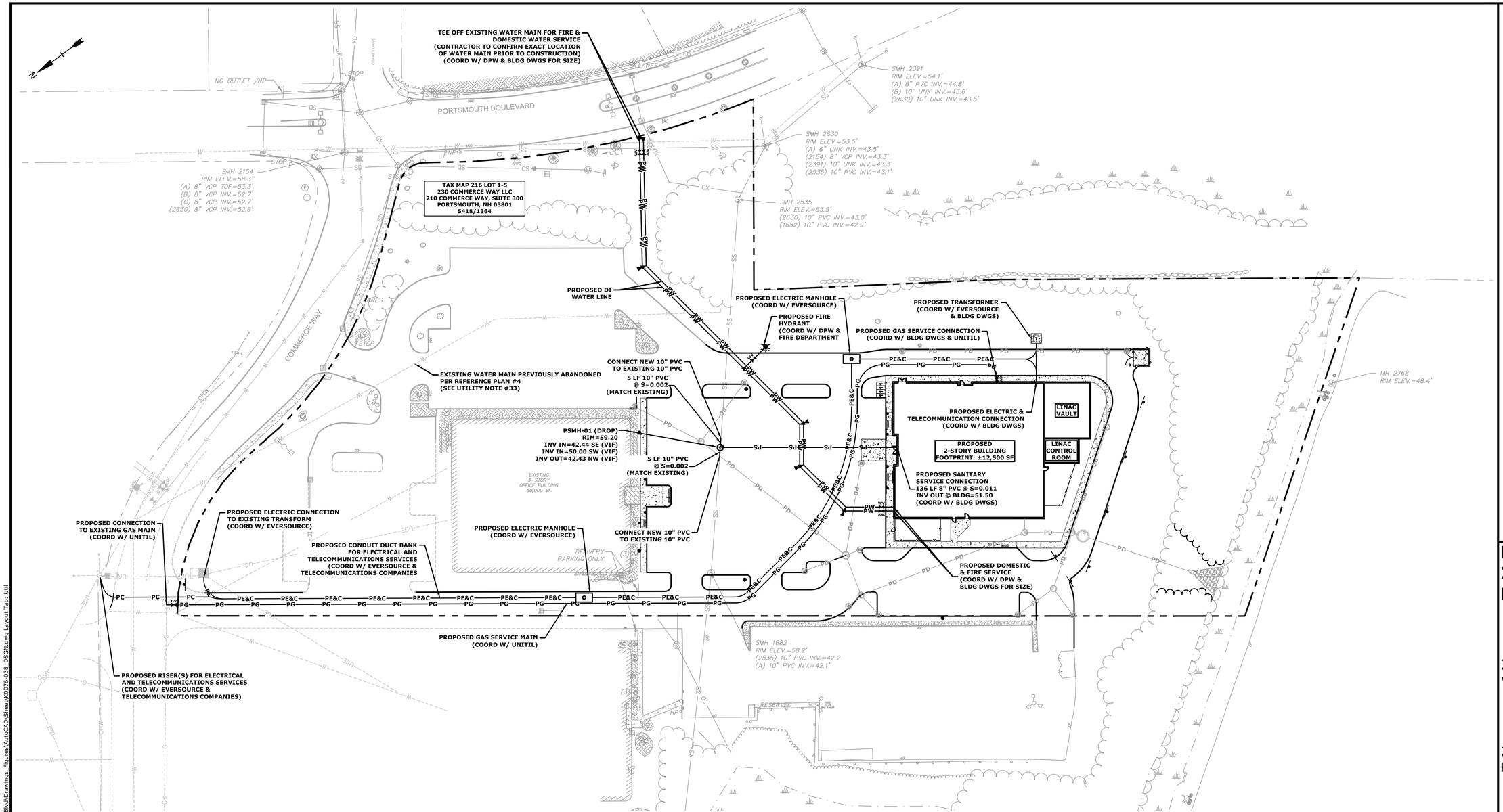


UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR 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 AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER/SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMMUNICATIONS & COMCAST
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. THE APPLICANT SHALL COORDINATE WITH THE CITY'S CONSULTANT TO COMPLETE A WATER CAPACITY ANALYSIS USING THE CITY'S CAPACITY MODELING AND SHALL MODIFY THE WATER SERVICE DESIGN AS REQUIRED. THE PRIVATE WATER LINE THAT CURRENTLY FEEDS THE DEVELOPMENT LOT SHALL BE EITHER REPLACED OR ABANDONED DEPENDING ON THE OUTCOME OF THE STUDY. ALL MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE DPW AND THE FIRE DEPARTMENT.
6. PROPOSED WATER MAIN WILL REMAIN PRIVATE AND A PRIVATE WATER MAIN MAINTENANCE AGREEMENT WITH THE CITY IS REQUIRED.
7. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
8. 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.
9. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
10. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
11. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
12. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
13. 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.
14. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
15. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
16. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
17. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
18. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
19. 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.
20. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
21. 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.
22. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
23. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
24. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
25. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
26. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
27. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
28. 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.
29. 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.
30. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
31. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
32. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
33. LOCATION OF EXISTING WATER MAINS ON THE PROPERTY WILL BE FIELD VERIFIED BY CONTRACTOR IN ORDER TO VET THE DESIGN. IF WATER MAINS NEED TO BE RELOCATED IT WILL BE AT THE DEVELOPER'S EXPENSE WITH PLANS AND NECESSARY EASEMENTS REVIEWED AND APPROVED BY DPW.

LEGEND

PS	PROPOSED SANITARY SEWER
PW	PROPOSED WATER
PG	PROPOSED GAS
PE&C	PROPOSED UNDERGROUND ELECTRIC & COMMUNICATIONS
SMH	PROPOSED SEWER MANHOLE
WV	PROPOSED WATER VALVE
HYD	PROPOSED HYDRANT
GV	PROPOSED GAS VALVE
E	PROPOSED ELECTRIC MANHOLE
	PROPOSED LIGHT POLE BASE
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
VIF	VERIFY IN FIELD

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS — No. 12378 — LICENSED PROFESSIONAL ENGINEER — 6/29/22

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN — No. 15227 — LICENSED PROFESSIONAL ENGINEER — 6/29/22

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
B	6/29/2022	Planning Board Submission
A	5/24/2022	TAC Submission

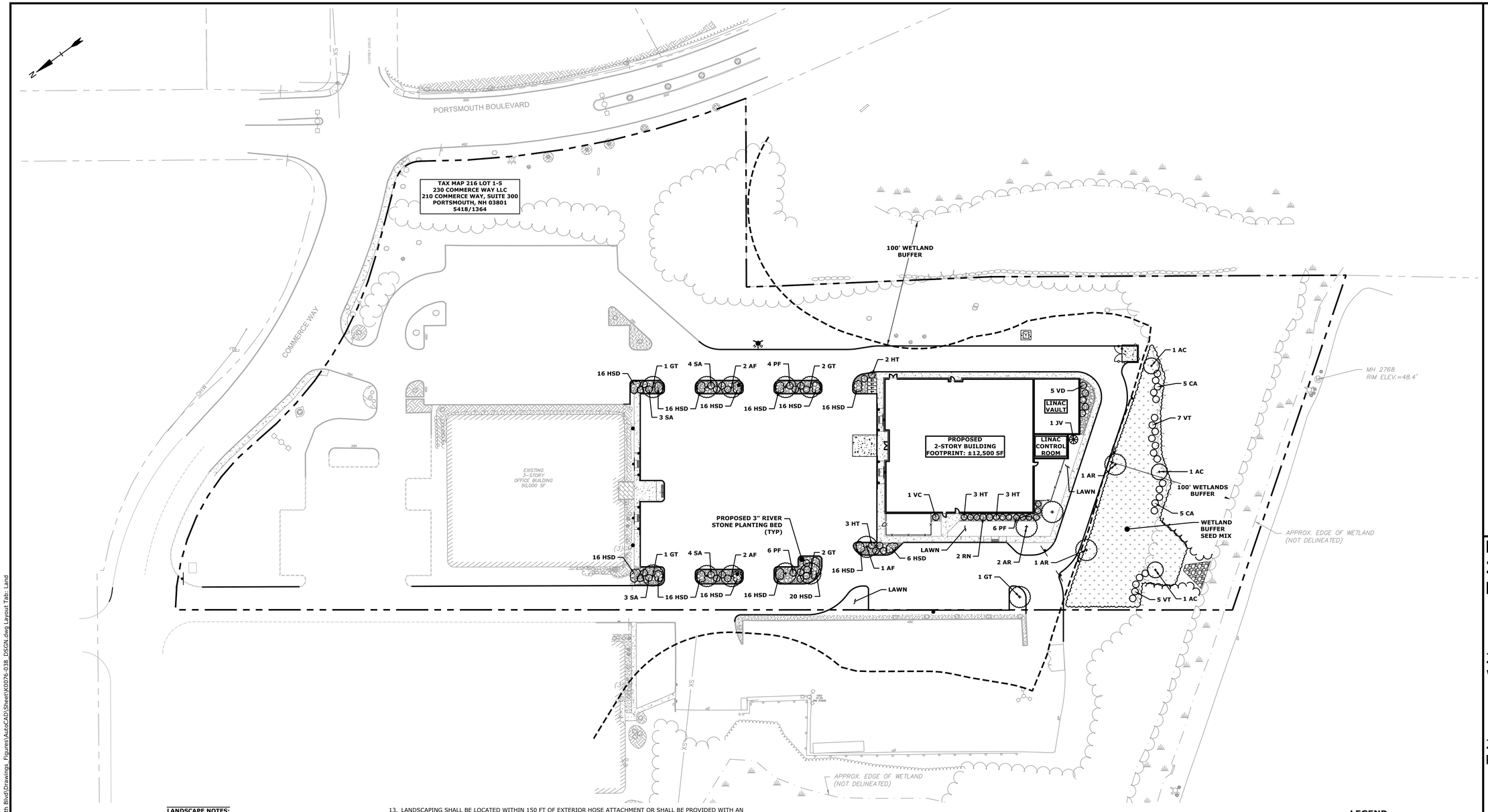
PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

UTILITY PLAN

SCALE: AS SHOWN

C-104

Last Save Date: June 29, 2022 11:42 AM By: CML
Plot Date: Wednesday, June 29, 2022 11:42 AM By: Craig M. Langdon
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Util



SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

LANDSCAPE NOTES:

1. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
2. ALL REQUIRED PLANT MATERIALS SHALL BE SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
3. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE, AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED, AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
4. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
5. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
6. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
7. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
8. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
9. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
10. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
11. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 6" OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
12. THREE INCHES (3") OF BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE 6" INCHES OF LOAM AND SEED.
13. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
14. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
16. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
17. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
18. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
19. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
20. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
21. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
22. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
24. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.
25. ANY MULCH PLACED ON SITE SHALL BE NON-COMBUSTIBLE

PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	5' - 6'	B & B
AF	ACER FREEMANII	AUTUM BLAZE MAPLE	2-1/2" - 3"	CALIPER
GT	GLEDITSIA TRIACANTHOS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2.5" - 3"	CALIPER
AR	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	1-1/2" - 2"	CALIPER
JV	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EMERALD SENTINEL RED CEDAR	6' - 7'	B & B
SHRUBS				
SA	SPIREA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	3 GAL	
PF	POTENTILLA FRUTICOSA 'PRIMROSE BEAUTY'	PRIMROSE BEAUTY CINQUEFOIL	3 GAL	
CA	CORNUS AMMOMUM	SILKY DOGWOOD	3 GAL	
VT	VIBURNUM TRILOBUM	AMERICAN CRANBERRY	5 GAL	
VC	VIBURNUM CARLESII 'CAYUGA'	CAYUGA MAYFLOWER	5 GAL	
HT	HYDRANGEA 'TWIST & SHOUT'	TWIST & SHOUT HYDRANGEA	3 GAL	
RN	RHODODENDRON 'NOVA ZEMBLA'	NOVA ZEMBLA RHODODENDRON	2' - 2.5'	B & B
VD	VIBURNUM DENTATUM	ARROWOOD VIBURNUM	4' - 4.5'	B & B
HSD	HEMEROCALIS 'STELA D'ORO'	STELA D'ORO DAYLILY	1 GAL	18" OC
RP	RHODODENDRON 'PJM PINK'	PINK PJM RHODODENDRON	4' - 4.5'	B & B

WETLAND BUFFER SEED MI: NEW ENGLAND CONSERVATION/WILDLIFE MIX AS PROVIDED BY NEW ENGLAND PLANTS, AMHERST MA (NEWP.COM) SEEDED @ 25 LB/AC

LEGEND

- PROPOSED DECIDUOUS TREE (W/ BARK MULCH)
- PROPOSED DECICUOUS TREE (W/O BARK MULCH)
- PROPOSED SHRUBS (W/ BARK MULCH)
- PROPOSED SHRUBS (W/O BARK MULCH)
- PROPOSED GROUND COVER
- PROPOSED EVERGREEN TREE
- PROPOSED EVERGREEN SHRUB

Tighe&Bond

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
B	6/29/2022	Planning Board Submission
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APPROVED:	PMC

LANDSCAPE PLAN

SCALE: AS SHOWN

C-105

Last Save Date: June 29, 2022 11:42 AM By: CML
Plot Date: Wednesday, June 29, 2022 11:42 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Land

GENERAL PROJECT INFORMATION
PROJECT OWNER: 230 COMMERCE WAY, LLC
210 COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE 03801
PROJECT NAME: PROPOSED 2-STORY BUILDING
PROJECT ADDRESS: 230 COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE 03801
PROJECT LATITUDE: 43°-08'-14"N
PROJECT LONGITUDE: 70°-56'-22"W

PROJECT DESCRIPTION
THE PROJECT CONSISTS OF 2 STORY BUILDING WITH ASSOCIATED SITE IMPROVEMENTS THE WORK IS ANTICIPATED TO START IN FALL OF 2022, AND BE COMPLETED BY SUMMER OF 2024.

DISTURBED AREA
THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 2.25 ACRES.

SOIL CHARACTERISTICS
BASED ON THE NRCS WEB SOIL SURVEY FOR THE SOILS ON SITE CONSIST OF CHATFIELD-HOLLIS-CANTON COMPLEX AND URBAN LAND SOILS WHICH ARE MODERATELY DRAINED SOILS.

NAME OF RECEIVING WATERS
THE STORM WATER RUNOFF WILL ULTIMATELY DISCHARGE INTO AN UNNAMED WETLAND. PRIOR TO DISCHARGING TO THE WETLAND, STORMWATER RUNOFF WILL BE COLLECTED AND TREATED BY VARIOUS TREATMENT SWALES, SEDIMENTATION BASINS AND A GRAVEL WETLAND.

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:
   - CONTROL OF DUST
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. CLEAR AND DISPOSE OF DEBRIS.
4. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
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. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
5. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
7. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
8. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
9. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
10. 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 NOVEMBER 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. 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.
5. 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 NOVEMBER 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	50 LBS/ACRE
KENTUCKY BLUEGRASS	100 LBS/ACRE
PERENNIAL RY GRASS	50 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.

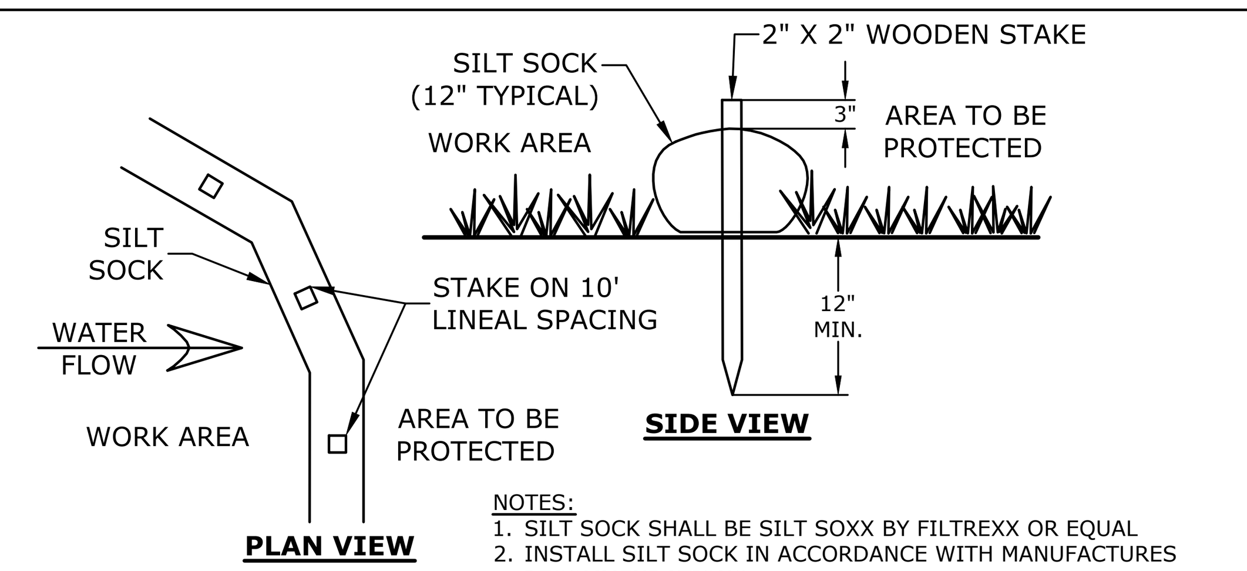
WASTE DISPOSAL:
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED 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 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;
      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.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      g. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      h. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      i. 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:
         - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
         - 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.
      b. FERTILIZERS:
         - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
         - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
         - 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:
         - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
         - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
         - 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 EQUIPTMENT/VEHICAL 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
THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE ENGINEER. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.

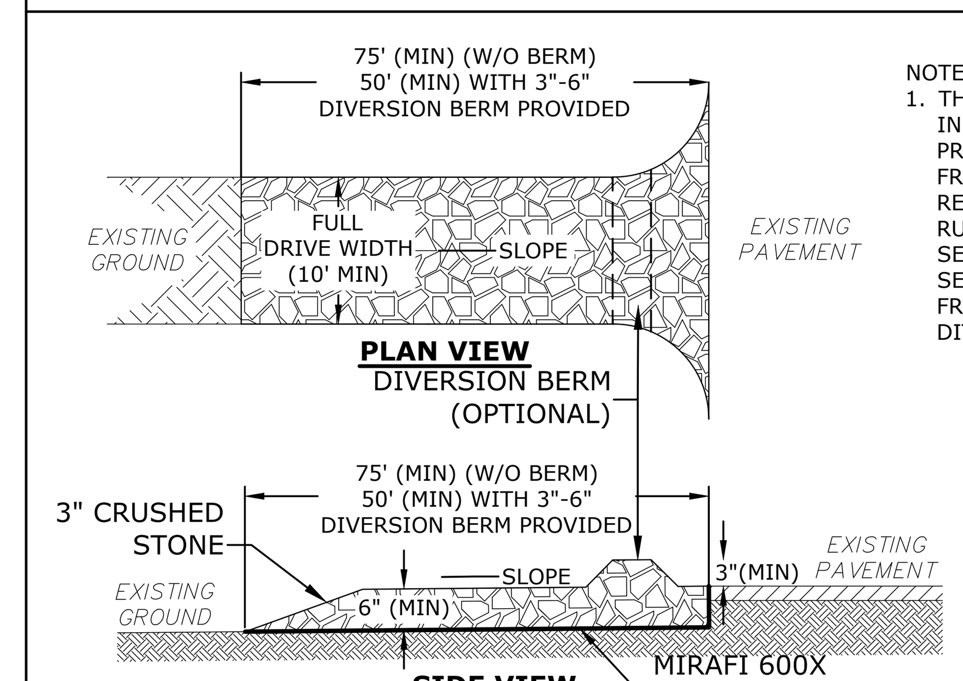
THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:
1. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
2. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
3. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
4. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

BLASTING NOTES:
1. IF MORE THAN 5000 CUBIC YARDS ARE TO BE BLASTED A BLASTING PLAN SHALL BE PROVIDED. THE BLASTING PLAN SHALL INCLUDE:
   A. LOCATION AND IDENTIFICATION OF DRINKING WATER WELLS LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES;
   B. A GROUNDWATER QUALITY SAMPLING PROGRAM, APPROVED BY NHDES PRIOR TO INITIATING BLASTING, TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA.
      a. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
2. THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
   A. LOADING PRACTICES - THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      a. DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS;
      b. EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL;
      c. SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL;
      d. LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED;
      e. LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT;
      f. EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
   B. EXPLOSIVE SELECTION - THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
      a. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION;
      b. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER
   C. PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
   D. MUCK PILES MANAGEMENT - MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
      c. REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE;
      d. MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
   E. SPILL PREVENTION MEASURES AND SPILL MITIGATION - SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:
      a. THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE:
         - STORAGE OF REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE;
         - SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
         - LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY;
         - INSPECT STORAGE AREAS WEEKLY;
         - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
         - 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;
         - 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.
      b. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
         - EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
         - PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
         - HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
         - USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
         - PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
      c. 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.
      d. 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



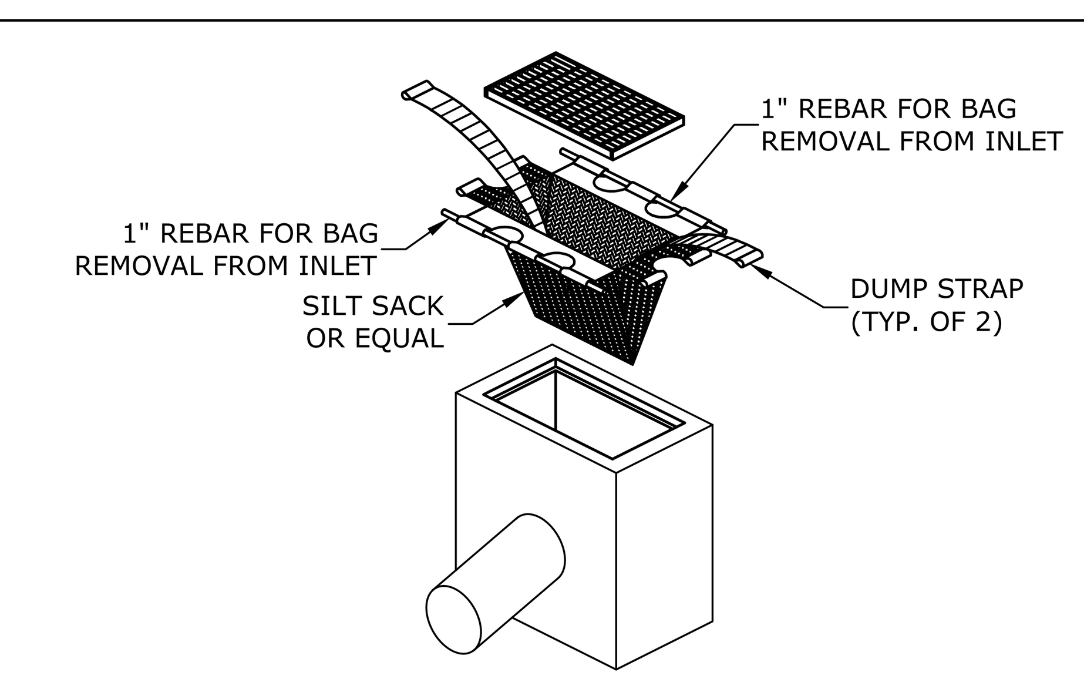
NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR EQUAL
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.

SILT SOCK
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



SILT SACK
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS No. 12378 — LICENSED PROFESSIONAL ENGINEER
6/29/22

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN No. 15227 — LICENSED PROFESSIONAL ENGINEER
6/29/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

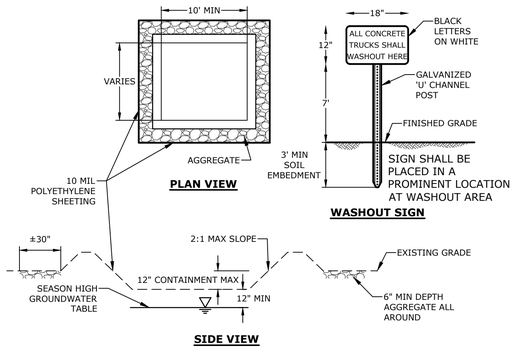
MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

EROSION CONTROL NOTES & DETAILS SHEET

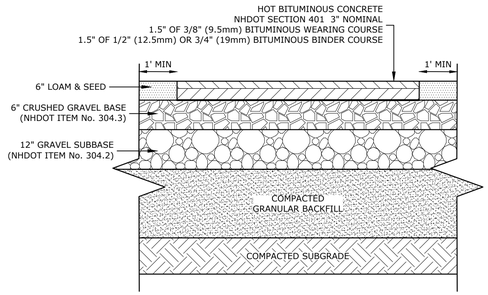
SCALE: AS SHOWN

C-501



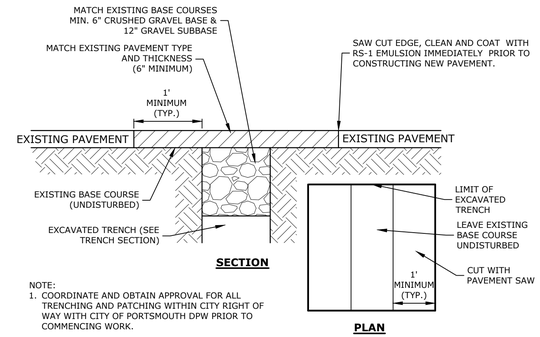
NOTES:
1. CONTAINMENT SHALL BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT SHALL BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 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



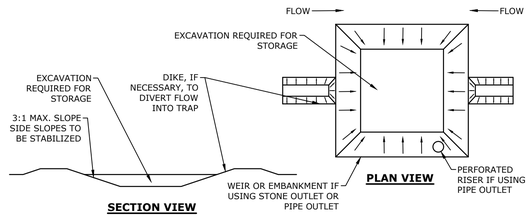
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

TYPICAL PAVEMENT SECTION
NO SCALE



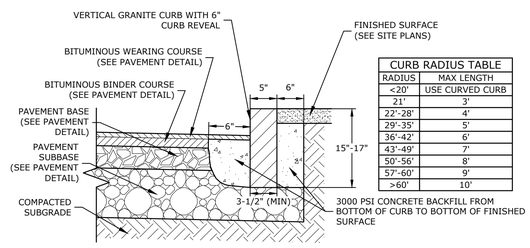
NOTE:
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



NOTES:
1. 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.

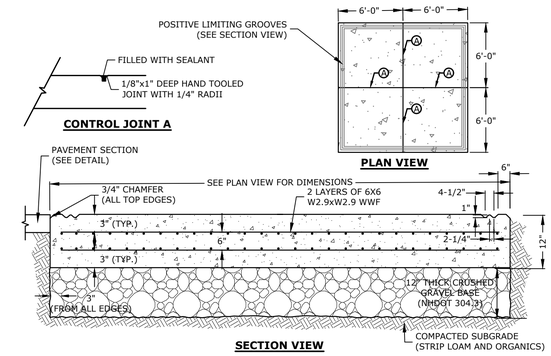
SEDIMENT TRAP
NO SCALE



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'

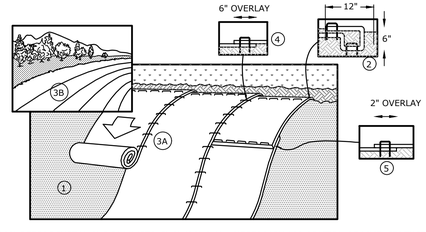
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE 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



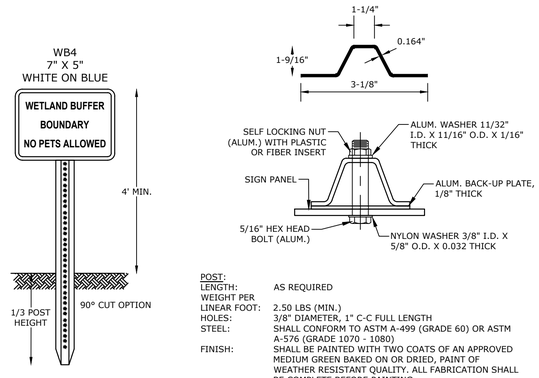
NOTES:
1. CONCRETE TO BE 4500 PSI, 7% AIR ENTRAINED
2. STANDARD BROOM FINISH.

DUMPSTER PAD
NO SCALE



NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
2. 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 STAPLES/STAKES 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES SPACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
4. STAPLE LENGTHS SHALL BE A MINIMUM OF 8 INCHES.
5. EROSION CONTROL BLANKET SHALL BE 'EAST COAST EROSION CONTROL ECC-2B™' OR APPROVED EQUAL.

STABILIZATION BLANKET
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 BUFFER BOUNDARY SIGN & SIGN POST
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
6/29/22

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
6/29/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

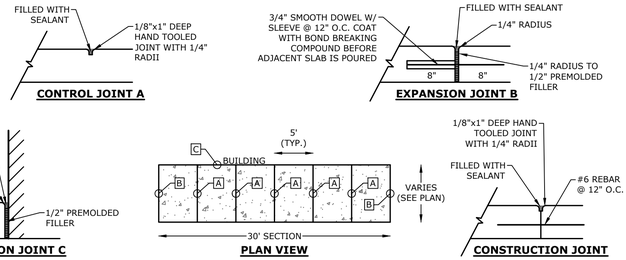
PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

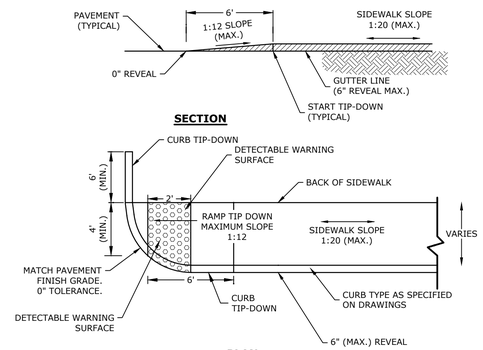
C-502

Last Save Date: June 29, 2022 11:44 AM By: CML
Plot Date: June 29, 2022 2:02 PM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-502



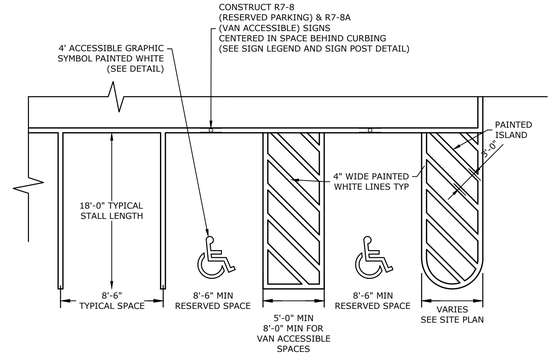
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.

CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. PROVIDE 8" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE



NOTE:
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 AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING SPACE STRIPING
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
6/29/22

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6/29/22

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 & LEGEND
NO SCALE

NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 8" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON WITH BLACK COATING

CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE

NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING 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. CORNER POSTS SHALL BE USED AT SHARP BREAKS IN GRADE AND CHANGES IN HORIZONTAL ALIGNMENT OF 30° OR MORE.
2. POSTS, RAILS & BRACES SHALL BE TYPE I, SCHEDULE 40 PIPE.
3. FABRIC TO BE TOP SELVAGE AND BOTTOM SELVAGE TWISTED TIGHT.
4. TIE WIRE:
   4.1. SHALL BE 6 GAUGE GALVANIZED STEEL WIRE @ 14" O.C. MAXIMUM FOR ATTACHMENT OF FABRIC TO LINE POSTS.
   4.2. TIE WIRES SHALL BE 13 GAUGE GALVANIZED STEEL WIRE @ 24" O.C. MAXIMUM FOR ATTACHMENT OF FABRIC TO RAILS AND BRACES.
5. HOG RING TIES SHALL BE 12- 1/2 GAUGE GALVANIZED STEEL WIRE @ 24" O.C. MAXIMUM FOR ATTACHMENT OF FABRIC TO TENSION WIRE.
6. PRIVACY SLATS SHALL BE VINYL, COLOR TO BE BLACK.

TYPICAL FENCE / ENCLOSURE
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

SIGN LEGEND & POST
NO SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

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SCALE: AS SHOWN

C-503

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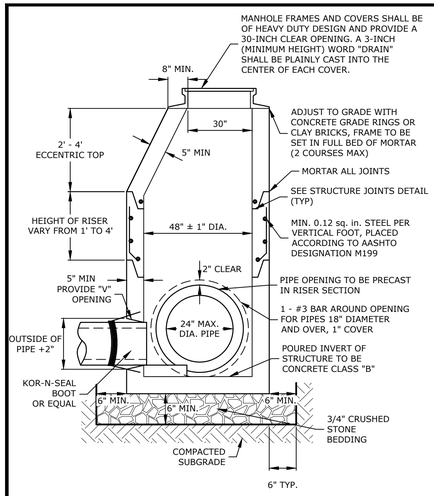
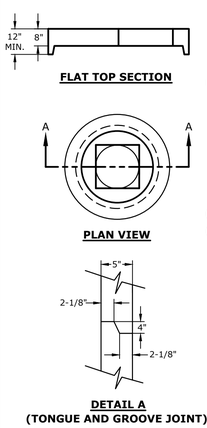
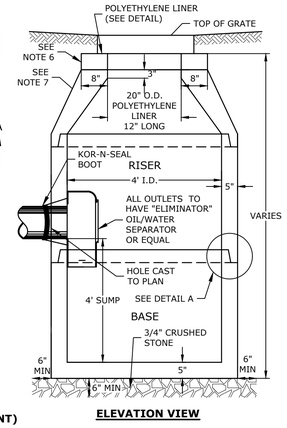
Plotted: June 29, 2022 11:45 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-503



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.

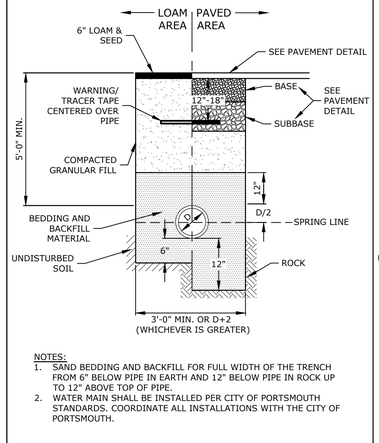
4' DIAMETER DRAIN MANHOLE
NO SCALE





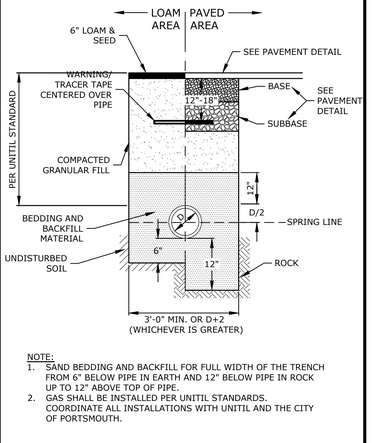
NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 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 CATCH BASIN
NO SCALE



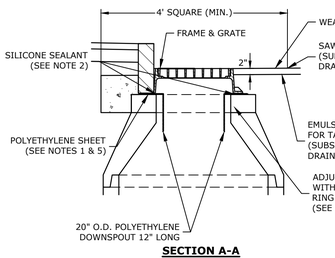
NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

TYPICAL WATER TRENCH
NO SCALE

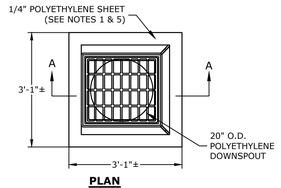


NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

TYPICAL GAS TRENCH
NO SCALE



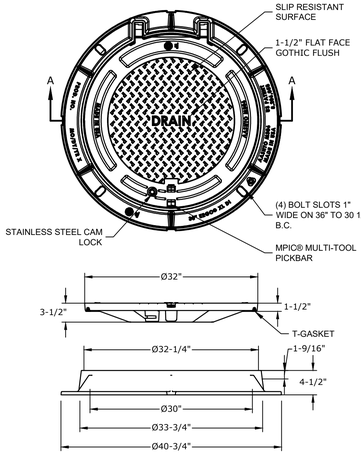
SECTION A-A



PLAN

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

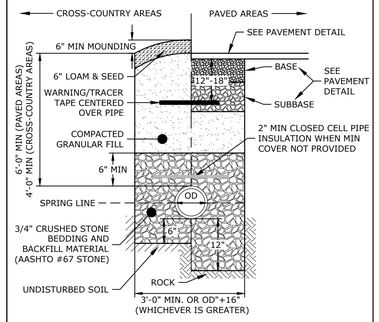
POLYETHYLENE LINER
NO SCALE



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

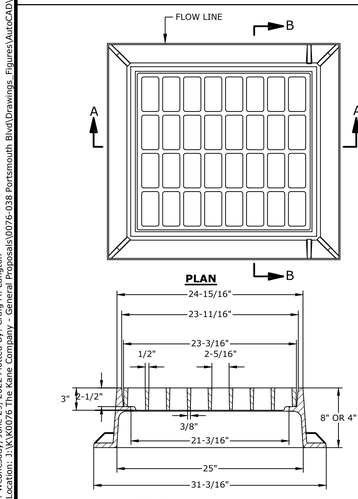


NOTES:
1. 3/4" CRUSHED STONE BEDDING AND BACKFILL MATERIAL FOR FULL WIDTH OF THE TRENCH FROM MINIMUM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO MINIMUM OF 6" OVER THE TOP OF THE PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

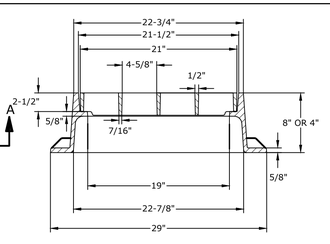
TYPICAL SEWER TRENCH
NO SCALE

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
NO SCALE



PLAN

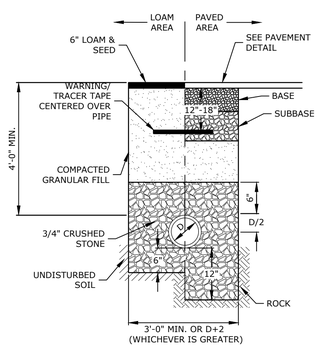


SECTION B-B

SECTION A-A

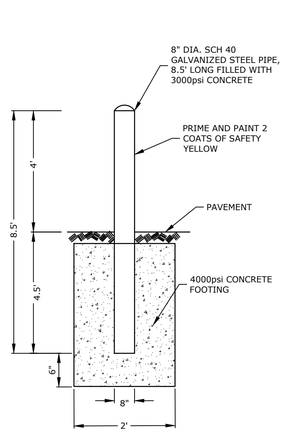
NOTES:
1. ALL DIMENSIONS ARE NOMINAL
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   2.1. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   2.2. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   2.3. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. FRAME AVAILABLE IN 4" OR 8" HEIGHTS
4. FREE OPEN AREA = 2.55 SQ. FT.
5. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.

CATCH BASIN FRAME & GRATE
NO SCALE

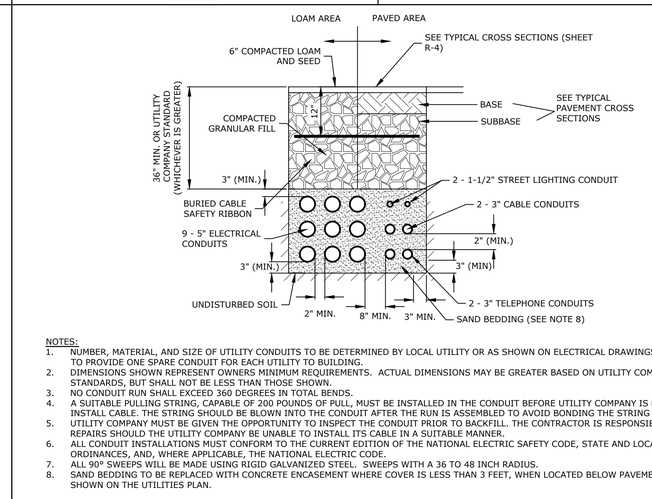


NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES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

STORM DRAIN TRENCH
NO SCALE



TYPICAL BOLLARD
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.

TYPICAL ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

Tighe&Bond

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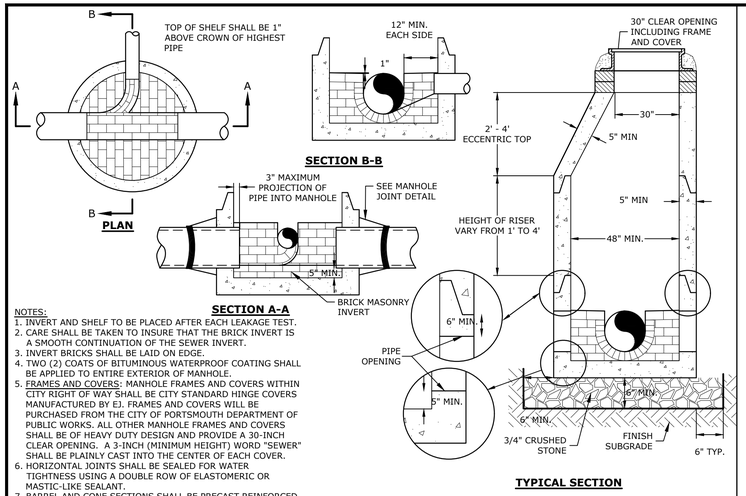
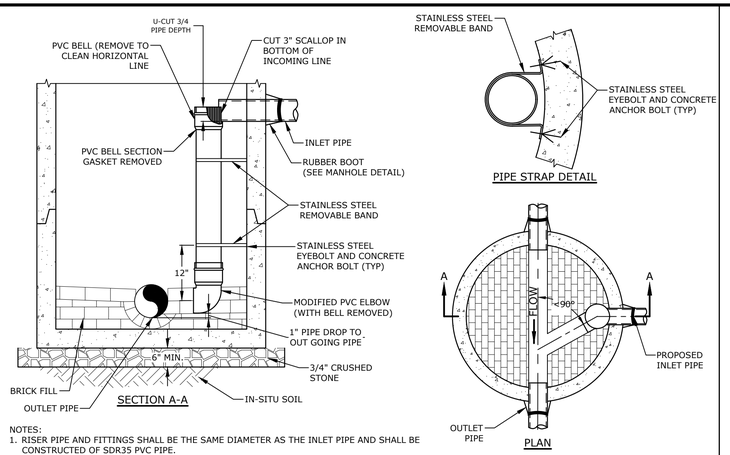
Plot Date: Wednesday, June 29, 2022 2:02 PM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-504



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



NOTES:
1. RISER PIPE AND FITTINGS SHALL BE THE SAME DIAMETER AS THE INLET PIPE AND SHALL BE CONSTRUCTED OF SDR35 PVC PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS.
3. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

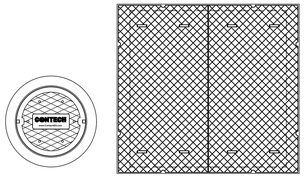
INSIDE DROP SEWER MANHOLE
NO SCALE

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN. Ø96" MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 1.96 CFS. IF THE SITE CONDITIONS EXCEED 1.96 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE DEPTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-5"	5'-3"	4'-2"	3'-2"
FLOW RATE HIGH-FLO / DRAINDOWN (cfs) (per cart)	0.18 / 0.09	0.13 / 0.065	0.09 / 0.045	0.05 / 0.025
MAX. CARTS HIGH-FLO / DRAINDOWN	10 / 2			

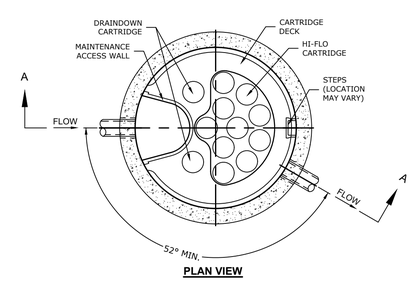


FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

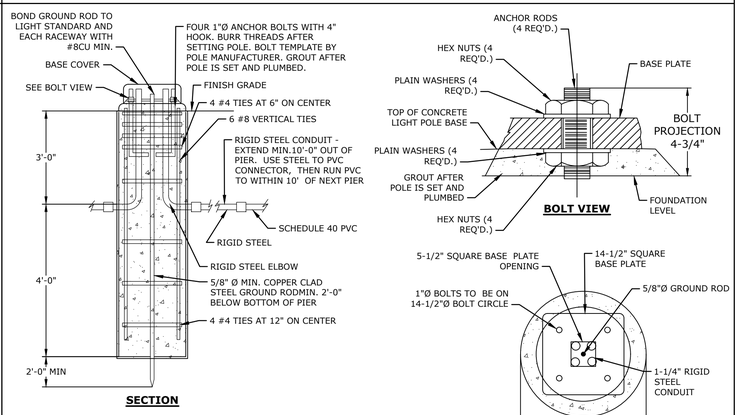
HATCH
(72" x 72" CAST INTO SLAB)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	8'
WATER QUALITY FLOW RATE (cfs)	1.74
PEAK FLOW RATE (cfs)	18.0
RETURN PERIOD OF PEAK FLOW (yrs)	50
# OF CARTRIDGES REQUIRED (HF / DD)	10 / 2
CARTRIDGE SIZE	54"

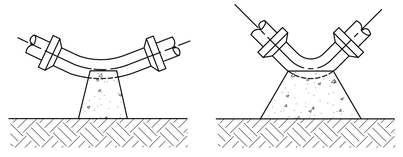


PLAN VIEW

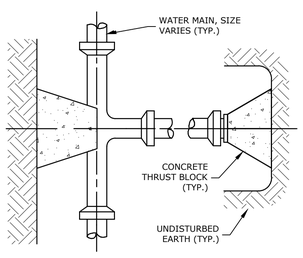


NOTES:
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.

TYPICAL LIGHT POLE BASE
NO SCALE

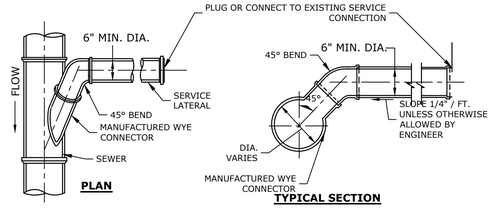


TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30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

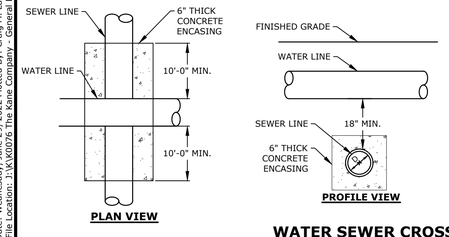


NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT 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
NO SCALE

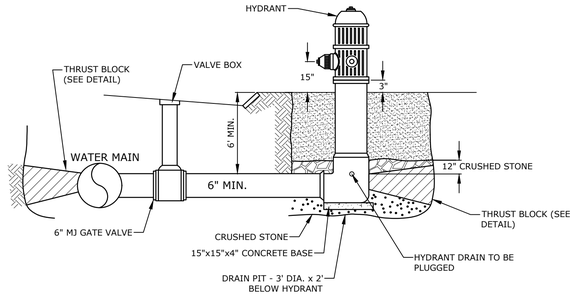


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



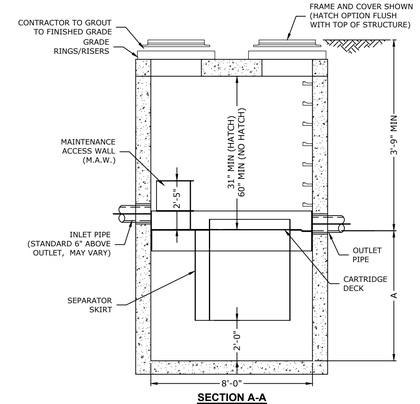
NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY 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 OR ENCASED CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET ON BOTH SIDES OF THE LINE BEING CROSSED, AS SHOWN ABOVE.
5. CROSSINGS SHALL CONFORM TO THE CITY PORTSMOUTH DPW STANDARDS AND SPECIFICATIONS.

WATER SEWER CROSSING
NO SCALE



NOTE:
1. HYDRANT TO BE KENNEDY TYPE K-81, RIGHT OPEN (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER DEPARTMENT AND CITY OF PORTSMOUTH FIRE DEPARTMENT.
2. PAINT HYDRANT IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AFTER INSTALLATION AND TESTING.

FIRE HYDRANT
NO SCALE



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. 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 (JF8) TREATMENT UNIT
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS — No. 12378 — LICENSED PROFESSIONAL ENGINEER
6/29/22

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN — No. 15227 — LICENSED PROFESSIONAL ENGINEER
6/29/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

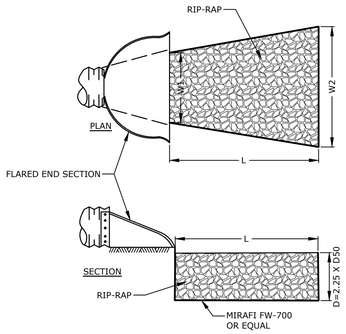
PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

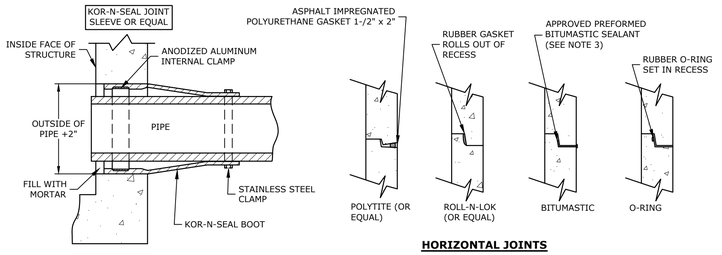
C-505

Last Save Date: June 29, 2022 11:44 AM By: CML
Plot Date: June 29, 2022 11:45 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-505



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.

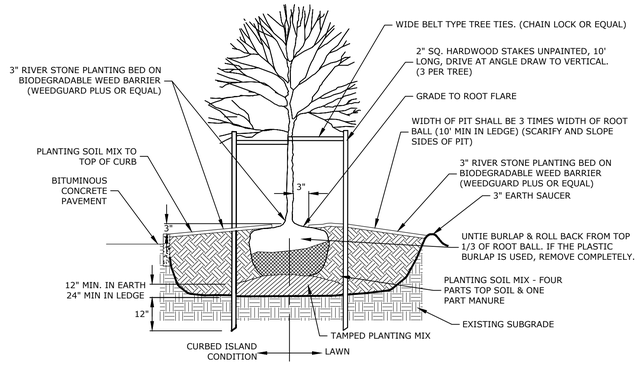
RIP-RAP APRON
NO SCALE



PIPE JOINTS | **HORIZONTAL JOINTS**

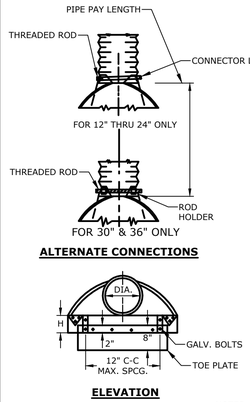
NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC 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.

STRUCTURE JOINTS
NO SCALE

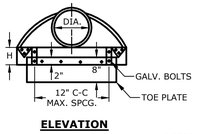


NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

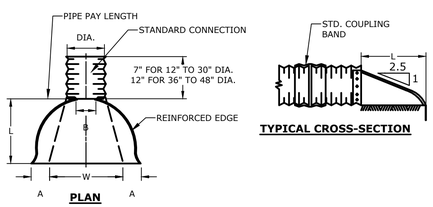
DECIDUOUS TREE PLANTING
NO SCALE



ALTERNATE CONNECTIONS



ELEVATION



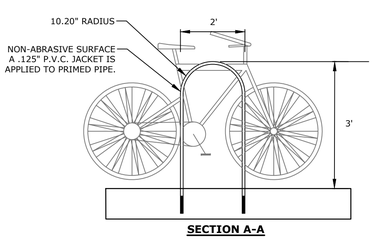
PLAN

TYPICAL CROSS-SECTION

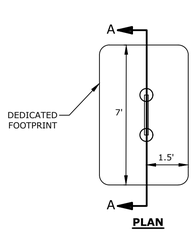
PIPE Ø	METAL GAGE	DIMENSIONS				
		A(1" TOL.)	B MAX	H(1" TOL.)	L(1" TOL.)	W(2" TOL.)
12"	16	6"	6"	6"	21"	24"
15"	16	7"	8"	6"	26"	30"
18"	16	8"	13"	6"	31"	36"
24"	16	10"	16"	6"	41"	48"
30"	14	12"	16"	8"	51"	60"
36"	14	14"	19"	9"	60"	72"
42"	12	16"	22"	11"	69"	84"
48"	12	18"	27"	12"	78"	90"

NOTES:
1. END SECTION FOR 12" TO 30" DIA. PIPE IN ONE PIECE, FOR 36" TO 48" DIA. PIPE TO BE MADE FROM TWO SHEETS JOINED BY RIVETING OR BOLTING ON CENTER LINE.
2. CONNECTOR SECTION, CORNER PLATE AND TOE PLATE TO BE SAME THICKNESS AS END SECTION AND EACH TO BE GALVANIZED.

METAL FLARED END SECTION
NO SCALE

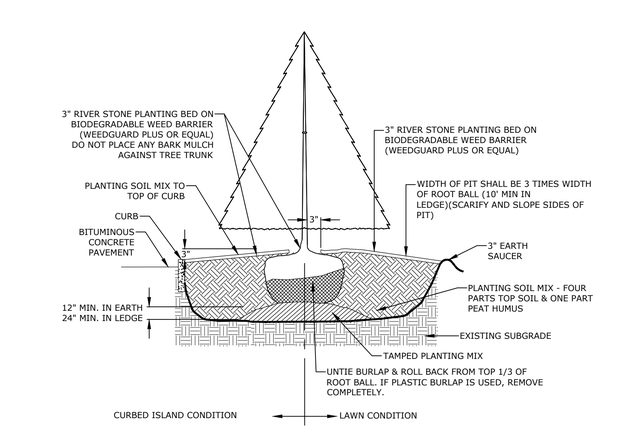


SECTION A-A



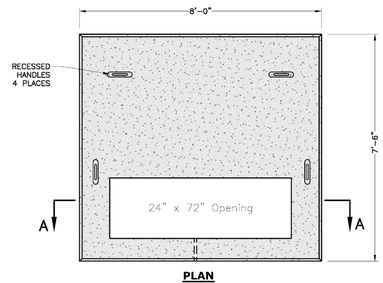
PLAN

BIKE RACK
NO SCALE

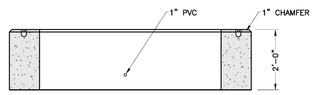


NOTE: PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY, OR WITHIN 2" ABOVE.

EVERGREEN TREE PLANTING
NO SCALE



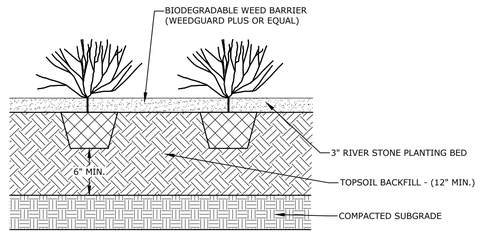
PLAN



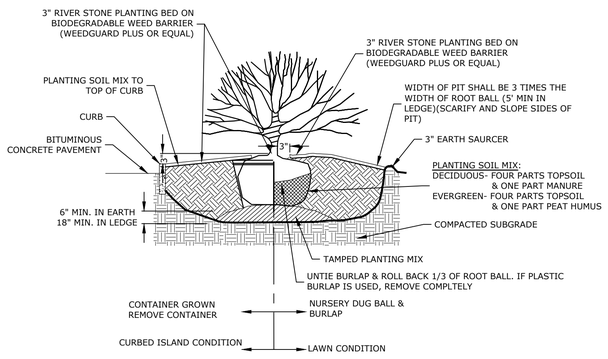
SECTION A-A

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



PERENNIAL PLANTING
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

SHRUB PLANTING
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED PROFESSIONAL ENGINEER
6/29/22

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
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Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
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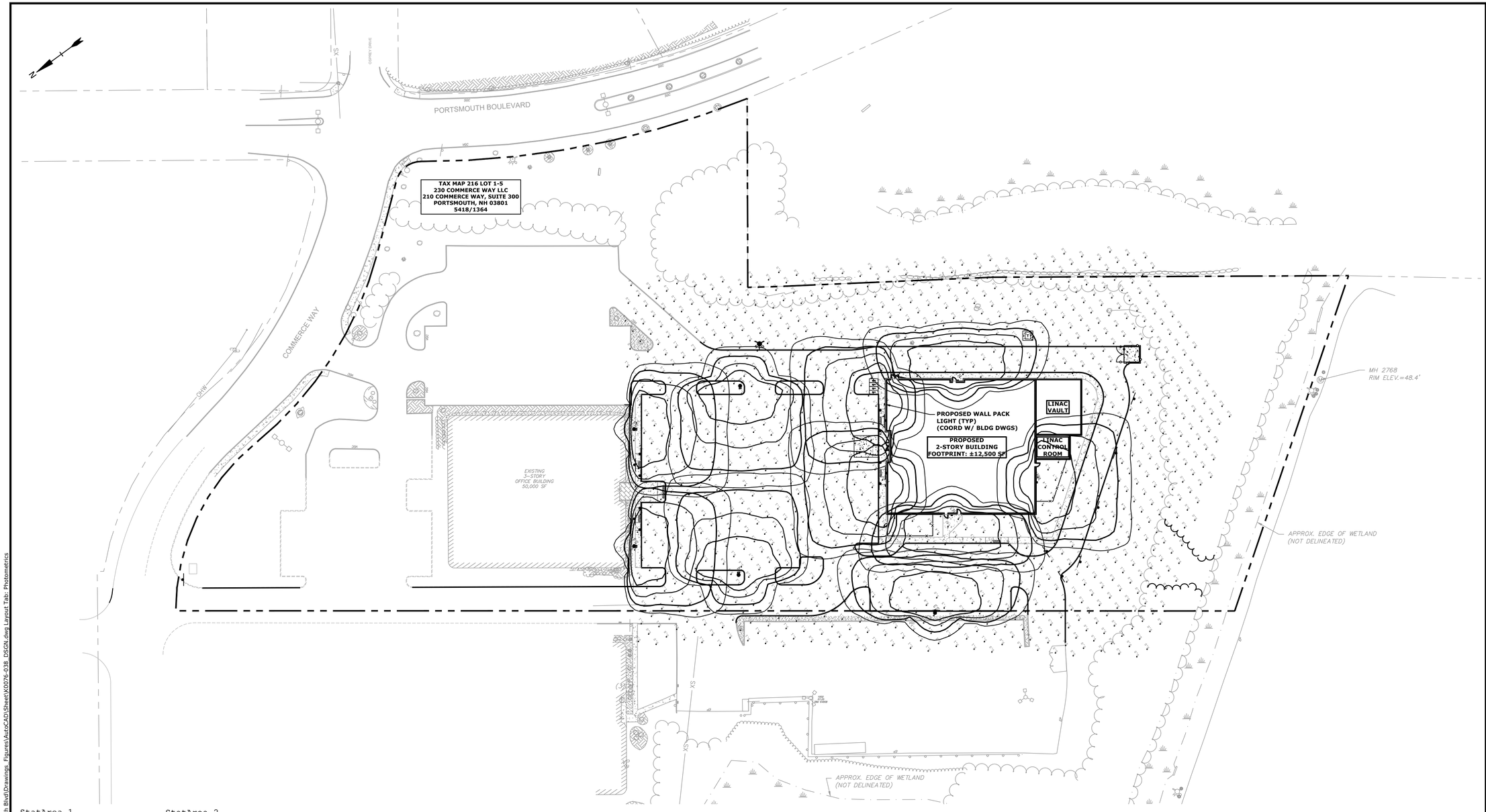


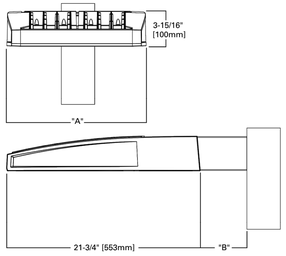
StatArea_1
MAIN PARKING LOT
Illuminance (Fc)
Average = 1.95
Maximum = 5.4
Minimum = 0.6
Avg/Min Ratio = 3.25
Max/Min Ratio = 9.00

StatArea_2
SIDE PARKING LOT AREA
Illuminance (Fc)
Average = 2.33
Maximum = 7.5
Minimum = 0.6
Avg/Min Ratio = 3.88
Max/Min Ratio = 12.50

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	1	S3	Single	GLEON-SA2C-740-U-SL3 / SSS4A20SFN1 (20' AFG)
	2	S4	Single	GLEON-SA2C-740-U-T4FT / SSS4A20SFN1 (20' AFG)
	2	S4-HS	Single	GLEON-SA2C-740-U-T4FT-HSS/ SSS4A20SFN1 (20' AFG)
	2	W3	Single	GWC-SA2C-740-U-SL3 / WALL MTD 18' AFG
	3	W4	Single	GWC-SA2C-740-U-T4FT / WALL MTD 18' AFG

NOTE:
1. PROPOSED LIGHT FIXTURES SHALL BE DARK SKY FRIENDLY.

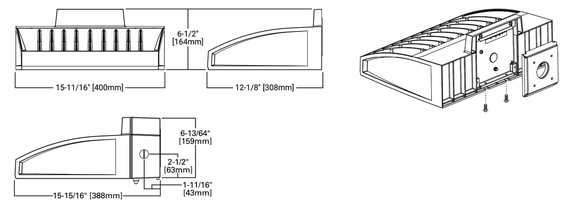
Dimensional Details



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length [1]	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

Dimensional Details



Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
B	6/29/2022	Planning Board Submission
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PHOTOMETRICS PLAN

SCALE: AS SHOWN

C-701

Last Save Date: June 29, 2022 11:42 AM By: CML
Plot Date: Wednesday, June 29, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Photometrics

1 A-200 East Elevation
3/16" = 1'-0"

2 A-200 West Elevation
3/16" = 1'-0"

NELSON
Nelson Architecture & Interiors, Inc.

198 Tremont Street, Suite 439
Boston, MA. 02116
Phone: (617) 778-7229
WWW.NELSONWORLDWIDE.COM

25 PORTSMOUTH BOULEVARD
PORTSMOUTH, NH 03801

Issue: No: Date:

ELEVATIONS

Proj #: 20.0003391 Reviewed By: Checker

A-200

1 A-201 South Elevation
3/16" = 1'-0"

2 A-201 North Elevation
3/16" = 1'-0"

5/23/2022 1:55:59 PM C:\Users\jpowell\Revit_Local\20211215 Commerce Way_jpowellVH67.rvt

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25 PORTSMOUTH BOULEVARD
PORTSMOUTH, NH 03801

Issue: No: Date:

ELEVATIONS

Proj #: 20.0003391 Reviewed By: Checker

A-201

230 Commerce Way - City of Portsmouth TAC & CC STIPULATION RESPONSE Date: June 29, 2022

City of Portsmouth TAC, June 7, 2022:			
	TAC Comment	**Applicant Response**	**Sheet**
TAC Stipulations from 6/14 Correspondence:			
Items to be addressed prior to Planning Board approval:			
1	Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment removal mitigation project.	The applicant is in the process of coordinating with City staff and anticipate the value of the fair share contribution will be agreed upon prior to Planning Board.	
2	New sewer man hole will be a cut in manhole and articulated as such on plan.	New sewer manhole is proposed to be a cut in manhole and new pipe connections in and out of the structure have been called out on the utility plan.	C-104
3	A note will be added to the plan to use non-combustible mulch on site.	Landscape plans propose using river stone instead of mulch. However, a note was be added to the plan stating any mulch placed on site shall be non-combustible.	C-105
4	Applicant will work with DPW to determine fair share contribution amount that will be dedicated to pedestrian multi-use path construction on Market Street.	The applicant is in the process of coordinating with City staff and anticipate the value of the fair share contribution will be agreed upon prior to Planning Board.	
5	A leader will be added to the plans to call out handicap parking access.	Proposed handicapped accessible spaces have been identified on the site plan.	C-102
Conditions Subsequent:			
6	Location of existing water mains on the property will be field verified by contractor in order to vet the design. If water mains need to be relocated it will be at the developer's expense with plans and necessary easements reviewed and approved by DPW.	Demolition note #23 and Utility note #33 were added to the plans noting this condition.	C-101 & C-104

City of Portsmouth CC, June 8, 2022:			
	TAC Comment	**Applicant Response**	**Sheet**
CC Stipulations from 6/17 Correspondence:			
1	The applicant shall install signage along the edge of the protected buffer to note the protected wetland buffer and to prohibit pets from disturbing the wetland buffer.	Signage along the edge of the protected buffer has been added to the site plan and details.	C-102 & C-502
2	Weed barrier used in landscape areas shall not be synthetic, rather only natural materials shall be used.	Planting details have been revised to specify a non synthetic weed barrier.	C-506

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: 230 Commerce Way, LLC Date Submitted: May 24, 2022

Application # (in City's online permitting): _____

Site Address: 230 Commerce Way Map: 216 Lot: 1-5

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Enclosed	N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Enclosed	
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	C-102	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	C-101	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Cover Sheet	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Topographic Plans (1 thru 5)	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☑	List of reference plans. **(2.5.3.1H)**	C-101	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	C-104	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**		N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☑	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	C-101	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**		N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All site plans and detail sheets	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**		N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** - Surveyed plan of site showing existing natural and built features; - Existing building footprints and gross floor area; - Existing parking areas and number of parking spaces provided; - Zoning district boundaries; - Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; - Existing impervious and disturbed areas; - Limits and type of existing vegetation; - Wetland delineation, wetland function and value assessment (including vernal pools); - SFHA, 100-year flood elevation line and BFE data, as required.	Topographic Plans (1 thru 5)	
☑	**2. Buildings and Structures: (2.5.4.3B)** - Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; - Elevations: Height, massing, placement, materials, lighting, façade treatments; - Total Floor Area; - Number of Usable Floors; - Gross floor area by floor and use.	A200 & A201	
☑	**3. Access and Circulation: (2.5.4.3C)** - Location/width of access ways within site; - Location of curbing, right of ways, edge of pavement and sidewalks; - Location, type, size and design of traffic signing (pavement markings); - Names/layout of existing abutting streets; - Driveway curb cuts for abutting prop. and public roads; - If subdivision; Names of all roads, right of way lines and easements noted; - AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Fire Truck Turning Exhibit	
☑	**4. Parking and Loading: (2.5.4.3D)** - Location of off street parking/loading areas, landscaped areas/buffers; - Parking Calculations (# required and the # provided).	C-102	
☑	**5. Water Infrastructure: (2.5.4.3E)** - Size, type and location of water mains, shut-offs, hydrants & Engineering data; - Location of wells and monitoring wells (include protective radii).	C-104	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** - Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	C-104	

☑	**7. Utilities: (2.5.4.3G)** - The size, type and location of all above & below ground utilities; - Size type and location of generator pads, transformers and other fixtures.	C-104	
☑	**8. Solid Waste Facilities: (2.5.4.3H)**	C-104	
	• The size, type and location of solid waste facilities.	C-104	
☑	**9. Storm water Management: (2.5.4.3I)** - The location, elevation and layout of all storm-water drainage. - The location of onsite snow storage areas and/or proposed off-site snow removal provisions. - Location and containment measures for any salt storage facilities - Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	C-103	
☑	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	C-701	
☑	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	C-701	
☑	**12. Landscaping: (2.5.4.3K)** - Identify all undisturbed area, existing vegetation and that which is to be retained; - Location of any irrigation system and water source.	C-105	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	C-103	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	C-102	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Topographic Plans (1 thru 5)	
☑	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** - Applicable Building Height (10.5A21.20 & 10.5A43.30); - Applicable Special Requirements (10.5A21.30); - Proposed building form/type (10.5A43); - Proposed community space (10.5A46).	C-102	
☐	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

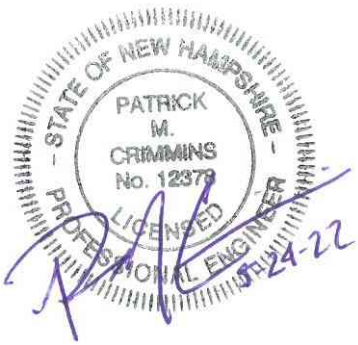
Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	Enclosed	
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	C-103	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	C-101	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	C-103	
☑	Inspection and Maintenance Plan **(7.6.5)**	Enclosed	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	C-102	
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Enclosed	
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	Enclosed	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	Cover Sheet	
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	C-102	N/A
☐	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "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." **(2.13.3)**	C-102	N/A

Applicant's Signature: _____ **Date:** 5/24/2022

Drainage Analysis



TO: City of Portsmouth Technical Advisory Committee (TAC)

FROM: Neil A. Hansen, PE
Patrick M. Crimmins, PE
Craig Langton, PE

COPY: 230 Commerce Way, LLC

DATE: May 24, 222

1.0 Project Description

The proposed project is located at 230 Commerce Way. The existing parcels includes a three (3) story office building with a footprint of approximately 16,650 SF with associated surface parking. The site is bound to the southeast by Portsmouth Boulevard, and two (2) commercial properties to the southwest and northwest. The topography of the site has high points along Commerce Way and slopes to the rear, southwest, portion of the site.

Runoff generated by the existing site flows to one (1) discharge point identified as Point of Analysis 1 (PA-1) on the enclosed Pre-Development Watershed Plan. PA-1 is an existing wetland complex in the rear of the site that collects the drainage from the existing commercial uses adjacent to the site.

The proposed project consists of the constructing of an additional 2-story building that has an overall footprint of approximately 12,500 SF with associated site improvements within the area of the rear parking lot of the existing site. The proposed site improvements include a stormwater management system providing treatment not only to the newly redeveloped areas but also to portions of the existing impervious areas on site.

Portions of the proposed project are location within the local wetland buffer setback, and as part of the redevelopment there will be a decrease of impervious area of approximately 5,070 SF within the buffer as well as an overall decrease of impervious area to the overall site.

2.0 Drainage Analysis

2.1 Calculation Methods

The parcels on-site watersheds were analyzed under this section. The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm as per NHDES AoT Regulations (Env-Wq 1500). The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University for the extreme precipitation estimates.

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.

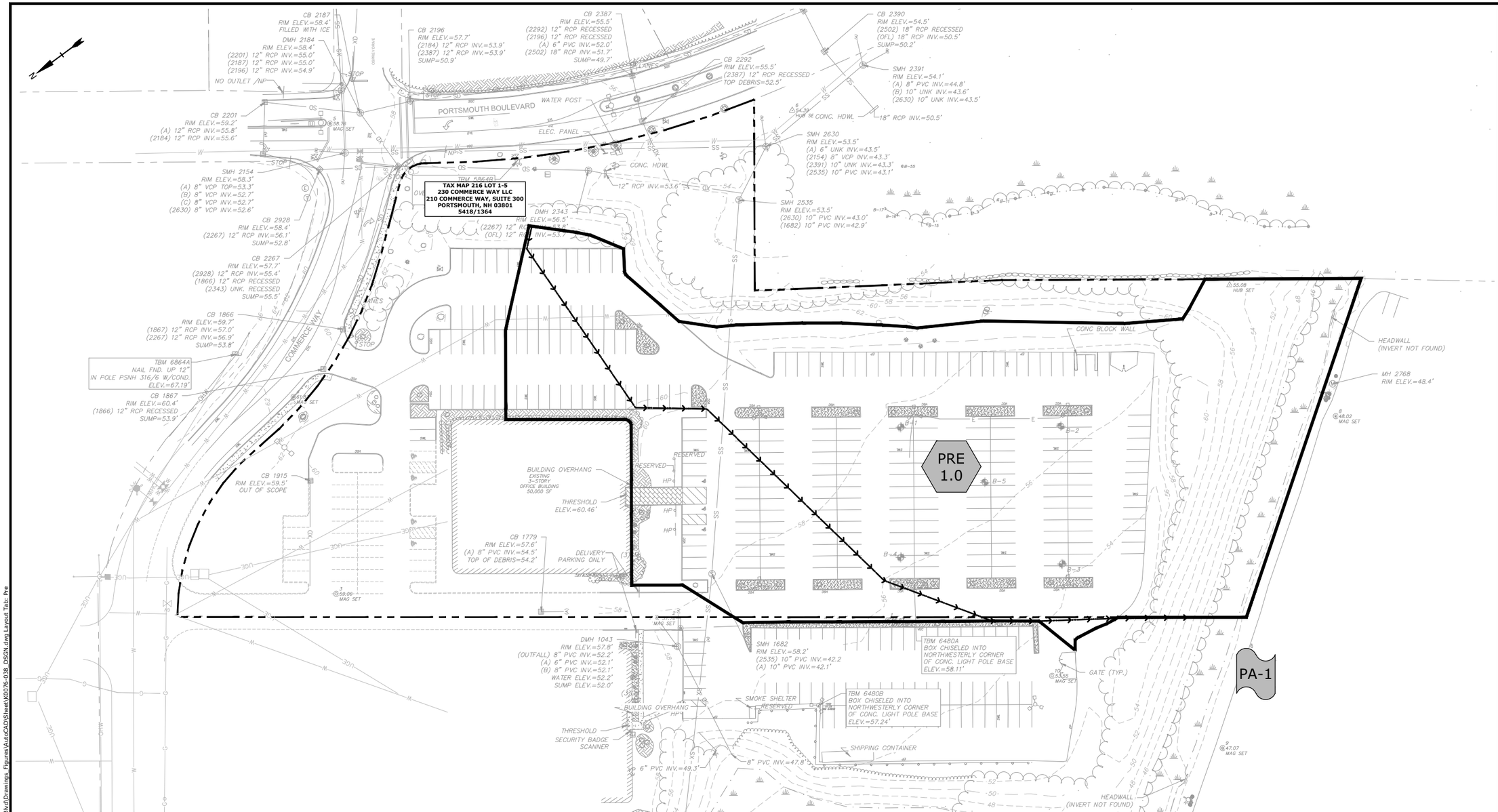
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

2.2 Pre-Development Calculations

As stated above the stromwater runoff characteristics of the site were analyzed at one distinct point of analysis. This point of analysis being the existing wetland complex in the rear of the site identified as PA-1. The limits of the contributing watershed area (Pre-1.0) of the pre-development condition studied in this analysis are depicted the enclosed plan entitled "Pre-Development Watershed Plan", Sheet C-801.

2.2.1 Pre-Development Calculations

2.2.2 Pre-Development Watershed Plan



LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- NRCS WEB SOIL SURVEY BOUNDARIES
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

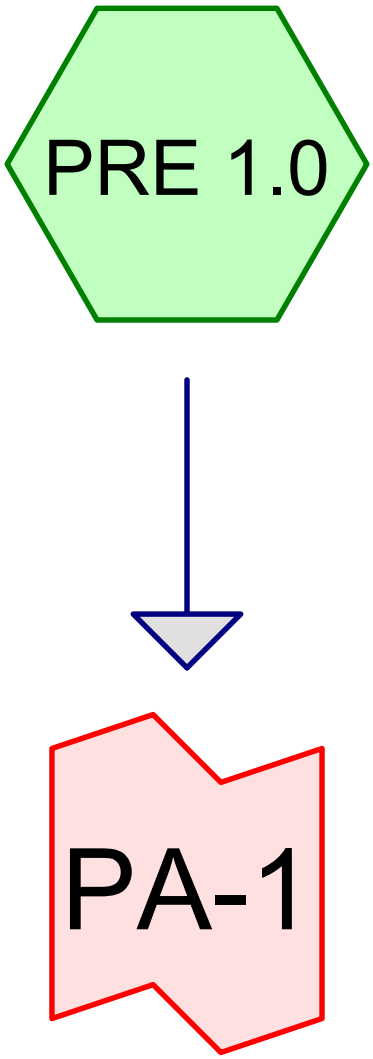
PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Save Date: May 23, 2022 5:03 PM By: CML
Plot Date: May 23, 2022 5:03 PM By: Chris M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Pre



Subcat Reach Pond Link

Routing Diagram for K0076-038_PRE
Prepared by Tighe & Bond, Printed 5/17/2022

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
25,735	61	>75% Grass cover, Good, HSG B (PRE 1.0)
6,305	80	>75% Grass cover, Good, HSG D (PRE 1.0)
86,704	98	Paved parking, HSG B (PRE 1.0)
17,987	55	Woods, Good, HSG B (PRE 1.0)
136,731	**85**	**TOTAL AREA**

Summary for Subcatchment PRE 1.0:

Runoff = 6.67 cfs @ 12.07 hrs, Volume= 20,027 cf, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Rainfall=3.20"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 1.76" for 2yr event
Inflow = 6.67 cfs @ 12.07 hrs, Volume= 20,027 cf
Primary = 6.67 cfs @ 12.07 hrs, Volume= 20,027 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PRE 1.0:

Runoff = 12.16 cfs @ 12.07 hrs, Volume= 36,800 cf, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Rainfall=4.85"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 3.23" for 10yr event
Inflow = 12.16 cfs @ 12.07 hrs, Volume= 36,800 cf
Primary = 12.16 cfs @ 12.07 hrs, Volume= 36,800 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PRE 1.0:

Runoff = 16.54 cfs @ 12.06 hrs, Volume= 50,638 cf, Depth= 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Rainfall=6.15"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 4.44" for 25yr event
Inflow = 16.54 cfs @ 12.06 hrs, Volume= 50,638 cf
Primary = 16.54 cfs @ 12.06 hrs, Volume= 50,638 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PRE 1.0:

Runoff = 20.61 cfs @ 12.06 hrs, Volume= 63,778 cf, Depth= 5.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Rainfall=7.36"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 5.60" for 50yr event
Inflow = 20.61 cfs @ 12.06 hrs, Volume= 63,778 cf
Primary = 20.61 cfs @ 12.06 hrs, Volume= 63,778 cf, Atten= 0%, Lag= 0.0 min

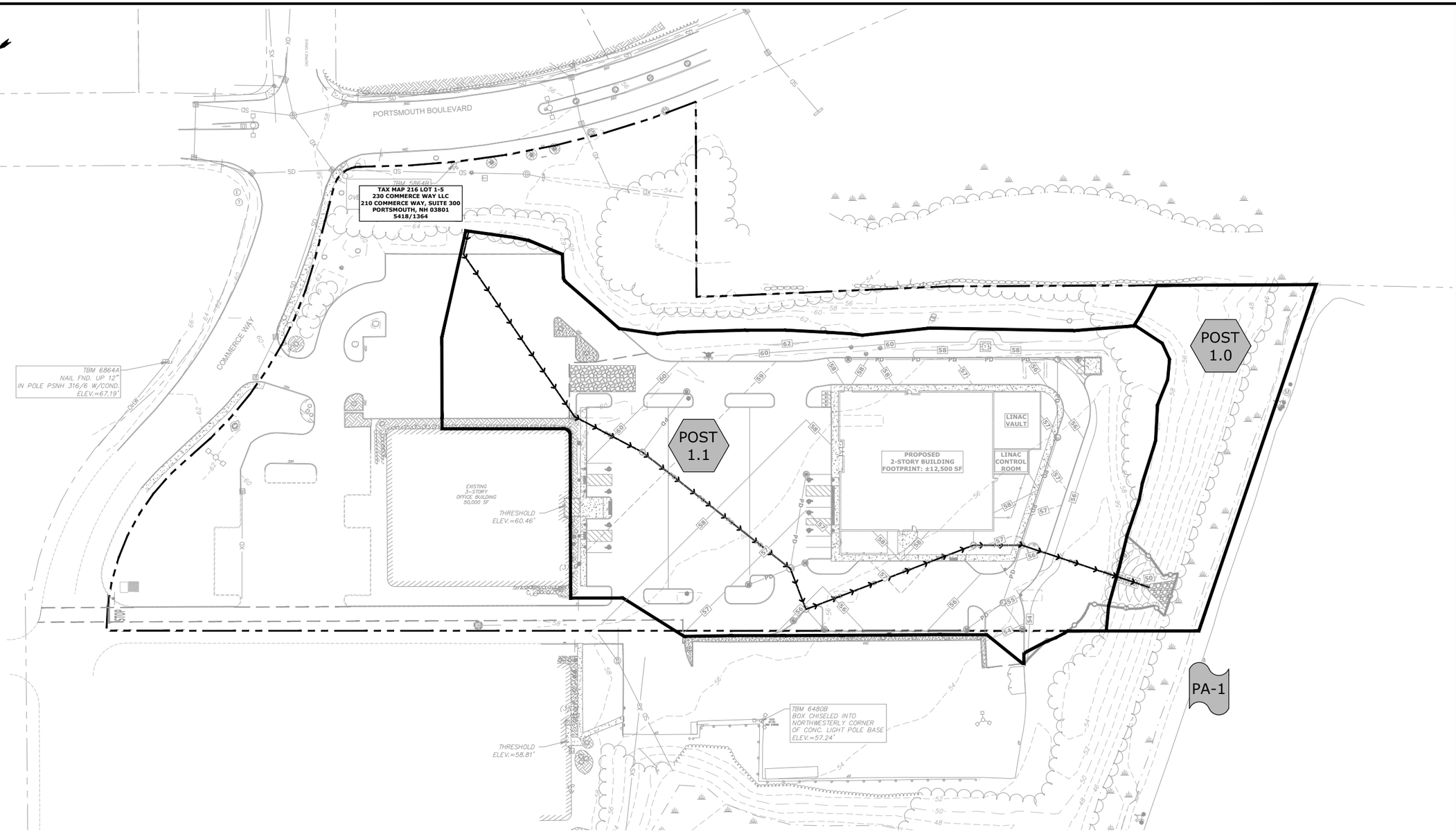
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

2.3 Post-Development Calculations

The stromwater runoff characteristics of the pre-development conditions were analyzed at same distinct point of analysis (PA-1). However, in the post-development condition the overall contributing watershed was split into two (2) sub watershed areas (Post-1.0 & Post-1.1). Though the two (2) post-development watershed areas ultimately drain to the same point of analysis (PA-1), the proposed drainage system was designed to capture runoff from the contributing impervious areas (Post-1.1) and direct the flow through a proprietary stormwater treatment unit prior to discharging the runoff to PA-1. Post-development watershed areas (Post-1.0 & Post-1.1) of the post-development condition are depicted the enclosed plan entitled "Post-Development Watershed Plan", Sheet C-802.

