PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

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

7:00 PM Public Hearings begin **August 17, 2023**

AGENDA

REGULAR MEETING 7:00pm

I. PRESENTATIONS

A. Presentation on Capital Improvement Plan Process and appoint a CIP Advisory Committee

II. APPROVAL OF MINUTES

A. Approval of the July 20, 2023 meeting minutes

III. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

SITE PLAN REVIEW

A. REQUEST TO POSTPONE The application of **Banfield Realty, LLC (Owner)**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. Said property is shown on Assessor Map 266 Lot 7 and lies within the Industrial (I) District. **REQUEST TO POSTPONE**

IV. 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 **Tanner Family Revocable Trust (Owner),** for property located at **380 Greenleaf Avenue** requesting a Wetland Conditional Use Permit according to Section 10.1017 of the Zoning Ordinance for the construction of a new 20 x 20' one-story garage on a residential property with various additions of native buffer plantings and areas of storm water improvement to mitigate any impervious impacts from the garage. The proposal includes removal of 885 square feet of impervious asphalt, installation of 2' drip edge of crushed stone around the perimeter of the garage and 484 square feet of pervious pavers leading up to the garage where asphalt currently exists. Additional planting beds are proposed in areas of existing asphalt. Said property is located on Assessor Map 243 Lot 63 and lies within the Single Residence B (SRB) District. (LU-23-62)

B. **REQUEST TO POSTPONE** The application of **Banfield Realty, LLC (Owner)**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. Said property is shown on Assessor Map 266 Lot 7 and lies within the Industrial (I) District. **REQUEST TO POSTPONE** (LU-20-259)

V. 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 **Nerbonne Family Revocable Trust (Owner)**, for property located at **189 Gates Street** requesting to modify conditions of approval of the previously approved Conditional Use Permit for an accessory dwelling unit granted on April 21, 2022. Said property is shown on Assessor Map 103 as Lot 6 and lies within the General Residence B (GRB) and Historic Districts. Said property is located on Assessor Map 103 Lot 6 and lies within the General Residence B (GRB) and Historic Districts. (LU-22-30)

B. The request of **Whitney and Robert Westhelle (Owners)**, for property located at **198 Essex Avenue** requesting a a Wetland Conditional Use Permit according to Section 10.1017 of the Zoning Ordinance for the following: Demolition of the existing garage and breezeway and construction of a new 753 square foot attached garage with a patio and deck. Construction of a new addition located 62 feet from the wetland and completely within the 100-foot buffer resulting in total impervious impacts of 993 square

feet. Said property is located on Assessor Map 232 Lot 128 and lies within the Single Residence B (SRB) District. (LU-23-88)

C. The request of **Aviation Avenue Group LLC (Applicant)**, for property located at **80 Rochester Avenue (*100 New Hampshire Avenue*)** requesting Amended Site Plan Approval for construction of a 101,200 sq. ft. footprint including 4,700 sq. ft. of office space and associated site improvements consisting of parking, loading docks, underground utilities, landscaping, lighting, and a stormwater management system. Said property is located on Assessor Map 308 Lot 1 and lies within the Pease Industrial (PI) District. (LU-22-210)

VI. OTHER BUSINESS

A. Chairman updates and discussion items

B. Planning Board Rules and Procedures

C. Board discussion of Regulatory Amendments, Master Plan & other matters

VII. ADJOURNMENT

https://us06web.zoom.us/webinar/register/WN_-VKb6v66Sxa1hQWq9tK9_A

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

Memorandum

To: Planning Board
From: Peter Stith, Planning Manager
Date: August 17, 2023
Re: Recommendations for the August 17, 2023 Planning Board Meeting

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I. PRESENTATIONS

A. Receive a presentation on the Capital Improvement Plan Process and appoint a CIP Advisory Committee.

Background

The Capital Improvement Plan (CIP) is both a financial and infrastructure planning tool that sets forth a multi-year schedule and financing strategies for accomplishing public capital projects that both maintain safe quality city infrastructure and assist in the achievement of Citywide Goals. Careful development of and adherence to the CIP ensures that needed capital projects are accomplished within the City's financial capability. In combination with the annual City budget, the Capital Improvement Plan has a significant impact on the planned allocation of fiscal resources and is thus one of the most important documents considered by the City Council.

State/Local Regulatory Context

RSA 674.5: Capital Improvement Program

"674:5 Authorization. – In a municipality where the planning board has adopted a master plan, the local legislative body may authorize the planning board to prepare and amend a recommended program of municipal capital improvement projects projected over a period of at least 6 years.…

The capital improvements program may encompass major projects being currently undertaken or future projects to be undertaken with federal, state, county and other public funds. The sole purpose and

effect of the capital improvements program shall be to aid the mayor or selectmen and the budget committee in their consideration of the annual budget."

City Charter

City Charter Section 7.6 - Capital Program:

The Manager shall prepare and submit to the Council a six (6) year capital program at least three (3) months prior to the final date for submission of the budget (May 15). The program shall include:

- *A general summary of its content;*
- *A list of all capital improvements proposed during the next six (6) fiscal years;*
- *Cost estimates, methods of financing, recommended time schedules for each improvement; and*
- *Estimating annual operating and maintenance costs.*

The purpose of the CIP is to:

1. Implement needed improvements on a scheduled basis
   - Provides a complete picture of the City's major development needs
   - Coordinates activities of various City departments and agencies
   - Assists in implementing recommendations of the City's Master Plan
2. Forecast future allocation of fiscal resources
   - Establishes fiscal priorities for projects
   - Aids in the proper utilization of funding sources
3. Help plan for future City expenditures
   - Discourages piecemeal improvements and duplication of expenditures
4. Ensure capital project needs are provided within the City's financial capability
   - Informs the taxpayers of anticipated future improvements
   - Helps to schedule major projects to avoid large fluctuations in the tax rate

As used in the CIP, a capital improvement project is defined as a major fiscal expenditure that falls into one or more of the following categories:

- ✓ Land acquisition;
- ✓ Construction or expansion of a public facility, street, utility or public infrastructure;
- ✓ Rehabilitation of a public facility or public infrastructure provided the cost is $50,000 or more;
- ✓ Design work or planning study related to a capital project or implementation of the Master Plan;
- ✓ Any item or piece of equipment, non-vehicular in nature, that costs more than $50,000 and has a life expectancy of 5 or more years; or
- ✓ Replacement and purchase of vehicles which have a life expectancy of more than 5 years or cost more than $50,000.

Plan Development Process

The capital planning process is coordinated by the Finance and Planning Departments under the direction of the City Manager. Capital project requests are initially formulated by City department heads and submitted to the Finance Department. Members of the public may

also submit project requests, which are reviewed by City departments and incorporated into the departmental project submissions as appropriate.

CIP projects originate from three sources.

- ✓ Capital Improvement Plan from the Prior Fiscal Year
- ✓ City Staff
- ✓ Residents

Staff works to update the prior year's CIP projects to reflect the current status, project needs and costing. After city departments and residents submit their new requests for capital project, staff works with the City Manager to prioritize them by utilizing the following:

- **Project requirements** – Is the project required to meet legal, compliance, or regulatory requirements?
- **Timing** – How soon does the project need to be implemented to address the needs identified?
- **Strategic alignment** – To what extent is the project aligned with other city projects, policies, processes?
- **Public value** – How much value does the outcome of this project provide to the general public? How much public support is there for implementing this project?
- **Finance planning** – Is the project fundable in the time frame identified, are there available funding sources for this project?

Although the factors above are consistently utilized in the prioritization process, other factors, such as urgent community needs or public health and safety, may also contribute to the final project placement, allowing the process to be nimble and responsive to emerging community needs.

Planning Board Advisory Committee and City Council Adoption

The Planning Board appoints a three-member Advisory Committee to review the projects in the initial draft CIP. The Finance Department incorporates the Advisory Committee's recommendations into a revised form of the CIP which is then reviewed by the Planning Board. The Planning Board holds a public hearing and votes to recommend the adoption of the document to the City Council. The City Council holds a public hearing and adopts the CIP in accordance with City Charter requirements. Once adopted, the CIP is utilized in the development of the annual budget in accordance with RSA 674.5.

Financing

Capital improvement projects are funded from a variety of sources. These funding sources include: General Fund (GF) Capital Outlay; Federal/State Grants; Bond or Lease; Revenues (Parking, Water and Sewer); State Revolving Loan Fund (SRF) and Public Private Partnerships (PPP).

General Fund – Capital Outlay – One method used for financing capital projects is through the use of the General Fund – Capital Outlay. The General Fund includes the money raised by the local property tax for a given year. When a project is funded with General Fund revenues,

its entire cost is paid off within the year. The intent is to budget annually a certain amount from the General Fund (approximately 2% of previous Fiscal Year General Fund total Budget) to address City General Fund priorities.

Grants – One source of grants is from other levels of government, for example, the Environmental Protection Agency, the NH Department of Health and Human Services, U.S. Housing and Urban Development, NH Department of Environmental Services, and the NH Department of Transportation. Generally, these Federal and State sources provide an outright grant or matching funds to go with locally raised funds. The City also pursues non-governmental private grants when applicable.

General Obligation Bonds – Bonds are used to finance major municipal capital projects. These are issued for a period of time generally extending from ten to thirty years during which time principal and interest payments are made. They are secured by the full faith and credit of the Municipal Government. This type of payment has the advantage of allowing the costs to be amortized over the life of the project and of allowing taxpayers or rate payers to pay a smaller amount of the project's cost at a time. However, they do commit the City's resources over a long period of time and decrease the flexibility of how yearly revenues can be utilized. The City's bonding capacity is a limited resource. All projects that are to be bonded should meet minimum eligibility criteria and must have a useful life of at least equal to the bond terms. **Projects that are funded through bonds must go through an additional process, after the adoption of the CIP and the budget, of authorization by the City Council after a public hearing.**

Revenues – The City has two established Enterprise Funds (Water and Sewer). The needs for these two divisions are met through the revenues raised from providing that particular service. Therefore, there is no impact on the City's tax rate. Additionally, the City has established a Parking and Transportation Fund (Special Revenue Fund). Revenues derived from the City's parking functions are transferred to this fund in order to operate the City's parking and traffic related activities.

State Revolving Loan Fund (SRF) – This is a program offered through the NH Department of Environmental Services for the purpose of providing low interest rate funding for approved water pollution control projects. State approval of applications does not bind the City to any of the individual projects but does lock into a low interest rate loan. Upon completion of projects, the loan becomes a serial bond payable by the City of Portsmouth Sewer or Water Fund to the State of NH. In addition, the City applies for State Aid Grant (SAG) funding to assist in repaying SRF loans up to 30% of the total project cost.

Public Private Partnership – This method of financing involves joint funding of a particular project between the City and one or more private sector or non-governmental partners. This method is used for projects that will benefit the partners and help to minimize costs to local taxpayers.

Deciding on which method of financing should be selected for a given project depends on a number of factors. These include the cost of the project, its useful life, the eligibility of the project to receive funds from other than local taxes, long-term and short-term financial obligations of the City and a project's relative priority in terms of implementation. The Capital Improvement Plan seeks to maximize the potential benefits from all revenue sources.

Timeline

- August 17, Process Kick Off – Planning Board Presentation
- October - Citizen requests and City department project request reviewed/ financials prepared
- October/November- Planning Board Advisory Committee meets to review draft CIP
- November/December – Planning Board holds a public hearing and recommends the adoption of the CIP by the City Council
- January/February/March – City Council holds a public hearing and adopts CIP.

II. APPROVAL OF MINUTES

A. Approval of the July 20, 2023 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 July 20, 2023 regular meeting and vote to approve meeting minutes with edits if needed.

III. DETERMINATION OF COMPLETENESS

SITE PLAN REVIEW

B. **REQUEST TO POSTPONE** The application of **Banfield Realty, LLC (Owner)**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. **REQUEST TO POSTPONE**

Staff Note: The Applicant was before TAC in August for a subdivision proposal and with submit applications for the subdivision and Wetland Conditional Use Permit for the September meeting.

IV. PUBLIC HEARINGS – OLD BUISNESS

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.

C. The request of **Tanner Family Revocable Trust (Owner),** for property located at **380 Greenleaf Avenue** requesting a Wetland Conditional Use Permit according to Section 10.1017 of the Zoning Ordinance for the construction of a new 20 x 20' one-story garage on a residential property with various additions of native buffer plantings and areas of storm water improvement to mitigate any impervious impacts from the garage. The proposal includes removal of 885 square feet of impervious asphalt, installation of 2' drip edge of crushed stone around the perimeter of the garage and 484 square feet of pervious pavers leading up to the garage where asphalt currently exists. Additional planting beds are proposed in areas of existing asphalt. Said property is located on Assessor Map 243 Lot 63 and lies within the Single Residence B (SRB) District. (LU-23-62)

Project Background

This application proposes the construction of a new 20 x 20' one-story garage on a residential property with various additions of native buffer plantings and areas of stormwater improvement to mitigate any impervious impacts from the garage. This property consists of a large wetland system and is completely within the 100' wetland buffer. AS noted in the description, the project includes removal of 885 square feet of impervious asphalt and the garage will be located on a portion of the area where impervious asphalt currently exists. A 2' drip edge of crushed stone is proposed around the perimeter of the garage and 484 square feet of pervious pavers will be installed leading up to the garage where asphalt currently exists.

Project Review, Discussion, and Recommendations

The applicant is going before the Board of Adjustment on August 15th, requesting a variance to allow an accessory structure to be in front of and closer to the street than the principal structure. The project has been before the Conservation Commission. See below for details.

Conservation Commission

The Conservation Commission, at its regularly scheduled meeting of Wednesday, June 14, 2023, considered the application and voted to recommend approval of the Wetland Conditional Use Permit to the Planning Board with the following conditions:

1. The applicant shall provide detailed specifications for the proposed pervious pavers including a cross-section plan and information about how they will be installed within the driveway area.
2. The applicant shall provide a maintenance plan for the proposed pervious pavers.

Staff Analysis

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

   The applicant is proposing to build the garage on an area of already disturbed and impervious land within the buffer. The overall project will be reducing the amount of impervious surface on the property and will be infiltrating stormwater and

further buffering the wetland through planting beds.

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

   The entirety of this property is either within the wetland or the wetland buffer. There is no alternative location to build and the applicant is proposing to build in an existing disturbed area to minimize further impact to the buffer.

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

   The applicant is proposing an overall reduction in impervious area to the site. This proposal will increase the number of plantings in the buffer while also helping to infiltrate and slow stormwater on the property due to added crushed stone drip edges.

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

   The applicant is proposing no disturbance to the natural vegetative state on the property. The existing asphalt will be removed, and a garage and pervious pavers will be placed. Additional plantings will add to the vegetated buffer.

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

   While the entire parcel is within wetland and buffer boundaries, the applicant is proposing to build in an area that is already impervious and will be significantly reducing existing impervious area while offsetting impacts with additional plantings, stormwater controls and pervious pavers.

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

   The applicant is not proposing to disturb any area within the first 25’ of the wetland boundary. Disturbances within the buffer will be offset with the removal of asphalt, the addition of native buffer plantings and stormwater controls.

Planning Department Recommendation

Wetland Conditional Use Permit

1) Vote to find that the Conditional Use Permit application meets the criteria set forth in

Section 10.1017.60 and to adopt the findings of fact as presented.

(Alt.) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.1017.60 and to adopt the findings of fact as amended and read into the record.

2) Vote to grant the Wetland Conditional Use permit with the following conditions:

- *2.1) The applicant shall provide detailed specifications for the proposed pervious pavers including a cross-section plan and information about how they will be installed within the driveway area.*
- *2.2) The applicant shall provide a maintenance plan for the proposed pervious pavers.*

IV. PUBLIC HEARINGS – OLD BUISNESS

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.

B. REQUEST TO POSTPONE The application of **Banfield Realty, LLC (Owner)**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. Said property is shown on Assessor Map 266 Lot 7 and lies within the Industrial (I) District. **REQUEST TO POSTPONE** (LU-20-259)

Staff Note: The Applicant was before TAC in August for a subdivision proposal and anticipates submitting applications for the subdivision and Wetland Conditional Use Permit for the September meeting.

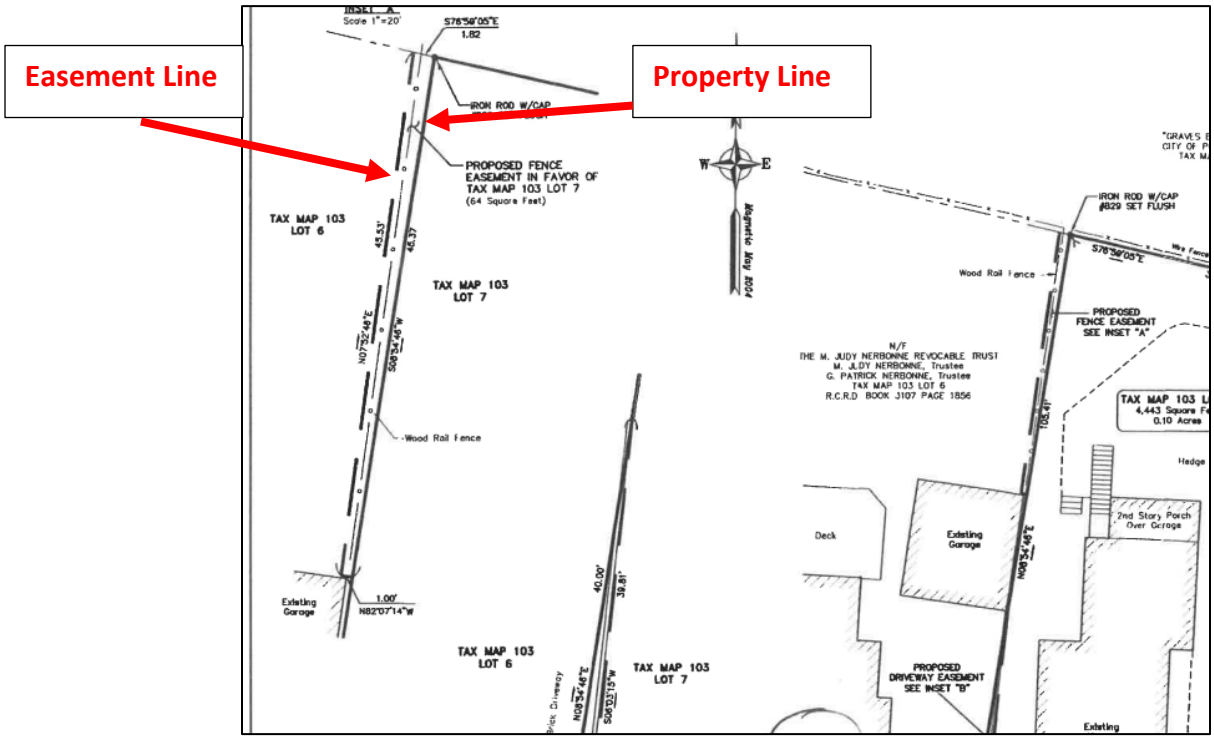
V. PUBLIC HEARINGS – NEW BUSINESS

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 **Nerbonne Family Revocable Trust (Owner)**, for property located at **189 Gates Street** requesting to modify conditions of approval of the previously approved Conditional Use Permit for an accessory dwelling unit granted on April 21, 2022. Said property is shown on Assessor Map 103 as Lot 6 and lies within the General Residence B (GRB) and Historic Districts. Said property is located on Assessor Map 103 Lot 6 and lies within the General Residence B (GRB) and Historic Districts.