2.3.1 Post-Development Calculations

2.3.2 Post-Development Watershed Plan



LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- NRCS WEB SOIL SURVEY BOUNDARIES
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

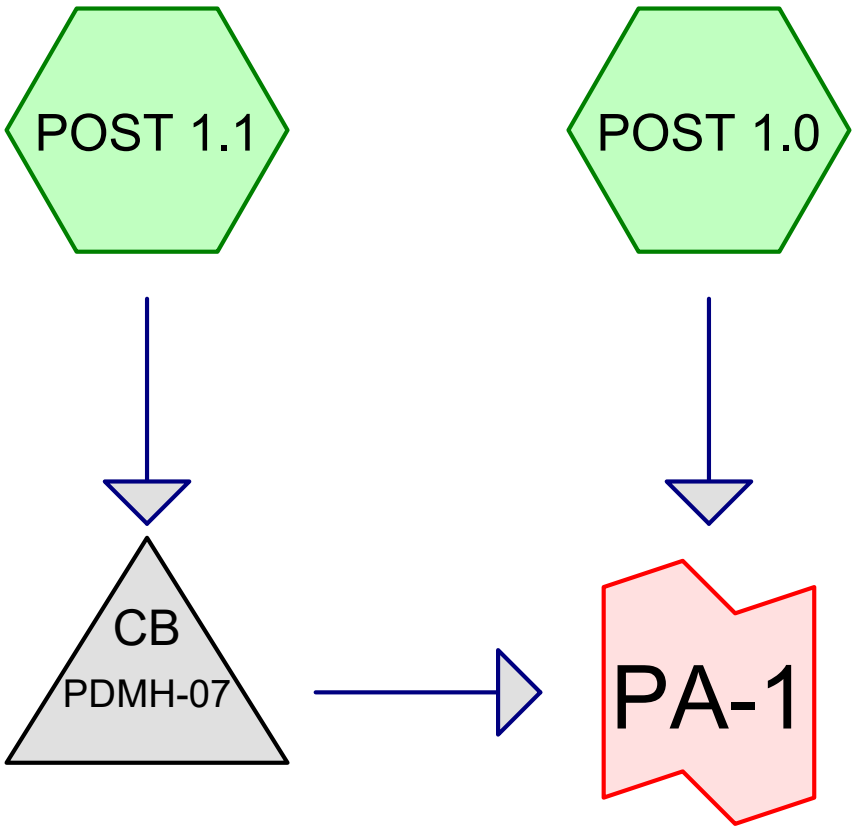
PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Save Date: May 23, 2022, 5:03 PM By: CML
Plot Date: Monday, May 23, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Post



JELLYFISH JF8

Subcat Reach Pond Link

Routing Diagram for K0076-038_POST
Prepared by Tighe & Bond, Printed 5/17/2022

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
33,121	61	>75% Grass cover, Good, HSG B (POST 1.0, POST 1.1)
6,305	80	>75% Grass cover, Good, HSG D (POST 1.0)
66,420	98	Paved parking, HSG B (POST 1.1)
14,617	98	Roofs, HSG B (POST 1.1)
16,268	55	Woods, Good, HSG B (POST 1.0, POST 1.1)
136,731	**83**	**TOTAL AREA**

Summary for Subcatchment POST 1.0:

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 924 cf, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Rainfall=3.20"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Rainfall=3.20"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 1.91" for 2yr event
Inflow = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf
Outflow = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 50.61' @ 12.07 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.93 cfs @ 12.07 hrs HW=50.57' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 5.93 cfs @ 4.25 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 1.70" for 2yr event
Inflow = 6.37 cfs @ 12.07 hrs, Volume= 19,337 cf
Primary = 6.37 cfs @ 12.07 hrs, Volume= 19,337 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.0:

Runoff = 0.79 cfs @ 12.07 hrs, Volume= 2,516 cf, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Rainfall=4.85"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf, Depth= 3.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Rainfall=4.85"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 3.43" for 10yr event
Inflow = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf
Outflow = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 51.92' @ 12.06 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.48 cfs @ 12.06 hrs HW=51.81' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 10.48 cfs @ 5.93 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 3.11" for 10yr event
Inflow = 11.63 cfs @ 12.06 hrs, Volume= 35,462 cf
Primary = 11.63 cfs @ 12.06 hrs, Volume= 35,462 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.0:

Runoff = 1.33 cfs @ 12.07 hrs, Volume= 4,058 cf, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Rainfall=6.15"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Rainfall=6.15"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 4.66" for 25yr event
Inflow = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf
Outflow = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 53.24' @ 12.06 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=14.08 cfs @ 12.06 hrs HW=53.06' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 14.08 cfs @ 7.97 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 4.29" for 25yr event
Inflow = 15.89 cfs @ 12.06 hrs, Volume= 48,876 cf
Primary = 15.89 cfs @ 12.06 hrs, Volume= 48,876 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.0:

Runoff = 1.89 cfs @ 12.07 hrs, Volume= 5,642 cf, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Rainfall=7.36"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf, Depth= 5.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Rainfall=7.36"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 5.83" for 50yr event
Inflow = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf
Outflow = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf, Atten= 0%, Lag= 0.0 min
Primary = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 54.82' @ 12.06 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=17.42 cfs @ 12.06 hrs HW=54.55' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 17.42 cfs @ 9.86 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 5.41" for 50yr event
Inflow = 19.89 cfs @ 12.06 hrs, Volume= 61,683 cf
Primary = 19.89 cfs @ 12.06 hrs, Volume= 61,683 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

2.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates for the 2-year, 10-year, 25-year and 50-year storm events at each point of analysis.

Table 2.4.1 - 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	6.67	12.16	16.54	20.61
Post-Development Watershed				
PA-1	6.37	11.63	15.89	19.89

2.5 Stormwater Treatment

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and the NHDES AoT Regulations (Env-Wq 1500).

Runoff generated from impervious areas will be treated by a Contech Jellyfish (JF8) stormwater treatment system. The surface parking area will receive pre-treatment via deep sump catch basins prior to discharging to the Jellyfish unit. Roof runoff is to be discharged directly in the proposed closed drainage system prior to being directed to the Contech stromwater treatment unit.

The Contech stormwater treatment unit was sized to treat the one (1) inch storm per the NHDES AoT Regulations for water quality flow (WQF), as shown on the enclosed NHDES WQF worksheet.

3.0 Conclusion

The proposed project will result in a reduction in post-development peak runoff rates from the pre-development condition. The impervious area resulting from the proposed project will be treated by the proposed stormwater treatment system.

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)

2.65	ac	A = Area draining to the practice
1.86	ac	A_I = Impervious area draining to the practice
0.70	decimal	I = Percent impervious area draining to the practice, in decimal form
0.68	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
1.81	ac-in	WQV= 1" x Rv x A
6,559	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".
0.68	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
0.068	inches	Ia = Initial abstraction. Ia = 0.2S
4.3	minutes	T_c = Time of Concentration
615.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
1.736	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:

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	70.786 degrees West
Latitude	43.089 degrees North
Elevation	0 feet
Date/Time	Wed, 11 May 2022 10:39:24 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		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	2.02	2.65	2.91	**1yr**	2.35	2.80	3.20	3.93	4.53	**1yr**
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	3.56	**2yr**	2.83	3.42	3.92	4.66	5.31	**2yr**
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	5.02	5.91	6.68	**5yr**
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	5.51	**10yr**	4.29	5.30	6.05	7.08	7.95	**10yr**
25yr	0.47	0.75	0.96	1.32	1.76	2.32	**25yr**	1.52	2.13	2.76	3.61	4.71	6.15	7.07	**25yr**	5.44	6.80	7.75	8.98	10.01	**25yr**
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	8.55	**50yr**	6.51	8.22	9.36	10.76	11.93	**50yr**
100yr	0.59	0.95	1.23	1.75	2.39	3.22	**100yr**	2.06	2.95	3.87	5.12	6.73	8.82	10.33	**100yr**	7.80	9.94	11.30	12.89	14.22	**100yr**
200yr	0.67	1.09	1.41	2.02	2.79	3.79	**200yr**	2.41	3.49	4.57	6.08	8.03	10.57	12.50	**200yr**	9.35	12.02	13.64	15.45	16.96	**200yr**
500yr	0.79	1.29	1.69	2.45	3.43	4.70	**500yr**	2.96	4.34	5.70	7.63	10.15	13.43	16.08	**500yr**	11.88	15.46	17.52	19.65	21.42	**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	0.73	0.89	**1yr**	0.63	0.87	0.92	1.32	1.67	2.22	2.49	**1yr**	1.96	2.39	2.84	3.16	3.87	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.36	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.81	4.53	5.05	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.74	3.78	4.18	**5yr**	3.34	4.02	4.69	5.51	6.22	**5yr**
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	4.66	5.42	6.38	7.17	**10yr**
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.34	1.86	2.10	2.77	3.56	4.67	5.88	**25yr**	4.14	5.65	6.61	7.76	8.65	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.35	3.10	3.96	5.28	6.79	**50yr**	4.67	6.53	7.69	9.00	9.98	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.45	4.39	5.92	7.84	**100yr**	5.24	7.54	8.93	10.45	11.51	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.82	**200yr**	1.96	2.75	2.93	3.83	4.85	6.63	9.05	**200yr**	5.86	8.70	10.37	12.15	13.30	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.37	**500yr**	2.33	3.29	3.40	4.38	5.54	7.69	10.93	**500yr**	6.81	10.51	12.63	14.85	16.08	**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**	0.76	1.06	1.25	1.75	2.21	2.99	3.14	**1yr**	2.64	3.02	3.57	4.37	5.03	**1yr**
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	4.07	4.82	5.62	**2yr**
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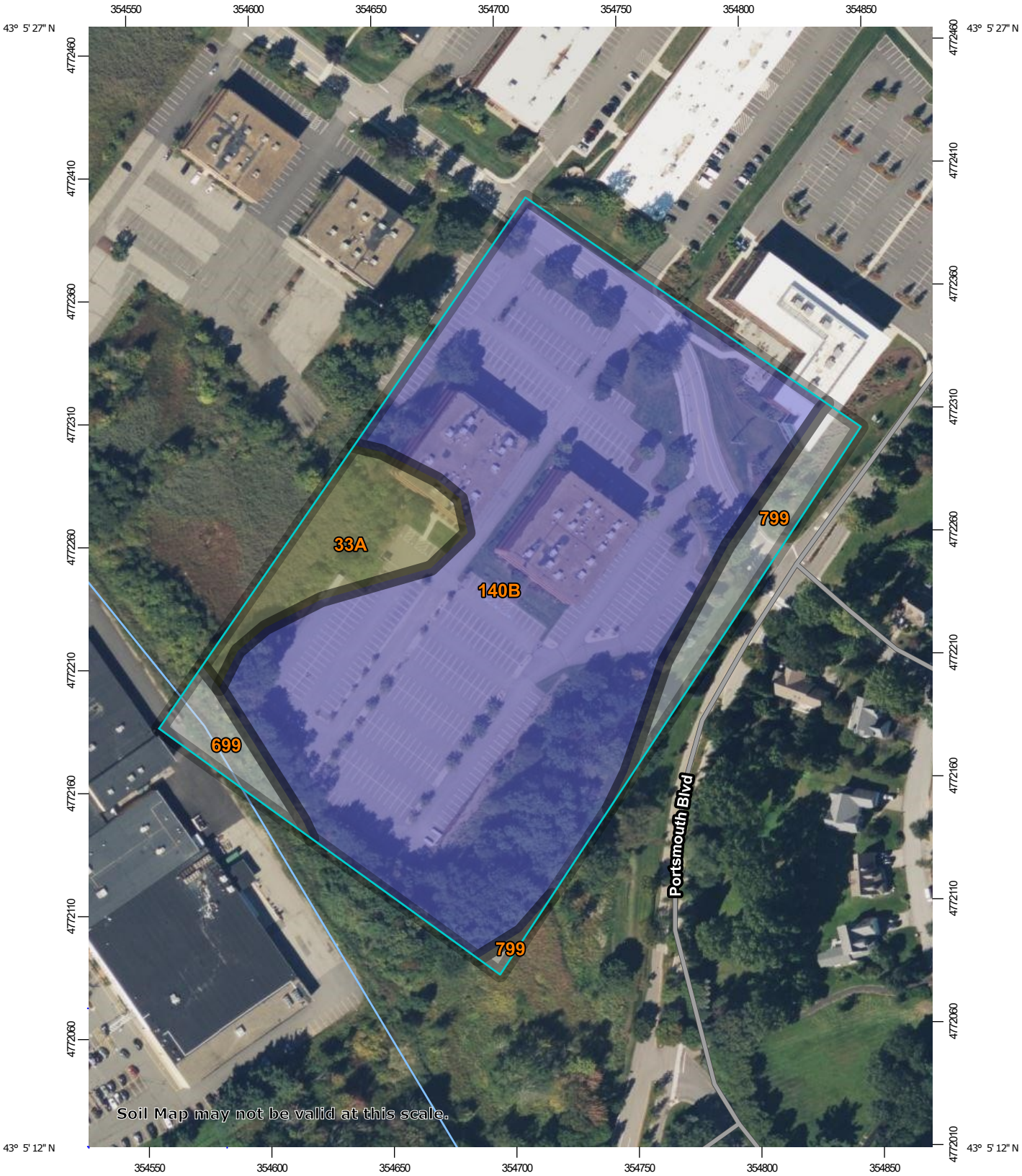
50yr	0.66	1.01	1.26	1.81	2.44	3.10	**50yr**	2.10	3.03	3.58	4.97	6.26	9.73	10.39	**50yr**	8.61	9.99	11.33	12.65	13.89	**50yr**
100yr	0.78	1.18	1.48	2.13	2.92	3.77	**100yr**	2.52	3.68	4.35	6.12	7.68	12.17	13.01	**100yr**	10.77	12.51	14.16	15.60	17.01	**100yr**
200yr	0.91	1.37	1.74	2.51	3.50	4.59	**200yr**	3.02	4.49	5.30	7.53	9.41	15.28	16.32	**200yr**	13.52	15.70	17.71	19.22	20.82	**200yr**
500yr	1.13	1.68	2.16	3.13	4.45	5.95	**500yr**	3.84	5.82	6.87	9.93	12.35	20.64	22.03	**500yr**	18.27	21.19	23.82	25.34	27.23	**500yr**

Powered by ACIS
Northeast Regional Climate Center



Map Scale: 1:2,220 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 24, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 19, 2021—Nov 1, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
33A	Scitico silt loam, 0 to 5 percent slopes	C/D	0.9	8.3%
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	B	9.2	82.8%
699	Urban land		0.3	2.8%
799	Urban land-Canton complex, 3 to 15 percent slopes		0.7	6.0%
Totals for Area of Interest			**11.1**	**100.0%**

Description

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

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

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

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

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

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

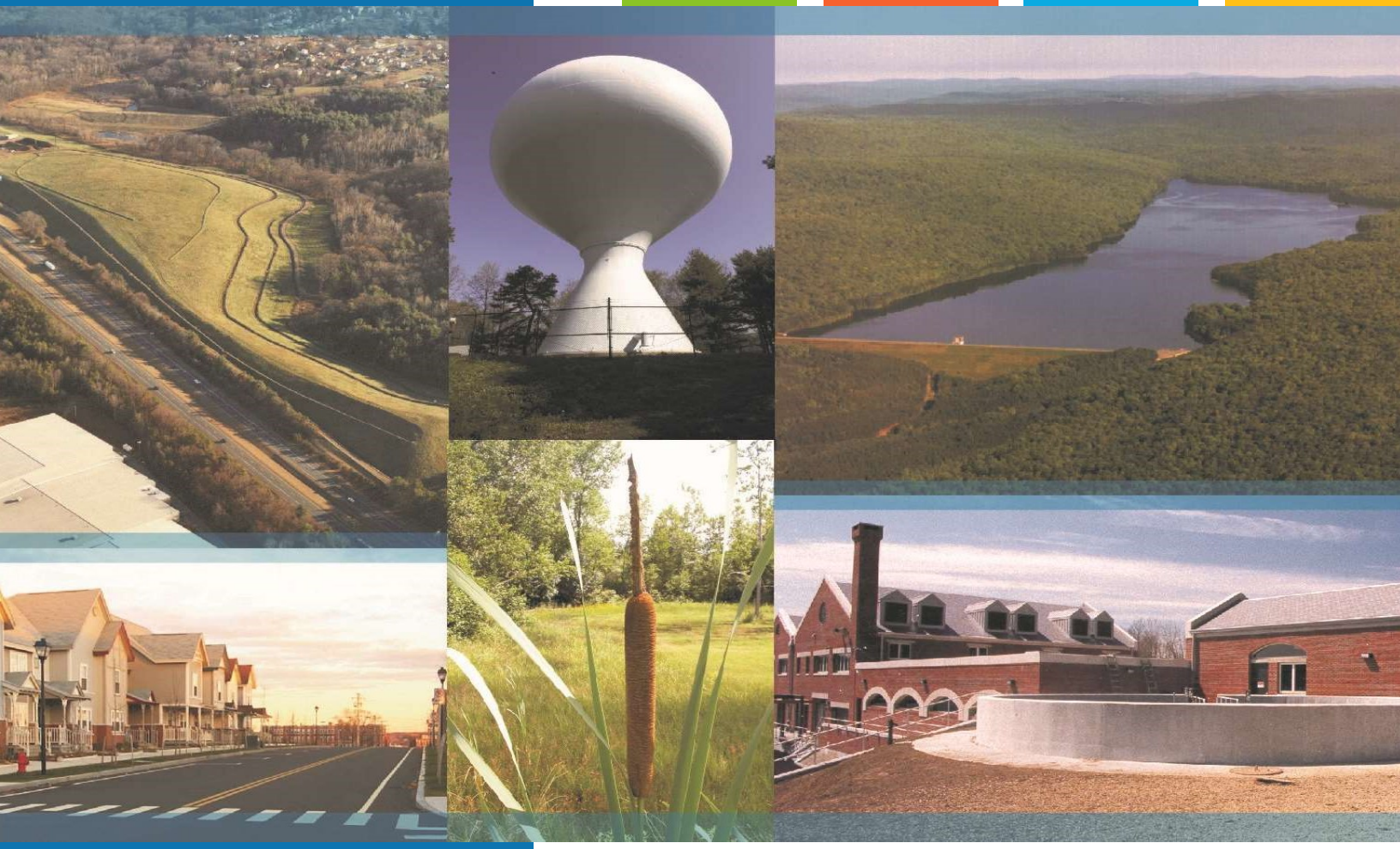
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Proposed 2-Story Building

Portsmouth, NH

Long Term Operation & Maintenance Plan

Prepared For:

230 Commerce Way LLC
210 Commerce Way, Suite 300
Portsmouth, NH 03801

May 24, 2022

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

Kelsey Kraus, Director of Property Management
The Kane Company, Inc.
210 Commerce Way, Suite 300
Portsmouth, NH 03801
603-559-9666

(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
- Catch Basin
- Pavement Sweeping
- ADS Water Quality Unit

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 - CBs to be cleaned of solids and oils.	Bi-Annually
Jellyfish Treatment Unit - Visual observation of sediment levels within system - Cleaned (pumped and pressure washed) - Per manufacture recommendations	- Quarterly and after major storm events. - Annually - See manufactures Jellyfish Treatment Unit Inspection and Maintenance Guide, enclosed

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 Jellyfish Treatment Unit Maintenance Requirements

1.5 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).

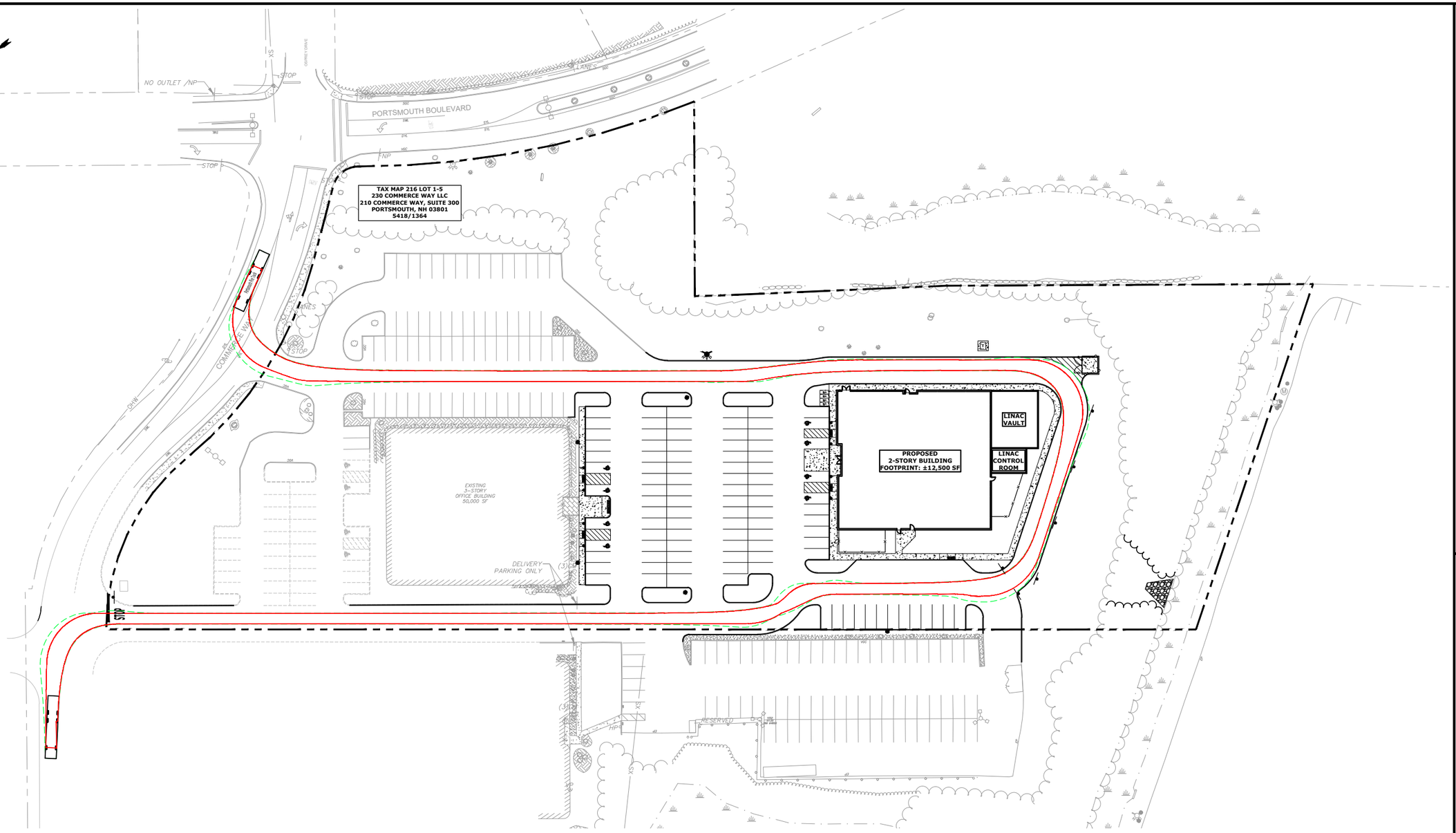
Section 2
Annual Updates and Log Requirements

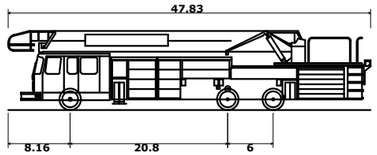
The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

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.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth DPW on an annual basis.

Stormwater Management Report						
Proposed Hampton Street Hangars		**Proposed 2-Story Building – Portsmouth NH 03801**				
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			
Jellyfish Treatment Unit			❑Yes ❑No			





Portsmouth Fire Truck

Overall Length	**47.830ft**
Overall Width	**8.500ft**
Overall Body Height	**10.432ft**
Min Body Ground Clearance	**0.862ft**
Track Width	**8.000ft**
Lock-to-lock time	**6.00s**
Max Steering Angle (Virtual)	**38.00°**

LEGEND

VEHICLE OVERHANG

VEHICLE WHEEL BASE

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
B	6/29/2022	Planning Board Submission
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

1 OF 1

Last Save Date: June 29, 2022 10:22 AM By: CML
Plot Date: Wednesday, June 29, 2022 10:22 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Fire Truck

K0076-038
May 24, 2022

Mr. Eric Eby, City Traffic Engineer
City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth New Hampshire

Re: **Trip Generation Analysis**
Proposed 2-Story Building, 230 Commerce Way, Portsmouth, NH

Dear Eric:

Tighe & Bond has performed a trip generation analysis related to the construction of a proposed two-story 25,000 SF (GFA) building that will consist of a Veterinary Care use located at 230 Commerce Way in Portsmouth, NH. Port City Veterinary Referral Hospital ("Port City") will be relocating from its current 15,000 SF facility located at 215 Commerce Way.

This analysis was performed utilizing Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. For the purposes of analysis, we have calculated the trip generation for the the veterinary use utilizing the average peak AM and PM hour rates for ITE Land Use Code 640 – Animal Hospital/Veterinary Clinic, which are 3.64 and 3.53 per 1,000 SF, respectively.

	Veterinary Care (ITE LUC 640)
Weekday AM Peak Hour	
Trips Entering (67%)	61
Trips Exiting (33%)	30
Total Vehicle Trips	**91**
Weekday PM Peak Hour	
Trips Entering (40%)	35
Trips Exiting (60%)	53
Total Vehicle Trips	**88**

As depicted above, the proposed Veterinary Care use will result in approximately 1.5 additional vehicle trips every minute during the Weekday AM and PM peak hours which is anticipated to have minimal impact to the surrounding roadway network during these peak times.

In addition to the above trip generation calculations, the subject site has previously been reviewed through the City of Portsmouth Site Review process with respect to traffic-related impacts.

- In the September 1999, CLD Consulting Engineers, Inc. (CLD) prepared a *Traffic Impact Evaluation* for full build out of the Portsmouth Office Park with 244,000 square feet of Office use.

- In October 2005, AMES MSC prepared a *Traffic Impact Evaluation* as part of the Homewood Suites project located on Portsmouth Boulevard. This evaluation replaced 19,000 square feet of the Office use that was evaluated in the 1999 CLD *Traffic Impact Evaluation* with a 108-room hotel. With this evaluation, there was 225,000 SF of Office use remaining from the prior CLD study that was not yet constructed.

- In June 2015, Tighe & Bond prepared a *Traffic Evaluation* as part of an Office Building project located 75 Portsmouth Boulevard. This evaluation reviewed impacts associated with the construction of 112,000 SF of Office use at 75 Portsmouth Boulevard. This memorandum evaluated the proposed 112,000 SF of office to be built plus the 113,000 SF of remaining office use from the CLD study for the full build out of Portsmouth Office Park. **It should be noted that only 67,000 SF of the proposed 112,000 SF was ultimately built.**

- The proposed 25,000 SF Veterinary Care use has a peak hour generator that is approximately the equivalent of a 60,000 SF Office use. Thus, the peak hour trip generation associated with the Veterinary Care use is already accounted in the 2015 Tighe & Bond *Traffic Evaluation* described above.
    - With only 67,000 SF of the approved 112,000 SF of Office use being constructed at 75 Portsmouth Boulevard, a 45,000 SF balance of Office use previously anticipated to be constructed remains from the 2015 Tighe & Bond evaluation.
    - Applying this 45,000 SF balance to the Veterinary use equivalent of 60,000 SF leaves a surplus of 15,000 SF of Office use. This 15,000 SF surplus would then be subtracted from the 113,000 SF of Office use remaining for the full build out of Portsmouth Office Park as described above. In summary, a balance of 98,000 SF of Office use accounted for in the June 2015 Traffic Evaluation still remains not yet constructed for the full buildout of Portsmouth Office Park.

Please feel free to contact us if you have any questions or need any additional information.

Sincerely,

TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

EVERSOURCE ENERGY

May 24, 2022

1700 Lafayette Road
Portsmouth, NH 03801

Michael J Busby
603-436-7708 x555-5678
michael.busby@eversource.com

Craig Langton, PE
Tighe & Bond
177 Corporate Drive
Portsmouth NH, 03801

Dear Craig:

I am responding to your request to confirm the availability of electric service for the proposed 230 Commerce Way project being constructed for/by 230 Commerce Way, LLC.

The proposed project consists of a 2-story building with 0 residential units approximately 25,000 s/f of Veterinary Care space. The proposed development will be constructed along Commerce Way and Portsmouth Boulevard.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan C-104. The proposed building service will be fed from Commerce Way, to be determined by Eversource Engineering as depicted on utility plan C-104. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed overhead facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "Utility Plan" dated May 24, 2022, shows transformer locations to service your proposed project.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Portsmouth Office, 603-436-7708 Ext. 555-5678

Respectfully.

Michael J. Busby, PE
NH Eastern Regional Engineering and Design Manager, Eversource

cc: (via e-mail)
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

Unitil
Northern Utilities, Inc.

May 12th, 2022

Craig Langton, PE
Project Engineer
Tighe & Bond
177 Corporate Drive, Portsmouth, NH, 03801

Natural Gas to 230 Commerce Way Portsmouth, NH

Hi Craig,

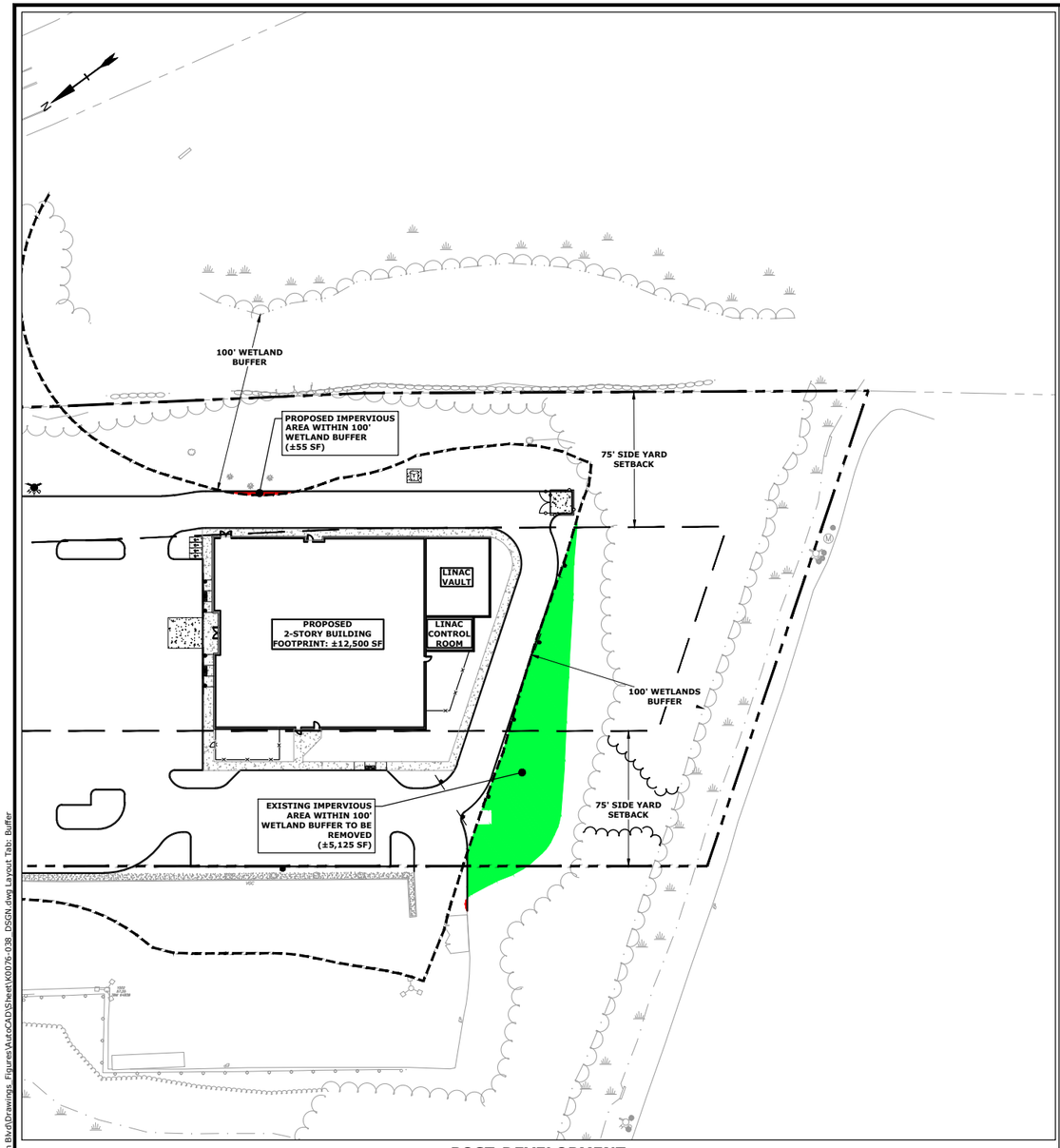
Unitil/Northern Utilities Natural Gas Division has reviewed the requested site for natural gas service:

Unitil hereby confirms that natural gas is available for the proposed two-story commercial building at 230 Commerce Way, Portsmouth, NH.

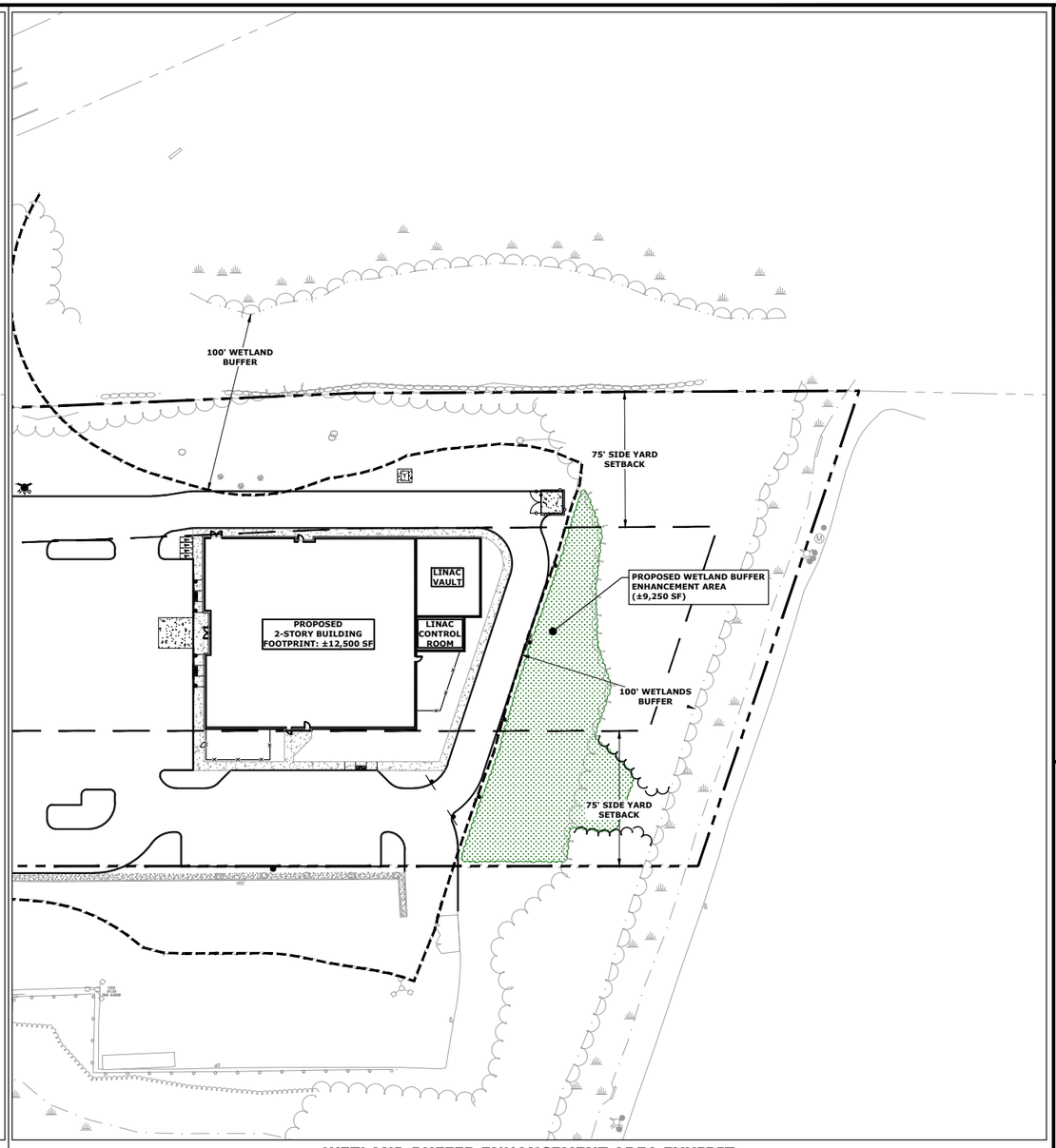
If you have any questions, please contact me at 603-534-2379.

Sincerely,

Dave MacLean
Senior Business Development Rep
Unitil
T 603.294.5261 **M** 603.534.2379 **F** 603.294.5264
Email macleand@unitil.com



POST-DEVELOPMENT
IMPERVIOUS AREA REDUCTION EXHIBIT



WETLAND BUFFER ENHANCEMENT AREA EXHIBIT

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
B	6/29/2022	Planning Board Submission
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

100' WETLAND BUFFER IMPACT EXHIBIT

SCALE: AS SHOWN

1 OF 1

Last Save Date: June 29, 2022 10:22 AM By: CML
Plot Date: Wednesday, June 29, 2022 Plotted by: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Buffer

May 24, 2022

Sustainability Narrative for Planning Board

Proposed Office/Animal Clinic Building

25 Portsmouth Boulevard, Portsmouth NH

Introduction

25 Portsmouth Boulevard is a core and shell construction project located in Portsmouth that will accommodate office and animal clinic program components. It will follow the U.S. Green Building Council under the LEED v4 Building Design + Construction for Core & Shell. The project team expects the project shows sufficient potential to reach a minimum of Certified level LEED certification. This shall be accomplished through various qualities attributed to both the project context, as well as its design merits, and client (and tenant) initiatives described in the following sections.

Integrative Design

Integrative Process

During the preliminary design phases, the team studied site conditions, basic envelope attributes, energy-related systems, and water-related systems to identify potential synergies across disciplines and building systems.

Location and Transportation

Sensitive Land Protection

The project site is not located on prime farmland, not parkland, not on previously undeveloped land, not designated as habitat for endangered species, and not in proximity to wetlands or water bodies. The project site is in a previously developed parking lot area surrounded by other similar scale office properties

Access to Quality Transit

The planned project is 100 feet from Portsmouth Avenue and Shearwater COAST #2 bus stop. The site is also a 6 minute drive to Portsmouth International Airport.

Bicycle Facilities

The project will provide numerous bicycle racks for short-term storage outside of the project building for occupants' and visitors' use. Additionally, if the tenant choses to provide, the building will contain shower and locker/changing facilities for its regular occupants.

Green Vehicles

Hybrid vehicle preferred parking spaces and charging stations designated for use by plug-in electric vehicles are being explored.

Sustainable Sites

Construction Activity Pollution Prevention

A project-specific erosion and sedimentation control plan will be created with the objective of preventing loss of soil during construction, sedimentation of storm sewers, and pollution of the air with dust and particulate matter. The contractor shall be required to document compliance with the ESC throughout the construction process.

Site Assessment

A site assessment including topography, hydrology, climate, vegetation, soils, human uses, and human health effects will be performed and will inform the design of the project as appropriate.

Site Development –Protect or Restore Habitat

The project is built on a site with no greenfield area. Greenspace with a variety of native or adaptive vegetation, trees, and soil restoration will be provided.

Open Space

The project will provide some open space within the site area. The outdoor space will be physically accessible and includes pet and pedestrian-oriented paving with physical site elements that accommodate outdoor social activities.

Rainwater Management

The proposed stormwater management system will be designed to comply with the City of Portsmouth standards.

Heat Island Reduction

The solar reflectance index on the light-colored and reflective low sloped roofing, which will cover more than 75% of the overall building roof surface

Light Pollution Reduction

All exterior lighting shall automatically turn off when sufficient daylight is available. All building façade/landscape lighting shall be automatically shut off between midnight/business closing, and 6am/business opening.

Tenant Design and Construction Guidelines

Tenant design and construction guidelines will be issued to the building tenant to educate about implementing sustainable design and construction features in their tenant improvement fit-out. These guidelines will encourage building tenants to earn LEED ID+C v4 Certification for their interior fit-out.

Water Efficiency

Outdoor Water Use Reduction

Plant selection and an efficient irrigation system will reduce the potable water used for irrigation by at least 75% from a calculated midsummer baseline case as delineated under Option 2 for Reduced Irrigation.

Indoor Water Use Reduction

Water-efficient plumbing fixtures will reduce domestic water below the LEED water use baseline, shown through the usage-based calculations
· All toilets will utilize 1.1 gpf low flush valves
· All urinals will utilize 0.125 gpf ultra low flow flush valves
· All lavatories will utilize 0.35 gpm with metering tempering faucets
· All showers will utilize 1.5 gpm low flow shower heads
· All kitchen sinks will utilize 1.5 gpm faucets

Building – Level Water Metering & Water Metering

Permanent water meters will be installed which will measure the total potable water use for the building and its associated grounds.

Energy and Atmosphere

Fundamental Commissioning And Verification & Enhanced Commissioning

A third-party Commissioning Agent may be engaged before the end of the design development phase, and will review and comment on the project Owner's Project Requirements (OPR), Basis of Design, draft Design Development & Construction Documents. Additionally, he/she will develop and implement a Commissioning Plan for the building HVAC, plumbing, lighting systems and envelope, review construction submittals, and then issue a summary Commissioning Report. Finally, the CxA will participate in training for the building operational staff.

In addition to the Fundamental scope listed above, the CxA verifies the following for mechanical, electrical, plumbing, energy systems, and building envelope; these tasks shall be included in the OPR and BOD:

- Review contractor submittals.
- Verify Inclusion of systems manuals and operator training requirements in the construction documents
- Verify systems manual updates and delivery
- Verify operator and occupant training delivery and effectiveness
- Verify seasonal testing
- Review building operations 10 months after substantial completion.
- Develop an on-going commissioning plan

Minimum Energy Performance & Optimize Energy Performance

An energy model will be developed to describe how an energy-efficient building envelope and base building mechanical systems will reduce the building design performance rating to below the baseline building performance rating. This will continue to evolve through the design phase and align with the project design and any additional energy savings we are able to confirm as the design further develops.

Building-Level Energy Metering

Permanently installed meters will measure total building energy consumption

Fundamental Refrigerant Management & Enhanced Refrigerant Management

Building refrigerants will be selected to minimize the emission of compounds that contribute to ozone depletion and global climate change. Building refrigerants will not exceed maximum threshold allowances for contributions to ozone depletion and global warming potential. Our core and shell project will likely not include all HVAC associated with anticipated work by the tenant.

Green Power and Carbon Offsets

The Kane Company *is investigating options* to engage in a contract to purchase building's energy from green power, carbon offsets, or renewable energy certificates for a minimum of five years.

Materials and Resources

Storage and Collection of Recyclables

A Recycling Staging Room at the building loading area will support a building-wide recycling program for paper, corrugated cardboard, glass, plastic, and metal.

Construction and Demolition Waste Management Planning

A construction and demolition waste management plan will be developed prior to the start of construction which will identify at least five materials targeted for diversion, whether these materials will be separated or comingled, and will approximate a percentage of the overall project waste that these will represent, at least 50% of the construction and demolition debris and a minimum of four material streams will be diverted from landfill and incineration facilities and redirected instead for recycling to the manufacturing process and reusable materials to appropriate sites.

Building Product Disclosure and Optimization Environmental Product Declarations, Sourcing of Raw Materials, and Material Ingredients

The design team shall proactively seek and track materials and products that comprehensively address these material and resource concerns during the design phase. Priority will be given to those items that comprise a high percentage of the project's overall material cost, and Low-Emitting Materials.

Minimum Indoor Air Quality Performance

Building HVAC systems will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2010 - Ventilation for Acceptable Indoor Air Quality, based on anticipated future tenant requirements.

Environmental Tobacco Smoke (ETS) Control

Smoking will be prohibited inside the building and within 25 feet of the entire building perimeter.

Enhanced Indoor Air Quality Strategies

To promote a healthy indoor air quality, permanent entryway systems or appropriate roll-up mats will be installed at all regularly used building entrances; any room with hazardous gases or chemicals will be negatively pressured to contain such elements. MERV 13 or higher filters will be provided in all ventilation systems providing outdoor air to occupied spaces.

Low-Emitting Materials

The design team shall proactively seek and track products that comply with the low-emitting requirements during the design phase

Construction IAQ Management Plan

An indoor air quality plan during construction will require the builder to follow industry best-practices such as SMACNA IAQ Guidelines for Occupied Buildings Under Construction, protecting absorptive materials stored on site from moisture

Daylight

The project will provide window shading devices, and prioritize daylighting strategies for regularly occupied spaces.

Quality Views

The design of the building envelope and floor plan is exploring prioritizing quality view strategies that would allow tenants to design their fit-out with a direct line of sight to the outdoors in at least 75% of all regularly occupied areas.

Innovation

Innovation

The project will target this category by pursuing and combination of Innovation and Pilot Credits recognized by USGBC. The strategies listed below are currently being considered:

· Innovation: Purchasing – Lamps – The based building lighting shall be selected to focus on low- or no mercury-containing lamps. A purchasing plan will be implemented for both indoor and outdoor fixtures.

· Innovation: Green Education. The project will consider utilizing the building's sustainable feature as an opportunity to educate tenants and visitors on the value of green building.

LEED Accredited Professional

The project team includes several LEED Accredited Professionals

Regional Priority Credits

Regional Priority Credits

The project currently anticipates potentially earning points for the Regional Priority category

Sincerely,

Sr. VP/Managing Director, Boston

NELSON

Kimley»Horn

Transmittal

Date: 6/28/2022 Job Number: 118252004

Project Name: Portsmouth Regional Hospital - Radiation Oncology Addition

To: City of Portsmouth Planning Department, Attn: Peter Britz

1 Junkins Ave,

Portsmouth, NH 03801

We are sending these by

☐ US Mail ☐ FedEx ☐ UPS

☐ Hand Deliver ☐ Courier ☑ Other

We are sending you

☑ Attached ☐ Under separate cover via _____ the following items

☐ Shop drawings ☑ Prints/Plans ☐ Samples ☐ Specifications ☐ Change Order ☑ Other

Number	Date	Copy	Description
1			Site Plan Checklist; Conditions of Approval (TAC); Comment Response (TAC)
2			Project Narrative; Traffic Analysis; GIS Parcel Summary; Agent Authorization
3			Full Size (22x34) Drawing Set; Architectural Drawings
4			Wetland Delineation Report; Wetland impact exhibit; Pond Impact Exhibit
5			Maintenance Agreement; Building Setback Variance
6			Pre-post development map; HydroFlow Pond Summary

These are transmitted as checked below:

☑ For your use ☐ Approved as submitted ☐ Resubmit

☐ As requested ☐ Approved as noted ☐ Submit

☑ For review and comment ☐ Returned for corrections ☐ Return

☐ Copies for approval ☐ Copies for distribution ☐ Corrected prints

Copy to:

Signed: Zack Newman

Phone: (615) 314-5617

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: Kimley Horn & Associates, Inc. Date Submitted: May 23, 2022

Application # (in City's online permitting): LU-22-35

Site Address: 333 Borthwick Ave., Portsmouth, NH 03801 Map: 240 Lot: 2-1

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	LU-22-35	N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	ATTACHED	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	N/A	
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	COVER SHEET C0.00 SITE DATA TABLE	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	COVER SHEET C0.00 SITE DATA TABLE	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	COVER SHEET C0.00	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Existing Conditions Plan	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	COVER SHEET C0.00	N/A
☑	List of reference plans. **(2.5.3.1H)**	COVER SHEET C0.00	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	COVER SHEET C0.00	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	SHEETS C0.02 (SURVEY BY OTHERS), C1.00 & C4.00, C401 NOTES	N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☑	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	C1.00, C4.00, C401	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Required on all plan sheets	N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	Required on all plan sheets	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**	Required on all plan sheets	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	SITE SURVEY BY OTHERS C1.00 & COVER SHEET (DATA TABLE) C0.00 & C4.01 PARKING TABLE C1.00 EXISTING CONDITIONS PLAN C1.00, C4.00, C4.01, DATA TABLE ON C0.00 IMPERVIOUS AREA ON POND EXHIBIT LOD ON SITE DATA TABLE: C0.00 & C4.01 L1.00, C1.00, C0.02 (SURVEY), C2.00 WETLAND EXHIBIT, C1.00, C4.00, & C4.01 N/A - C1.00 & C4.00	
☑	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	ARCH. PLANS A1.01B, A1.02A, A2.01, SITE PLAN - C4.01 & GRADING PLAN C5.00 ELEVATIONS & FACADE: A2.01 FLOOR AREA: C0.00 SITE DATA TABLE ARCH. PLANS A1.01B, A1.02A, A2.01 FLOOR AREA: C0.00 SITE DATA TABLE	
☑	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	SITE LAYOUT C4.01; EXISTING FACILITY	
☑	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	SITE LAYOUT C4.01 SITE DATA TABLE & PARKING TABLE	
☑	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	SITE UTILITY PLAN C6.00; INTERNALLY FED	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	SITE UTILITY PLAN C6.00; TIE INTO EXST	

☑	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	SITE UTILITY PLAN C6.00	
☑	**8. Solid Waste Facilities: (2.5.4.3H)**	N/A	
	• The size, type and location of solid waste facilities.	N/A; EXISTING	
☑	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	GRADING & DRAINAGE SHEET C5.00	
☑	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	N/A	
☑	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	N/A	
☑	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	LANDSCAPE PLAN - L100; EXISITNG IRRIGATION SYSTEM TO BE EXTENDED	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Grading and Drainage Plan Sheet C500	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	C0.00 & C4.01 & DRAINAGE AREA MAP	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	C1.00 & C4.00	
☑	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	SITE DATA TABLE C0.00 & C4.01	
☑	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	GRADING & DRAINAGE C5.00 UTILITY PLAN C6.00	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	N/A	
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	ATTACHED STORMWATER MANAGEMENT PLAN	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	C3.00, C3.01, C3.02 & STORMWATER MANAGEMENT PLAN	
☑	Inspection and Maintenance Plan **(7.6.5)**	ATTACHED	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	LU-22-35: AWAITING CONDITIONAL APPROVAL LETTER FROM CONSERVATION COMMITTEE FROM 5/11/22 MEETING. BOA BUILDING SETBACK VARIANCE APPROVAL ATTACHED	
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	ATTACHED	
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	N/A; EXISTING BUILDING	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	N/A	
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	SITE LAYOUT C4.01 NOTE #14	N/A
☑	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "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." **(2.13.3)**	SITE LAYOUT C4.01 NOTE #15	N/A

Applicant's Signature: ____  _____ **Date:** 5/24/2022

CITY OF PORTSMOUTH
Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

TECHNICAL ADVISORY COMMITTEE

June 13, 2022

HCA Health Services of NH, Inc. dba Portsmouth Regional Hospital
PO BOX 80610
Indianapolis, IN 46280

RE: Amended Site Plan Approval for Property for Located at 333 Borthwick Avenue (LU-22-35)

Dear Owner:

The Technical Advisory Committee, at its regularly scheduled meeting of Tuesday, June 7, 2022, considered your application for Amended Site Plan Approval for an 8,700 square foot addition to the existing building with associated landscaping, utilities, sidewalk connectivity, and other related site work. Said property is shown on Assessor Map 240, Lot 2-1 and lies within the Office Research District (OR). As a result of said consideration, the Committee voted to **recommend approval** to the Planning Board with the following stipulations:

Items to be addressed prior to Planning Board approval:

1) A trip generation memo will be submitted to DPW for review and approval.

2) Fire department connection line will be labeled as such.

3) New sewer manhole will be a cut in manhole.

4) Borthwick Ave handicap access ramp flooding will be addressed and approved by DPW.

Conditions Subsequent:

5) The wetland area adjacent to the emergency area will be dredged from Borthwick to the oxygen tank area to restore free flowing drainage. This will be done in conjunction with an associated wetland enhancement along the edges of this same area.

6) Prior to release of bond, Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment mitigation project that is proposed for the area from the oxygen tanks to the Route 1 bypass area.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, July 21, 2022.** One (1) hard copy of all plans and supporting reports and exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than **Wednesday, June 29, 2022.**

Per Section 2.5 of the Site Plan Regulations, a site plan review application to the Planning Board must include all applicable information and supporting materials including but not

limited to the following items:

- *Full updated plan set*
- *Draft Easements*
- *Drainage Analysis*
- *Traffic Studies*
- *Etc.*

All comments, corrections, and conditions identified as "Items to be addressed before Planning Board submittal' must be resolved/corrected for the Planning Board application submittal to be deemed complete.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Beverly Mesa-Zendt,
Planning Director

cc:

Matthew Hamby, Project Manager, Kimley-Horn
Matthew Larkin, COO, Portsmouth Regional Hospital
Chris Dumont, Gould Turner Group

June 29, 2022

City of Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

RE: ***Amended Site Plan Approval for Property Located at 333 Borthwick Avenue (LU-22-35)***

Dear Beverly Mesa-Zendt:

Kimley-Horn and Associates, Inc. (Kimley-Horn) is in receipt of the review comments for Portsmouth Regional Hospital located at 333 Borthwick Avenue – Application Number LU-22-35 – dated June 13, 2022. The City of Portsmouth Technical Advisory Committee conditions of approval are shown below, followed by our responses.

ITEMS TO BE ADDRESSED PRIOR TO PLANNING BOARD APPROVAL:

1.) A trip generation memo will be submitted to DPW for review and approval

Attached.

2.) Fire department connection line will be labeled as such.

Revised. Please refer to site utility plan, C6.00.

3.) New sewer manhole will be a cut in manhole.

Revised. Please refer to site utility plan, C6.00 and updated detail #7 on C7.01.

4.) Borthwick Ave handicap access ramp flooding will be addressed and approved by DPW.

Existing curb ramp to be cleaned and maintained by hospital.

CONDITIONS SUBSEQUENT:

5. The wetland area adjacent to the emergency area will be dredged from Borthwick to the oxygen tank area to restore free flowing drainage. This will be done in conjunction with an associated wetland enhancement along the edges of this same area.

Gove Environmental is studying the original design drawings of the stormwater swale/ wetlands and what the process will be for getting approval to dredge and restore to original functioning condition.

6. Prior to release of bond, Applicant will work with DPW to determine fair share contribution amount that will be dedicated to City sediment mitigation project that is proposed for the area from the oxygen tanks to the Route 1 bypass area.

Acknowledged.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, July 21, 2022.** One (1) hard copy of all plans and supporting reports and exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than **Wednesday, June 29, 2022**.

Acknowledged.

Per Section 2.5 of the Site Plan Regulations, a site plan review application to the Planning Board must include all applicable information and supporting materials including but not limited to the following items:

- Full updated plan set
- Draft Easements
- Drainage Analysis
- Traffic Studies
- Etc.

Required documents attached.

I hope that the above responses are sufficient for you to complete the review of our application. Should you have any further questions, please feel free to contact me at (615) 645-4070. We greatly appreciate your assistance with this project.

Thank you,

Matthew Hamby
Project Manager

February 22, 2022
Updated May 5, 2022

City of Portsmouth

RE: *Portsmouth Regional Hospital – Radiation Oncology Project Narrative*

The existing Portsmouth Regional Hospital is located at 333 Borthwick Ave, Portsmouth, NH 03801 (Map 240, Lot 2-1). The medical campus is located on the east side of Blue Star Turnpike (I-95), the west side of Borthwick Avenue, and can be accessed via multiple entrances from Borthwick Avenue. The scope of the proposed Radiation Oncology project consists of internal renovations, and a 1-story building addition located on the southeast corner of the existing hospital building.

The proposed footprint of the building addition is approximately ±8,700 square feet. The proposed sitework is anticipated to consist of asphalt, concrete, utility, landscape, and drive-under canopy demolition where the current patient discharge canopy and associated drive are located as well as removal of existing sidewalk and landscaping located along the south side of the existing hospital building. Site improvements are anticipated to consist of the new building addition, new drive-under canopy and associated drive, sidewalk connectivity, new granite curb, new mobile imaging pad, and associated new utilities/ utility relocations.

A portion of the project scope is located adjacent to and partially within a previously man-made stormwater management area which is now delineated as a city jurisdictional inland wetland and has an associated 100-ft wetland buffer, in which a portion of the site improvements will occur. A small amount of disturbance to the actual wetland is being proposed. Refer to the attached wetland exhibit. Please note, the overall wetland data has been calculated with older drawings by others. Only the wetland adjacent to this project was delineated and flagged by Gove Environmental Services, Inc., and surveyed by James Verra and Associates, Inc. Refer to attached letter and site survey.

Wetlands and 100-foot buffer, Overall Site

- Subject Parcel: Map 240, Lot2-1 (±20.87 ac)
- Total wetland area onsite: approximately ±2.7 acres
- Total area of 100-foot wetland buffer onsite: approximately ±8.4 acres

Wetland and 100-foot buffer, Proposed Impact

- Area of inland wetland to be disturbed:
    - Permanent (due to proposed building location): ±200 square feet (sf)
    - Temporary (due to construction of proposed building and utility relocations, but will be planted back as wetlands): ±4,400 square feet (sf)
    - Total disturbance: ±4,600 square feet (sf)
- Area of 100-ft wetland buffer to be disturbed:
    - Permanent: ±13,200 sf
    - Temporary: ±4,300 sf

Stormwater drainage summary:

The drainage area to the existing man-made stormwater management area/ inland wetland that is located within the proposed project area (**Pond 1**) was analyzed utilizing provided site surveys as well as previous design drawings for the medical campus. It appears a portion of the southeastern parking lot drains to another existing man-made stormwater management area/ inland wetland that is located along the north side of Borthwick Avenue (**Pond 2**). Pond 2 drains to Pond 1 via a 21" RCP pipe. The drainage area to the Pond 2 remains the same as the current existing condition.

The drainage area to the Pond 1 also remains relatively the same as existing conditions as a portion of the existing hospital building roof will continue to drain to Pond 1, new roof for the proposed building addition is located where existing sidewalks and drives are currently located, and some existing pavement is being removed to allow Pond 1 to expand to provide additional pond volume to attempt to offset any pond volume lost due to the proposed project. The existing 24" RCP pipe outfall from Pond 1 remains in place. Refer to the attached drainage area exhibit.

Existing pond volume: ±54,190 cubic feet (cf)

Proposed pond volume: ±56,265 cubic feet (cf)

A HydroCAD stormwater model was utilized to analyze both the pre-developed and post-developed conditions, and the following results were generated for Type III, 24-hour storm events:

Total drainage area to Pond 1: +/-4.2 acres

	CN	2-yr (cfs)	10-yr (cfs)	25-yr (cfs)	50-yr (cfs)	100-yr (cfs)
Pre-developed:	92	9.1	14.2	17.7	19.9	21.9
Post-Developed:	92	8.8	13.6	17.1	19.3	21.5

Per the table above, the stormwater discharge for the post-developed conditions from the revised Pond 1 are slightly less than the pre-developed conditions.

Please refer to the photos below, and attached supporting documentation. If you have any questions or need more information, please feel free to reach me by email (chris.akers@kimley-horn.com) or by phone at 615-476-4764.

Sincerely,
Chris Akers, Project Manager

Photographs	Observations
	Southern portion of hospital campus with subject wetland (image taken from internal front drive).

Photographs	Observations
	East elevation of hospital building where Radiation Oncology addition is proposed (image taken from internal front drive). Construction activity from current ICU Med/ Surg Stepdown project.

	Southern portion of hospital campus with subject wetland (image taken from internal ambulance/ ED drive).
Photographs	**Observations**
	Existing brick canopy at Patient Discharge to be removed. Construction activity from current ICU Med/ Surg Stepdown project.

	Brick emergency generator enclosure to remain.

TRIP GENERATION MEMO

Kimley»Horn

Portsmouth Regional Hospital - Radiation Onocology Addition

ITE Code	Land Use	Setting/Location	Density		Daily	AM Peak Hour			PM Peak Hour		
						Total	Enter	Exit	Total	Enter	Exit
610	Hospital (Average Rate)	General Urban/Suburban	8,700	s.f.	93	7	5	2	9	3	6
GROSS TRIPS					93	7	5	2	9	3	6

The above trip generation was determined using the ITE Trip Generation Manual - 10th Edition. The land use is considered a Hospital. The setting of the project is considered to be general urban / suburban. The added square footage of the hospital is 8,700 square feet. Based on these parameters, the daily trips generated based on this addition is 93 trips. The morning peak is 7 additional trips; the afternoon peak is 9 additional trips. This information is summarized in the table above.

Details

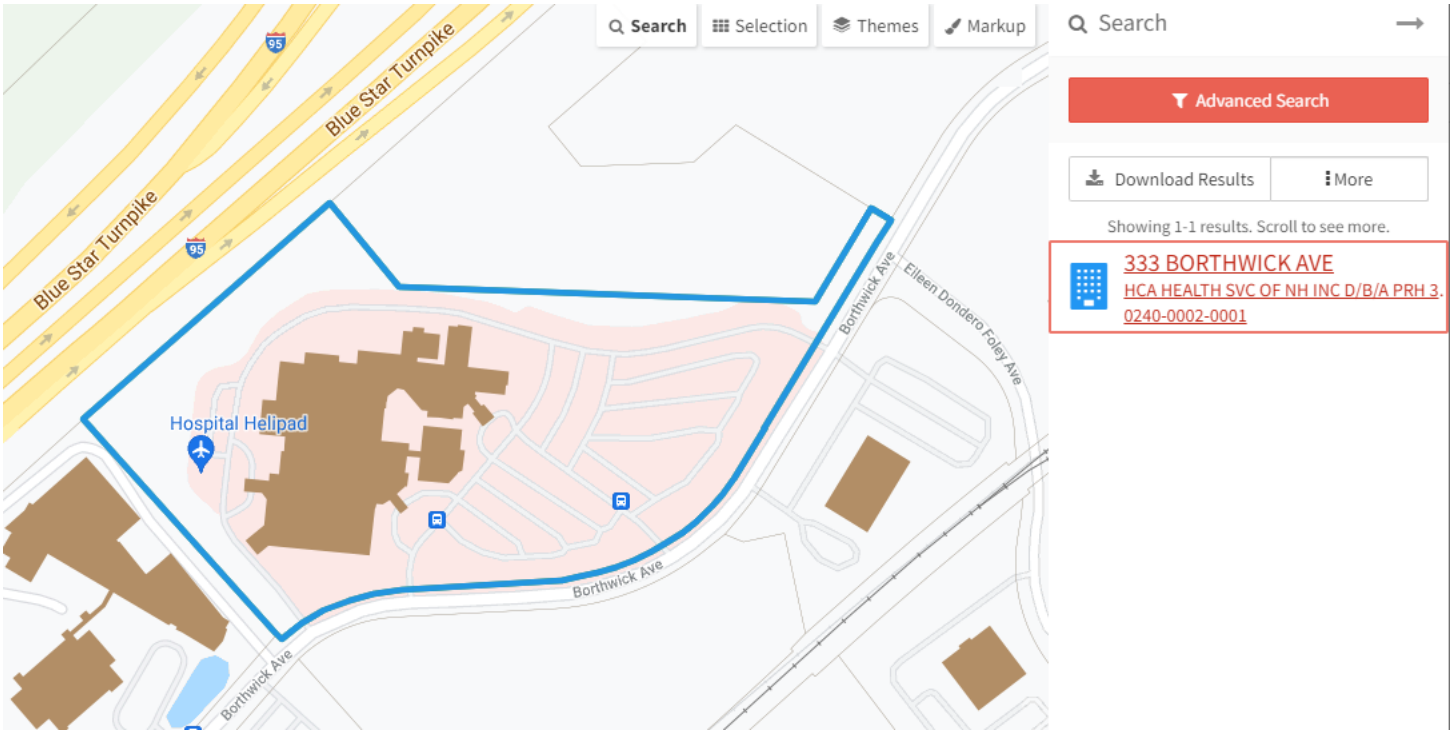
Property	
Location	333 BORTHWICK AVE
Map-Lot	0240-0002-0001
Vision Account Number	35555

Ownership	
Owner	HCA HEALTH SVC OF NH INC D/B/A PRH 32902 C/O DUCHARME MCMILLEN & ASSOC
Address	PO BOX 80610, INDIANAPOLIS, IN 46280

Valuation	
Total	$86,709,000
Last Sale	$0 on
Book/Page	2784/1340

Land	
Parcel Area (AC)	20.87

Zoning
Zoning
OR



Portsmouth Regional Hospital

February 21, 2022

Kimley-Horn and Associates, Inc.
10 Lea Avenue, Suite 400
Nashville, TN 37210

404 Wyman Street, Suite 385
Waltham, MA 02451

RE: ***Agent Authorization***

To Whom It May Concern:

Be advised that I am the Chief Executive Officer of the Portsmouth Regional Hospital located at 333 Borthwick Ave, Portsmouth, NH 03801. I am an authorized agent to the owners of HCA Health Services of New Hampshire, Inc. dba Portsmouth Regional Hospital. As the authorized agent, I hereby authorize and empower:

Kimley-Horn and Associates, Inc. to act as agent/ representative to communicate and submit required information as necessary in obtaining site-related approvals and permits for the proposed Radiation Oncology Addition project located at 333 Borthwick Ave, Portsmouth, NH 03801.

Owner's Signature
Dean M. Carucci, CEO

333 Borthwick Avenue
Portsmouth, NH 03801
Phone: 436-5110
1-800-685-8282
www.portsmouthhospital.com

SITE CIVIL PLANS FOR

PORTSMOUTH REGIONAL HOSPITAL

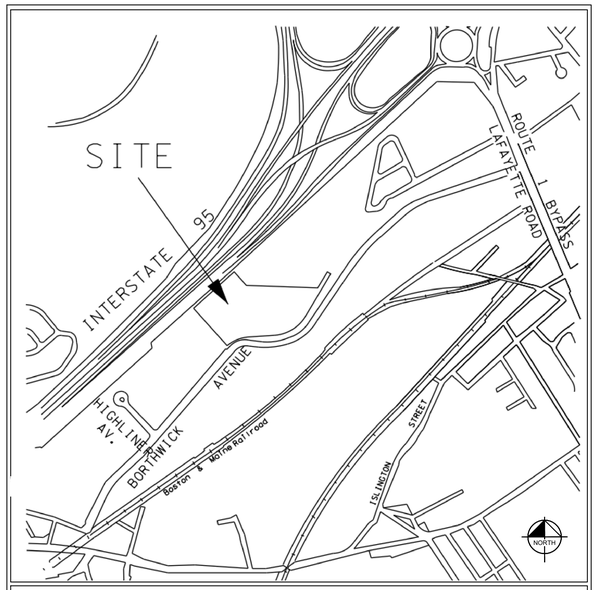
RADIATION ONCOLOGY ADDITION

333 BORTHWICK AVENUE, PORTSMOUTH, NH 03801

TECHNICAL ADVISORY COMMITTEE: MAY 23, 2022

PLANNING BOARD: JUNE 29, 2022

SITE DATA TABLE		
OWNER OF RECORD	HCA HEALTH SERVICES OF NH INC D/B/A PRH 32902	
SITE ADDRESS	333 BORTHWICK AVE, PORTSMOUTH, NH 03801	
SITE AREA	± 20.87 AC	
DISTURBANCE LIMITS W/ THIS PROJECT	± 0.7 AC	
TAX MAP & LOT	TAX MAP 240, LOT 2-1	
ZONING	OR - OFFICE RESEARCH	
SETBACKS	REQUIRED	PROPOSED
FRONT YARD SETBACK	50'-0"	±40'
REAR YARD SETBACK	50'-0"	±157'
SIDE YARD SETBACK	75'-0"	±71' * (EXISTING)
MIN. OPEN SPACE ON A LOT	30%	±39.0%
MAX BUILDING COVERAGE	30%	± 20.1%
BUILDING DATA		
	EXISTING	PROPOSED ADDITION
HOSPITAL BEDS	233	0
HOSPITAL/ MOB FLOOR PLATE	±173,916 SF	± 8,700 SF
HOSPITAL GROSS AREA	±427,495 SF	± 8,870 SF
MEDICAL OFFICE BUILDING GROSS AREA (ATTACHED TO HOSPITAL BUILDING)	±46,665 SF	0 SF
BUILDING HEIGHT	± 65'-4"	± 14'-8"



VICINITY MAP
NOT TO SCALE

Sheet List Table	
SHEET NUMBER	SHEET TITLE
C0.00	COVER SHEET
C0.01	GENERAL NOTES
C0.02	SURVEY BY OTHERS
C1.00	EXISTING CONDITIONS - OVERALL
C2.00	SITE DEMOLITION PLAN
C3.00	EROSION CONTROL PLAN - PHASE 1
C3.01	EROSION CONTROL PLAN - PHASE 2
C3.02	EROSION CONTROL DETAILS
C4.00	SITE LAYOUT - OVERALL
C4.01	SITE LAYOUT - ENLARGEMENT
C5.00	GRADING & DRAINAGE PLAN
C6.00	SITE UTILITY PLAN
C7.00	SITE DETAILS
C7.01	SITE DETAILS
L1.00	LANDSCAPE PLAN

PARKING SUMMARY				
	EXISTING	DEMOLISHED	PROPOSED	NET RESULT
ONSITE STANDARD SPACES	754	11	2	745
ONSITE ACCESSIBLE (INCLUDING VAN ACCESSIBLE)	29	4	6	31
OFFSITE STANDARD SPACES*	0	0	490	490
OFFSITE ACCESSIBLE (INCLUDING VAN ACCESSIBLE)*	0	0	11	11
TOTAL				1277

*PER SATELLITE PARKING LOT DRAWINGS PREPARED BY TIGHE & BOND

REFERENCE PLANS

1. "LOT LINE REVISION PLAN FOR PORTSMOUTH HOSPITAL OFFICE BUILDING ASSOCIATION, ISLINGTON WOOD, LLC AND HCA REALTY, INC. (TAX MAP 234, LOTS 7-4A & 7-4B) (TAX MAP 240, LOT 2-2) BORTHWICK AVENUE EXTENSION PORTSMOUTH, NEW HAMPSHIRE" DATED JAN 13, 2006 PREPARED BY DOUCET SURVEY, INC., R.C.R.D. PLAN #D-33642
2. "TOPOGRAPHIC PLAN" AT PORTSMOUTH REGIONAL HOSPITAL FOR HCA HEALTH SERVICES OF NH, INC. DATED OCTOBER 10, 2007 BY DOUCET SURVEY.
3. "SIDEWALK SITE PLAN" FOR PORTSMOUTH REGIONAL HOSPITAL FOR HCA HEALTH SERVICES OF NH, INC. DATED OCTOBER 22, 2003 BY MILLETTE, SPRAGUE & COLWELL
4. "SITE PLAN" FOR PORTSMOUTH REGIONAL HOSPITAL FOR HCA HEALTH SERVICES OF NH, INC. DATED AUGUST 19, 2002 BY MILLETTE, SPRAGUE & COLWELL SHEET 2 OF 3.
5. JURISDICTIONAL WETLANDS WERE DELINEATED BY NHSC, INC. ON SEPTEMBER 25, 2007 IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, AS REQUIRED BY THE NH DES WETLANDS BUREAU.
6. "TOPOGRAPHIC WORKSEET OF THE POWERLINES BY ISLINGTON & BORTHWICK AVE." PREPARED BY EASTERN TOPOGRAPHIC FOR DOUCET SURVEY, DATED SEPT 25, 2007.
7. "PORTSMOUTH REGIONAL HOSPITAL PHASE 1 ADDITIONS AND RENOVATIONS" BY APPLEDORE ENGINEERING, INC., DATED APRIL 1, 2008.
8. JURISDICTIONAL WETLANDS DELINEATION BY GOVE ENVIRONMENTAL SERVICES, INC. DATED OCTOBER 2019.
9. TOPOGRAPHIC SURVEY BY JAMES VERRA & ASSOCIATES, INC. DATED 10/2019.
10. SHEETS C-2 AND C-2A OF "PORTSMOUTH HOSPITAL EXPANSION" BY APPLEDORE ENGINEERING, DATED 8/4/11. "REVISED TO ADD REAR PARKING"

PROJECT DESIGN TEAM

ARCHITECT
GOULD TURNER GROUP, P.C.
615 3RD AVENUE SOUTH, SUITE 700
NASHVILLE, TN 37210
PHONE: (615) 254-1500
CONTACT: CHRIS DUMONT, AIA

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
404 WYMAN STREET, SUITE 385
WALTHAM, MA 02451
PHONE: (781) 328-0676
CONTACT: MATTHEW HAMBY

M,P,E & T CONSULTANTS
I.C. THOMASSON ASSOCIATES, INC.
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TN 37204
PHONE: (615) 346-3400
CONTACT: BOYD JOHNSON

SURVEY
JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8
NEWINGTON, NH 03801
PHONE: (603) 436-3557
CONTACT: JIM VERRA, LLS

ENVIRONMENTAL
GOVE ENVIRONMENTAL SERVICES, INC
8 CONTINENTAL DR, UNIT H
EXTER, NH 03833
PHONE: (603) 778-0654
CONTACT: BRENDEN WALDEN

STRUCTURAL ENGINEER
STANLEY D. LINDSEY & ASSOCIATES, LTD.
750 OLD HICKORY BLVD, BLD 1, SUITE 175
BRENTWOOD, TN 37027
PHONE: (615) 320-1735
CONTACT: MARK HILNER

UTILITY CONTACTS

WATER/ SANITARY SEWER
PORTSMOUTH DEPT OF
PUBLIC WORKS
MIKE JENKINS
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
PHONE: (603) 427-1530

NATURAL GAS
NORTHERN UTILITIES, INC.
JEFF INGLISH
325 WEST ROAD
PORTSMOUTH, NH 03801
PHONE (603) 436-0310

TELEPHONE/ CABLE
CONSOLIDATED COMMUNICATIONS
1575 GREENLOAD ROAD
GREENLAND, NH 03840
PHONE: (800) 240-5019

ELECTRIC
PUBLIC SERVICES OF NH/ EVERSOURCE
WAYNE BROOKS
1700 LAFAYETTE ROAD
PORTSMOUTH, NH 03801
PHONE:(800) 662-7764

811 Know what's below. Call before you dig.

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

COVER SHEET

C0.00

CONTRACTOR RESPONSIBILITIES:

1. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR:

   A. THE CONTRACTOR SHALL VERIFY ALL PROPOSED AND EXISTING CONDITIONS INCLUDING UTILITIES (INVERTS, CONNECTIONS, MATERIALS, ETC.) AND DIMENSIONS WITHIN THE LIMITS OF WORK PRIOR TO THE START OF CONSTRUCTION.

   B. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILED BUILDING INFORMATION.

   C. THE CONTRACTOR IS RESPONSIBLE FOR ALL NOTIFICATIONS AND LIAISONS WITH UTILITY COMPANIES DURING THE PROCESS OF LOCATING, RELOCATING, AND TYING INTO PUBLIC UTILITIES.

   D. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR INSIDE THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.

2. DURING CONSTRUCTION:

   A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.

   B. THE CONTRACTOR SHALL USE MATERIALS AND EMPLOY CONSTRUCTION METHODS IN ORDER TO COMPLY WITH THE DRAWINGS AND SPECIFICATIONS. WHERE A CONFLICT OCCURS, THE STRICTEST DESIGN SHALL GOVERN. THE ENGINEER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., DOES NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY SPECIFIC DEVIATIONS AND OBTAIN ENGINEER'S WRITTEN APPROVAL OF THE SPECIFIC DEVIATION.

   C. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

   D. ALL CONSTRUCTION MUST CONFORM TO THE STANDARDS, SPECIFICATIONS, AND CODES OF THE GOVERNING MUNICIPALITIES.

   E. CONSTRUCTION SHALL MEET ALL CURRENT STANDARDS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT.

   F. IF THE CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE UTILITIES TO ORIGINAL CONDITION AND QUALITY AS APPROVED BY THE OWNER AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY.

   G. SUFFICIENT BARRICADES, LIGHTS, SIGNS, AND OTHER TRAFFIC CONTROL METHODS IN ACCORDANCE WITH GOVERNING ORDINANCES MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC. SAID CONTROL DEVICES SHALL BE PER THE MANUAL OF TRAFFIC CONTROL DEVICES, M.U.T.C.D., CURRENT EDITION, AND SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION.

   H. TRAFFIC CONTROLS AND OTHER WARNING DEVICES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY WORK ON CITY, COUNTY, OR NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION ROADS. THEY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL THE CONCLUSION OF ALL WORK.

   I. ALL WARNING DEVICES SHALL BE EITHER TYPE I BARRICADES OR DRUMS WITH WARNING LIGHTS ON EVERY OTHER DEVICE. THEY SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION, AND PORTSMOUTH STANDARDS FOR COLOR, SIZE, REFLECTIVITY, HEIGHT, AND PLACEMENT.

   J. FIRE DEPARTMENT ACCESS SHALL BE MAINTAINED AT ALL TIMES.

   K. CONTRACTOR SHALL SHORE AND BRACE ALL EARTH, FORMS, CONCRETE, STEEL, WOOD, AND MASONRY TO RESIST GRAVITY, EARTH, WIND, THERMAL, CONSTRUCTION, AND MISCELLANEOUS LOADS DURING CONSTRUCTION.

   L. ON-SITE BURIAL OF DEBRIS IS PROHIBITED.

   M. UNLESS OTHERWISE NOTED THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL FABRICATED MATERIALS TO THE ENGINEER. DESIGN DOCUMENTS SHALL NOT BE REPRODUCED AS SHOP DRAWINGS.

   N. IN CASE OF UNFORESEEN CONSTRUCTION COMPLICATIONS OR DISCREPANCIES, THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE ENGINEER IN WRITING.

   O. ALL REQUIRED TESTING REPORTS SHALL BE AVAILABLE AT THE JOB SITE.

   P. AS-BUILT DRAWINGS OF ROADWAYS, STORM DRAINS, SANITARY SEWER AND WATER LINES, FIELD APPROVAL BY THE ENGINEER, AND ALL APPLICABLE BONDS ARE REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE OWNER.

   Q. CONTRACTOR SHALL MAINTAIN CONTINUOUS UTILITY SERVICE TO ALL EXISTING BUILDINGS THROUGHOUT CONSTRUCTION UNLESS APPROVAL FOR SERVICE INTERRUPTION IS OBTAINED FROM THE OWNERS IN ADVANCE.

   R. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS TO ENSURE THAT THE NEW WORK SHALL FIT INTO THE EXISTING SITE IN THE MANNER INTENDED AND AS SHOWN ON THE DRAWINGS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO PERFORMING ANY WORK IN THE AREA INVOLVING DIFFERENCES. NOTIFICATION SHALL BE IN THE FORM OF A DRAWING OR SKETCH INDICATING FIELD MEASUREMENTS AND NOTES RELATING TO THE AREA.

   S. ANY FOREIGN ITEM FOUND DURING CONSTRUCTION IS THE PROPERTY OF THE OWNER. THIS INCLUDES, BUT IS NOT LIMITED TO, PRECIOUS METALS, COINS, PAPER CURRENCY, ARTIFACTS AND ANTIQUITIES.

   T. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THE PREMISES OR ADJACENT PREMISES, OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION OF THE WORK, WHETHER CAUSED BY HIMSELF, HIS SUBCONTRACTORS, OR THE CARELESSNESS OF ANY OF HIS EMPLOYEES.

   U. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY TEMPORARY WORKS FOR THE PROTECTION OF THE WORK AND THE PUBLIC, INCLUDING BARRICADES, WARNING SIGNS, LIGHTS, ETC.

   V. THE CONTRACTOR ACKNOWLEDGES & AGREES THAT THE WORK IS ENTIRELY AT HIS RISK UNTIL SITE IS ACCEPTED, AND HE WILL BE HELD RESPONSIBLE FOR ITS SAFETY BY THE OWNER. THE CONTRACTOR WILL INDEMNIFY THE OWNER & OWNER'S REPRESENTATIVE FROM LIABILITY AT THE SITE THROUGHOUT THE CONSTRUCTION PROCESS.

   W. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS RELATING TO BUILDING SIDEWALKS, STREETS, BLASTING, PUBLIC INFRASTRUCTURE, STORMWATER REGULATIONS, ETC.

   X. THE CONTRACTOR IS TO CHECK AND VERIFY ALL MEASUREMENTS, LEVELS, ETC. BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE WORK, AND IS TO BE RESPONSIBLE FOR THE SAME.

CONTRACTOR RESPONSIBILITIES (CONT.):

   Y. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE DAMAGE OR LOSS OF ANY REFERENCE POINTS AND HUBS DURING THE CONSTRUCTION OF HIS WORK, AND SHALL BEAR THE COST OF REPLACING SAME.

   Z. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.

DEMOLITION INFORMATION:

1. NOTIFICATIONS:

   THE CONTRACTOR SHALL NOTIFY THE OWNER AND CITY INSPECTOR(S) 24 HOURS PRIOR TO ANY DEMOLITION OR CONSTRUCTION.

2. DISPOSAL GUIDELINES:

   A. ONLY ITEMS SPECIFICALLY NOTED TO BE DEMOLISHED SHALL BE REMOVED FROM THE SITE.

   B. REMOVE EXISTING PAVED AREAS AS SHOWN INCLUDING DRIVEWAYS, SIDEWALKS, PARKING AREAS, SERVICE AREAS, EQUIPMENT PADS, AND ALL MISCELLANEOUS PAVING.

   C. ALL DEBRIS RESULTING FROM DEMOLITION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL STATE AND FEDERAL REGULATIONS. BACKFILL ALL TRENCHES AND EXCAVATIONS RESULTING FROM DEMOLITION.

   D. ALL DEMOLISHED MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED.

3. TREE PROTECTION GUIDELINES:

   PROTECT ALL EXISTING TREES NOTED "TO REMAIN" AND ALL ITEMS TO BE TURNED OVER TO THE OWNER DURING DEMOLITION. TAKE ALL NECESSARY PRECAUTIONS AND PROTECTIVE MEASURES. ANY EXISTING ITEMS TO BE TURNED OVER TO THE OWNER WHICH ARE DAMAGED DURING DEMOLITION SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. TREES WHICH ARE DAMAGED WILL BE REPLACED OR REIMBURSED AT A RATE TO BE DETERMINED BY THE OWNER.

4. UTILITIES:

   A. PRIOR TO REMOVING OR ABANDONING ANY UTILITY THE CONTRACTOR SHALL VERIFY THAT NO UPSTREAM SERVICE WILL BE TERMINATED. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY TERMINATION NOT SHOWN ON THE PLANS.

   B. ALL ABANDONED WATER LINES, STORM SEWER PIPE, SANITARY SEWER PIPES, GAS LINES, OR ANY OTHER ABANDONED UNDERGROUND UTILITY SHALL BE ABANDONED IN PLACE UNLESS NOTED OTHERWISE.

SITE INFORMATION:

1. THE FOLLOWING ARE APPLICABLE TO ALL CIVIL DOCUMENTS:

   A. WHERE A DETAIL SECTION, TYPICAL SECTION, OR A NOTE IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, UNLESS OTHERWISE NOTED ON THE PLANS.

   B. EXISTING AND PROPOSED CONTOURS ARE AT ONE (1) FOOT INTERVALS.

   C. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

   D. ALL PIPE LENGTHS SPECIFIED IN THESE PLANS ARE THE HORIZONTAL DISTANCE AND ARE SHOWN FOR REFERENE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE ACTUAL LENGTHS BASED ON PROPOSED PIPE SLOPE.

   E. PIPE LENGTHS IN PLANS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.

EROSION AND SEDIMENT CONTROL INFORMATION:

1. COMPREHENSIVE:

   A. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

   B. PROVISIONS TO PREVENT EROSION OF SOIL FROM THE SITE SHALL BE AT A MINIMUM IN CONFORMANCE WITH THE REQUIREMENTS OF THE NEW HAMPSHIRE EROSION AND SEDIMENT CONTROL HANDBOOKS. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

   C. FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE STANDARDS SPECIFIED IN THE NEW HAMPSHIRE EROSION AND SEDIMENT CONTROL HANDBOOKS, CURRENT EDITION.

   D. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

   E. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

   F. THE CONSTRUCTION OF THE SITE WILL COMMENCE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.

   G. CONSTRUCTION EXITS SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY OR EXIT FROM THE SITE AND SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE AS CONDITIONS DEMAND, REPAIR, AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OFF SITE ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. ACCESS POINTS PROTECTED WITH A CONSTRUCTION EXIT SHALL BE OTHERWISE BARRICADED UNTIL THE SITE IS STABILIZED.

CONCRETE INFORMATION (SITE WORK ONLY):

1. PRODUCT CRITERIA:

   A. UNLESS OTHERWISE NOTED CEMENT SHALL BE TYPE I OR III CONFORMING TO ASTM C150. AGGREGATES SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C33.

   B. CONCRETE SHALL CONFORM TO ACI BUILDING CODE (318-89). UNLESS NOTED CONCRETE SHALL BE NORMAL WEIGHT AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3,500 P.S.I.

   C. SLUMP SHALL BE 3" TO 5" FOR REGULAR MIX. LARGER SLUMP SHALL BE PERMITTED WITH WATER REDUCING ADMIXTURES AND WRITTEN CONSENT OF THE ENGINEER.

   D. THE RELATIONSHIP BETWEEN MAXIMUM AGGREGATE SIZE TO MINIMUM AMOUNT OF CEMENT IN CONCRETE PAVEMENT (LB. PER C.Y. OR MIX) SHALL BE AS FOLLOWS: 1" - 520, 3/4" - 540, 1/2" - 590, 3/8" - 610.

2. CURING CRITERIA:

   A. CONCRETE CURING SHALL COMPLY WITH ACI 308. CURING PROCESS SHALL START IMMEDIATELY FOLLOWING INITIAL SET. CURING SHALL BE BY CURING COMPOUND.

   B. CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318-89 TABLE 4.1.1. NORMAL WEIGHT CONCRETE SLABS SHALL HAVE AIR CONTENT IN ACCORDANCE WITH ACI 302.IR-89 TABLE 5.2.7A.

   C. HOT WEATHER CONCRETING SHALL COMPLY WITH ACI 305. NO CONCRETE ABOVE 90 DEGREES FAHRENHEIT SHALL BE POURED. LOWER CONCRETE TEMPERATURE BY COOLING WATER AND AGGREGATE. FORMS, STEEL, AND SUBGRADE SHALL BE SPRINKLED WITH COLD WATER. AFTER FINISHING CONCRETE USE LIGHT FOG SPRAY UNTIL CURING COMPOUND IS USED.

   D. COLD WEATHER CONCRETING SHALL COMPLY WITH ACI 306. SPECIAL MATERIAL PROCEDURES SHALL BE PROVIDED DURING PLACING AND CURING OF CONCRETE BELOW 40 DEGREES FAHRENHEIT.

   E. CURING, HOT, AND COLD WEATHER CONCRETING PROCEDURES ARE ONLY GIVEN AS A GUIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT CONCRETE DAMAGE AND CRACKS. DAMAGED OR CRACKED CONCRETE WILL NOT BE ACCEPTED.

REINFORCING STEEL INFORMATION (SITE WORK ONLY):

1. PRODUCT CRITERIA:

   A. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60 AND GRADE 40 FOR #3 AND SMALLER BARS. MINIMUM LAP 48" DIAMETER.

   B. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185, MINIMUM LAP SHALL BE 8".

   C. REINFORCING THAT IS WELDED SHALL BE WELDABLE TYPE AND CONFORM TO ASTM A-706.

PAVEMENT INFORMATION:

1. PAVEMENT:

   A. ALL MATERIALS, EQUIPMENT, METHODS OF CONSTRUCTION, AND WORKMANSHIP SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, NHDOT, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

   B. SEE PAVEMENT DETAILS ON CONSTRUCTION DOCUMENTS FOR SPECIFIC DESIGN INFORMATION AND REQUIREMENTS.

   C. ALL CURB AND GUTTER TO BE 24" AND CONSTRUCTED OF 3000 P.S.I. CONCRETE UNLESS OTHERWISE NOTED.

2. SIGNING AND STRIPING:

   A. SIGNING AND STRIPING TO BE PROVIDED BY THE CONTRACTOR ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.

   B. ALL STRIPING TO BE THERMOPLASTIC UNLESS OTHERWISE NOTED.

STORM SEWER NOTES:

1. REINFORCED CONCRETE PIPE SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED WITH BELL-AND-SPIGOT AND GASKETED JOINTS WITH ASTM C 443 RUBBER GASKETS.
2. FILL HEIGHTS OVER 13' REQUIRE CLASS IV RCP STORM PIPE.
3. STORM INLETS SHALL BE PRECAST IN ACCORDANCE WITH PORTSMOUTH PUBLIC WORKS SPECIFICATIONS WHICH MEET OR EXCEED ASTM C 478.
4. ALL MANHOLE FRAMES AND COVERS ARE TO BE PER PORTSMOUTH PUBLIC WORKS STANDARD DETAIL FOR DIMENSIONS AND MATERIALS AND AS BELOW IF NOT OTHERWISE INDICATED. FERROUS; 24-INCH (610-MM) ID BY 7- TO 9-INCH (175- TO 225-MM) RISER WITH 4-INCH- (102-MM-) MINIMUM WIDTH FLANGE AND 26-INCH- (660-MM-) DIAMETER COVER. INCLUDE INDENTED TOP DESIGN WITH LETTERING CAST INTO COVER, USING WORDING EQUIVALENT TO "STORM SEWER."
5. MATERIAL: GRAY IRON ASTM A48 CLASS 30 UNLESS OTHERWISE INDICATED.
6. ALL HDPE PIPE SHALL BE CORRUGATED HIGH DENSITY POLYETHYLENE SMOOTH INTERIOR PIPE. HDPE PIPE SHALL CONFORM TO ASTM D3350 WITH SOIL TIGHT JOINTS.
7. ALL HDPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND AASHTO SECTION 30.
8. CONTRACTOR TO PROVIDE AND INSTALL MANUFACTURER RECOMMENDED FITTINGS ON RCP CONNECTIONS TO HDPE STRUCTURES.
9. REFER TO PIPE CHART FOR CASTING TYPES. INSTALL REDUCERS AS NECESSARY PER MANUFACTURER'S SPECIFICATIONS TO ACCOMMODATE LARGER INLET SIZES.
10. FOLLOW CONSTRUCTION PLANS AND MANUFACTURER DETAILS, SPECIFICATIONS, AND INSTALLATION INSTRUCTION AS INCLUDED WITHIN THE PLANS AND PROVIDED BY MANUFACTURER FOR THE INSTALLATION OF WATER QUALITY AND DETENTION SYSTEMS.
11. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STORM SEWER PIPE, STRUCTURES, WATER QUALITY STRUCTURES, AND DETENTION STRUCTURES FOR ENGINEER AND OWNER APPROVAL PRIOR TO ORDERING MATERIALS.

CLEARING AND GRUBBING:

   A. DO NOT EXCEED CLEARING AND GRUBBING LIMITS OF CONSTRUCTION LINES INDICATED ON THE PLANS.

   B. ALL AREAS OUTSIDE THE LIMITS OF CONSTRUCTION LINE SHALL NOT BE CROSSED BY HEAVY EQUIPMENT OR USED FOR STORING HEAVY EQUIPMENT OR MATERIALS.

   C. NO EQUIPMENT SHALL BE STORED UNDER THE DRIP LINE OF TREES TO REMAIN.

   D. DO NOT FALL ANY TREES OR PUSH PILES OF DEBRIS AGAINST ANY TREES TO REMAIN.

   E. REMOVE ALL STUMPS, ROCKS, ASPHALT & CONCRETE DEBRIS, ETC. AND DISPOSE OFF SITE IN ACCORDANCE WITH LOCAL, STATE & FEDERAL REGULATIONS.

   F. CONTACT ALL UTILITY AUTHORITIES WHO HAVE LINES WITHIN THE CLEARING AND GRUBBING LIMITS BEFORE STARTING WORK

   E. ALL EROSION CONTROL SEDIMENT BARRIERS, SILT FENCES, AND TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO STARTING CLEARING AND GRUBBING.

   F. AFTER STAKING IS COMPLETED, TREES WITHIN GRADING LIMITS TO BE SAVED WILL BE IDENTIFIED BY THE OWNER'S REPRESENTATIVE. FIELD CHANGES TO GRADING PLANS SHALL BE MADE FOR SMOOTH TRANSITION OF GRADES AROUND ALL TREES WHICH REQUITE TREE WELLS WITHIN THE GRADING LIMITS.

   G. ALL CLEARING SHALL BE LIMITED TO AREAS TO BE GRADED WITHIN 15 CALENDAR DAYS.

GRADING NOTES:

   A. TOPSOIL SHALL BE STORED ON SITE IN LOCATIONS APPROVED BY THE OWNER'S REPRESENTATIVE. DRAINAGE SHALL ROUT AROUND THESE TOPSOIL STOCKPILES FOR THE DURATION OF THE GRADING OPERATIONS. EROSION CONTROL MEASURES SHALL PREVENT THE LOSS OF TOPSOIL MATERIAL.

   B. UNSUITABLE SOILS SHALL BE UNIFORMLY SPREAD ACROSS NON-STRUCTURAL FILL AREAS AND COVERED WITH TOPSOIL AND SEEDED.

   C. FILL AREA SHALL BE PROOF-ROLLED WITH RUBBER-TIRED EQUIPMENT WITH A MINIMUM WEIGHT OF FIFTEEN TONS PRIOR TO BEGINNING FILL OPERATION. AREAS WHICH ARE SOFT OR UNSTABLE SHALL BE UNDERCUT UNTIL STABLE SOILS ARE FOUND. RE-COMPACTION OF THESE SOILS SHALL BE PER GEOTECHNICAL ENGINEER RECOMMENDATIONS.

   D. CUT AREA SHALL BE PROOF-ROLLED AFTER FINAL SUBGRADE IS ACHIEVED IN THE SAME MANNER AS FILLED AREAS. SOFT OR UNSTABLE SOILS SHALL BE SCARIFIED TO A DEPTH OF 12" AND RE-COMPACTED PER GEOTECHNICAL ENGINEER RECOMMENDATIONS.

   E. ALL GRADING SHALL BE COMPLETED TO THE LEVEL INDICATED BY THE SCOPE OF WORK LISTED IN THE BID DOCUMENTS.

   F. ELEVATIONS SHOWN ON THE PLANS IS THE FINISH GRADE ELEVATION.

   G. GRADING SHALL BE SEQUENCED SO THAT BASE STONE IS PLACED WITHIN 10 CALENDAR DAYS PF ACHIEVING OPTIMUM SUBGRADE COMPACTION.

   H. SOILS TESTING LABORATORY/ SOILS ENGINEER. CONTRACTOR WILL EMPLOY A QUALIFIED SOILS TESTING LABORATORY/ ENGINEER TO OBSERVE THIS WORK AND MAKE TESTS AS REQUIRED.

   I. HAVE EARTH BORROW FILL, AGGREGATE, AND TOPSOIL, AND STRUCTURAL FILL TESTED AND APPROVED BY DESIGNATED TESTING LABORATORY BEFORE MOVING IT TO THE JOB SITE.

   J. CONTRACTOR SHALL OBSERVE PROOF-ROLLING OF AREAS WHERE BUILDING AND PAVING WILL BE LOCATED TO DETERMINE ADEQUACY OF SOIL COMPACTION AND IN-PLACE SOILS. OTHER AREAS WILL BE INSPECTED BY SOILS ENGINEER TO DETERMINE ADEQUACY IN THOSE AREAS. IF SOILS ARE NOT ADEQUATE TO BEAR WEIGHTS THAT WILL BE IMPOSED, TESTING LABORATORY WILL OBSERVE AND REPORT CORRECTIVE ACTION TAKEN.

   K. TEST IN-PLACE SOIL AND FILLED AND COMPACTED AREAS. IF THESE ARE NOT ADEQUATE TO BEAR WEIGHTS IMPOSED, TESTING LABORATORY WILL ADVICE THE OWNER'S REPRESENTATIVE OF THEIR RECOMMENDATIONS. HE WILL DIRECT ANY CORRECTIVE MEASURES THAT ARE NECESSARY.

   L. SOILS COMPACTION TESTING OF IN-PLACE AND FILLED AND COMPACTED AREAS WILL BE PERFORMED BY TESTING LABORATORY IN ACCORDANCE WITH THEIR REQUIREMENTS.

   M. THE SOILS ENGINEER'S AND TESTING LABORATORY'S FEES WILL BE PAID BY THE CONTRACTOR.

   N. APPLICABLE SPECIFICATIONS FOR COMPACTED FILL: THE FOLLOWING CURRENT AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) STANDARDS ARE HEREBY MADE PART OF THIS SPECIFICATION:

   - D421-58, DRY PREPARATION OF SOIL SAMPLES FOR GRAIN-SIZE ANALYSIS AND DETERMINATION OF SOIL CONSTANTS.
   - D422-63, STANDARD METHOD OF PARTICLE SIZE ANALYSIS OF SOILS.
   - D1140-54, METHOD OF TEST FOR AMOUNT OF MATERIAL IN SOILS FINER THAN NO.200 SIEVE.
   - D698, METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT
   - D1557-78, STANDARD TEST METHODS FOR MOISTURE-DENSITY RELATIONS OF SOILS AND SOIL-AGGREGATE MIXTURES USING 10 LB. (4.54-KG) RAMMER AND 18-INCH (457 MM) DROP.

   O. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL LOCATIONS UNLESS OTHERWISE NOTED.

   P. CONTRACTOR SHALL REVIEW THE SITE SPECIFIC GEOTECHNICAL REPORT PRIOR TO COMMENCING WITH GRADING OPERATIONS. WHERE CONFLICTS BETWEEN THE GRADING NOTES AND GEOTECHNICAL REPORT EXIST, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

   Q. CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING WITH LOAD TICKETS, PHOTOGRAPHS, LOG BOOK, VIDEO RECORDING AND OTHER MEANS AS NECESSARY TO VERIFY THE INSTALLATION OF STORMWATER BEST MANAGEMENT PRACTICES REQUIRED BY THE LOCAL MUNICIPALITY AND JURISDICTION. AS-BUILT TOPOGRAPHY AND UTILITY PLANS HAVING BEEN PREPARED BY A QUALIFIED LAND SURVEYOR ARE REQUIRED TO BE SUBMITTED TO KIMLEY-HORN AT THE CONCLUSION OF THE PROJECT FOR VERIFICATION OF DESIGN INTENT. ANY MODIFICATIONS TO THE GRADING AND UTILITY SYSTEMS REQUIRED, NOT PREVIOUSLY APPROVED BY THE OWNER AND ENGINEER ARE THE RESPONSIBILITY OF THE CONTRACTOR.

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY
1			
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8			
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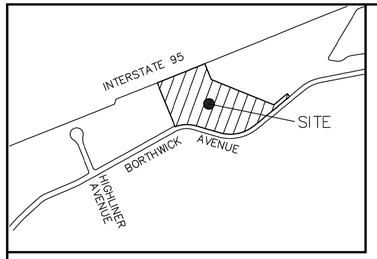
DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

GENERAL NOTES

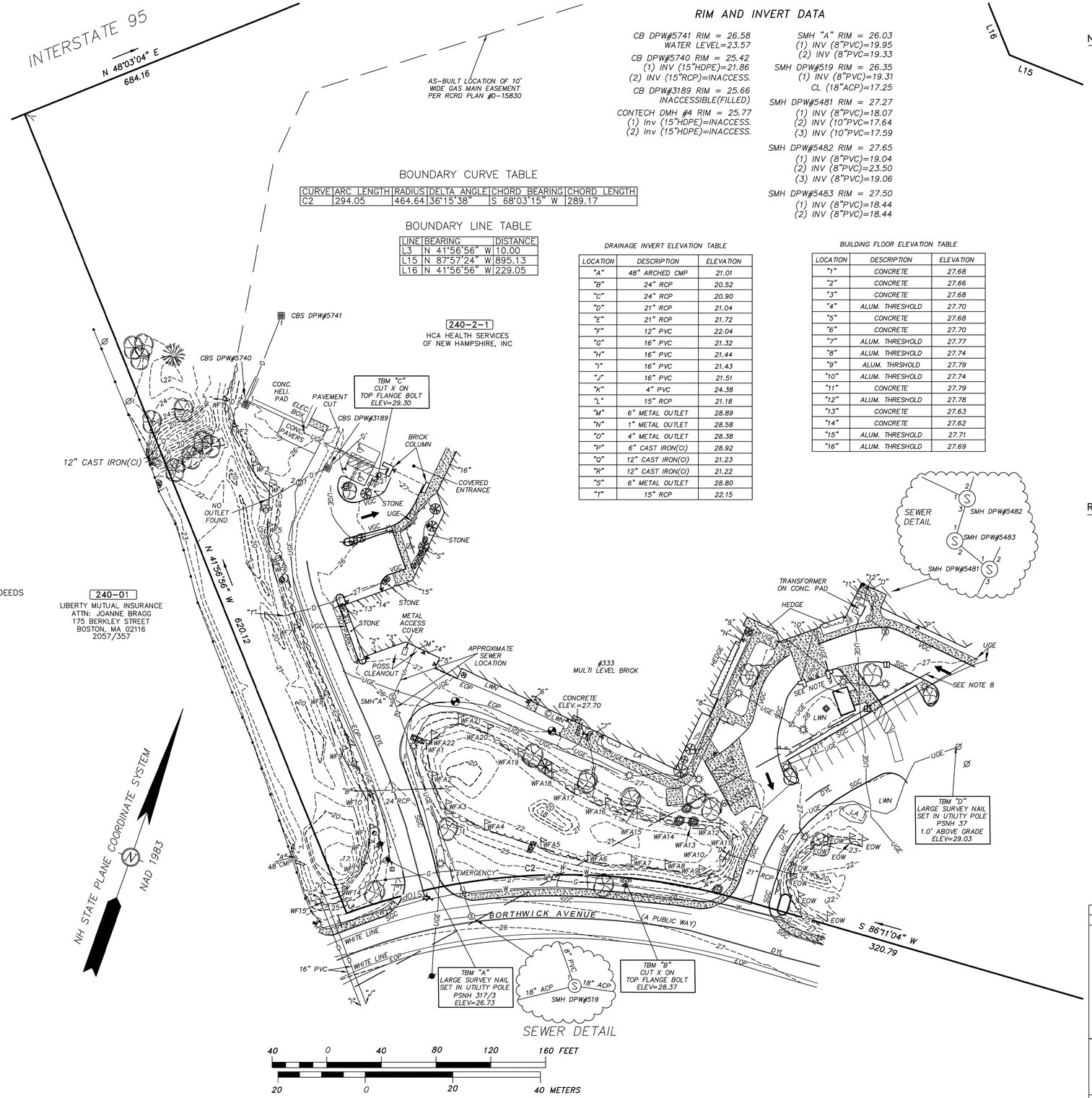
C0.01



LOCUS
(N.T.S.)

LEGEND:

- ◑ ..... IRON ROD (AS NOTED)
- ◬ ..... SURVEY NAIL (AS NOTED)
- ●—●—● ..... CHAIN LINK FENCE
- ⌀ ..... UTILITY POLE
- ⌀ ..... UTILITY POLE W/TRANSFORMER
- ◑ ..... GUY
- ☼ ..... LIGHT POLE
- ⋖ ..... DIRECTED WALL LIGHT
- —OHW— ..... OVERHEAD WIRES
- —OHE— ..... OVERHEAD ELECTRIC
- —OHC— ..... OVERHEAD COMMUNIUCATION WIRES
- —UGC— ..... UNDERGROUND COMMUNICATIONS
- —UGE— ..... UNDERGROUND ELECTRIC
- RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
- 240-02-01 ..... TAX SHEET / LOT NO.
- EOP ..... EDGE OF PAVEMENT
- LA ..... LANDSCAPED AREA
- RWS ..... STONE RETAINING WALL
- VGC ..... VERTICAL FACED GRANITE CURB
- SGC ..... SLOPED FACED GRANITE CURB
- PSNH ..... PUBLIC SERVICE CO. OF NH
- ♿ ..... HANDICAP SPACE
- ▤ ..... CATCH BASIN
- Ⓓ ..... DRAIN MANHOLE
- Ⓢ ..... SEWER MANHOLE
- ⊕ ..... BOLLARD
- ▭ ..... SIGN
- ..... DOUBLE POST SIGN
- ● ..... ELECTRICAL CONDUIT
- ▮ ..... ELECTRICAL PANEL
- ◪ ..... ELECTRICAL BOX
- E ..... ELECTRIC METER
- ..... GAS VALVE
- — W — ..... WATER *LINE*
- — S — ..... SEWER *LINE*
- —D— ..... DRAIN LINE
- — G — ..... GAS LINE
- ..... *BRUSH LINE*
- ..... CONIFEROUS TREE
- ..... DECIDUOUS TREE
- ..... TREE LINE
- ..... CONIFEROUS SHRUB
- ..... DECIDUOUS SHRUB
- ..... TREE STUMP
- Ⓜ ..... MONITORING WELL
- ..... WATER GATE VALVE
- ..... WATER SHUT OFF VALVE
- Ⓥ ..... WATER METER PIT
- ..... HYDRANT
- ..... FIRE CONNECTION
- ..... POST INDICATOR VALVE
- ..... RIP RAP
- ..... CEMENT CONCRETE PAD
- ..... BORING
- ..... CABLE TV VAULT
- DYL ..... DOUBLE YELLOW LINE
- ..... STONE RETAINING WALL



BOUNDARY CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C2	294.05	464.64	36°15'38"	S 68°03'15" W	289.17

BOUNDARY LINE TABLE

LINE	BEARING	DISTANCE
L3	N 41°56'56" W	10.00
L15	N 87°57'24" W	895.13
L16	N 41°56'56" W	229.05

RIM AND INVERT DATA

CB DPW#5741 RIM = 26.58
WATER LEVEL=23.57

CB DPW#5740 RIM = 25.42
(1) INV (15"HDPE)=21.86
(2) INV (15"RCP)=INACCESS.

CB DPW#3189 RIM = 25.66
INACCESSIBLE(FILLED)

CONTECH DMH #4 RIM = 25.77
(1) Inv (15"HDPE)=INACCESS.
(2) Inv (15"HDPE)=INACCESS.

SMH "A" RIM = 26.03
(1) INV (8"PVC)=19.95
(2) INV (8"PVC=19.33

SMH DPW#519 RIM = 26.35
(1) INV (8"PVC)=19.31
CL (18"ACP)=17.25

SMH DPW#5481 RIM = 27.27
(1) INV (8"PVC)=18.07
(2) INV (10"PVC=17.64
(3) INV (10"PVC=17.59

SMH DPW#5482 RIM = 27.65
(1) INV (8"PVC)=19.04
(2) INV (8"PVC)=23.50
(3) INV (8"PVC)=19.06

SMH DPW#5483 RIM = 27.50
(1) INV (8"PVC)=18.44
(2) INV (8"PVC)=18.44

DRAINAGE INVERT ELEVATION TABLE

LOCATION	DESCRIPTION	ELEVATION
"A"	48" ARCHED CMP	21.01
"B"	24" RCP	20.52
"C"	24" RCP	20.90
"D"	21" RCP	21.04
"E"	21" RCP	21.72
"F"	12" PVC	22.04
"G"	16" PVC	21.32
"H"	16" PVC	21.44
"I"	16" PVC	21.43
"J"	16" PVC	21.51
"K"	4" PVC	24.38
"L"	15" RCP	21.18
"M"	6" METAL OUTLET	28.89
"N"	1" METAL OUTLET	28.58
"O"	4" METAL OUTLET	28.38
"P"	6" CAST IRON(CI)	28.92
"Q"	12" CAST IRON(CI)	21.23
"R"	12" CAST IRON(CI)	21.22
"S"	6" METAL OUTLET	28.80
"T"	15" RCP	22.15

BUILDING FLOOR ELEVATION TABLE

LOCATION	DESCRIPTION	ELEVATION
"1"	CONCRETE	27.68
"2"	CONCRETE	27.66
"3"	CONCRETE	27.68
"4"	ALUM. THRESHOLD	27.70
"5"	CONCRETE	27.68
"6"	CONCRETE	27.70
"7"	ALUM. THRESHOLD	27.77
"8"	ALUM. THRESHOLD	27.74
"9"	ALUM. THRSHOLD	27.79
"10"	ALUM. THRESHOLD	27.74
"11"	CONCRETE	27.79
"12"	ALUM. THRESHOLD	27.78
"13"	CONCRETE	27.63
"14"	CONCRETE	27.62
"15"	ALUM. THRESHOLD	27.71
"16"	ALUM. THRESHOLD	27.69

NOTES:

1. OWNER OF RECORD.....HCA HEALTH SERVICES OF NH., D/B/A PRH 32902
C/O DUCHARME MCMILLEN & ASSOCIATES
ADDRESS.....PO BOX 80610, INDIANAPOLIS, IN 46280
DEED REFERENCE.....2784/1340
TAX SHEET / LOT.....240-02-01
PARCEL AREA.....846,664 S.F 19.44 ACRES
2. ZONED:.....OFFICE/RESEARCH (OR) FRONT YARD SETBACK....50'
MINIMUM LOT AREA..3 ACRES SIDE YARD SETBACK.....75'
FRONTAGE.....300' REAR YARD SETBACK.....50'
3. THE RELATIVE ERROR OF CLOSURE WAS LESS THAN 1 FOOT IN 15,000 FEET.
4. *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.*
5. *HORIZONTAL DATUM: NAD 1983 ESTABLISHED BY SURVEY GRADE GPS OBSERVATION AND NGS "OPUS" SOLUTION. REFERENCE FRAME: NAD83 (2011)(EPOCH: 2010.0000), US SURVEY FOOT. VERTICAL DATUM: NAVD 1988. PRIMARY BENCHMARK: CITY OF PORTSMOUTH "ALBA"*
6. *ENGINEER OR CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE ESTABLISHMENT OF ANY GRADES OR ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOCIATES, INC..*
7. *THE PARCEL SHOWN HEREON LIES WITHIN ZONE X (AREAS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED ON FLOOD INSURANCE RATE MAP, ROCKINGHAM COUNTY, NEW HAMPSHIRE, MAP NUMBER 33015C0260E, EFFECTIVE DATE MAY 17, 2005 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.*
8. *LIMIT OF 300' EVERSOURCE ELECTRIC EASEMENT.*
9. *BRICK GENERATOR ENCLOSURE. TOP OF CONCRETE ELEV.=27.20*
10. *THE DELINEATION OF THE WETLANDS SHOWN HEREON WAS BY BRENDEN WALDEN NEW HAMPSHIRE CERTIFIED WETLAND SCIENTIST #297, GOVE ENVIRONMENTAL SERVICES, LLC., 8 CONTINENTAL DRIVE, UNIT H, EXETER, NH 03833.*
11. *THE SUBSURFACE UTILITIES SHOWN HEREON WERE IDENTIFIED BY WADE HANSEN, GROUND PENETRATING RADAR SYSTEMS, INC., 5217 MONROE STREET, SUITE A, TOLEDO, OHIO 43623.*
12. *AN EXISTING UNITIL GAS LINE SOUTHWESTERLY OF THE HOSIPTAL IN THE VICINITY OF THE LIBERTY MUTUAL PARCEL & A 6" CLDI WATER LINE IN THE SAME AREA WERE NOT FIELD LOCATED BY GROUND PENETRATING RADAR SYSTEMS, INC.*

REFERENCE PLANS:

1. *GAS LINE AS-BUILT EASEMENT AND CONSERVATION PLAN, PREPARED FOR HOSPITAL CORPROATION OF AMERICA, PORTSMOUTH, NH, DATED 10/31/85. RCRD PLAN #D-15830.*
2. *SCHILLER S/S-OCEAN ROAD S/S, 115 KV TRANSMISSION LINE #U181, MILE 4, PLANR-6775-A, DATED 7/10/2009, BY NORTHEAST UTILITIES, NOT RECORDED.*
3. *SUBDIVISION OF LAND, FRANETAL REALTY TRUST COMPAMY, OPTIONED TO LIBERTY MUTUAL INSURANCE COMPANY, PORTSMOUTH, NEW HAMPSHIRE, REVISED TO 2/19/71 RCRD PLAN #2190.*

PURSUANT TO RSA 676:18,III AND RSA 672:14

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE 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.

James Verra — 11-19-2019
JAMES VERRA — DATE

STATE OF NEW HAMPSHIRE — No. 625 JAMES VERRA — LICENSED LAND SURVEYOR — SIGNATURE

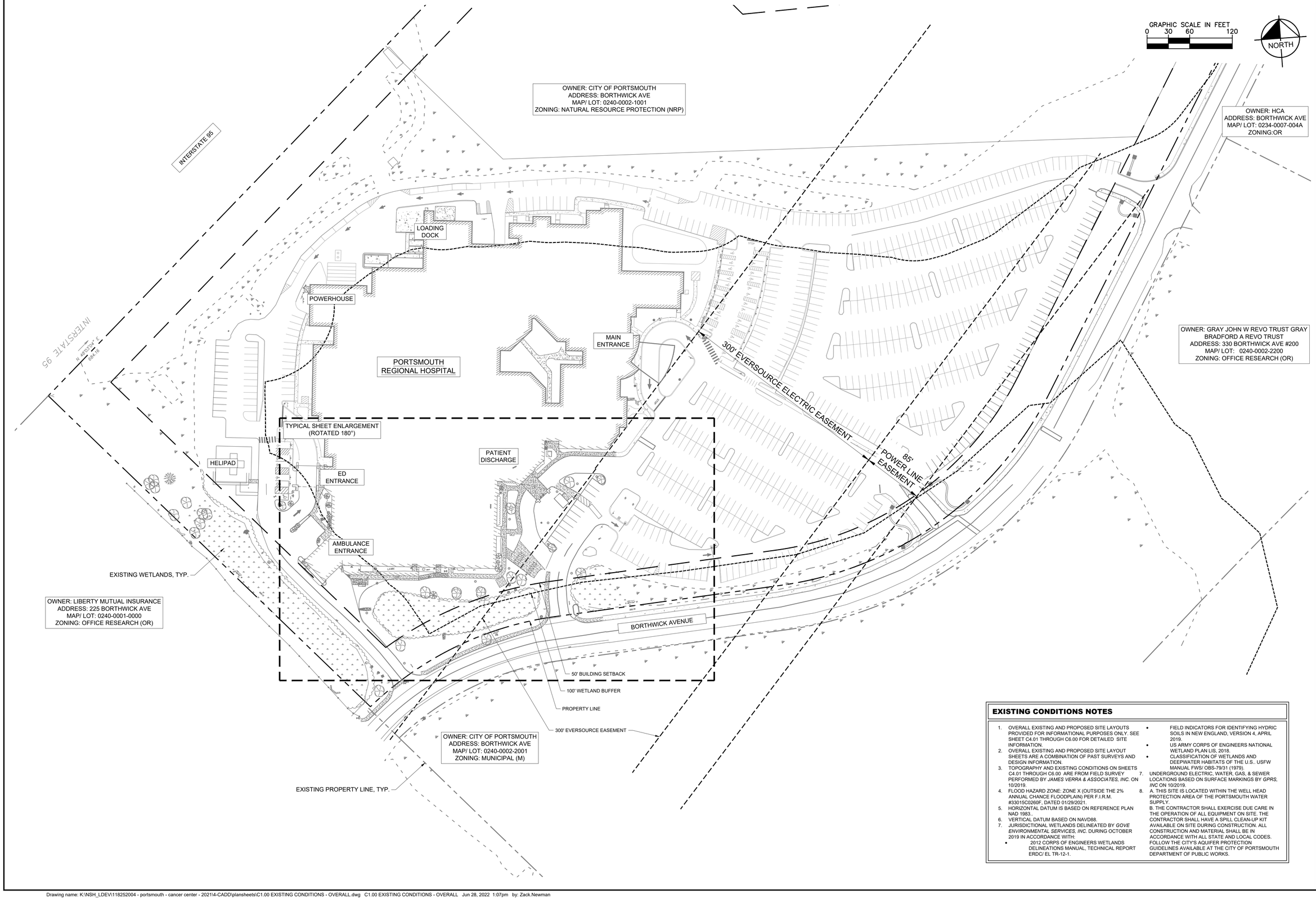
REV. NO.	DATE	DESCRIPTION	APPR'D
0	11-08-2019	FOR REVIEW & COMMENT	JV

LIMITED EXISTING CONDITIONS PLAN
333 BORTHWICK AVENUE
PORTSMOUTH, NEW HAMPSHIRE
ASSESSOR'S PARCEL #240-002-001
for
HCA HEALTH SERVICES OF NEW HAMPSHIRE

JAMES VERRA and ASSOCIATES, INC.
101 SHATTUCK WAY
SUITE 8
NEWINGTON, N.H., 03801-7876
603-436-3557

GTD — PROJECT JV
GTD — DRAWN BY

DATE:	11-19-2019
JOB NO:	23834
SCALE:	1" = 40'
DWG NAME:	23834
PLAN NO:	23834
SHEET:	1 of 1



EXISTING CONDITIONS NOTES

1. OVERALL EXISTING AND PROPOSED SITE LAYOUTS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SEE SHEET C4.01 THROUGH C6.00 FOR DETAILED SITE INFORMATION.
2. OVERALL EXISTING AND PROPOSED SITE LAYOUT SHEETS ARE A COMBINATION OF PAST SURVEYS AND DESIGN INFORMATION.
3. TOPOGRAPHY AND EXISTING CONDITIONS ON SHEETS C4.01 THROUGH C6.00 ARE FROM FIELD SURVEY PERFORMED BY *JAMES VERRA & ASSOCIATES, INC.* ON 10/2019.
4. FLOOD HAZARD ZONE: ZONE X (OUTSIDE THE 2% ANNUAL CHANCE FLOODPLAIN) PER F.I.R.M. #33015C0260F, DATED 01/29/2021.
5. HORIZONTAL DATUM IS BASED ON REFERENCE PLAN NAD 1983..
6. VERTICAL DATUM BASED ON NAVD88.
7. JURISDICTIONAL WETLANDS DELINEATED BY *GOVE ENVIRONMENTAL SERVICES, INC.* DURING OCTOBER 2019 IN ACCORDANCE WITH:
   - 2012 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT ERDC/ EL TR-12-1.
   - FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, APRIL 2019.
   - US ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLAN LIS, 2018.
   - CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE U.S., USFW MANUAL FWS/ OBS-79/31 (1979).
7. UNDERGROUND ELECTRIC, WATER, GAS, & SEWER LOCATIONS BASED ON SURFACE MARKINGS BY *GPRS, INC* ON 10/2019.
8. A. THIS SITE IS LOCATED WITHIN THE WELL HEAD PROTECTION AREA OF THE PORTSMOUTH WATER SUPPLY.
   B. THE CONTRACTOR SHALL EXERCISE DUE CARE IN THE OPERATION OF ALL EQUIPMENT ON SITE. THE CONTRACTOR SHALL HAVE A SPILL CLEAN-UP KIT AVAILABLE ON SITE DURING CONSTRUCTION. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES. FOLLOW THE CITY'S AQUIFER PROTECTION GUIDELINES AVAILABLE AT THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY
1			
2			
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DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

EXISTING CONDITIONS - OVERALL

C1.00

DEMOLITION LEGEND

- REMOVE CONCRETE/ ASPHALT
- REMOVE CANOPY
- REMOVE UNDERGROUND UTILITY / STORM
- REMOVE CURB & GUTTER/ CURB
- X — REMOVE/ RELOCATE SITE OBJECT (HYDRANT, POLE, TREE, ETC.)
- LOD — LIMITS OF DISTURBANCE
- SAWCUT LINE

EXISTING UTILITIES NOTE

CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES AND/OR CONFLICTS WITH EXISTING OR PROPOSED UTILITIES PRIOR TO PROCEEDING.

CONTRACTOR NOTE

ALL EROSION CONTROL MEASURES SPECIFIED ON SHEET C3.00 SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF DEMOLITION WORK SHOWN ON THIS PLAN.

SEE DEMOLITION NOTES, SHEET C0.01.

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

BORTHWICK AVE

EXISTING GAS VALVE TO REMAIN
EXISTING 4" WATER LINE TO REMOTE FDC TO REMAIN
WETLAND LIMITS
EXISTING WETLANDS
EXISTING FIRE HYDRANT TO REMAIN
EXISTING 8" FIRE LINE
CONTRACTOR TO PROTECT WETLANDS AS NECESSARY
EXISTING FDC TO REMAIN
EXISTING WETLANDS
REMOVE PORTION OF 4" WATER LINE TO REMOTE FDC
EXISTING 6" DOMESTIC WATER LINE
APPROXIMATE SEWER LOCATION
REMOVE STUMPS
REMOVE TREE (TYP)
DECON TANK TO BE RELOCATED OUT OF NEW MOBILE IMAGING UNIT PAD
REMOVE TREES (TYP.)
EXISTING MONITORING WELL TO REMAIN
REMOVE ELECTRICAL BOX
REMOVE LIGHT POLE
RAMP TO BE REMOVED
SIDEWALK REMOVAL (TYP.)
REMOVE CONCRETE PAD
EXISTING 10" ROOF LEADER TO REMAIN
REMOVE LIGHT POLE
EXISTING SIDEWALK TO REMAIN IN PLACE
AMBULANCE ENTRANCE
REMOVE LIGHTING
REMOVE TREES (TYP.)
REMOVE LIGHTING
EXISTING 4" FIRE PROTECTION LINE TO REMAIN IN PLACE
PAVEMENT REMOVAL
REMOVE PORTION OF 8" FIRE LINE, 6" WATER LINE, PIV, AND BOLLARDS
REMOVE LIGHT POLE (TYP.)
REMOVE SIGN
ABANDON UNDERGROUND ELECTRIC IN PLACE
REMOVE LIGHTPOLE
REMOVE ELECTRICAL BOX
REMOVE EXISTING SIGN (TYP.)
FLAG POLE TO REMAIN
GENERATOR TO REMAIN
PORTSMOUTH REGIONAL HOSPITAL
REMOVE SHRUBS
REMOVE TREE
REMOVE SIGN
REMOVE SHRUBS
REMOVE CANOPY AND SUPPORT COLUMNS
REMOVE UNDERGROUND ELECTRIC
SANITARY SEWER TO REMAIN
REMOVE CURB
EXISTING ELECTRICAL LINES TO EXISTING TRANSFORMER TO REMAIN IN PLACE
EXISTING TRANSFORMER TO REMAIN
EXISTING SIDEWALK TO REMAIN IN PLACE

240-2-1

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KIMLEY-HORN PROJECT NO. 118252004

SITE DEMOLITION PLAN

C2.00

Drawing name: K:\NSH_LDEV\118252004 - portsmouth - cancer center - 2021\4-CADD\plansheets\C2.00 SITE DEMOLITION PLAN.dwg C2.00 SITE DEMOLITION PLAN Jun 28, 2022 1:07pm by: Zack.Newman

EROSION CONTROL NOTES

1. CONTRACTOR SHALL COORDINATE WITH CITY OF PORTSMOUTH GROWTH MANAGEMENT AND THE COUNTY'S ENVIRONMENTAL INSPECTOR.
2. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED, DURING ANY PHASE OF DEVELOPMENT, AT THE DISCRETION OF THE CITY OF PORTSMOUTH'S ENVIRONMENTAL INSPECTOR.
3. THE CONTRACTOR SHALL ENSURE THAT A FOREMAN OR SUPERVISOR WHO HAS BEEN CERTIFIED UNDER THE NEW HAMPSHIRE STORMWATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR TRAINING PROGRAM IS AVAILABLE IN PERSON OR BY PHONE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. INSPECTOR TO BE DESIGNATED AND AVAILABLE AT THE PRE-CONSTRUCTION MEETING.
4. SILT FENCE SHOWN ON THESE PLANS SHALL BE INSTALLED GENERALLY IN THE LOCATIONS INDICATED, ADJUSTED FOR FIELD CONSTRAINTS. ALL PROPOSED SILT FENCE LOCATED WITHIN THE CRITICAL PROTECTION ZONE OF A TREE SHALL BE OF A NON-TRENCHED VARIETY, UNLESS ARBORICULTURAL MITIGATION STATES OTHERWISE.
5. CONTRACTOR SHALL INSPECT AND REPAIR ALL BMP's AT LEAST ONCE A WEEK, AND AFTER EVERY SIGNIFICANT RAIN EVENT (> 1/2" OF RAINFALL.) A LOG OF SUCH INSPECTIONS SHALL BE MAINTAINED AT THE SITE.
6. ANY BMP IN NEED OF REPAIR OR REINSTALLATION SHALL BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS OF IDENTIFICATION OF THE NEED FOR SUCH CORRECTION.
7. ADDITIONAL BMP MEASURES MAY BE NECESSARY TO ENSURE THAT TURBID WATER IS NOT DISCHARGED FROM THE CONSTRUCTION SITE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN, THE N.P.D.E.S. PERMIT AND THE CONDITIONS OF THE APPLICABLE ENVIRONMENTAL RESOURCE PERMIT.
9. ALL DISTURBED AREAS TO BE LEFT IDLE LONGER THAN 14 DAYS MUST BE STABILIZED WITH QUICK GROW GRASS SEED AND MULCH.
10. NO TRENCHING OR EXCAVATION SHALL BE ALLOWED WITHIN THE CPZ OF PROTECTED TREES, EXCEPT WHERE DEBITS HAVE BEEN NOTED ON THE TREE REMOVAL PLANS OR WHERE TREES ARE TO BE IMPACTED/MITIGATED PER THE TREE MITIGATION PLANS.
11. STREET SWEEPING WILL BE REQUIRED AS NECESSARY.
12. IMPROVEMENTS SHOWN FOR REFERENCE ONLY.
13. COORDINATE DISPOSAL OF EXCAVATED MATERIAL WITH OWNER.
14. ALL EROSION CONTROL MEASURES ARE TO BE MADE OF NATURAL MATERIALS.

EROSION CONTROL LEGEND

	IP	INLET PROTECTION
SF	SF	SILT FENCE
	EE	EROSION EELS
	OP	OUTLET PROTECTION
	CW	CONCRETE WASHOUT AREA
	CE	CONSTRUCTION ENTRANCE
		CONSTRUCTION SIGN
TP	TP	TREE PROTECTION

PROPOSED GROUND COVER LEGEND

	CONSERVATION SEED MIX
	FESCUE/ BLUEGRASS SEED MIX

SEE SHEET C3.02 FOR EROSION CONTROL DETAILS

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

BORTHWICK AVENUE (A PUBLIC WAY)

BORTHWICK AVE

PORTSMOUTH REGIONAL HOSPITAL

AMBULANCE ENTRANCE

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PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
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DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

EROSION CONTROL PLAN - PHASE 1

C3.00

EROSION CONTROL NOTES

1. CONTRACTOR SHALL COORDINATE WITH CITY OF PORTSMOUTH GROWTH MANAGEMENT AND THE COUNTY'S ENVIRONMENTAL INSPECTOR.
2. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED, DURING ANY PHASE OF DEVELOPMENT, AT THE DISCRETION OF THE CITY OF PORTSMOUTH'S ENVIRONMENTAL INSPECTOR.
3. THE CONTRACTOR SHALL ENSURE THAT A FOREMAN OR SUPERVISOR WHO HAS BEEN CERTIFIED UNDER THE NEW HAMPSHIRE STORMWATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR TRAINING PROGRAM IS AVAILABLE IN PERSON OR BY PHONE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. INSPECTOR TO BE DESIGNATED AND AVAILABLE AT THE PRE-CONSTRUCTION MEETING.
4. SILT FENCE SHOWN ON THESE PLANS SHALL BE INSTALLED GENERALLY IN THE LOCATIONS INDICATED, ADJUSTED FOR FIELD CONSTRAINTS. ALL PROPOSED SILT FENCE LOCATED WITHIN THE CRITICAL PROTECTION ZONE OF A TREE SHALL BE OF A NON-TRENCHED VARIETY, UNLESS ARBORICULTURAL MITIGATION STATES OTHERWISE.
5. CONTRACTOR SHALL INSPECT AND REPAIR ALL BMP's AT LEAST ONCE A WEEK, AND AFTER EVERY SIGNIFICANT RAIN EVENT (> 1/2" OF RAINFALL.) A LOG OF SUCH INSPECTIONS SHALL BE MAINTAINED AT THE SITE.
6. ANY BMP IN NEED OF REPAIR OR REINSTALLATION SHALL BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS OF IDENTIFICATION OF THE NEED FOR SUCH CORRECTION.
7. ADDITIONAL BMP MEASURES MAY BE NECESSARY TO ENSURE THAT TURBID WATER IS NOT DISCHARGED FROM THE CONSTRUCTION SITE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN, THE N.P.D.E.S. PERMIT AND THE CONDITIONS OF THE APPLICABLE ENVIRONMENTAL RESOURCE PERMIT.
9. ALL DISTURBED AREAS TO BE LEFT IDLE LONGER THAN 14 DAYS MUST BE STABILIZED WITH QUICK GROW GRASS SEED AND MULCH.
10. NO TRENCHING OR EXCAVATION SHALL BE ALLOWED WITHIN THE CPZ OF PROTECTED TREES, EXCEPT WHERE DEBITS HAVE BEEN NOTED ON THE TREE REMOVAL PLANS OR WHERE TREES ARE TO BE IMPACTED/MITIGATED PER THE TREE MITIGATION PLANS.
11. STREET SWEEPING WILL BE REQUIRED AS NECESSARY.
12. IMPROVEMENTS SHOWN FOR REFERENCE ONLY.
13. COORDINATE DISPOSAL OF EXCAVATED MATERIAL WITH OWNER.
14. ALL EROSION CONTROL MEASURES ARE TO BE MADE OF NATURAL MATERIALS.

EROSION CONTROL LEGEND

	IP	INLET PROTECTION
SF	SF	SILT FENCE
	EE	EROSION EELS
	OP	OUTLET PROTECTION
	CW	CONCRETE WASHOUT AREA
	CE	CONSTRUCTION ENTRANCE
		CONSTRUCTION SIGN
TP	TP	TREE PROTECTION

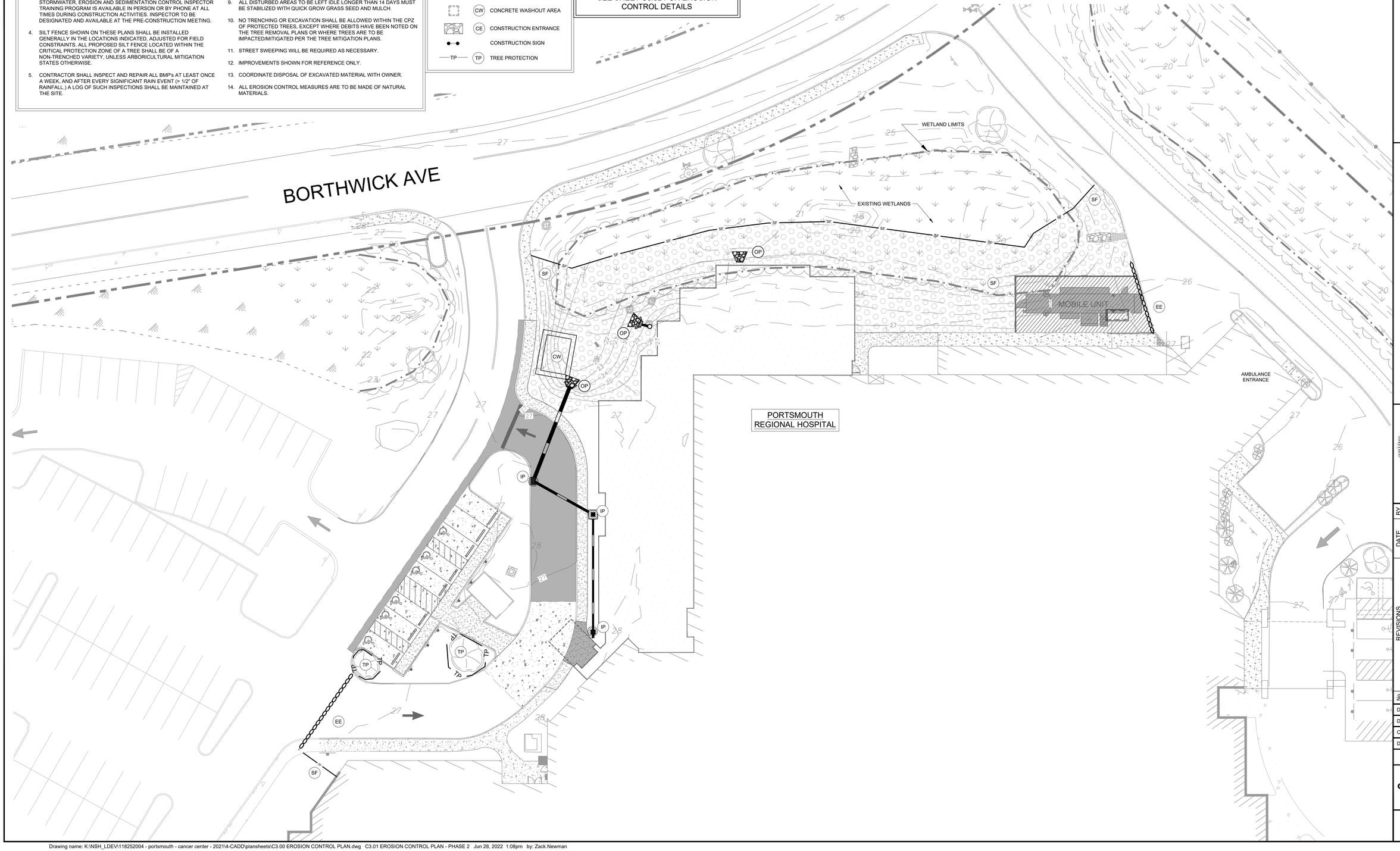
PROPOSED GROUND COVER LEGEND

	CONSERVATION SEED MIX
	FESCUE/ BLUEGRASS SEED MIX

SEE SHEET C3.02 FOR EROSION CONTROL DETAILS

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH



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PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE – ANDREW JAMES SCHALL No. 15914 – LICENSED PROFESSIONAL ENGINEER

No:	REVISIONS	DATE	BY
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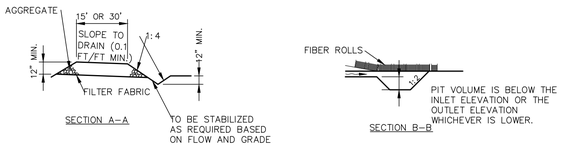
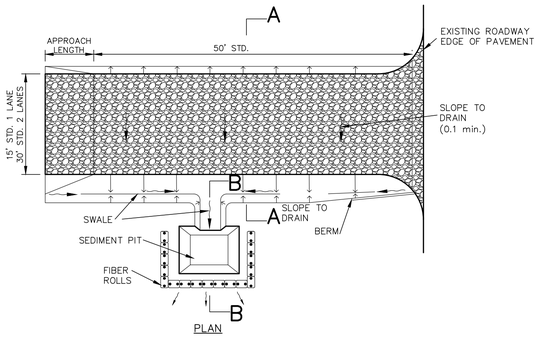
DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

EROSION CONTROL PLAN - PHASE 2

C3.01

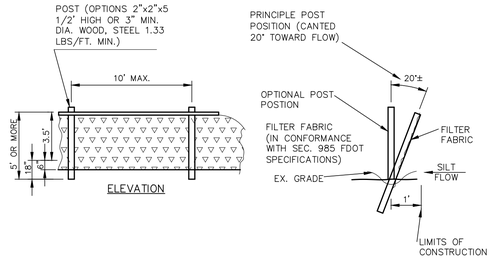
Drawing name: K:\NSH_LDEV\118252004 - portsmouth - cancer center - 2021\4-CADD\plansheets\C3.00 EROSION CONTROL PLAN.dwg C3.01 EROSION CONTROL PLAN - PHASE 2 Jun 28, 2022 1:08pm by: Zack.Newman



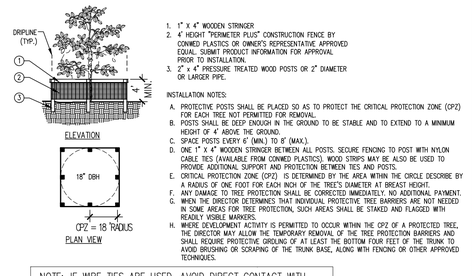


NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

CE CONSTRUCTION ENTRANCE (SOIL TRACKING PREVENTION)
NOT TO SCALE



SF SILT FENCE (SEDIMENT BARRIER)
NOT TO SCALE

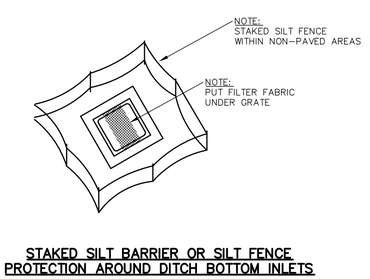


1. 1" X 4" WOODEN STRINGER
2. 4' HEIGHT "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
3. 2" x 4" PRESSURE TREATED WOOD POSTS OR 2" DIAMETER OR LARGER PIPE.

INSTALLATION NOTES:
A. PROTECTIVE POSTS SHALL BE PLACED SO AS TO PROTECT THE CRITICAL PROTECTION ZONE (CPZ) FOR EACH TREE NOT PERMITTED FOR REMOVAL.
B. POSTS SHALL BE DEEP ENOUGH IN THE GROUND TO BE STABLE AND TO EXTEND TO A MINIMUM HEIGHT OF 4' ABOVE THE GROUND.
C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).
D. ONE 1" X 4" WOODEN STRINGER BETWEEN ALL POSTS. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.
E. CRITICAL PROTECTION ZONE (CPZ) IS DETERMINED BY THE AREA WITHIN THE CIRCLE DESCRIBE BY A RADIUS OF ONE FOOT FOR EACH INCH OF THE TREE'S DIAMETER AT BREAST HEIGHT.
F. ANY DAMAGE TO TREE PROTECTION SHALL BE CORRECTED IMMEDIATELY. NO ADDITIONAL PAYMENT.
G. WHEN THE DIRECTOR DETERMINES THAT INDIVIDUAL PROTECTIVE TREE BARRIERS ARE NOT NEEDED IN SOME AREAS FOR TREE PROTECTION, SUCH AREAS SHALL BE STAKED AND FLAGGED WITH READILY VISIBLE MARKERS.
H. WHERE DEVELOPMENT ACTIVITY IS PERMITTED TO OCCUR WITHIN THE CPZ OF A PROTECTED TREE, THE DIRECTOR MAY ALLOW THE TEMPORARY REMOVAL OF THE TREE PROTECTION BARRIERS AND SHALL REQUIRE PROTECTIVE GIRDLING OF AT LEAST THE BOTTOM FOUR FEET OF THE TRUNK TO AVOID BRUSHING OR SCRAPING OF THE TRUNK BASE, ALONG WITH FENCING OR OTHER APPROVED TECHNIQUES.

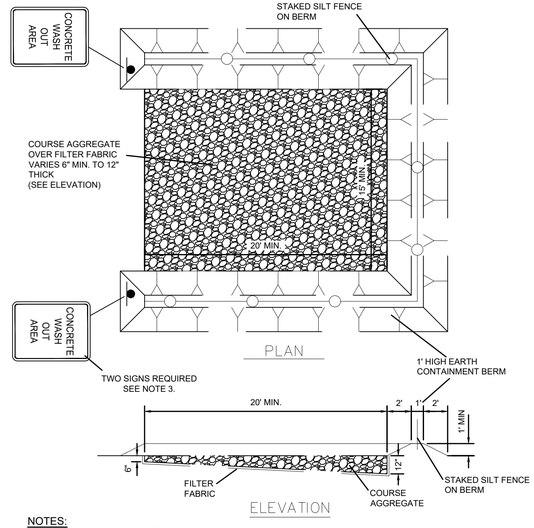
NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

TP TREE PROTECTION
NOT TO SCALE



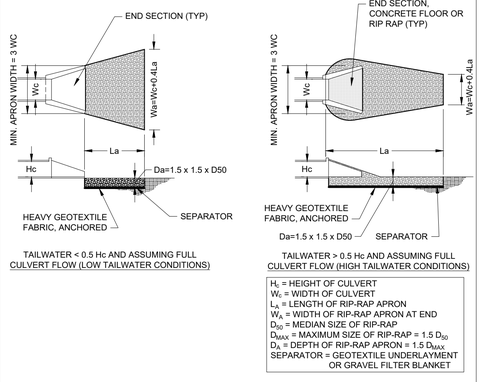
STAKED SILT BARRIER OR SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS

IP INLET PROTECTION
NOT TO SCALE



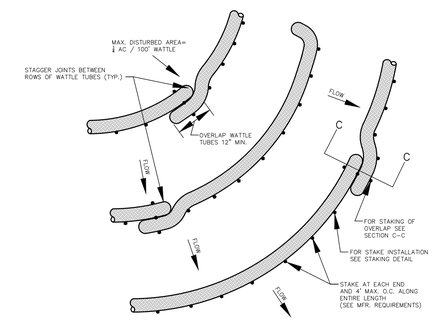
NOTES:
1. ALL MATERIAL SHALL BE REMOVED FROM THE SITE AT THE END OF THE PROJECT.
2. AGGREGATE SHALL BE REPLACED AS DIRECTED BY THE ENGINEER OF RECORD AND/OR THE CITY WHEN EXCESSIVE MATERIALS BUILDUP RENDERS THE WASH OUT AREA NO LONGER FUNCTIONAL.
3. SIGNS SHALL BE 18" X 12" MIN. SIZE WITH 2" BLACK LETTERING ON A WHITE BACKGROUND AND MOUNTED A MINIMUM OF 7 FEET ABOVE GRADE FROM THE LOWEST EDGE OF THE SIGN FACE.

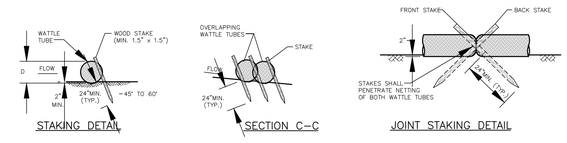
CW CONCRETE WASHOUT
NOT TO SCALE



H_c = HEIGHT OF CULVERT
W_c = WIDTH OF CULVERT
L_A = LENGTH OF RIP-RAP APRON
W_A = WIDTH OF RIP-RAP APRON AT END
D_{50} = MEDIAN SIZE OF RIP-RAP
D_{MAX} = MAXIMUM SIZE OF RIP-RAP = 1.5 D_{50}
D_A = DEPTH OF RIP-RAP APRON = 1.5 D_{MAX}
SEPARATOR = GEOTEXTILE UNDERLAYMENT OR GRAVEL FILTER BLANKET

OP OUTLET PROTECTION
NOT TO SCALE





EE EROSION EELS
NOT TO SCALE

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PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
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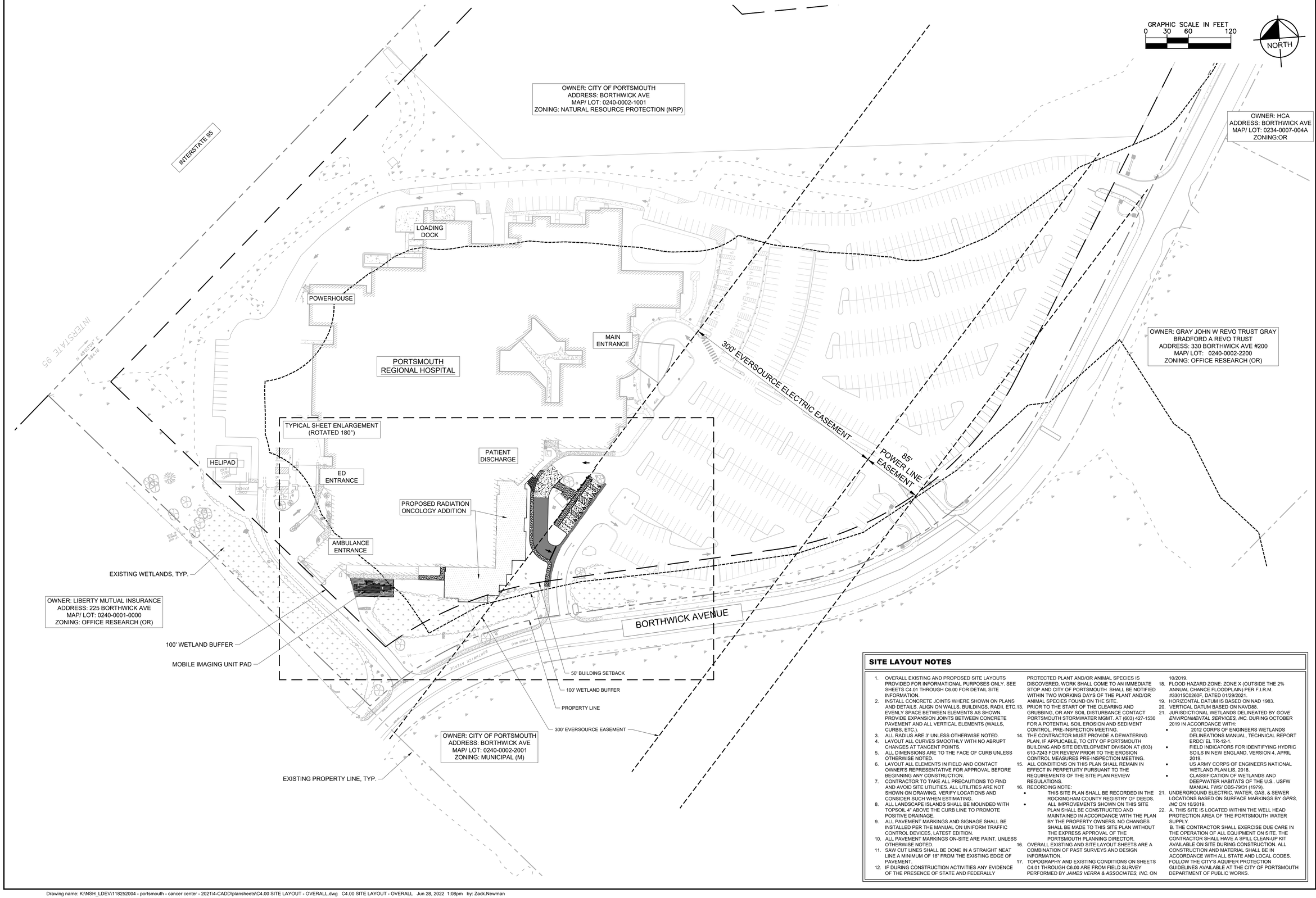
DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

EROSION CONTROL DETAILS

C3.02



SITE LAYOUT NOTES

1. OVERALL EXISTING AND PROPOSED SITE LAYOUTS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SEE SHEETS C4.01 THROUGH C6.00 FOR DETAIL SITE INFORMATION.
2. INSTALL CONCRETE JOINTS WHERE SHOWN ON PLANS AND DETAILS. ALIGN ON WALLS, BUILDINGS, RADII, ETC. EVENLY SPACE BETWEEN ELEMENTS AS SHOWN. PROVIDE EXPANSION JOINTS BETWEEN CONCRETE PAVEMENT AND ALL VERTICAL ELEMENTS (WALLS, CURBS, ETC.).
3. ALL RADIUS ARE 3' UNLESS OTHERWISE NOTED.
4. LAYOUT ALL CURVES SMOOTHLY WITH NO ABRUPT CHANGES AT TANGENT POINTS.
5. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
6. LAYOUT ALL ELEMENTS IN FIELD AND CONTACT OWNERS REPRESENTATIVE FOR APPROVAL BEFORE BEGINNING ANY CONSTRUCTION.
7. CONTRACTOR TO TAKE ALL PRECAUTIONS TO FIND AND AVOID SITE UTILITIES. ALL UTILITIES ARE NOT SHOWN ON DRAWING. VERIFY LOCATIONS AND CONSIDER SUCH WHEN ESTIMATING.
8. ALL LANDSCAPE ISLANDS SHALL BE MOUNDED WITH TOPSOIL 4" ABOVE THE CURB LINE TO PROMOTE POSITIVE DRAINAGE.
9. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE INSTALLED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
10. ALL PAVEMENT MARKINGS ON-SITE ARE PAINT, UNLESS OTHERWISE NOTED.
11. SAW CUT LINES SHALL BE DONE IN A STRAIGHT NEAT LINE A MINIMUM OF 18" FROM THE EXISTING EDGE OF PAVEMENT.
12. IF DURING CONSTRUCTION ACTIVITIES ANY EVIDENCE OF THE PRESENCE OF STATE AND FEDERALLY PROTECTED PLANT AND/OR ANIMAL SPECIES IS DISCOVERED, WORK SHALL COME TO AN IMMEDIATE STOP AND CITY OF PORTSMOUTH SHALL BE NOTIFIED WITHIN TWO WORKING DAYS OF THE PLANT AND/OR ANIMAL SPECIES FOUND ON THE SITE.
13. PRIOR TO THE START OF THE CLEARING AND GRUBBING, OR ANY SOIL DISTURBANCE CONTACT PORTSMOUTH STORMWATER MGMT. AT (603) 427-1530 FOR A POTENTIAL SOIL EROSION AND SEDIMENT CONTROL, PRE-INSPECTION MEETING.
14. THE CONTRACTOR MUST PROVIDE A DEWATERING PLAN, IF APPLICABLE, TO CITY OF PORTSMOUTH BUILDING AND SITE DEVELOPMENT DIVISION AT (603) 610-7243 FOR REVIEW PRIOR TO THE EROSION CONTROL MEASURES PRE-INSPECTION MEETING.
15. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
16. RECORDING NOTE:
    - THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
    - ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
16. OVERALL EXISTING AND SITE LAYOUT SHEETS ARE A COMBINATION OF PAST SURVEYS AND DESIGN INFORMATION.
17. TOPOGRAPHY AND EXISTING CONDITIONS ON SHEETS C4.01 THROUGH C6.00 ARE FROM FIELD SURVEY PERFORMED BY *JAMES VERRA & ASSOCIATES, INC.* ON 10/2019.
18. FLOOD HAZARD ZONE: ZONE X (OUTSIDE THE 2% ANNUAL CHANCE FLOODPLAIN) PER F.I.R.M. #33015C0260F, DATED 01/29/2021.
19. HORIZONTAL DATUM IS BASED ON NAD 1983.
20. VERTICAL DATUM BASED ON NAVD88.
21. JURISDICTIONAL WETLANDS DELINEATED BY *GOVE ENVIRONMENTAL SERVICES, INC.* DURING OCTOBER 2019 IN ACCORDANCE WITH:
    - 2012 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT ERDC/ EL TR-12-1.
    - FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, APRIL 2019.
    - US ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLAN LIS, 2018.
    - CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE U.S., USFW MANUAL FWS/ OBS-79/31 (1979).
21. UNDERGROUND ELECTRIC, WATER, GAS, & SEWER LOCATIONS BASED ON SURFACE MARKINGS BY *GPRS, INC* ON 10/2019.
22. A. THIS SITE IS LOCATED WITHIN THE WELL HEAD PROTECTION AREA OF THE PORTSMOUTH WATER SUPPLY.
    B. THE CONTRACTOR SHALL EXERCISE DUE CARE IN THE OPERATION OF ALL EQUIPMENT ON SITE. THE CONTRACTOR SHALL HAVE A SPILL CLEAN-UP KIT AVAILABLE ON SITE DURING CONSTRUCTION. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES. FOLLOW THE CITY'S AQUIFER PROTECTION GUIDELINES AVAILABLE AT THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

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PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY
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DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

SITE LAYOUT - OVERALL

C4.00

SITE DATA TABLE

OWNER OF RECORD	HCA HEALTH SERVICES OF NH INC D/B/A PRH 32902	
SITE ADDRESS	333 BORTHWICK AVE, PORTSMOUTH, NH 03801	
SITE AREA	± 20.87 AC	
DISTURBANCE LIMITS W/ THIS PROJECT	± 0.7 AC	
TAX MAP & LOT	TAX MAP 240, LOT 2-1	
ZONING	OR - OFFICE RESEARCH	
SETBACKS	REQUIRED	PROPOSED
FRONT YARD SETBACK	50'-0"	±40'
REAR YARD SETBACK	50'-0"	±157'
SIDE YARD SETBACK	75'-0"	±71' * (EXISTING)
MIN. OPEN SPACE ON A LOT	30%	±39.0%
MAX BUILDING COVERAGE	30%	± 20.1%
BUILDING DATA		
	EXISTING	PROPOSED ADDITION
HOSPITAL BEDS	233	0
HOSPITAL/ MOB FLOOR PLATE	±173,916 SF	± 8,700 SF
HOSPITAL GROSS AREA	±427,495 SF	± 8,870 SF
MEDICAL OFFICE BUILDING GROSS AREA (ATTACHED TO HOSPITAL BUILDING)	±46,665 SF	0 SF
BUILDING HEIGHT	± 65'-4"	± 14'-8"

PAVEMENT LEGEND

	DESCRIPTION	DET #/ SHT #
	SIDEWALK CONCRETE	1 / C7.00
	ASPHALT PAVEMENT	2 / C7.00
	CONCRETE PAVEMENT	3 / C7.00
	MOBILE IMAGING CONCRETE PAD	4 / C7.00
	SPECIALITY SIDEWALK PAVEMENT	NOTE THIS SHEET

SPECIALITY SIDEWALK PAVEMENT NOTE

COLORED CONCRETE SURFACE WITH MEDIUM BROOM FINISH, CONSISTING OF SCOFIELD LITHOCHROME COLOR HARDENER, COLOR TO BE SELECTED BY ARCHITECT. SEAL CURED, COLORED SURFACE WITH SCOFIELD SCOFIELD CURESEAL-VOC MATTE FINISH CLEAR SEALANT. PREPARE SURFACES AND APPLY MATERIALS PER MANUFACTURER'S SPECIFICATIONS.