Project Background

The applicant was granted a Conditional Use Permit for a Garden Cottage on April 27, 2022. The applicant is requesting modifications to the original conditions of approval. The applicant's representative has provided a copy of the original letter of decision with three conditions. They are requesting to change the third condition that requires a fence along the property line to require the fence to be located along the fence easement line as shown below on the plan. The second request is to change the requirement that the conditions of approval must be met prior to issuance of a building permit. The applicant is requesting to have the conditions be met prior to the issuance of a certificate of occupancy.



Planning Department Recommendation

1) Vote to amend the conditions of approval as presented.

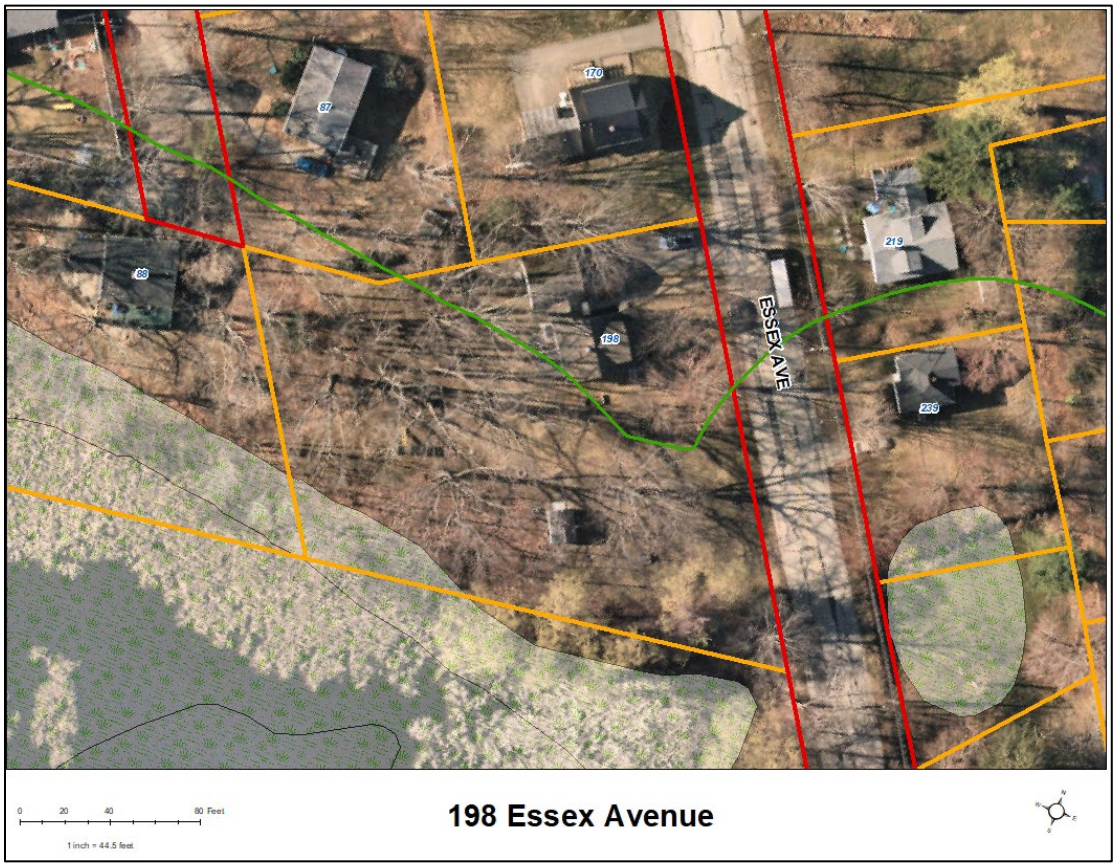
V. PUBLIC HEARINGS – NEW BUSINESS

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.

B. The request of **Whitney and Robert Westhelle (Owners)**, for property located at **198 Essex Avenue** requesting a a Wetland Conditional Use Permit according to Section 10.1017 of the Zoning Ordinance for the following: Demolition of the existing garage and breezeway and construction of a new 753 square foot attached garage with a patio and deck. Construction of a new addition located 62 feet from the wetland and completely within the 100-foot buffer resulting in total impervious impacts of 993 square feet. Said property is located on Assessor Map 232 Lot 128 and lies within the Single Residence B (SRB) District.

Background

This application proposes to create two new additions to a residential home. One of these additions is mainly outside of the 100' wetland buffer and calls for the removal of an existing garage and breezeway to be replaced with a new two-story garage and breezeway. Proposed additional impervious areas would not extend closer to the wetland than the existing structure. Additionally, a patio and deck space are proposed to be constructed as part of this addition. The second building addition (South) is an attached new family room. This addition would be located approximately 62 feet from the wetland and would be completely within the wetland buffer. Total proposed impervious impacts to the buffer (including both the north and south additions) will be 512 s.f. of added impact. The deck addition adds an additional 481 square feet of impact in the wetland buffer, for a total of 993 square feet of buffer impact.



Project Review, Discussion, and Recommendations

The project has been before the Conservation Commission. See below for details.

Conservation Commission

The Conservation Commission, at its regularly scheduled meeting of Wednesday, July 12, 2023, considered the application and voted to recommend approval of the Wetland Conditional Use Permit to the Planning Board with the following conditions:

1. Any trees to be removed will be replaced with a similar species type and number trees.
2. Any patio or deck area installed shall be pervious.
3. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall install permanent wetland boundary markers during project construction along the 25' vegetated buffer. These can be purchased through the City of Portsmouth Planning and Sustainability Department.
4. Applicant shall provide a report back to the Planning and Sustainability Department one year after vegetated buffer area has been planted, demonstrating at least an 80% survival rate of new plantings.
5. An additional method of infiltration shall be provided for rain barrel overflows.
6. Any increase in impervious surface will require a new wetland conditional use permit.
7. Applicant shall use only dark sky friendly lighting on the exterior of the home.
8. Applicant shall update site plans to indicate exact locations of proposed rain barrels

and include a detail sheet showing a cross-section of the proposed deck/patio including details of how infiltration from the design will occur. These updates shall be approved by the Planning & Sustainability Department prior to submission to the Planning Board.

Condition #8 has been met with the updated application for the Planning Board.

Staff Analysis

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

   Nearly the entire parcel falls within the wetland buffer, with the wetland along the southern edge. None of the proposed additions lie within the wetland or vegetative buffer but do lie within the 100' buffer and require the transformation of some previously pervious areas to impervious.

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

   Given that much of the property is within the buffer, there is no other reasonable location for the additions, with the garage addition existing almost entirely outside of the buffer.

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

   The applicant is proposing to use erosion control measures during construction including materials like silt soxx and will be adding native plantings within the buffer. Additionally, the proposal includes removal of invasive species and the installation of rain barrels to slow runoff to the 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 not proposing any construction within the 25' vegetative buffer but will be enhancing the buffer with various plantings as well as Northeast Wildflower seed mix. It is recommended that no grass or lawn should be introduced in this area, instead opting for grass alternatives wherever possible throughout the entire buffer.

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

   This application proposes creating two additions, one mostly outside the buffer and one completely within the buffer but still 62' from the edge of the wetland.

While this project will overall increase the amount of impervious surface within the buffer, the applicant proposes enhancing the buffer through conversion of existing lawn areas to natural areas along with new plantings which will help protect the buffer. Additionally, while the rain barrel will help with trapping excess stormwater runoff, additional mitigation techniques are recommended to slow down and infiltrate stormwater. For example, the applicant proposes a deck or patio which is to be 412 square feet in the buffer. Staff recommends that this be constructed to allow infiltration so new impervious surface is added. If a patio is constructed it should be made of porous pavers and if a deck is constructed it should allow infiltration with crushed stone below.

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

   The applicant is proposing to convert 2,680 sf of lawn to natural area and continue to remove invasive species within the wetland buffer. As stated above, new buffer plantings are to be added to the vegetative buffer strip and staff recommend that no lawn is planted/seeded.

Planning Department Recommendation
Wetland Conditional Use Permit

1) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.1017.50 and to adopt the findings of fact as presented.

(Alt.) Vote to find that the Conditional Use Permit application meets the criteria set forth in Section 10.1017.50 and to adopt the findings of fact as amended and read into the record.

2) Vote to grant the Wetland Conditional Use permit with the following conditions:

- *2.1) Any trees to be removed will be replaced with a similar species type and number trees.*
- *2.2) Any patio or deck area installed shall be pervious.*
- *2.3) In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall install permanent wetland boundary markers during project construction along the 25' vegetated buffer. These can be purchased through the City of Portsmouth Planning and Sustainability Department.*
- *2.4) Applicant shall provide a report back to the Planning and Sustainability Department one year after vegetated buffer area has been planted, demonstrating at least an 80% survival rate of new plantings.*
- *2.5) An additional method of infiltration shall be provided for rain barrel overflows.*
- *2.6) Any increase in impervious surface will require a new wetland conditional use permit.*
- *2.7) Applicant shall use only dark sky friendly lighting on the exterior of the home.*

V. 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.

C. The request of **Aviation Avenue Group LLC (Applicant)**, for property located **at 80 Rochester Avenue (*100 New Hampshire Avenue*)** requesting Amended Site Plan Approval for construction of a 101,200 sq. ft. footprint including 4,700 sq. ft. of office space and associated site improvements consisting of parking, loading docks, underground utilities, landscaping, lighting, and a stormwater management system. Said property is located on Assessor Map 308 Lot 1 and lies within the Pease Industrial (PI) District.

Project Background

The existing area is a flat open space with areas of pavement from a former development. The Planning Board recommended approval to the PDA for a 209,750 square foot advanced manufacturing building with associated site improvements at the April 20, 2023 meeting. The applicant has since found a tenant that requires a smaller building footprint, thus the reason for the amended plan.

The recent amendments to RSA 676:3 with regards to adopting findings of fact for a project apply to local planning boards making decisions based on the municipality's regulations. Pease falls exclusively under RSA 12-G and the Pease Land Use Controls, therefore the requirement to vote on and adopt findings of fact do not apply for either of these applications.

Project Review, Discussion, and Recommendations

The project was before the Technical Advisory Committee in July. See below for details.

Technical Advisory Committee

The applicant was before TAC for Amended Site Plan Approval at their regularly scheduled July 5, 2023 meeting and recommended approval with the following conditions:

1) *DPW will review the third-party stormwater report; and*
2) *All other revisions will be made based on their comments.*

Planning Department Recommendation
Site Plan Approval

1) *Vote to recommend Amended Site Plan Approval to the PDA Board with the following conditions:*

   1.1) *Third-party stormwater report shall be reviewed by DPW.*

VI. OTHER BUSINESS

A. Chairman's Updates and Discussion Items

B. Planning Board Rules and Procedures

C. Board discussion of Regulatory Amendments, Master Plan Scope & other matters

VII. ADJOURNMENT

PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE

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

7:00 PM **July 20, 2023**

MINUTES

MEMBERS PRESENT: Rick Chellman, Chairman; Corey Clark, Vice Chair; Karen Conard, City Manager; Joseph Almeida, Facilities Manager; Beth Moreau, City Councilor; Members Greg Mahanna, Peter Harris, James Hewitt, and Jayne Begala

ALSO PRESENT: Peter Stith, Principal Planner

MEMBERS ABSENT: Alternate Andrew Samonas

REGULAR MEETING 7:00 pm

I. APPROVAL OF MINUTES

A. Approval of the **June 15, 2023** meeting minutes.

*The June 15 minutes were **approved** as amended by unanimous vote, 9-0.*

B. Approval of the **June 22, 2023** meeting minutes.

*The June 22 minutes were **approved** as presented by unanimous vote, 9-0.*

II. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

A. The request of **Murdock Living Trust (Owner), 15 Lafayette Road** requesting Preliminary and Final Subdivision Approval to subdivide one lot into two lots to create the following: Proposed Lot 1 to be 9,129 square feet of lot area and 73.8 feet of frontage and Proposed Lot 2 to be 8,172 square feet of lot area and 102 feet of frontage.

SITE PLAN REVIEW

Councilor Moreau moved to determine that the application is complete according to the Subdivision Review Regulations (contingent on the granting of any required waivers under

Sections IV of the agenda) and to accept the application for consideration. Vice-Chair Clark seconded. The motion passed by unanimous vote, 9-0.

A. REQUEST TO POSTPONE The application of **Banfield Realty, LLC (Owner)**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. **REQUEST TO POSTPONE**

Mr. Mahanna moved to postpone the petition, seconded by Vice-Chair Clark. The motion passed by unanimous vote, 9-0.

III. PUBLIC HEARINGS – NEW BUSINESS

A. The request of **CP Management Inc (Applicant)** and **Sarnia Properties INC, (Owner)**, for property located at **933 US Route 1 BYP** requesting a Conditional Use Permit in accordance with Section 10.1112.14 of the Zoning Ordinance to provide 83 parking spaces where 114 are required. Said property is located on Assessor Map 142 Lot 37 and lies within the Business (B) District. (LU-23-76)

SPEAKING TO THE APPLICATION

[Timestamp 5:00] Attorney Chris Mulligan was present on behalf of the applicant CJA Corporation aka Vanguard Key Club. He reviewed the petition. He noted that the site plan and parking calculation indicated that there are 82 spaces on the site but that 83 spaces were advertised. He discussed where they could fit two additional spaces. Chairman Chellman said the notice stated that Attorney Mulligan was representing CP Management and Sarnia. Attorney Mulligan replied that CP Management represents the landlord Sania and that his client would be a tenant of CP Management and that he had authorization on file from CP Management to represent CJA Corporation. Attorney Mulligan continued to review the application and said the application met all the criteria for a Conditional Use Permit.

[Timestamp 15:29] Mr. Mahanna asked if the future NH Motorcycle facility was the 2-story office space across the street. Attorney Mulligan said it was where Rexall used to be. Councilor Moreau remarked that Attorney Mulligan said the access point for the specific unit was only from that parking lot, but she said it looked like two sides of the parking lot weren't accessible from one to the other. She asked if any of the other units were accessible from the parking lot. Attorney Mulligan said he did not believe so. He said there were stairwells that ran from the lower parking area, so the lower and upper parking lots could be accessed, but there were no other facilities that accessed the building from the upper lot. Mr. Mahanna asked if the Board could ask for a one-year report back, and Attorney Mulligan agreed. Chairman Chellman asked if a need for overflow parking was anticipated, and Attorney Mulligan said was not. Ms. Begala asked what the average space allotment was for the other Vanguard Key Club sites. Attorney Mulligan said it would require cross-referencing but the full membership was expected to be ported over from Raynes Avenue. He said the historical information provided was from Raynes

Avenue but the demand would be for 933 Route One because the two facilities wouldn't be open at the same time. Mr. Harris asked how much smaller the Raynes Avenue lot was. Attorney Mulligan said that parking lot held 41 spaces and the new parking lot would be the same size.

Chairman Chellman opened the public hearing.

PUBLIC HEARING

No one spoke, and Chairman Chellman closed the public hearing.

DECISION OF THE BOARD

*Note: The original motion made was **amended** after further discussion [Timestamp 21:04]*

Vice-Chair Clark moved to find that the Conditional Use Permit application meets the criteria set forth in Section 10.1112.14 and to adopt the findings of fact as presented. Councilor Moreau seconded. The motion passed by unanimous vote, 9-0.

*Vice-Chair 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 with the following **conditions**:*
2.1) The applicant shall submit a written report to the Planning Department one year after opening evaluating the parking usage.
2.2) The parking spaces as depicted on Sheet C-3 on the current loading dock area can be used for parking as necessary.

*Councilor Moreau seconded. The motion **passed** by unanimous vote, 9-0.*

B. REQUEST TO POSTPONE The request of **Tanner Family Revocable Trust (Owner),** for property located at **380 Greenleaf Avenue** requesting a Wetland Conditional Use Permit according to Section 10.1017 of the Zoning Ordinance for the construction of a new 20 x 20' one-story garage on a residential property with various additions of native buffer plantings and areas of storm water improvement to mitigate any impervious impacts from the garage. The proposal includes removal of 885 square feet of impervious asphalt, installation of 2' drip edge of crushed stone around the perimeter of the garage and 484 square feet of pervious pavers leading up to the garage where asphalt currently exists. Additional planting beds are proposed in areas of existing asphalt. Said property is located on Assessor Map 243 Lot 63 and lies within the Single Residence B (SRB) District. **REQUEST TO POSTPONE** (LU-23-62)

DECISION OF THE BOARD

Mr. Mahanna moved to postpone the petition to the August meeting, seconded by City Manager Conard. The motion passed by unanimous vote, 8-0, with Councilor Moreau recused.

C. The request of **Murdock Living Trust (Owner), 15 Lafayette Road** requesting Preliminary and Final Subdivision Approval to subdivide one lot into two lots to create the following: Proposed Lot 1 to be 9,129 square feet of lot area and 73.8 feet of frontage and Proposed Lot 2 to be 8,172 square feet of lot area and 102 feet of frontage. Said property is located on Assessor Map 152 Lot 2 and lies within the General Residence A (GRA) and Historic Districts. (LU-23-26)

SPEAKING TO THE APPLICATION

[Timestamp 26:20] Ryan Fowler of James Verra and Associates was present on behalf of Trustee Jeff Murdock, who was also present. He said they proposed an additional lot subdivision, noting that the original house fronts on Lafayette Road and the new parcel will front on Orchard Street. He said the existing parcel was granted a variance because it lacked the minimal required amount of frontage. He said his client had no desire to develop the lot and planned to sell it. He said they met with TAC and agreed to add Notes 14 through 18 on the plan to let the new buyer know that the City required the items to be completed prior to issuing a building permit.

[Timestamp 28:18] Chairman Chellman asked if Note 15 had been corrected, and Mr. Fowler agreed. Mr. Almeida commented that it was a great opportunity to carve a lot out of a piece of property that was a unique situation.

Chairman Chellman opened the public hearing.

PUBLIC HEARING

No one spoke, and Chairman Chellman closed the public hearing.

DECISION OF THE BOARD

*Vice-Chair Clark moved to **grant** the requested waivers to the Subdivision Standards from Section VI General Requirements #5 Driveways, #6 Drainage Improvements, #7 Municipal Water Services, #8 Municipal Sewer Services, #9 Installation of Utilities and #14 Erosion and Sedimentation Controls, because strict conformity would pose an unnecessary hardship to the applicant and waiver would not be contrary to the spirit and intent of the regulations. Mr. Mahanna seconded. The motion passed by unanimous vote, 9-0.*

Vice-Chair Clark moved to find that the Subdivision (Lot Line Revision) application meets the standards and requirements set forth in the Subdivision Rules and Regulations to adopt the findings of fact as presented. Mr. Almeida seconded. The motion passed by unanimous vote, 9-0.

*Vice-Chair Clark moved to **grant** Preliminary and Final Subdivision Approval with the following **conditions**:*

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

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

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

2.4) Prior to issuance of a building permit, owner shall obtain necessary permits or approvals from DPW to serve the site.

Councilor Moreau seconded. The motion passed by unanimous vote, 9-0.

D. The request of **ADL 325 Little Harbor Road Trust (Owner),** for property located at **325 Little Harbor Road** requesting a Wetland Conditional Use Permit according to Section 10.017 of the Zoning Ordinance for the replacement of the existing bridge with a timber pile bridge and removal of the existing causeway. The project proposes permanent impacts within the wetland buffer of 36,358 square feet and 3,443 square feet of permanent impacts within the tidal wetland. Said property is located on Assessor Map 205 Lot 2 and lies within the Rural (R) District. (LU-23-81)

SPEAKING TO THE APPLICATION

[Timestamp 32:06] Lead environmental scientist and certified NH wetlands scientist Jay Aube of TFMoran was present on behalf of the applicant and reviewed the petition and criteria.

[Timestamp 51:22] Councilor Moreau asked if wood piles were currently holding up the bridge. Mr. Aube said they were metal piles reinforced with different mechanisms. Councilor Moreau asked if there was an anticipated length of time that the new bridge would last. Mr. Aube said it would last beyond 2100. He said there were a lot of recreational folks who used the area, and the span would not decrease at all. Ms. Begala said the piles would be coated with acrylic and asked how the applicant would ensure that the construction materials would be clean and that organisms would not be added to the environment. Mr. Aube said they normally took materials from facilities that had clean fill, but in this instance they would utilize the existing material to return the site to its original grade. He said if anything, materials would be removed from the site. He said the piles would be wooden and there would be no opportunity to bring in any kind of invasive species but if one were to travel on a pile, it would be unlikely that it could survive the salt conditions. He said the Environmental Protection Agency (EPA) initially had concerns about the butternut oil but it was found that it wouldn't have any adverse impact. Ms. Begala said the bridge's height would be increased by about four feet and asked whether that required additional materials. Mr. Aube said additional material would be from reputable sources that have clean material. Ms. Begala said the concrete block remnants would sink into the mud sedimentation and asked why they wouldn't be removed. Mr. Aube said that some of those structures were so imbedded that they may not be able to be removed, so instead of spending time and resources to dig them up, they decided to cut them two feet below the grade of the mud

flat. He said by removing the tidal restrictions, the silt and sediment would gradually fill over the areas of the remaining concrete two feet below. He said he was confident that the bulk of the materials could be removed. Ms. Begala said there would be a visual impact by increasing the height of the ridge four feet and that more kayakers would be attracted to the area if the tidal restriction was reduced and the width of the channel area was kept. Mr. Aube said the construction would not impede access to kayakers from the northerly part of the island. He agreed that the bridge would be four feet higher but said it would look better. Chairman Chellman said the view of it would change but didn't think the Board had the criteria to judge the visual impacts. Ms. Begala asked how decreasing the tidal restriction would not change the retention of nutrients found in that area. Mr. Aube said they proposed the method prescribed by the 2019 NHDES wetland rules. He said they looked at all tidal restrictions in the seacoast area and now to decrease the hydraulic capacity and return systems to their natural ecological state. He said he was confident they had achieved that and would monitor it. Chairman Chellman asked if it was a restoration of the natural conditions and enhancement beyond what was there today. Mr. Aube agreed. Ms. Begala asked how increasing the hydraulic capacity would provide the same nutrients or more nutrients to support the living organisms in that area. Mr. Aube said they wanted vegetation to utilize the nutrients and absorb them and that they were increasing the likelihood of scouring occurring along the shoreline by increasing the hydraulic capacity and slowing down the water. He said increasing the vegetation on the shoreline with the salt marsh addition gave more opportunity to treat and handle stormwater and attenuate the nutrients. Mr. Hewitt asked what the bridge weight loading capacity was rated for and if it would handle all fire equipment. Mr. Aube said he didn't have the numbers but that it was being designed to accommodate all emergency vehicles at the local level and that the the Conservation Commission confirmed that it met that criteria.

Chairman Chellman opened the public hearing.

PUBLIC HEARING

No one spoke, and Chairman Chellman closed the public hearing.

DECISION OF THE BOARD

*Vice-Chair Clark moved to **grant** the Wetland Conditional Use permit with the following **conditions**:*
2.1) In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall install permanent wetland boundary markers adjacent to the freshwater wetland areas during project construction. These can be purchased through the City of Portsmouth Planning and Sustainability Department.
2.2) Applicant shall provide a monitoring report detailing the success of the planting plan one year after project completion and demonstrate compliance with the NHDES monitoring requirements when complete.

2.3) The Salicornia be relocated or added to the planting plan as additional plantings.
2.4) An independent wetland scientist that specializes in salt marsh restoration shall be hired to review the salt marsh restoration plan and provide comments back to the applicant.
2.5) The applicant shall research ways to reduce the disturbance to the local Nudibranch fish population.

Councilor Moreau seconded. The motion passed by unanimous vote, 9-0.

E. REQUEST TO POSTPONE The application of **Banfield Realty, LLC (Owner)**, for property located at **375 Banfield Road** requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. Said property is shown on Assessor Map 266 Lot 7 and lies within the Industrial (I) District. **REQUEST TO POSTPONE** (LU-20-259)

DECISION OF THE BOARD

The petition was postponed to the August meeting.

IV. PRELIMINARY CONCEPTUAL CONSULTATION

A. The request of Atlas Commons LLC (Owner), for property located at **581 Lafayette Road** requesting an addition to the existing commercial building for residential dwelling units with the associated site improvements. Said property is shown on Assessor Map 229 Lot 0229-008B and lies within the Gateway Corridor (G1) District. (LUPD-23-5)

[Timestamp 1:12:48] Project architect Tracy Kozak was present on behalf of the applicant to review the petition, along with owner Mark McNabb. Ms. Kozak said they proposed to build two apartment buildings and use the workforce housing incentive. She said there would also be a level of underground parking. She said there was a right-of-way easement across the back for neighboring properties. She reviewed the floor plans and said they met the required parking on site and that they also had a shared parking analysis. She said the apartments would range from studios to five bedrooms but most would be two bedrooms. She said they were also seeking variances for building length and coverage.

[Timestamp 1:23:05] Ms. Conard said several bedrooms didn't have windows. Ms. Kozak said the apartments on the second floor where the building butted up against the back of the existing building didn't have windows, but the corridor was on the outside and on top of that was glass for borrowed light. She said the apartments would also get borrowed light from the skylights and transoms. Ms. Begala asked what the range of living areas was for the different sized units. Ms. Kozak said the smallest units were 500 square feet and the largest apartment was 1,952 square feet. Ms. Begala asked if they would tower above the Winchester Apartments. Ms. Kozak said they were not right next to the Winchester Apartments, which were three stories. She said the applicant's buildings were four stories in the middle and three stories at the end. Ms. Begala

asked if there would be green space. Ms. Kozak said there were landscaped areas on the west and north sides of the building as well as a patio.

[Timestamp 1:27:05] Mr. McNabb addressed the Board and said he purposely kept the full 24-ft double travel lane behind the building on the side of the Winchester Apartments, so his building was pulled far away from that lot line. He discussed the Gateway District briefly and noted that the site was a sea of parking lot. He said the greenscape on the side of Ledgewood Drive would remain. On the front, he said there was a nice relief because that part of Route One was recently developed and benefited the parcel with modern amenities. He said the vast amount of parking was a waste of property, especially when additional housing was needed. He said smaller units were more helpful to get affordable rates.

[Timestamp 1:33:31] Councilor Moreau said the entrance closest to Lafayette Road was an entrance only and not an exit and she had seen many cars exit that entrance. She said it would be helpful to design it to keep people from doing that. She said she was part of the creation of the Gateway District and they were figuring out how they could incentivize things more. Mr. Mahanna asked if there was a percentage that would be allocated to workforce housing and if so, what would be asked for in exchange. Ms. Kozak said they would comply with the required minimum of 20 percent. She said the benefit was being allowed to have two buildings with 24 units each, and workforce housing allowed that to be increased to 36 units. Mr. Mahanna asked if there would be spaces for bike racks, scooters and bikes. Mr. McNabb agreed.

[Timestamp 1:36:55] Mr. Hewitt asked if the applicant would commit to the standard RSA in Portsmouth zoning, which was 20 percent, and that 20 percent would rent for 60 percent of AMI (area median income). Mr. McNabb said they would comply with the 20 percent and would also have pilot programs that included having the renter's employer pay the security deposit. Mr. Hewitt asked if the rest of the units would be market rate. Mr. McNabb said they would be market rate by definition but lower. Mr. Hewitt asked if it was realistic to propose 61 apartments and provide only 54 parking spaces. Ms. Kozak said a studio apartment required a half parking space, so she thought it was realistic because a lot of those renters didn't drive. Mr. Hewitt noted that the West End Yards had a lot of apartments that small and every tenant owned a car. He said the buildings would have to have between 102 and 116 spaces. Mr. McNabb said they complied with the parking requirement and pointed out that the parcel was unique. He said there was a cross agreement with Bowl-O-Rama that tenants could park on free spaces, so he thought the combination of the amount of parking in that area with the development's subterranean parking was sufficient. He said there were parking easements. Mr. Hewitt asked if the neighbors understood that the development would place a huge new demand for parking in that area. Chairman Chellman asked that it not be debated. He said Mr. McNabb might have data based on what his other tenants were doing in similar locations and with similar rent scales. He said if people used scooters, bikes, and transit, they would park less, and if there was a lot of parking provided, a need for more parking would be generated because it would attract people with cars. Mr. Hewitt asked if visitor parking was included in the applicant's calculations, and he noted that the property seemed to encroach to the west. Mr. McNabb said he would speak to the project engineer about it but he didn't believe that any of their parking was off their site.

[Timestamp 1:46:46] Ms. Begala said she thought there should be amenities for children on the site. Mr. McNabb said the development was near the high school fields. Chairman Chellman asked if the applicant wanted a Conditional Use Permit for parking. Mr. McNabb said he didn't because he believed they complied with the parking requirement. Chairman McNabb asked what was happening in the corner with all the dumpsters. Mr. McNabb said he would look into it and also the encroachment issue. Mr. Almeida asked if there were recreational spaces for children inside the buildings. Mr. McNabb said there were not but that he would look into it.

[Timestamp 1:51:35] Vice-Chair Clark said there was a lot of stormwater infrastructure on Ledgewood Drive that cut across the applicant's site and dove off into the Bowl-O-Rama site. He said he assumed that there would be a lot of roof drains tying in on the east and west sides of the buildings and asked if everything would go back into those existing stormwater systems or if the applicant proposed to slow things down on his site as far as retaining some of the volume and then discharging it. Mr. McNabb said he didn't think the project was far enough along on that issue but knew it was unlikely that they would increase anything because it was a paved site and all the paving went into the same system. Vice-Chair Clark asked if Mr. McNabb would have solar rooftops like his other buildings had. Mr. McNabb agreed and said he would also have charging stations for cars. He discussed the parking issue further.

V. OTHER BUSINESS

A. The request of **230 Commerce Way, LLC** for property located at **230 Commerce Way** requesting a 1-year extension to the Amended Site Plan Approval and Wetland Conditional Use Permit originally granted on **July 21, 2022**. (LU– 22-14)

DISCUSSION AND DECISION OF THE BOARD

*Councilor Moreau moved to **grant** a one-year extension to the Planning Board Approval of the Site Plan and Wetland Conditional Use Permit to July 21, 2024. Ms. Conard seconded. The motion passed by unanimous vote, 9-0.*

B. Chairman updates and discussion items.

[Timestamp 1:56:36] Chairman Chellman referred to the utilities project for High Street/Haven Court and asked if it would help if the Board told the City Council whether they supported the proposed enhancements. Mr. Hewitt asked if the City had an obligation to make the property ADA compliant. Councilor Moreau said it was ADA compliant as long as there was a way for a handicapped person to get from point A to point B. Vice-Chair Clark said he would feel more comfortable proposing the concept as it was presented to the Board in the package. Ms. Begala said she wasn't clear about the design. Chairman Chellman said the concept was having a developer participate with private funds on public property, which was presented to the Board and was part of the record, and if it changed, it was up to the City Council or City Staff. Mr. Hewitt asked if it wasn't more preferred, as an urban planning project, that tourists and pedestrians would be directed on main street fronts to spend their money. Chairman Chellman said it would add enhancements to the downtown. Councilor Moreau said it would make the dark

and unsafe place a lighter and safer one. Mr. Almeida said there were a few precedents for private funds and agreed that the back side of High Street was in desperate need of improvement.

Vice-Chair Clark voted to conceptually support the High Street/Haven Court public/private improvements as were originally presented to the Planning Board during its review of the 1 Congress Street proposal, and to inform the Council of this support.

Mr. Mahanna seconded. The motion passed by unanimous vote, 9-0.

C. Planning Board Rules and Procedures.

Timestamp 2:04:01 Chairman Chellman said he and the City Attorney would meet on August 1 to discuss the Planning Board's rules and procedures and that he would present the results at the August Planning Board meeting.

D. Board discussion of Regulatory Amendments, Master Plan Scope & other matters.

[Timestamp 2:04:38] Chairman Chellman said he wanted to see the Master Plan process formally begin by having a subcommittee work on the Scope of Work. It was further discussed.

Mr. Mahanna moved to formally begin the Master Plan process per RSA 674:1. Mr. Almeida seconded the motion.

[Timestamp 2:06:07] There was further discussion.

The motion passed by unanimous vote, 9-0.

Mr. Stith said the Conservation Commission wanted a work session to discuss amendments to the Wetland ordinance and suggested that a date and time be chosen in the next few weeks.

VI. ADJOURNMENT

The meeting adjourned at 9:18 p.m.

Respectfully submitted,

Joann Breault
Secretary for the Planning Board

Findings of Fact | Wetland Conditional Use Permit
City of Portsmouth Planning Board

Date: August 17, 2023
Property Address: 380 Greenleaf Ave
Application #: LU-23-62
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

Effective August 23, 2022, amended RSA 676:3, I now reads as follows: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

In order to grant Wetland Conditional Use permit approval the Planning Board shall find the application satisfies criteria set forth in the Section 10.1017.50 (Criteria for Approval) of the Zoning Ordinance.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	**Finding** (Meets Criteria for Approval)	**Supporting Information**
1	*1. The land is reasonably suited to the use activity or alteration.*	**Meets** **Does Not Meet**	The applicant is proposing to build the garage on an area of already disturbed and impervious land within the buffer. The overall project will be reducing the amount of impervious surface on the property and will be infiltrating stormwater and further buffering the wetland through planting beds.
2	*2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*	**Meets** **Does Not Meet**	The entirety of this property is either within the wetland or the wetland buffer. There is no alternative location to build and the applicant is proposing to build in an existing disturbed area to minimize further impact to the buffer.
3	*3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.*	**Meets** **Does Not Meet**	The applicant is proposing an overall reduction in impervious area to the site. This proposal will increase the number of plantings in the buffer while also helping to infiltrate and slow stormwater on the property due to added crushed stone drip edges.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	Finding (Meets Criteria for Approval)	Supporting Information
4	*4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.*	**Meets** **Does Not Meet**	The applicant is proposing no disturbance to the natural vegetative state on the property. The existing asphalt will be removed, and a garage and pervious pavers will be placed. Additional plantings will add to the vegetated buffer.
5	*5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.*	**Meets** **Does Not Meet**	While the entire parcel is within wetland and buffer boundaries, the applicant is proposing to build in an area that is already impervious and will be significantly reducing existing impervious area while offsetting impacts with additional plantings, stormwater controls and pervious pavers.
6	*6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.*	**Meets** **Does Not Meet**	The applicant is not proposing to disturb any area within the first 25' of the wetland boundary. Disturbances within the buffer will be offset with the removal of asphalt, the addition of native buffer plantings and stormwater controls.
7	**<u>Other Board Findings:</u>**		

Conditional Use Permit Information
Detached, single-story, 2-car garage

Location:
380 Greenleaf Avenue
Portsmouth, NH 03801
603-431-4147
inventivetechnologies@comcast.net

Applicant/Owner:
Tanner Family Revocable trust
Allison and Mark Tanner trustees
603-431-4147
inventivetechnologies@comcast.net

Narrative:
This home was constructed in 1979, 15 years before wetland buffer restrictions existed. This home is occupied by the original owners. The total size of this lot is approximately 1.14 acres or 49,658.4 square feet. It is comprised of a wetland area of approximately 20,683 square feet and a buffer area of approximately 29,388 square feet. The entire buffer area on this lot has been cultivated with perennials, trees and shrubs. There is a very large oak tree under which the buffer area is mostly moss with some grass. There are a limited number of glossy buckthorn invasive species that border a perennial stream running through the property. The total size of the jurisdictional wetland of the lot and surrounding areas is approx. 815,130.7 square feet or 18.71 acres.

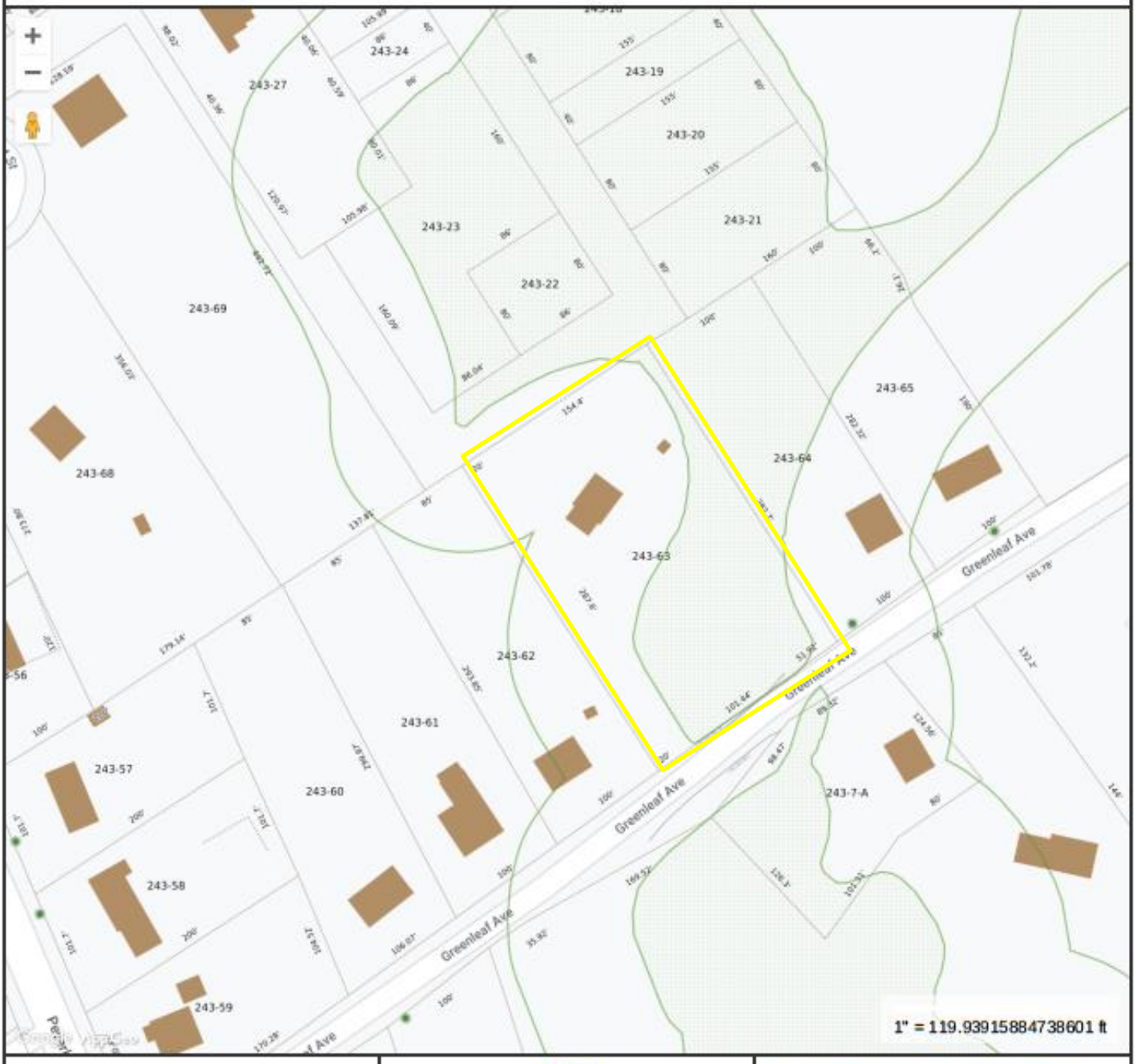
We would like to construct a detached, single story, 20 x 20 foot, 2 car garage on a paved area of the driveway. The total impervious area of the paved driveway is currently 1285 square feet, and extends as close as 25 feet from the wetland. The distance of the proposed garage to the closest edge of the wetland is 45 feet, 20 feet further from the wetland. The entire paved area has no slope (it's flat) and is proposed to be removed, leaving only the 400 square foot garage footprint that would be impervious. This reduces the impervious area by 885 square feet. Drainage from the garage roof will be infiltrated through a 2 foot drip edge of crushed stone around the perimeter of the garage. A 484 square foot area at the entrance to the garage will be pervious pavers.