PARKING SUMMARY

	EXISTING	DEMOLISHED	PROPOSED	NET RESULT
ONSITE STANDARD SPACES	754	11	2	745
ONSITE ACCESSIBLE (INCLUDING VAN ACCESSIBLE)	29	4	6	31
OFFSITE STANDARD SPACES*	0	0	490	490
OFFSITE ACCESSIBLE (INCLUDING VAN ACCESSIBLE)*	0	0	11	11
TOTAL				1277

*PER SATELLITE PARKING LOT DRAWINGS PREPARED BY TIGHE & BOND

SITE LAYOUT NOTES

1. INSTALL CONCRETE JOINTS WHERE SHOWN ON PLANS AND DETAILS. ALIGN ON WALLS, BUILDINGS, RADII, ETC. EVENLY SPACE BETWEEN ELEMENTS AS SHOWN. PROVIDE EXPANSION JOINTS BETWEEN CONCRETE PAVEMENT AND ALL VERTICAL ELEMENTS (WALLS, CURBS, ETC.).
2. ALL RADIUS ARE 3' UNLESS OTHERWISE NOTED.
3. LAYOUT ALL CURVES SMOOTHLY WITH NO ABRUPT CHANGES AT TANGENT POINTS.
4. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
5. LAYOUT ALL ELEMENTS IN FIELD AND CONTACT OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE BEGINNING ANY CONSTRUCTION.
6. CONTRACTOR TO TAKE ALL PRECAUTIONS TO FIND AND AVOID SITE UTILITIES. ALL UTILITIES ARE NOT SHOWN ON DRAWING. VERIFY LOCATIONS AND CONSIDER SUCH WHEN ESTIMATING.
7. ALL LANDSCAPE ISLANDS SHALL BE MOUNDED WITH TOPSOIL 4" ABOVE THE CURB LINE TO PROMOTE POSITIVE DRAINAGE.
8. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE INSTALLED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
9. ALL PAVEMENT MARKINGS ON-SITE ARE PAINT, UNLESS OTHERWISE NOTED.
10. SAW CUT LINES SHALL BE DONE IN A STRAIGHT NEAT LINE A MINIMUM OF 18" FROM THE EXISTING EDGE OF PAVEMENT.
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14. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
15. RECORDING NOTE:
    - THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
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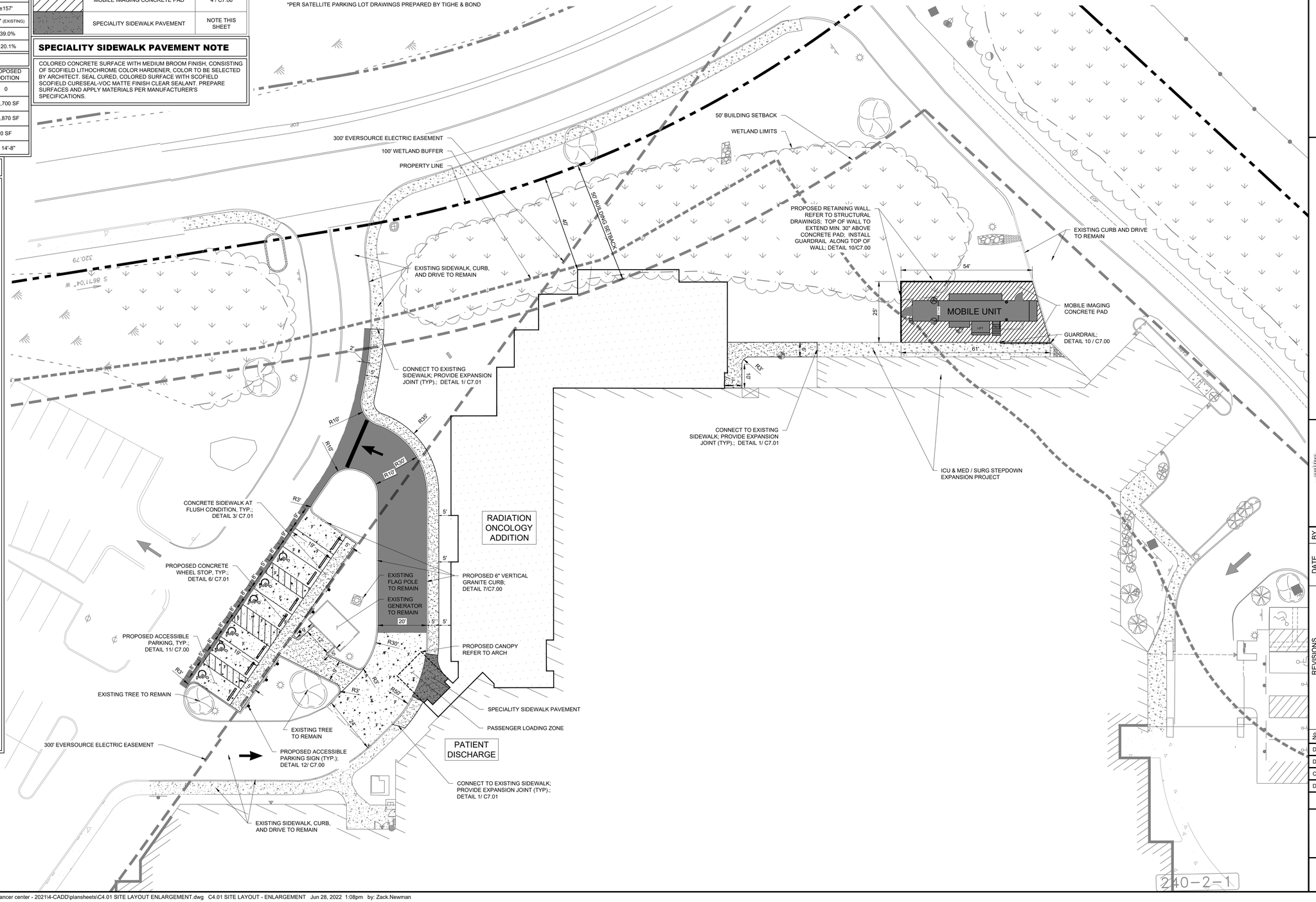

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CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

SITE LAYOUT - ENLARGEMENT

C4.01

240-2-1

GRADING NOTES

1. CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATION, SIZE, AND ELEVATIONS OF EXISTING UTILITIES AT CONNECTION POINTS PRIOR TO GRADING OR INSTALLATION OF ANY PROPOSED UTILITIES. CONTRACTOR TO IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE IF DISCREPANCIES ARE FOUND.
2. ADDITIONAL EROSION CONTROL DEVICES TO BE USED AS REQUIRED BY LOCAL INSPECTOR.
3. DISTURBED AREAS LEFT IDLE FOR FIVE DAYS, AND NOT TO FINAL GRADE, WILL BE ESTABLISHED TO TEMPORARY VEGETATION. MULCH, TEMPORARY VEGETATION OR PERMANENT VEGETATION SHALL BE COMPLETED ON ALL EXPOSED AREAS WITHIN 14 DAYS AFTER DISTURBANCE. ALL AREAS TO FINAL GRADE WILL BE ESTABLISHED TO PERMANENT VEGETATION UPON COMPLETION.
4. WHEN HAND PLANTING, MULCH (HAY OR STRAW) SHOULD BE UNIFORMLY SPREAD OVER SEEDED AREA WITHIN 24 HOURS OF SEEDING. IF UNABLE TO ACCOMPLISH, MULCH SHALL BE USED AS A TEMPORARY COVER. CONCENTRATED FLOW AREAS AND ALL SLOPES STEEPER THAN 2.5:1 AND WITH A HEIGHT OF TEN FEET OR GREATER (DOES NOT APPLY TO RETAINING WALLS), AND CUTS AND FILLS WITHIN BUFFERS, SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKETS.
5. THE GRADING PERMIT/ SITE PERMIT MUST BE DISPLAYED ON SITE AT ALL TIMES DURING CONSTRUCTION AND IN PLAIN VIEW FROM A PUBLIC ROAD OR STREET.
6. EROSION AND SEDIMENT CONTROL DEVICES MUST BE DISPLAYED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR MUST CALL FOR AN INSPECTION TO OBTAIN A PERMIT TO GRADE. PLEASE CALL WITH ENOUGH LEAD-TIME FOR AN INSPECTION TO MEET YOUR SCHEDULE.
7. SEDIMENT/EROSION CONTROL DEVICES MUST BE INSPECTED ACCORDING TO LOCAL AND STATE REQUIREMENTS AND AS STIPULATED IN THE STORMWATER POLLUTION PREVENTION PLAN. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MAY BE NECESSARY AS THE PROJECT PROGRESSES AND NEW CHANNELS HAVE DEVELOPED.
8. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.
9. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
10. CONTRACTOR SHALL REVIEW SITE GEOTECHNICAL REPORT BEFORE COMMENCING GRADING OPERATIONS.
11. SEED ALL DISTURBED AREAS UNLESS OTHERWISE NOTED AS PART OF THIS CONTRACT. REFER TO LANDSCAPING PLANS FOR AREAS TO RECEIVE SOD.
12. INSTALL SOD OR RIPRAP IN SWALES AS INDICATED ON GRADING PLANS AND EROSION CONTROL PLANS
13. TOPSOIL ON SITE TO BE STRIPPED AND STOCKPILED FOR REUSE IN LAWN AREAS.
14. ADEQUATE DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES, BEST MANAGEMENT PRACTICES, AND/OR OTHER WATER QUALITY MANAGEMENT FACILITIES SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DAMAGES TO ADJACENT PROPERTY AND/OR THE CONSTRUCTION SITE CAUSED BY THE CONTRACTOR'S OR PROPERTY OWNER'S FAILURE TO PROVIDE AND MAINTAIN ADEQUATE DRAINAGE AND EROSION/SEDIMENT CONTROL FOR THE CONSTRUCTION AREA SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND/OR CONTRACTOR.
15. UNDERGROUND UTILITIES HAVE NOT BEEN VERIFIED BY THE OWNER, DESIGNER, OR THEIR REPRESENTATIVES. BEFORE YOU DIG CALL ONE CALL--811 OR 1-800-752-6007
16. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY UNDERGROUND UTILITIES TO REMAIN.
18. HORIZONTAL DATUM IS BASED ON NAD 1983.
19. VERTICAL DATUM BASED ON NAVD88.
20. CONTRACTOR TO FIELD VERIFY FINISHED FLOOR ELEVATION.

GRADING PLAN LEGEND

28.60	SPOT ELEVATION			
	HP	HIGH POINT	LP	LOW POINT
	TC	TOP OF CURB	BC	BOTTOM OF CURB / GUTTER LINE
	TW	GRADE AT TOPSIDE OF WALL	BW	GRADE AT BOTTOM SIDE OF WALL
	INV	INVERT	RIM	TOP OF GRATE / COVER
	ME	MATCH EXISTING		
FFE 28.60	FINISH FLOOR ELEVATION			
27	EXISTING CONTOUR			
27	PROPOSED CONTOUR			

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

PROPERTY LINE, TYP
EXISTING 24" RCP
BUILDING FOUNDATION WALL; REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS
12" ROOF LEADER TERMINATING AT BUILDING WALL; REFER TO MEP & STRUCTURAL DRAWINGS
PROPOSED WATER LINES. REFER TO C6.00
RETAINING WALL; REFER TO STRUCTURAL DRAWINGS
1.5-IN PVC WEEPS 10-FT O.C.
SLEEVE THROUGH RETAINING WALL FOR DECON PIPING W/ D.I.P
EXISTING 21" RCP
WETLAND LIMITS
SLOPE FROM FLUSH CONDITION TO MOBILE IMAGING PAD
GUARDRAIL DETAIL 10 / C7.00
EXISTING MONITORING WELL
HEADWALL (TYP.); DETAIL 4/ C4.01
HEADWALL (TYP.); DETAIL 4/ C4.01
MOBILE UNIT
PROPOSED POND EXPANSION
PROPOSED ROOF DRAIN CONNECTION. REFER TO MEP DRAWINGS FOR CONTINUATION
NEW MOBILE IMAGING PAD; MAXIMUM 2% SLOPE IN ANY DIRECTION
EXISTING 10" ROOF LEADER
A0
INV: 22.50
44 LF OF 16" RCP @ 4.55%
PROPOSED CURB INLET; DETAIL 11/ C7.01
A1
RIM: 26.60
INV IN: 23.35
INV OUT: 23.15
SLOPE NEW DRIVE TO EXISTING PAVEMENT ELEVATION
FFE = ±27.8 (MATCH EXISTING)
12" PVC @ 1.46%
30 LF OF
A2
RIM: 27.44
INV IN: 23.99
INV OUT: 23.79
FLUSH SIDEWALK. MAX 2% CROSS SLOPE MAX 5% LONGITUDINAL SLOPE
PROPOSED AREA DRAIN / BUILDING ROOF DRAIN CONNECTION. REFER TO MEP DRAWINGS FOR CONTINUATION; DETAIL 10/ C7.01
SAWCUT LINE (TYP)
A3
RIM: 27.76
INV OUT: 24.75
ACCESSIBLE PARKING; MAXIMUM 2% SLOPE IN ANY DIRECTION
132 LF OF 8" PVC @ 1.46%
PROPOSED AREA DRAIN / CANOPY ROOF DRAIN CONNECTION. REFER TO MEP DRAWINGS FOR CONTINUATION; DETAIL 10/ C7.01
TURNING MANEUVER MAX 2% SLOPE ANY DIRECTION
PASSENGER LOADING ZONE; MAXIMUM 2% SLOPE IN ANY DIRECTION
SLOPE NEW DRIVE TO EXISTING PAVEMENT ELEVATION
EXISTING SANITARY SEWER

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GRADING & DRAINAGE PLAN

C5.00

UTILITY NOTES

1. CONTRACTOR RESPONSIBLE FOR VERIFYING EXISTING ELEVATIONS COMPARED TO THOSE SHOWN ON PLAN PRIOR TO GRADING. NOTIFY OWNER'S REPRESENTATIVE IF DISCREPANCIES ARE FOUND.
2. ALL WATER AND SEWER MATERIALS AND CONSTRUCTION SHALL BE IN COMPLIANCE WITH CITY OF PORTSMOUTH WATER/ SEWER DEPARTMENT STANDARD SPECIFICATIONS.
3. MAINTAIN MINIMUM 10 FEET HORIZONTAL SEPARATION BETWEEN WATER & SANITARY SEWER OR 18" VERTICAL SEPARATION AT CROSSING LOCATIONS.
4. REFER TO CITY OF PORTSMOUTH WATER/ SEWER DEPARTMENT STANDARD SPECIFICATIONS FOR PIPE BEDDING REQUIREMENTS.
5. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS OF WATER & SANITARY SEWER CONSTRUCTION PRIOR TO THE ACCEPTANCE OF THE PUBLIC UTILITIES.

EXISTING UTILITIES NOTE

CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES AND/OR CONFLICTS WITH EXISTING OR PROPOSED UTILITIES PRIOR TO PROCEEDING.

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

EXISTING FDC
EXISTING FIRE HYDRANT
PROPERTY LINE
EXISTING 4" DIP DRY PIPE TO REMOTE FDC WITHIN R/W
EXISTING 8" FIRE LINE
8"X8" TAPPING SLEEVE AND VALVE
EXISTING 6" DOMESTIC WATER LINE
22.5° BEND, TYP.
90° BEND, TYP.
6"X6" TAPPING SLEEVE AND VALVE
8" FIRE LINE TO EXISTING FIRE PUMP ROOM. REFER TO MEP DRAWINGS FOR CONTINUATION INSIDE BUILDING
RELOCATE 4" DIP DRY FDC / FIRE LINE AROUND NEW MOBILE IMAGING PAD
4"X4" TEE
45° BEND
90° BEND
4"
RELOCATED DECON TANK; REFER TO MEP DRAWINGS AND DETAILS
DECON TANK PIPE TO BE SLEEVED THROUGH RETAINING WALL FOOTER. REFER TO STRUCTURAL DWGS.
MOBILE UNIT
EXISTING SEWER LINE
6"X6" TAPPING SLEEVE AND VALVE. REFER TO MEP DRAWINGS FOR CONTINUATION
8"X8" TAPPING SLEEVE AND VALVE ON EXISTING 8" FIRE LINE TO EXISTING FIRE PUMP ROOM. REFER TO MEP DRAWINGS FOR CONTINUATION
4"X4" TEE
EXISTING 10" ROOF LEADER
POST INDICATOR VALVE; DETAIL 9, C7.01
45° BEND, TYP.
APPROXIMATE SEWER LOCATION
21" RCP
24" RCP

PROPOSED PRECAST SEWER MANHOLE FOR NEW BLDG EXPANSION; DETAIL 7/ C7.01

TC = +/-27.0'
EXISTING 10" INV = ± 17.0'
PROPOSED 6" INV = ± 18.9'

CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING 10" SEWER PIPE AND INVERT

PROPOSED 42 LF OF 6" PVC AT 1% MIN. SLOPE

FFE = ±27.8
(MATCH EXISTING)

PROPOSED SEWER CLEANOUT
INV OUT = 21.0'
DETAIL 8/ C7..01
REFER TO MEP DRAWINGS FOR FOR CONTINUATION INSIDE BUILDING

EXISTING GENERATOR TO REMAIN

EXISTING 10" SEWER LINE

EXISTING TRANSFORMER TO REMAIN

EXISTING SEWER MANHOLE
TC = 27.27
10" INV = 17.59

240-2-1

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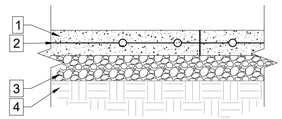
SITE UTILITY PLAN

C6.00

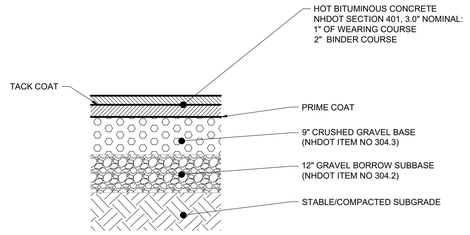


NOTES:
1. PAVEMENT SECTION TO BE PROVIDED BY GEOTECHN REPORT. FINAL PAVEMENT SECTION TO BE DETERMINED BY ONSITE GEOTECH BASED UPON EXISTING SOIL CONDITIONS.
2. FIBER MESH REINFORCING CAN BE SUBSTITUTED FOR WWM. APPLICATION RATES SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH NH- DOT STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, LATEST EDITION.
4. LIGHT BROOM FINISH SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

PAVEMENT LEGEND

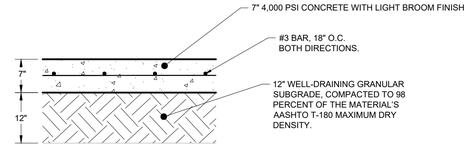
1	4" 3,500 PSI CONCRETE WITH LIGHT BROOM FINISH
2	6 X 6, 10, 10 W.W.M.
3	6" COMPACTED CRUSHED GRAVEL (NHDOT 304.3)
4	COMPACTED SUBGRADE

1 CONCRETE SIDEWALK
NOT TO SCALE



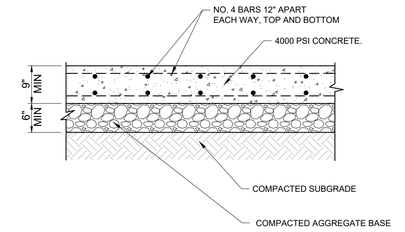
NOTES:
1. PAVEMENT SECTION PER GEOTECH ENGINEER REPORT PREPARED BY HALEY & ALDRICH, INC., DATED APRIL 2022. FINAL PAVEMENT SECTION TO BE DETERMINED BY ONSITE GEOTECH BASED UPON EXISTING SOIL CONDITIONS.
2. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH NH-DOT STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, LATEST EDITION.

2 HEAVY DUT ASPHALT
NOT TO SCALE



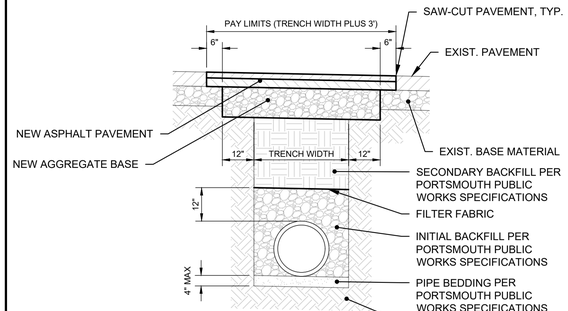
NOTES:
1. SEE GEOTECHNICAL SPECIFICATIONS FOR SUBGRADE REQUIREMENTS. PAVING SECTION PROVIDED IS TAKEN FROM THE ASSOCIATED GEOTECH REPORT.
2. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH NHDOT STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, LATEST EDITION.
3. BROOM FINISH SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.
4. PLACE EXPANSION JOINTS AT A MAXIMUM OF 75' O.C. AND 1.75" DEEP.
5. PLACE CONTROL JOINTS AT A MAXIMUM OF 14' O.C.

3 CONCRETE PAVEMENT
NOT TO SCALE



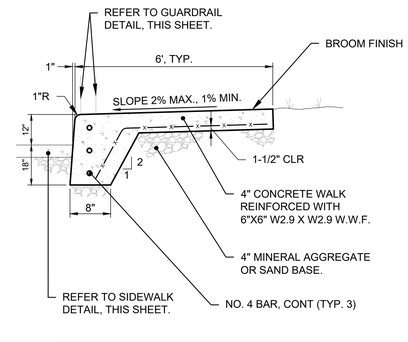
NOTE:
CONTRACTOR TO VERIFY SLAB THICKNESS AND REINFORCING WITH THE MOBILE IMAGING UNIT VENDOR. SOME SYSTEMS MAY REQUIRE THICKER PAVEMENT AND/OR NON-FERROUS REINFORCEMENT OR FIBERGLASS REINFORCED CONCRETE.

4 MOBILE IMAGING CONCRETE PAD
NOT TO SCALE



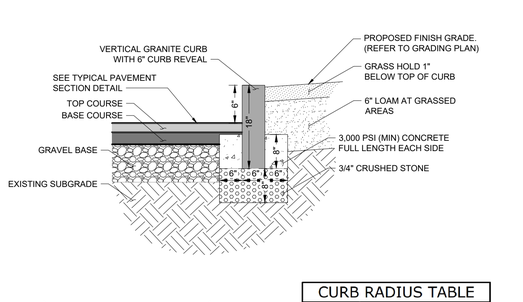
NOTES:
1. THE NEW ASPHALT PAVEMENT SHALL BE OF THE SAME TYPE AND, AT A MINIMUM, THE SAME THICKNESS AS THE EXISTING ASPHALT PAVEMENT.
2. THE NEW AGGREGATE BASE SHALL BE AT LEAST 1.5 TIMES THE THICKNESS OF THE EXISTING AGGREGATE BASE (6" MINIMUM).

5 PAVEMENT TRENCH REPAIR
NOT TO SCALE



NOTES:
1. USE 4000 PSI CONCRETE AND GRADE 60 STEEL.
2. PROVIDE CONTROL JOINTS 5' APART AND EXPANSION JOINTS 25' APART, AND WHERE SIDEWALKS ABUT RIGID MATERIALS.

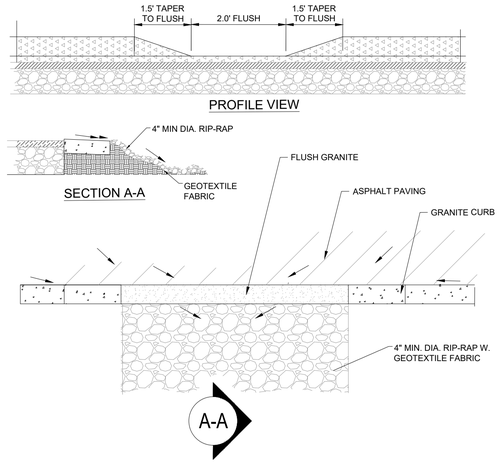
6 SIDEWALK WITH 12" TURNDOWN
NOT TO SCALE



NOTES:
1. ADJOINING STONES SHALL HAVE THE SAME LENGTH.
2. JOINTS BETWEEN STONES SHALL HAVE A MAX SPACING OF 1/2" AND SHALL BE MORTARED.

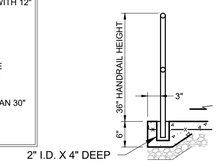
CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

7 6" VERTICAL GRANITE CURB
NOT TO SCALE

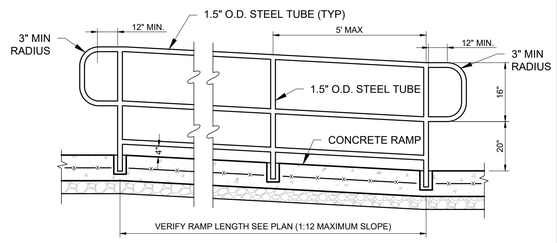


8 CURB CUT
NOT TO SCALE

NOTES:
1. PROVIDE 36" HEIGHT 1.5" O.D. HAND RAIL ON BOTH SIDES OF THE RAMP WITH 12" HAND RAIL EXTENSIONS PAST THE TOP AND BOTTOM OF THE RAMP.
2. VARIATIONS IN HAND RAIL HEIGHT SHALL NOT BE ALLOWED.
3. THE RAMP SHALL HAVE A MINIMUM WIDTH OF 60".
4. HAND RAIL SHALL BE SMOOTH-FINISH. ALL WELDED SURFACES SHALL BE PAINTED WITH TWO COATS OF ENAMEL, COLOR TO BE SELECTED BY THE ARCHITECT.
5. PROVIDE HAND RAIL/GUARD RAIL AT ALL RETAINING WALLS GREATER THAN 30" IN HEIGHT.
6. RAMP CONSTRUCTION SHALL BE SIMILAR TO CONCRETE SIDEWALKS.

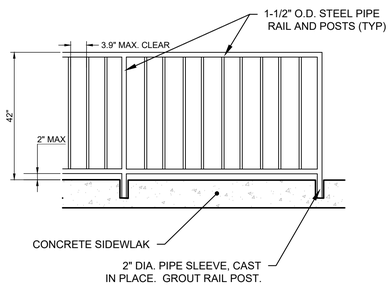


SECTION



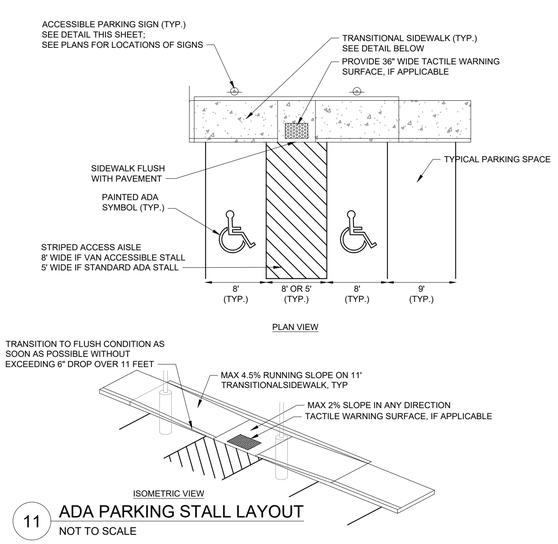
SECTION

9 ACESSIBLE RAMP WITH HANDRAIL
NOT TO SCALE

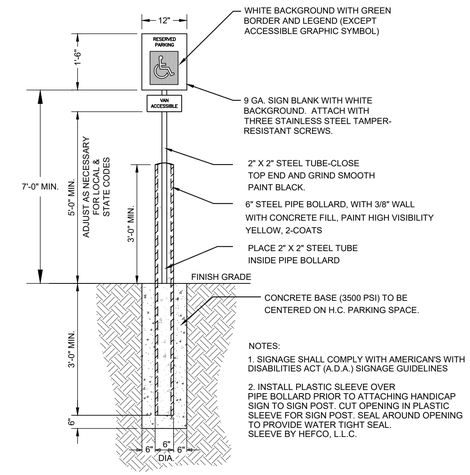


NOTES:
1. VARIATIONS IN GUARD RAIL HEIGHT SHALL NOT BE ALLOWED.
2. MAXIMUM CLEARANCE BETWEEN BOTTOM RAIL AND CONCRETE SHALL BE 2". GUARD RAIL SHALL BE SMOOTH-FINISHED, ALL WELDED SURFACES PRIMED AND PAINTED WITH TWO COATS OF ENAMEL. COLOR TO BE SELECTED BY ARCHITECT.

10 GUARD RAIL
NOT TO SCALE



11 ADA PARKING STALL LAYOUT
NOT TO SCALE

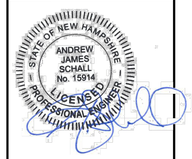


NOTES:
1. SIGNAGE SHALL COMPLY WITH AMERICAN'S WITH DISABILITIES ACT (A.D.A.) SIGNAGE GUIDELINES
2. INSTALL PLASTIC SLEEVE OVER PIPE BOLLARD PRIOR TO ATTACHING HANDICAP SIGN TO SIGN POST. CUT OPENING IN PLASTIC SLEEVE FOR SIGN POST. SEAL AROUND OPENING TO PROVIDE WATER TIGHT SEAL. SLEEVE BY HEFCO, L.L.C.

12 ACCESSIBLE PARKING SIGNAGE
NOT TO SCALE

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE



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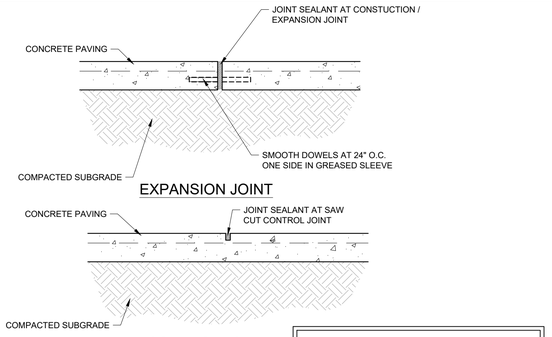
DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

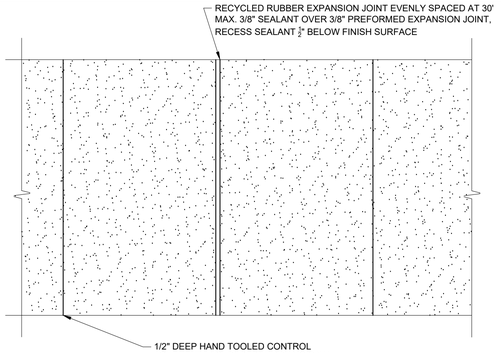
SITE DETAILS

C7.00



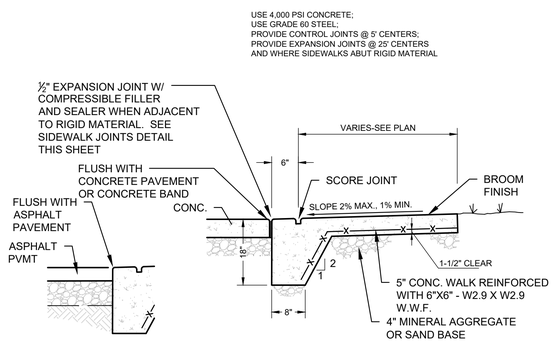
NOTE:
1. CONTROL JOINTS TO BE SPACED EVERY 5' MAX HORIZONTALLY.
2. EXPANSION JOINTS TO BE SPACED EVERY 20' MAX HORIZONTALLY.
3. EXPANSION JOINTS SHALL BE PLACED AT ANY TIE-IN POINT TO EXISTING CONCRETE AND AT ALL VERTICAL INTERFACES WITH BUILDINGS AND WALLS.

1 SIDEWALK JOINT DETAIL
NOT TO SCALE



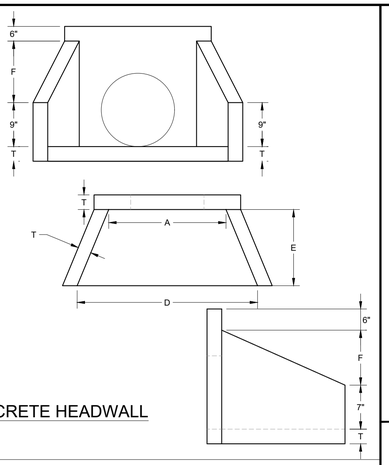
NOTE:
EXPANSION JOINTS SHALL BE PLACED AT ANY TIE-IN POINT TO EXISTING CONCRETE AND AT ALL VERTICAL INTERFACES WITH BUILDINGS AND WALLS.

2 CONCRETE JOINT
NOT TO SCALE

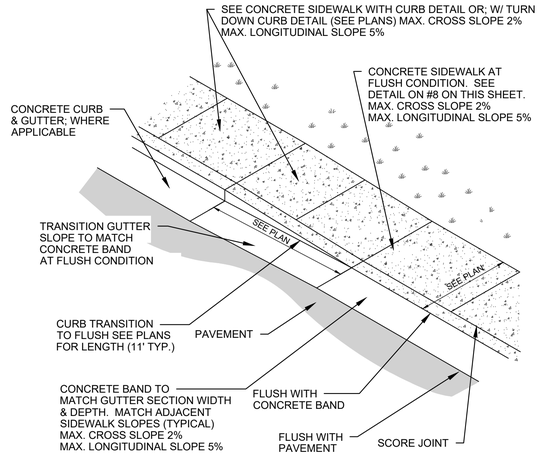


3 SIDEWALK AT FLUSH CONDITION
NOT TO SCALE

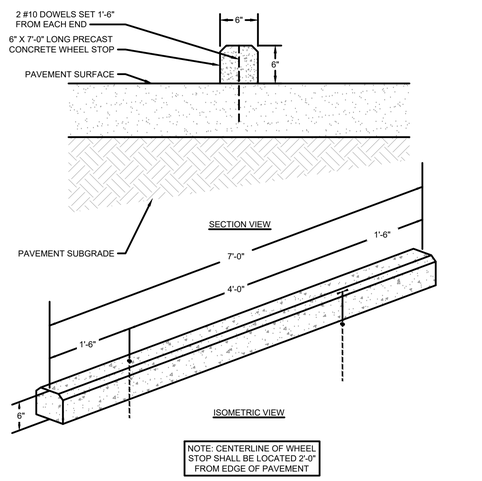
TABLE OF DIMENSIONS					
PIPE SIZE	A	D	E	F	T (MIN)
15"	2'-6"	5'-0"	2'-6"	1'-9"	6"
18"	2'-6"	5'-0"	2'-6"	1'-9"	6"
21"	2'-6"	5'-0"	2'-6"	1'-9"	6"
24"	4'-0"	6'-6"	3'-0"	3'-3"	6"
30"	4'-0"	6'-6"	3'-0"	3'-3"	6"
36"	5'-6"	8'-0"	3'-6"	4'-5"	6"
42"	5'-6"	8'-0"	3'-6"	4'-5"	6"
48"	5'-6"	8'-0"	3'-6"	4'-5"	6"
54"	7'-0"	9'-5"	4'-6"	5'-9"	6"
60"	7'-0"	9'-5"	4'-6"	5'-9"	6"
66"	8'-6"	11'-0"	5'-6"	6'-11"	6"
72"	8'-6"	11'-0"	5'-6"	6'-11"	6"



4 PRECAST CONCRETE HEADWALL
NOT TO SCALE

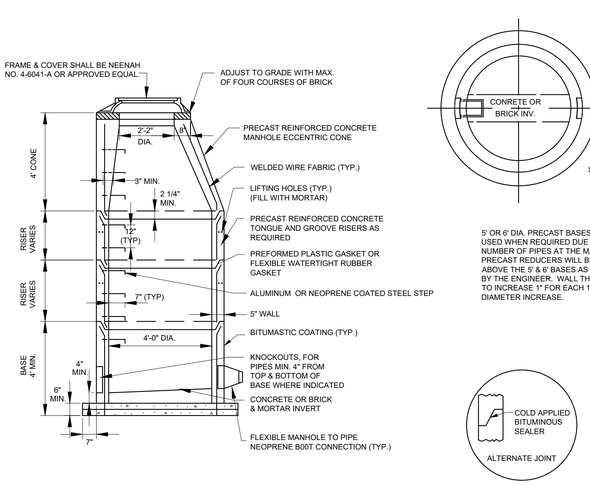


5 SIDEWALK TRANSITION TO FLUSH
NOT TO SCALE

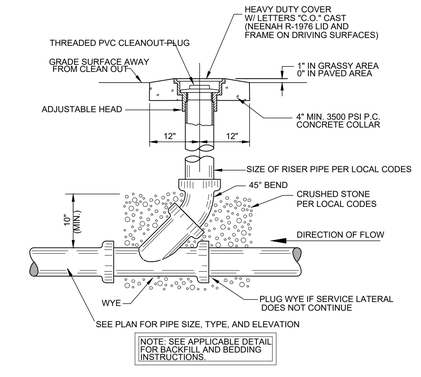


NOTE: CENTERLINE OF WHEEL STOP SHALL BE LOCATED 2'-0" FROM EDGE OF PAVEMENT

6 CONCRETE WHEEL STOP
NOT TO SCALE

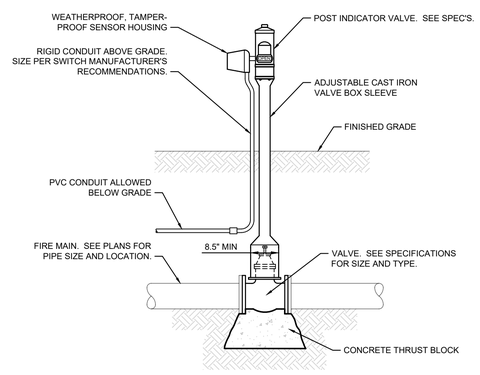


7 STANDARD MANHOLE
NOT TO SCALE

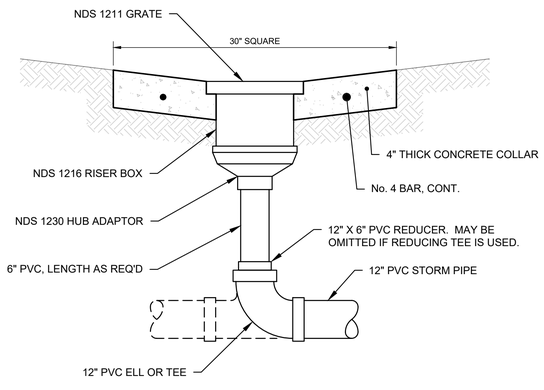


NOTE: SEE APPLICABLE DETAIL FOR BACKFILL AND BEDDING INSTRUCTIONS.

8 STORM / SANITARY SEWER CLEANOUT
NOT TO SCALE

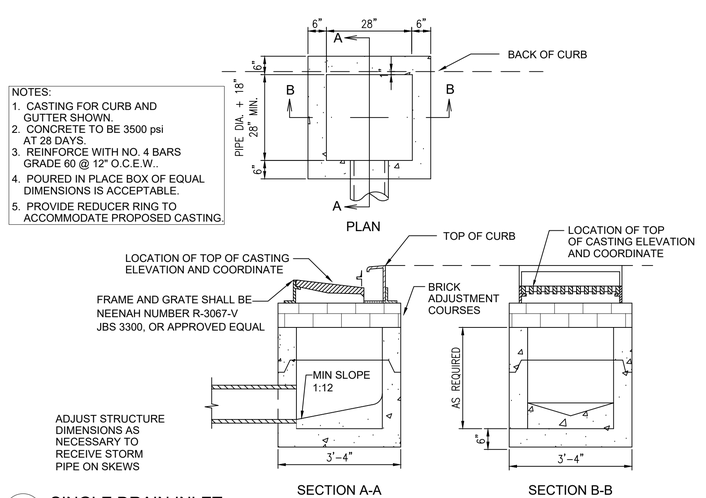


9 POST INDICATOR VAVLE (PIV)
NOT TO SCALE



NDS IS BASIS FOR DESIGN. APPROVED EQUAL MAY BE SUBMITTED TO ENGINEER FOR APPROVAL.

10 12" AREA DRAIN INLET
NOT TO SCALE



11 SINGLE DRAIN INLET
NOT TO SCALE

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY
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DESIGNED BY: ZCN
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

SITE DETAILS

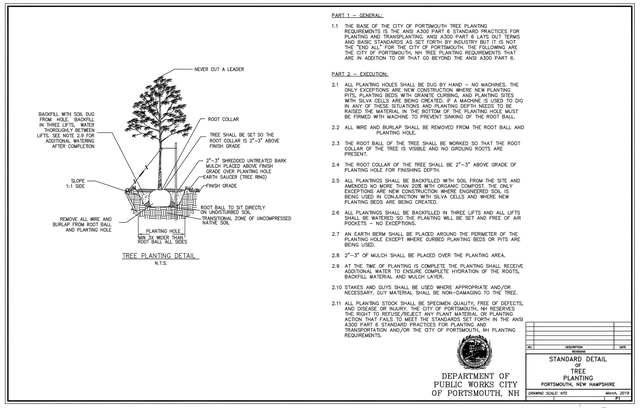
C7.01

PLANT_SCHEDULE

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CALIPER	HEIGHT
	AF	6	CORYLUS AMERICANA / AUTUMN BLAZE MAPLE	B&B	3" MIN.	14'-16' HT.

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	SPACING	HEIGHT
	AM	11	ARONIA MELANOCARPA / BLACK CHOKEBERRY	5 GAL	9-FT O.C.	3-FT MIN.
	PV	50	PANICUM VIRGATUM / SWITCHGRASS	1 GAL	2-FT O.C.	18" MIN.

GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME
	SOD	4,030 SF	SOD
	VARIES	7,600 SF	CONSERVATION SEED MIX / NEW ENGLAND WETMIX (WETLAND SEED MIX)



TREE PLANTING DETAIL
N.T.S.

PART 1 – GENERAL:

1.1 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 SPECIFIC ENOUGH FOR MUNICIPAL PLANTING REQUIREMENTS. THEREFORE THE CITY OF PORTSMOUTH HAS SET THE PLANTING REQUIREMENTS THAT ARE IN ADDITION TO OR THAT GO BEYOND THE ANSI A300 PART 6.

PART 2 – EXECUTION:

2.1 ALL PLANTING HOLES SHALL BE DUG BY HAND – NO MACHINES. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANTING BEDS ARE BEING CREATED AND THE SOIL IS BEING REPLACED WITH OR MIXED WITH SILVA CELLS ARE BEING CREATED. IF A MACHINE IS USED TO DIG IN ANY OF THESE SITUATIONS AND PLANTING DEPTH NEEDS TO BE ADJUSTED, MATERIAL ON THE BOTTOM OF THE PLANTING HOLE MUST BE FIRMED WITH MACHINE TO PREVENT SINKING OF THE ROOT BALL.

2.2 ALL WIRE AND BURLAP SHALL BE REMOVED FROM THE ROOT BALL AND PLANTING HOLE.

2.3 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.

2.4 THE ROOT COLLAR OF THE TREE SHALL BE 2"–3" ABOVE GRADE OF PLANTING HOLE FOR FINISHING DEPTH.

2.5 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.

2.6 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.

2.7 AN EARTH BERM SHALL BE PLACED AROUND THE PERIMETER OF THE PLANTING HOLE EXCEPT WHERE CURBED PLANTING BEDS OR PITS ARE BEING USED.

2.8 2"–3" OF MULCH SHALL BE PLACED OVER THE PLANTING AREA.

2.9 AT THE TIME OF PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

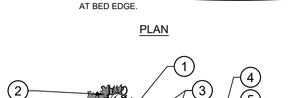
2.10 STAKES AND GUYS SHALL BE USED WHERE APPROPRIATE AND/OR NECESSARY. GUY MATERIAL SHALL BE NON-GIMMAGING TO THE TREE.

2.11 ALL PLANTING STOCK SHALL BE SPECIMEN QUALITY, FREE OF DEFECTS, AND DISEASE OR INJURY. THE CITY OF PORTSMOUTH, NH RESERVES THE RIGHT TO REFUSE/REJECT ANY PLANT MATERIAL OR PLANTING THAT DOES NOT MEET THE SPECIFICATIONS CONTAINED IN THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPORTATION AND/OR THE CITY OF PORTSMOUTH, NH PLANTING REQUIREMENTS.

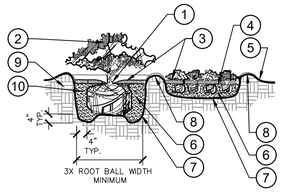
DEPARTMENT OF PUBLIC WORKS CITY OF PORTSMOUTH, NH

NO.	DESCRIPTION	DATE
	REVISED	

STANDARD DETAIL OF TREE PLANTING
PORTSMOUTH, NEW HAMPSHIRE
DRAWING SCALE: NTS — March, 2019 — P1



PLAN



SECTION

1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
3. 3" MULCH LAYER AS SPECIFIED.
4. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
5. FINISHED GRADE (SEE GRADING PLAN).
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES) NOTE: WHEN GROUND-COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
7. SCARIFY OF PLANTING PIT SIDES AND BOTTOM.
8. 4" HIGH BERM FIRMLY COMPACTED.
9. UNDISTURBED NATIVE SOIL.
10. FERTILIZER TABLETS (MAX 3" DEEP)

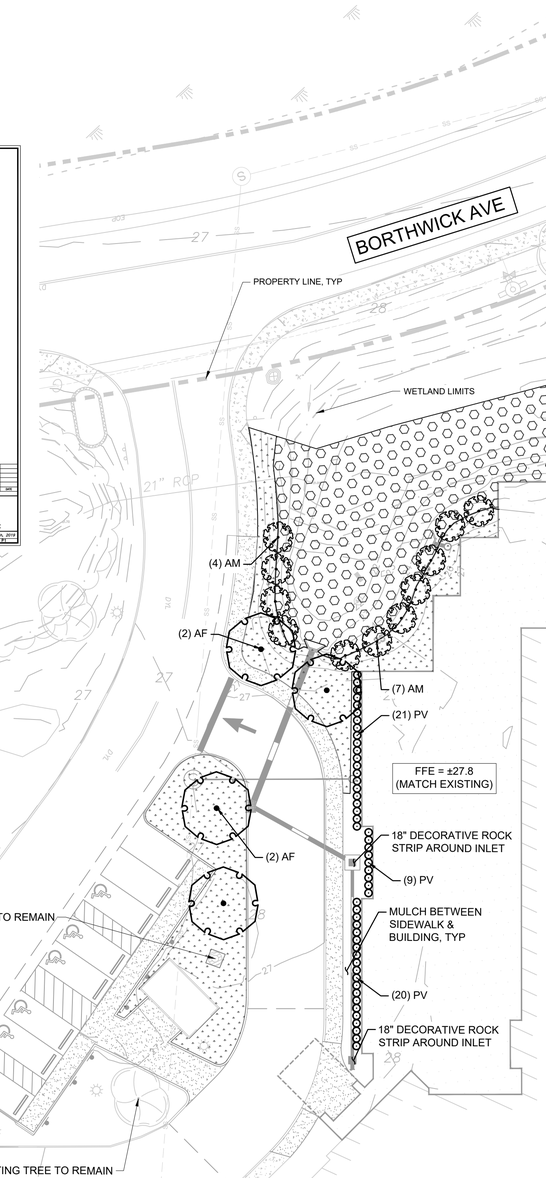
NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNERS REPRESENTATIVE.

1 / L101 — SHRUB/GROUNDCOVER PLANTING
SECTION / PLAN — NTS



GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE – ANDREW JAMES SCHALL No. 15914 – LICENSED PROFESSIONAL ENGINEER

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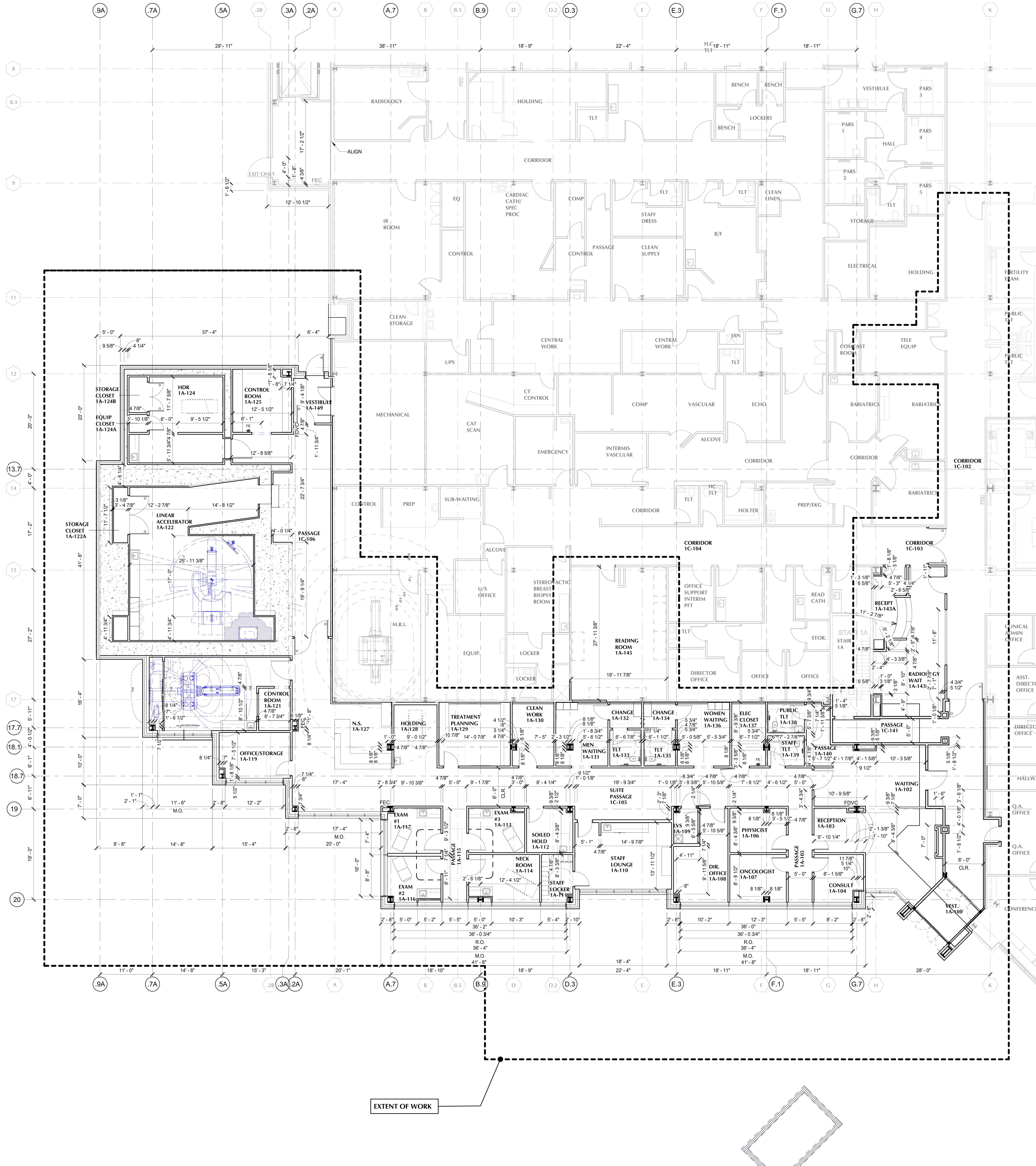
DRAWN BY: ZCN
CHECKED BY: MEH
DATE: 06/28/2022
KIMLEY-HORN PROJECT NO. 118252004

LANDSCAPE PLAN

L1.00

Drawing name: K:\NSH_LDEV\118252004 - portsmouth - cancer center - 2021\4-CADD\plansheets\L1.00 LANDSCAPE PLAN.dwg L1.00 LANDSCAPE PLAN Jun 28, 2022 1:10pm by: Zack.Newman



DIMENSIONED 1st FLOOR - PART A

DIMENSION NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. WHERE THERE IS A QUESTION REGARDING DIMENSIONS, CONSULT THE ARCHITECT BEFORE PROCEEDING. DO NOT SCALE DRAWINGS.
2. REFER TO LARGE SCALE PLANS FOR ADDITIONAL DIMENSIONS.
3. ALL INTERIOR WALL DIMENSIONS ARE FROM OUTSIDE FACE OF GYPSUM BOARD TO OUTSIDE FACE OF GYPSUM BOARD OR TO CENTERLINE OF COLUMN UNLESS NOTED OTHERWISE.
4. UNLESS INDICATED OTHERWISE, ALL INTERIOR WALLS ARE 4 7/8" THICK AND ARE CONSTRUCTED OF 5/8" GYPSUM BOARD ON EACH SIDE OF 3 5/8" METAL STUDS.
5. CORRIDOR WIDTHS GIVEN ARE THE MINIMUM CLEAR DIMENSIONS.
6. REFER TO ANSI/ADA DETAILS FOR ACCESSIBLE DOOR CLEARANCE REQUIREMENTS. DOORS SHALL BE MOUNTED 6 INCHES FROM FINISH FACE OF WALL TO HINGE SIDE OF FRAME, UNLESS NOTED OTHERWISE.REFER TO DETAIL 1/6.01.
7. THE DIMENSIONS PROVIDED REFLECT INFORMATION INDICATED IN THE ORIGINAL CONTRACT DOCUMENTS FURNISHED BY THE OWNER AND HAVE NOT BEEN FIELD CHECKED OR OTHERWISE VERIFIED. IT IS INTENDED THAT THE NEW CONSCTRUCTION BE ALIGN WITH THE EXISTING BUILDING AS SHOWN. NEW WINDOWS SHALL ALIGN WITHEXISTING WINDOWS BELOW. NEW ARCHITECTURAL ELEMENTS SHALL ALIGN WITH EXISTING ELEMENTS AS SHOWN, ETC. THE CONTRACTOR SHALL DETERMINE THE ACTUAL CONDITIONS AND ADVISE THE ARCHITECT IF ADJUSTMENTS ARE NECESSARY.
8. CONTRACTOR SHALL "3D LASER SCAN" THE PORTION OF THE EXISTING HOSPITAL WHERE WORK IS INDICATED TO DETERMINE THE ACTUAL DIMENSIONS OF THE BUILDING WITH THE LEVEL OF ACCURACY REQUIRED FOR THE PROPER FABRICATION OF THE WALL PANELS AND ALIGNMENT OF WINDOWS AND OTHER ELEMENTS.

REVISIONS:

DATE: 04/25/2022

CONSTRUCTION DOCUMENTS - PRICING SET

GENERAL CONTRACTORS

GOULD TURNER GROUP, P.C.
ARCHITECTURE
615 3RD AVENUE SOUTH, SUITE 700
NASHVILLE, TENNESSEE 37210

Architects • Planners • Interiors

CIVIL CONSULTANT
KIMLEY-HORN & ASSOCIATES, INC
10 LEA AVE, SUITE 400
NASHVILLE, TN 37210
MANAGER: CHRIS AKERS

STRUCTURAL CONSULTANT
STANLEY D. LINDSEY & ASSOC., LTD.
750 OLD HICKORY BLVD., BLDG 1, STE 175
BRENTWOOD, TN 37027
MANAGER: MARK HILNER

M,P,E, & T CONSULTANT
I.C. THOMASSON ASSOCIATES, INC.
2950 KRAFT DRIVE,
NASHVILLE, TN 37204
MANAGER: ZACK McCOY

HCA Healthcare
HCA DESIGN MANAGER:
MIKAL MALIK PH: 615-344-6598
HCA CONSTRUCTION MANAGER:
RYAN MAGUIRE PH: 615-344-2487

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
333 Borthwick Ave, PORTSMOUTH, NH 03801

HCA# 329020021
GTG# 3766305

VENDOR INFORMATION

QUANTUM MEDICAL – Storage
Rachel Sanvidge: RachelS@quantummedical.com

ALLEGION - Door Hardware
Gene Jones: gene.jones@allegion.com

REMAR - TV's & CCTV
Darrell Leftwich - darrell.Leftwich@remar.com

HILLROM – Nurse Call
Evan Isaacs: evan.isaacs@hillrom.com

DIMENSION DATA - Security Camera
AM.HCA.Projects@dimensiondata.com

VARIAN - Linear Accelerator & HDR
Mitch Spiegel - Mitch.Spiegel@varian.com

GE HEALTHCARE - CT SIM
Tarey Isbell - tarey.isbell@ge.com

DIMENSIONED 1st FLOOR PLAN
A1.01A

NOTED 1ST FLOOR PLAN PART A

KEYNOTES:

1. REMOVE AND SALVAGE ACT AND/OR SUSPENSION GRID TO SUPPORT MEP SCOPE OF WORK SEE MEP DRAWINGS FOR ADDITIONAL INFORMATION
2. REMOVE AND SALVAGE ACOUSTICAL CEILING TILE AND/OR SUSPENSION GRID FOR APPROXIMATELY 80-FEET TO SUPPORT ELECTRICAL SCOPE OF WORK. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

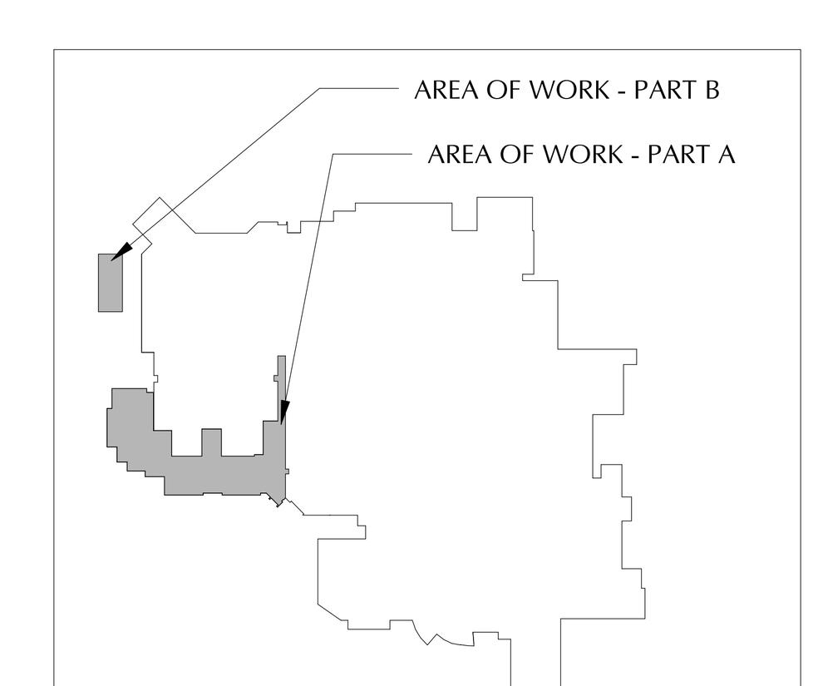
GENERAL FLOOR PLAN NOTES

1. REFER TO A0.00 FOR ADDITIONAL GENERAL NOTES.
2. SEE SHEET A4.01 FOR PARTITION TYPES AND DETAILS.
3. MECHANICAL AND/OR ELECTRICAL PORTIONS OF THE WORK MAY REQUIRE WORK ON THE FLOOR BELOW OR IN SPACES ADJACENT TO THE WORK. THE SCOPE OF PROJECT INCLUDES WORK NECESSARY TO ACCESS THESE AREAS AND TO REPAIR OR REPLACE ANY FINISHES, FLOORS, WALLS, CEILINGS OR OTHER ITEMS DAMAGED OBTAINING SUCH ACCESS.
4. WHEN PENETRATING FLOOR SLAB OR REMOVING MECHANICAL, PLUMBING, ELECTRICAL, AND LOW VOLTAGE FROM FLOOR, SEAL PENETRATION WITH A TESTED FIRE PROTECTION ASSEMBLY WITH A RATING EQUAL TO THE SURROUNDING CONSTRUCTION.
5. REFER TO SOUND TRANSMISSION PLANS FOR SOUND BATT LOCATIONS AND REQUIRED STC RATINGS REQUIRED.
6. REFER TO FINISH AND FURNITURE PLANS FOR TACK BOARD/MARKER BOARD/CLOCK LOCATIONS. PROVIDE NECESSARY BLOCKING FOR THESE ITEMS, WHICH SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR, & FOR ITEMS PROVIDED BY OTHERS.
7. SEE FINISH PLANS FOR CORNER GUARD, HANDRAIL AND DOOR GUARD LOCATIONS.
8. PROVIDE FIRE RETARDANT WOOD BLOCKING AS REQUIRED BY PROJECT CONDITIONS.
9. O.F.E. - OWNER FURNISHED EQUIPMENT INSTALLED BY THE CONTRACTOR, VENDOR OR OWNER. REFER TO THE O.F.E. BROCHURE TO DETERMINE THE PARTY RESPONSIBLE FOR INSTALLATION. OWNER TO PURCHASE AND DELIVER ALL NEW EQUIPMENT TO THE SITE. CONTRACTOR SHALL COORDINATE DELIVERY SCHEDULE WITH OWNER. CONTRACTOR SHALL PROVIDE MECHANICAL, PLUMBING AND ELECTRICAL CONNECTIONS REQUIRED FOR ALL EQUIPMENT IN THE O.F.E BROCHURE.
10. SEE SPECIFICATIONS FOR SPECIFIC LEVEL OF FINISH AND PREPARATION REQUIREMENTS FOR EACH SURFACE.
11. THE OWNER SHALL FURNISH AND THE CONTRACTOR SHALL COORDINATE AND PROPERLY INSTALL THE FOLLOWING:

    A. AT EACH SINK/LAVATORY LOCATION, ONE SOAP DISPENSER UNLESS NOTED OTHERWISE. VERIFY LOCATIONS WITH OWNER'S REPRESENTATIVE.
    B. AT EACH PATIENT CARE, UTILITY AND WORK AREA ONE SHARPS DISPOSAL UNIT, GLOVES DISPENSER AND HAND GEL DISPENSER, AS DIRECTED BY THE OWNER'S REPRESENTATIVE
12. WALL MOUNTED SINKS AND LAVATORIES SHALL BE MOUNTED SO THAT THE CENTERLINE OF THE SINK IS 1'-3" MIN. TO FACE OF ADJACENT FIXED EQUIPMENT, SIDE WALL, CASEWORK, ETC.
13. CLINICAL SINKS SHALL BE MOUNTED SO THAT THE CENTERLINE OF THE SINK IS 1'-6" MIN. TO THE FACE OF THE ADJACENT FIXED EQUIPMENT, SIDE WALL, CASEWORK, ETC.

PARTITION LEGEND - SEE SHEET A4.01

Priority	No.	Partition	Symbol
HIGHEST PRIORITY	1	TWO HOUR RATED FIRE & SMOKE BARRIER - SHAFTWALL	2S 2S 2S
	2	TWO HOUR RATED FIRE & SMOKE BARRIER	2FS 2FS 2FS
	3	TWO HOUR RATED FIRE BARRIER	2F 2F 2F
	4	ONE HOUR RATED FIRE & SMOKE BARRIER - SHAFTWALL	1S 1S 1S
	5	ONE HOUR RATED FIRE & SMOKE BARRIER	1FS 1FS 1FS
	6	ONE HOUR RATED FIRE BARRIER	1F 1F 1F
	7	ONE HOUR RATED FIRE BARRIER - (INCIDENTAL USE/HAZARDOUS AREA)	1HR 1HR 1HR
	8	SMOKE PARTITION	NS NS NS
LOWEST PRIORITY	9	PARTITION TO CEILING - STUDS TO DECK, STOP GYPSUM BOARD 4" ABOVE CEILING.	



KEY PLAN 1st FLOOR

GENERAL CONTRACTORS

CIVIL CONSULTANT
KIMLEY-HORN & ASSOCIATES, INC
10 LEA AVE, SUITE 400
NASHVILLE, TN 37210
MANAGER: CHRIS AKERS

STRUCTURAL CONSULTANT
STANLEY D. LINDSEY & ASSOC., LTD.
750 OLD HICKORY BLVD., BLDG 1, STE 175
BRENTWOOD, TN 37027
MANAGER: MARK HILNER

M.P.E. & T CONSULTANT
I.C. THOMASSON ASSOCIATES, INC.
2950 KRAFT DRIVE,
NASHVILLE, TN 37204
MANAGER: ZACK McCOY

HCA Healthcare
HCA DESIGN MANAGER:
MIKAL MALIK PH: 615-344-6598
HCA CONSTRUCTION MANAGER:
RYAN MAGUIRE PH: 615-344-2487

GOULD TURNER GROUP, P.C.
ARCHITECTURE
615 3RD AVENUE SOUTH, SUITE 700
NASHVILLE, TENNESSEE 37210

REVISIONS:

CONSTRUCTION DOCUMENTS - PRICING SET

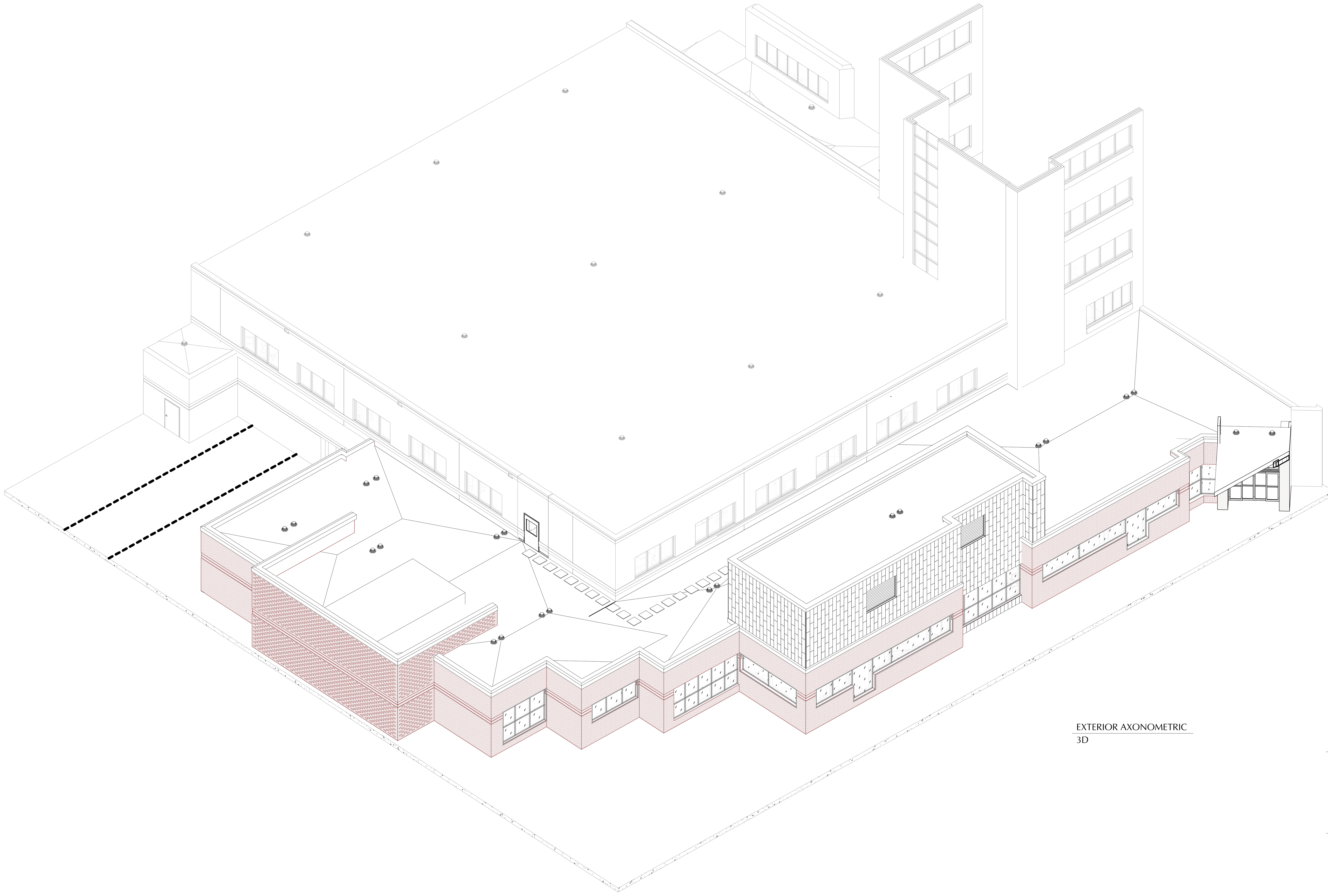
DATE: 04/25/2022

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
333 Borthwick Ave, PORTSMOUTH, NH 03801

VENDOR INFORMATION

NOTED 1st FLOOR PLAN - PART A

A1.01B



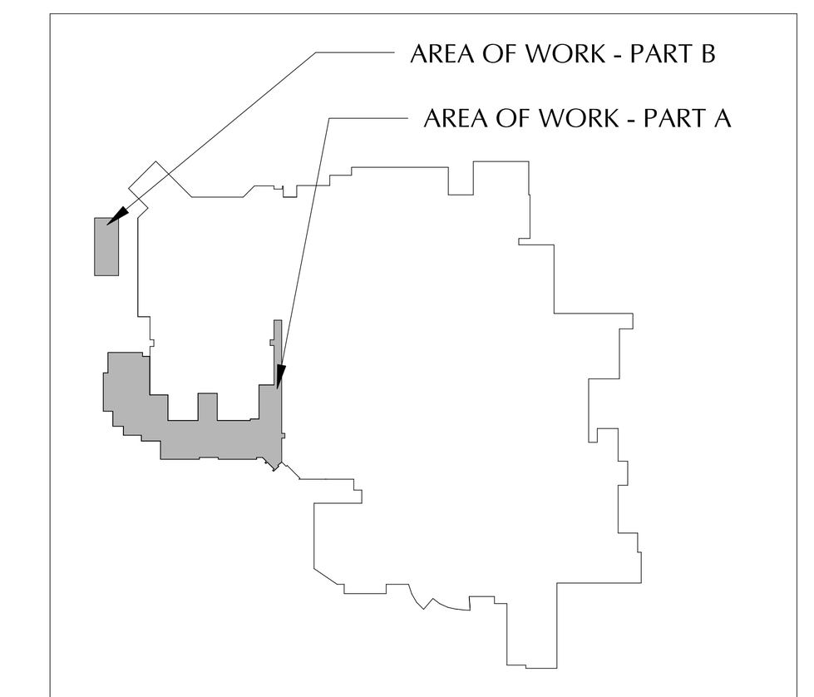
EXTERIOR AXONOMETRIC
3D

EXTERIOR ELEVATION NOTES

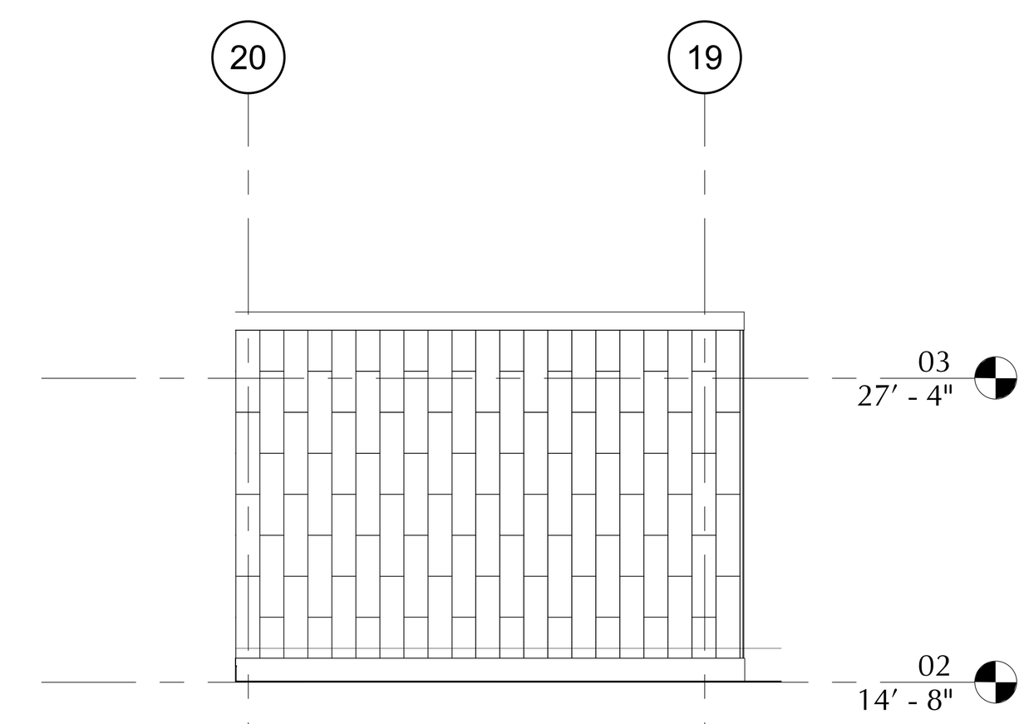
1. ALL BRICK CONTROL JOINTS SHALL ALIGN WITH EXISTING JOINTS.
2. ALL EXTERIOR FINISHES (INCLUDING EIFS, BRICK, CAST STONE, MORTAR, CAULK, ETC.) SHALL MATCH EXISTING IN FINISH, SIZE, COLOR AND TEXTURE.
3. REFER TO SHEET A6.01 FOR EXTERIOR WINDOW ELEVATIONS
4. ALL EXTERIOR LOUVERS SHALL HAVE DARK BRONZE FINISH TO MATCH EXISTING
5. ALL ALUMINUM STOREFRONT SYSTEMS SHALL HAVE DARK BRONZE FINISH TO MATCH EXISTING

EXTERIOR MATERIALS LEGEND

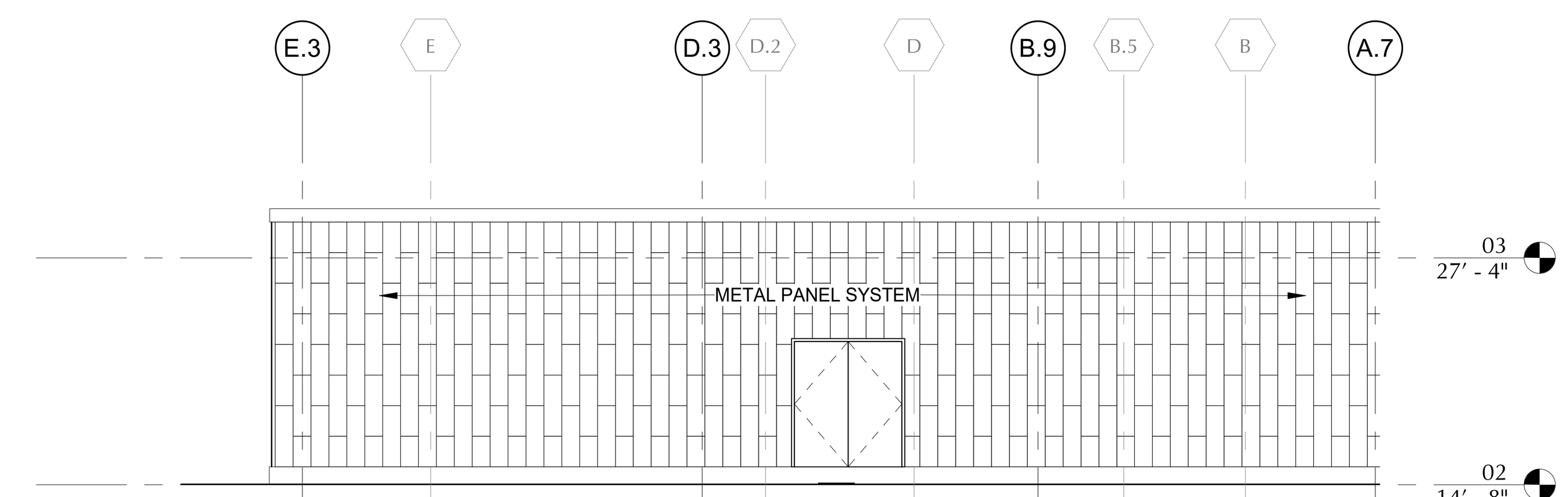
- BRICK - MATCH EXISTING
- BRICK SOLDIER COURSE - MATCH EXISTING
- NEW WINDOWS SHALL MATCH APPEARANCE OF EXISTING GLASS UNITS *ALL GLAZING SHALL BE VISION GLASS
- *INDICATES SPANDREL PANEL



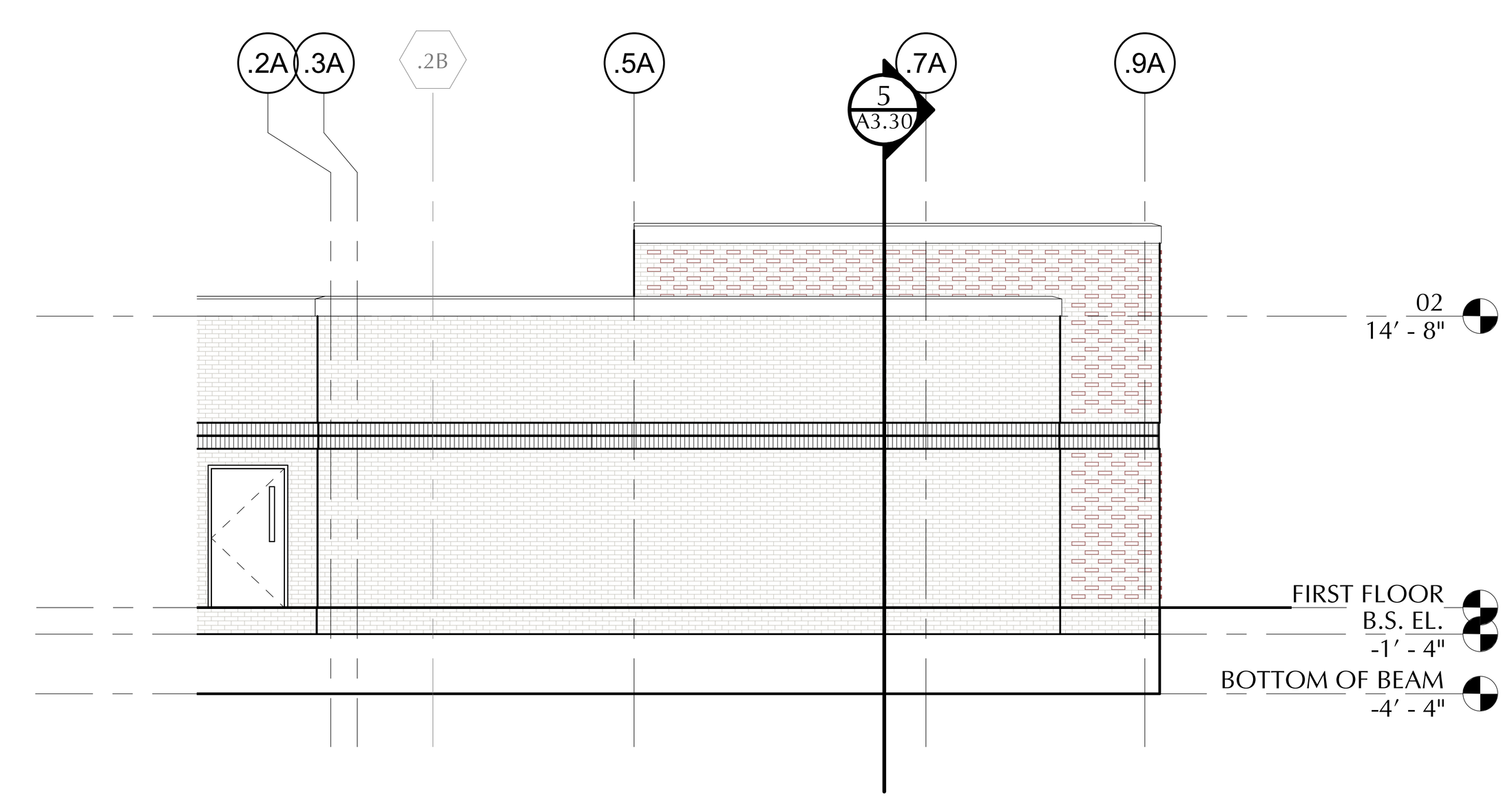
KEY PLAN 1st FLOOR



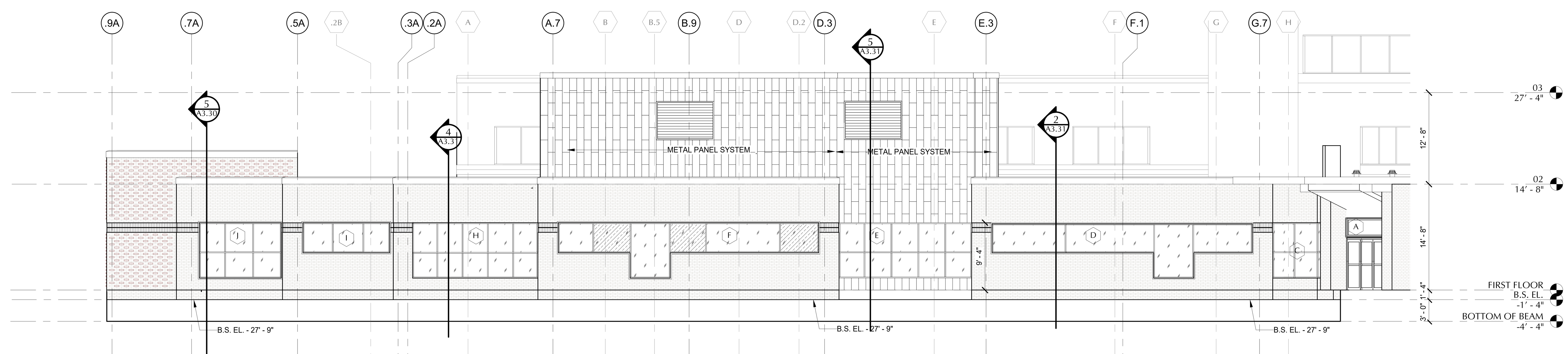
5 ELEVATION E
A1.02A



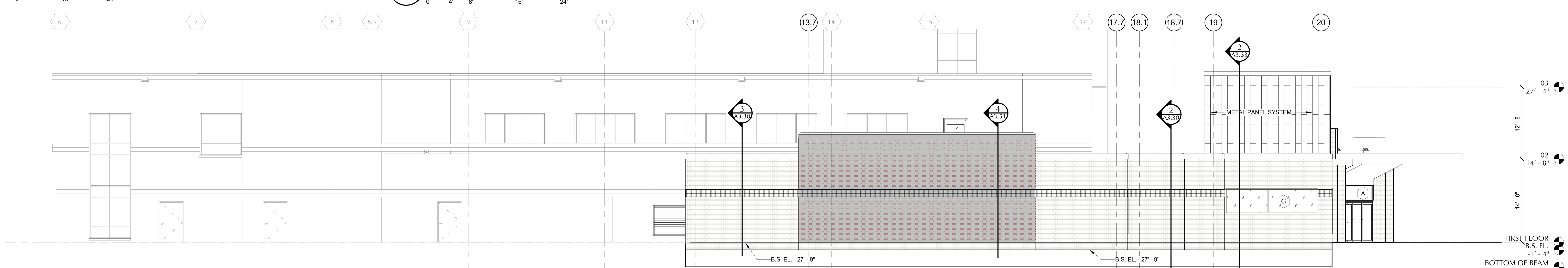
4 ELEVATION D
A1.02A



3 ELEVATION C
A1.01B



1 ELEVATION A
A1.01B



SHADED AREA DENOTES:
CORBEL RUNNING BOND PATTERN
- MATCH EXISTING RUNNING BOND PATTERN
- 1-INCH CORBEL
- VERTICAL EVERY (3) COURSES
- HORIZONTALLY - STAGGERED w. (1) BRICKS BETWEEN CORBELS

2 ELEVATION B
A1.01B

RESPONSIBILITY: Author 08/28/19
CHECKED BY:

DRAWING FILE: BIM 360://3766305 - Portsmouth Radiation Oncology/3766305 Portsmouth Onco_R20.rvt
PLOTTED ON: 4/26/2022 12:47:58 PM

REVISIONS:
DATE: 04 / 25 / 2022
CONSTRUCTION DOCUMENTS - PRICING SET

GENERAL CONTRACTORS

GOULD TURNER GROUP, P.C.
ARCHITECTURE
615 3RD AVENUE SOUTH, SUITE 700
NASHVILLE, TENNESSEE 37210

GOULD TURNER GROUP
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HCA CONSTRUCTION MANAGER:
RYAN MAGUIRE PH: 615-344-2487

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
333 Borthwick Ave, PORTSMOUTH, NH 03801

HCA# 3290200021
GTG# 3766305

VENDOR INFORMATION
QUANTUM MEDICAL – Storage
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ALLEGION - Door Hardware
Gene Jones: gene.jones@allegion.com
REMAR - TV's & CCTV
Darrell Leftwich - darrell.Leftwich@remar.com
HILLROM – Nurse Call
Evan Isaacs: evan.isaacs@hillrom.com
DIMENSION DATA - Security Camera
AM.HCA.Projects@dimensiondata.com
VARIAN - Linear Accelerator & HDR
Mitch Spiegel - Mitch.Spiegel@varian.com
GE HEALTHCARE - CT SIM
Tarey Isbell - tarey.isbell@ge.com

EXTERIOR ELEVATIONS
A2.01

GOVE ENVIRONMENTAL SERVICES, INC.