Erosion control (silt sock or fence) will be in place during construction. No trees or shrubs will be disturbed for this garage. Some grass will be removed for the drip edge. After removal of the pavement to the north of the garage, the planting bed will be extended to the drip edge. Only organic low nitrogen/phosphate fertilizer is ever used on this property, and no pesticides/herbicides are applied. Wetland boundary markers have been installed.

Approximate size of the wetland and buffer

Size calculations courtesy of Kate Homet

380 Greenleaf Avenue

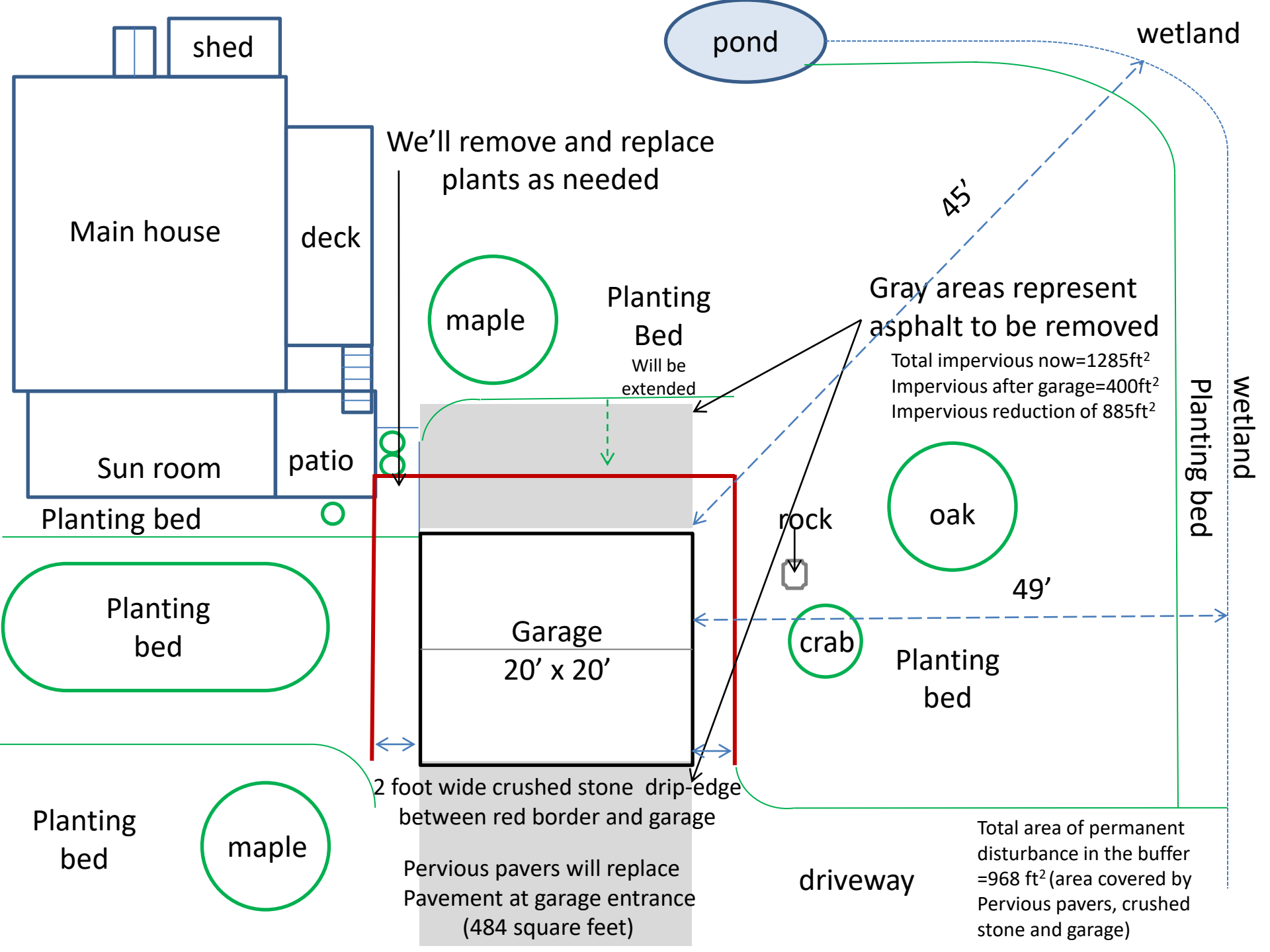


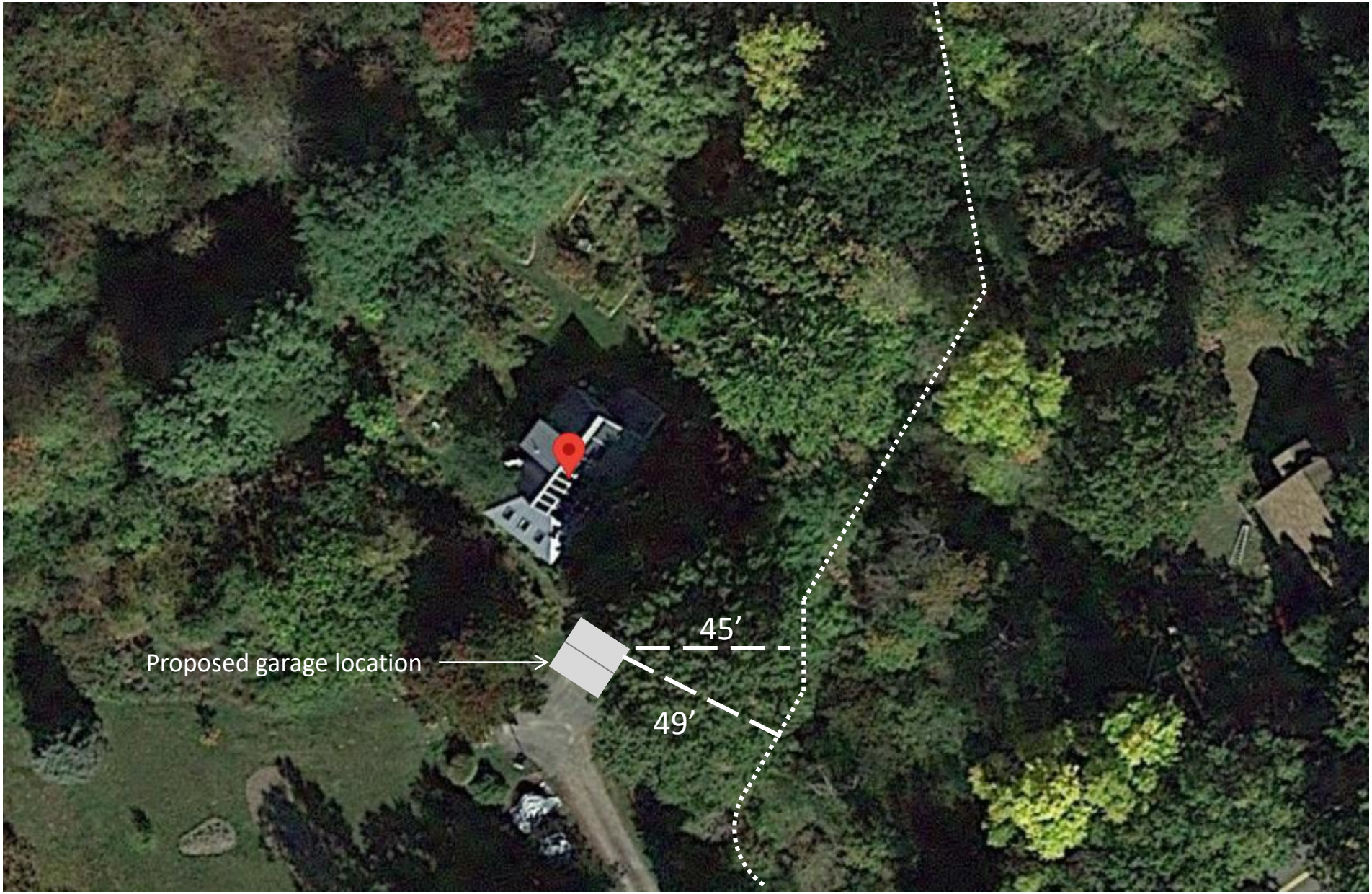
MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

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

Geometry updated 09/21/2022
Data updated 3/9/2022

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


shed
pond
wetland
Main house
deck
We'll remove and replace plants as needed
45'
maple
Planting Bed
Will be extended
Gray areas represent asphalt to be removed
Total impervious now=1285ft²
Impervious after garage=400ft²
Impervious reduction of 885ft²
wetland
Planting bed
Sun room
patio
Planting bed
rock
oak
49'
Planting bed
Garage
20' x 20'
crab
Planting bed
Planting bed
2 foot wide crushed stone drip-edge between red border and garage
Planting bed
maple
Pervious pavers will replace Pavement at garage entrance (484 square feet)
driveway
Total area of permanent disturbance in the buffer =968 ft² (area covered by Pervious pavers, crushed stone and garage)


45’
Proposed garage location
49’

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by Residential Design Services

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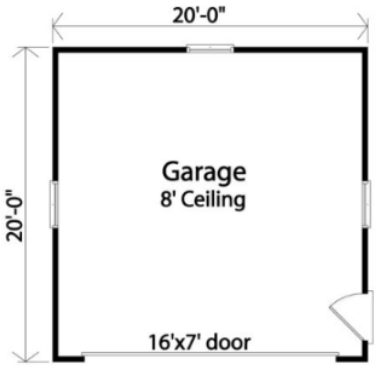
Plan 2413

Add to Cart

Add to Favorites



This garage plan is proposed to be ordered if conditional use permit is received.

Plan Features

- *Front-entry*
- *Two car*

Plan Details

Square Footage	Total: 0
Levels:	1
Width:	20-0
Depth:	20-0
Approx. Height:	14-0
Exterior Wall:	2x4
Foundation:	Footing and Foundation Wall
Roof Framing:	Truss
Roof Pitch:	5-12 Main
Ceiling Height:	1st Floor: 8-0

Common Garage Plan Questions

Can I modify a garage plan?

Some of the designers are willing to make changes to their plans for an additional charge. For those designers that do not make changes to their plans, we have a third party designer that will.

Learn more about plan modification

Do these plans include everything I need to obtain a building permit?

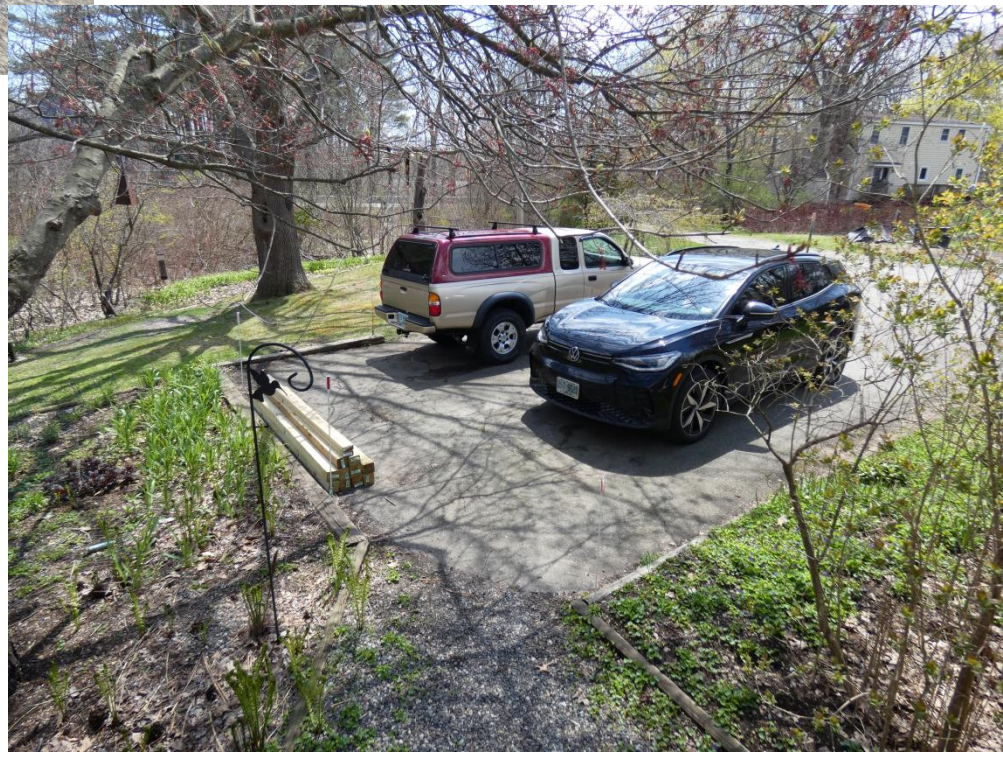
These plans include almost everything you need to obtain a building permit. Your general contractor will be able to assist you with the additional material that needs to be gathered and submitted for permits. If you are serving as your own general contractor we suggest you contact the Building Department in the city or county in which you wish to build. They will be able to provide you with a list of what they require in addition to the architectural drawings (blueprints).

See All FAQs

Order This Plan

View looking north ↑

View looking south ↓



View looking east toward wetland
& garage placement on current pavement

View looking west & over paved area for
garage placement

View east toward wetland, planting bed & native plants

View northeast toward wetland, native plants

From: Rob Graham
To: Peter M. Stith; Joe Coronati
Cc: Kimberli Kienia; Stefanie Michaud
Subject: RE: 375 Banfield
Date: Tuesday, August 8, 2023 8:01:19 AM

Peter,

Please continue / postpone the site plan application for 375 Banfield Rd. We would like to submit all remaining materials for the subdivision application and the site plan application for the September meeting. We will make sure the CUP info is included.

Thank you, let me know if you need something further for this purpose.

Rob Graham
603-479-3666

From: Peter M. Stith <pmstith@cityofportsmouth.com>
Sent: Thursday, August 3, 2023 1:06 PM
To: Rob Graham <Rob@graham-consult.com>; Joe Coronati <jcoronati@Jonesandbeach.com>
Cc: Kimberli Kienia <kkienia@cityofportsmouth.com>; Stefanie Michaud <smichaud@jonesandbeach.com>
Subject: 375 Banfield

Rob and Joe,

Can we get a letter requesting to postpone the site plan application for the Planning Board. It would be good to include the intention to have everything in for the September meeting, if that is the goal. If that is the goal, make sure everything for the wetland CUP is included.

Thanks,

Peter Stith, AICP
Planning Manager
Planning & Sustainability Department
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801
603.610.4188
www.cityofportsmouth.com

Bosen & Associates
ATTORNEYS AT LAW

John K. Bosen
Admitted in NH & MA

Christopher P. Mulligan
Admitted in NH & ME

Molly C. Ferrara
Admitted in NH & ME

Austin Mikolaities
Admitted in NH

Bernard W. Pelech
1949 - 2021

July 13, 2023

VIA VIEWPOINT and HAND DELIVERY

Rick Chellman, Chair
City of Portsmouth Planning Board
1 Junkins Avenue
Portsmouth, NH 03801

RE: 189 Gates Street CUP – LU-22-30

Dear Mr. Chellman:

On behalf of the Nerbonne Family Revocable Trust, please accept this correspondence as our request for approval of two minor changes to the Planning Board's Notice of Decision dated April 27, 2022 relative to the above matter. A copy of the decision is submitted herewith.

First, stipulation 1.c requires that a fence be "constructed on the property line between 189 Gates St and 199 Gates street[.]" This condition was imposed at the suggestion of the neighbors' prior attorney. I am submitting herewith a copy of a property survey and easement plan that identifies a "fence easement" area of 64 square feet that is less than two feet to the west of the common boundary line. The western edge of this easement area is where the Nerbonnes intend to install the fence, and I can represent to you that this is what the abutting neighbors actually desire. I am also enclosing a copy of the relevant easement deed, which essentially requires the placement of the fence in this location. I am copying their current attorney on this correspondence. As you may be aware, the neighbors have appealed the Planning Board's decision and have agreed to dismiss further appeals if this change is made. Accordingly, we request the stipulation be changed to the following:

"1.c) A fence is constructed on the western edge of the fence easement area on 189 Gates Street that is in accordance with the Zoning Regulations. The fence shall be installed prior to construction of the ADU."

Note that the Historic District Commission administratively approved the applicant's fence application on July 12, 2023.

Finally, the decision states "[a]ll stipulations of approval must be completed prior to issuance of a building permit unless otherwise indicated above." Obviously, the stipulations which include constructing and installing improvements, that is, a fence, a gutter system and a drywell, cannot be completed without the issuance of a building permit in the first instance. We respectfully request that this language be modified to provide that all such stipulations of approval be completed prior to the issuance of a certificate of occupancy.

Thank you for your attention and we look forward to having this matter heard at the Board's August 17, 2023 meeting.

Sincerely,

Christopher P. Mulligan

Christopher P. Mulligan

CPM/

Encls.

cc: Nerbonne Family Revocable Trust (w/ encls.)
Brian Bouchard, Esq. (w/ encls.)
Anne Whitney (w/ encls.)

CITY OF PORTSMOUTH

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

PLANNING BOARD

April 27, 2022

Nerbonne Family Revocable Trust
189 Gates Street
Portsmouth, NH 03801

RE: Conditional use Permit request for property located at 189 Gates Street (LU-22-30)

Dear Owners:

The Planning Board, at its regularly scheduled meeting of Thursday, April 21, 2022, considered your application for Conditional Use Permit under section 10.815 of the Zoning Ordinance and modification of the standards set forth in Section 10.815.30 for the conversion of an existing accessory structure (garage) into a garden cottage with 507 gross square footage of living space. Said property is shown on Assessor Map 103, Lot 6 and lies within the General Residence B (GRB) and Historic Districts. As a result of said consideration, the Board voted 1) to find that the application meets the requirements set forth in Section 10815.40 of the Zoning ordinance and to **grant** the Conditional Use Permit with **stipulations** (below); and 2) to grant a modification to the requirements set forth in section 10.815.31 to allow for an expansion that includes a 152 SF addition.

1.a) Any change, required as part of the Historic District and approval, that results in a change to the stipulations approved here or any change that is not substantially compliant with the approved Conditional Use Permit, as determined by the Planning Director, shall be resubmitted to the Planning Board for review and approval.

1.b) A gutter system and drywell are installed to catch all drainage and runoff from the garage and garage addition.

1.c) A fence is constructed on the property line between 189 Gates St and 199 Gates street that is in accordance with the Zoning Regulations.

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.

Unless otherwise indicated above, applicant is responsible for applying for and securing a building permit from the Inspection Department prior to starting any project work. All stipulations of approval must be completed prior to issuance of a building permit unless otherwise indicated above. **Prior to issuance of a building permit, this letter of decision shall be recorded at the Rockingham Registry of Deeds.**

A certificate of use issued by the Planning Department is required to verify compliance with the standards of the approval, including the owner-occupancy and principal residence

requirements. Said certificate shall be issued by the Planning Department upon issuance of a certificate of occupancy by the Inspection Department and is required to be renewed annually.

This approval shall expire unless a building permit is obtained within a period of one year from the date granted, unless otherwise stated in the conditions of approval. The Planning Board may, for good cause shown, extend such period by as much as one year if such extension is requested and acted upon prior to the expiration.

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

Very truly yours,

Rick Chellman, Chairman of the Planning Board

cc: Shanti Wolph, Chief Building Inspector
Rosann Maurice-Lentz, City Assessor

Anne Whitney, AIA

INSET "A"
Scale 1"=20'

S78°58'05"E
1.82

IRON ROD W/CAP
#829 SET FLUSH

PROPOSED FENCE
EASEMENT IN FAVOR OF
TAX MAP 103 LOT 7
(64 Square Feet)

TAX MAP 103
LOT 6

TAX MAP 103
LOT 7

45.53'
46.37'
N07°52'46"E
S08°34'46"W

Wood Rail Fence

Existing
Garage

1.00'
N82°07'14"W

INSET "B"
Scale 1"=20'

40.00'
39.81'

TAX MAP 103
LOT 6

TAX MAP 103
LOT 7

Brick Driveway

N08°34'46"E
S08°03'15"W

Granite
Curbing

PROPOSED DRIVEWAY
EASEMENT IN FAVOR OF
TAX MAP 103 LOT 6
(40 Square Feet)

2.00'
N88°02'13"W

Magnetic May 2004

N/F
"GRAVES BURYING GROUND"
CITY OF PORTSMOUTH, DPW
TAX MAP 103 LOT 9

IRON ROD W/CAP
#829 SET FLUSH

S76°58'03"E
38.49'

IRON ROD W/CAP
#829 SET 6" HIGH

Wire Fence

Wood Rail Fence

Concrete Retaining Wall

Chain Link
Fence

PROPOSED
FENCE EASEMENT
SEE INSET "A"

N/F
THE M. JUDY NERBONNE REVOCABLE TRUST
M. JUDY NERBONNE, Trustee
G. PATRICK NERBONNE, Trustee
TAX MAP 103 LOT 6
R.C.R.D BOOK 3107 PAGE 1856

TAX MAP 103 LOT 7
4,443 Square Feet
0.10 Acres

Hedge Row

Edge of Gravel (Typical)

N/F
GATES STREET CONDOMINIUM ASSOCIATION
TAX MAP 103 LOT 8
R.C.R.D. BOOK 4840 PAGE 181
R.C.R.D. PLAN D-35506

103.41'
N08°34'46"E

S02°39'22"W
87.26'

Deck

Existing
Garage

2nd Story Porch
Over Garage

PROPOSED
DRIVEWAY EASEMENT
SEE INSET "B"

Existing
House
#189

Brick Driveway

Existing
House
#199

Gravel Driveway

Gravel Driveway

Existing
House
#213

49.75'
N88°02'13"W

IRON ROD W/CAP
#829 SET FLUSH

Brick Sidewalk

Granite Curbing

GATES STREET
(CURRENTLY UNDER CONSTRUCTION)

Sewer
Man Hole

Edge of Pavement (typical)

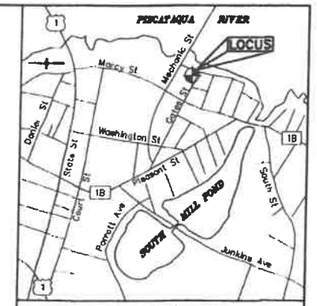
Concrete Retaining Wall

Concrete
Retaining Wall

WALTON ALLEY

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

MECHANIC STREET



LOCATION MAP
(not to scale)

PLAN REFERENCES:

1. "PLAT OF LAND FOR PETER FISHER IN PORTSMOUTH, N.H." BY PARKER SURVEY ASSOCIATES, Inc. DATED JULY 1983 AND RECORDED AT R.C.R.D. PLAN B-11743.

2. "PLAN OF MECHANIC STREET, LEADING FROM LAIGHTON'S MAST YARD TO GRAVES END STREET, PORTSMOUTH" DATED APRIL 20, 1836, ON RECORD AT PORTSMOUTH PUBLIC WORKS.

NOTES:

1. OWNER OF RECORD:
JOSEPH A. CAPOBIANCO, Jr. REVOCABLE TRUST
c/o JOSEPH A. CAPOBIANCO, Jr., Trustee
R.C.R.D. BOOK 4279 PAGE 156 (½ Interest)
DATED APRIL 27, 2004

JUDITH A. CAPOBIANCO REVOCABLE TRUST
c/o JUDITH A. CAPOBIANCO, Trustee
R.C.R.D. BOOK 4279 PAGE 154 (½ Interest)
DATED APRIL 27, 2004

2. TOTAL PARCEL AREA:
4,443 Square Feet OR 0.10 Acres

3. BASIS OF BEARING IS MAGNETIC MAY 2004.

Preference Plan

LEGEND:

MONUMENT FOUND ●	UTILITY POLE
WATER GATE VALVE	FIRE HYDRANT
ROCKINGHAM COUNTY REGISTRY OF DEEDS	R.C.R.D.
NOW OR FORMERLY N/F	WATER SHUT OFF
EDGE OF PAVEMENT	
WOOD RAIL FENCE	
STOCKADE FENCE	
WIRE FENCE	
PROPERTY LINE	
APPROXIMATE ABUTTERS PROPERTY LINE	
GRANITE CURBING	
CONCRETE CURBING	

CERTIFICATION

"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."

I further certify that this survey conforms to the ethics and standards set forth by the New Hampshire Land Surveyors Association for a category 1, condition 1 survey.

Peter L. Agrodnia, L.L.S. #829 Date: ____

REV.	DATE	STATUS	BY	CHKD	APPD.
3	08/18/09	UPDATED DRAWING DETAIL	RAB	RAB	PLA
2	05/27/09	ADDED PROPOSED EASEMENTS	RAB	RAB	PLA
1	08/17/04	ADDED MONUMENT SET ON JUNE 18, 2004	MGS	RAB	PLA

STANDARD PROPERTY SURVEY & PROPOSED EASEMENT PLAN

FOR PROPERTY AT
199 Gates Street
Portsmouth, Rockingham County, New Hampshire
OWNED BY
Joseph A. Capobianco, Jr. Revocable Trust
Judith A. Capobianco Revocable Trust
c/o Judith A. & Joseph A. Capobianco, Jr.
69 Arthur Avenue
Manchester, New Hampshire 03104

North
EASTERLY
SURVEYING, Inc.
SURVEYORS IN N.H. & MAINE
(207) 439-6333
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904

SCALE:	PROJECT NO.	DATE:	SHEET:	DRAWN BY:	CHECKED BY:
1" = 10'	04650	8/10/04	1 OF 1	R.A.B.	P.L.A.

DRAWING No: 04850 Boundary
FIELD BOOK No: "Portsmouth, NH #7"

Tax Map 103 Lot 7

MAIL TO

Return to:
Dwyer, Donovan & Pendleton,
461 Middle Street
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE BK 5040 PG 1906

DEPARTMENT OF REVENUE ADMINISTRATION

REAL ESTATE TRANSFER TAX

X THOUSAND X HUNDRED AND 40 DOLLARS

MO.	DAY	YR.		AMOUNT
08	06	09	873592	$ 40.00

VOID IF ALTERED

C/H
L-CHIP
ROA044602

* of 199 Gates Street, Portsmouth, NH 03801

2009 AUG -6 PM 2:01

039644

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

EASEMENT DEED

NOW COMES, M. Judy Nerbonne, Trustee and G. Patrick Nerbonne, Trustee of the M. Judy Nerbonne Revocable Trust, hereafter the "Grantors" of 189 Gates Street, Portsmouth, Rockingham County, New Hampshire, do hereby grant unto Joseph A. Capobianco, Jr., as Trustee of the Joseph A. Capobianco, Jr. Revocable Trust, and Judith A. Capobianco, as Trustee of the Judith A. Capobianco Revocable Trust, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledge, the right and privilege to exclusive use of the limited portion of a parcel of land located at 189 Gates Street, Portsmouth, New Hampshire, Tax Map 103, Lot 6, the total lot being further described by deed recorded in the Rockingham County Registry of Deeds at Book 3107, Page 1856, executed on June 29, 1995. The easement area being further defined herein as follows:

A certain tract of land located northerly but not adjacent to Gates Street, Portsmouth, Rockingham County, New Hampshire, depicted as "Proposed Fence Easement in Favor of Tax Map 103 Lot 7" on a plan entitled "Standard Property Survey & Proposed Easement Plan for property at 199 Gates Street, Portsmouth, Rockingham County, New Hampshire owned by Joseph A. Capobianco, Jr. Revocable Trust & Judith A. Capobianco Revocable Trust ", prepared by North Easterly Surveying, Inc., dated June 10, 2004, last revised June 18, 2009, which will be recorded in the Rockingham County Registry of Deeds contemporaneously with this easement, as Plan No. D-36016 and being more particularly described as follows:

> Beginning at an iron rod at the northwesterly corner of land of said Capobianco Trust (Grantee), also being the northeasterly corner of land of the M. Judy Nerbonne Revocable Trust (Grantor); thence running S 08° 54' 46" W along land of said Grantee a distance of 45.37 feet to a point; thence running N 82° 07' 14" W through land of said Grantor a distance of 1.00 foot to a point; thence running N 07° 52' 46" E through land of said Grantor a distance of 45.53 feet to a point at land of the City of Portsmouth, Graves Burying Ground; thence running S 76° 59' 05" E along land of said City of Portsmouth a distance of 1.82 feet to the point of beginning, containing 64 square feet of land (hereinafter the "Proposed Fence Easement").

The purpose of the Proposed Fence Easement is to allow the Grantee exclusive use of the limited portion of the Grantors' lot for lawn, driveway or garden and to allow the Grantors and Grantees to jointly maintain, upgrade and replace the current wooden fence in its current location on that portion of the Proposed Fence Easement abutting the remainder of the Grantors Premises, with the understanding that the Grantee is contemporaneously granting an exclusive right to

Grantor by separate easement deed for the Grantor to have exclusive use of the area shown on the Plan and titled "Proposed Driveway Easement."

Meaning and intending to describe an easement over the within the described land of Grantor for the purposes described above for the benefit of the property of Grantee identified as Portsmouth Tax Map 103, Lot 7 as shown on the above referenced plan. Said Grantee property further described by deed recorded in the Rockingham County Registry of Deeds at Book 3107, Page 1856.

The easements, rights, and privileges granted by this instrument are perpetual and shall run with the land and are for the benefit of the within described Grantee.

The use of this easement shall be limited to the benefited property and may not be expanded.

IN WITNESS WHEREOF, M. Judy Nerbonne, Trustee and G. Patrick Nerbonne, Trustee of the M. Judy Nerbonne Revocable Trust, have caused this Easement Deed to be executed this 28th day of July, 2009.

M. Judy Nerbonne Revocable Trust

By: M. Judy Nerbonne
M. Judy Nerbonne

M. Judy Nerbonne Revocable Trust,

By: G. Patrick Nerbonne
G. Patrick Nerbonne

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham

On this the 28th day of July, 2009 before me, the undersigned officer, personally appeared M. Judy Nerbonne, who acknowledged himself to be the Trustee of the M. Judy Nerbonne Revocable Trust, and acknowledged that she, as such officer, being authorized so to do, executed the same on behalf of said Trust for the purposes therein contained.

Justice of the Peace/Notary Public
My commission expires:

JOHN T. PENDLETON
MY COMMISSION EXPIRES SEPT. 8, 2009
NOTARY PUBLIC
NEW HAMPSHIRE

STATE OF NEW HAMPSHIRE
COUNTY OF Rockingham

On this the 28th day of July, 2009 before me, the undersigned officer, personally appeared G. Patrick Nerbonne, who acknowledged himself to be the Trustee of M. Judy Nerbonne Revocable Trust, and acknowledged that he, as such officer, being authorized so to do, executed the same on behalf of said Trust for the purposes therein contained.

Justice of the Peace/Notary Public
My commission expires:

JOHN T. PENDLETON
MY COMMISSION EXPIRES SEPT. 8, 2009
NOTARY PUBLIC
NEW HAMPSHIRE

Findings of Fact | Wetland Conditional Use Permit
City of Portsmouth Planning Board

Date: August 17, 2023
Property Address: 198 Essex Ave
Application #: LU-23-88
Decision: □ Approve □ Deny □ Approve with Conditions

Findings of Fact:

Effective August 23, 2022, amended RSA 676:3, I now reads as follows: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of the all conditions necessary to obtain final approval.

In order to grant Wetland Conditional Use permit approval the Planning Board shall find the application satisfies criteria set forth in the Section 10.1017.50 (Criteria for Approval) of the Zoning Ordinance.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	**Finding** **(Meets Criteria for Approval)**	**Supporting Information**
1	*1. The land is reasonably suited to the use activity or alteration.*	**Meets** **Does Not Meet**	Nearly the entire parcel falls within the wetland buffer, with the wetland along the southern edge. None of the proposed additions lie within the wetland or vegetative buffer but do lie within the 100' buffer and require the transformation of some previously pervious areas to impervious.
2	2. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*	**Meets** **Does Not Meet**	Given that much of the property is within the buffer, there is no other reasonable location for the additions, with the garage addition existing almost entirely outside of the buffer.
3	*3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.*	**Meets** **Does Not Meet**	The applicant is proposing to use erosion control measures during construction including materials like silt soxx and will be adding native plantings within the buffer. Additionally, the proposal includes removal of invasive species and the installation of rain barrels to

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	Finding (Meets Criteria for Approval)	Supporting Information
			slow runoff to the wetland.
4	*4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.*	**Meets** **Does Not Meet**	This project is not proposing any construction within the 25' vegetative buffer but will be enhancing the buffer with various plantings as well as Northeast Wildflower seed mix. It is recommended that no grass or lawn should be introduced in this area, instead opting for grass alternatives wherever possible throughout the entire buffer.
5	*5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.*	**Meets** **Does Not Meet**	While this project will overall increase the amount of impervious surface within the buffer, the applicant proposes enhancing the buffer through conversion of existing lawn areas to natural areas along with new plantings which will help protect the buffer. Additionally, while the rain barrel will help with trapping excess stormwater runoff, additional mitigation techniques are recommended to slow down and infiltrate stormwater. .
6	*6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.*	**Meets** **Does Not Meet**	The applicant is proposing to convert 2,680 sf of lawn to natural area and continue to remove invasive species within the wetland buffer. As stated above, new buffer plantings are to be added to the vegetative buffer strip and staff recommend that no lawn is planted/seeded.
7	**<u>Other Board Findings:</u>**		

August 10 2023

Whitney & Robert Westhelle

198 Essex Ave, Portsmouth, NH

Tax Map 232 – Lot 128

Single Residence B (SRB) Zoning District

Planning Broad Chair and Appointed Board Members,

In this letter and attached plans are the descriptions of the existing conditions and proposed design renovations we seeking approval of by the City Of Portsmouth's Planning Board Conditional Use Permit (Wetlands) Approval and Land Use Conditions Approval. Attached are Conservations Commissions recommendations.

Existing Home and Lot Descriptions:

Existing property is located at 198 Essex Ave in Portsmouth NH. (Tax Map 232 – Lot 128) The lot is zoned as a Single Residence B (SRB). The main portion of the home (two story Bungalow) was constructed in 1940. This included the existing (one story) Breezeway to the North and a (one story) single stall Garage. The single stall garage was removed and the existing two story Garage was built sometime in the early 1950's. It is constructed of reused lumber from the original Garage and was assembled with a mix-match of lumber. Some of the visible (from below) floor boards have Portsmouth Naval Shipyard stamped on them, leading to the conclusion that some of the lumber is reused from shipping crates and/or staging salvaged after the War. The first floor Bathroom (off the breezeway) was added in the late 1980's along with a three-season porch on the West side of the home. The majority of the property is covered by well-established lawn cover and mature oak and maple trees

The existing Garage structure encroaches on the side yard setback of 10'-0" by 7"+ (9.4' from the side yard property line) on the North East (Front) Corner and 4" + (9.6' from the side yard property line) on the North West (Back) Corner. Length of existing foundation (Front to Back) is 22'-0". Due to the encroachment into the side yard setback the existing structure is Non-Conforming.

There is a large existing Pond/Wetland along the south property line (approximately 7+ acres). A portion of the Wetland exists on the 198 Essex Ave Property along the south property line. Approximately 86% of the lot area is within the 100' Wetland Buffer for the designated Wetland Area. Of the remaining lot area outside the Wetland Buffer (14%) only 6% of the total area conforms to the existing area outside the set zoning setback for building use.

Given the existing home location on the lot, existing home configuration, lack of opportunities to expand the existing floor plan while maintaining core elements of the existing plan, the extent of the property inside the Wetland Buffer, and being mindful of the need to limit disturbance inside the Wetland Buffer, any changes to the existing foot print will have an impact on the Wetlands Buffer.

Wetland Boundary Requirements, Impacts, and Proposed Betterments:

Zoning Article 10 Environmental Protections Standers, Section 10.1010 Wetlands Protection;

10.1016 Permitted Users:

10.1016.10 The following uses, activities and alterations are permitted in wetlands and wetland buffers:

(4) The construction of an addition or extension to a one-family or two-family dwelling that lawfully existed prior to the effective date of this Ordinance or was constructed subject to a validly issued conditional use permit, provided that:

(a) The footprint area of the addition or extension, together with the area of all prior such additions and extensions, shall not exceed 25 percent of the area of the footprint of the principal heated structure existing prior to the effective date of this Ordinance or constructed pursuant to a validly issued conditional use permit (this 25 percent limit shall not be based on pre-existing attached or detached garages, sheds, decks, porches, breezeways, or similar buildings or structures);

(b) The addition or extension shall be no closer to a wetland or water body than the existing principal structure; and

(c) The addition or extension shall conform to all other provisions of the Zoning Ordinance and with all other applicable ordinances and regulations of the City of Portsmouth

The foot print area of the existing heated structure is 1,439 SF. Section 10.1016.10 (4) a: allows for 25% increase in SF of the Heated Structure Footprint (363 SF = 25% of 1,439 SF.) The existing principal structure is set back from the Wetland 74'.

North Addition (Phase I) –The proposed North Addition and existing structure would equal 1,617 SF total. This would be an additional 178 SF, 12.4% of the existing heated structure footprint SF. The proposed North Addition will not extend closer to the wetland than the existing principal structure. The proposed North Addition will be in compliance with applicable ordinances and regulations of the City of Portsmouth. The North Addition on its own would not require a conditional use permit.