October 15, 2019

Portsmouth Regional Hospital

Subject: Wetland Delineation Report
Portsmouth Regional Hospital
333 Borthwick Ave, Portsmouth, NH

Dear Chris Akers,

Per your request, this letter is to verify that Gove Environmental Services, Inc., performed a site inspection to identify wetlands at Portsmouth Regional Hospital, 333 Borthwick Ave, Portsmouth, NH. Wetlands were evaluated utilizing the following standards:

1. *US Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, Technical Report ERDC/EL TR-12-1 (January 2012).
2. *Field Indicators for Identifying Hydric Soils in New England – Version 4, April 2019.* New England Hydric Soils Technical Committee.
3. *US Army Corps of Engineers National Wetland Plant List, 2018.*
4. *Classification of Wetlands and Deepwater Habitats of the United States.* USFW Manual FWS/OBS–79/31 (1979).

Brenden Walden performed the site inspection on 9/17/19. During the site inspection, two areas of wetland were identified on the Site. The wetland areas were demarcated with a series of pink "Wetland Delineation" flagging consecutively labeled:

1 Start – 15 Stop & A1-A22

The attached sketch plan depicts the general location of the flag series, which were used to identify the resource areas in the field. A general description of the wetlands is also provided

The wetland demarcated by the **1 Start – 15 Stop** series of flags, delineated a drainage area dominated by emergent vegetation, hydric soils on the wetland border consisted of NE-S1 & HTM-S hydric soil classifications, soil saturation and water staining were also observed. Bordering upland area consisted developed area and impervious surface.

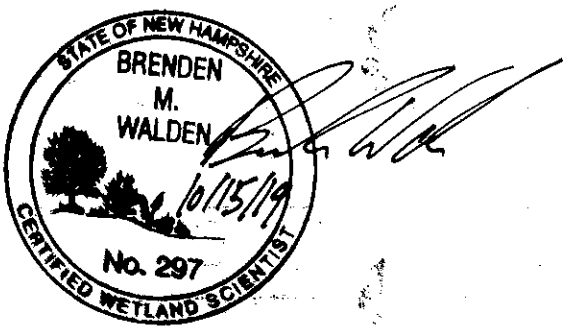
The wetland demarcated by the **A1-A22** series of flags, delineated the wetland boundary for a detention basin vegetated with emergent vegetation. The wetland boundary consisted of NE-S with areas of HTM-S. Bordering upland areas consist of maintained lawn areas and impervious surface from surrounding development.

This concludes the wetland delineation report. If I can be of further assistance, please feel free to contact me at (603) 778-0644.

Sincerely,

Brenden Walden
Business Manager & Wetland Scientist
Gove Environmental Services, Inc.

Enc. Wetland Delineation Sketch



8 Continental Dr Unit H, Exeter, NH 03833-7507
Ph (603) 778 0644 / *Fax* (603) 778 0654
www.gesinc.biz
info@gesinc.biz


15 Stop
Al-Azz
15 Stop

GRADING PLAN LEGEND

28.60 SPOT ELEVATION

HP	HIGH POINT	LP	LOW POINT
TC	TOP OF CURB	BC	BOTTOM OF CURB / GUTTER LINE
TW	GRADE AT TOPSIDE OF WALL	BW	GRADE AT BOTTOM SIDE OF WALL
INV	INVERT	RIM	TOP OF GRATE / COVER
ME	MATCH EXISTING		

FFE 28.60 FINISH FLOOR ELEVATION

27 EXISTING CONTOUR

27 PROPOSED CONTOUR

POND IMPACT LEGEND

	DESCRIPTION	AREA	VOLUME
	PRE-DEVELOPMENT POND	± 17,325 SF	± 54,190 CF
	POND REDUCTION	± 1,475 SF	± 2,451 CF
	PROPOSED POND ADDITION	± 1,250 SF	± 4,526 CF
	PROPOSED POND	± 17,100 SF	± 56,265 CF

POND SUMMARY

EXISTING POND VOLUME:	± 54,190 CF
NET POND GAIN:	± 2,075 CF
NEW POND VOLUME:	± 56,265 CF

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

POND 1

POND 2

EXISTING 24" RCP POND OUTFALL

PROPERTY LINE, TYP

EXISTING POND

WETLAND LIMITS

EXISTING 21" RCP DRAINING INTO MODIFIED POND

NEW POND LIMITS

POND REDUCTION

PROPOSED BUILDING EXPANSION

MOB POND REDUCTION

PROPOSED POND EXPANSION

EXPANDED POND

FFE = ±27.8
(MATCH EXISTING)

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

No.	REVISIONS	DATE	BY
1			
2			
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8			
9			
10			

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DATE: 05/05/2022
KIMLEY-HORN PROJECT NO. 118252004

POND MODIFICATION

EX. B

Drawing name: K:\NSH_LDEV\118252004 - Portsmouth - Cancer Center - 2021\4-CADD\Exhibits\POND MODIFICATIONS.dwg POND EXHIBIT May 05, 2022 2:08pm by: Zack.Newman

GRADING PLAN LEGEND

28.60	SPOT ELEVATION		
HP	HIGH POINT	LP	LOW POINT
TC	TOP OF CURB	BC	BOTTOM OF CURB / GUTTER LINE
TW	GRADE AT TOPSIDE OF WALL	BW	GRADE AT BOTTOM SIDE OF WALL
INV	INVERT	RIM	TOP OF GRATE / COVER
ME	MATCH EXISTING		
FFE 28.60	FINISH FLOOR ELEVATION		
27	EXISTING CONTOUR		
27	PROPOSED CONTOUR		

WETLAND IMPACT LEGEND

	DESCRIPTION	AREA
	TEMPORARY WETLAND DISTURBANCE	± 4,400 SF
	PERMANENT WETLAND DISTURBANCE	± 200 SF
	PROPOSED WETLANDS	± 1,150 SF

WETLAND SUMMARY

EXISTING WETLAND AREA:	± 10,300 SF
PERMANENT WETLAND DISTURBANCE:	± 200 SF
PROPOSED WETLAND ADDED:	± 1,150 SF
NEW WETLAND AREA:	± 11,250 SF

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

PROPERTY LINE, TYP
WETLAND LIMITS
EXISTING 21" RCP
EXISTING 24" RCP POND OUTFALL
TEMPORARY WETLAND DISTURBANCE
PERMANENT WETLAND DISTURBANCE
PERMANENT WETLAND DISTURBANCE
NEW WETLAND AREA
PROPOSED POND EXPANSION
PROPOSED BUILDING EXPANSION
MOBILE UNIT
FFE = ±27.8 (MATCH EXISTING)

BW: 22.51, BW: 22.31, BW: 22.93, BW: 23.47, BW: 23.51, BW: 24.36, BW: 25.79, BW: 26.32, BW: 26.93, BW: 22.02, BW: 26.03, BW: 26.01, BW: 27.34, BW: 27.02

0.67%, 8.66%, 1.42%, 0.29%, 0.02%, 5.04%

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

No.	REVISIONS	DATE	BY
1			
2			
3			
4			
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6			
7			
8			
9			
10			

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DATE: 05/05/2022
KIMLEY-HORN PROJECT NO. 118252004

WETLAND DISTURBANCE

EX. A

Drawing name: K:\NSH_LDEV\118252004 - Portsmouth - Cancer Center - 2021\4-CADD\Exhibits\Wetland disturbance_C5.00.dwg WETLAND EXHIBIT May 04, 2022 2:21pm by: Zack.Newman

Stormwater Management

Long-Term Maintenance & Operation Plan

Portsmouth Regional Medical Center

South Stormwater Wetland Pond

333 Borthwick Avenue
Portsmouth, NH

May 23, 2022

Revised June 01, 2022

Prepared by:
Kimley-Horn and Associates, Inc.
404 Wyman St, Ste 385
Waltham, MA 02451

Kimley»Horn

Summary

This document describes the stormwater system components of the development and outlines the inspection and maintenance required to ensure the efficacy of the on-site stormwater system. The routine long term maintenance to be in compliance with the NOFA Standards for Organic Land Care, latest edition.

Description of Stormwater System Components

There is an existing stormwater wetland pond along the south side of the existing hospital facility that detains stormwater runoff from pavement areas and building roof that is captured in a system of pipes and routed to the stormwater wetland pond. The existing stormwater wetland pond is denoted in Exhibit A.

Maintenance Inspections of Stormwater Sensitive Areas

The owner is responsible for the maintenance of the property and adhering to the maintenance guidelines of this agreement as noted below. A major storm event is defined as any storm event which causes local flooding or where there are fallen trees or large tree limbs, debris, or road obstructions as a result of the event.

Maintenance Operations for Stormwater Wetland Pond

- Spot Reseeding. Inspectors should look for bare or eroding areas in the contributing drainage area or around the wetland stormwater pond and make sure they are immediately stabilized with conservation seed mix.
- Remove and replace dead plants. Since up to 10% of the plant stock may die off in the first year, construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction. The typical thresholds below which replacement is required are 85% survival of plant material and 100% survival of trees.
- Check for sediment buildup at curb cuts, gravel diaphragms or pavement edges that prevents flow from getting into the bed, and check for other signs of bypassing.
- Check for any winter- or salt-killed vegetation, and replace it with hardier native wetland species.
- Note presence of accumulated sand, sediment and/ or trash and remove it.
- Inspect stormwater wetland pond side slopes for evidence of any rill or gully erosion, and repair it.
- Check the stormwater wetland pond for evidence of excessive ponding, dead plants or concentrated flows, and take appropriate remedial action.
- Check inflow points for clogging, and remove any sediment.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize them immediately.
- Check for clogged or slow-draining soil, a crust formed on the top layer, or other causes of insufficient filtering time, and restore proper filtration characteristics

Checklists, which further indicate what should be evaluated during inspections, are included with this document.

Routine and Non-Routine Maintenance Tasks

Maintenance of the stormwater wetland pond should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique stormwater wetland pond landscaping needs, such as maintaining elevation differences needed for ponding, sediment and trash removal, and no use of fertilizers and pesticides.

Pollutant Disposal

All trash and pollutants should be removed from the site and deposited in a permitted landfill. Deposited sediment can be used in gardens or landscaped areas but should be applied in thin layers and not stock piled in a location where it could erode any further. Leaves and other organic materials can be deposited or composted.

Responsible Party

The responsible party for the inspection and maintenance of the stormwater wetland pond:

Portsmouth Regional Hospital
333 Borthwick Avenue
Portsmouth, New Hampshire 03801

South Stormwater Wetland Pond Area					
Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet/ Outlet Structures					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Area around the inlet structure is maintained and trimmings are removed.					
No evidence of gullies, rills, or excessive erosion around the inlet structure.					
Main Treatment					
Wetland area is free of trash, debris, and sediment.					
Vegetation within and around practice is maintained per landscaping plan. Any trimmings are removed.					
Plants seem to be healthy and in good condition. Comment on condition of plants.					
Results					
Overall condition of Wetland Area					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please check N/A and explain why in the appropriate comment box.

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

ZONING BOARD OF ADJUSTMENT

April 28, 2022

HCA Health Services of NH, Inc. dba Portsmouth Regional Hospital
PO BOX 80610
Indianapolis, IN 46280

RE: **Board of Adjustment Request for Property Located at 333 Borthwick Avenue (LU-22-35)**

Dear Owner:

The Zoning Board of Adjustment, at its regularly scheduled meeting of **Tuesday, April 26, 2022**, considered your application for building an addition on the existing hospital which requires the following: 1) A Variance from Section 10.531 to allow a 40' front yard where 50' is required. Said property is shown on Assessor Map 240, Lot 2-1 and lies within the Office Research District. As a result of said consideration, the Board voted to **grant** the request as presented and advertised.

The Board's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Board's decision during this appeal period shall be at the applicant's risk. Please contact the Planning Department for more details about the appeals process.

Approvals may also be required from other City Commissions or Boards. Once all required approvals have been received, applicant is responsible for applying for and securing a building permit from the Inspection Department prior to starting any project work.

This approval shall expire unless a building permit is issued within a period of two (2) years from the date granted unless an extension is granted in accordance with Section 10.236 of the Zoning Ordinance.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

A E Parrott

Arthur Parrott, Chairman of the Zoning Board of Adjustment

cc: Shanti Wolph, Chief Building Inspector

Rosann Maurice-Lentz, City Assessor

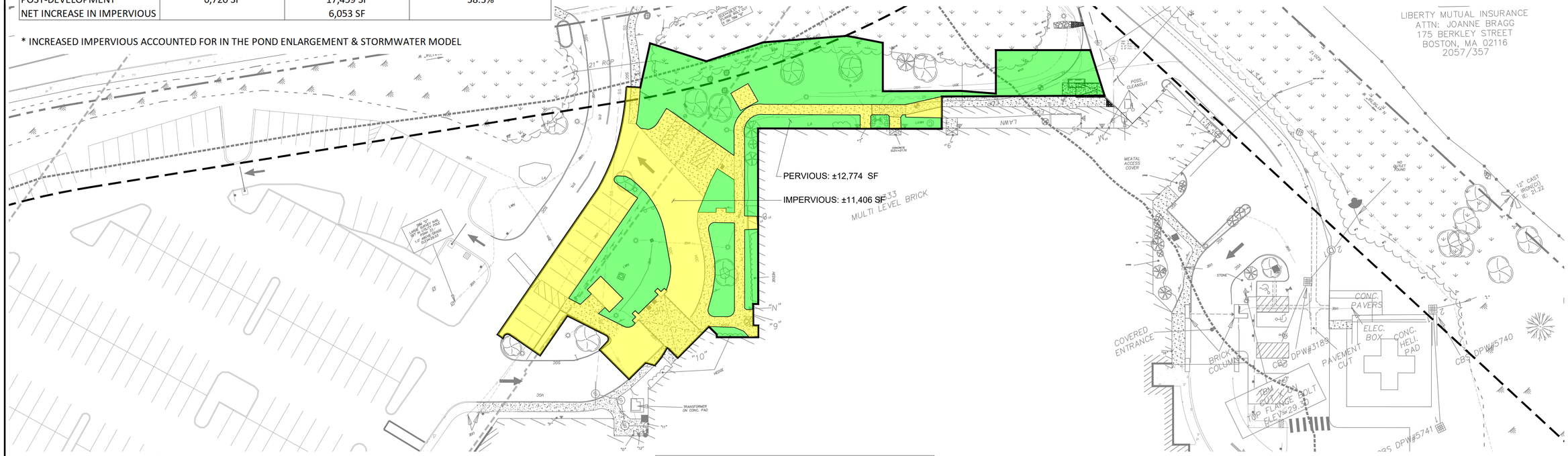
Chris Akers, Project Manager, Kimley-Horn

LAND COVER DATA TABLE			
	PERVIOUS AREA	IMPERVIOUS AREA	OVERALL CAMPUS OPENSPACE
PRE-DEVELOPMENT	12,774 SF	11,406 SF	39.0%
POST-DEVELOPMENT	6,720 SF	17,459 SF	38.3%
NET INCREASE IN IMPERVIOUS		6,053 SF	

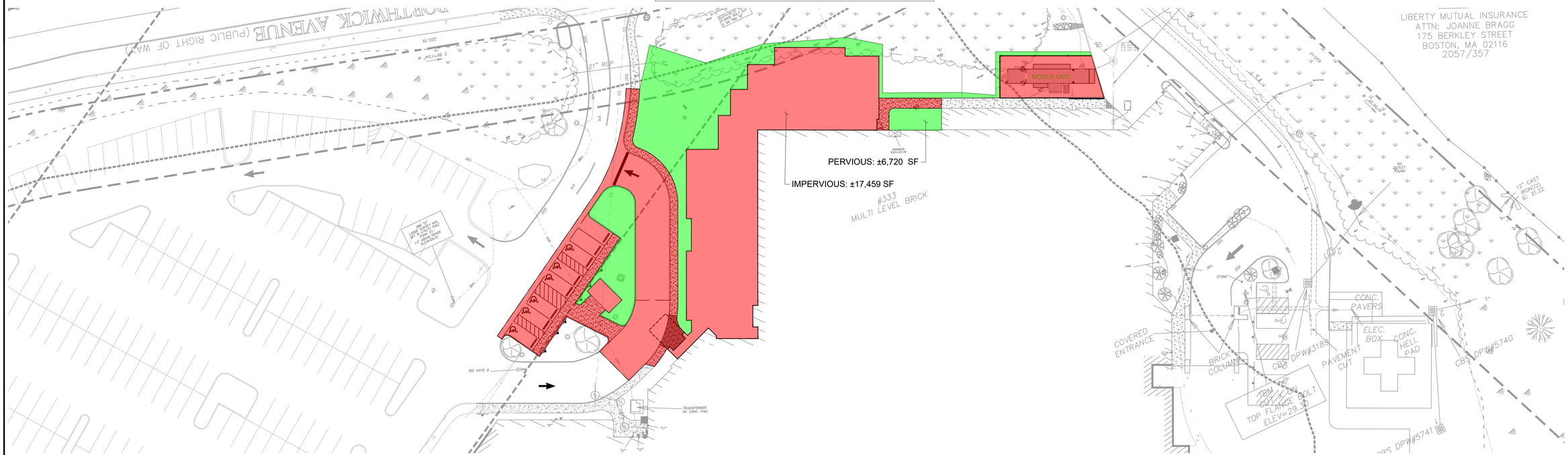
* INCREASED IMPERVIOUS ACCOUNTED FOR IN THE POND ENLARGEMENT & STORMWATER MODEL

GRAPHIC SCALE IN FEET
0 15 30 60

NORTH



PRE-DEVELOPMENT LAND COVERAGE
1" = 30'



POST-DEVELOPMENT LAND COVERAGE
1" = 30'

Kimley»Horn
404 WYMAN STREET, SUITE 385 WALTHAM, MA 02451
MAIN:781.328.0676 | WWW.KIMLEY-HORN.COM

PORTSMOUTH REGIONAL HOSPITAL
RADIATION ONCOLOGY ADDITION
PORTSMOUTH, NEW HAMPSHIRE

No.	DATE	REVISIONS	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

DESIGNED BY:	CRA
DRAWN BY:	MEH
CHECKED BY:	BB
DATE:	04/25/2022
KIMLEY-HORN PROJECT NO.	118252004

PRE & POST DEVELOPMENT LAND COVERAGE

D1.00

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	16.61	-------	23.20	28.61	36.05	41.44	47.34	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	------	-------	16.61	-------	23.20	28.61	36.05	41.44	47.34	POST-DEVELOPMENT RUNOFF
3	Reservoir	1	-------	9.051	-------	10.72	14.18	17.71	19.92	21.93	PRE-DEVELOPMENT
4	Reservoir	2	-------	8.827	-------	10.59	13.57	17.12	19.33	21.45	POST-DEVELOPMENT

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	16.61	2	716	35,198	------	------	------	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	16.61	2	716	35,198	------	------	------	POST-DEVELOPMENT RUNOFF
3	Reservoir	9.051	2	722	33,767	1	22.45	9,429	PRE-DEVELOPMENT
4	Reservoir	8.827	2	722	33,767	2	22.41	9,733	POST-DEVELOPMENT

Hydrograph Report

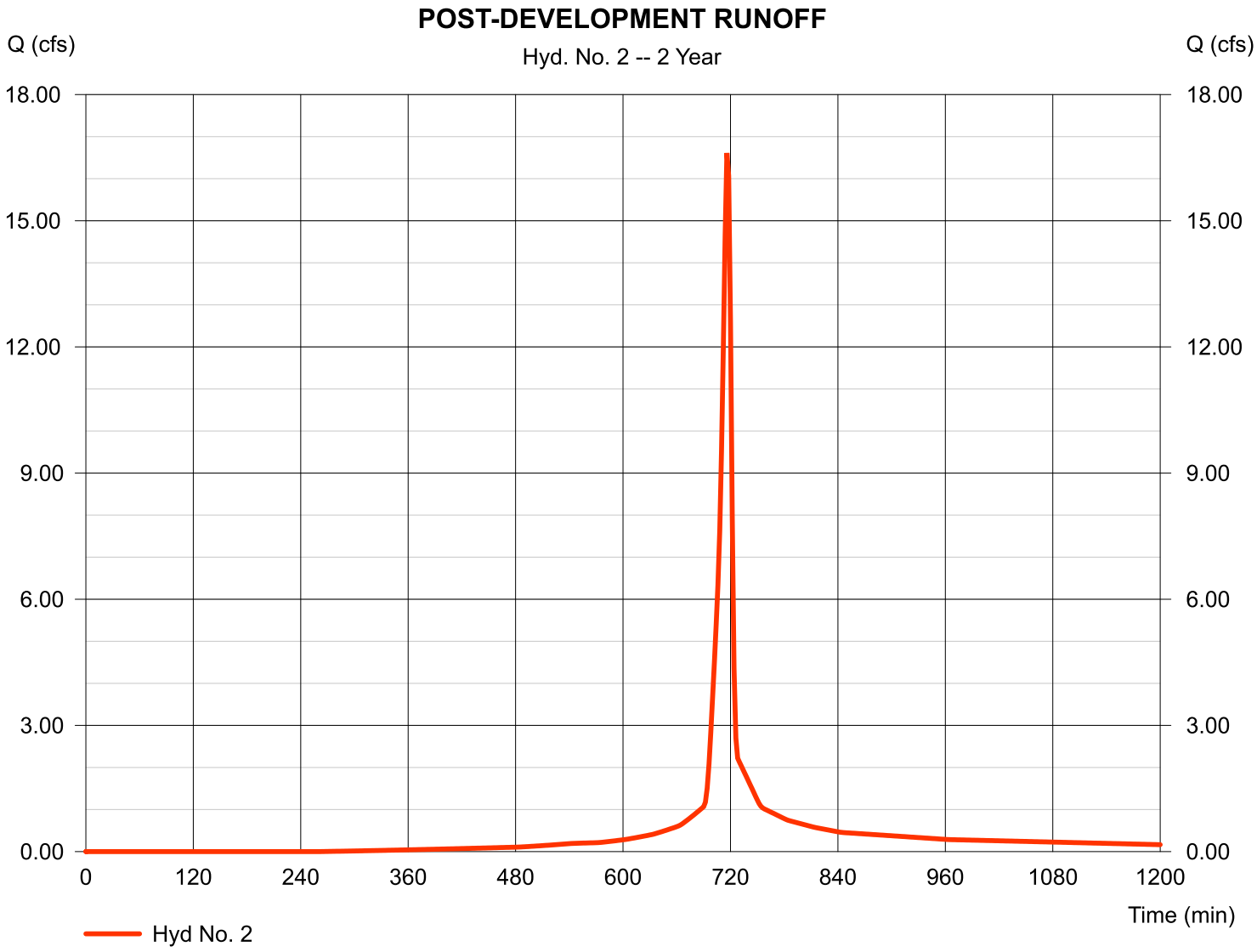
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Thursday, 05 / 5 / 2022

Hyd. No. 2

POST-DEVELOPMENT RUNOFF

Hydrograph type	= SCS Runoff	Peak discharge	= 16.61 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 35,198 cuft
Drainage area	= 4.180 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.33 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 98) + (1.320 x 79) + (1.950 x 98)] / 4.180



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	23.20	2	716	50,272	------	------	------	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	23.20	2	716	50,272	------	------	------	POST-DEVELOPMENT RUNOFF
3	Reservoir	10.72	2	722	48,841	1	22.91	13,320	PRE-DEVELOPMENT
4	Reservoir	10.59	2	724	48,841	2	22.80	13,648	POST-DEVELOPMENT

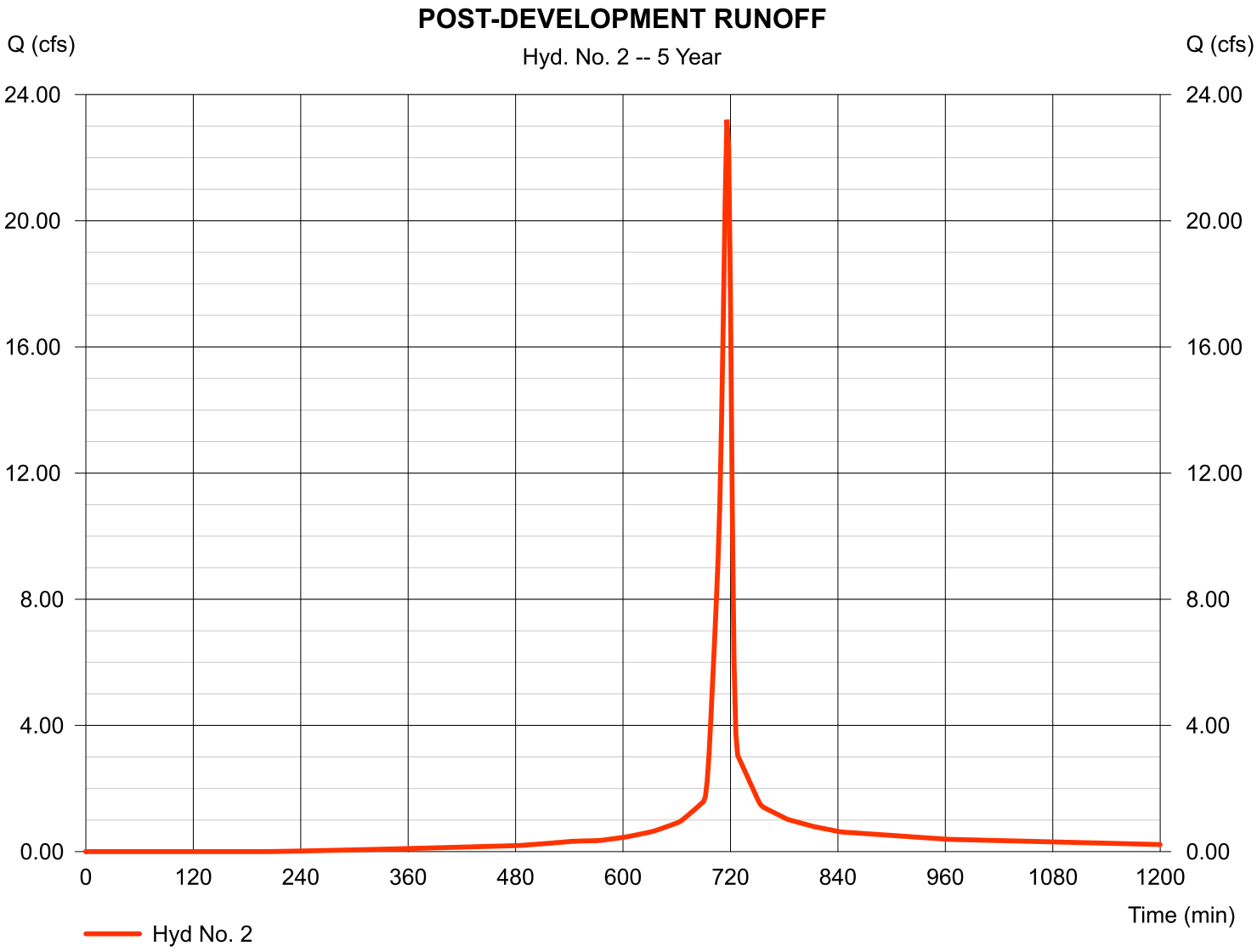
Hydrograph Report

Hyd. No. 2

POST-DEVELOPMENT RUNOFF

Hydrograph type	= SCS Runoff	Peak discharge	= 23.20 cfs
Storm frequency	= 5 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 50,272 cuft
Drainage area	= 4.180 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.43 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 98) + (1.320 x 79) + (1.950 x 98)] / 4.180



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	28.61	2	716	62,900	------	------	------	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	28.61	2	716	62,900	------	------	------	POST-DEVELOPMENT RUNOFF
3	Reservoir	14.18	2	722	61,470	1	23.21	16,336	PRE-DEVELOPMENT
4	Reservoir	13.57	2	722	61,469	2	23.15	16,866	POST-DEVELOPMENT

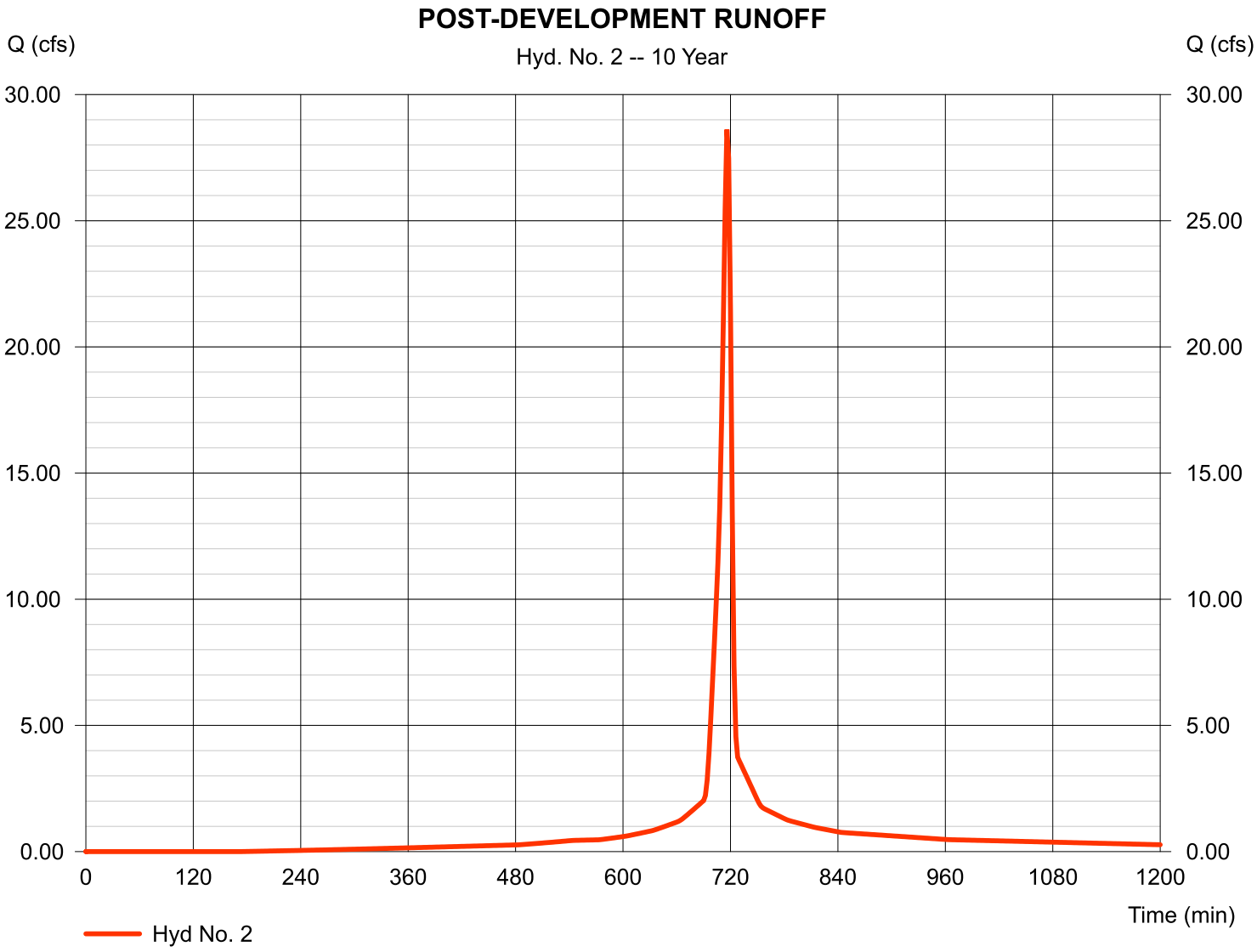
Hydrograph Report

Hyd. No. 2

POST-DEVELOPMENT RUNOFF

Hydrograph type	= SCS Runoff	Peak discharge	= 28.61 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 62,900 cuft
Drainage area	= 4.180 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.34 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 98) + (1.320 x 79) + (1.950 x 98)] / 4.180



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	36.05	2	716	80,516	------	------	------	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	36.05	2	716	80,516	------	------	------	POST-DEVELOPMENT RUNOFF
3	Reservoir	17.71	2	722	79,085	1	23.60	20,589	PRE-DEVELOPMENT
4	Reservoir	17.12	2	722	79,085	2	23.53	21,204	POST-DEVELOPMENT

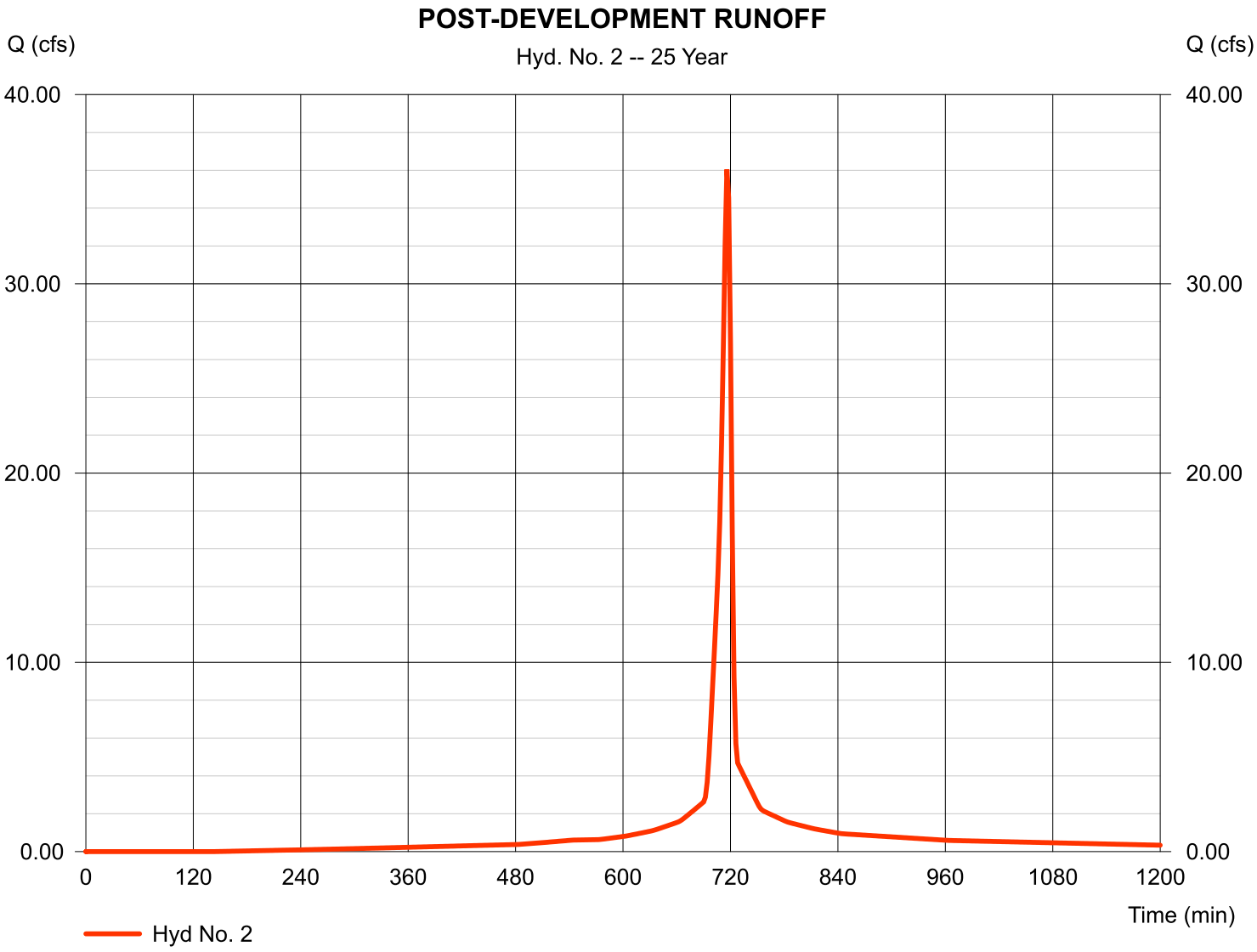
Hydrograph Report

Hyd. No. 2

POST-DEVELOPMENT RUNOFF

Hydrograph type	= SCS Runoff	Peak discharge	= 36.05 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 80,516 cuft
Drainage area	= 4.180 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.60 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 98) + (1.320 x 79) + (1.950 x 98)] / 4.180



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	41.44	2	716	93,438	------	------	------	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	41.44	2	716	93,438	------	------	------	POST-DEVELOPMENT RUNOFF
3	Reservoir	19.92	2	722	92,008	1	23.88	23,729	PRE-DEVELOPMENT
4	Reservoir	19.33	2	722	92,007	2	23.80	24,417	POST-DEVELOPMENT

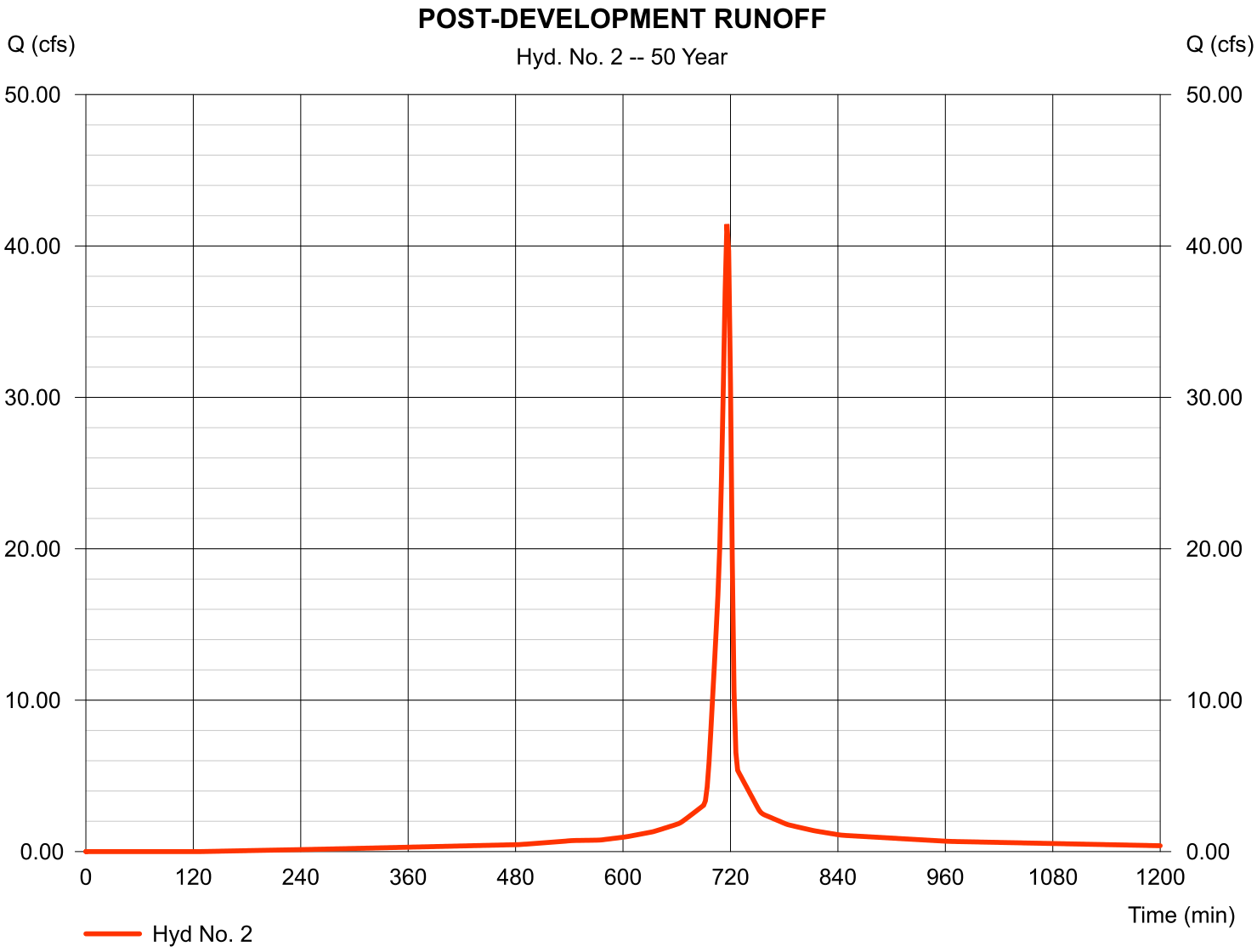
Hydrograph Report

Hyd. No. 2

POST-DEVELOPMENT RUNOFF

Hydrograph type	= SCS Runoff	Peak discharge	= 41.44 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 93,438 cuft
Drainage area	= 4.180 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.52 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 98) + (1.320 x 79) + (1.950 x 98)] / 4.180



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	47.34	2	716	107,662	------	------	------	PRE-DEVELOPMENT RUNOFF
2	SCS Runoff	47.34	2	716	107,662	------	------	------	POST-DEVELOPMENT RUNOFF
3	Reservoir	21.93	2	722	106,232	1	24.17	27,298	PRE-DEVELOPMENT
4	Reservoir	21.45	2	722	106,231	2	24.10	28,058	POST-DEVELOPMENT

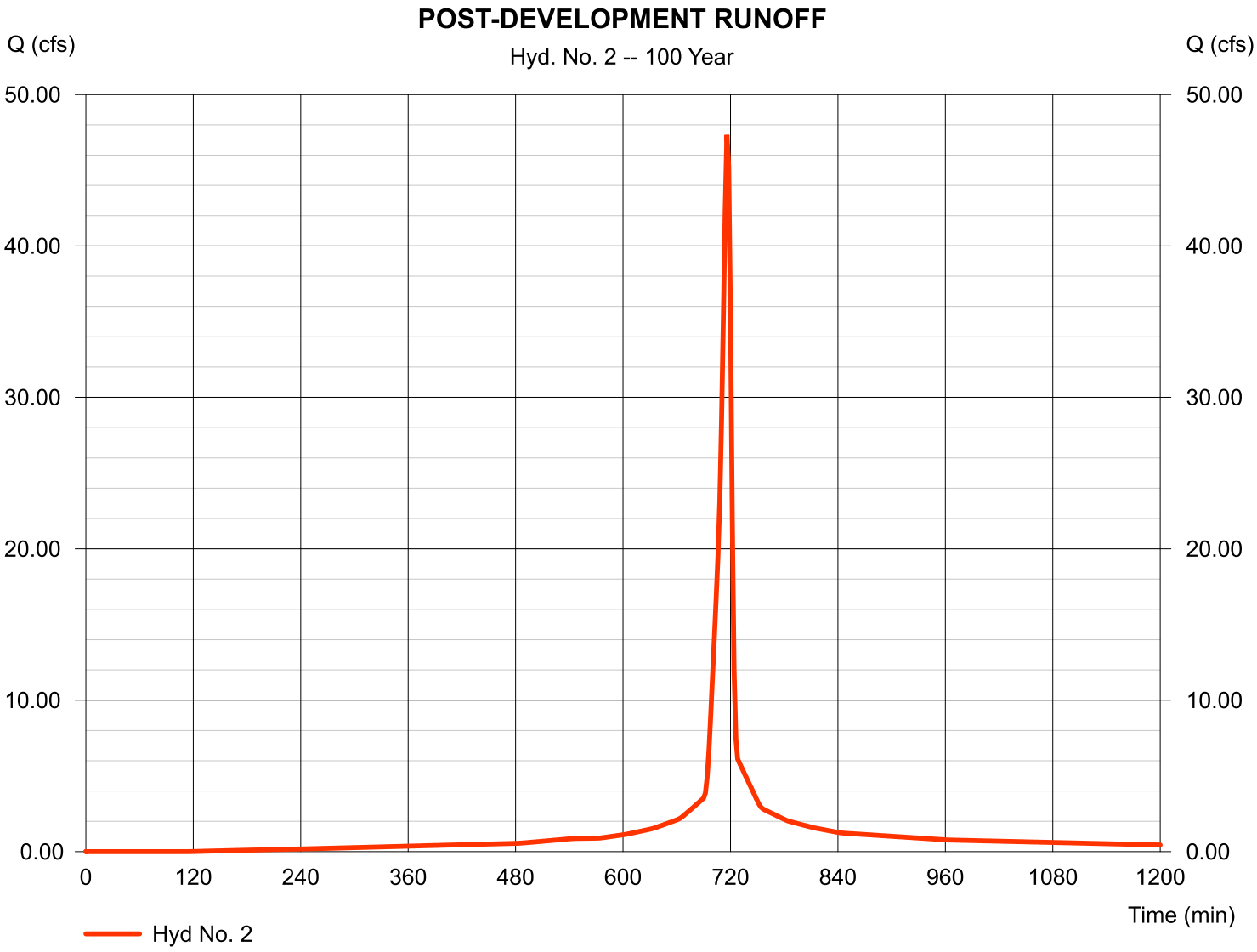
Hydrograph Report

Hyd. No. 2

POST-DEVELOPMENT RUNOFF

Hydrograph type	= SCS Runoff	Peak discharge	= 47.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 107,662 cuft
Drainage area	= 4.180 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.00 min
Total precip.	= 8.53 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 98) + (1.320 x 79) + (1.950 x 98)] / 4.180



Ross Engineering
Civil/Structural Engineering & Surveying
909 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

June 28, 2022
Portsmouth Planning Department
1 Junkins Ave
Portsmouth, NH 03801

11 Fletcher Street
CONDITIONAL USE PERMIT

RE: Lancen & Sophie LaChance
11 Fletcher St
Portsmouth, NH 03801
Tax Map 233, Lot 76-1

This project involves the construction of a house on an existing vacant lot. The house, attached garage, porch, and deck will all be outside the 100' wetland buffer. A conditional use permit is required because the proposed stormwater underdrain outlet will be in the wetland buffer. The department of public works recommends that the drain outlet be located in the lower lot corner as shown. The drain outlet will provide a direct route to the wetland area and avoid a flowpath towards Lot 73 which is in a low-lying area.

The Conservation Commission reviewed this project on June 8, 2022 and recommended approval, with minor revisions to the plans.

Proposed site improvements include:

1. Pervious paver driveway to collect runoff from the driveway and the northern garage roof.

2. Rain garden installed on the northwest portion of the site, collecting runoff from the north roof and the pervious paver driveway.

3. A stone area beneath the deck to collect runoff from the south roof. Water is stored in this area, before being slowly released to the outlet protection in the southwest through a 4" pipe. Wetland buffer plantings as specified in the landscape plan will be installed surrounding the outlet.

4. Sewer and water trenches are proposed to connect to existing lines on Sims Ave.

A drainage study has been prepared and after the improvements are installed the stormwater runoff rate will be lower than currently exists.

Sincerely,

Alex Ross, PE, LLS

Ross Engineering
Civil / Structural Engineering

909 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

List of Abutters

Dated 5-25-2022
To: City of Portsmouth
1 Junkins Ave
Portsmouth, NH 03801

Applicant & Land Owner's Name:
Lancen & Sophie Lachance
281 Dennett St
Portsmouth, NH 03801

Location of Land:
11 Fletcher St
Portsmouth, NH 03801
Tax Map 233, Lot 76-1

Abutters:
Judith B. Pope Revocable Trust of 2011
66 Benson St
Portsmouth, NH 03801
Tax Map 233, Lot 73

Stephanie J. Long Revocable Trust of 2008
80 Sims Ave
Portsmouth, NH 03801
Tax Map 233, Lot 74

Eric R. Hutchins Revocable Trust of 2015
74 Sims Ave
Portsmouth, NH 03801
Tax Map 233, Lot 75

Mark G. Broderick & Emily Spencer
70 Sims Ave
Portsmouth, NH 03801
Tax Map 233, Lot 76

Riverbrook at Portsmouth Condominium
Multiple Owners
Portsmouth, NH 03801
Tax Map 232-121

Civil Engineer & Surveyor
Alex Ross
Ross Engineering
Certified Professional Engineer
Licensed Land Surveyor
909 Islington Street
Portsmouth, NH 03801

Ross Engineering
Civil / Structural Engineering
909 Islington Street
Portsmouth, NH 03801
603-433-7560
alexross@comcast.net

1. Aerial of neighborhood

2. Aerial of Site

Ross Engineering
Civil / Structural Engineering
909 Islington Street
Portsmouth, NH 03801
603-433-7560
alexross@comcast.net

3. Looking south west towards woodland wetland buffer.

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

CONSERVATION COMMISSION

June 17, 2022

Mark Broderick & Emily Spencer
70 Sims Avenue
Portsmouth, NH 03801

RE: Wetland Conditional Use Permit for property located at 11 Fletcher Street (LU-20-42)

Dear Mr. Broderick & Ms. Spencer:

The Conservation Commission, at its regularly scheduled meeting of **Wednesday, June 08, 2022**, considered your application for a wetland conditional use permit under section 10.1017. This application is for drainage associated with the construction of a new single family home. The applicant proposes to construct a stone infiltration trench with stone outlet approximately 140 square feet completely within the wetland buffer. Said property is shown on Assessor Map 233 Lot 76-1 and lies within the Single Residence B (SRB) District. As a result of said consideration, the Commission voted to recommend **approval** of the Wetland Conditional Use Permit to the Planning Board with the following stipulations.

1. The applicant shall follow NOFA standards for land care management https://nofa.organiclandcare.net/wp-content/uploads/nofa_organic_land_care_standards_6thedition_2017_opt.pdf
2. The applicant will develop a landscape plan including trees shrubs and wetland buffer seed mix as described at the meeting on June 8, 2022 to be reviewed and approved by staff.
3. The applicant shall develop a maintenance plan for the landscape installations described in the landscape plan.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, July 21, 2022**. One (1) hard copy of any revised plans and/or exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than Wednesday, June 29, 2022.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Barbara McMillan

Barbara McMillan, Chair
Conservation Commission

cc:

YANKEE CONSTRUCTION LLC
General Contractors • North Hampton, N.H.

July 6, 2022

City of Portsmouth Planning Board
1 Junkins Ave
Portsmouth, NH 03801

Re: 81 Taft Rd – Wetlands Conditional Use Application
Land Use Application LU-22-98

Dear Members of the Planning Board,

Yankee Construction LLC submitted a Land Use Application (LU-22-98) as an authorized agent on behalf of Tom and Angela Mita (the Owners) of 81 Taft Rd (the Home). The Land Use Application was submitted because the proposed addition project required:

1. A Wetlands Conditional Use Permit Dimensional due to 17 sqft of the proposed addition being co-located within a 100 ft wetland buffer zone originating from wetlands on the north side of Elwyn Rd.
2. Dimensional relief from the Zoning Ordinance Section 10.521 to allow a 17.5 ft secondary front yard from Elwyn Rd where 30 ft is required.
3. Dimensional relief from the Zoning Ordinance Section 10.321 to allow a nonconforming building to be extended, reconstructed or enlarged without conforming to the requirements of the Ordinance.

The City of Portsmouth Conservation Commission (Conservation Commission) voted to recommend approval of the Wetland Conditional Use Permit to the Planning Board, with stipulations, on June 8, 2022. The June 17, 2022 letter from the Conservation Commission is attached.

The City of Portsmouth Zoning Board of Adjustment approved the dimensional relief variances on May 24, 2022.

We are now requesting final approval of the Wetlands Conditional Use Permit by the City of Portsmouth Planning Board.

YANKEE CONSTRUCTION LLC
General Contractors • North Hampton, N.H.

The following site data was summarized in support of the Wetland Conditional Use Permit Application:

- There is currently 1,936 sqft of wetland buffer extending across the northeast corner of the lot. The proposed addition will disturb 17 sqft (0.88%) of the wetland buffer on the lot.
- Lot and Impervious Surface Data
  - Lot size: 8,765 sqft (2021 professional survey)
  - Existing home size: 1,560 sqft
  - Proposed addition footprint: 235 sqft
  - Driveway coverage: 404 sqft
  - Other impervious coverage: 204 sqft (small concrete patio)
  - Lot topography is generally flat or mildly sloped (3 – 15% slopes)
  - Primary ground cover is lawn, vegetated, landscape beds
  - Area soils are well drained, generally gravelly fine sandy loam over loamy sand (source USDA / NRCS Soil Survey)

Attachments:

- Existing Conditions Photos
- June 17, 2022 City of Portsmouth Conservation Commission letter
- Doucet Survey LLC "Plan of Land for Thomas J. & Angela M. Mita", dated April 16, 2021, as annotated for this application package by Yankee Construction LLC, April 27, 2022.

Respectfully submitted,

David A. Ciccalone, PG
Co-Owner
Yankee Construction LLC

YANKEE CONSTRUCTION LLC
General Contractors • North Hampton, N.H.

Existing Conditions photos:

Rear of home and area of proposed addition, west side, Elwyn to left (north)

www.yankeeconstructionllc.com
(603) 420-9527
PO Box 1183, North Hampton, NH 03862

YANKEE CONSTRUCTION LLC
General Contractors • North Hampton, N.H.

North side of home, facing Taft Rd (east) and Elwyn Rd on left (north)

www.yankeeconstructionllc.com
(603) 420-9527
PO Box 1183, North Hampton, NH 03862

YANKEE CONSTRUCTION LLC
General Contractors • North Hampton, N.H.

Area of stockade fence to be removed.

www.yankeeconstructionllc.com
(603) 420-9527
PO Box 1183, North Hampton, NH 03862

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

CONSERVATION COMMISSION

June 17, 2022

Angela Mita
Thomas J. Mita
81 Taft Road
Portsmouth, NH 03801

RE: Wetland Conditional Use Permit for property located at 81 Taft Road (LU 22-98)

Dear Owners:

The Conservation Commission, at its regularly scheduled meeting of **Wednesday, June 08, 2022**, considered your application for a wetland conditional use permit according to section 10.1017. The applicant is proposing to construct a new addition of which 17 square feet are located in the wetland buffer . Said property is shown on Assessor Map 247 Lot 87 and lies within the Single Residence B (SRB) district. As a result of said consideration, the Commission voted to recommend **approval** of the Wetland Conditional Use Permit to the Planning Board with the following stipulations.

1. The applicant shall follow NOFA standards for land care management https://nofa.organiclandcare.net/wp-content/uploads/nofa_organic_land_care_standards_6thedition_2017_opt.pdf
2. The applicant will add additional wetland buffer plantings.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, July 21, 2022**. One (1) hard copy of any revised plans and/or exhibits as well as an updated electronic file (in a PDF format) must be filed in the Planning Department and uploaded to the online permit system no later than Wednesday, June 29, 2022.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Barbara McMillan

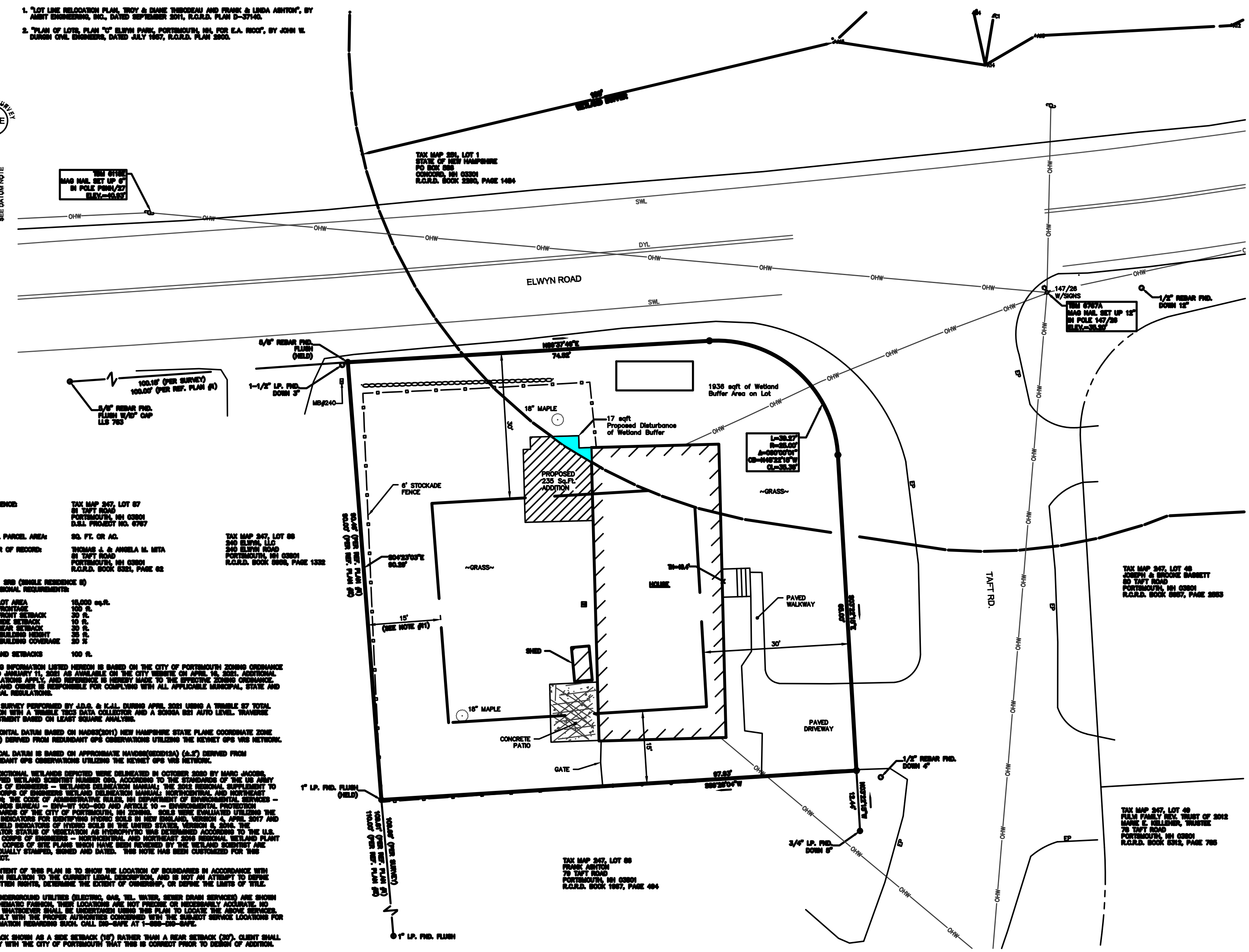
Barbara McMillan, Chair
Conservation Commission

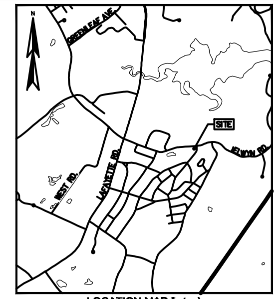
cc:

David Ciccalone

REFERENCE PLANS:

1. "LOT LINE RELOCATION PLAN, TROY & DIANE THIBODEAU AND FRANK & LINDA ASHTON", BY AMBIT ENGINEERING, INC., DATED SEPTEMBER 2011, R.C.R.D. PLAN D-37140.
2. "PLAN OF LOTS, PLAN "C" ELWYN PARK, PORTSMOUTH, NH, FOR E.A. RICCI", BY JOHN W. DURGIN CIVIL ENGINEERS, DATED JULY 1957, R.C.R.D. PLAN 2900.





LOCATION MAP (n.t.s.)

NOTES:

1. REFERENCE: TAX MAP 247, LOT 87
   81 TAFT ROAD
   PORTSMOUTH, NH 03801
   D.S.I. PROJECT NO. 6767
2. TOTAL PARCEL AREA: SQ. FT. OR AC.
3. OWNER OF RECORD: THOMAS J. & ANGELA M. MITA
   81 TAFT ROAD
   PORTSMOUTH, NH 03801
   R.C.R.D. BOOK 5321, PAGE 62
4. ZONE: SRB (SINGLE RESIDENCE B)
   DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	15,000 sq.ft.
MIN. FRONTAGE	100 ft.
MIN. FRONT SETBACK	30 ft.
MIN. SIDE SETBACK	10 ft.
MIN. REAR SETBACK	30 ft.
MAX. BUILDING HEIGHT	35 ft.
MAX. BUILDING COVERAGE	20 %
WETLAND SETBACKS	100 ft.

   ZONING INFORMATION LISTED HEREON IS BASED ON THE CITY OF PORTSMOUTH ZONING ORDINANCE DATED JANUARY 11, 2021 AS AVAILABLE ON THE CITY WEBSITE ON APRIL 16, 2021. ADDITIONAL REGULATIONS APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.
5. FIELD SURVEY PERFORMED BY J.D.G. & K.J.L. DURING APRIL 2021 USING A TRIMBLE S7 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
6. HORIZONTAL DATUM BASED ON NAD83(2011) NEW HAMPSHIRE STATE PLANE COORDINATE ZONE (2800) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
7. VERTICAL DATUM IS BASED ON APPROXIMATE NAVD88(GEOID12A) (±.2') DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
8. JURISDICTIONAL WETLANDS DEPICTED WERE DELINEATED IN OCTOBER 2020 BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS – WETLANDS DELINEATION MANUAL; THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION; THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES – WETLANDS BUREAU – ENV-WT 100-900 AND ARTICLE 10 – ENVIRONMENTAL PROTECTION STANDARDS OF THE CITY OF PORTSMOUTH, NH ZONING. SOILS WERE EVALUATED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, APRIL 2017 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8, 2016. THE INDICATOR STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS – NORTHCENTRAL AND NORTHEAST 2016 REGIONAL WETLAND PLANT LIST. COPIES OF SITE PLANS WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED, SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS PROJECT.
9. 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.
10. 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.
11. SETBACK SHOWN AS A SIDE SETBACK (15') RATHER THAN A REAR SETBACK (30'). CLIENT SHALL VERIFY WITH THE CITY OF PORTSMOUTH THAT THIS IS CORRECT PRIOR TO DESIGN OF ADDITION.

SCALE: 1:20

PLAN OF LAND
FOR
THOMAS J. & ANGELA M. MITA
(TAX MAP 247, LOT 87)
81 TAFT ROAD
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

DRAWN BY: M.W.F.	DATE: APRIL 16, 2021
CHECKED BY: W.J.D.	DRAWING NO. 6767A
JOB NO. 6767	SHEET 1 OF 1

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

FILE NAME: Y:\PROJECTS\6767 C3D\DWG\6767A (POL).dwg LAYOUT NAME: 6767 PLAN OF LAND PLOTTED: Tuesday, May 11, 2021 - 4:04pm

GPC

TO: Beverly Mesa-Zendt, AICP
Planning Director
City of Portsmouth, NH
1 Junkins Avenue
Portsmouth, NH 03801

DATE: 6/22/2022

RE: Map 283, Lot 11
Wetland Conditional Use Permit

Dear Beverly,

The following is a supplemental to accompany the project plans that demonstrates compliance with the conditional use criteria for the proposed wetland buffer impacts. It is our hope that returning to the Planning Board to re-approve the expired CUP is the only step necessary given that the Conservation Commissions recommendations have not expired and the plans remain unchanged.

Project Overview:

The property's sole access is via the existing old roadway off Martha Terrace. This roadway is paved with 20-24 feet of pavement width terminating in a cul-de-sac. There is no other alternative access to this buildable area of the lot without utilizing the roadway. The plans call for the removal of the existing failing asphalt surface and its non-functioning catch basins and the replacement of an 18 foot paved roadway that will be curbed to direct stormwater runoff to a small bio-retention area. The existing mature trees along the roadway will remain although there are a few trees proximate to the existing cul-de-sac that will be removed for the creation of stormwater features. The existing impervious coverage in the wetland buffer is 5,718 s.f. and the proposed permanent impacts to the buffer are 4,283 s.f., for the roadway, representing a 25% reduction in permanent buffer impact. Temporary impacts to the buffer are for the creation of the stormwater treatment areas (detention area and level spreader). These impacts require 1,738 s.f. of temporary impact in the buffer which result in stormwater treatment for the roadway.

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

10.1017.40 Conditional Use Approval - 10.1017.50 Criteria for Approval

Any proposed development, other than installation of utilities within a right-of-way, shall comply with all of the following criteria:

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

The property is presently zoned for single-family residential development and consists of 3.16 acres in the SRA District. The property has over 400 feet of frontage on an existing roadway that has not been maintained for many years other than being plowed by the abutting landowners for access. The property has suitable upland soils outside of the 100-foot wetland buffer for residential development.

(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 other alternative access to the buildable area of the lot without utilizing and improving the existing right-of-way.

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

Given that there will be a reduction in permanent impact to the buffer by 25% and that new stormwater treatment will be introduced, the proposal will be a net positive impact on the wetlands. Therefore, no adverse impact on the wetland functional values will result.

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

The existing mature trees along the roadway will remain. Some brush will be removed along the roadway to establish the curbing to direct stormwater to the detention area. The detention pond proximate to the existing cul-de-sac is proposed in an area that is presently disturbed area where the existing catch basin and outfall pipe are located. (See photos attached)

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

There is no other alternative access to the buildable area of the lot without utilizing and improving the existing right-of-way.

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

There is no work proposed within the vegetated buffer strip. The vegetated buffer strip shall remain uncut and undisturbed.

PHOTO A: Looking west towards the proposed detention pond from the existing roadway.

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

PHOTO B: Looking westerly upslope towards the existing roadway cul-de-sac at proposed detention pond location.

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

PHOTO C: Looking south toward the existing cul-de-sac. Existing mature trees along the westerly side of the roadway to remain. Broken pavement to be removed and replaced. Curbing to be installed along the westerly side of the roadway.

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

2 LOT SUBDIVISION PLAN FOR

DUBE PLUS CONSTRUCTION,

TAX MAP 283, LOT 11

HEMLOCK WAY, PORTSMOUTH, NH 03801

ROCKINGHAM CO.

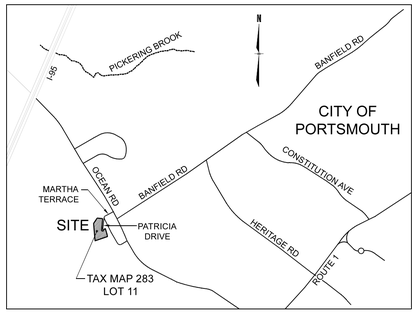
NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.



LOCATION PLAN

SCALE: 1"=2,000'

SHEET INDEX

PROFESSIONAL CONSULTANTS LIST

STATE OF NEW HAMPSHIRE — JAMES P. GOVE — No. 0051 — CERTIFIED WETLAND SCIENTIST — 12-17-21

SURVEYOR:	NEW HAMPSHIRE LAND CONSULTANTS, PLLC. 683C FIRST NH TURNPIKE (RT.4) NORTHWOOD, NH 03261 PH:(603) 942-9220
WETLAND/SOIL SCIENTIST	GOVE ENVIRONMENTAL SERVICES, INC. 8 CONTINENTAL DR., BLDG. 2, UNIT H, EXETER, NH 03833 PH: (603) 778-0644
ENGINEER:	JEFF BURD, RJB ENGINEERING, 2 GLENDALE ROAD, CONCORD NH, 03301 PH: (603) 219-0194

N.H. LAND Consultants — SURVEYING • LAND PLANNING • REAL ESTATE — A Veteran Owned Company

STATE OF NEW HAMPSHIRE — R. JEFFREY BURD No.9058 LICENSED PROFESSIONAL ENGINEER — RJ Burd

OWNER:

HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C
HAMPSTEAD, NH 03841
BK 6330 PG 796

APPLICANT:

DUBE PLUS CONSTRUCTION,
10 BRICKETTS MILL ROAD,
HAMPSTEAD, NH 03841

AGENCY APPROVALS

NHDES SUBDIVISION : #eSA2021100607 APPROVED 10/6/2021

DIG SAFE — ME NH VT — CALL T-888-DIG-SAFE TOLL FREE — UTILITIES UNDER GROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. NEW HAMPSHIRE LAND CONSULTANTS, PLLC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233).

INITIAL PLAN SET SUBMISSION DATE

SEPTEMBER 23, 2020

Latest revision date:
MARCH 16, 2022

NOTE:

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE CITY OF PORTSMOUTH REGULATIONS AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
18	02/03/2022	REVISIONS TO SHT 7,8 & 10 OF 10	SRF
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB

N.H. LAND Consultants
SURVEYING • LAND PLANNING • REAL ESTATE
A VETERAN OWNED COMPANY
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH. 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

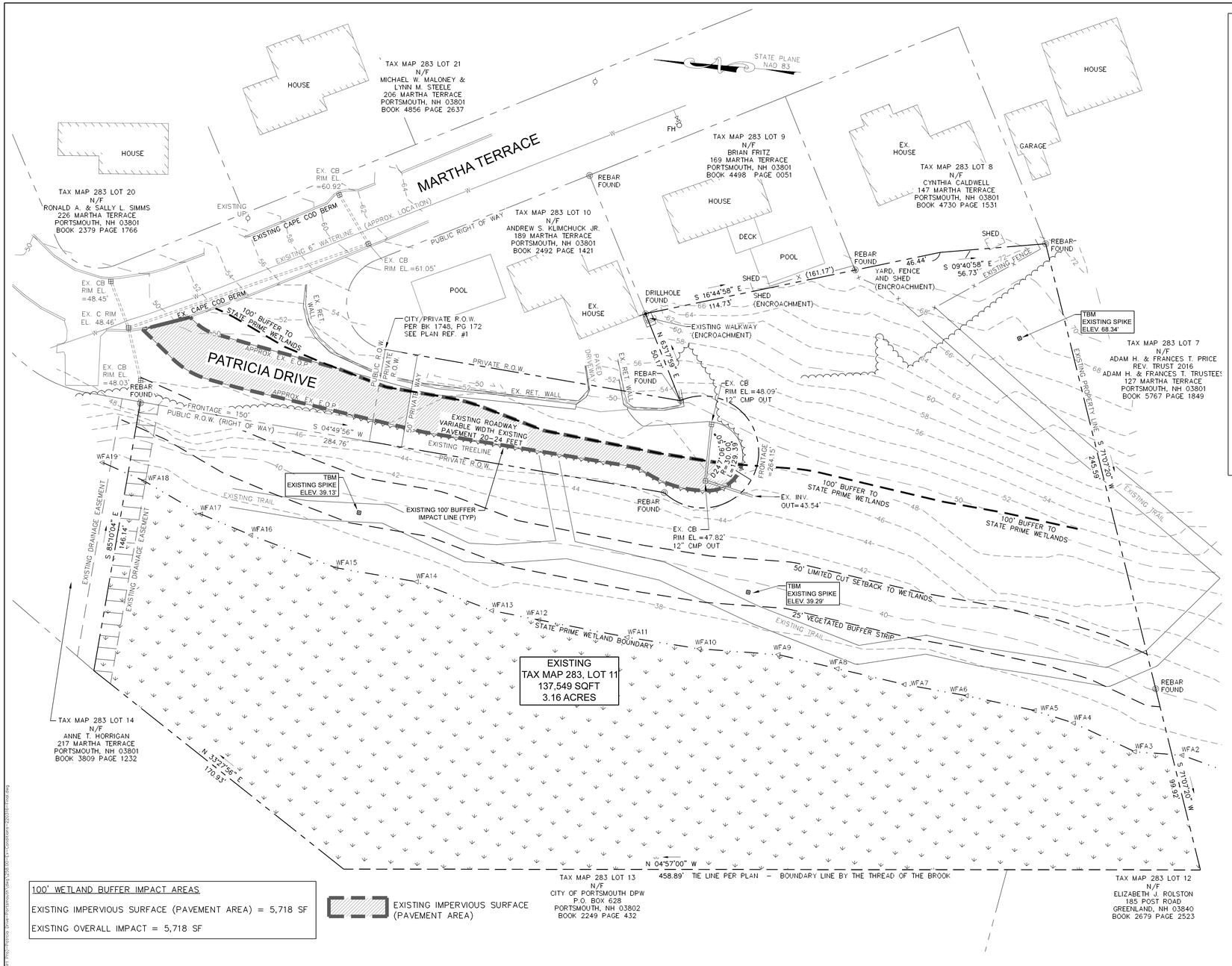
NEW HAMPSHIRE Designer of Subsurface Disposal Systems ★★★ Scott R. Frankiewicz No. 1348 — Department of Environmental Services

STATE OF NEW HAMPSHIRE — No. 945 SCOTT R. FRANKIEWICZ — LICENSED LAND SURVEYOR — SIGNATURE

COVER SHEET
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

JOB NO: 258.00
ROCKINGHAM CO.
DATE: SEPTEMBER 23, 2020
CVR
SHT. 1 of 10

Drawing name: P:\New Hampshire Land Consultants projects\258.00 Tom Dube (DPW Proj-Patricia Drive-Portsmouth Dpw)\258.00-ECP-Condition-220315-1.dwg



ABUTTERS LIST:

N/F
MAP 283 LOT 7
ADAM H. & FRANCES T. PRICE,
ADAM H. & FRANCES T.-TRUSTEES
127 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

N/F
MAP 283 LOT 8
CYNTHIA CALDWELL
147 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

N/F
MAP 283 LOT 9
BRIAN A FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4491 PAGE 0051

N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

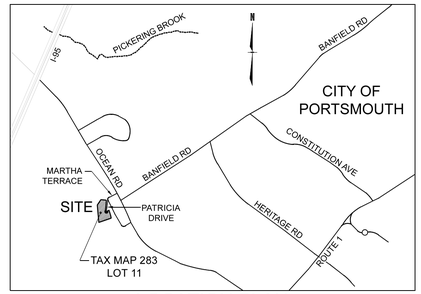
N/F
MAP 283 LOT 21
MICHAEL W MALONEY &
LYNN M STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

N/F
MAP 283 LOT 20
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

N/F
MAP 283 LOT 14
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432

N/F
MAP 283 LOT 12
ELIZABETH J ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2769 PAGE 2523



LOCATION PLAN
SCALE: 1"=2,000'

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PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
2. R.C.R.D. PLAN #D5967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF OCEAN MANNER", PREPARED FOR: ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 – LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

REVISIONS			
NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
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19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB

GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

100' WETLAND BUFFER IMPACT AREAS

EXISTING IMPERVIOUS SURFACE (PAVEMENT AREA) = 5,718 SF

EXISTING OVERALL IMPACT = 5,718 SF

EXISTING IMPERVIOUS SURFACE (PAVEMENT AREA)

LEGEND

EXISTING RETAINING WALL	WETLANDS
ABUTTERS PROPERTY LINES	DRILL HOLE FOUND
SUBJECT PROPERTY LINES	REBAR W/ CAP FOUND
PROPOSED PROPERTY LINES	STONE BOUND FOUND
EXISTING TIE LINE	EXISTING GATE VALVE & FIRE HYDRANT
EDGE OF PAVEMENT	
PROPOSED BLDG SETBACK	
EXISTING CONTOUR (MNR) -572-	
EXISTING CONTOUR (MJR) -570-	

Standards Utilized:

US Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (Jan 1987). AND Regional Supplement to the corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, January 2012 AND Field Indicators for Indentifying Hydric Soils in New England, Version 4, May 2017, New England Hydric Soils Technical Committee. Wetlands Delineated by Gove Environmental Services, Inc. staff: James P. Gove, CWS 051, CSS 004 on 6/4/20

STATE OF NEW HAMPSHIRE JAMES P. GOVE 12-17-21 No. 0051 CERTIFIED WETLAND SCIENTIST

I CERTIFY THAT THIS PLAT IS BASED UPON THE PLAN REFERENCES AND A FIELD SURVEY CONDUCTED ON THE GROUND IN SPRING OF 2020, MEETING THE MINIMUM REQUIREMENTS FOR ACCURACY, 1:10,000 AND COMPLETENESS PER THE STATE OF NEW HAMPSHIRE AND THE CITY OF PORTSMOUTH, NH.