South Addition (Phase II) + North Addition (Phase I) – The total proposed footprint new and existing structure would equal 1,932 SF Total. That would be an additional 481 SF, 33.4% of the existing heated footprint. The South Addition would be closer to the existing wetland by 12' (62' to the Wetland.) The proposed additions will be compliant to applicable ordinances and regulations of the City of Portsmouth. A conditional use permit will be required for this and any other impervious surface added under the additions.

There are no direct wetland impacts associated with this project. The total calculated existing impervious surface inside the Wetland Buffer is 1,436 SF. Impacts to the 100-foot inland Wetland Buffer include the following: proposed total impervious surface within the Wetland Buffer under both Phase's I and II would be 1,948 SF. An increase of 512 SF of impervious surface ("Area of Disturbance").

Proposed betterment to offset the addition of impervious surface in the wetland buffer are the following:

1. During construction the use of Straw/Woodchip Natural Wattle (erosion logs or socks) to prevent disturbed soil runoff from entering the Vegetated Buffer Strip and Wetland will be used. If excavated soil is needed to be stockpiled for any extended period of time it will be looped with a second line of Straw/Woodchip Natural Wattle (erosion logs or socks). Disturbed ground

surface areas will be seeded (lawn grass mix) and covered with straw to help prevent soil erosion prior to final grading and hydro seeding at the conclusion of the exterior construction work.

2. Noninvasive Trees removed within the 100' Wetland Buffer will be replaced with a similar type and number of trees.

3. Deck SOW: Raised deck would extend from the existing Dwelling and addition to the West (504 GSF foot print). Deck would be inside the existing Wetland Buffer. Deck meets side, front, and back yard setback requirements. Deck frame will be constructed of PT lumber with composite decking. Proposed deck would have ¼" spacing between the deck boards allowing for water infiltration. Below the deck, existing impervious stone, concrete, and brick patio (180 GSF) would be removed, replaced by ground fabric and 8" of ¾" crushed stone sloped two degrees away from the existing and proposed foundation walls and in the direction of the yards natural grade. Footings to be sono-tube or helical deck footings. Perimeter drip edge of crushed stone will be provided 12" out from the perimeter of the deck. No additional impervious deck or patio will be proposed inside the Wetland Buffer 100' set back.

4. Establish/Enhance Vegetated Buffer - Reducing Maintained Lawn area inside the 25' Vegetated Buffer Strip Setback, South edge of property, by approximately 2,680 SF. Owner will take an Enhanced Buffer approach, a combination of natural and landscaped (allow designated lawn area to grow in and to add plants to areas inside the Buffer Strip.) Adding plantings and seeding inside the Vegetated Buffer Strip with plantings such as Highbush Blueberry, tall grasses in the dryer area such as Pixie Fountain Tuffed Hair Grass and Little Bluestem, and native Northeast Wildflower Seed Mix for wetland buffer areas, shaded / partial shaded. These areas are shaded / partly shaded by the existing tree canopy.
    a. Proposed Establishment and Maintenance Plan:
        i. Mark the perimeter of the buffer area with stakes and recommended boundary marker placard signage.
        ii. Identify no-mow areas
        iii. Plant supporting plants identified above
        iv. Spread two to three inches of mulch over the root zone of plants
        v. Newly planted vegetation will require regular watering for the first two growing seasons.
        vi. Inspect plants frequently for stress – wilting, discolored leaves, etc. Replace as necessary.
        vii. Weed as needed and aware of invasive plants.

5. Proposed roof area (Existing to remain and new proposed roof (Phase I and II)) runoff during a 1" rain event will be increased by approximately 300 gal's more than today's roof condition. To reduce and delay the storm water runoff, rain barrels will be provide to collect 300 gal's + (Six Rain Barrels) at planned down spot locations. Rain Barrel overflow would be directed to a

vegetated areas (planting beds) around the home. Existing roof does not have a gutter/down spout system for collecting or diverting rain water.

6. Exterior lighting will be Dark Sky friendly lighting.

Project Scope of Work:

1. NORTH ADDITON (Phase 1) SOW: Remove existing (two story) Garage and (one story) Breezeway on the North side of dwelling (587 GSF foot-print), replace with new (two story) Garage, Breezeway, and Primary Bedroom and Bath above (780 GSF foot print). Proposed garage north wall will be inset 8" from the location of the existing garage north wall. The new garage will conform to the current zoning requirements of 10'-0" between the north wall and the side lot property line. Breezeway and existing Dwelling are within the 100' Wetland Buffer. Addition meets side, front and back yard setback requirements.

2. SOUTH ADDITION (Phase 2) Family Room SOW: Extend to the South and West with single story addition approximately 8'-8" in each direction (315 GSF foot print). Addition would be inside the existing Wetland Buffer. Addition meets side, front and back yard setback requirements.

3. Work on Existing Dwelling SOW: Replace siding and windows. Make repairs to siding, front entry porch and trim. Repairs to existing Front Room. Utility improvements in existing home to adapt to other proposed work in the other phases. Existing Dwelling is inside the existing Wetland Buffer. Existing Dwelling meets side, front and back yard setback requirements.

4. Deck SOW: Raised deck would extend from the existing Dwelling and addition to the West. If deck is delayed due to schedule or nonerasable at the time of Phase 1 or Phase 2 temp stairs will be provided to provide egress from the home until approved solution would be executed.

Thank you for your time and review!

Robert Westhelle

198 Essex Ave, Portsmouth NH 03801

ROBERT & WHITNEY WESTHELLE 198 ESSEX AVE, PROTSMOUTH, NH.								
STRUCTURE EXISTING	AREA TOTAL		BLDG COVERAGE		AREA WB		HEATED FP	
SITE	32,641.00	sf	32,641.00	sf	28,183.00	sf	32,641.00	sf
EXIST DRIVEWAY	919.00	sf	0.00	sf	0.00	sf	0	sf
EXIST- ENTRY WALKWAY	202.00	sf	0.00	sf	5.00	sf	0	sf
EXIST REAR PATIO/PAVEMENT	190.00	sf	0.00	sf	190.00	sf	0	sf
EXIST 3 SEASON PORCH	125.00	sf	125.00	sf	125.00	sf	0	sf
EXIST BULK HEAD	52.00	sf	52.00	sf	52.00	sf	0	sf
EXIST MAIN HOUSE	864.00	sf	864.00	sf	852.00	sf	864	sf
EXIST GARAGE & BR-WAY	587.00	sf	587.00	sf	72.00	sf	587	sf
EXIST SHED	140.00	sf	140.00	sf	140.00	sf	0	sf
TOTAL EXISTING	3,079.00	sf	1,768.00	sf	1,436.00	sf	1,451.00	sf
% COVERAGE	9.43	%	5.42	%	5.10	%	4.45	%
REMAINING SITE AREA	29,562.00	sf	30,873.00	sf	26,747.00	sf	31,190.00	sf
PHASE I								
STRUCTURE PROPOSED	AREA TOTAL		BLDG COVERAGE		AREA WB		HEATED FP	
SITE	32,641.00	sf	32,641.00	sf	28,183.00	sf	32,641.00	sf
EXIST DRIVEWAY	919.00	sf	0.00	sf	0.00	sf	0.00	sf
ENTRY WALKWAY	359.00	sf	0.00	sf	5.00	sf	0.00	sf
DECK OR PATIO	504.00	sf	504.00	sf	481.00	sf	0.00	sf
NORTH ADDITION (GARAGE)	753.00	sf	753.00	sf	155.00	sf	753.00	sf
EXIST 3 SEASON PORCH	125.00	sf	125.00	sf	125.00	sf	0.00	sf
EXIST MAIN HOUSE	864.00	sf	864.00	sf	852.00	sf	864.00	sf
EXIST SHED	140.00	sf	140.00	sf	140.00	sf	0.00	sf
TOTAL PHASE I	3,664.00	sf	2,386.00	sf	1,758.00	sf	1,617.00	sf
% COVERAGE	11.23	%	7.31	%	6.24	%	4.95	%
REMAINING SITE AREA	28,977.00	sf	30,255.00	sf	26,425.00	sf	31,024.00	sf
PHASE I '+ PHASE II								
STRUCTURE PROPOSED	AREA TOTAL		BLDG COVERAGE		AREA WB		HEATED FP	
SITE	32,641.00	sf	32,641.00	sf	28,183.00	sf	32,641.00	sf
EXIST DRIVEWAY	919.00	sf	0.00	sf	0.00	sf	0.00	sf
ENTRY WALKWAY	359.00	sf	0.00	sf	5.00	sf	0.00	sf
DECK OR PATIO	504.00	sf	504.00	sf	481.00	sf	0.00	sf
NORTH ADDITION (GARAGE)	753.00	sf	753.00	sf	155.00	sf	753.00	sf
SOUTH ADDITION (GREAT RM)	315.00	sf	315.00	sf	315.00	sf	315.00	sf
EXIST MAIN HOUSE	864.00	sf	864.00	sf	852.00	sf	864.00	sf
EXIST SHED	140.00	sf	140.00	sf	140.00	sf	0.00	sf
TOTAL '+ PHASE II	3,854.00	sf	2,576.00	sf	1,948.00	sf	1,932.00	sf
% COVERAGE	11.81	%	7.89	%	6.91	%	5.92	%
REMAINING SITE AREA	28,787.00	sf	30,065.00	sf	26,235.00	sf	30,709.00	sf

ROBERT & WHITNEY WESTHELLE 198 ESSEX AVE, PROTSMOUTH, NH.

EXIST GROSS FLOOR AREA	AREA EXIST		DEMO	
1st EXIST GARAGE & BR-WAY	587.00	sf	587.00	sf
2nd EXIST GARAGE	351.00	sf	351.00	sf
1st EXIST MAIN HOUSE	785.00	sf	0.00	sf
2nd EXIST MAIN HOUSE	662.00	sf	0.00	sf
1st EXIST 3 SEASON PORCH (D)	125.00	sf	125.00	sf
TOTAL GROSS	2,510.00	sf	1,063.00	sf

PROPOSED GROSS FLOOR AREA	PHASE I		+ PHASE II	
1st NORTH ADDITION	716.00	sf	716.00	sf
2nd NORTH ADDITION	652.00	sf	652.00	sf
1st EXIST MAIN HOUSE	785.00	sf	785.00	sf
2nd EXIST MAIN HOUSE	672.00	sf	672.00	sf
1st EXIST 3 SEASON PORCH	125.00	sf	0.00	sf
1st SOUTH ADDITION	0.00	sf	315.00	sf
TOTAL GROSS	2,950.00	sf	3,140.00	sf

EXIST ROOF RUNOFF	AREA		GAL RUN OFF PER 1"	
EXIST MAIN HOUSE EAST	597.00	sf	370.64	g
EXIST MAIN HOUSEWEST	361.00	sf	224.12	g
EXIST GARAGE NORTH	264.00	sf	163.90	g
EXIST GARAGE EAST	128.00	sf	79.47	g
EXIST GARAGE WEST	252.00	sf	156.45	g
EXIST 3 SEASON PORCH	127.00	sf	78.85	g
TOTAL	1,729.00	sf	1,073.43	g

PROPOSED ROOF RUNOFF	AREA		GAL RUN OFF PER 1"	
EXIST MAIN HOUSE EAST	597.00	sf	370.64	g
EXIST MAIN HOUSEWEST	361.00	sf	224.12	g
NORTH ADDITION NORTH	400.00	sf	248.34	g
NORTH ADDITION EAST	205.00	sf	127.27	g
NORTH ADDITION WEST	260.00	sf	161.42	g
SOUTH ADDITION	398.00	sf	247.09	g
TOTAL	2,221.00	sf	1,378.89	g

Whitney & Robert Westhelle

198 Essex Ave Portsmouth NH

Vegetation Buffer Plants:

The existing Vegetation Buffer is composed of multiple plant types. This buffer runs along the south edger of the property. Below is a list of plants found in this area of the property

- Black Gum Tupelo
- Sourwood
- Willow Tree
- Northern Red Oak
- Norway Maple
- Sugar Maple
- Grey Birch
- Quaking Aspen
- Alder Buckthorn
- False Solomons Seal
- Burning Bush
- Smooth Hydrangea
- Multiflora Rose
- Jewelweed
- Black Cherry Prunus
- Common Buckthorn
- Weeping Forsythia
- Lady Fern
- Border Forsythia
- Oriental Bittersweet
- Japanese Knotweed

Whitney & Robert Westhelle

198 Essex Ave Portsmouth NH

Shed Time Line:

Site Approval:

Planning Board Portsmouth New Hampshire

October 18 2018

A. The application of Robert and Whitney Westhelle, Owners, for property located at 198 Essex Avenue, requesting Conditional Use Permit approval under Section 10.1017 of the Zoning Ordinance for work within the inland wetland buffer to construct a wood 12' X 18' garden shed, on cement blocks, with 216 + s.f. of impact to the wetland buffer. Said property is shown on Assessor Map 232 as Lot 128 and lies within the Single Residence B (SRB) District. (This application was postponed at the September 20, 2018 Planning Board Meeting.)

Chairman Legg read the notice into the record.

SPEAKING TO THE APPLICATION

Mr. Clark recused himself from the application.

Robert Westhelle spoke to the application. They are seeking a CUP for a garden shed in the backyard. The majority of the property is in the 100-foot setback. This is the ideal placement for the garden shed.

PUBLIC HEARING

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

Vice Chairman Moreau moved to grant Conditional Use Permit approval as presented, seconded by City Council Representative Perkins. The motion passed unanimously.

Building Permit:

Record ID: BLDG-20-441 **Date Created:**6/27/2020

Record Type: Building Permit Application

Address: 198 ESSEX AVE, Portsmouth, NH 03801

Applicant: Whitney Westhelle

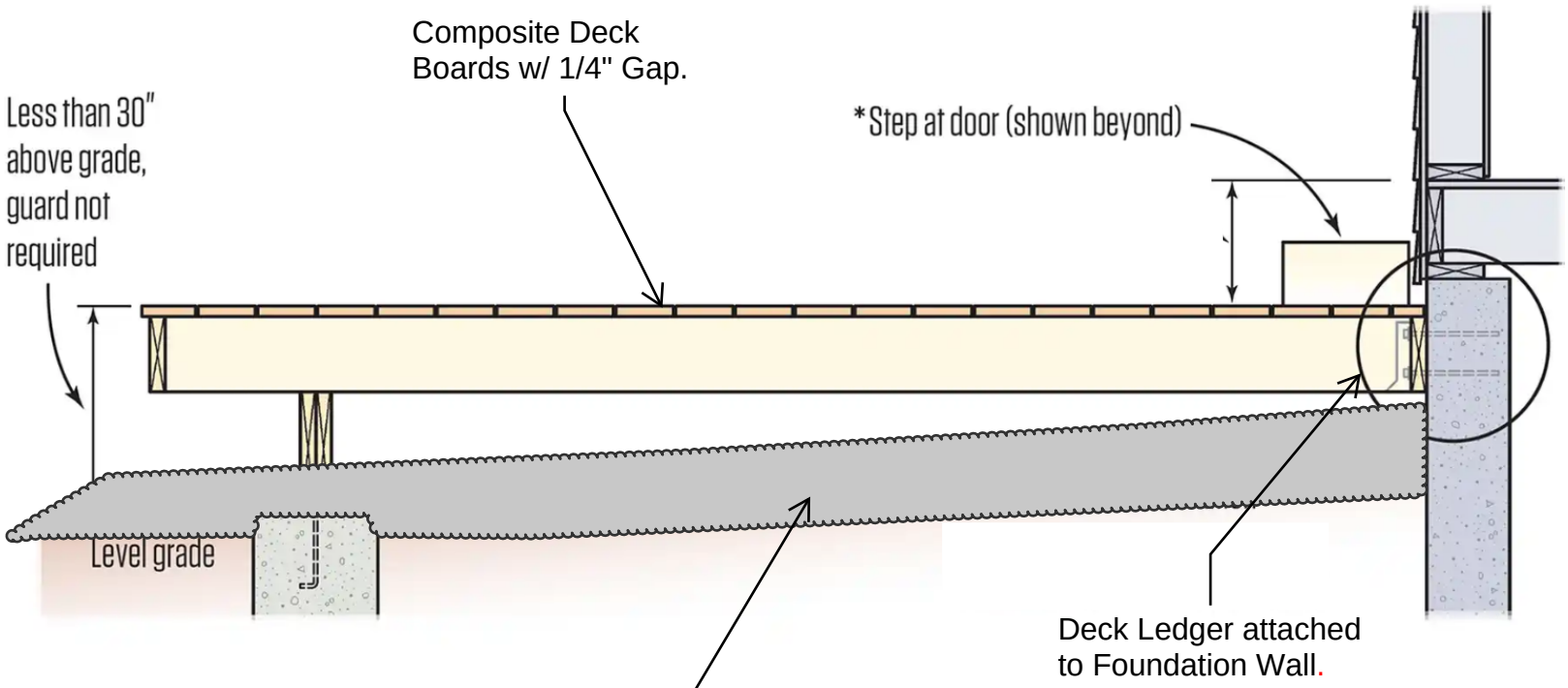
Detailed Description of Work: Prefab for assembly on site 10'x14'
wood garden shed on concrete block piers.

Cost: 4129

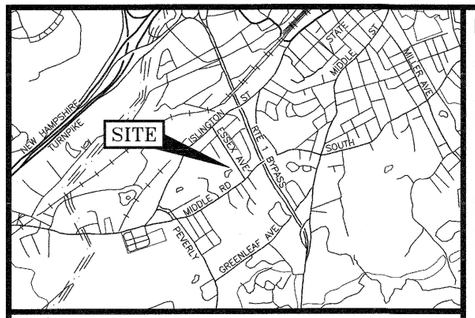
198 ESSEX AVE
Existing Garage at North Property Line.
(Right) View from Essex Ave looking West
(Below) View from North West looking East out to Essex Ave

(TOP) View from Essex Ave looking West (Below) View from North West looking South to Wetlands and East out to Essex Ave

View from South Property line looking North.