STATE OF NEW HAMPSHIRE No. 945 SCOTT R. FRANKIEWICZ LICENSED LAND SURVEYOR

SIGNATURE

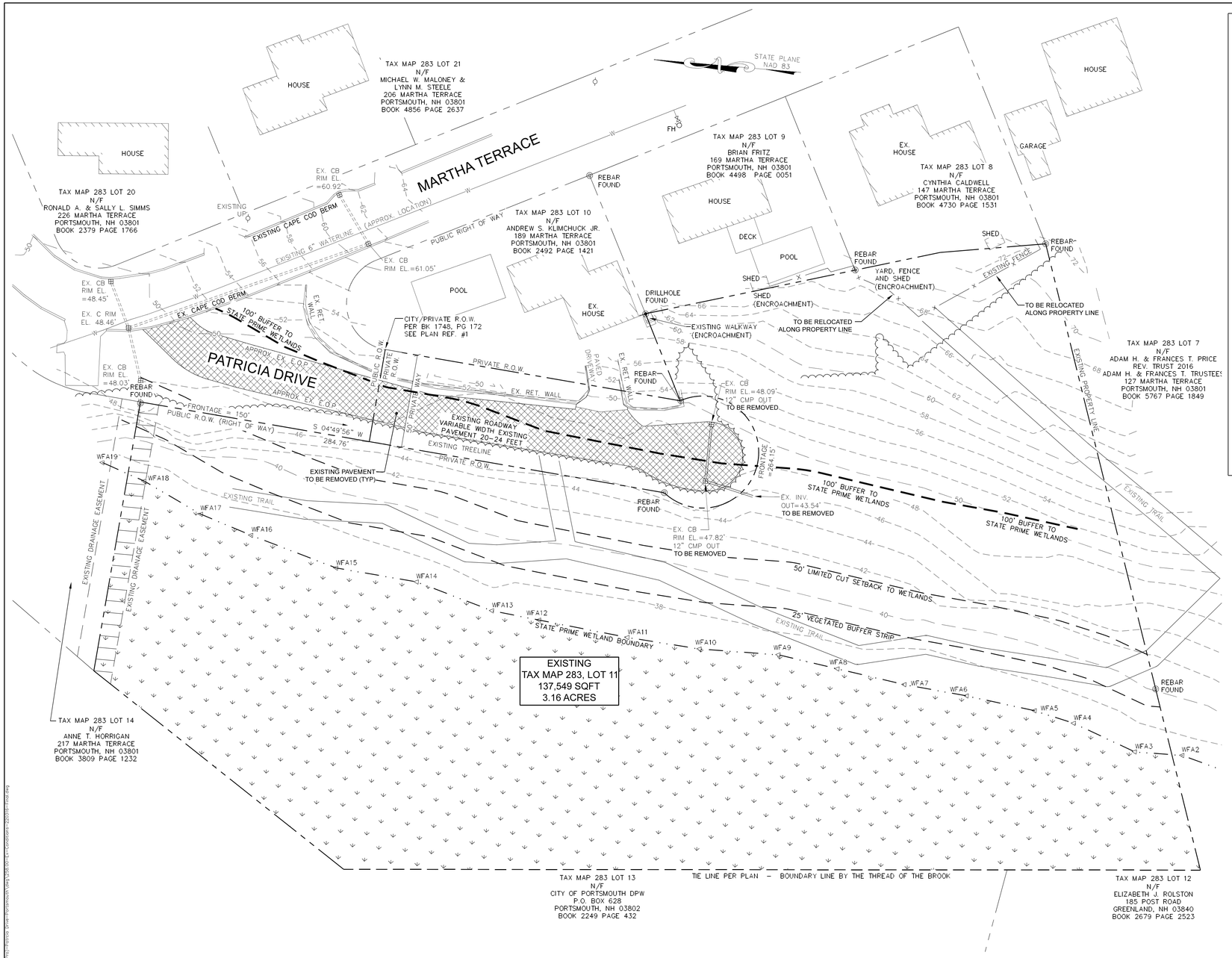
SCOTT R. FRANKIEWICZ, LLS — 12/14/2021 DATE:

N.H. LAND Consultants
SURVEYING•LAND PLANNING•REAL ESTATE
A Veteran Owned Company
PH 603-942-9220 WEBSITE: INHLANDCONSULTANTS.COM
6B30 FIRST NH TURNPIKE, NORTHWOOD, NH 03261

EXISTING CONDITIONS PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

ECP
SHT. 2 of 10



ABUTTERS LIST:

N/F
MAP 283 LOT 7
ADAM H. & FRANCES T. PRICE,
ADAM H. & FRANCES T.-TRUSTEES
127 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

N/F
MAP 283 LOT 8
CYNTHIA CALDWELL
147 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

N/F
MAP 283 LOT 9
BRIAN A FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4491 PAGE 0051

N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

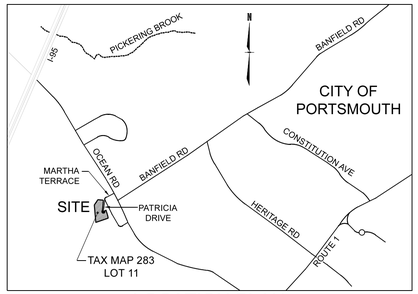
N/F
MAP 283 LOT 21
MICHAEL W MALONEY &
LYNN M STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

N/F
MAP 283 LOT 20
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

N/F
MAP 283 LOT 14
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432

N/F
MAP 283 LOT 12
ELIZABETH J ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2769 PAGE 2523



LOCATION PLAN
SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED. A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED: JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
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3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 - LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED: MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- EXISTING CONTOUR (MNR) -572-
- EXISTING CONTOUR (MJR) -570
- WETLANDS
- DRILL HOLE FOUND
- REBAR W/ CAP FOUND
- STONE BOUND FOUND
- EXISTING GATE VALVE & HYDRANT (GV, FH)

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GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

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DEMOLITION PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
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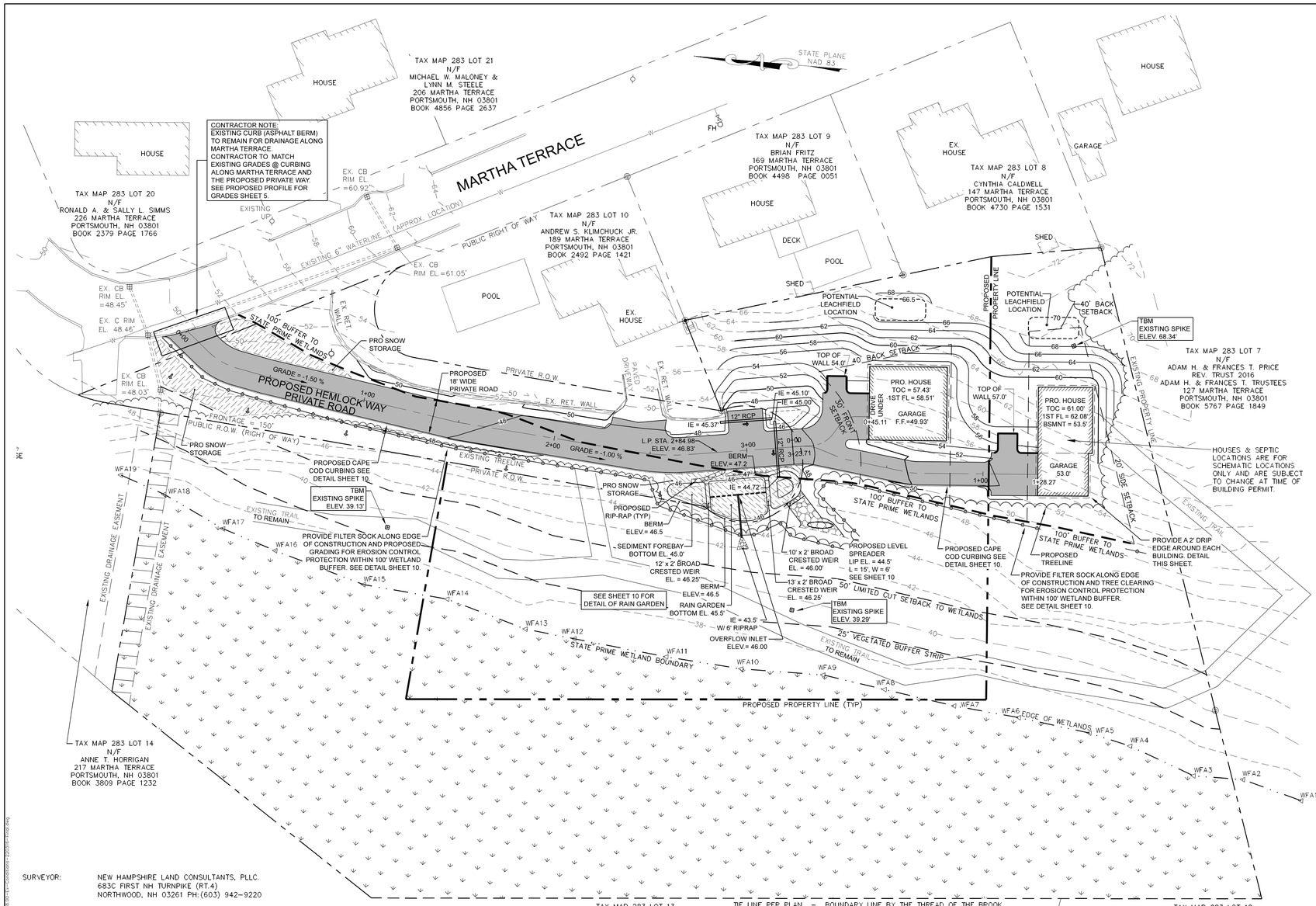
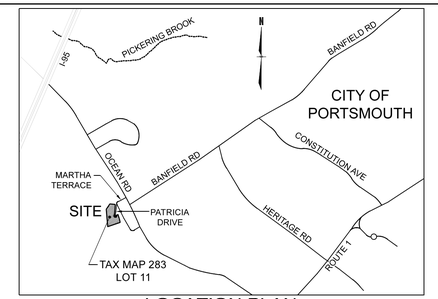
DMP
SHT. 3 of 10





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LEGEND

EXISTING RETAINING WALL		WETLANDS	
ABUTTERS PROPERTY LINES		DRILL HOLE FOUND	◎
SUBJECT PROPERTY LINES		REBAR W/ CAP FOUND	○
PROPOSED PROPERTY LINES		STONE BOUND FOUND	□
EXISTING TIE LINE		EXISTING GATE VALVE & HYDRANT	GV FH
EDGE OF PAVEMENT			
PROPOSED BLDG SETBACK			
EXISTING CONTOUR (MNR)	-572-		
EXISTING CONTOUR (MJR)	-570		

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
683C FIRST NH TURNPIKE (RT.4)
NORTHWOOD, NH 03261 PH:(603) 942-9220

WETLAND/SOIL SCIENTIST: GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

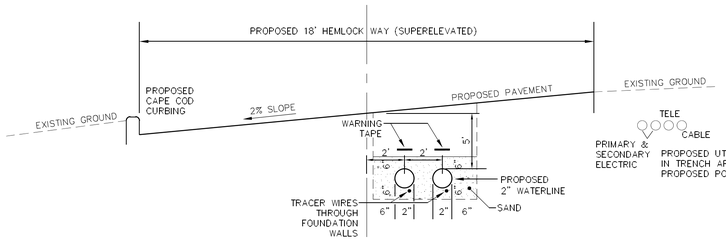
ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD–HOLLIS–CANTON COMPLEX

CHATFIELD – NHDES GROUP 4
HOLLIS – NHDES GROUP 4
CANTON – NHDES GROUP 2

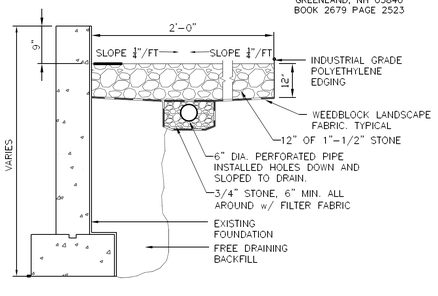
LOT SIZE USING
GROUP 4 SLOPE C = 48,000 SQ FT

WITH PUBLIC WATER = 24,000 SQ FT.



TYPICAL CROSS-SECTION - PROPOSED HEMLOCK WAY

N.T.S.



DRIP EDGE RECHARGE TRENCH DETAIL

N.T.S.

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R. JEFFREY BURD No. 9058 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

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PROPOSED GRADING PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
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10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
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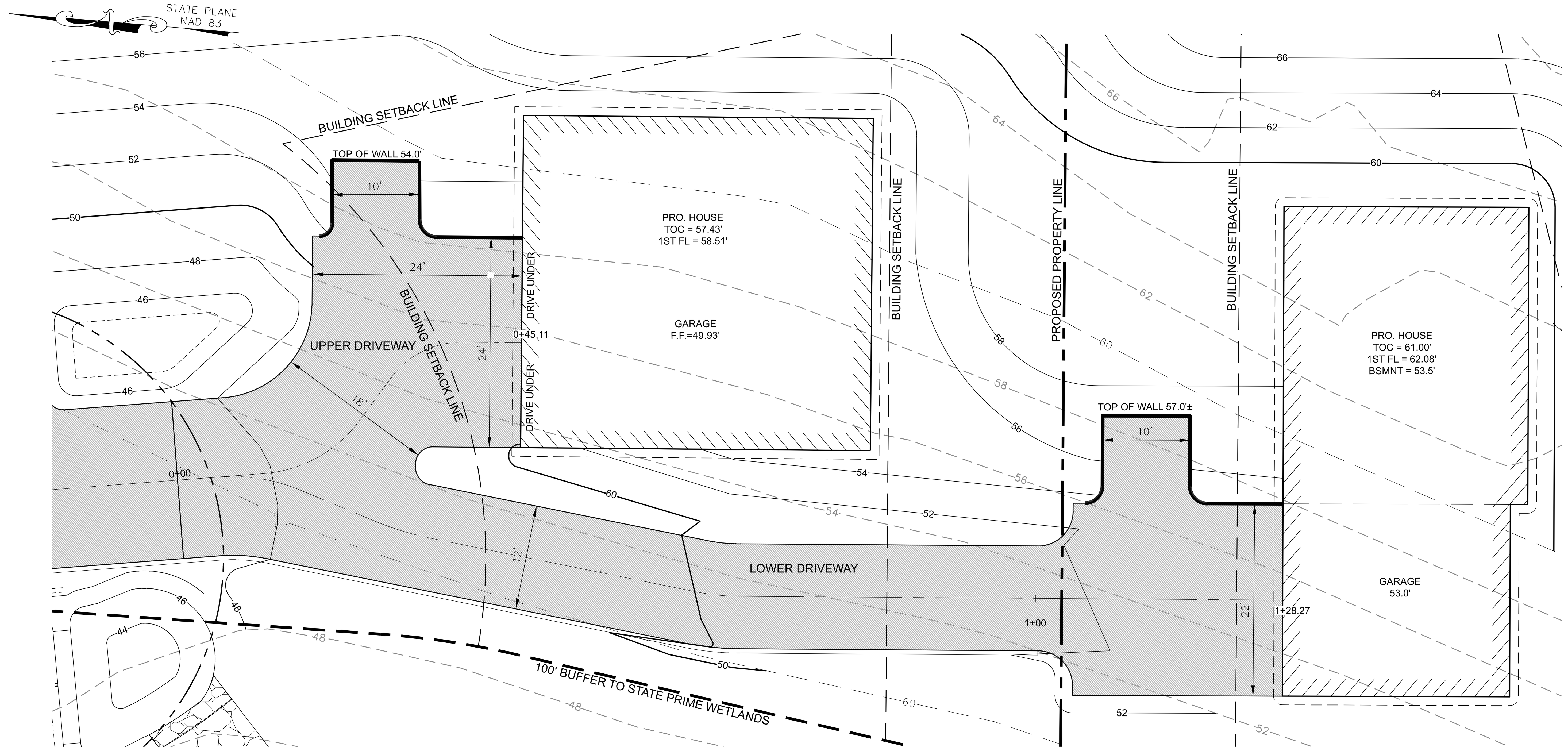
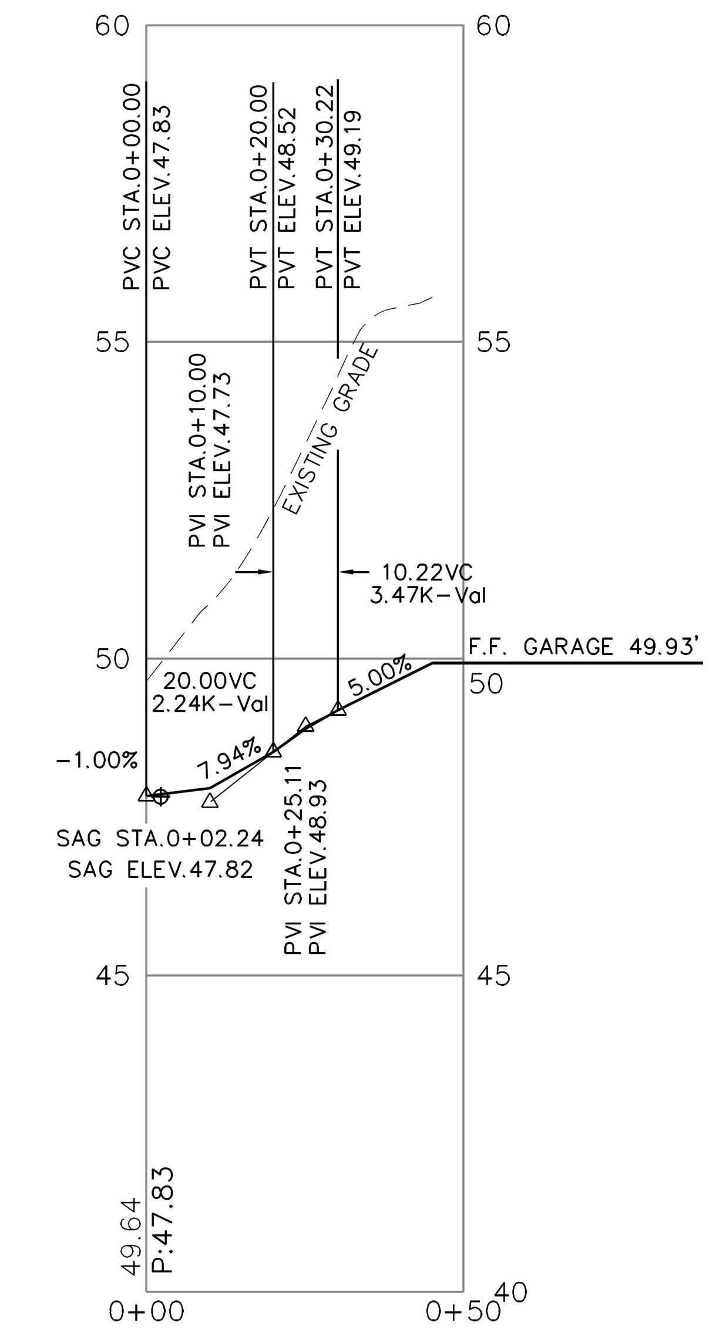
PGP
SHT. 4 of 10



PROPOSED UPPER AND LOWER DRIVEWAY PLAN VIEW

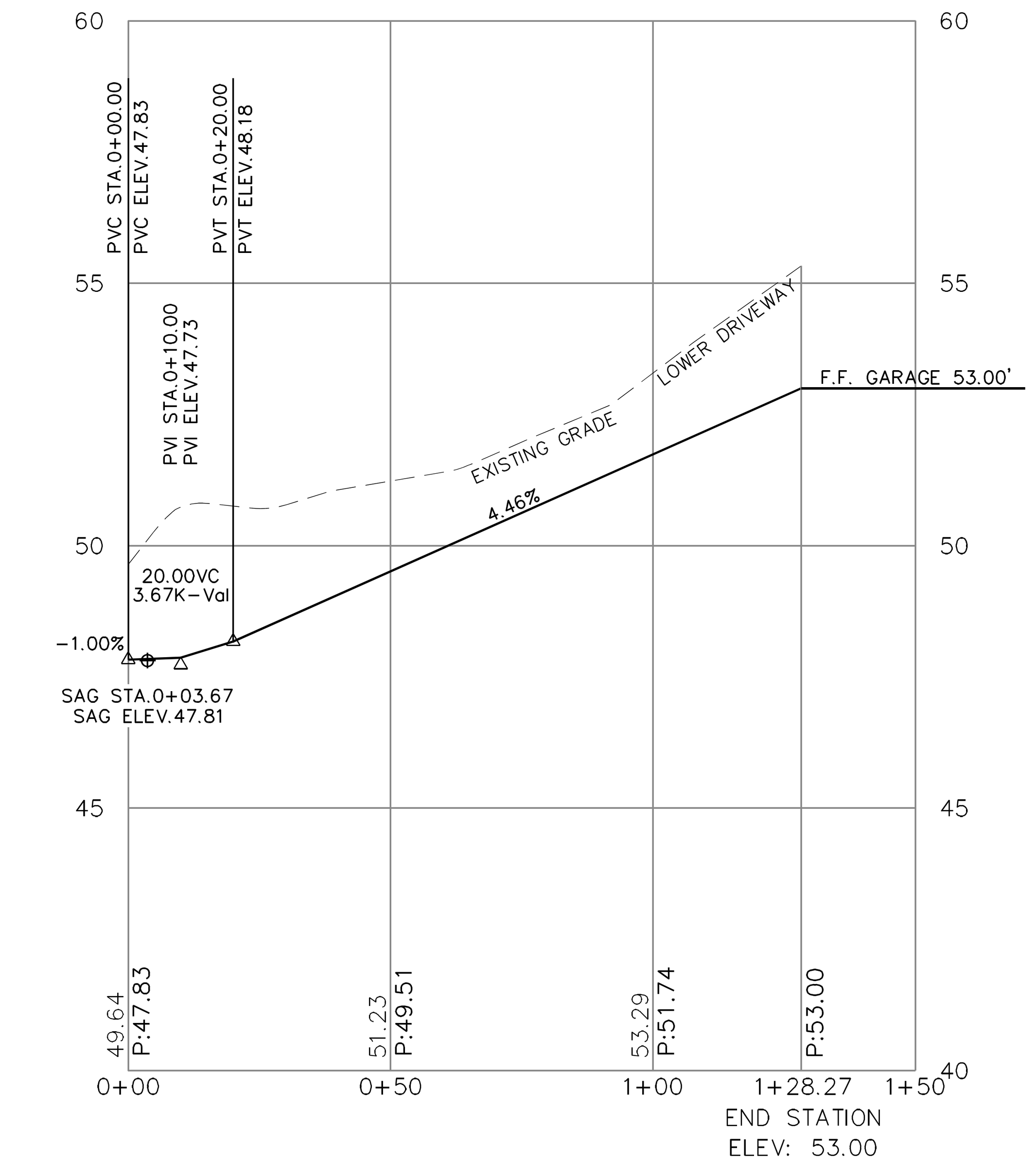
SCALE: 1"=10'

LARGER SCALE FORMAT FOR GRAPHICAL PUROSES



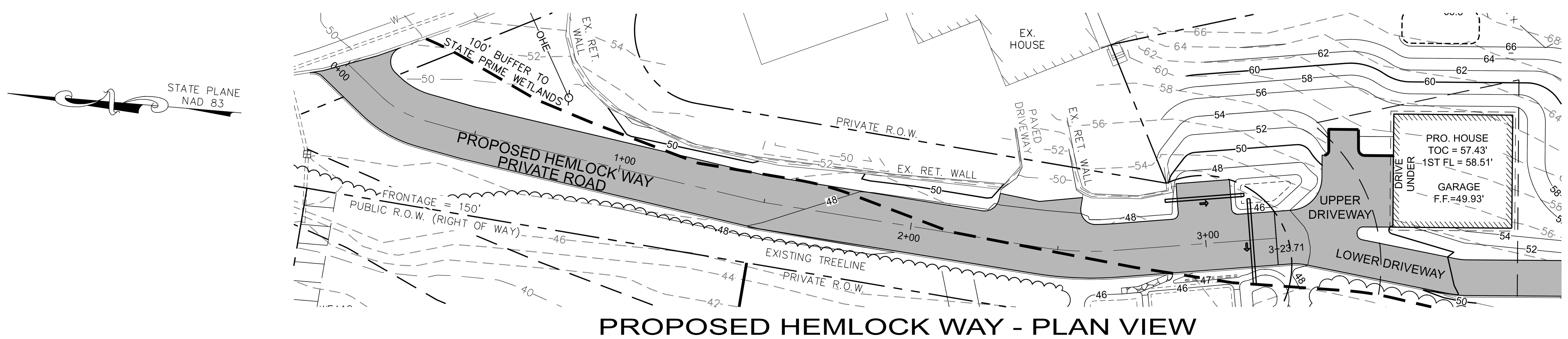
PROFILE - UPPER DRIVEWAY

SCALE: 1"=30'H, 3' VERT.



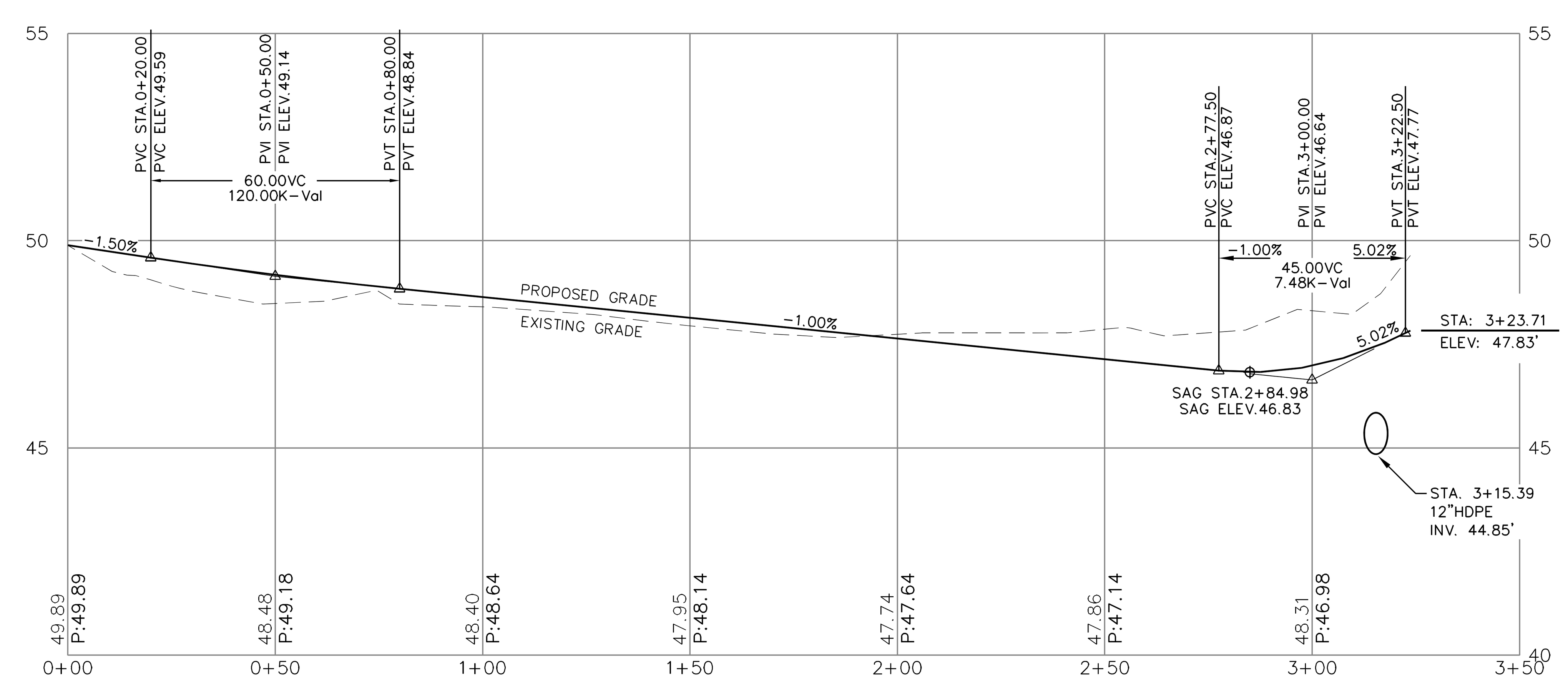
PROFILE - LOWER DRIVEWAY

SCALE: 1"=30'H, 3' VERT.



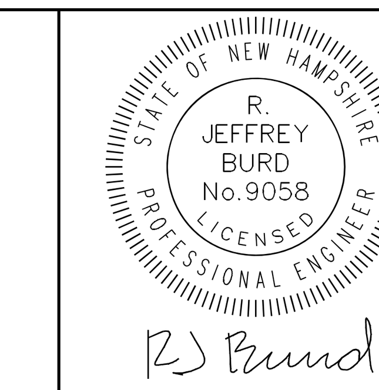
PROPOSED HEMLOCK WAY - PLAN VIEW

SCALE: 1"=30'



PROPOSED HEMLOCK WAY - PROFILE

SCALE: 1"=30' H 3' VERT.



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SCALE AS SHOWN

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PROPOSED DRIVEWAY PLAN & PROFILES
TAX MAP 283 LOT 11
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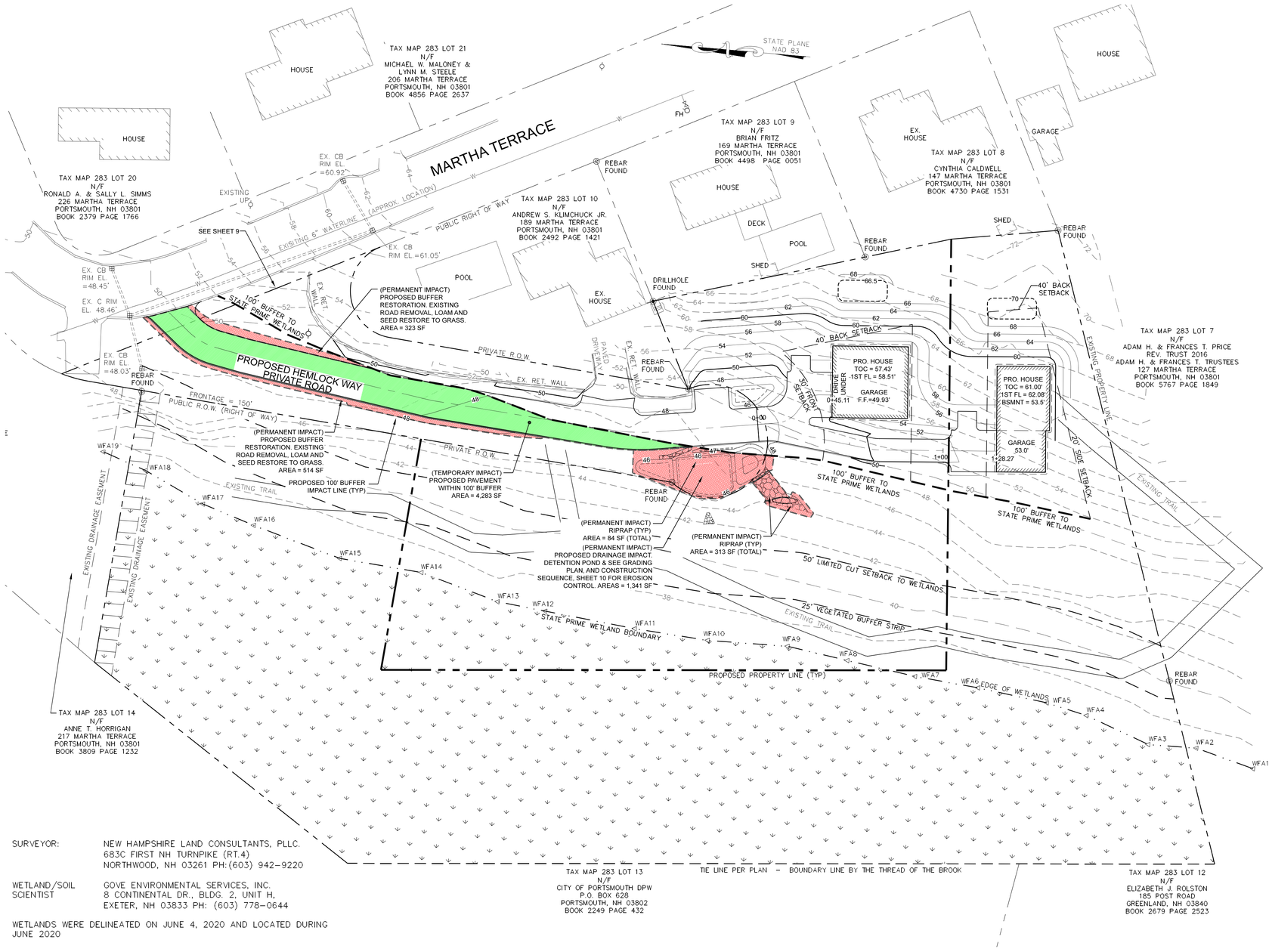
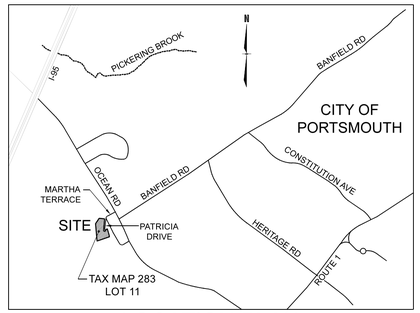
PDPP

SHT. 5 of 10





LOCATION PLAN
SCALE: 1"=2,000'

BUFFER NOTES:

1. PRIOR TO CONSTRUCTION, PERMANENT "WETLAND PROTECTION AREA" PLACARDS SHALL BE PLACE APPROXIMATELY EVERY FIFTY ALONG THE SOUTHERLY SIDE OF HEMLOCK WAY TO BE VERIFIED BY THE PLANNING.
2. PROPOSED PRIVATE DRIVE WILL BE A "NO SALT ZONE" WITHIN THE 100' STATE PRIME WETLAND BUFFER.
3. LANDSCAPE LAWN MAINTENANCE PER "NORTH EAST ORGANIC FARMING ASSOCIATION (NOFA) OR OTHER SUITABLE ORGANIC STANDARDS. SEE CONSTRUCTION SEQUENCE ON SHEET 10 FOR ADDITIONAL SEEDING NOTES.

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
683C FIRST NH TURNPIKE (RT.4)
NORTHWOOD, NH 03261 PH:(603) 942-9220

WETLAND/SOIL SCIENTIST: GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD–HOLLIS–CANTON COMPLEX

CHATFIELD – NHDES GROUP 4
HOLLIS – NHDES GROUP 4
CANTON – NHDES GROUP 2

LOT SIZE USING
GROUP 4 SLOPE C = 48,000 SQ FT

WITH PUBLIC WATER = 24,000 SQ FT.

LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- EXISTING CONTOUR (MNR) -572-
- EXISTING CONTOUR (MJR) -570
- WETLANDS
- DRILL HOLE FOUND
- REBAR W/ CAP FOUND
- STONE BOUND FOUND
- EXISTING GATE VALVE & HYDRANT (GV, FH)

100' WETLAND BUFFER IMPACT AREAS (PERMANENT IMPACTS)

Permanent impacts (SF): (including all actual permanent impacts as they're normally defined; including areas changing from pavement to grass)	2,575 SF
Temporary impacts (SF): (including all areas that will be restored to the current-existing condition)	4,283 SF
Net reduction in impervious within the prime wetland buffer (SF):	837 SF
Tree clearing within the prime wetland buffer (SF):	950 SF

PERMANENT IMPACT

TEMPORARY IMPACT

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB

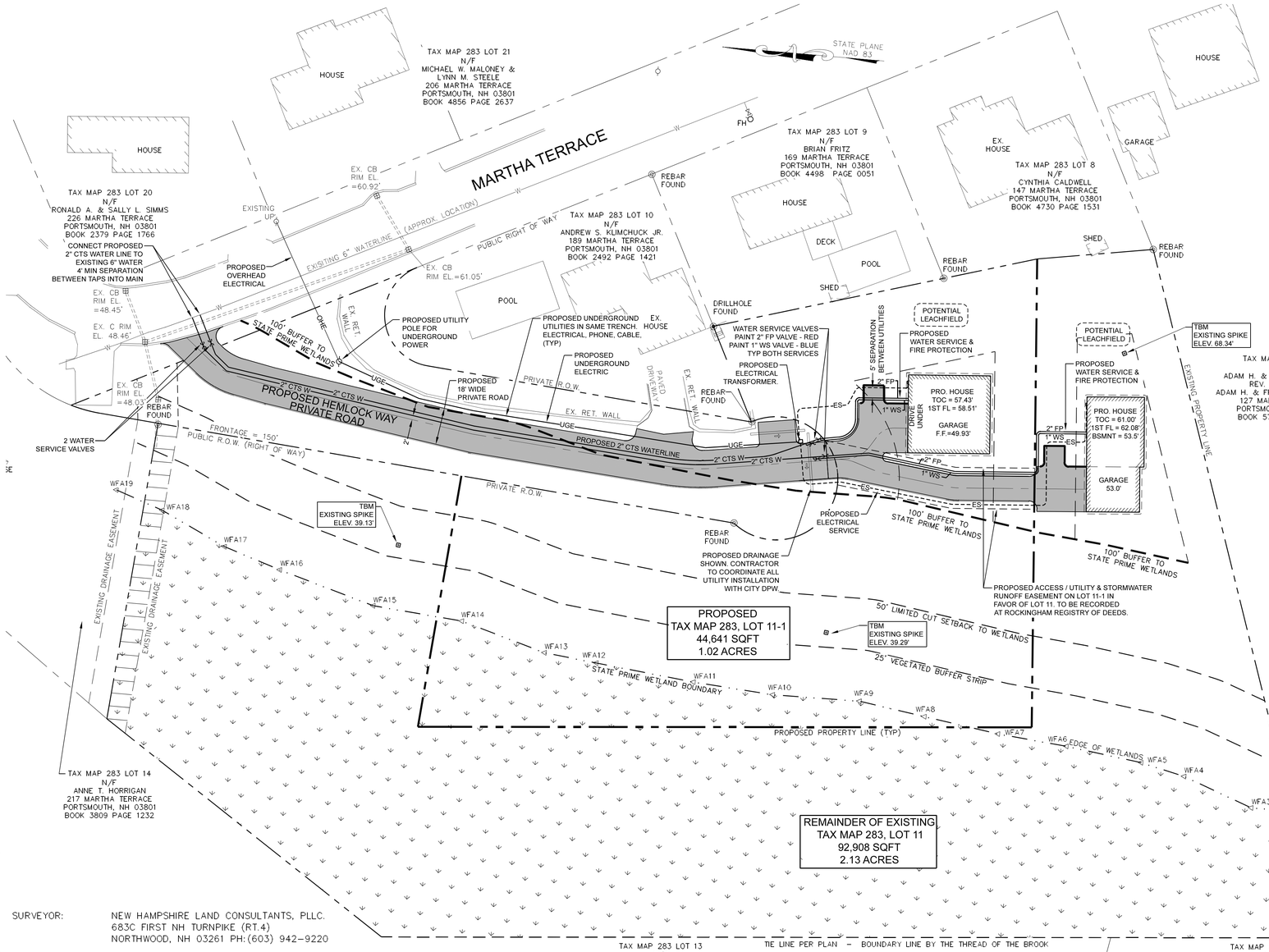
GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

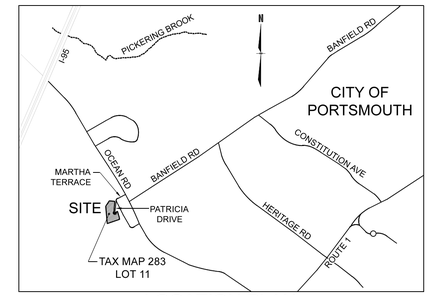
N.H. LAND Consultants
SURVEYING•LAND PLANNING•REAL ESTATE
A Veteran Owned Company
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH. 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

PROPOSED BUFFER IMPACT PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PBIP
SHT. 6 of 10





LOCATION PLAN
SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS
OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)	

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granit.view.unh.edu.
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17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
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PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
2. R.C.R.D. PLAN #D5967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF OCEAN MANNER", PREPARED FOR: ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 – LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
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WETLAND/SOIL SCIENTIST: GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

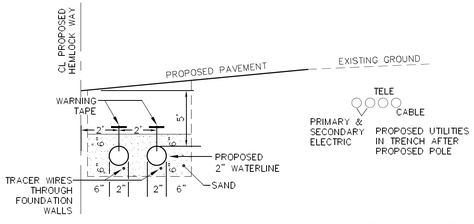
WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

LEGEND

EXISTING RETAINING WALL	PROPOSED 2" WATER MAIN —2" CTS W—
ABUTTERS PROPERTY LINES	FIRE PROTECTION & WATER SERVICE SAME TRENCH —FP—WS—
SUBJECT PROPERTY LINES	WETLANDS
PROPOSED PROPERTY LINES	DRILL HOLE FOUND
EDGE OF PAVEMENT	REBAR W/ CAP FOUND
PROPOSED BLDG SETBACK	STONE BOUND FOUND
PROPOSED ELECTRICAL SERVICE —ES—	EXISTING GATE VALVE & HYDRANT
PROPOSED WATER SERVICE —WS—	

UTILITY NOTES:

1. ALL PROPOSED UTILITY WORK WITH IN THE CITY RIGHT OF WAY SHALL BE COORDINATED WITH CITY OF PORTSMOUTH DPW.
2. PULL BOXES, ELECTRICAL EQUIPMENT TO BE SUPPLIED BY ELECTRICAL COMPANY.
3. CONTRACTOR TO COORDINATE W/ POWER COMPANY AND LOCAL UTILITIES FOR INSTALLATION OF POWER, PHONE AND CABLE.
4. CONTRACTOR TO COORDINATE THE CONNECTION AND INSTALLATION OF WATER SERVICE WITH CITY OF PORTSMOUTH DPW.
5. INSTALLATION OF WATERLINE SHALL BE (2) 2" CTS PIPE TAPPED FROM THE EXISTING 6" MAIN ON MARTHA TERRACE. EACH 2" PIPE W/ 4" SEPARATION, WILL BE DEDICATED TO EACH NEW HOME, PROVIDING WATER SERVICE AND FIRE PROTECTION.
6. NEAREST EXISTING FIRE HYDRANT IS LOCATED ON MARTHA TERRACE AND IS APPROXIMATELY 570' TO 585' TO THE FURTHEST PROPOSED HOUSE DEPENDING ON METHOD OF MEASUREMENT.
7. IF THE FIRE DEPARTMENT REQUIRES FIRE SUPPRESSION IN THE PROPOSED HOMES, THE ENGINEER OF RECORD SHALL REVIEW THE PROPOSED WATER SERVICE SHOWN, AND SHOW THAT THE DESIGN WILL BE SUFFICIENT FOR PRESSURE AND FLOW.
8. SEPTIC DESIGNS TO BE APPROVED BY NHDES.



PROPOSED WATER / UTILITY SERVICE
N.T.S.

R. JEFFREY BURD No. 9058 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
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GRAPHIC SCALE
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SCALE: 1"=30'

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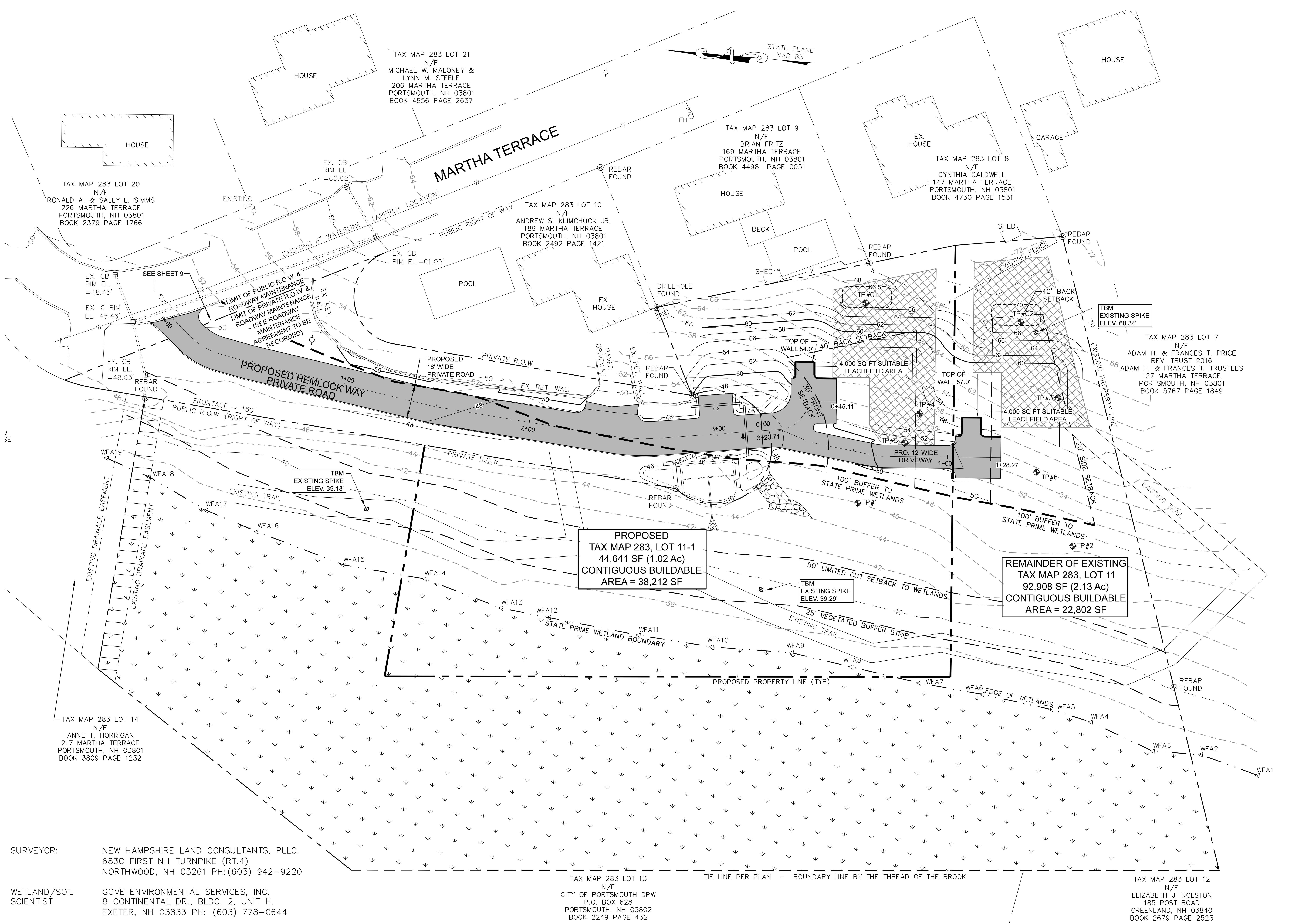
PROPOSED UTILITY PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PUP
SHT. 7 of 10



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EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD–HOLLIS–CANTON COMPLEX

CHATFIELD – NHDES GROUP 4
HOLLIS – NHDES GROUP 4
CANTON – NHDES GROUP 2

LOT SIZE USING GROUP 4 SLOPE C = 48,000 SQ FT

WITH PUBLIC WATER = 24,000 SQ. FT.

TEST PIT #1
DATE: 5-26-20
PERFORMED BY:
SCOTT FRANKIEWICZ
PERMIT #1348

0 – 6"	Topsoil
6-24"	Loamy Sand Granular/Friable 7.5 YR 5/6 – Strong Brown
24-60"	Loam Sand Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 24"
Roots to 24"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #2
DATE: 5-26-20
PERFORMED BY:
SCOTT FRANKIEWICZ
PERMIT #1348

0 – 6"	Topsoil
6-30"	Loamy Sand Granular/Friable 7.5 YR 5/6 – Strong Brown
30-56"	Sand Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 30"
Roots to 30"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #3
DATE: 5-26-20
PERFORMED BY:
SCOTT FRANKIEWICZ
PERMIT #1348

0 – 6"	Topsoil
6-30"	Loamy Sand Granular/Friable 7.5 YR 5/6 – Strong Brown
30-56"	Sand Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 30"
Roots to 30"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #4
DATE: 5-26-20
PERFORMED BY:
SCOTT FRANKIEWICZ
PERMIT #1348

0 – 6"	Topsoil
6-26"	Loamy Sand Granular/Friable 7.5 YR 5/6 – Strong Brown
26-70"	Sand Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 26"
Roots to 26"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #5
DATE: 9-18-20
PERFORMED BY:
SCOTT FRANKIEWICZ
PERMIT #1348

0 – 6"	Topsoil
6-36"	Gravelly Sand Granular/Friable 7.5 YR 5/6 – Strong Brown
36-60"	Gravelly Sand Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 36"
Roots to 36"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #6
DATE: 9-18-20
PERFORMED BY:
SCOTT FRANKIEWICZ
PERMIT #1348

0 – 6"	Topsoil
6-34"	Gravelly Sand Granular/Friable 7.5 YR 5/6 – Strong Brown
34-60"	Gravelly Sand Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 34"
Roots to 34"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #G1
DATE: 1-12-2022
PERFORMED BY:
JAMES GOVE, CSS

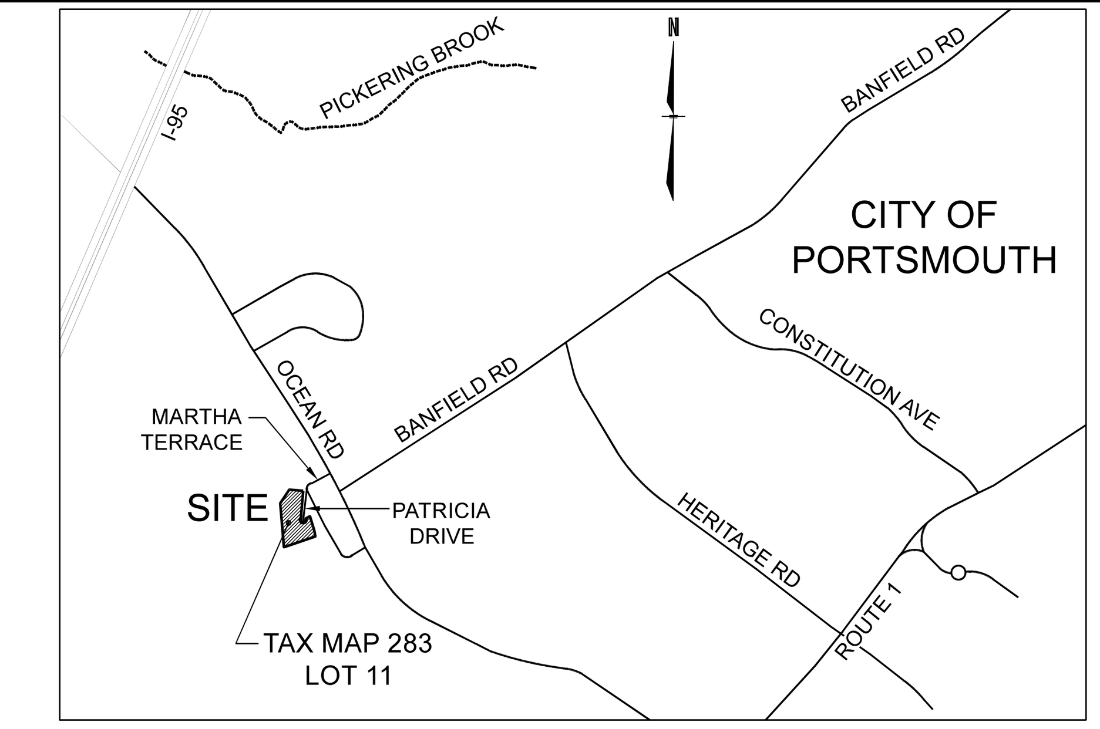
0 – 5"	Fine Sandy Loam Granular, Friable 10YR 3/2 - Very Dark Grayish Brown
5-30"	Fine Sandy Loam Granular/Friable 10 YR 4/6 – Dark Yellowish Brown
30-60"	Fine Sandy Loam Platy/Firm 2.5Y 5/3 – Light Olive Brown

ESHWT = 30"
No ledge observed
No water observed
Termination @ 60"

TEST PIT #G2
DATE: 1-12-2022
PERFORMED BY:
JAMES GOVE, CSS

0 – 5"	Fine Sandy Loam Granular, Friable 10YR 3/2 - Very Dark Grayish Brown
5-20"	Fine Sandy Loam Granular/Friable 10 YR 4/6 – Dark Yellowish Brown
20-60"	Fine Sandy Loam Platy/Firm 2.5Y 5/3 – Light Olive Brown

ESHWT = 20"
No ledge observed
No water observed
Termination @ 60"



LOCATION PLAN

SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
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MIN. ROAD FRONTAGE	=150'
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LEGEND

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DRILL HOLE FOUND
REBAR W/ CAP FOUND
STONE BOUND FOUND
EXISTING GATE VALVE & HYDRANT

NEW HAMPSHIRE Designer of Subsurface Disposal Systems
Scott R. Frankiewicz No. 1348
Department of Environmental Services

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB

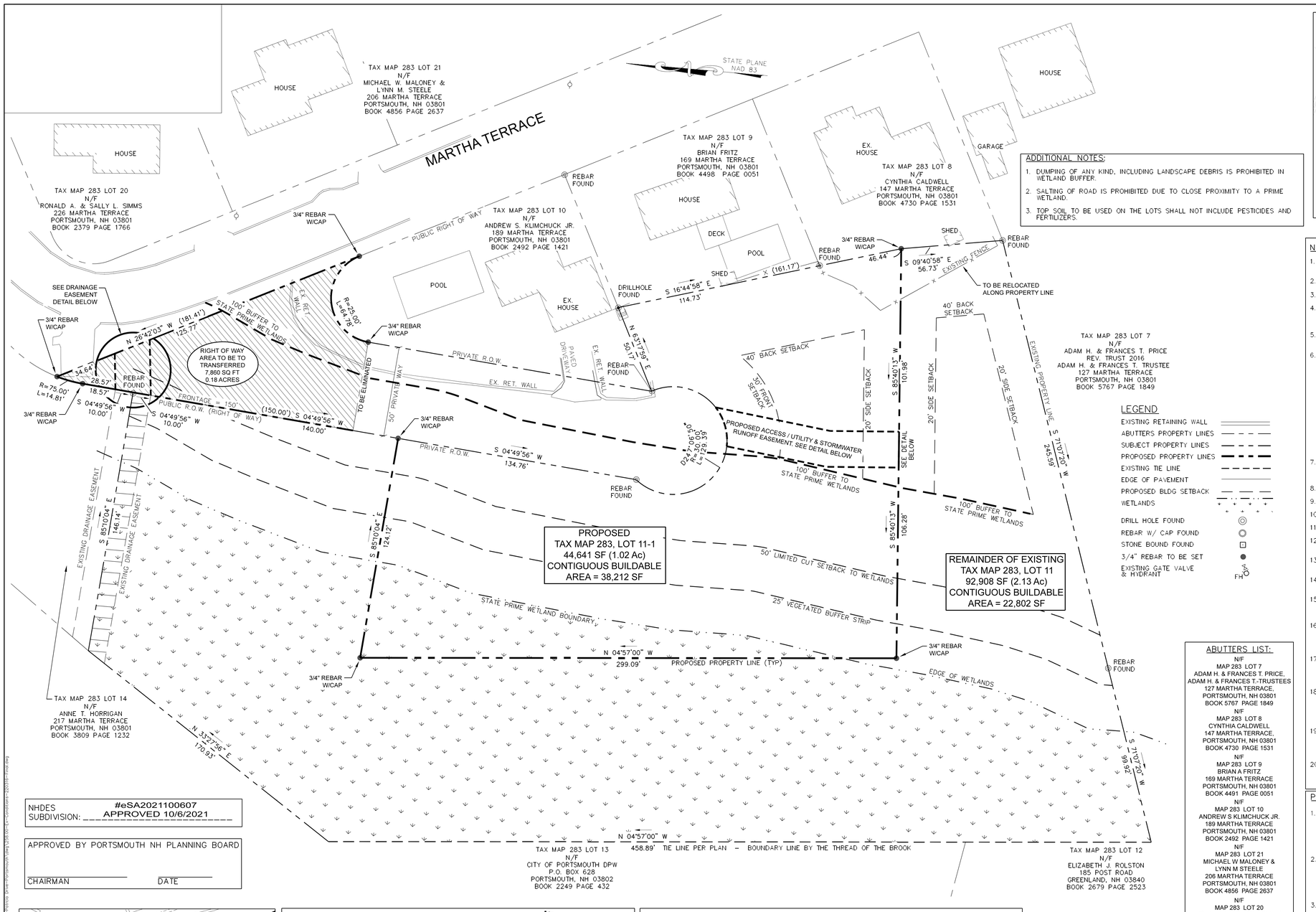
GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

N.H. LAND Consultants
SURVEYING • LAND PLANNING • REAL ESTATE
A Veteran Owned Company
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH. 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

PROPOSED CONDITIONS PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PCP
SHT. 8 of 10



PROPOSED DRAINAGE EASEMENT DETAIL

SCALE: 1"=20'

PROPOSED ACCESS / UTILITY & STORMWATER RUNOFF EASEMENT DETAIL

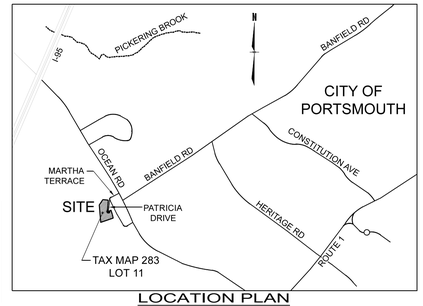
SCALE: 1"=30'

ADDITIONAL NOTES:

1. DUMPING OF ANY KIND, INCLUDING LANDSCAPE DEBRIS IS PROHIBITED IN WETLAND BUFFER.
2. SALTING OF ROAD IS PROHIBITED DUE TO CLOSE PROXIMITY TO A PRIME WETLAND.
3. TOP SOIL TO BE USED ON THE LOTS SHALL NOT INCLUDE PESTICIDES AND FERTILIZERS.

LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- WETLANDS
- DRILL HOLE FOUND
- REBAR W/ CAP FOUND
- STONE BOUND FOUND
- 3/4" REBAR TO BE SET
- EXISTING GATE VALVE & HYDRANT (GV, FH)



LOCATION PLAN

SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

ABUTTERS LIST:

N/F
MAP 283 LOT 7
ADAM H. & FRANCES T. PRICE, ADAM H. & FRANCES T.-TRUSTEES
127 MARTHA TERRACE, PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

N/F
MAP 283 LOT 8
CYNTHIA CALDWELL
147 MARTHA TERRACE, PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

N/F
MAP 283 LOT 9
BRIAN A FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4491 PAGE 0051

N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

N/F
MAP 283 LOT 21
MICHAEL W MALONEY & LYNN M STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

N/F
MAP 283 LOT 20
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

N/F
MAP 283 LOT 14
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432

N/F
MAP 283 LOT 12
ELIZABETH J ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2769 PAGE 2523

PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
2. R.C.R.D. PLAN #D5967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF OCEAN MANNER", PREPARED FOR: ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 – LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

BUFFER NOTES:

1. PRIOR TO CONSTRUCTION, PERMANENT "WETLAND PROTECTION AREA" PLACARDS SHALL BE PLACE APPROXIMATELY EVERY FIFTY ALONG THE SOUTHERLY SIDE OF HEMLOCK WAY TO BE VERIFIED BY THE PLANNING.
2. PROPOSED PRIVATE DRIVE WILL BE A "NO SALT ZONE" WITHIN THE 100' STATE PRIME WETLAND BUFFER.
3. LANDSCAPE LAWN MAINTENANCE PER "NORTH EAST ORGANIC FARMING ASSOCIATION (NOFA) OR OTHER SUITABLE ORGANIC STANDARDS. SEE CONSTRUCTION SEQUENCE ON SHEET 10 FOR ADDITIONAL SEEDING NOTES.

NHDES #eSA2021100607
SUBDIVISION: APPROVED 10/6/2021

APPROVED BY PORTSMOUTH NH PLANNING BOARD

CHAIRMAN _____ DATE _____

STATE OF NEW HAMPSHIRE — No. 945 — LICENSED LAND SURVEYOR — SCOTT R. FRANKIEWICZ — SIGNATURE

MOUMENTS AND BOUNDS SHOWN ON PLAN HAVE OR WILL BE SET UNDER HIS/HER SUPERVISION PRIOR TO CONVEYANCE OF ANY PROPOSED LOTS.

THE SUBDIVISION REGULATIONS OF THE CITY OF PORTSMOUTH ARE A PART OF THIS PLAT, AND APPROVAL OF THIS PLAT IS CONTIGENT ON COMPLETION OF ALL THE REQUIREMENTS OF SAID SUBDIVISION REGULATIONS, EXCEPTING ONLY ANY VARIANCES OR MODIFICATIONS AND SUBJECT TO ANY CONDITIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERTO.

I CERTIFY THAT THIS PLAT IS BASED UPON THE PLAN REFERENCES AND A FIELD SURVEY CONDUCTED ON THE GROUND IN SPRING OF 2020, MEETING THE MINIMUM REQUIREMENTS FOR ACCURACY, 1:10,000 AND COMPLETENESS PER THE STATE OF NEW HAMPSHIRE AND THE CITY OF PORTSMOUTH, NH.

SCOTT R. FRANKIEWICZ, LLS — 12/14/2021 DATE:

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PROPOSED SUBDIVISION PLAN
TAX MAP 283 LOT 11
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OWNED BY
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BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PSP
SHT. 9 of 10

CONSTRUCTION SEQUENCE:

1. CUT AND CLEAR TREES, REMOVE EXISTING PAVEMENT WITHIN LIMIT OF WORK (PROPOSED TREELINE), UNLESS OTHERWISE NOTED. ALL STUMPS, BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF, PREFERABLY OFF SITE.
2. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES (DETENTION BASIN, DIVERSION BERM, GRASS SWALE) PRIOR TO ANY EARTH MOVING OPERATION.
3. ALL AREAS SHALL BE PROTECTED FROM EROSION. SIDE SLOPES AND DETENTION POND SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
4. POND SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
5. ALL STORM DRAINAGE SYSTEMS SUCH AS DETENTION/RETENTION BASINS, LEVEL SPREADERS SHALL BE PROTECTED FROM EROSION. ALL STORM DRAINAGE SYSTEMS SHALL BE STABILIZED PRIOR TO DIRECTING FLOW INTO THEM.
6. CONSTRUCT TEMPORARY CULVERTS, DIVERSION DITCHES/SWALES OR BERMS AS REQUIRED TO MINIMIZE THE EROSIVE AFFECTS OF STORMWATER RUNOFF DURING ALL CONSTRUCTION ACTIVITIES. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL AREAS STABILIZED.
7. ALL MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SEEDED WITH WINTER RYE AND IF NECESSARY, SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO PREVENT OR CONTAIN SOIL EROSION.
8. ALL MATERIAL SUITABLE FOR FILL OR SELECT MATERIAL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO CONTAIN SOIL EROSION.
9. REMOVE ALL IMPROPER ROADWAY MATERIAL WITHIN 18" OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL ACCEPTABLE TO THE STATE/TOWN SPECIFICATIONS. ALL SUITABLE FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF THE DRY WEIGHT AS DETERMINED BY MODIFIED PROCTOR TESTING (ASTM D-1556) REQUIREMENTS.
10. CONSTRUCT ALL UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO DRAIN, DATA, CABLE AND POWER.
11. ROUGH GRADE SITE WITHIN LIMIT OF WORK AND COMMENCE CONSTRUCTION OF ROADWAY.
12. SITE SHALL BE STABILIZED WITHIN 72 HOURS OF FINISHED GRADE.
13. COMPLETE ROADWAY SLOPE GRADING/EMBANKMENT CONSTRUCTION. ALL SLOPES SHALL BE STABILIZED AND SEEDED IMMEDIATELY AFTER GRADING. THE CONTRACTOR SHALL STABILIZE SLOPES WITH APPROPRIATE SEEDING PROGRAM OR JUTE MAT, WHEREVER SPECIFIED. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
14. APPLY TOPSOIL TO SITE SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED SHALL BE NATIVE ORGANIC MATERIAL SCREENED AS TO BE FREE FROM ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEEDED, AND MULCHED. CONSERVATION SEED MIX SHALL BE USED ALONG "PROPOSED PRIVATE DRIVE" AND WILDFLOWER MIX TO BE USED IN DETENTION BASIN AND OTHER OPEN AREAS. THE CONTRACTOR SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
15. MAINTAIN, REPAIR, AND REPLACE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY FOR A MINIMUM PERIOD OF 12 MONTHS FOLLOWING SUBSTANTIAL COMPLETION.
16. AFTER STABILIZATION (12 MONTHLY FOLLOWING SUBSTANTIAL COMPLETION), REMOVE AND PROPERLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES, PREFERABLY OFF SITE.
17. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.

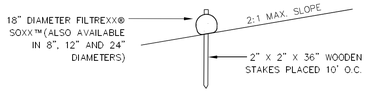
    DEFINITION OF THE WORD STABLE: AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

    A: BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.

    B: A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.

    C: A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.

    D: OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERTY INSTALLED.
18. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.



FILTER SOCK DETAIL

FILTREXX ® OR APPROVED EQUAL

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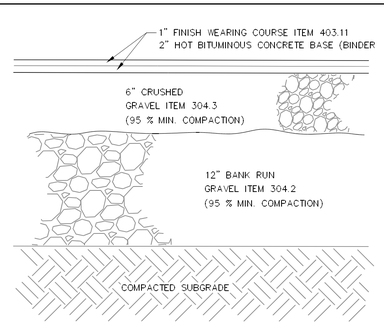


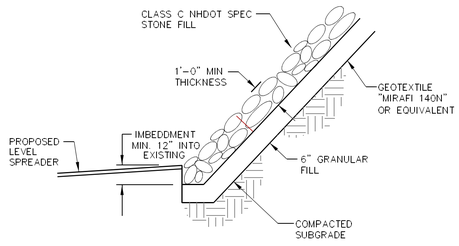
CONSTRUCTION NOTES:

REMOVE ALL LOAM, CLAY, MUCK, STUMPS, AND OTHER IMPROPER ROAD FOUNDATION MATERIAL WITHIN 2' OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL MATERIAL ACCEPTABLE TO APPROVING AGENCY. COMPACTION TO BE AT LEAST 95% OF STANDARD PROCTOR.

ALL PAVEMENT, BASE MATERIALS AND WORKMANSHIP TO BE IN COMPLIANCE WITH N.H.D.O.T. "STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION, AND THE CITY OF PORTSMOUTH PUBLICS WORKS DIVISION.

PAVEMENT SECTION

NOT TO SCALE



RIPRAP DETAIL

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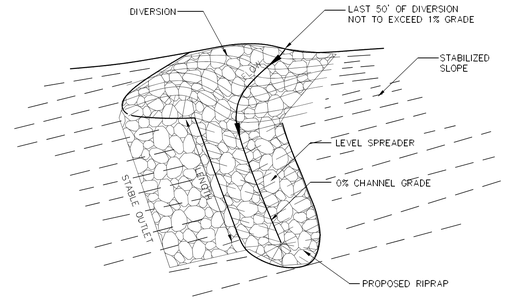
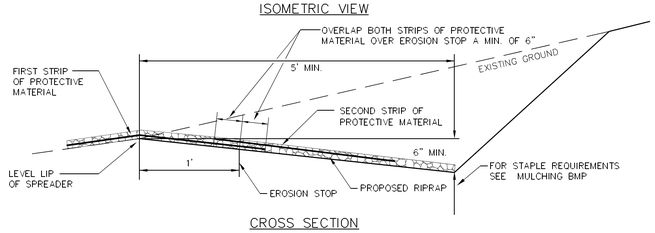


ISOMETRIC VIEW



CROSS SECTION

LEVEL SPREADER DETAIL

NOT TO SCALE

MAINTENANCE

THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND TO DETERMINE THAT THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF RILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND RE?VEGETATED. THE VEGETATION SHOULD BE MOWED OCCASIONALLY TO CONTROL WEEDS AND THE ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE THE SPREADER AND AWAY FROM THE OUTLET AREA. FERTILIZATION SHOULD BE DONE AS NECESSARY TO KEEP THE VEGETATION HEALTHY AND DENSE.

CONSTRUCTION SPECIFICATIONS

1) CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO GRADE TO INSURE UNIFORM SPREADING RUNOFF.

2) LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.

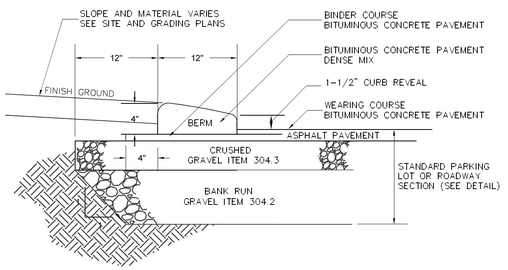
3) AN EROSION STOP SHALL BE PLACED VERTICALLY A MINIMUM OF SIX INCHES DEEP IN A SILT TRENCH ONE FOOT BACK OF THE LEVEL LIP AND PARALLEL TO THE LIP. THE EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP.

4) THE ENTIRE LIP AREA SHALL BE PROTECTED BY PLACING TWO STRIPS OF JUTE OR EXCELSIOR MATTING ALONG THE LIP. EACH STRIP SHALL OVERLAP THE EROSION STOP BY AT LEAST SIX INCHES.

5) THE ENTRANCE CHANNEL TO THE LEVEL SPREADER SHALL NOT EXCEED A 1 PERCENT GRADE FOR AT LEAST 50 FEET BEFORE ENTERING INTO THE SPREADER.

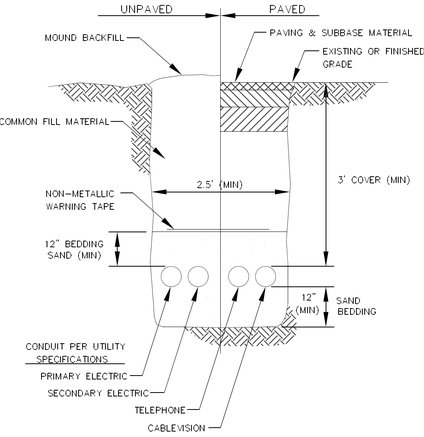
6) THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.

7) PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.



CAPE COD CURB (ASPHALT) DETAIL

NOT TO SCALE



UTILITY TRENCH DETAIL

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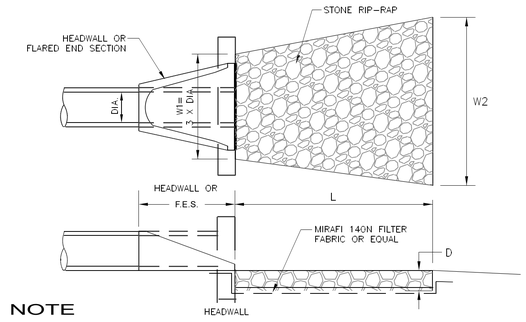


NOTES:

1. THE INLET/OUTLET APRON SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION (d50=2").
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES (ALL SIDES).
4. RIP-RAP MAY BE PLACED BY EQUIPMENT (AS TO PREVENT SEGREGATION OF THE STONE SIZES) AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION.

MAINTENANCE:

1. THE OUTLET PROTECTION SHALL BE CHECKED AT LEAST BI-ANNUALLY AND AFTER EVERY SIGNIFICANT RAIN EVENT. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
2. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING.
3. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS AND SEDIMENT THAT COULD CHANGE THE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES.
4. ALL REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID DAMAGE TO THE OUTLET PROTECTION APRON.

NOTE

THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.

THE ROCK USED FOR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.

GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 11 INCHES.

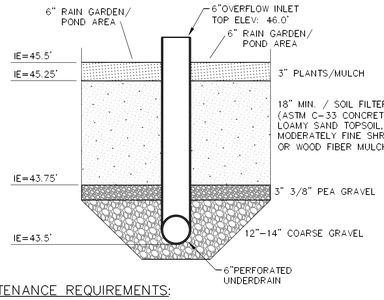
STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS AND SEDIMENT THAT COULD CHANGE THE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

RIP-RAP OUTLET PROTECTION APRON

NOT TO SCALE

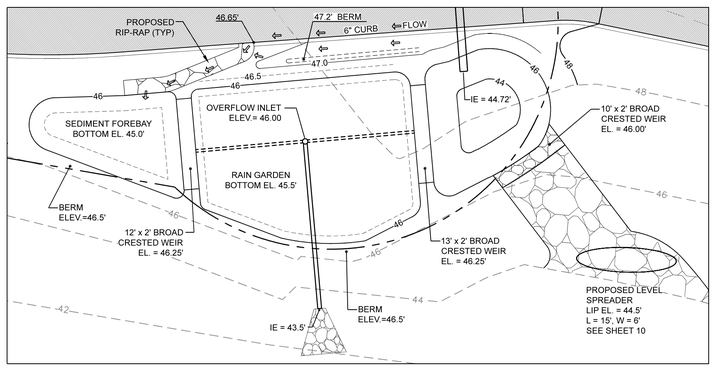


MAINTENANCE REQUIREMENTS:

1. SYSTEMS SHOULD INSPECTED AT LEAST TWCE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
2. PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAT ONCE ANNUALLY.
3. TRASH AND DEBRIS SHOULD BE REMOVED AT EACH INSPECTION.
4. AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWN DOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72 HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
5. VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.
6. PROPOSED STORM WATER BASIN SHALL BE SEEDED WITH WITH WILD FLOWER SEED MIX.

TYPICAL SECTION - RAIN GARDEN DETAIL

NOT TO SCALE



RAIN GARDEN DETAIL

SCALE: 1"=10'

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB

REVISIONS

R. JEFFREY BURD No.9058 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE AS SHOWN

N.H. LAND Consultants
SURVEYING • LAND PLANNING • REAL ESTATE
A Veteran Owned Company
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682C FIRST NH TURNPIKE, NORTHWOOD, NH 03261

DETAIL SHEET
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.

JOB NO: 258.00

DATE: SEPTEMBER 23, 2020

DET
SHT. 10 of 10

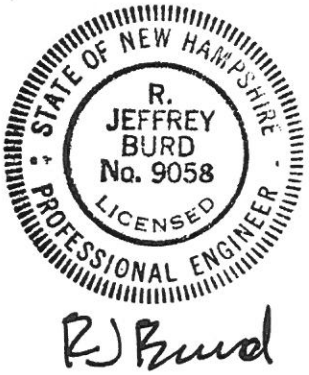
DRAINAGE ANALYSIS

Prepared for:
DUBE PLUS CONSTRUCTION
TAX MAP 283 LOT 11
PATRICIA DRIVE
PORTSMOUTH, NH

Prepared by:

NEW HAMPSHIRE LAND CONSULTANTS, PLLC
683C FIRST NH TURNPIKE
NORTHWOOD, NH 03261
&
RJB ENGINEERING
JEFFREY BURD, P.E.

Project Number:
258.00



1. Table of Contents

PROJECT NARATIVE

Narrative

Introduction

This drainage analysis details the surface water drainage patterns on a parcel located at Patricia Drive in Portsmouth, NH. Using HydroCAD to model storm events this analysis estimates the amount of storm water surface runoff from this site before and after the proposed parking lot and sidewalk. The design of this project will decrease the runoff.

The proposed improvements are on Patricia Drive and Tax Map 283 Lot 11. The applicant, Dube Plus Construction wishes to rebuild Patricia Drive and construct 2 single family homes. We are proposing 2 small detention basins to control the runoff from the reconstructed road, driveways and yards. The houses will be constructed with drip edges and all roof runoff will be infiltrated via the drip edge.

The area that has been analyzed is all upland, Chatfield-Hollis-Canton, Sandy Loam soils (Hydro group B soils) as categorized by the Soil Conservation District.

The following section explains the methods used to determine the runoff quantities generated by the existing conditions site. The objective of this analysis is to obtain surface storm water runoff flow data. This information is compared to evaluate whether there may be an impact to existing drainage system in the area.

Methodology

The drainage analysis performed utilizes nationally recognized techniques developed by the USDA, Soil Conservation Service (SCS). The techniques and models used for this analysis are described in "Urban Hydrology for Small Watersheds, Technical Release Number 55" dated 1986 and in USDOT Federal Highway Administration (FHA) "Hydraulic Design of Highway Culverts" dated September 1985.

Design computations were based on a Type III 24-hour storm event as recommended for New Hampshire. 10 year – 24-hour event of 4.92 inches of precipitation respectively was analyzed. Pre and Post-development conditions were analyzed by the same method. An investigation was conducted to confirm published watershed soil and vegetative characteristics that were used for the input program "HydroCAD Storm water Modeling System, Version 10.00-25". Tabulated summaries of the results are shown in the results section of this report.