PROPOSED DECK SECTION



LOCATION MAP SCALE: 1" = 2000'

REFERENCE PLANS:

1) DANIELS PARK PORTSMOUTH, N.H., BELMONT REALTY CO. PROVIDENCE, R.I., SCALE: 60' = 1", DATED JUNE 1918, PREPARED BY C.A. THAYER ENGR., RCRD PLAN# 0241

2) PLAN OF LOT PORTSMOUTH, N.H. FOR GEO. B. & MARIE R. UNDERWOOD, SCALE: 1 IN. = 40 FT., DATED OCT. 1972, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, RCRD PLAN B-3290

3) EXISTING CONDITIONS SITE PLAN FOR PROPERTY AT 88 SIMS AVENUE PORTSMOUTH, COUNTY OF ROCKINGHAM, NEW HAMPSHIRE OWNED BY CHANCE B. ALLEN & EDWARD R. ALLEN, SCALE: 1" = 10', DATED 5/22/17, PREPARED BY NORTH EASTERLY SURVEYING, INC., NOT RECORDED

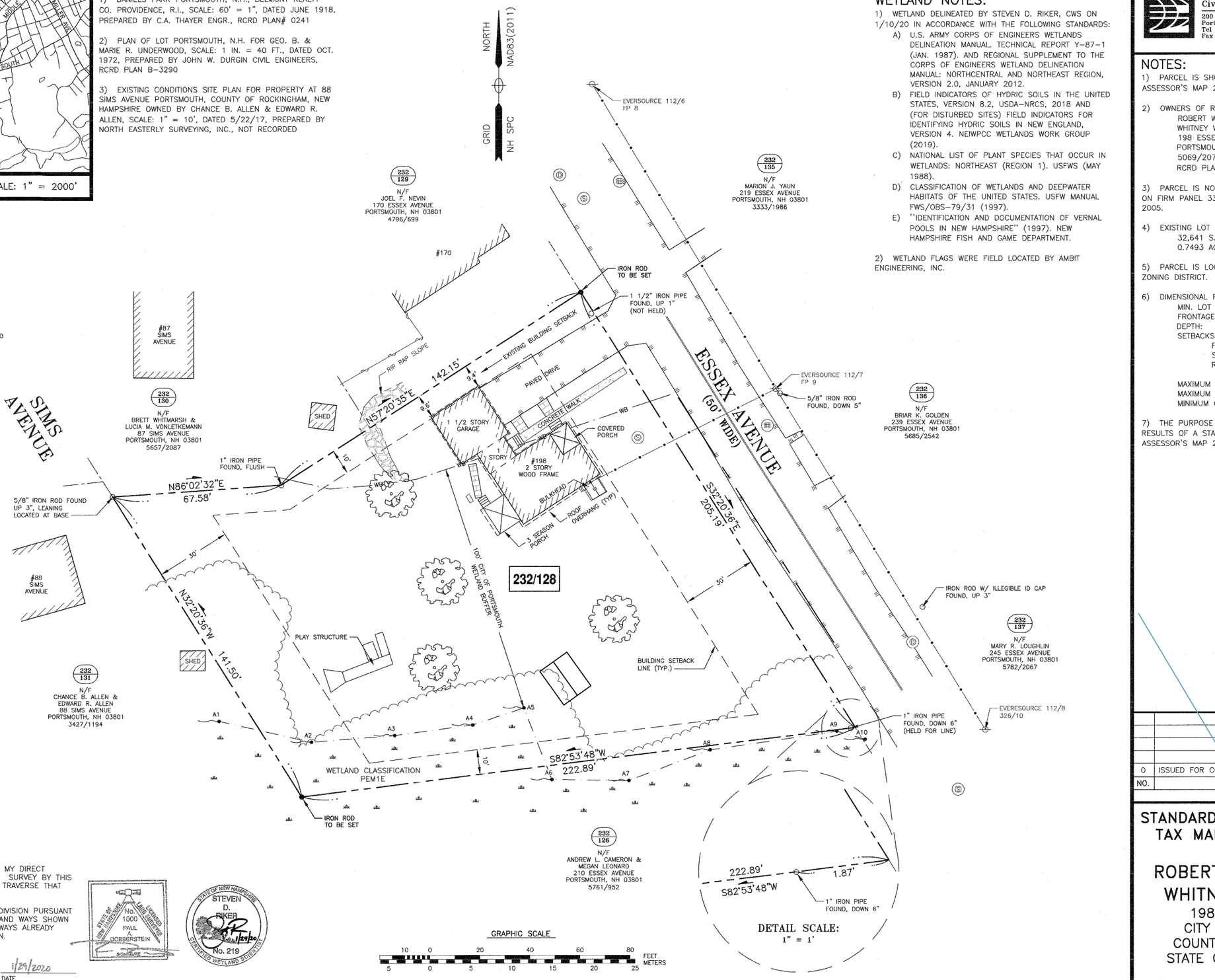
WETLAND NOTES:

1) WETLAND DELINEATED BY STEVEN D. RIKER, CWS ON 1/10/20 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
- A) U.S. 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.
- B) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.2, USDA-NRCS, 2018 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEIWPCC WETLANDS WORK GROUP (2019).
- C) NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).
- D) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).
- E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/21	MAP 11 / LOT 21
	BOUNDARY LINE
	BUILDING SETBACK LINE
	RAILROAD SPIKE FOUND
	IRON ROD/PIPE FOUND
	DRILL HOLE FOUND
	STONE/CONCRETE BOUND FOUND
	IRON ROD SET
S	SEWER LINE
	OVERHEAD ELECTRIC/WIRES
EP	EDGE OF PAVEMENT (EP)
WB	WETLAND BUFFER LINE
	EDGE OF WETLAND
	WOODS / TREE LINE
	UTILITY POLE (w/ GUY)
	GAS SHUT OFF
	HYDRANT
G W E	METER (GAS, WATER, ELECTRIC)
	CATCH BASIN
S	SEWER MANHOLE
D	DRAIN MANHOLE
TYP.	TYPICAL



I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

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.

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 1000 PAUL A. DOBBERSTEIN SIGNATURE

STATE OF NEW HAMPSHIRE STEVEN D. RIKER No. 219 CERTIFIED WETLAND SCIENTIST

PAUL A. DOBBERSTEIN, LLS #1000

1/28/2020
DATE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 232 AS LOT 128.

2) OWNERS OF RECORD:
ROBERT WESTHELLE &
WHITNEY WESTHELLE
198 ESSEX AVENUE
PORTSMOUTH, NH 03801
5069/2070
RCRD PLAN# 0241

3) PARCEL IS NOT IN A FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0270E. EFFECTIVE DATE 17 MAY 2005.

4) EXISTING LOT AREA:
32,641 S.F.
0.7493 ACRES

5) PARCEL IS LOCATED IN SINGLE RESIDENCE B (SRB) ZONING DISTRICT.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:	15,000 S.F.
FRONTAGE:	100 FEET
DEPTH:	100 FEET
SETBACKS:	
FRONT	30 FEET
SIDE	10 FEET
REAR	30 FEET
MAXIMUM STRUCTURE HEIGHT:	35 FEET
MAXIMUM BUILDING COVERAGE:	20%
MINIMUM OPEN SPACE:	40%

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A STANDARD BOUNDARY SURVEY OF ASSESSOR'S MAP 232 LOT 128.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	1/27/20

REVISIONS

STANDARD BOUNDARY SURVEY
TAX MAP 232 - LOT 128

OWNERS:

ROBERT WESTHELLE & WHITNEY WESTHELLE

198 ESSEX AVENUE
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1" = 20' *JANUARY 2020*

FB 276 PG 32 3156

SITE

EXIST SITE PLAN ZONING INFO

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

SITE PLAN A

1" = 20'-0" scale

ROBERT & WHITNEY WESTHELLE
198 ESSEX AVENUE
PORTSMOUTH, NEW HAMPSHIRE 03801

LOT-UNIT NUMBER:	128
PARCEL AREA:	0.865 AC = 37,679.4 SF
TAX MAP:	232
ZONING DISTRICT:	SINGLE RESIDENCE B
LOT SIZE:	32,641 SF
LOT AREA INSIDE WB:	28,183 SF = 86%
EXIST BLDG COVERAGE:	1,768 SF = 5.4%
EXIST OPEN SPACE:	29,562 SF = 90.6%
EXIST IMPERVIOUS INSIDE WB:	1,436 SF = 5.10%

NORTH ADDITION (PHASE II):
REMOVE EXISTING GARAGE AND BREEZE WAY
587 SF FOOT PRINT
CONSTRUCT TWO STORY GARAGE/PRIMARY BEDROOM
753 SF FOOT PRINT (TOTAL NEW FIST & SECOND FLOOR
1,388 GSF) CONSERVATION COMMISSION APPROVAL
REQUIRED FOR WETLAND BUFFER SETBACK

SOUTH ADDITION (PHASE II):
REMOVE EXISTING THREE SEASON PORCH
125 SF FOOT PRINT
CONSTRUCT ONE STORY FAMILY ROOM
315 SF FOOTPRINT
CONSTRUCT ONE STORY FAMILY ROOM
CONSERVATION COMMISSION APPROVAL
REQUIRED FOR WETLAND BUFFER SETBACK

NORTH ADDITION W/ DECK (PHASE 1)

PROPOSED BLDG COVERAGE:	2,386 SF = 7.31%
OPEN SPACE:	28,977 SF = 88.76%
IMPERVIOUS INSIDE WB:	1,758 SF = 6.24%

NORTH & SOUTH ADDITION W/ DECK (PHASE 1 + PHASE 2)

PROPOSED BLDG COVERAGE:	2,603 SF = 7.97%
OPEN SPACE:	28,760 SF = 88.1%
IMPERVIOUS INSIDE WB:	1,948 SF = 6.91%

52'
50'
48'
46'
44'
42'
40'
10'-0"
25'-0"
62'-0"
74'-0"
WB
NORTH ADDITION PHASE I
SOUTH ADDITION PHASE II
DECK / PATIO
EXIST HOUSE
DRIVEWAY
WALKWAY
ESSEX AVENUE
EDGE OF EXIST LAWN
EXIST PLAY GROUND
EXIST SHED
VEG. BUFFER
WETLAND
N
0' 10' 20' 50'

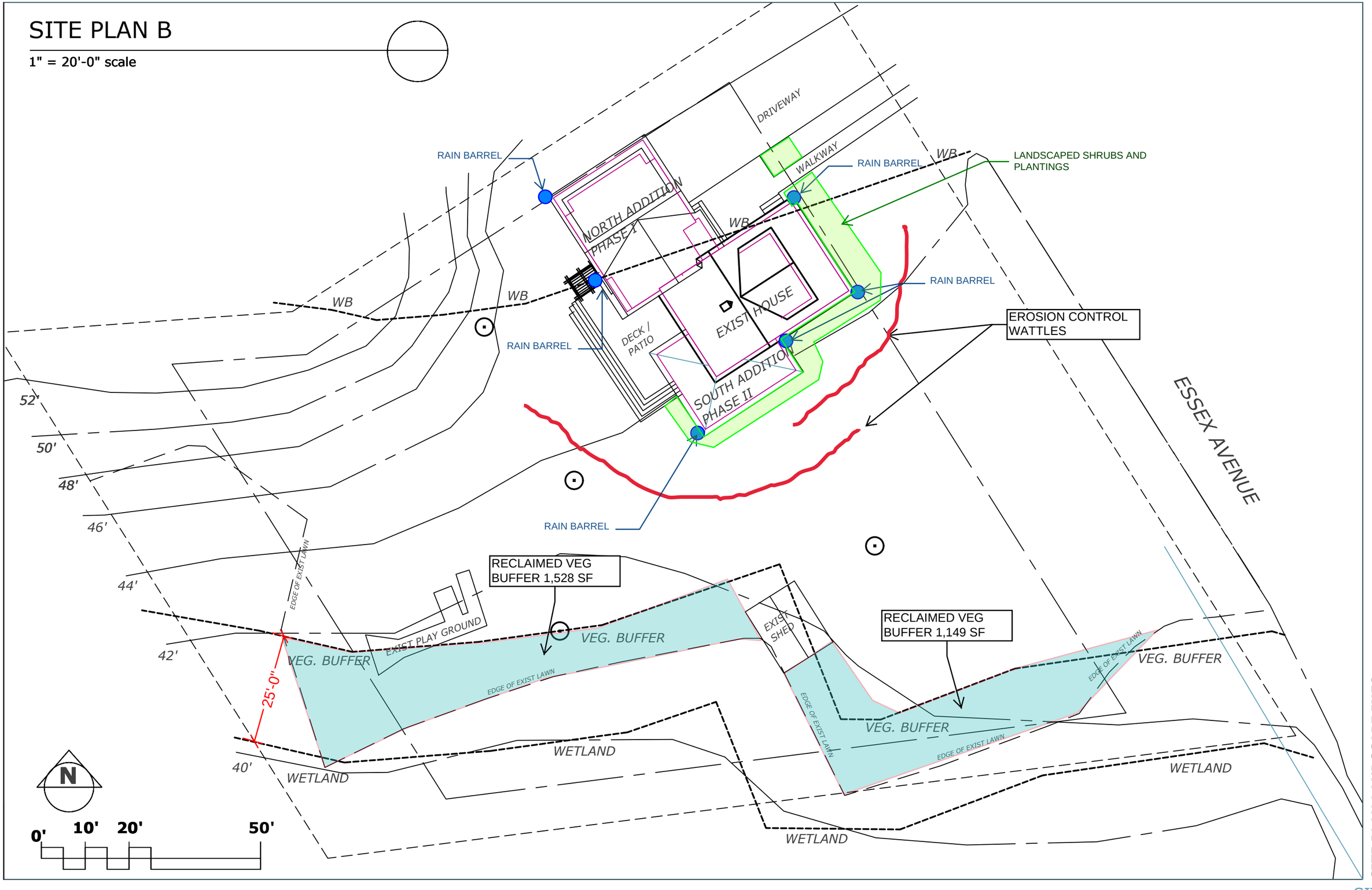
Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