Procedure

To begin the stormwater study, the limits and areas of the watershed for this development were identified. The existing watershed area is treated as 1 sub-catchment. The proposed development watershed area is treated as 5 sub-catchments. Weighted runoff curve numbers (CN) were calculated for each sub-catchment watershed area. Runoff curve numbers were chosen based on site investigation, TR-55, USDA Agriculture Handbook 590 (1997), and USDA Soil Conservation Service Soil Survey, issued October 1994. The value of CN depends on soil type, vegetative cover and hydraulic conditions of the land surface. Surface water run off rate and total volume during and after a storm event is also influenced by: slope of the land, area of the watershed, hydraulic length of watershed, and ponds and swamps. In addition, the amount of surface runoff produced by a given storm event is a function of the duration and intensity of the storm.

Pre-development and post-development conditions for the watershed were analyzed by the method outlined in USDA Soil Conservation Service Soil Survey, issued October 1994. Using this post-development information, computer generated hydrographs were calculated and peak runoff rates determined for each specific storm event.

The entire area to be developed will disturb approximately 34,000 square feet. Re-graded areas along the edge of construction will ultimately become stabilized and generally resume their pre-development characteristics.

RAINFALL CHARACTERISTICS

This drainage report includes proposed conditions analysis for the site. The model was constructed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for a 10 Yr – 24 Hr (4.92") storm-event, to assure the adequacy of the proposed structure.

RAINFALL CHARACTERISTICS

This drainage report includes proposed conditions analysis for the site. The model was constructed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas.

SEDIMENT & EROSION CONTROL PLANS
BEST MANAGEMENT PRACTICES (BMP's)

Reference: Sheet - Proposed Conditions Plan
General Details

The proposed site development is protected from erosion and the roadways and abutting properties are protected from sediment by the use of Best Management Practices as outlined in the Stormwater Management & Erosion & Sediment Control Handbook for Urban & Developing Areas in New Hampshire. Any area disturbed by construction will be re-stabilized within 45 days and abutting properties and wetlands will not be adversely affected by this development. All swales and drainage structures will be constructed and stabilized prior to having run-off directed to them.

1 Filtrexx sock/Construction Fence

The plan set demonstrates the location of filtrexx sock for sediment control. In areas where the limits of construction need to be emphasized to operators, construction fence for added visibility will be installed. The Erosion and Sediment Control Details, has the specifications for installation and maintenance of the silt fence. Orange construction fence will be VISI Perimeter Fence by Conwed Plastic Fencing, or equal. The four-foot fencing is to be installed using six-foot posts at least two feet in the ground with six to eight feet spacing.

2 Drainage Swales / Stormwater Conveyance Channels

Drainage swales will be stabilized with vegetation for long term cover as outlined below, and using seed mixture C. As a general rule, velocities in the swale should not exceed 3.0 feet per second for a vegetated swale although velocities as high as 4.5 FPS are allowed under certain soil conditions. The use of jute matting will aid in the stabilization of vegetation.

3 Vegetated Stabilization

All areas that are disturbed during construction will be stabilized with vegetated material within 45 days of breaking ground. Construction will be managed in such a manner that erosion is prevented and that no abutter's property will be subjected to any siltation, unless otherwise permitted. All areas to be planted with grass for long-term cover will follow the specification and on Sheet E-1 using seeding mixture C, as follows:

Mixture	Pounds per Acre	Pounds per 1,000 Sq. Ft.
Tall Fescue	20	0.45
Creeping Red Fescue	20	0.45
Birdsfoot Trefoil	8	0.20
Total	48	1.10

4 Stabilized Construction Entrance

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 and 2-inch coarse aggregate, and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Sheet E1 - Sediment and Erosion Control Detail Plan.

5 Environmental Dust Control

Dust will be controlled on the site by the use of multiple Best Management Practices. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

7 Construction Sequence

1. Cut and remove trees and pavement in construction areas as directed or required.

2. Construct and/or install temporary and permanent sediment erosion and detention control facilities, as required (swales, berms, level spreaders, etc. Erosion, sediment and detention control facilities shall be installed and stabilized prior to any earth moving operation, and prior to directing run-off to them.

3. Clear, cut, grub, and dispose of debris in approved facilities.

4. Excavate and stockpile topsoil / loam. All disturbed areas shall be stabilized immediately after grading.

5. Begin permanent and temporary seeding and mulching. All cut and fill slopes and disturbed areas shall be seeded and mulched as required, or directed.

6. Daily, or as required, construct temporary berms, drainage ditches, check dams, sediment traps, etc. to prevent erosion on the site and prevent any siltation of abutting waters or property.

7. Inspect and maintain all erosion and sediment control measures during construction.

8. Complete permanent seeding and landscaping.

9. Remove temporary erosion control measures after seeding areas have established themselves and site improvements are complete. Smooth and re-vegetate all disturbed areas.

10. All drainage structures will be constructed and stabilized prior to having run-off being directed to them.

9 Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time.

2. Erosion, sediment and detention measures shall be installed as shown on the plans and at locations as required, or directed by the engineer.

3. All disturbed areas shall be returned to original grades and elevations. Disturbed areas shall be loamed with a minimum of 4" of loam and seeded with not less than 1.10 pound of seed per 1,000 square feet (48 pounds per acre) of area.

4. Silt fences and other barriers shall be inspected periodically and after every rainstorm during the life of the project. All damaged areas shall be repaired, sediment deposits shall periodically be removed and properly disposed of.

5. After all disturbed areas have been stabilized, the temporary erosion control measures are to be removed and the area disturbed by the removal smoothed and revegetated.

6. Areas must be seeded and mulched within 5 days of final grading, permanently stabilized within 15 days of final grading, or temporarily stabilized within 45 days of initial disturbance of soil.

10 Inspection and Maintenance Schedule

Fencing will be inspected during and after storm events to ensure that the fence still has integrity and is not allowing sediment to pass. Sediment build-up will be removed if it is deeper than six inches.

DRAINAGE ANALYSIS PRE & POST

Pre-Conditions Drainage Analysis
Full summary
10 YR – 24 HR rainfall = 4.92”

Ex.
pavement/grass/woods

Existing

Subcat Reach Pond Link

Routing Diagram for Ex drainage

Prepared by Brown Engineering anD Surveying, LLC, Printed 12/22/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.158	61	>75% Grass cover, Good, HSG B (1S)
0.180	98	Pavement (1S)
0.438	55	Woods, Good, HSG B (1S)
0.775	**66**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.596	HSG B	1S
0.000	HSG C	
0.000	HSG D	
0.180	Other	1S
0.775		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.158	0.000	0.000	0.000	0.158	>75% Grass cover, Good	1S
0.000	0.000	0.000	0.000	0.180	0.180	Pavement	1S
0.000	0.438	0.000	0.000	0.000	0.438	Woods, Good	1S
0.000	**0.596**	**0.000**	**0.000**	**0.180**	**0.775**	**TOTAL AREA**	

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

Subcatchment 1S: Ex. Runoff Area=33,769 sf 23.17% Impervious Runoff Depth>1.53"
Tc=5.0 min CN=66 Runoff=1.46 cfs 0.099 af

Reach 1R: Existing Inflow=1.46 cfs 0.099 af
Outflow=1.46 cfs 0.099 af

Total Runoff Area = 0.775 ac Runoff Volume = 0.099 af Average Runoff Depth = 1.53"
76.83% Pervious = 0.596 ac 23.17% Impervious = 0.180 ac

Summary for Subcatchment 1S: Ex. pavement/grass/woods

Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 1.53"

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 24 hr Rainfall=4.92"

	Area (sf)	CN	Description
*	7,823	98	Pavement
	19,073	55	Woods, Good, HSG B
	6,873	61	>75% Grass cover, Good, HSG B
	33,769	66	Weighted Average
	25,946		76.83% Pervious Area
	7,823		23.17% Impervious Area

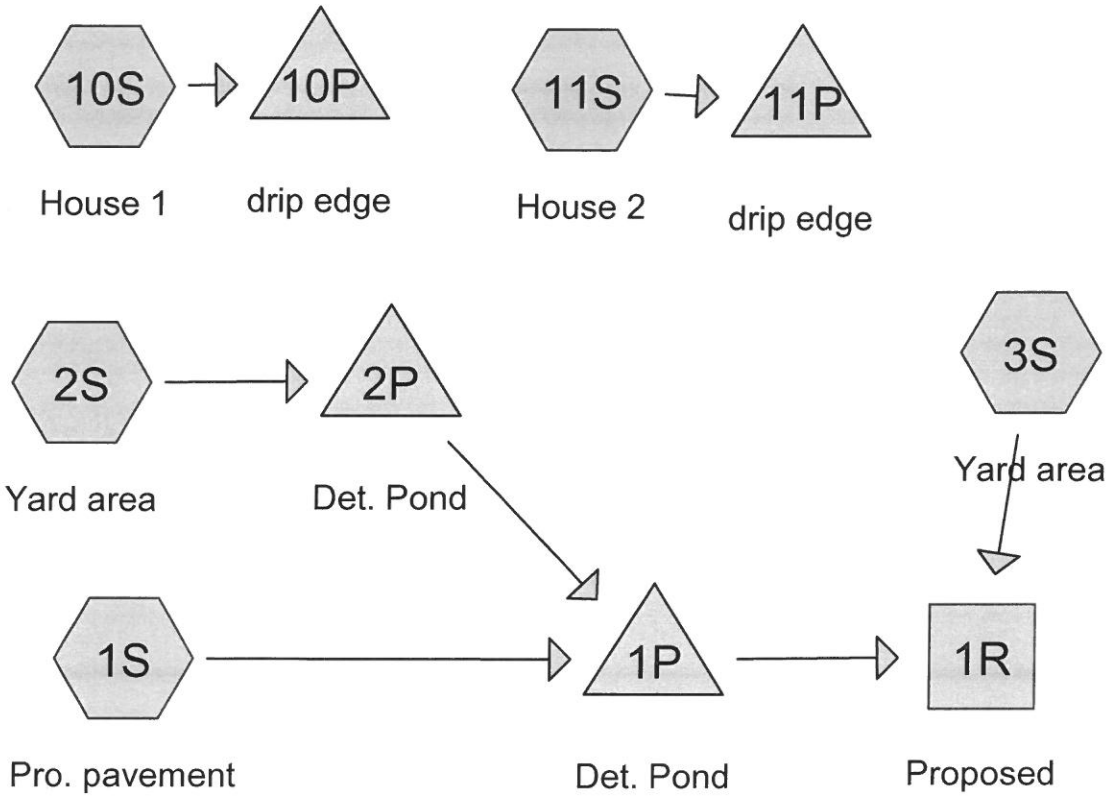
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 1**

Summary for Reach 1R: Existing

Inflow Area = 0.775 ac, 23.17% Impervious, Inflow Depth > 1.53" for 10 yr 24 hr event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pro-Conditions Drainage Analysis
Full summary
10 YR – 24 HR rainfall = 4.92”



Subcat Reach Pond Link

Routing Diagram for Pro drainage

Prepared by Brown Engineering anD Surveying, LLC, Printed 12/22/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.498	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S)
0.074	98	Impervious (house) (10S, 11S)
0.150	98	Pavement (1S)
0.054	55	Woods, Good, HSG B (2S, 3S)
0.775	**71**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.552	HSG B	1S, 2S, 3S
0.000	HSG C	
0.000	HSG D	
0.223	Other	1S, 10S, 11S
0.775		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.498	0.000	0.000	0.000	0.498	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.000	0.000	0.000	0.074	0.074	Impervious (house)	10S, 11S
0.000	0.000	0.000	0.000	0.150	0.150	Pavement	1S
0.000	0.054	0.000	0.000	0.000	0.054	Woods, Good	2S, 3S
0.000	**0.552**	**0.000**	**0.000**	**0.223**	**0.775**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	2P	45.00	44.72	28.0	0.0100	0.012	12.0	0.0	0.0

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

Subcatchment 1S: Pro. pavement Runoff Area=19,758 sf 33.02% Impervious Runoff Depth>2.05"
Tc=5.0 min CN=73 Runoff=1.17 cfs 0.078 af

Subcatchment 2S: Yard area Runoff Area=6,223 sf 0.00% Impervious Runoff Depth>1.13"
Tc=5.0 min CN=60 Runoff=0.19 cfs 0.013 af

Subcatchment 3S: Yard area Runoff Area=4,583 sf 0.00% Impervious Runoff Depth>1.07"
Tc=5.0 min CN=59 Runoff=0.13 cfs 0.009 af

Subcatchment 10S: House 1 Runoff Area=1,680 sf 100.00% Impervious Runoff Depth>4.35"
Tc=5.0 min CN=98 Runoff=0.19 cfs 0.014 af

Subcatchment 11S: House 2 Runoff Area=1,524 sf 100.00% Impervious Runoff Depth>4.35"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Reach 1R: Proposed Inflow=0.21 cfs 0.051 af
Outflow=0.21 cfs 0.051 af

Pond 1P: Det. Pond Peak Elev=46.54' Storage=2,190 cf Inflow=1.35 cfs 0.091 af
Outflow=0.19 cfs 0.041 af

Pond 2P: Det. Pond Peak Elev=45.21' Storage=22 cf Inflow=0.19 cfs 0.013 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0100 '/' Outflow=0.18 cfs 0.013 af

Pond 10P: drip edge Peak Elev=55.45' Storage=208 cf Inflow=0.19 cfs 0.014 af
Outflow=0.02 cfs 0.014 af

Pond 11P: drip edge Peak Elev=58.37' Storage=114 cf Inflow=0.17 cfs 0.013 af
Outflow=0.04 cfs 0.013 af

Total Runoff Area = 0.775 ac Runoff Volume = 0.127 af Average Runoff Depth = 1.97"
71.19% Pervious = 0.552 ac 28.81% Impervious = 0.223 ac

Summary for Subcatchment 1S: Pro. pavement

Runoff = 1.17 cfs @ 12.08 hrs, Volume= 0.078 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 yr 24 hr Rainfall=4.92"

	Area (sf)	CN	Description
*	6,525	98	Pavement
	13,233	61	>75% Grass cover, Good, HSG B
	19,758	73	Weighted Average
	13,233		66.98% Pervious Area
	6,525		33.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 1**

Summary for Subcatchment 2S: Yard area

Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 1.13"

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 24 hr Rainfall=4.92"

Area (sf)	CN	Description
5,186	61	>75% Grass cover, Good, HSG B
1,037	55	Woods, Good, HSG B
6,223	60	Weighted Average
6,223		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 1**

Summary for Subcatchment 3S: Yard area

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 1.07"

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 24 hr Rainfall=4.92"

Area (sf)	CN	Description
1,310	55	Woods, Good, HSG B
3,273	61	>75% Grass cover, Good, HSG B
4,583	59	Weighted Average
4,583		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 1**

Summary for Subcatchment 10S: House 1

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 0.014 af, Depth> 4.35"

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 24 hr Rainfall=4.92"

	Area (sf)	CN	Description
*	1,680	98	Impervious (house)
	1,680		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 1**

Summary for Subcatchment 11S: House 2

Runoff = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af, Depth> 4.35"

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 24 hr Rainfall=4.92"

	Area (sf)	CN	Description
*	1,524	98	Impervious (house)
	1,524		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 1**

Summary for Reach 1R: Proposed

Inflow Area = 0.702 ac, 21.35% Impervious, Inflow Depth > 0.87" for 10 yr 24 hr event
Inflow = 0.21 cfs @ 12.75 hrs, Volume= 0.051 af
Outflow = 0.21 cfs @ 12.75 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: Det. Pond

Inflow Area = 0.596 ac, 25.11% Impervious, Inflow Depth > 1.83" for 10 yr 24 hr event
Inflow = 1.35 cfs @ 12.09 hrs, Volume= 0.091 af
Outflow = 0.19 cfs @ 12.76 hrs, Volume= 0.041 af, Atten= 86%, Lag= 40.3 min
Primary = 0.19 cfs @ 12.76 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 46.54' @ 12.76 hrs Surf.Area= 1,165 sf Storage= 2,190 cf
Flood Elev= 47.00' Surf.Area= 1,238 sf Storage= 2,746 cf

Plug-Flow detention time= 191.9 min calculated for 0.041 af (46% of inflow)
Center-of-Mass det. time= 103.1 min (908.8 - 805.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	2,746 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	507	0	0
46.00	1,080	1,587	1,587
47.00	1,238	1,159	2,746

Device	Routing	Invert	Outlet Devices
#1	Primary	46.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.18 cfs @ 12.76 hrs HW=46.54' (Free Discharge)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 0.18 cfs @ 0.49 fps)

Summary for Pond 2P: Det. Pond

Inflow Area = 0.143 ac, 0.00% Impervious, Inflow Depth > 1.13" for 10 yr 24 hr event
Inflow = 0.19 cfs @ 12.09 hrs, Volume= 0.013 af
Outflow = 0.18 cfs @ 12.11 hrs, Volume= 0.013 af, Atten= 4%, Lag= 1.1 min
Primary = 0.18 cfs @ 12.11 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 45.21' @ 12.11 hrs Surf.Area= 114 sf Storage= 22 cf
Flood Elev= 47.00' Surf.Area= 327 sf Storage= 407 cf

Plug-Flow detention time= 5.0 min calculated for 0.013 af (99% of inflow)
Center-of-Mass det. time= 2.9 min (831.2 - 828.3)

Volume	Invert	Avail.Storage	Storage Description
#1	45.00'	407 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.00	91	0	0
46.00	198	145	145
47.00	327	263	407

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	**12.0" Round Culvert** L= 28.0' Ke= 0.500

Inlet / Outlet Invert= 45.00' / 44.72' S= 0.0100 '/' Cc= 0.900
n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.11 hrs HW=45.21' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.18 cfs @ 2.26 fps)

Summary for Pond 10P: drip edge

Inflow Area = 0.039 ac,100.00% Impervious, Inflow Depth > 4.35" for 10 yr 24 hr event
Inflow = 0.19 cfs @ 12.07 hrs, Volume= 0.014 af
Outflow = 0.02 cfs @ 11.50 hrs, Volume= 0.014 af, Atten= 89%, Lag= 0.0 min
Discarded = 0.02 cfs @ 11.50 hrs, Volume= 0.014 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 55.45' @ 12.73 hrs Surf.Area= 144 sf Storage= 208 cf
Flood Elev= 56.00' Surf.Area= 144 sf Storage= 288 cf

Plug-Flow detention time= 72.6 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time= 71.8 min (806.2 - 734.5)

Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	288 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.00	144	0	0
56.00	144	288	288

Device	Routing	Invert	Outlet Devices
#1	Discarded	54.00'	**6.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 11.50 hrs HW=54.02' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Summary for Pond 11P: drip edge

Inflow Area = 0.035 ac,100.00% Impervious, Inflow Depth > 4.35" for 10 yr 24 hr event
Inflow = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af
Outflow = 0.04 cfs @ 11.80 hrs, Volume= 0.013 af, Atten= 75%, Lag= 0.0 min
Discarded = 0.04 cfs @ 11.80 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 58.37' @ 12.43 hrs Surf.Area= 306 sf Storage= 114 cf
Flood Elev= 60.00' Surf.Area= 306 sf Storage= 612 cf

Plug-Flow detention time= 14.6 min calculated for 0.013 af (100% of inflow)
Center-of-Mass det. time= 13.9 min (748.4 - 734.5)

Volume	Invert	Avail.Storage	Storage Description
#1	58.00'	612 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.00	306	0	0
60.00	306	612	612

Device	Routing	Invert	Outlet Devices
#1	Discarded	58.00'	**6.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.04 cfs @ 11.80 hrs HW=58.02' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.04 cfs)

CONCLUSION

Pre vs Pro comparison
Discharge Point 1R

Storm Yr/24 hr	Existing CFS	Proposed CFS	Difference
10	1.46	0.21	-1.25

Conclusion

The intent of this report is to evaluate the re-construction of Patricia Drive and the improvement to two proposed parcels. We have evaluated the watersheds area on the property. We have determined that two small basins will control all stormwater run-off from the reconstruction of Patricia Drive and new construction area.

A Site Specific, Terrain Alteration Permit (RSA 485: A-17) is **not** required for this site plan due to the area of disturbance is less than 100,000 square feet for AOT and a SWPPP is **not** required as the disturbance is less than 1 acre.

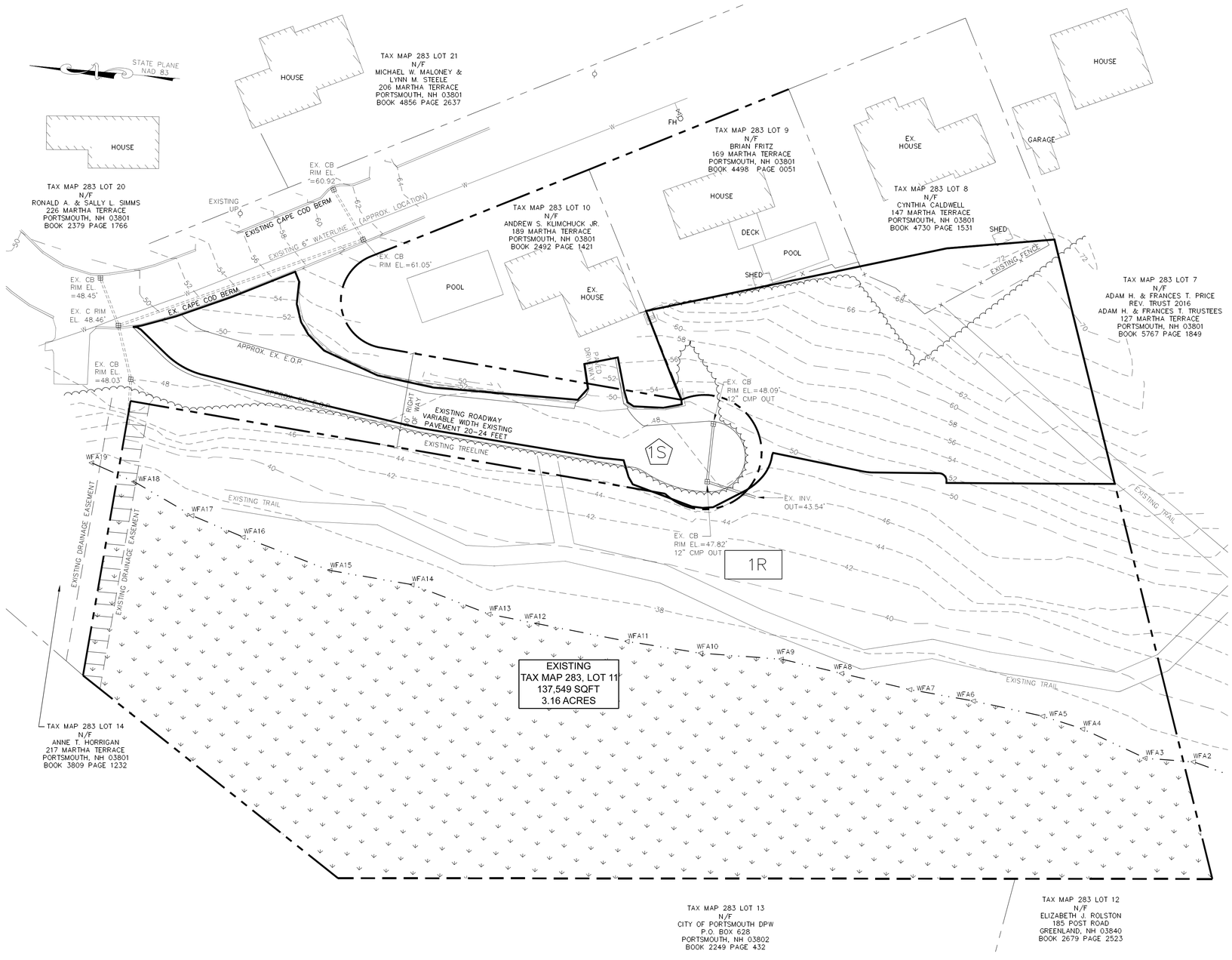
Respectfully Submitted,

New Hampshire Land Consultants, PLLC

Scott R Frankiewicz, LLS
Project Manager

Jeff Burd, PE
Project Engineer

PRE & POST WATERSHED PLANS



DRAINAGE LEGEND

- # — SUBCATCHMENT
- # — POND
- # — REACH
- # — DESIGN POINT

REVISIONS

NO.	DATE	DESCRIPTION	BY

GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

N.H. LAND Consultants
SURVEYING•LAND PLANNING•REAL ESTATE
A Veteran Owned Company
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH 603-942-9220 WEBSITE: INHLANDCONSULTANTS.COM

EXISTING WATERSHED PLAN
TAX MAP 283 LOT 11

DUBE PLUS CONSTRUCTION

PATRICIA DRIVE, PORTSMOUTH NH 03801

OWNED BY

FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
BOOK 3338 PAGE 0173

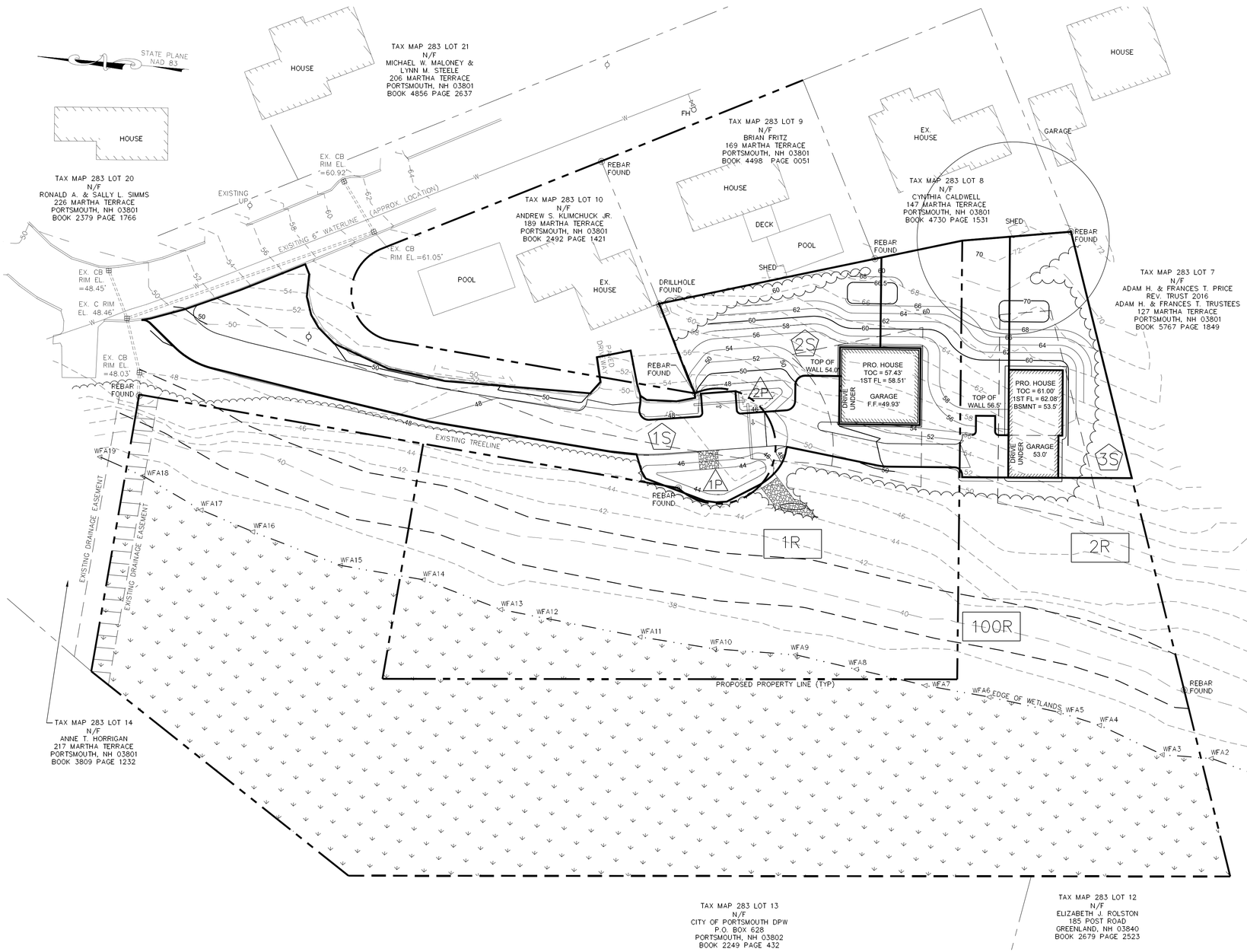
ROCKINGHAM CO.

JOB NO: 258.00

DATE: DECEMBER 23, 2020

EW

SHT. 1 of 2



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6835 FIRST NH TURNPIKE, NORTHWOOD, NH 03261

PROPOSED WATERSHED PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
PATRICIA DRIVE, PORTSMOUTH NH 03801
OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH. 03261
BOOK 3338 PAGE 0173

ROCKINGHAM CO.
JOB NO: 258.00
DATE: DECEMBER 23, 2020

PW
SHT. 2 of 2

GPC

TO: Beverly Mesa-Zendt, AICP
Planning Director
City of Portsmouth, NH
1 Junkins Avenue
Portsmouth, NH 03801

DATE: 6-22-2022

RE: LU-20-190
Map 283, Lot 11

Beverly,

Please consider this request of subdivision approval per Section III of the subdivision regulations for an extension of the time for completion, which shall not exceed 18 months from the original date of Planning Board approval of the subdivision for the subject application. As you know we are finalizing plans with the Planning and Legal departments and the extended time is necessary to facilitate that process.

Regards,

Michael Garrepy

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

TO: Beverly Mesa-Zendt, AICP
Planning Director
City of Portsmouth, NH
1 Junkins Avenue
Portsmouth, NH 03801

DATE: 7/15/2022

RE: Map 283, Lot 11
Plan Revisions

Dear Beverly,

Please find the attached plan set which depicts final revisions per our recent discussions. Changes were made to the plans as required by the Planning Department, primarily to provide information regarding the legal status of Hemlock Way (formerly Patricia Drive). The changes are as noted below:

1. Hatched portion of Right of Way, granted to City of Portsmouth by deed recorded at R.C.R.D Book 1748, Page 172 to be conveyed to abutting landowners, with undivided interest with reservation of rights of access by the public and drainage rights to the City. The intent of this conveyance is to provide rights consistent with the reversion of the remainder of Hemlock Way (formerly Patricia Drive), for which rights to the centerline reverted to the abutting landowners by operation of law, as noted below.

2. Ownership rights of the remaining portion (i.e. portion not conveyed to the City pursuant to the above-referenced deed) of existing private right of way (formerly Patricia Drive) reverted to abutting landowners, perpendicular to the centerline, pursuant to RSA 231:51 and *Sheris v. Morton*, 111 NH 66 (1971) upon dedication pursuant to R.C.R.D Plan #195 recorded April 10, 1964 without acceptance within 20 years.

3. The newly subdivided Tax Map 283, Lots 11 and 11.1 retain rights to pass over and develop Hemlock Way (formerly Patricia Drive) pursuant to *Duchesnaye v. Silva*, 118 N.H. 728 (1978), holding that the owners of lots abutting a former paper street retain an implied easement to pass over and develop the area for access to those lots.

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

We trust these changes satisfactorily address the ownership matters raised by the Legal and Planning Departments. Upon your concurrence we will prepare mylars for recording.

Regards,
Mike Garrepy

GARREPY PLANNING CONSULTANTS, LLC
real estate planning & development
phone: 603.944.7530 email: garrepy.pc@gmail.com

2 LOT SUBDIVISION PLAN FOR

DUBE PLUS CONSTRUCTION,

TAX MAP 283, LOT 11

HEMLOCK WAY, PORTSMOUTH, NH 03801

ROCKINGHAM CO.

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

   OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
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13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
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19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
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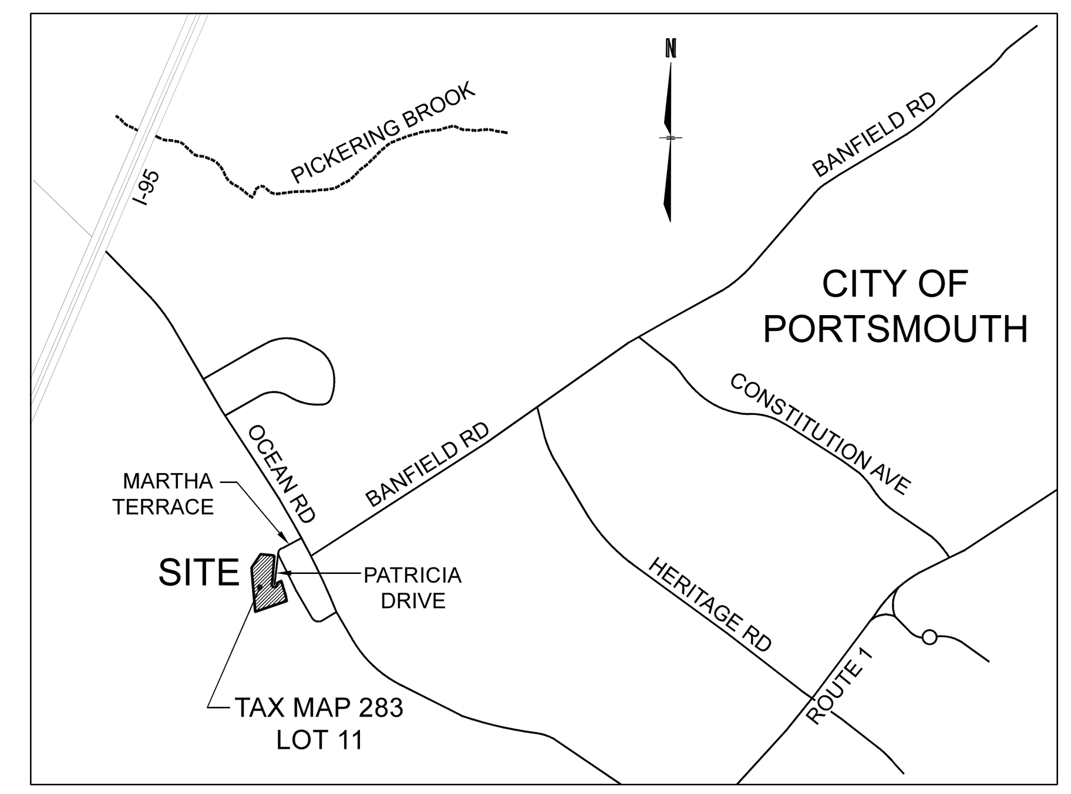


LOCATION PLAN

SCALE: 1"=2,000'

SHEET INDEX

DWG	SHT. NO.	DESCRIPTION
CVR	1 OF 10	COVER SHEET
ECP	2 OF 10	EXISTING CONDITIONS PLAN
DMP	3 OF 10	DEMOLITION PLAN
PGP	4 OF 10	PROPOSED GRADING PLAN
PDPP	5 OF 10	PROPOSED DRIVEWAY PLAN & PROFILE
PBIP	6 OF 10	PROPOSED BUFFER IMPACT PLAN
PUP	7 OF 10	PROPOSED UTILITY PLAN
PCP	8 OF 10	PROPOSED CONDITIONS PLAN
PSP	9 OF 10	PROPOSED SUBDIVISION
DET	10 OF 10	DETAIL SHEET

PROFESSIONAL CONSULTANTS LIST

SURVEYOR:	NEW HAMPSHIRE LAND CONSULTANTS, PLLC. 683C FIRST NH TURNPIKE (RT.4) NORTHWOOD, NH 03261 PH:(603) 942-9220
WETLAND/SOIL SCIENTIST	GOVE ENVIRONMENTAL SERVICES, INC. 8 CONTINENTAL DR., BLDG. 2, UNIT H, EXETER, NH 03833 PH: (603) 778-0644
ENGINEER:	JEFF BURD, RJB ENGINEERING, 2 GLENDALE ROAD, CONCORD NH, 03301 PH: (603) 219-0194

N.H. LAND Consultants
SURVEYING • LAND PLANNING • REAL ESTATE
A Veteran Owned Company

STATE OF NEW HAMPSHIRE
JAMES P. GOVE
No. 0051
CERTIFIED WETLAND SCIENTIST
12-14-21

STATE OF NEW HAMPSHIRE
R. JEFFREY BURD
No.9058
LICENSED PROFESSIONAL ENGINEER
RJ Burd

INITIAL PLAN SET SUBMISSION DATE

SEPTEMBER 23, 2020

Latest revision date:

JULY 15, 2022

OWNER:

HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C
HAMPSTEAD, NH 03841
BK 6330 PG 796

APPLICANT:

DUBE PLUS CONSTRUCTION,
10 BRICKETTS MILL ROAD,
HAMPSTEAD, NH 03841

AGENCY APPROVALS

NHDES SUBDIVISION : #eSA2021100607 APPROVED 10/6/2021

DIG SAFE
ME NH VT
CALL 1-888-DIG-SAFE TOLL FREE
UTILITIES UNDER GROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. NEW HAMPSHIRE LAND CONSULTANTS, PLLC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233).

NOTE:

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE CITY OF PORTSMOUTH REGULATIONS AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
18	02/03/2022	REVISIONS TO SHT 7,8 & 10 OF 10	SRF
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB
20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SRF

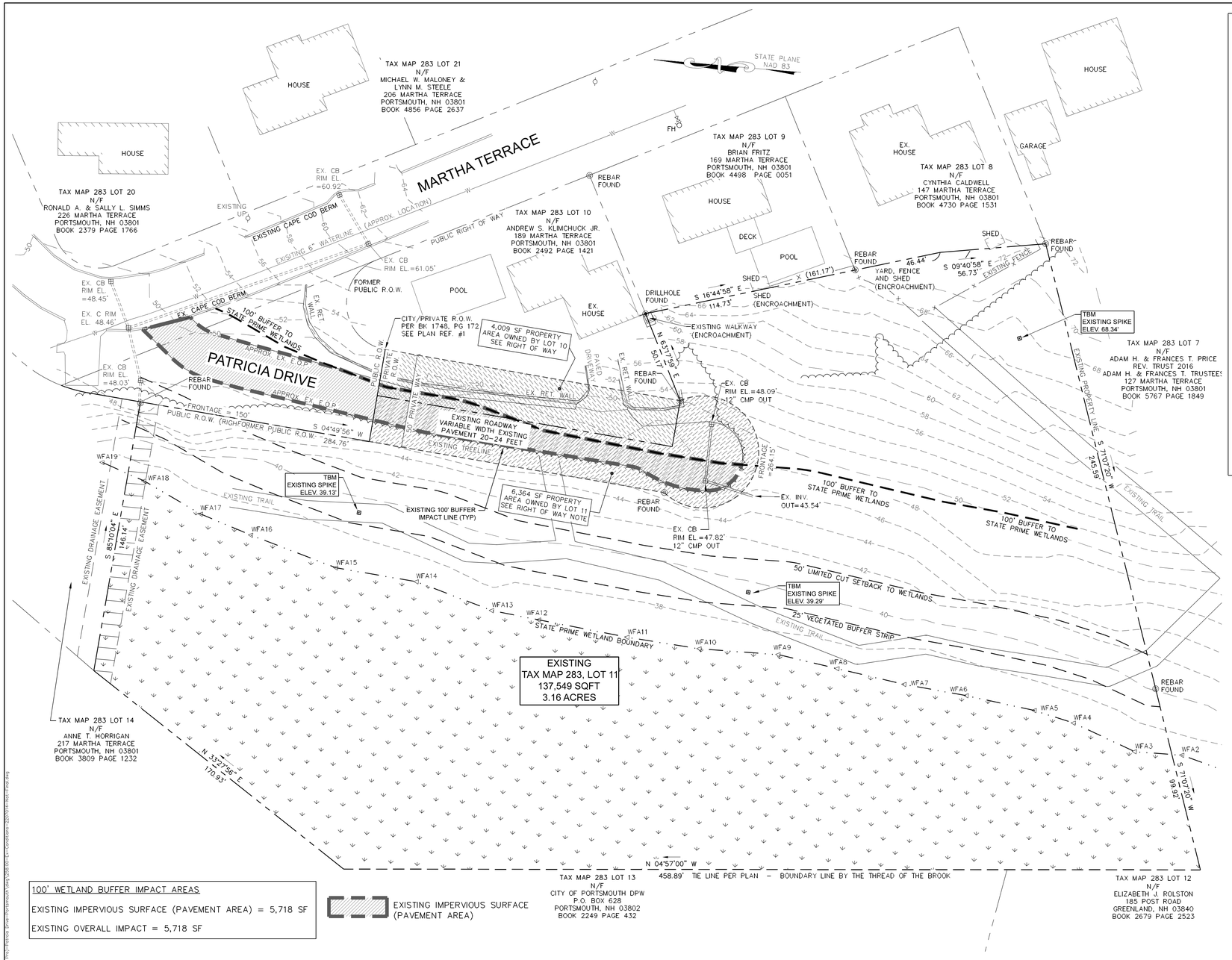
N.H. LAND Consultants
SURVEYING • LAND PLANNING • REAL ESTATE
A VETERAN OWNED COMPANY
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH. 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

NEW HAMPSHIRE Designer of Subsurface Disposal Systems ★★★ Scott R. Frankiewicz No. 1348 Department of Environmental Services

STATE OF NEW HAMPSHIRE No. 945 SCOTT R. FRANKIEWICZ LICENSED LAND SURVEYOR
SIGNATURE

COVER SHEET
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

JOB NO: 258.00
ROCKINGHAM CO.
DATE: SEPTEMBER 23, 2020
CVR
SHT. 1 of 10



ABUTTERS LIST:

N/F
MAP 283 LOT 7
ADAM H. & FRANCES T. PRICE,
ADAM H. & FRANCES T.-TRUSTEES
127 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

N/F
MAP 283 LOT 8
CYNTHIA CALDWELL
147 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

N/F
MAP 283 LOT 9
BRIAN A FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4491 PAGE 0051

N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

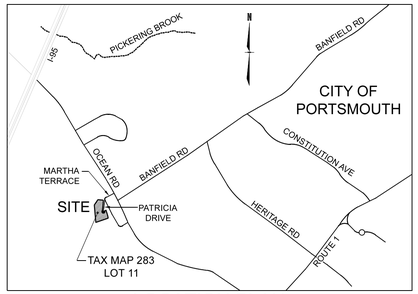
N/F
MAP 283 LOT 21
MICHAEL W MALONEY &
LYNN M STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

N/F
MAP 283 LOT 20
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

N/F
MAP 283 LOT 14
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432

N/F
MAP 283 LOT 12
ELIZABETH J ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2769 PAGE 2523



LOCATION PLAN

SCALE: 1"=2,000'

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PLAN REFERENCES:

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100' WETLAND BUFFER IMPACT AREAS

EXISTING IMPERVIOUS SURFACE (PAVEMENT AREA) = 5,718 SF

EXISTING OVERALL IMPACT = 5,718 SF

EXISTING IMPERVIOUS SURFACE (PAVEMENT AREA)

LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- EXISTING CONTOUR (MNR) -572-
- EXISTING CONTOUR (MJR) -570
- WETLANDS
- DRILL HOLE FOUND
- REBAR W/ CAP FOUND
- STONE BOUND FOUND
- EXISTING GATE VALVE & FIRE HYDRANT GV FH

RIGHT OF WAY NOTE

OWNERSHIP RIGHTS OF REMAINING PORTION OF PATRICIA DRIVE REVERTED TO ABUTTING LANDOWNERS, PERPENDICULAR TO THE CENTERLINE, PURSUANT TO RSA 231:51 AND SHERI V. MORTON, 111 NH 66 (1971) AFTER DEDICATION PURSUANT TO R.C.R.D PLAN #195 RECORDED APRIL 10, 1964 WITHOUT ACCEPTANCE WITHIN 20 YEARS

Standards Utilized:

US Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (Jan 1987). AND Regional Supplement to the corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, January 2012 AND Field Indicators for Indentifying Hydric Soils in New England, Version 4, May 2017, New England Hydric Soils Technical Committee Wetlands Delineated by Gove Environmental Services, Inc. staff: James P. Gove, CWS 051, CSS 004 on 6/4/20

STATE OF NEW HAMPSHIRE JAMES P. GOVE No. 0051 CERTIFIED WETLAND SCIENTIST 12-17-21

I CERTIFY THAT THIS PLAT IS BASED UPON THE PLAN REFERENCES AND A FIELD SURVEY CONDUCTED ON THE GROUND IN SPRING OF 2020, MEETING THE MINIMUM REQUIREMENTS FOR ACCURACY, 1:10,000 AND COMPLETENESS PER THE STATE OF NEW HAMPSHIRE AND THE CITY OF PORTSMOUTH, NH.

STATE OF NEW HAMPSHIRE No. 945 SCOTT R. FRANKIEWICZ LICENSED LAND SURVEYOR

SIGNATURE

SCOTT R. FRANKIEWICZ, LLS — DATE: 07/15/2022

REVISIONS			
NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB
20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SRF

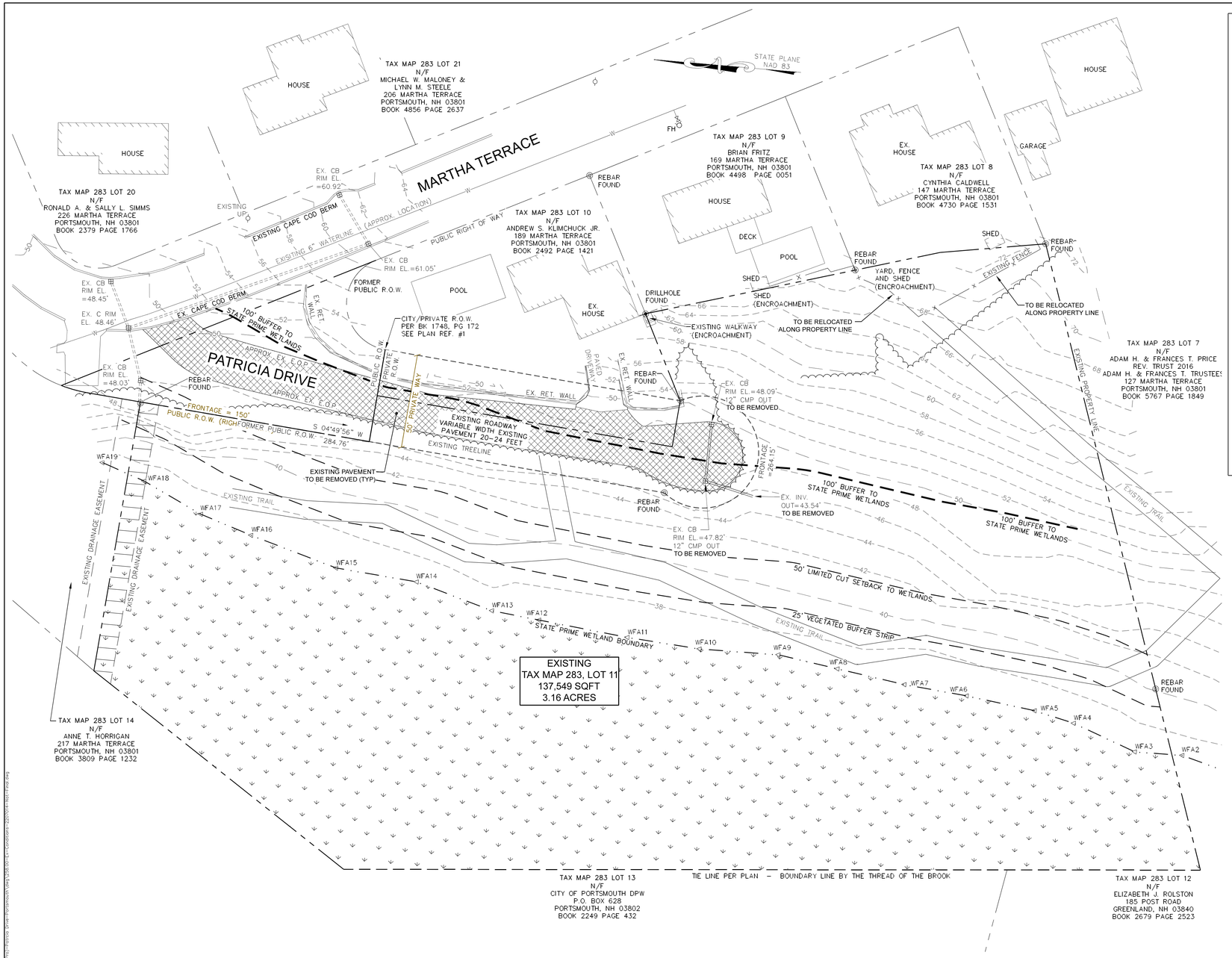
GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

N.H. LAND Consultants
SURVEYING-LAND PLANNING-REAL ESTATE
A Veteran Owned Company
PH 603-942-9220 WEBSITE: INHLANDCONSULTANTS.COM
6330 FIRST NH TURNPIKE, NORTHWOOD, NH 03261
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841

EXISTING CONDITIONS PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

ECP
SHT. 2 of 10



ABUTTERS LIST:

N/F
MAP 283 LOT 7
ADAM H. & FRANCES T. PRICE,
ADAM H. & FRANCES T.-TRUSTEES
127 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

N/F
MAP 283 LOT 8
CYNTHIA CALDWELL
147 MARTHA TERRACE,
PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

N/F
MAP 283 LOT 9
BRIAN A FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4491 PAGE 0051

N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

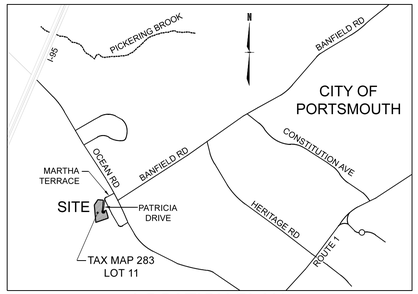
N/F
MAP 283 LOT 21
MICHAEL W MALONEY &
LYNN M STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

N/F
MAP 283 LOT 20
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

N/F
MAP 283 LOT 14
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432

N/F
MAP 283 LOT 12
ELIZABETH J ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2769 PAGE 2523



LOCATION PLAN
SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
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14. SHEET 9 OF 10 THIS SET WILL BE RECORDED. A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
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LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- EXISTING CONTOUR (MNR) -572-
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- DRILL HOLE FOUND
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GRAPHIC SCALE
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ENGINEER

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PH. 603-942-9220
6B2C FIRST NH TURNPIKE, NORTHWOOD, NH 03261

DEMOLITION PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
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10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
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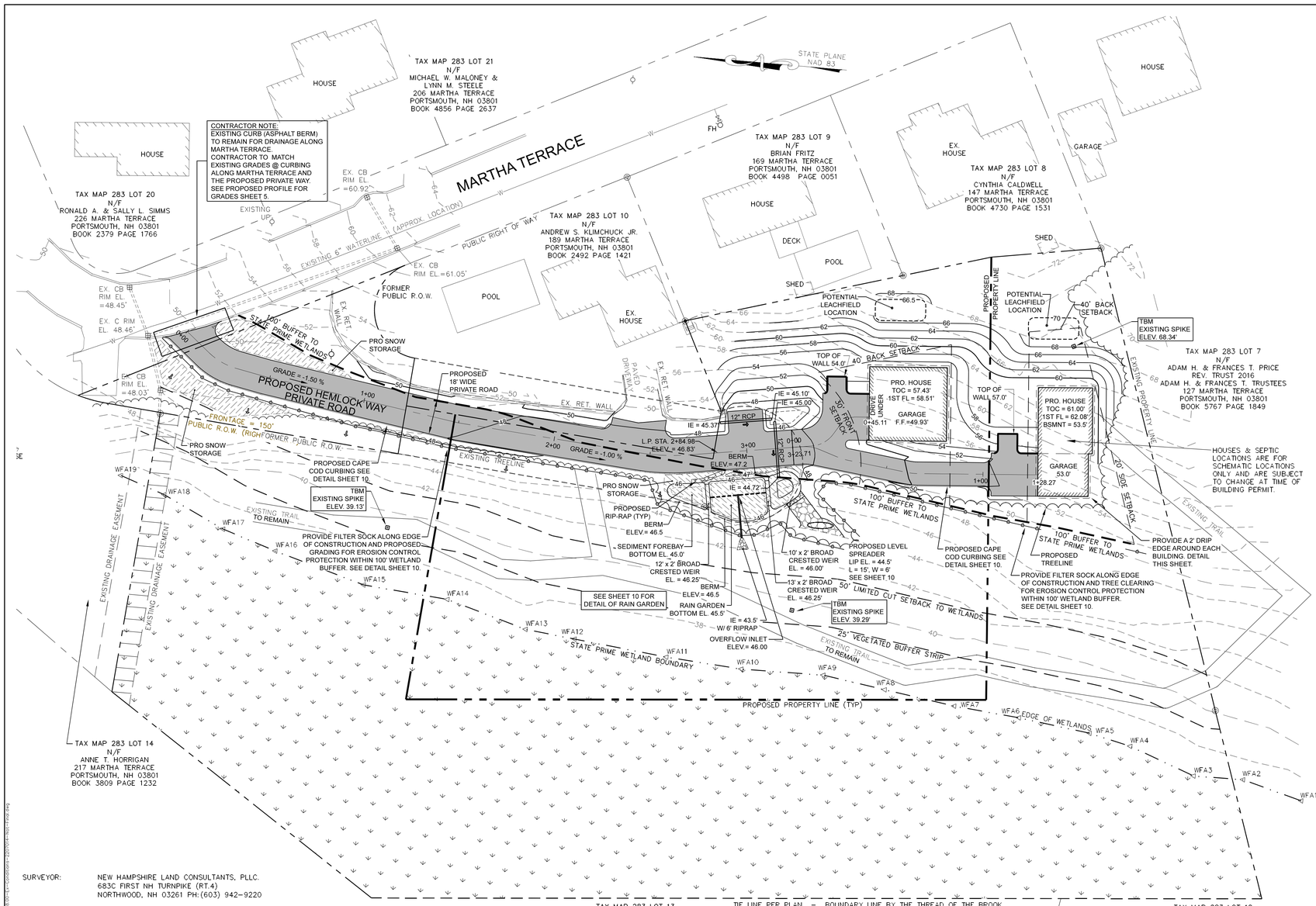
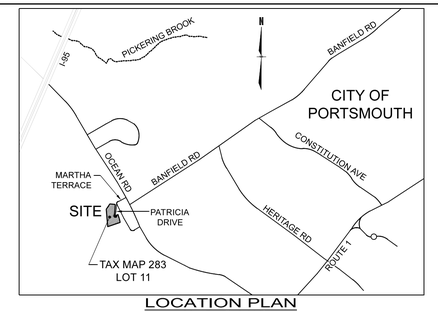
DMP
SHT. 3 of 10





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OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)	

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LEGEND

EXISTING RETAINING WALL		WETLANDS	
ABUTTERS PROPERTY LINES		DRILL HOLE FOUND	◎
SUBJECT PROPERTY LINES		REBAR W/ CAP FOUND	○
PROPOSED PROPERTY LINES		STONE BOUND FOUND	□
EXISTING TIE LINE		EXISTING GATE VALVE & HYDRANT	GV FH
EDGE OF PAVEMENT			
PROPOSED BLDG SETBACK			
EXISTING CONTOUR (MNR)	-572-		
EXISTING CONTOUR (MJR)	-570		

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
683C FIRST NH TURNPIKE (RT.4)
NORTHWOOD, NH 03261 PH:(603) 942-9220

WETLAND/SOIL SCIENTIST: GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

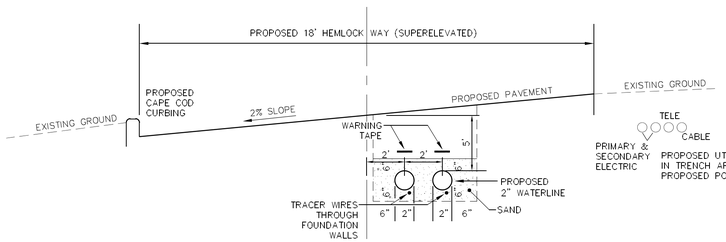
ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD–HOLLIS–CANTON COMPLEX

CHATFIELD – NHDES GROUP 4
HOLLIS – NHDES GROUP 4
CANTON – NHDES GROUP 2

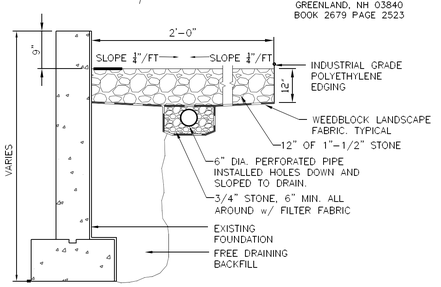
LOT SIZE USING
GROUP 4 SLOPE C = 48,000 SQ FT

WITH PUBLIC WATER = 24,000 SQ FT.



TYPICAL CROSS-SECTION - PROPOSED HEMLOCK WAY

N.T.S.



DRIP EDGE RECHARGE TRENCH DETAIL

N.T.S.

REVISIONS

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R. JEFFREY BURD No. 9058 LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
RJ Burd

GRAPHIC SCALE
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SCALE: 1"=30'

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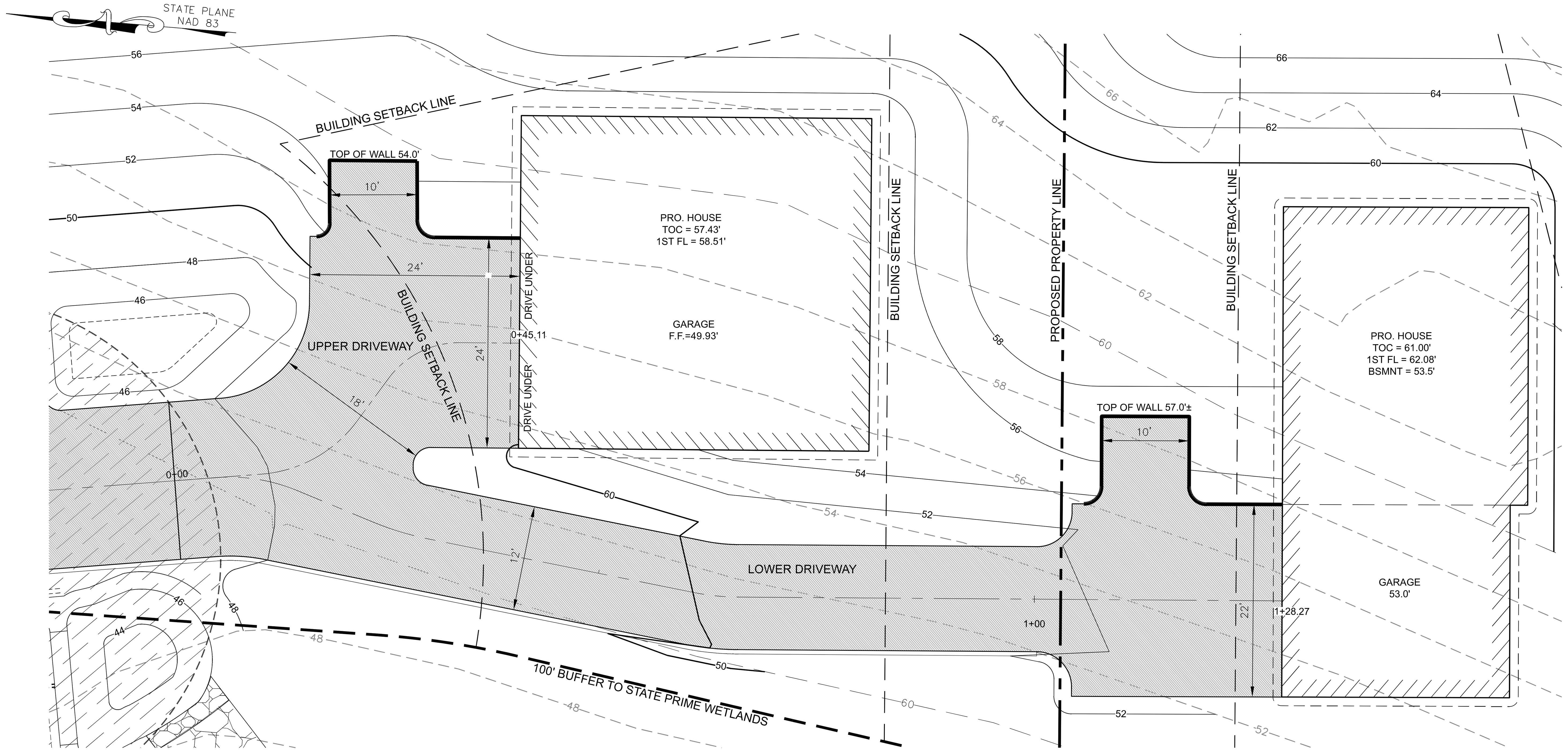
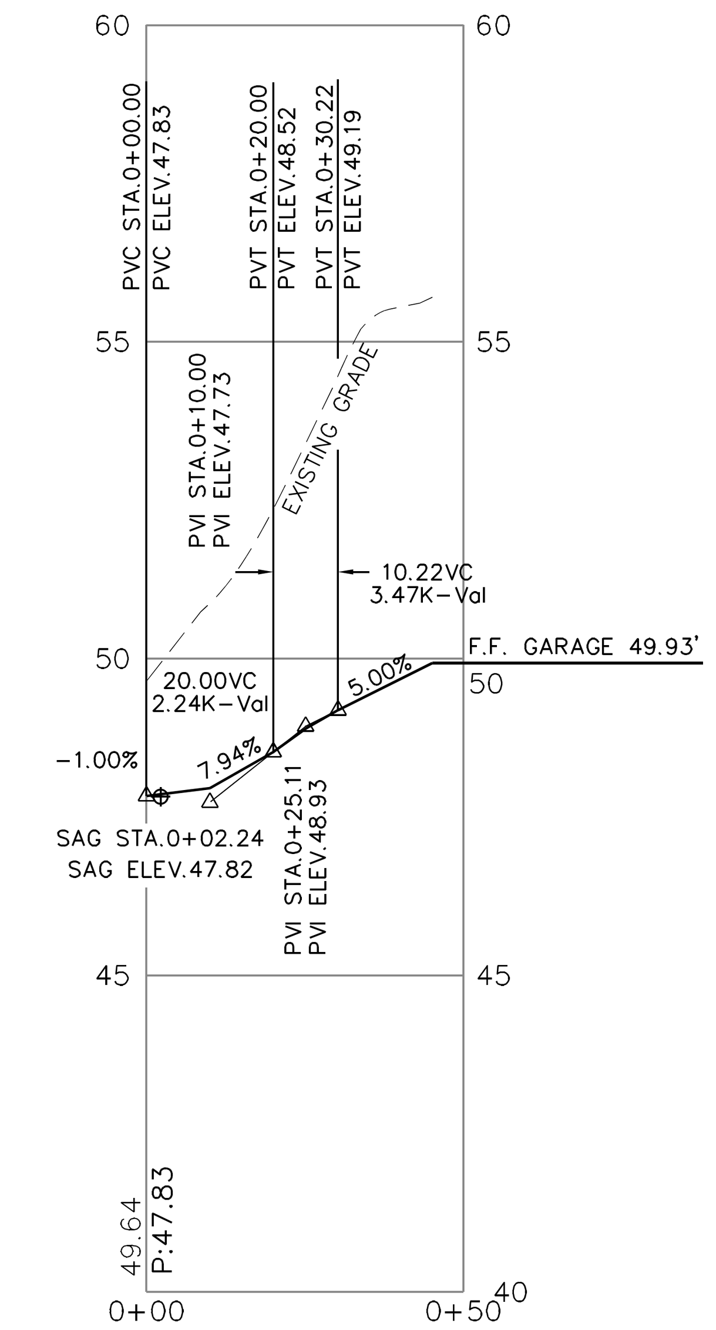
PGP
SHT. 4 of 10



PROPOSED UPPER AND LOWER DRIVEWAY PLAN VIEW

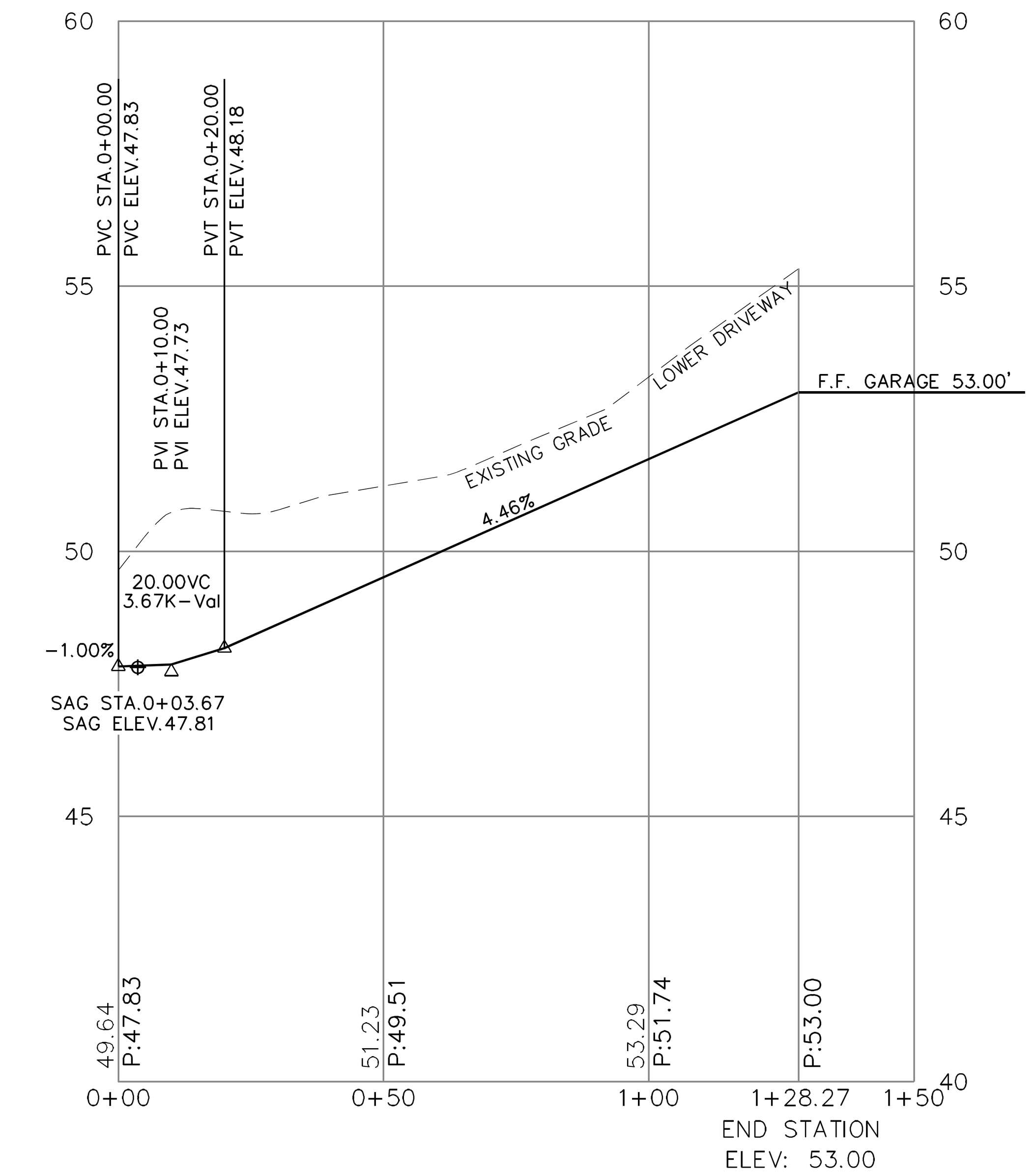
SCALE: 1"=10'

LARGER SCALE FORMAT FOR GRAPHICAL PUROSES



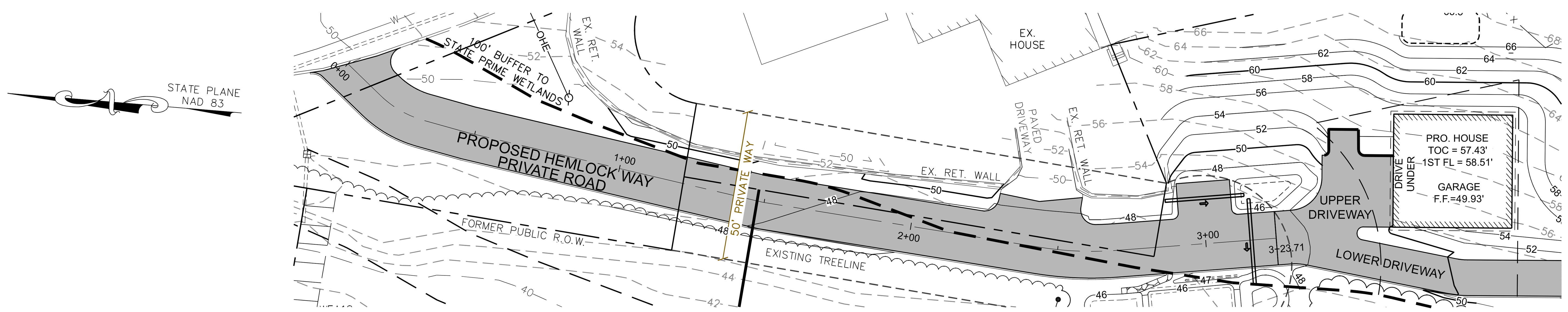
PROFILE - UPPER DRIVEWAY

SCALE: 1"=30'H, 3' VERT.



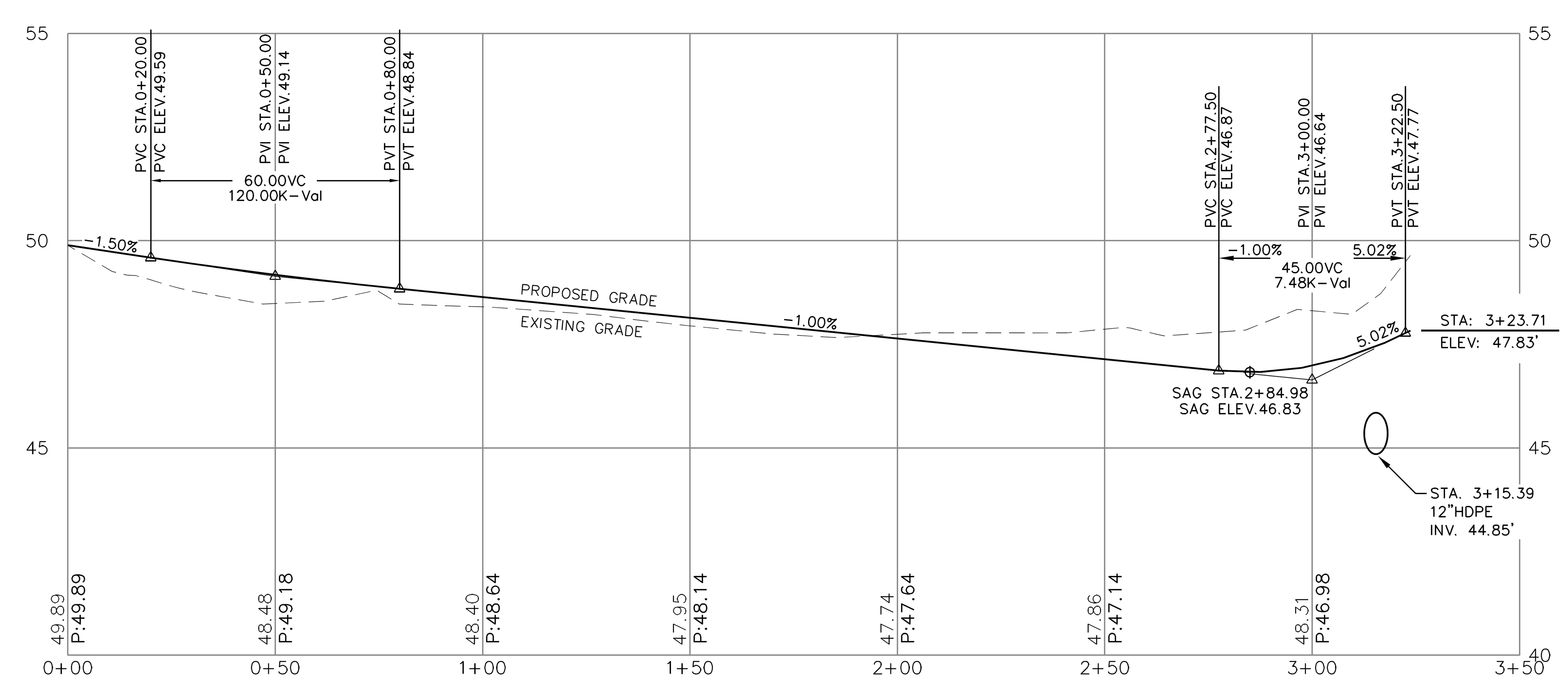
PROFILE - LOWER DRIVEWAY

SCALE: 1"=30'H, 3' VERT.



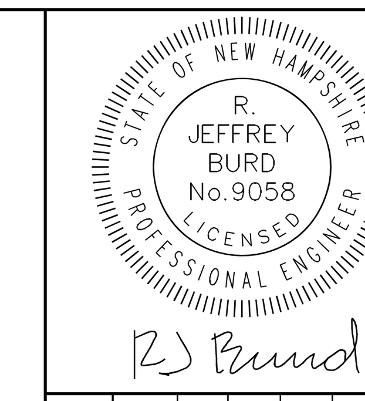
PROPOSED HEMLOCK WAY - PLAN VIEW

SCALE: 1"=30'



PROPOSED HEMLOCK WAY - PROFILE

SCALE: 1"=30' H 3' VERT.



REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
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20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SRF

SCALE AS SHOWN

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PROPOSED DRIVEWAY PLAN & PROFILES
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.

JOB NO: 258.00

DATE: SEPTEMBER 23, 2020

PDPP

SHT. 5 of 10

TAX MAP 283 LOT 21
N/F
MICHAEL W. MALONEY &
LYNN M. STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

TAX MAP 283 LOT 20
N/F
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

TAX MAP 283 LOT 9
N/F
BRIAN FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4498 PAGE 0051

TAX MAP 283 LOT 10
N/F
ANDREW S. KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

TAX MAP 283 LOT 8
N/F
CYNTHIA CALDWELL
147 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

TAX MAP 283 LOT 7
N/F
ADAM H. & FRANCES T. PRICE
REV. TRUST 2016
ADAM H. & FRANCES T. TRUSTEES
127 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

TAX MAP 283 LOT 14
N/F
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

TAX MAP 283 LOT 13
N/F
CITY OF PORTSMOUTH DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 432

TAX MAP 283 LOT 12
N/F
ELIZABETH J. ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2679 PAGE 2523

MARTHA TERRACE

PROPOSED HEMLOCK WAY
PRIVATE ROAD

PROPOSED PRIVATE WAY

FRONTAGE = 150'

PUBLIC R.O.W. (RIGHT

FORMER PUBLIC R.O.W.

(PERMANENT IMPACT)
PROPOSED BUFFER
RESTORATION. EXISTING
ROAD REMOVAL, LOAM AND
SEED RESTORE TO GRASS.
AREA = 514 SF

(PERMANENT IMPACT)
PROPOSED BUFFER
RESTORATION, EXISTING
ROAD REMOVAL, LOAM AND
SEED RESTORE TO GRASS.
AREA = 323 SF

(TEMPORARY IMPACT)
PROPOSED PAVEMENT
WITHIN 100' BUFFER
AREA = 4,283 SF

PROPOSED 100' BUFFER
IMPACT LINE (TYP)

(PERMANENT IMPACT)
RIPRAP (TYP)
AREA = 84 SF (TOTAL)
(PERMANENT IMPACT)
PROPOSED DRAINAGE IMPACT.
DETENTION POND & SEE GRADING
PLAN, AND CONSTRUCTION
SEQUENCE. SHEET 10 FOR EROSION
CONTROL. AREAS = 1,341 SF

(PERMANENT IMPACT)
RIPRAP (TYP)
AREA = 313 SF (TOTAL)

100' BUFFER TO
STATE PRIME WETLANDS

50' LIMITED CUT SETBACK TO WETLANDS

25' VEGETATED BUFFER STRIP

STATE PRIME WETLAND BOUNDARY

PROPOSED PROPERTY LINE (TYP)

EDGE OF WETLANDS

EXISTING TRAIL

EXISTING DRAINAGE EASEMENT

EXISTING UTILITY POLE

EX. CB RIM EL. =60.92'

EX. CB RIM EL. =61.05'

EX. CB RIM EL. =48.45'

EX. C RIM EL. 48.46'

EX. CB RIM EL. =48.03'

EX. 6" WATERLINE (APPROX. LOCATION)

EX. RET. WALL

PROPOSED DRIVEWAY

REBAR FOUND

DRILLHOLE FOUND

FH

HOUSE

DECK

POOL

SHED

GARAGE

EX. HOUSE

PRO. HOUSE
TOC = 57.43'
1ST FL = 58.51'

DRIVE UNDER
O=45.11'

GARAGE
F.F.=49.93'

PRO. HOUSE
TOC = 61.00'
1ST FL = 62.08'
BSMNT = 53.5'

GARAGE
53.0'
I=28.27

40' BACK SETBACK

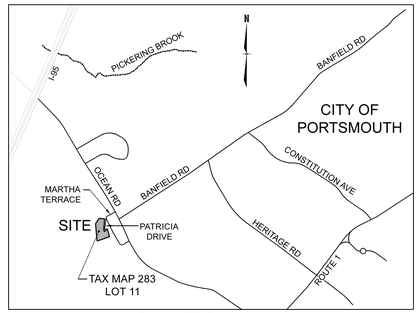
50' FROM SETBACK

20' SIDE SETBACK

EXISTING PROPERTY LINE

STATE PLANE
NAD 83

SEE SHEET 9



LOCATION PLAN
SCALE: 1"=2,000'

BUFFER NOTES:

1. PRIOR TO CONSTRUCTION, PERMANENT "WETLAND PROTECTION AREA" PLACARDS SHALL BE PLACE APPROXIMATELY EVERY FIFTY ALONG THE SOUTHERLY SIDE OF HEMLOCK WAY TO BE VERIFIED BY THE PLANNING.
2. PROPOSED PRIVATE DRIVE WILL BE A "NO SALT ZONE" WITHIN THE 100' STATE PRIME WETLAND BUFFER.
3. LANDSCAPE LAWN MAINTENANCE PER "NORTH EAST ORGANIC FARMING ASSOCIATION (NOFA) OR OTHER SUITABLE ORGANIC STANDARDS. SEE CONSTRUCTION SEQUENCE ON SHEET 10 FOR ADDITIONAL SEEDING NOTES.

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
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WETLAND/SOIL SCIENTIST: GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD-HOLLIS-CANTON COMPLEX

CHATFIELD - NHDES GROUP 4
HOLLIS - NHDES GROUP 4
CANTON - NHDES GROUP 2

LOT SIZE USING
GROUP 4 SLOPE C = 48,000 SQ FT

WITH PUBLIC WATER = 24,000 SQ FT.

LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- EXISTING CONTOUR (MNR) -572-
- EXISTING CONTOUR (MJR) -570
- WETLANDS
- DRILL HOLE FOUND
- REBAR W/ CAP FOUND
- STONE BOUND FOUND
- EXISTING GATE VALVE & HYDRANT

100' WETLAND BUFFER IMPACT AREAS (PERMANENT IMPACTS)

Permanent impacts (SF): (including all actual permanent impacts as they're normally defined; including areas changing from pavement to grass)	2,575 SF
Temporary impacts (SF): (including all areas that will be restored to the current-existing condition)	4,283 SF
Net reduction in impervious within the prime wetland buffer (SF):	837 SF
Tree clearing within the prime wetland buffer (SF):	950 SF

PERMANENT IMPACT

TEMPORARY IMPACT

REVISIONS

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GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

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PROPOSED BUFFER IMPACT PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
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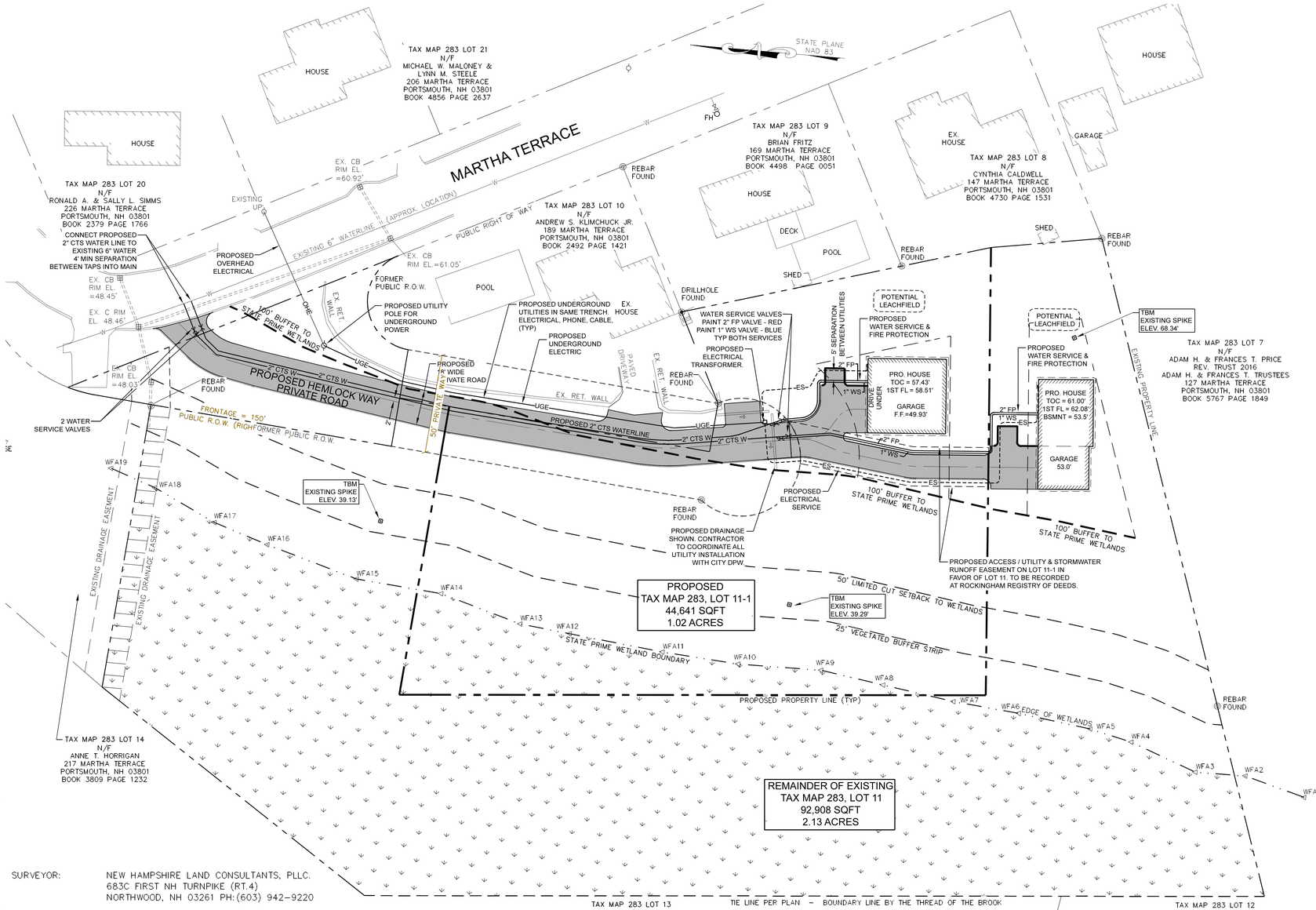
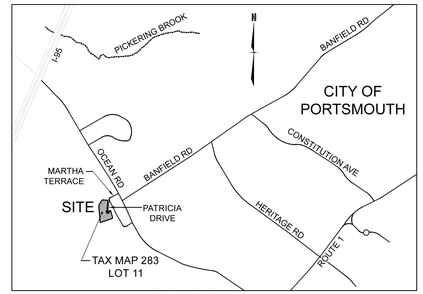
ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PBIP
SHT. 6 of 10





LOCATION PLAN

SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS
OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)	

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granit.view.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
2. R.C.R.D. PLAN #D5967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF OCEAN MANNER", PREPARED FOR: ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 – LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

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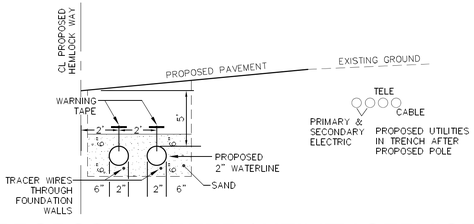
WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

LEGEND

EXISTING RETAINING WALL	PROPOSED 2" WATER MAIN — 2" CTS W —
ABUTTERS PROPERTY LINES	FIRE PROTECTION & WATER SERVICE SAME TRENCH — FP — WS —
SUBJECT PROPERTY LINES	WETLANDS
PROPOSED PROPERTY LINES	DRILL HOLE FOUND
EDGE OF PAVEMENT	REBAR W/ CAP FOUND
PROPOSED BLDG SETBACK	STONE BOUND FOUND
PROPOSED ELECTRICAL SERVICE — ES —	EXISTING GATE VALVE & HYDRANT FH
PROPOSED WATER SERVICE — WS —	

UTILITY NOTES:

1. ALL PROPOSED UTILITY WORK WITH IN THE CITY RIGHT OF WAY SHALL BE COORDINATED WITH CITY OF PORTSMOUTH DPW.
2. PULL BOXES, ELECTRICAL EQUIPMENT TO BE SUPPLIED BY ELECTRICAL COMPANY.
3. CONTRACTOR TO COORDINATE W/ POWER COMPANY AND LOCAL UTILITIES FOR INSTALLATION OF POWER, PHONE AND CABLE.
4. CONTRACTOR TO COORDINATE THE CONNECTION AND INSTALLATION OF WATER SERVICE WITH CITY OF PORTSMOUTH DPW.
5. INSTALLATION OF WATERLINE SHALL BE (2) 2" CTS PIPE TAPPED FROM THE EXISTING 6" MAIN ON MARTHA TERRACE. EACH 2" PIPE W/ 4' SEPARATION, WILL BE DEDICATED TO EACH NEW HOME, PROVIDING WATER SERVICE AND FIRE PROTECTION.
6. NEAREST EXISTING FIRE HYDRANT IS LOCATED ON MARTHA TERRACE AND IS APPROXIMATELY 570' TO 585' TO THE FURTHEST PROPOSED HOUSE DEPENDING ON METHOD OF MEASUREMENT.
7. IF THE FIRE DEPARTMENT REQUIRES FIRE SUPPRESSION IN THE PROPOSED HOMES, THE ENGINEER OF RECORD SHALL REVIEW THE PROPOSED WATER SERVICE SHOWN, AND SHOW THAT THE DESIGN WILL BE SUFFICIENT FOR PRESSURE AND FLOW.
8. SEPTIC DESIGNS TO BE APPROVED BY NHDES.



PROPOSED WATER / UTILITY SERVICE

N.T.S.

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20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SRF

GRAPHIC SCALE

15 7.5 0 30

SCALE: 1"=30'

R. JEFFREY BURD No. 9058 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

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PROPOSED UTILITY PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
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JOB NO: 258.00

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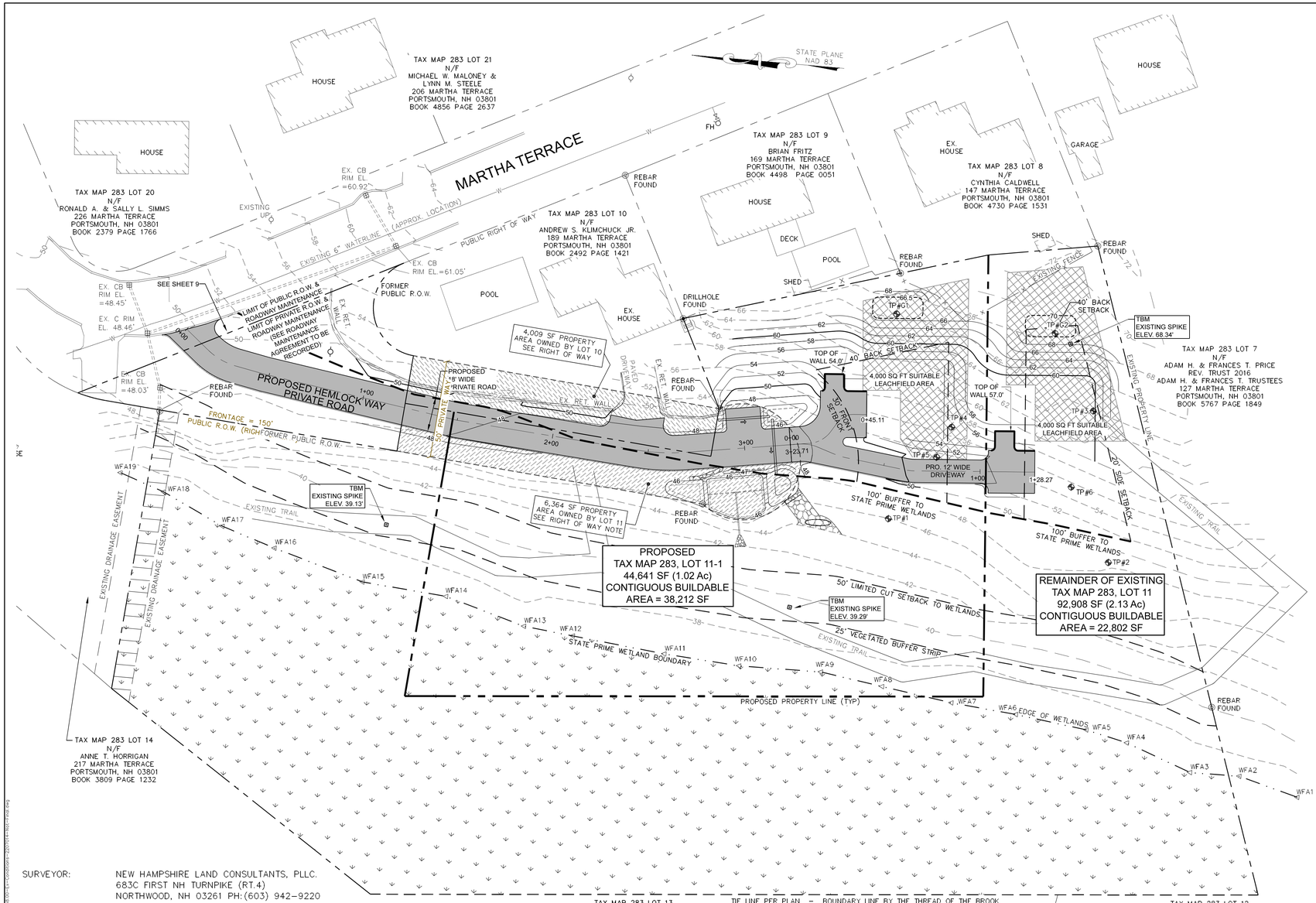
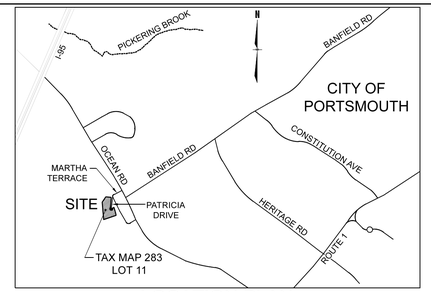
PUP

SHT. 7 of 10





LOCATION PLAN
SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
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WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
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17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
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20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
2. R.C.R.D. PLAN #D5967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF OCEAN MANNER", PREPARED FOR: ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 – LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

LEGEND

EXISTING RETAINING WALL		WETLANDS	
ABUTTERS PROPERTY LINES		DRILL HOLE FOUND	
SUBJECT PROPERTY LINES		REBAR W/ CAP FOUND	
PROPOSED PROPERTY LINES		STONE BOUND FOUND	
EXISTING TIE LINE		EXISTING GATE VALVE & HYDRANT	GV FH
EDGE OF PAVEMENT			
PROPOSED BLDG SETBACK			
EXISTING CONTOUR (MNR)	-572-		
EXISTING CONTOUR (MJR)	-570		

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
683C FIRST NH TURNPIKE (RT.4)
NORTHWOOD, NH 03261 PH:(603) 942-9220

WETLAND/SOIL SCIENTIST: GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD–HOLLIS–CANTON COMPLEX

CHATFIELD – NHDES GROUP 4
HOLLIS – NHDES GROUP 4
CANTON – NHDES GROUP 2

LOT SIZE USING
GROUP 4 SLOPE C = 48,000 SQ FT

WITH PUBLIC WATER = 24,000 SQ FT.

TEST PIT #1
DATE: 5-26-20
PERFORMED BY: SCOTT FRANKIEWICZ
PERMIT #1348

0–6"	Topsoil	
6–24"	Loamy Sand	Granular/Friable 7.5 YR 5/6 – Strong Brown
24–60"	Loam Sand	Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 24"
Roots to 24"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #2
DATE: 5-26-20
PERFORMED BY: SCOTT FRANKIEWICZ
PERMIT #1348

0–6"	Topsoil	
6–30"	Loamy Sand	Granular/Friable 7.5 YR 5/6 – Strong Brown
30–56"	Sand	Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 30"
Roots to 30"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #3
DATE: 5-26-20
PERFORMED BY: SCOTT FRANKIEWICZ
PERMIT #1348

0–6"	Topsoil	
6–30"	Loamy Sand	Granular/Friable 7.5 YR 5/6 – Strong Brown
30–56"	Sand	Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 30"
Roots to 30"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #4
DATE: 5-26-20
PERFORMED BY: SCOTT FRANKIEWICZ
PERMIT #1348

0–6"	Topsoil	
6–26"	Loamy Sand	Granular/Friable 7.5 YR 5/6 – Strong Brown
26–70"	Sand	Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 26"
Roots to 26"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #5
DATE: 9-18-20
PERFORMED BY: SCOTT FRANKIEWICZ
PERMIT #1348

0–6"	Topsoil	
6–36"	Gravelly Sand	Granular/Friable 7.5 YR 5/6 – Strong Brown
36–60"	Gravelly Sand	Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 36"
Roots to 36"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #6
DATE: 9-18-20
PERFORMED BY: SCOTT FRANKIEWICZ
PERMIT #1348

0–6"	Topsoil	
6–34"	Gravelly Sand	Granular/Friable 7.5 YR 5/6 – Strong Brown
34–60"	Gravelly Sand	Granular/Firm in place 2.5Y 5/6 – Light Olive Brown

ESHWT = 34"
Roots to 34"
No ledge observed
No water observed
Many stones throughout hole
Perc Rate = 10 min/inch

TEST PIT #G1
DATE: 1-12-2022
PERFORMED BY: JAMES GOVE, CSS

0–5"	Fine Sandy Loam	Granular, Friable 10YR 3/2 - Very Dark Grayish Brown
5–30"	Fine Sandy Loam	Granular/Friable 10 YR 4/6 – Dark Yellowish Brown
30–60"	Fine Sandy Loam	Platy/Firm 2.5Y 5/3 – Light Olive Brown

ESHWT = 30"
No ledge observed
No water observed
Termination @ 60"

TEST PIT #G2
DATE: 1-12-2022
PERFORMED BY: JAMES GOVE, CSS

0–5"	Fine Sandy Loam	Granular, Friable 10YR 3/2 - Very Dark Grayish Brown
5–20"	Fine Sandy Loam	Granular/Friable 10 YR 4/6 – Dark Yellowish Brown
20–60"	Fine Sandy Loam	Platy/Firm 2.5Y 5/3 – Light Olive Brown

ESHWT = 20"
No ledge observed
No water observed
Termination @ 60"

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB
20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SBF

REVISIONS

GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

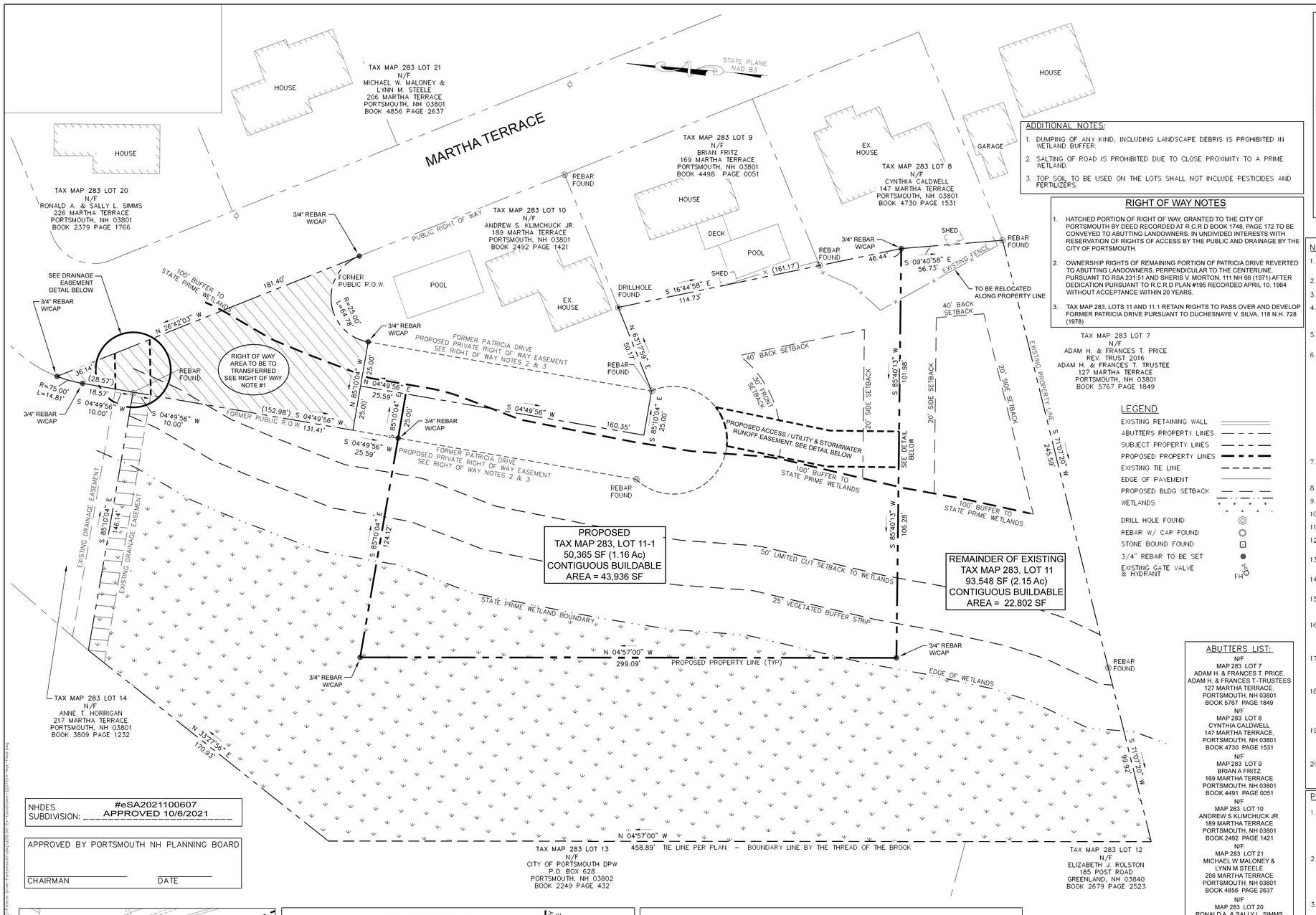
NEW HAMPSHIRE Designer of Subsurface Disposal Systems ★★★ Scott R. Frankiewicz No. 1348 Department of Environmental Services

N.H. LAND Consultants
SURVEYING•LAND PLANNING•REAL ESTATE
A Veteran Owned Company
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

PROPOSED CONDITIONS PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

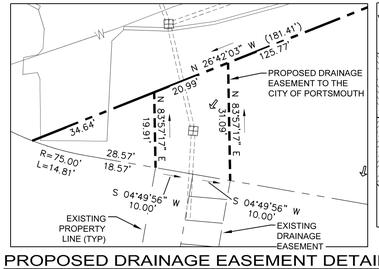
PCP
SHT. 8 of 10



NHDES SUBDIVISION: #eSA2021100607 APPROVED 10/6/2021

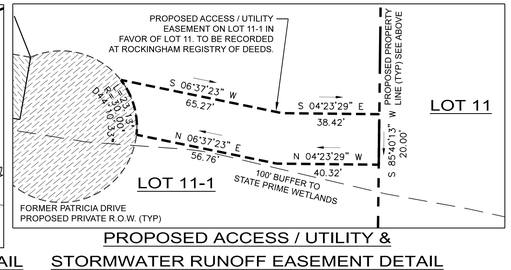
APPROVED BY PORTSMOUTH NH PLANNING BOARD

CHAIRMAN _____ DATE _____



PROPOSED DRAINAGE EASEMENT DETAIL

SCALE: 1"=20'



PROPOSED ACCESS / UTILITY & STORMWATER RUNOFF EASEMENT DETAIL

SCALE: 1"=30'

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 945 SCOTT R. FRANKIEWICZ SIGNATURE

MOUMENTS AND BOUNDS SHOWN ON PLAN HAVE OR WILL BE SET UNDER HIS/HER SUPERVISION PRIOR TO CONVEYANCE OF ANY PROPOSED LOTS.

THE SUBDIVISION REGULATIONS OF THE CITY OF PORTSMOUTH ARE A PART OF THIS PLAT, AND APPROVAL OF THIS PLAT IS CONTIGENT ON COMPLETION OF ALL THE REQUIREMENTS OF SAID SUBDIVISION REGULATIONS, EXCEPTING ONLY ANY VARIANCES OR MODIFICATIONS AND SUBJECT TO ANY CONDITIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERTO.

I CERTIFY THAT THIS PLAT IS BASED UPON THE PLAN REFERENCES AND A FIELD SURVEY CONDUCTED ON THE GROUND IN SPRING OF 2020, MEETING THE MINIMUM REQUIREMENTS FOR ACCURACY, 1:10,000 AND COMPLETENESS PER THE STATE OF NEW HAMPSHIRE AND THE CITY OF PORTSMOUTH, NH.

SCOTT R. FRANKIEWICZ, LLS — 07/15/2022 DATE:

ADDITIONAL NOTES:

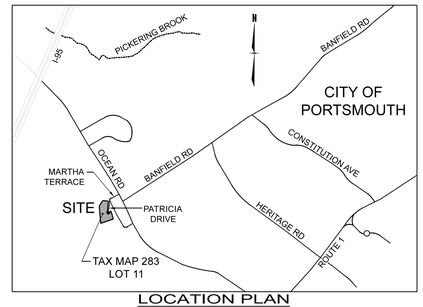
1. DUMPING OF ANY KIND, INCLUDING LANDSCAPE DEBRIS IS PROHIBITED IN WETLAND BUFFER.
2. SALTING OF ROAD IS PROHIBITED DUE TO CLOSE PROXIMITY TO A PRIME WETLAND.
3. TOP SOIL TO BE USED ON THE LOTS SHALL NOT INCLUDE PESTICIDES AND FERTILIZERS.

RIGHT OF WAY NOTES

1. HATCHED PORTION OF RIGHT OF WAY, GRANTED TO THE CITY OF PORTSMOUTH BY DEED RECORDED AT R.C.R.D BOOK 1748, PAGE 172 TO BE CONVEYED TO ABUTTING LANDOWNERS, IN UNDIVIDED INTERESTS WITH RESERVATION OF RIGHTS OF ACCESS BY THE PUBLIC AND DRAINAGE BY THE CITY OF PORTSMOUTH.
2. OWNERSHIP RIGHTS OF REMAINING PORTION OF PATRICIA DRIVE REVERTED TO ABUTTING LANDOWNERS, PERPENDICULAR TO THE CENTERLINE, PURSUANT TO RSA 231:51 AND SHERIS V. MORTON, 111 NH 66 (1971) AFTER DEDICATION PURSUANT TO R.C.R.D PLAN #195 RECORDED APRIL 10, 1964 WITHOUT ACCEPTANCE WITHIN 20 YEARS.
3. TAX MAP 283, LOTS 11 AND 11.1 RETAIN RIGHTS TO PASS OVER AND DEVELOP FORMER PATRICIA DRIVE PURSUANT TO DUCHESNAYE V. SILVA, 118 N.H. 728 (1978)

LEGEND

- EXISTING RETAINING WALL
- ABUTTERS PROPERTY LINES
- SUBJECT PROPERTY LINES
- PROPOSED PROPERTY LINES
- EXISTING TIE LINE
- EDGE OF PAVEMENT
- PROPOSED BLDG SETBACK
- WETLANDS
- DRILL HOLE FOUND
- REBAR W/ CAP FOUND
- STONE BOUND FOUND
- 3/4" REBAR TO BE SET
- EXISTING GATE VALVE & HYDRANT



LOCATION PLAN

SCALE: 1"=2,000'

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)

7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

ABUTTERS LIST:

N/F
MAP 283 LOT 7
ADAM H. & FRANCES T. PRICE, ADAM H. & FRANCES T.-TRUSTEES
127 MARTHA TERRACE, PORTSMOUTH, NH 03801
BOOK 5767 PAGE 1849

N/F
MAP 283 LOT 8
CYNTHIA CALDWELL
147 MARTHA TERRACE, PORTSMOUTH, NH 03801
BOOK 4730 PAGE 1531

N/F
MAP 283 LOT 9
BRIAN A FRITZ
169 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4491 PAGE 0051

N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR.
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421

N/F
MAP 283 LOT 21
MICHAEL W MALONEY &
LYNN M STEELE
206 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 4856 PAGE 2637

N/F
MAP 283 LOT 20
RONALD A. & SALLY L. SIMMS
226 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766

N/F
MAP 283 LOT 14
ANNE T. HORRIGAN
217 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 3809 PAGE 1232

N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432

N/F
MAP 283 LOT 12
ELIZABETH J ROLSTON
185 POST ROAD
GREENLAND, NH 03840
BOOK 2769 PAGE 2523

PLAN REFERENCES:

1. R.C.R.D PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
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BUFFER NOTES:

1. PRIOR TO CONSTRUCTION, PERMANENT "WETLAND PROTECTION AREA" PLACARDS SHALL BE PLACE APPROXIMATELY EVERY FIFTY ALONG THE SOUTHERLY SIDE OF HEMLOCK WAY TO BE VERIFIED BY THE PLANNING.
2. PROPOSED PRIVATE DRIVE WILL BE A "NO SALT ZONE" WITHIN THE 100' STATE PRIME WETLAND BUFFER.
3. LANDSCAPE LAWN MAINTENANCE PER "NORTH EAST ORGANIC FARMING ASSOCIATION (NOFA) OR OTHER SUITABLE ORGANIC STANDARDS. SEE CONSTRUCTION SEQUENCE ON SHEET 10 FOR ADDITIONAL SEEDING NOTES.

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB
20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SRF

GRAPHIC SCALE

15 7.5 0 30

SCALE: 1"=30'

N.H. LAND Consultants
SURVEYING + LAND PLANNING + REAL ESTATE
A VETERAN OWNED COMPANY
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH. 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

PROPOSED SUBDIVISION PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY
REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.

JOB NO: 258.00

DATE: SEPTEMBER 23, 2020

PSP

SHT. 9 of 10

CONSTRUCTION SEQUENCE:

1. CUT AND CLEAR TREES, REMOVE EXISTING PAVEMENT WITHIN LIMIT OF WORK (PROPOSED TREELINE), UNLESS OTHERWISE NOTED. ALL STUMPS, BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF, PREFERABLY OFF SITE.
2. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES (DETENTION BASIN, DIVERSION BERM, GRASS SWALE) PRIOR TO ANY EARTH MOVING OPERATION.
3. ALL AREAS SHALL BE PROTECTED FROM EROSION. SIDE SLOPES AND DETENTION POND SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
4. POND SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
5. ALL STORM DRAINAGE SYSTEMS SUCH AS DETENTION/RETENTION BASINS, LEVEL SPREADERS SHALL BE PROTECTED FROM EROSION. ALL STORM DRAINAGE SYSTEMS SHALL BE STABILIZED PRIOR TO DIRECTING FLOW INTO THEM.
6. CONSTRUCT TEMPORARY CULVERTS, DIVERSION DITCHES/SWALES OR BERMS AS REQUIRED TO MINIMIZE THE EROSIVE AFFECTS OF STORMWATER RUNOFF DURING ALL CONSTRUCTION ACTIVITIES. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL AREAS STABILIZED.
7. ALL MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SEEDED WITH WINTER RYE AND IF NECESSARY, SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO PREVENT OR CONTAIN SOIL EROSION.
8. ALL MATERIAL SUITABLE FOR FILL OR SELECT MATERIAL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO CONTAIN SOIL EROSION.
9. REMOVE ALL IMPROPER ROADWAY MATERIAL WITHIN 18" OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL ACCEPTABLE TO THE STATE/TOWN SPECIFICATIONS. ALL SUITABLE FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF THE DRY WEIGHT AS DETERMINED BY MODIFIED PROCTOR TESTING (ASTM D-1556) REQUIREMENTS.
10. CONSTRUCT ALL UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO DRAIN, DATA, CABLE AND POWER.
11. ROUGH GRADE SITE WITHIN LIMIT OF WORK AND COMMENCE CONSTRUCTION OF ROADWAY.
12. SITE SHALL BE STABILIZED WITHIN 72 HOURS OF FINISHED GRADE.
13. COMPLETE ROADWAY SLOPE GRADING/EMBANKMENT CONSTRUCTION. ALL SLOPES SHALL BE STABILIZED AND SEEDED IMMEDIATELY AFTER GRADING. THE CONTRACTOR SHALL STABILIZE SLOPES WITH APPROPRIATE SEEDING PROGRAM OR JUTE MAT, WHEREVER SPECIFIED. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
14. APPLY TOPSOIL TO SITE SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED SHALL BE NATIVE ORGANIC MATERIAL SCREENED AS TO BE FREE FROM ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEEDED, AND MULCHED. CONSERVATION SEED MIX SHALL BE USED ALONG "PROPOSED PRIVATE DRIVE" AND WILDFLOWER MIX TO BE USED IN DETENTION BASIN AND OTHER OPEN AREAS. THE CONTRACTOR SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
15. MAINTAIN, REPAIR, AND REPLACE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY FOR A MINIMUM PERIOD OF 12 MONTHS FOLLOWING SUBSTANTIAL COMPLETION.
16. AFTER STABILIZATION (12 MONTHLY FOLLOWING SUBSTANTIAL COMPLETION), REMOVE AND PROPERLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES, PREFERABLY OFF SITE.
17. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.

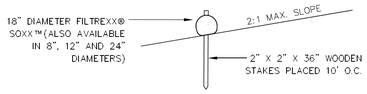
    DEFINITION OF THE WORD STABLE: AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

    A: BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.

    B: A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.

    C: A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.

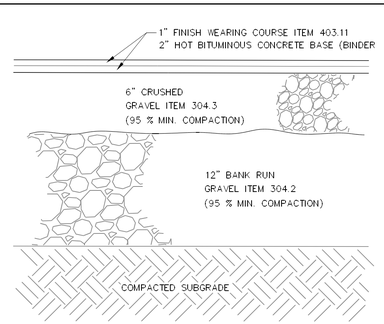
    D: OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERTY INSTALLED.
18. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.



FILTER SOCK DETAIL

FILTREXX ® OR APPROVED EQUAL

NOT TO SCALE



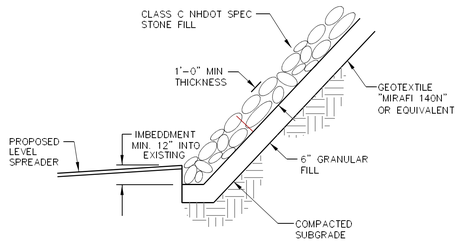
CONSTRUCTION NOTES:

REMOVE ALL LOAM, CLAY, MUCK, STUMPS, AND OTHER IMPROPER ROAD FOUNDATION MATERIAL WITHIN 2' OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL MATERIAL ACCEPTABLE TO APPROVING AGENCY. COMPACTION TO BE AT LEAST 95% OF STANDARD PROCTOR.

ALL PAVEMENT, BASE MATERIALS AND WORKMANSHIP TO BE IN COMPLIANCE WITH N.H.D.O.T. "STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION, AND THE CITY OF PORTSMOUTH PUBLICS WORKS DIVISION.

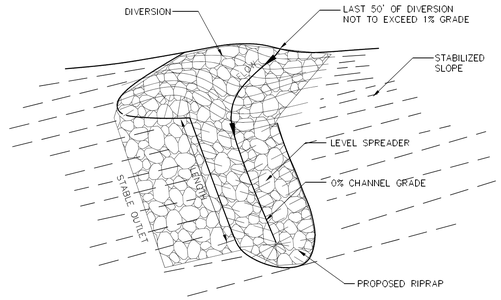
PAVEMENT SECTION

NOT TO SCALE

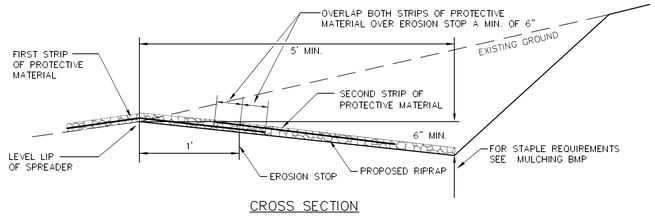


RIPRAP DETAIL

NOT TO SCALE



ISOMETRIC VIEW



CROSS SECTION

LEVEL SPREADER DETAIL

NOT TO SCALE

MAINTENANCE

THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND TO DETERMINE THAT THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF RILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND RE?VEGETATED. THE VEGETATION SHOULD BE MOWED OCCASIONALLY TO CONTROL WEEDS AND THE ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE THE SPREADER AND AWAY FROM THE OUTLET AREA. FERTILIZATION SHOULD BE DONE AS NECESSARY TO KEEP THE VEGETATION HEALTHY AND DENSE.

CONSTRUCTION SPECIFICATIONS

1) CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO GRADE TO INSURE UNIFORM SPREADING RUNOFF.

2) LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.

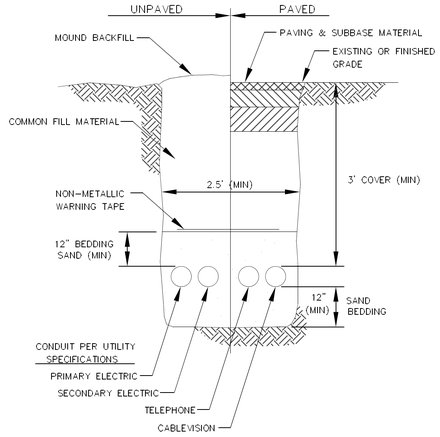
3) AN EROSION STOP SHALL BE PLACED VERTICALLY A MINIMUM OF SIX INCHES DEEP IN A SILT TRENCH ONE FOOT BACK OF THE LEVEL LIP AND PARALLEL TO THE LIP. THE EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP.

4) THE ENTIRE LIP AREA SHALL BE PROTECTED BY PLACING TWO STRIPS OF JUTE OR EXCELSIOR MATTING ALONG THE LIP. EACH STRIP SHALL OVERLAP THE EROSION STOP BY AT LEAST SIX INCHES.

5) THE ENTRANCE CHANNEL TO THE LEVEL SPREADER SHALL NOT EXCEED A 1 PERCENT GRADE FOR AT LEAST 50 FEET BEFORE ENTERING INTO THE SPREADER.

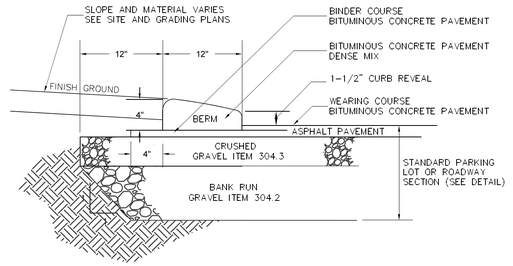
6) THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.

7) PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.



UTILITY TRENCH DETAIL

NOT TO SCALE

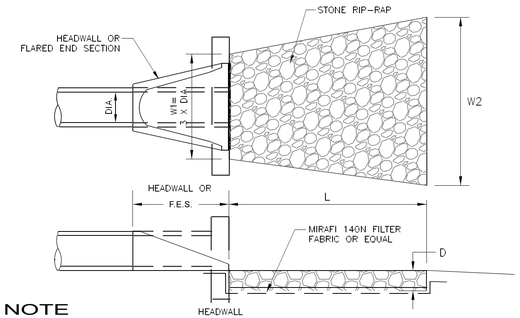


CAPE COD CURB (ASPHALT) DETAIL

NOT TO SCALE

NOTES:

1. THE INLET/OUTLET APRON SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION (d50=2").
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES (ALL SIDES).
4. RIP-RAP MAY BE PLACED BY EQUIPMENT (AS TO PREVENT SEGREGATION OF THE STONE SIZES) AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION.



MAINTENANCE:

1. THE OUTLET PROTECTION SHALL BE CHECKED AT LEAST BI-ANNUALLY AND AFTER EVERY SIGNIFICANT RAIN EVENT. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
2. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING.
3. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS AND SEDIMENT THAT COULD CHANGE THE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES.
4. ALL REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID DAMAGE TO THE OUTLET PROTECTION APRON.

NOTE

THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.

THE ROCK USED FOR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.

GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 11 INCHES.

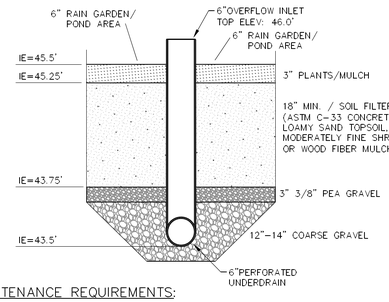
STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS AND SEDIMENT THAT COULD CHANGE THE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

RIP-RAP OUTLET PROTECTION APRON

NOT TO SCALE

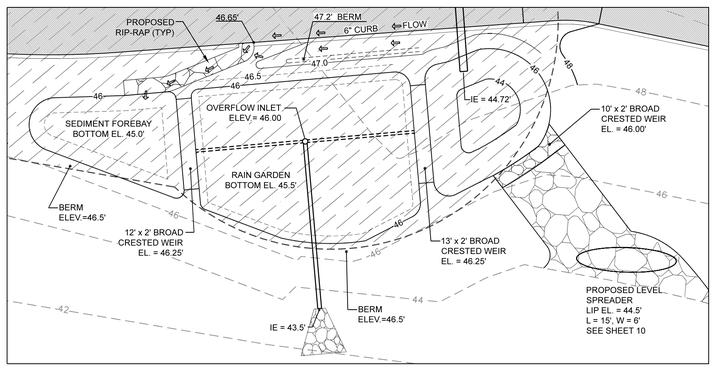


MAINTENANCE REQUIREMENTS:

1. SYSTEMS SHOULD INSPECTED AT LEAST TWCE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
2. PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAT ONCE ANNUALLY.
3. TRASH AND DEBRIS SHOULD BE REMOVED AT EACH INSPECTION.
4. AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWN DOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72 HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
5. VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.
6. PROPOSED STORM WATER BASIN SHALL BE SEEDED WITH WITH WILD FLOWER SEED MIX.

TYPICAL SECTION - RAIN GARDEN DETAIL

NOT TO SCALE



RAIN GARDEN DETAIL

SCALE: 1"=10'

R. JEFFREY BURD No.9058 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
RJ Burd

REVISIONS

NO.	DATE	DESCRIPTION	BY
15	10/12/2021	FINAL APPROVED PLANS FOR RECORDING	TDB
16	12/14/2021	ADDED NOTING TO FINAL PLANS	TDB
19	03/16/2022	REVISED PER DPW COMMENTS FOR FINAL PLANS	TDB
20	07/15/2022	REVISED PER CITY COMMENTS FOR FINAL PLANS	SRF

SCALE AS SHOWN

N.H. LAND Consultants
SURVEYING•LAND PLANNING•REAL ESTATE
A Veteran Owned Company
PH. 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM
682C FIRST NH TURNPIKE, NORTHWOOD, NH 03261

DETAIL SHEET
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
HEMLOCK WAY REALTY INVESTMENTS, LLC
10 BRICKETTS MILL ROAD, SUITE C, HAMPSTEAD, NH 03841
BOOK 6330 PAGE 796

ROCKINGHAM CO.

JOB NO: 258.00

DATE: SEPTEMBER 23, 2020

DET
SHT. 10 of 10

CITY OF PORTSMOUTH
Planning Department
1 Junkins Avenue
Portsmouth, New
Hampshire 03801
(603) 610-7216

PLANNING BOARD

February 23, 2021

Fritz Family Revocable Living Trust
Edgar H. Fritz Trustee
50 Shore Drive
Northwood, NH 03261

RE: Subdivision for property located at 0 Patricia Drive (LU-20-190)

Dear Mr. Fritz:

The Planning Board, at its regularly scheduled meeting of Thursday, February 18, 2021, considered your application for Preliminary and Final Subdivision approval to subdivide a lot with an area of 137,549 sq. ft. and 414 ft. of continuous street frontage on a private road into two (2) lots as follows: Proposed Lot 1 with an area of 92,908 sq. ft. and 150 ft. of continuous street frontage on a private road; Proposed Lot 2 with an area of 44,641 s.f. and 264 ft. of continuous street frontage on a private road. Said property is shown on Assessor Map 283, lot 1 and lies within the Single Residence A (SRA). As a result of said consideration, the Board voted as follows:

1) To grant a waiver to the Subdivision Regulations -- Section VI(3)(B) Street Rights of Way and Residential Street Minimum Standards to allow 18' of pavement width where 32' is the minimum allowed by finding that specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations.

2) To grant Preliminary and Final Subdivision approval with the following stipulations:
2.1) On Plan Sheet 4 – Update contractor's note to remove asphalt berm on Martha's Terrace to be removed.
2.2) On Plan Sheet 9 – remove reference to "water services to the City of Portsmouth" in note 20 and Proposed Access Easement detail and in note 20 – Sheet 8.
2.3) On Sheet 9 – Note 20 to be revised to "Easement to be provided to the City of Portsmouth over the entire private ROW area for the purposes of accessing water valves and leak detection of the water lines."
2.4) Sheet 9, add to drainage easement note in detail that the easement is to the "City of Portsmouth"
2.5) Rain garden design and detail shall be reviewed and approved by DPW.
2.6) Applicant shall grant and record an easement granting stormwater flowage rights across Lot 11-1 from the Private ROW.
2.7) Property monuments shall be set as required by the Department of public Works prior to the filing of the plat.
2.8) GIS data shall be provided to the Department of Public Works in the form as required by the City.
2.9) The final plat(s) shall be recorded at the Registry of deeds by the City or as deemed appropriate by the Planning Department.
2.10) The Board recommends release of the public portion of the right-of-way to the

developer as a private road as shown on the plans submitted. This is subject to final approval by the City Council.

3) To recommend to the City Council that the private road be renamed to Hemlock Way.

The Board's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Board's decision during this appeal period shall be at the applicant's risk. Please contact the Planning Department for more details about the appeals process.

All stipulations of subdivision approval, including recording of the plat as required by the Planning Department, shall be completed within six (6) months of the date of approval, unless an extension is granted by the Planning Director or the Planning Board in accordance with Section III.D of the Subdivision Rules and Regulations. If all stipulations have not been completed within the required time period, the Planning Board's approval shall be deemed null and void.

This subdivision approval is not final until the Planning Director has certified that the applicant has complied with the conditions of approval imposed by the Planning Board.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Dexter R. Legg, Chairman of the Planning Board

cc: Rosann Maurice-Lentz, City Assessor

Michael Garrepy
Kevin Baum, Esq., Hoefle, Phoenix, Gormley & Roberts, PLLC

A Summary Report on Public Input Relating to Accessory Dwelling Unit (ADU) Regulatory Amendments.

Public Involvment Summary Report

Accessory Dwelling Unit Regulation Amendments

Lukas J. Cowan, Planning Intern
Beverly Mesa-Zendt AICP Planning Director

State Regulatory Context

Accessory Dwelling Unit (ADU) law requires municipalities to allow internal or attached accessory dwelling units in all zoning districts where single-family dwellings are permitted. Minimum provisions include:

- ADUs must provide accommodations for sleeping, eating, cooking, and sanitation;
- Maximum ADU size must not be smaller than 750 square feet;
- When the main dwelling unit is attached to the ADU, an interior door is required and locking that door (or other internal doors) must be allowed.
- Must not limit an ADU to only one bedroom;
- No familial relationship between the occupants of an ADU and the occupants of the main dwelling unit is required; and
- Must not require separate water and sewage systems between the main dwelling unit and the ADU.

Local Regulatory Context

Detached dwelling units are allowed in Portsmouth. There are three types of ADU's in the code, including attached, detached, and garden cottage spaces. Minimum provisions include the following.

- Only one ADU per single-family dwelling on a lot;
- ADU must match the design of the principle unit;
- Property owner must live in the ADU or principle unit; and
- Property owner must comply with an annual certification to confirm residency.

Regulatory Amendment Work Plan

On April 13, the Land Use Committee transmitted the 2022 Regulatory Work Plan to City Council for approval. On April 18, 2022 regular meeting, the City Council approved the 2022 regulatory work plan which included evaluation of proposed amendments for alignment with existing Master Plan goals, City Council adopted goals (2022-2023) and City Council adopted policies (Housing Policy). The work plan further identifies stakeholders and focus group members to be included in public outreach. The work plan consists of three phases:

1. **Phase 1: Code Clean-Up**
   Purpose: Improve regulatory implementation and align with legislative intent. Eliminate ambiguous sections that result in unintended consequences.
2. **Phase 2: Accessory Dwelling Unit Amendments**
   Purpose: Remove barriers and expand the number of eligible properties for ADUs and Senior Housing Facilities.
3. **Phase 3: Incentive Amendments**
   Purpose: Adjust incentives to place a higher emphasis on Workforce Housing.

Both Phase 2 and Phase 3 will include a public input summary which will identify key themes and concerns articulated and captured as part of the public involvement plan. This report summarized public involvement to date for Phase 2 amendments.

Phase 1 Public Involvement

The Public Involvement Plan for Updates to ADU regulations involves three phases:

1. **Small Focus Group Meetings.** Four meetings took place over the course of two weeks from June 9th to June 15th. Staff and a representative/moderator from the Land Use Committee met with representatives from four groups of stakeholders:
   - Previous applicants,
   - Architects,
   - Engineers, and
   - Neighborhood representatives.

   A list of attendees and full summary of comments is provided in Appendix A and Appendix B.

2. **ADU Direct Abutter Survey.** A survey was distributed to over 200 direct abutters of approved ADUs built within the last five years.

   A summary of survey input is provided in Appendix C.

3. Public meetings and public hearings at which time additional input will be invited and will help guide refinements to the proposed amendments.

Staff Note:

- 17 of the 30 ADU's approved since 2017 have had a variance
- 7 of the 17 units required a variance for unit size
- 8 of the 17 units with a variance are garden cottages

Key Themes

1. **Process navigational support is needed.**

   ADU applicants who participated in the focus group meetings described how complicated it was to navigate the various regulations. Participants indicated that the hardest part was just knowing where to get started. Focus group participants pointed out that the city has no step-by-step process for how to build and plan for an ADU. Some applicants hired attorneys or architects to help navigate the process, further increasing the cost of an already expensive project.

2. **Dimensional relief is both an obstacle and a protection.**

   > *"Accessory building garages do not meet the needs for a living unit. The 600 square foot limitation needs to be loosened."* –Portsmouth Architect

   Focus group participants indicated that because of Portsmouth's tight development pattern, zoning relief was often needed, particularly setback relief to allow continued use of the back yard. Unit size limitations have made conversions of accessory structures to garden cottages challenging as well.

Similarly, we heard from focus group respondents that privacy is important to many Portsmouth residents. The current zoning ordinance provides protective provisions addressing separation requirements. In most cases, the square footage maximums are the smallest possible according to New Hampshire state law. The code for a garden cottages reflects that even more so with a maximum unit size of 600 square feet.

3. **There is considerable cost and risk in the process and this is a deterrent.**

The architects and engineers who participated in the focus group meetings addressed the risk that comes with applying for a variance or modification. Focus group participants indicated that cost can run as high as $20,000 for land use approvals, and approval is never guaranteed. This may deter potential applicants by not only making the process more expensive, but also not guaranteeing the approval of a planned ADU.

> *"They have to spend $10,000-$20,000 on the approval process…when we present the feasibility study and present the findings, people have a hard time moving forward with the uncertainties."* – Portsmouth Architect

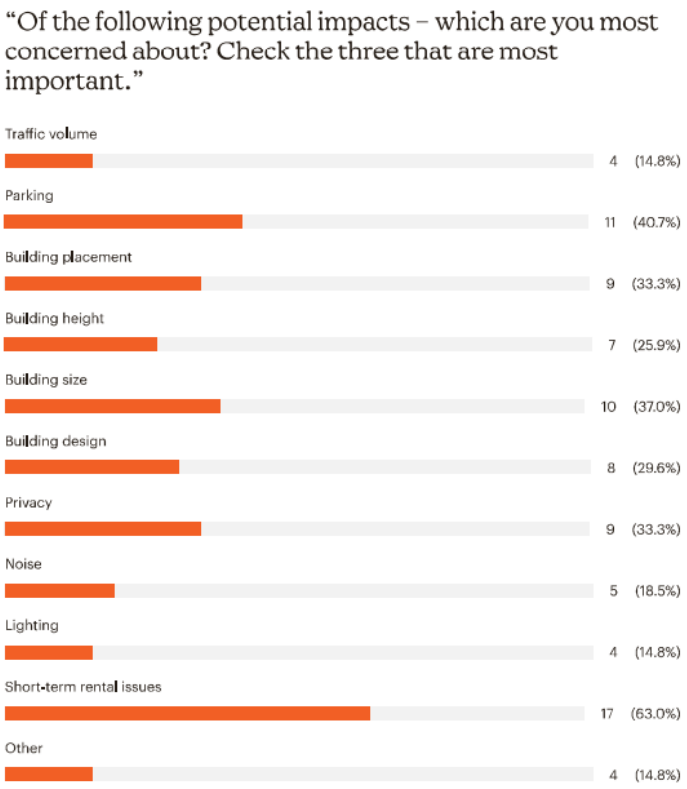
4. **Regulations for ADUs need to be clear and implementable.**

Focus group participants indicated that more clarity is needed in the zoning ordinance for terms like "subordinate to the principal structure" and "architecturally compatible". Participants indicated that these terms are not only very subjective, but hard to define and therefore hard to interpret. The terminology used should be clear and specific so that all parties may be able to understand and follow the zoning ordinance provided to them and community members and abutters can expect consistent application of the regulations.

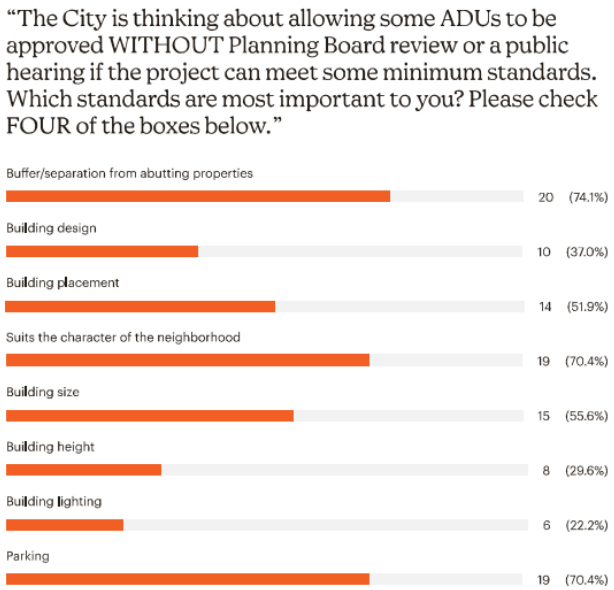
> *"If this is going to be rewritten – the intent needs to be clearly addressed."* – Neighborhood Representative

5. **Foremost among abutters' concerns are: parking, short term rentals, neighborhood character, and buffering and separation.**

Survey respondents identified parking (41%) and short-term rentals at (63%) as impacts that they are most concerned about.



When asked about relaxing restrictions, 70% identified parking requirements as a major standard that needs observed for all ADUs. Similarly, buffering and separation were identified as important (74%). Compatibility with neighborhood character also was also identified as a high priority (70%).



6. **Abutters were generally positive about ADUs.**
   Survey abutters were mostly positive about their experience with ADUs. When given the chance to write optional comments on the positive or negative impact of ADUs, 41% of the responses were positive, while 24% were neutral and 35% were negative.

> Abutter on the impact of ADU's
> *"It is a smart way to make Portsmouth more affordable and to increase housing supply."*

Abutters were split about whether they would consider building an ADU. Nearly half (48%) of respondents said they would consider building or converting a space on their property into an ADU while 52% said they would not mostly citing lack of space or interest as the main reason.

Appendix A

Zoom Focus Groups Response

ADU Applicants (5 attendees)

- Has done 2 – one for himself and one for a client
- Planning process was fairly easy a variance for setback was required.
- Issue has been amount of time it took to get inspections done.
- Planning was good. Not too many complaints
- Not a contractor or in the building trades.
- *"It is like hitting a fly ball to mid-field."*
- *"I'm just an average Joe"* - I have a new house – (fire with old house).
- Wanted to house his mother in an ADU.
- He did the preemptive work on that project.
- In dealing with the city of Portsmouth – no one wants to do it.
- Dealing with inspections is just horrible.
- Website – touching specifically on ADUs - there should be an ADU section - a section based on ADUs.
- *"If you really want to make this process work you need to make in idiot proof."*
- Need an ADU section on the webpage would be helpful.
- How do I know what I need?
- Purpose is family – mom.
- Moderately difficult process. Planning? Inspections? Do I need a variance? Paperwork and documentation could be challenging.
- Did not need a variance.
- There should be a separate process.
- If the city is really serious about making ADUs easier for common folk- sit down with an average person to design your website.
- There are things in some of the applications that are not relevant to the ADU process. Average Joe needs to go through it.
- Garden Cottage – historically detached unit was a workshop and maybe a garage and then a cake bakery.
- Took a long time to get out of inspections. Underlying gas line – upgraded electrical service. Final C/O was not gotten by original applicant – had to redo all the electrical then expose everything for inspections.
- Change of use was interpreted very restrictively by Inspections.
- Building code was very restrictive and would not allow the loft. ADUs should be allowed for the loft. 2018 IBC allows for this.
- *"We need a provision in the zoning code for a tiny house"*
- *"It would be great if this could be done without a CUP and renewed annually"*

- **Staff Note:** Several attendees did not know that there was an annual renewal process.
- The unit was an attached dwelling unit.
- *"Did the process to get it kosher with the city –for parents and for future income."*
- Moderately- difficult process- did have professional help- hired an attorney.
- I did get a variance –most confusing –
- I did not know what I was doing – I was looking for a PDF file – here is what you do—does not exist.
- I had a difficult time between planning, zoning and inspections being going between the different applicable departments.
- The only curve ball was around electricity and I had to have my electricity split.
- *"We need a checklist – Here is the order. You should not need an attorney."*
- 300 square foot studio attached to our existing home for future ground floor living for us in the future - until that time we are renting it out.
- The whole process went very smoothly.
- Couple of things I would recommend. If a person is good at their job it does not qualify them to be a builder. You need to have more support and direction.

Architects (5 attendees)

1. Can you talk about the level of interest your clients have had in ADUs - either here in Portsmouth or in other jurisdictions?

    - Has had one client Pre-Covid and renovated garage.
    - Decided not to go forward with the ADU due to the struggle. Might eventually do it. Not too many clients – the clients think it is too hard.
    - Agrees – immediately "*going before the boards is terrifying"* most people who are interested do not have the resources to pay for the professional services needed.
    - The regulations they perceive to be a lot to think about. A lot of interest but fear that they will spend money and not get to do it.
    - Mostly general business A or B.
    - Often the accessory buildings are near the property line and you are looking at 3 different boards. Adds a level of complication.
    - Has not done an ADU without doing feasibility study.
    - In Elliot there are not variances required.
    - Older children are creating ADUs for elderly parents is getting more common.
    - Small occupancy is at odds with accessibility.
    - The ones that have actually going ahead are the ones that do not have a choice.
    - The reality is that these the expense. They will cost $300K at minimum. If it is an existing structure it is still $200 at minimum.
    - Feasibility in Portsmouth – it is a little more arbitrary but once they find out how much they have to spend -10 to 20 K on the approval process.

- A lot of feasibility studies – when we present the feasibility study and present the findings – people have a hard time moving forward with the uncertainties.
- In Newfields, where there is land – they want them attached. Portsmouth does not have lots of land and "*this is a better use of land without the sprawl".*

2. How do you feel the Portsmouth's regulations for ADUs compare with those from other jurisdictions?

    - Seattle – dramatically different sized city – they actually have preapproved designs for their ADUs and had architects design these and they were approved and done.
    - Most people are not thrilled at spending the legal fees and the architect fees. Seattle takes the architect out of it. This is a wild idea but something to think about for streamlining. No matter how simple an ask, a variance is a risk - you can never be sure if you are going to get it.
    - The term *architecturally compatible* requires professional support and is subjective.
    - You almost always need a variance - you are going to have a garden cottage or DADU inside the setback to get a useable rear yard and most likely for lot coverage.
    - It would be more than just the design – it requires a preapproved floor plan that could provide a path for the variances that would need to be approved.
    - Preapproved designs make it more viable. Recently did one on Richards avenue.
    - ADU regulations are all over the place in the state. State law was very broad. "*One off decisions can provide barriers – Simplification is the key."*
    - In Portsmouth we have all these established neighborhoods. They almost all need lot coverage relief. "*Accessory building garages do not meet the needs for a living unit. The 600 SF limitation needs to be loosened. Within the units they give flexibility on the size give the existing stock that will be converted."*
    - ADUs are challenging everywhere- there is no benchmark from the state – there is nothing good for us to look at.
    - Look at HDC administrative approval - Can we craft something that allows for administrative approval. If it does not increase volume can it be an administrative approval??

3. Which jurisdictions have regulations that you feel are worth reviewing and possibly replicating here in Portsmouth, and why?
    - **Staff Note - Most suggest that they are all over the place.**
4. Based on your experience, which of the following standards prove to be the most challenging for the design and construction of an ADU:
    - Minimum lot size – this is the worst one. A lot of properties cannot fit that requirement I remember a house I worked on at Cornwall and we had to ask for

density relief and 90% of the properties in that area did not meet that requirements.

- *"What accessory dwelling units are really for- single people and sometimes their partner. The minimum lot size has to be chopped in half or 1/3. The lot size requirements in place don't exist very often- you really have to get lucky to have had that lot for years."*
- 600 is a two car garage 1000 is basically a 3 car garage. No additional requirement should be there unless you are in the historic district. "*My neighbor can construct a 3 car garage without any oversight – why would we put any more requirements on an ADU*?"
- Maybe 25 % less setback or some increase in density should be allowed. The door that is required between – why does that have to be in this – I would have to do that anyway.
- Extra regulations other than parking do not make sense.
- You are ruling out single parents because there is no way to get that second bet room in.
- The size is extremely challenging. We are trying to make the most of what we can with what we have. We are strong arming the people who are trying to do something good.
- The lot coverage is a non-starter. The ordinance is getting into design – no windows greater than 8 feet of height – this gets us to the point where the regulations are designing where the architects should be designing.
- Getting into design and affecting egress- that is part of the building code.
- Has to come down to a policy adjustment to the BOA. We need to eliminate the variances. Most of the houses are too close. Going to the BOA with some confidence that the variance will get approved.

Engineers (5 attendees)

1. Can you talk about the level of interest your clients have had in ADUs - either here in Portsmouth or in other jurisdictions?
   - We have had a couple of clients because sometimes there are septic upgrades.
   - Not so much in Portsmouth but some Amherst. There is a lot of interest in Rye
   - We have had a few – we permitted one that did require variances. "*The permitting problems are part of the process but the economics are hard".*
   - Inspections has been a problem as well with the building code. The zoning code and building code have been inconsistent.
   - I did a couple in Londonderry and a couple in Merrimac – not too many in Portsmouth
   - I only did one but most are homeowner and architect driven.
2. How do you feel the Portsmouth's regulations for ADUs compare with those from other jurisdictions?

- The first item in the zoning requires additional lot size in the GR district- a lot of times that is a component that is a deterrent. Lot size requirements.
- One unit per lot is restrictive. And you are restricted by the size of the unit. If you have to double the lot size there is no incentive to do it. Amherst allows you to double the density.

3. Based on your experience, which of the following standards prove to be the most challenging for the design and construction of an ADU:
    - I think the rest of the ordinance makes sense. Parking can be a problem sometimes but the regulations make sense.
    - The façade area along the front – how does that work with a corner lot – the 40% visibility requirements.
    - Make dimensional standards waivable rather than zoning – it is a more streamlined process
    - The cost of a two car garage is expensive – ADUs even more so.
4. What regulatory changes would you recommend we consider to facilitate greater ADU conversion/construction in Portsmouth?
    - Limiting the number of bedrooms from 2 to 1 might detract from being short term rental in the future.
    - Costs are still going up. 300k is on the low side for a new detached unit.
    - You should consider bringing in financial representatives. One income may be required to support two units, which can be a problem.
    - Owner occupied is a barrier.
    - Permit review is hard – architects are doing the work. Homeowners are also doing the work. The biggest obstacle is running through a difficult process.
    - Approvals are 20k to 30k. There is risk in the process.
    - Then there are the other costs. Surveying especially in downtown Portsmouth. In Downtown there is more cost to get out of the ground.
    - Everybody is talking about staff review but no one has done it.
    - Administrative approval would be problematic for the abutters who would not have opportunities to speak concerning an application.

Neighborhood representatives (3 attendees)

1. Do you have any ADUs that you are aware of in your neighborhood and if so, have there been any positive or adverse impacts that you are aware of.
    - We have one carriage house conversion – same lot coverage no impacts to our home – no negative consequences that I am aware of.
    - We have several in the Plains neighborhood – three years ago one was approved that was never built.

- There is an ADU that will be built next to us. It will be a 4000 SF building built above a four car garage and what is allowed as a result and what the PB is approving based on their interpretation of the ordinance.
- I would like to know what the intent of the ordinance is and how do you define that.
- This could impact the way neighbors feel – two rowdy college students would be more concerning. Why is this being brought forth at this point?
- What is the number we are trying to achieve?
- I have a problem with how it has been approved next to my property.
- Privacy is a concern.
- Short term rental is a concern.
- Architecturally consistent needs to be defined.
- One of our properties is non-conforming – with two units. If a lot is really non-conforming, you could not add an ADU.
- Privacy is important.
- In neighborhoods like the McDonough St. neighborhood, the lots are small.
- "If you move grandma into the unit – that is all fine and dandy but when grandma dies that is a different story".
- If it is already a lot pretty well used or non-conforming and that carriage house gets converted. That needs to be considered.

2. What impacts are you most concerned about?

    - Traffic volume
    - Off-Street parking
    - Building Placement
    - Building Height
    - Building Size
    - Building Design
    - Privacy
    - Noise
    - Lighting
    - Short term rental

    - If it was adjacent to my home – all of those things would be concerning.
    - If you live in a single-family neighborhood you have an expectation to live in a single- family neighborhood. I don't have a problem with an ADU but I would want to address all those.
    - Each situation is different. One thing that is not on the list is drainage. In our neighborhood – any change impacts water in our basement. "*A little closer to the lot line may not impact privacy but may impact drainage. I really don't care about building design – that is least on the list".*

- I am in two neighborhoods. The concern is that a lot of the times everyone is looking for a variance.
- An accessory building is unique – usually in a SF neighborhood. Max size needs to be more clearly defined.
- Going before a board is very disconcerting – I have seen it. The Board does not live there.
- If the neighbor is a problem, then it is only going to get worse.
- If this is going to be rewritten – the intent needs to be clearly addressed.
- An accessory is adding another unit-but adding it is a bigger impact. You take away green space and add a new neighbor and should be owner occupied and that should be checked. Make sure we avoid the Air B and B situation.
- There should be limits on size.
- We should probably understand why some folks don't actually build these.
- Potential impacts – you don't know until it happens to you and you don't know until it is built.
- I have some concerns about a number of these potential impacts.
- Building placement is a concern.
- The term clearly subordinate is vague to me. Apparently, what is subordinate to the PB is different than what I think. Clearly subordinate and less than are not the same thing.
- Neighbors approved ADU is five inches shorter than his home. That is not clearly subordinate. I was told by the PB member that this ordinance was written purposely vague.

Appendix B: Focus Group Meeting Attendees

Stakeholder Group	Meeting Date /Moderator	Name/Invited Attendee	Affiliation/Neighborhood	Attended
Engineers	**Rick Chellman**			
	6/14/22	Eric Weinrieb	Altus Engineering	
		Corey Colwell	TF Moran	
		Neil Hansen	Tighe & Bond	
		Joe Coronotti	Jones and Beach	
		Matthew D Beebe	MNB Design	
		Pat O'Keefe	Torrington/Dolben	
		Gregg Mikolaities	August Consulting, PLLC	
		John Chagnon	Ambit Engineering	
Architects	**Elizabeth Moreau**			
	6/13/22	Anne Whitney	Gates Street	
		Carla Goodknight	Cummings Architects	
		Brendan McNamara	Brendan McNamara Residential	
		ROBERT HARBESON AIA	Market Square	
		Lisa Destefano	Maugel DeStefano Architects	
		Jenn Ramsey	Soma	
		Richard Desjardins	McHenry Architecture	
ADU Applicants	**Joanna Kelley**			
Garden Cottage (constructed)	**6/9/22**	Tracy Kozak	28 WALDEN ST	
Garden Cottage (constructed)		Christopher and Anna Shultz	140 ORCHARD ST, Portsmouth, NH 03801	
Garden Cottage (constructed)		Butch Ricci	36 Artwill	
AADU (Constructed)		Patrick Liam Hughes 22-2	65 Fields Road	
AADU (Approved)		Chuck Dudas	32 Monteith St	
Garden Cottage (constructed)		Matthew Beebe	81 Lincoln and 50 Mt. Vernon	
Attached ADU		Kenton Slovenski	175 Grant Ave, Portsmouth, NH 03801	
Attached ADU		Shawn Dick	869 Woodbury Ave, Portsmouth, NH 03801	
Garden Cottage		Mark Baldassare	191 Sagamore Avenue, Portsmouth, NH 03801	
Attached ADU		Paul Messier	171 WALKER BUNGALOW RD PORTSMOUTH, NH 03801	
Neighborhood Representatives	**Rich Blalock**			
	6/15/22	Kathy Bergeron	(Wibird Street), Single family neighborhood /Commercial real estate appraiser	
		Karina Quintans	Islington Street neighborhood	
		Robin Husslage	27 Rock Street / Islington Creek	
		Liz Bratter	159 McDonough St	
		Liza Hewitt	726 Middle Road	

7-15-2022

Stakeholder Group	Meeting Date /Moderator	Name/Invited Attendee	Affiliation/Neighborhood	Attended
		Jim Lee	520 Sagamore Ave	
		Joan Hamblet	Pannaway Manor	
		Jackie Cali Pitts NH State Rep	Bedford Way	

Are there any ADUs that you are aware of in your neighborhood?	If yes, have there been any positive or negative impacts that you are aware of? Please explain.	Of the following potential impacts, which are you most concerned about? Check the three that are most important.	If you checked other above, please explain.	The City is thinking about allowing some ADUs to be approved WITHOUT Planning Board review or a public hearing if the project can meet some minimum standards. Which standards are most important to you? Please check FOUR of the boxes below.	Would you consider building an ADU next to your home or converting a building on your property to an ADU?	If you checked yes, for what purpose would you add an ADU? Please check all that apply.	If you answered 'other' above, please explain.	If you answered 'no' above, why not? Please check all that apply.	Thank you for completing this survey. Your feedback is very important to this process and we appreciate your time and interest in assisting the City with this process. Is there anything else you'd like to add about ADUs?
Yes	Completely positive mother-son arrangement--necessary for both. Adequate driveway parking. No privacy issues. Owners were not allowed to install dormer windows on side facing neighbor's backyard--incredibly stupid rule.	Building design, Parking, Short-term rental issues		Buffer/separation from abutting properties, Building design, Parking, Suits the character of the neighborhood	No			Just not interested, Not enough space, Prefer my privacy	
Yes	No	Building height, Building placement, Short-term rental issues		Buffer/separation from abutting properties, Building height, Building size, Suits the character of the neighborhood	No			Just not interested, Neighbors might object	
Yes	Gives someone the ability to live in Portsmouth that is lacking housing	Building height, Building placement, Building size		Buffer/separation from abutting properties, Building lighting, Building placement, Building size	Yes	For additional income			
Yes	The previous tennant was respectful. The current tennent is respectful.	Parking, Privacy, Short-term rental issues		Buffer/separation from abutting properties, Parking	No			Just not interested, Not enough space, Prefer my privacy	
Don't know		Building placement, Privacy, Short-term rental issues		Buffer/separation from abutting properties, Building size, Parking, Suits the character of the neighborhood	No			Neighbors might object, Prefer my privacy	
Yes	We have not been impacted by this dwelling in any way.	Building design, Building height, Building placement, Parking		Building design, Building size, Parking, Suits the character of the neighborhood	Yes	To accommodate a family member			
Yes	Neither. It is fine	Other	My neighbors have been fantastic with their ADU, so it doesn't bother me	Buffer/separation from abutting properties, Building design, Building placement, Parking	Yes	Personal residence so the main house could be rented or used by another family member.			
No		Building design, Parking, Short-term rental issues		Building placement, Building size, Parking, Suits the character of the neighborhood	Yes	To accommodate a family member			
Yes	Positive, affordable housing	Building design, Parking, Short-term rental issues		Buffer/separation from abutting properties, Parking, Suits the character of the neighborhood	No			Just not interested, Not enough space, Prefer my privacy	
No		Parking, Privacy, Short-term rental issues		Buffer/separation from abutting properties, Building size, Parking, Suits the character of the neighborhood	Yes	For additional income, To accommodate a family member			Keep the requirement that one unit be owner occupied.
Don't know		Parking, Short-term rental issues, Traffic volume		Buffer/separation from abutting properties, Building placement, Parking, Suits the character of the neighborhood	Yes	For additional income			

Yes	Negative. I spoke at a planning board meeting on [date] with regards to the negative impact the property at [address] has had on us. Other neighbors attended as well. We are direct abutters, our home of 22 years is about 3 feet from from their rental in our backyard. Concerns I shared were loss of privacy, noise, beer bottles in our yard, laundry on our fence, use of our water spiket attached to our fence, the fact that on a regular basis a motel was operating in our backyard. My understanding in corresponding with primarily [name] at that time and [name] at the time, included the property owner being served, I believe 2, cease orders. They have continued to have people coming and going since then. Most recently a woman that was staying there had a smoke/fire issue. The alarm went off and smoke was pouring out of the back door. I walked over and asked what was happening and should I call the fire dept (the owners weren't home) and she said no and closed the door. My concerns were that the property is about 5 feet from our garage.	Lighting, Noise, Other, Privacy, Short-term rental issues	We have had "vacationers" come into our yard before, not invited. We didn't buy our home to have a motel in our backyard. The building was there before these owners took over but was not used as a VRBO. Next door is a property of rentals with an absent landlord that turns over frequently so I would assume they don't mind.	Buffer/separation from abutting properties, Building height, Building lighting, Building placement, Building size, Parking	No			Just not interested, Neighbors might object, Other, Prefer my privacy	The accessory dwelling unit is often used for overnight guests of the property owners as well. I am not opposed to VRBO's but to use them in tight knit neighborhoods where people are paying a lot of money in taxes isn't right. There are hundreds and hundreds of hotel rooms in Portsmouth that folks can stay in.
Yes	Great idea. No negative impacts.	Building size, Short-term rental issues		Building design, Building size, Suits the character of the neighborhood	Yes	For additional income, Other	To increase the local housing stock		
Don't know		Noise, Parking, Short-term rental issues		Buffer/separation from abutting properties, Building design, Building placement, Parking	No			Just not interested	
Yes	Positive. It is a smart way to make Portsmouth more affordable and to increase housing supply.	Other	I would rather see a more permissive short term rental environment. Any short term rental issues should be handled on a case by case basis, not by blanket bans.	Building lighting, Building placement, Parking, Suits the character of the neighborhood	Yes	For additional income, Personal residence so the main house could be rented or used by another family member.			
Yes	Negative. It does not fit in the neighborhood, towers over my property and lights shine in my backyard. I greatly regret writing a letter for my neighbor to help him along the process.	Building design, Building height, Building placement, Building size, Lighting, Parking, Privacy, Short-term rental issues		Buffer/separation from abutting properties, Building design, Building height, Building lighting, Building placement, Building size, Parking, Suits the character of the neighborhood	No			Not enough space	They should fit the characteristic of the neighborhood and take existing neighbors welfare into account. Variances are set for a reason. I'd hate to see my neighborhood turn into a rental hub.
Don't know		Building placement, Building size, Short-term rental issues		Buffer/separation from abutting properties, Building placement, Parking, Suits the character of the neighborhood	No			Just not interested	
Yes	vehicles block sidewalks	Noise, Short-term rental issues, Traffic volume		Buffer/separation from abutting properties, Building design, Parking, Suits the character of the neighborhood	No			Just not interested, Other, Prefer my privacy, Too complicated, Too expensive	Continue with extensive reviews and oversight by city
No		Building placement, Building size, Short-term rental issues		Buffer/separation from abutting properties, Building size, Parking, Suits the character of the neighborhood	No			Just not interested, Neighbors might object, Too complicated	

Yes	negative	Parking, Short-term rental issues, Traffic volume		Building placement, Parking, Suits the character of the neighborhood	No			Just not interested	
Yes	[requested to remain anonymous]	Building design, Building height, Building placement, Building size, Lighting, Noise, Other, Privacy	[requested to remain anonymous]	Buffer/separation from abutting properties, Building design, Building height, Building lighting, Building placement, Building size, Parking, Suits the character of the neighborhood	No			Just not interested, Not enough space, Too expensive	[requested to remain anonymous]
Don't know		Building height, Parking, Traffic volume		Buffer/separation from abutting properties, Building height, Parking	Yes	For additional income, Other, Personal residence so the main house could be rented or used by another family member, To accommodate a family member	One option might be to rent to a grad student during the academic year and have the ADU available for daughter and grandchildren when they visit for two months in the summer from abroad.		1) The reason I mentioned height is that when a neighbor on New Castle Avenue renovated his garage (and I naively approved decades ago) is that the additional height unexpectedly blocked my view of the sunset. Height is fine except when it has effects like that. 2) I would also be concerned if the increase in property taxes outweighed the possible revenue benefit. 3) I think energy efficiency and affordability of maintenance (e.g. vinyl siding) should trump historic district worries, as long as the ADU isn't trashy. 4) I think if the number of ADUs is limited in a location such as my area, the neighbor who has lived there continuously longer, has a greater need, &/or is older, should have priority. 4) I would like to have the option of adding a carport; too old and small to clear snow off car. 5) I think septic tanks should not be allowed in areas with a high water table. (And I think there is septic drainage under my street which causes the pavement to crack and need fixing just about every year, plus may make my sump pump need to run more often during certain weather events. 6) I'd like to know about low interest loans for seniors who would benefit from an ADU. 7) I think fire pits should not be allowed in close neighborhoods where their pollution affects neighbors. 8) Perhaps the number of cars should be limited. 9) My lawn is a good off-street parking area. 9) There are new energy efficient modular buildings/constructions that should not be snobbishly disdained. 10) A list of recommended energy efficient contractors would be appreciated. 11) My house is too small for my situation now. It was great for me as a single mother of one child, but my family has grown, plus I'd like room for my boyfriend. I very much appreciate that Portsmouth is considering simplifying the process for attaining ADUs!
Yes	rarely used, as only family of property owner uses it	Building size, Noise, Privacy		Buffer/separation from abutting properties, Building height, Building placement, Building size	Yes	For additional income			
No		Building design, Building size, Privacy		Building design, Building size, Suits the character of the neighborhood	Yes	For additional income			
Yes	Positive impacts are: affordable housing without needing a bureaucracy to support it (which keeps taxes down thus also helping affordability). Greater density helps businesses downtown without needing extra parking. Small house in an urban core relies on existing infrastructure thus saving us all money. If scientists are right, in the coming years I believe we need to reduce our dependence on cars and the enormous infrastructure costs of suburbia and the irony is, I believe, that Portsmouth is proof that the older way of living in a walkable urban core like Portsmouth is a more desirable way to live	Building design, Building size		Buffer/separation from abutting properties, Building placement, Building size, Suits the character of the neighborhood	Yes	Other	All of the above		I would like to see the city keep all planning board approvals with guidance to the planning board that ADUs are strongly encouraged. I am considering an ADU and I welcome the planning boards role. I want to make sure that my neighbors are on board and that I am doing something that is in line with the city's guidelines. Without the planning board, I fear, that lawyers are going to become an enormous expense and burden on both the city and us residents. Thank you so much for taking the time to ask residents like me for our opinions!!!
No		Building placement, Building size, Short-term rental issues		Building design, Building height, Building placement, Building size	Yes	To accommodate a family member			ADUs seem like a good way to help an older or younger family member afford to live in the area and be part of the community while at the same time, have their own privacy and independence. Thank you for being thoughtful about how to make it work in our city.

Yes	A yurt in a neighbors yard - other than being an eyesore, no other negative impacts	Building height, Lighting, Privacy		Buffer/separation from abutting properties, Building height, Building lighting, Suits the character of the neighborhood	No			Just not interested, Not enough space	