SITE PLAN ZONING INFO

SITE

SITE PLAN B

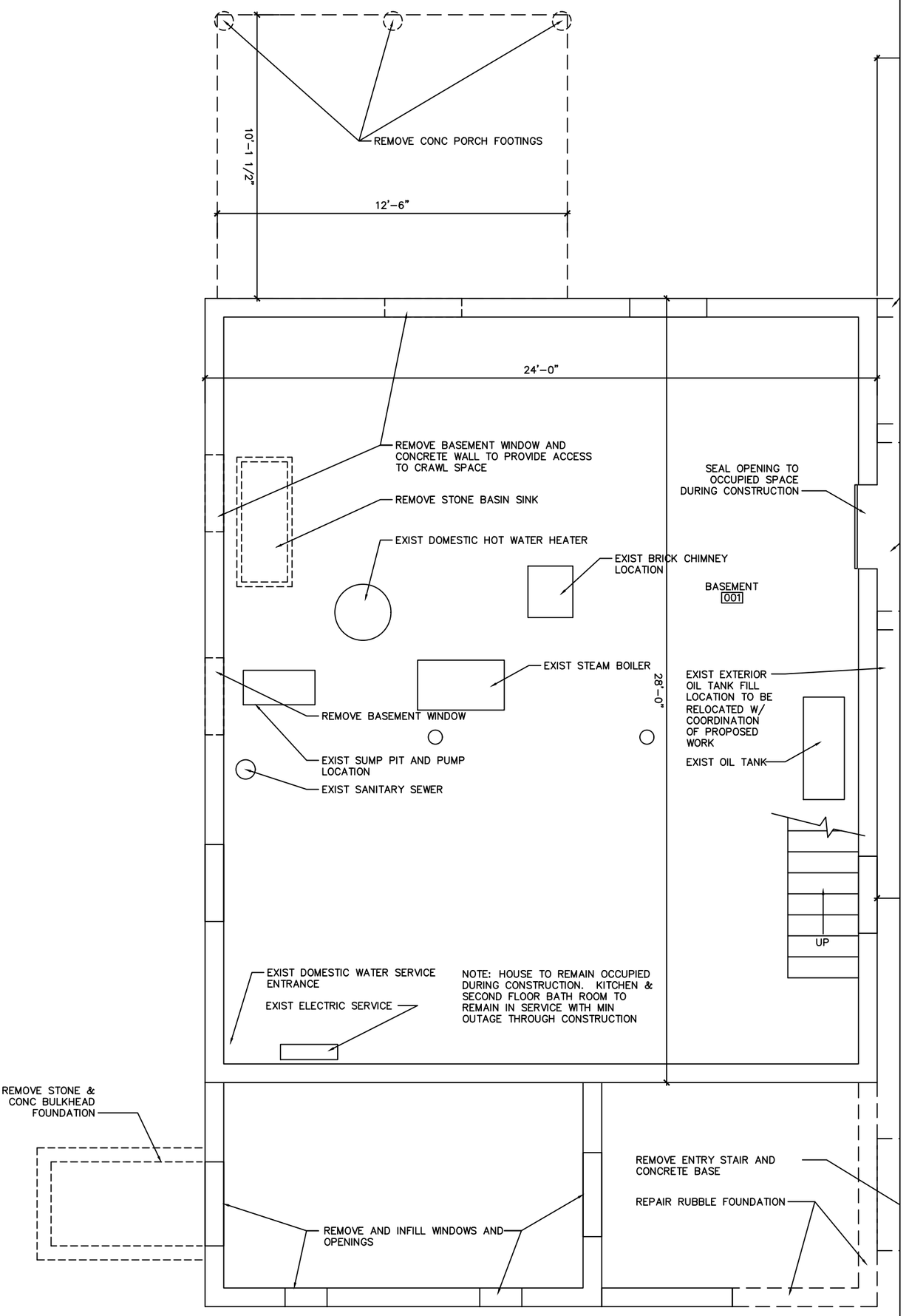
1" = 20'-0" scale



Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

SITE PLAN LANDSCAPE INFO

SITE



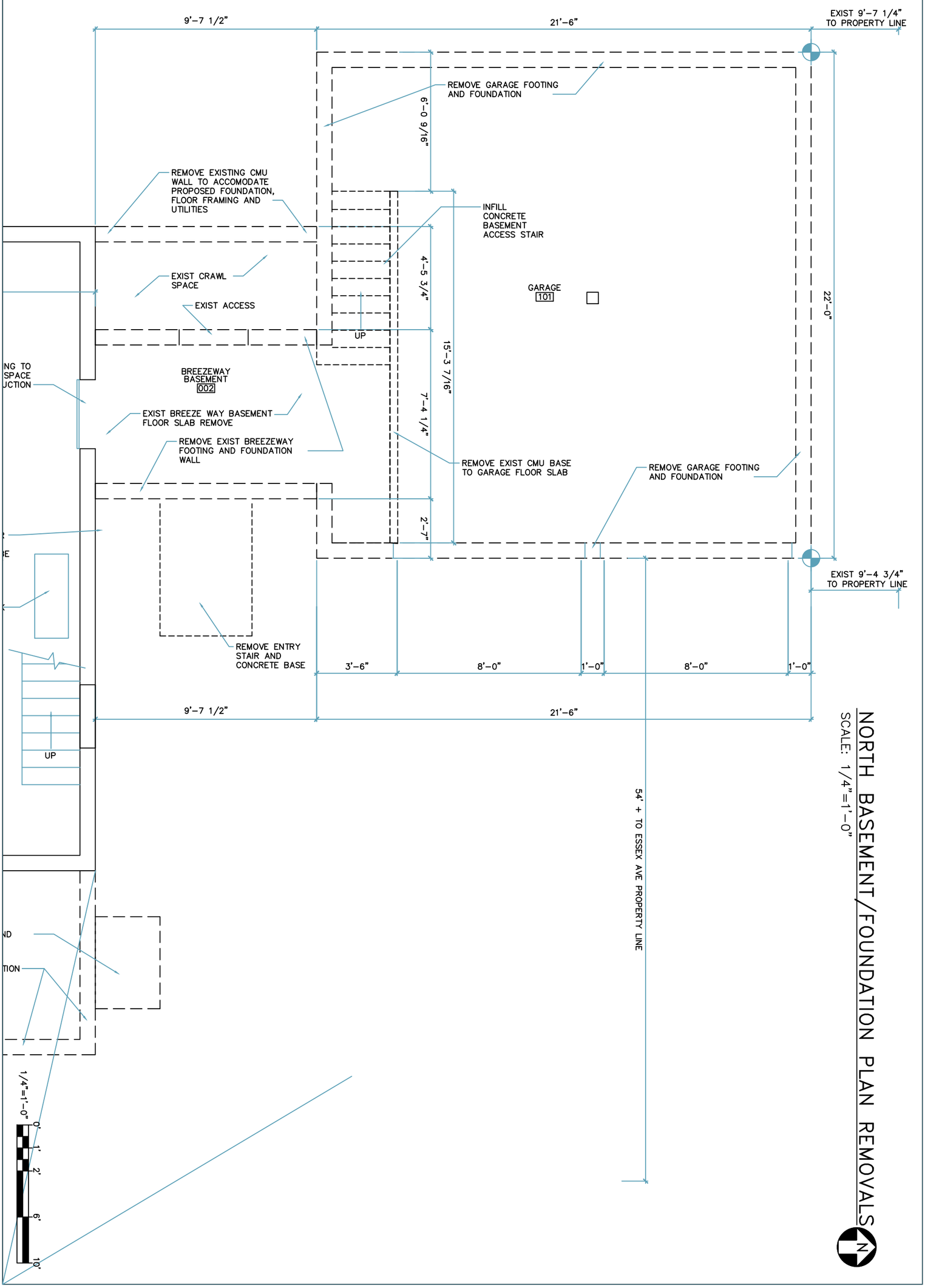
SOUTH BASEMENT/FOUNDATION PLAN REMOVALS

SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

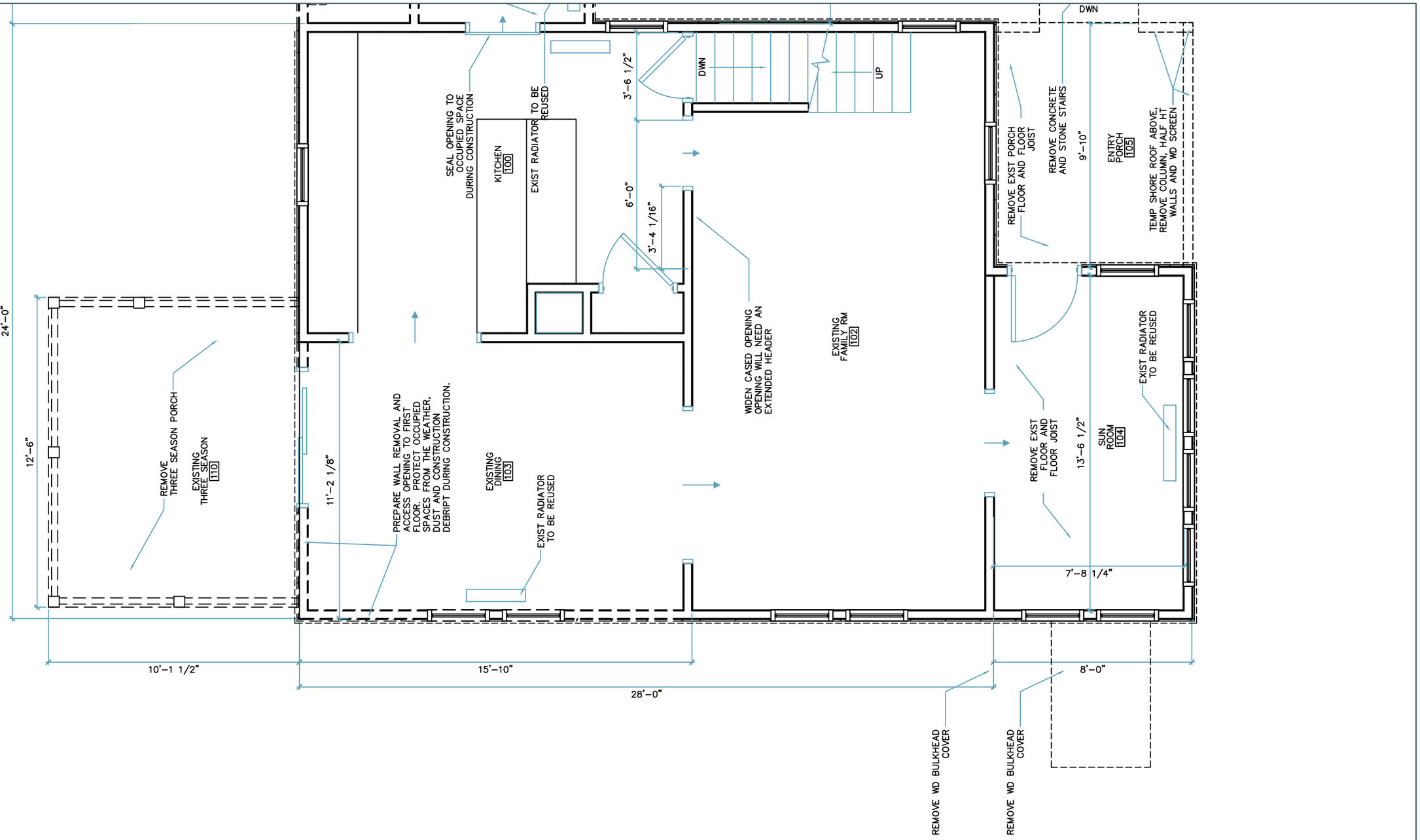
N

AD0Bs



NORTH BASEMENT/FOUNDATION PLAN REMOVALS

SCALE: 1/4"=1'-0"

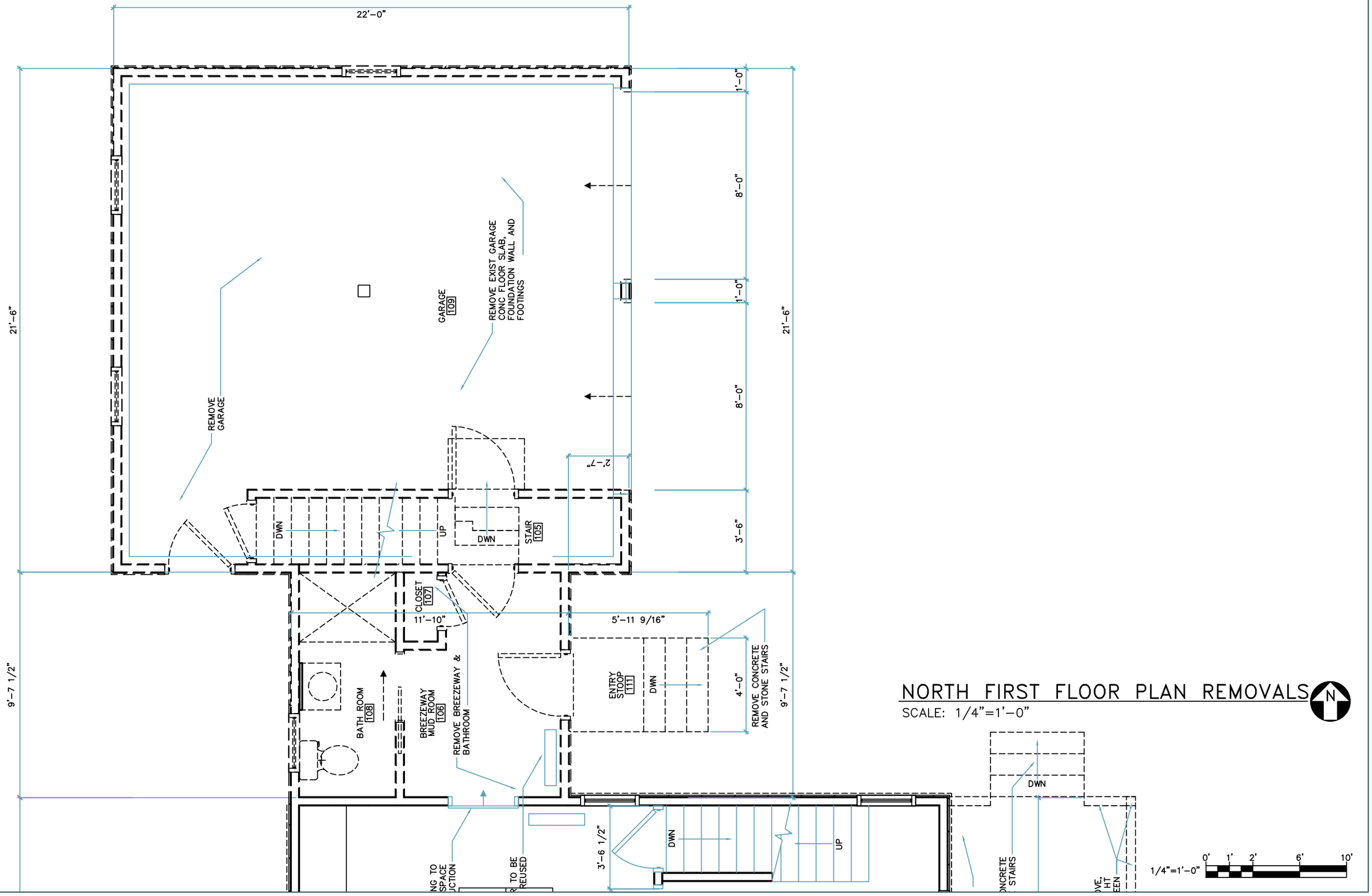


SOUTH FIRST FLOOR PLAN REMOVALS

SCALE: 1/4"=1'-0"

0' 1' 2' 6' 10'
1/4"=1'-0"

SOUTH FIST FLOOR PLAN REMOVALS

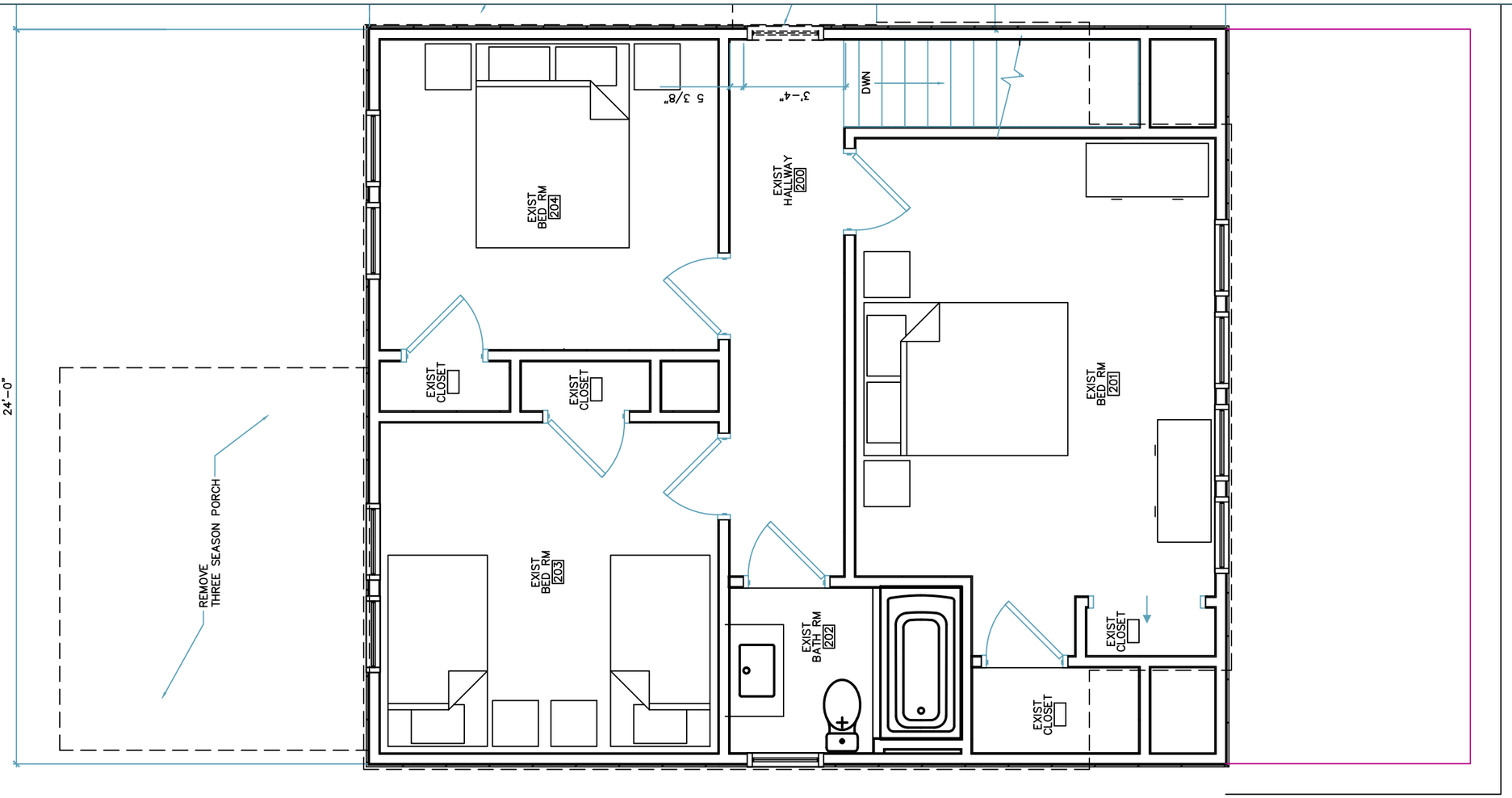


NORTH FIRST FLOOR PLAN REMOVALS

SCALE: 1/4"=1'-0"

NORTH FIST FLOOR PLAN REMOVALS

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023



SOUTH SECOND FLOOR PLAN REMOVALS

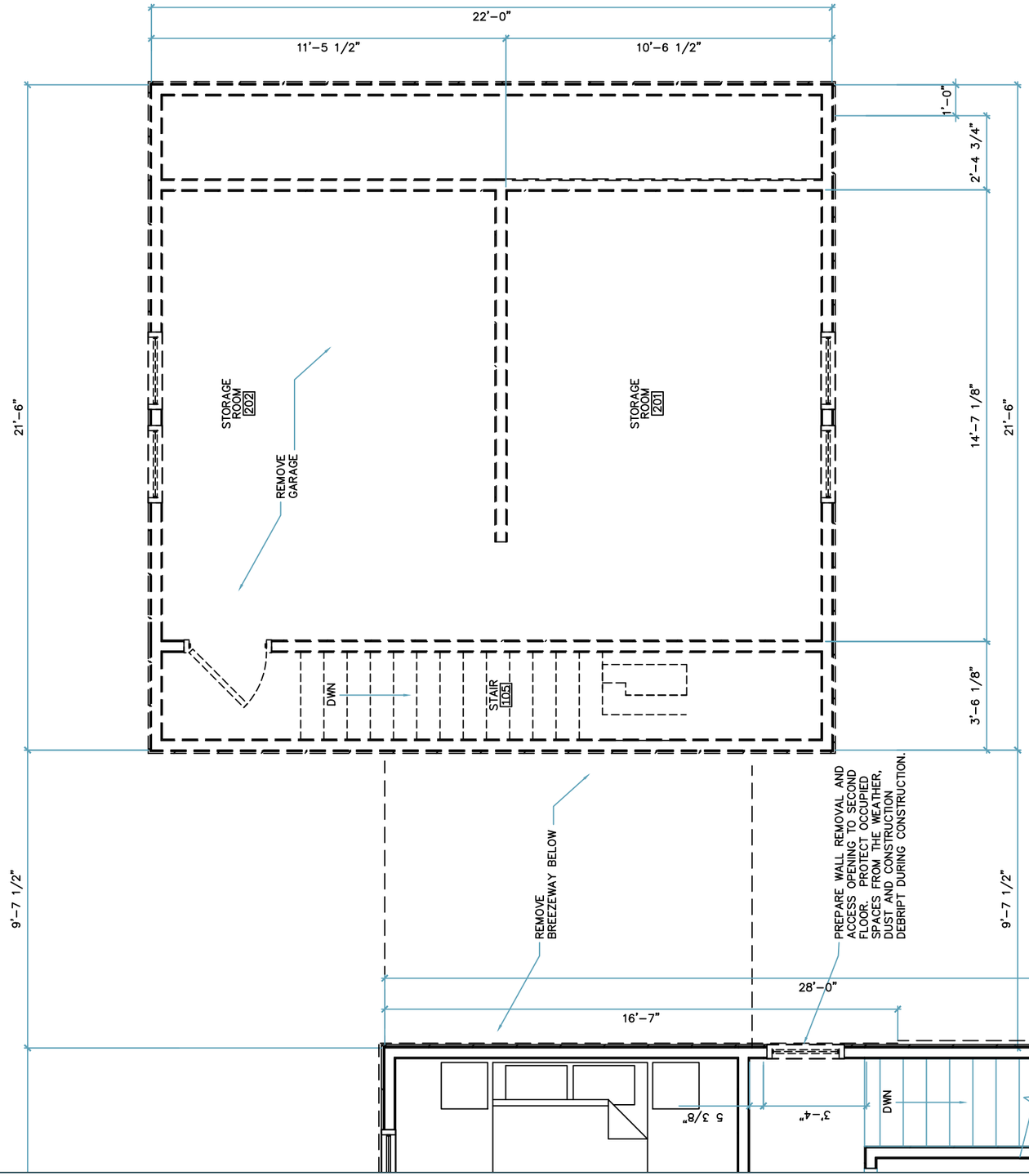
SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

SOUTH FIST FLOOR PLAN REMOVALS

AD02s



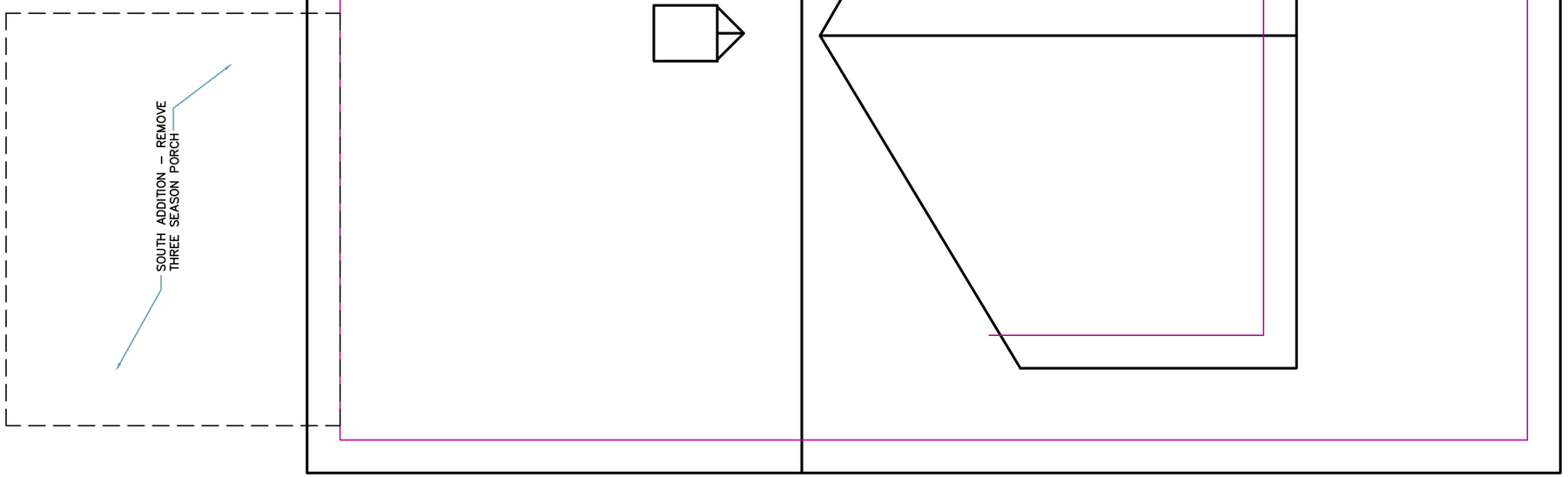
NORTH SECOND FLOOR PLAN REMOVALS

SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

NORTH SECOND FLOOR PLAN REMOVALS

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023



SOUTH ROOF PLAN REMOVALS

SCALE: 1/4"=1'-0"

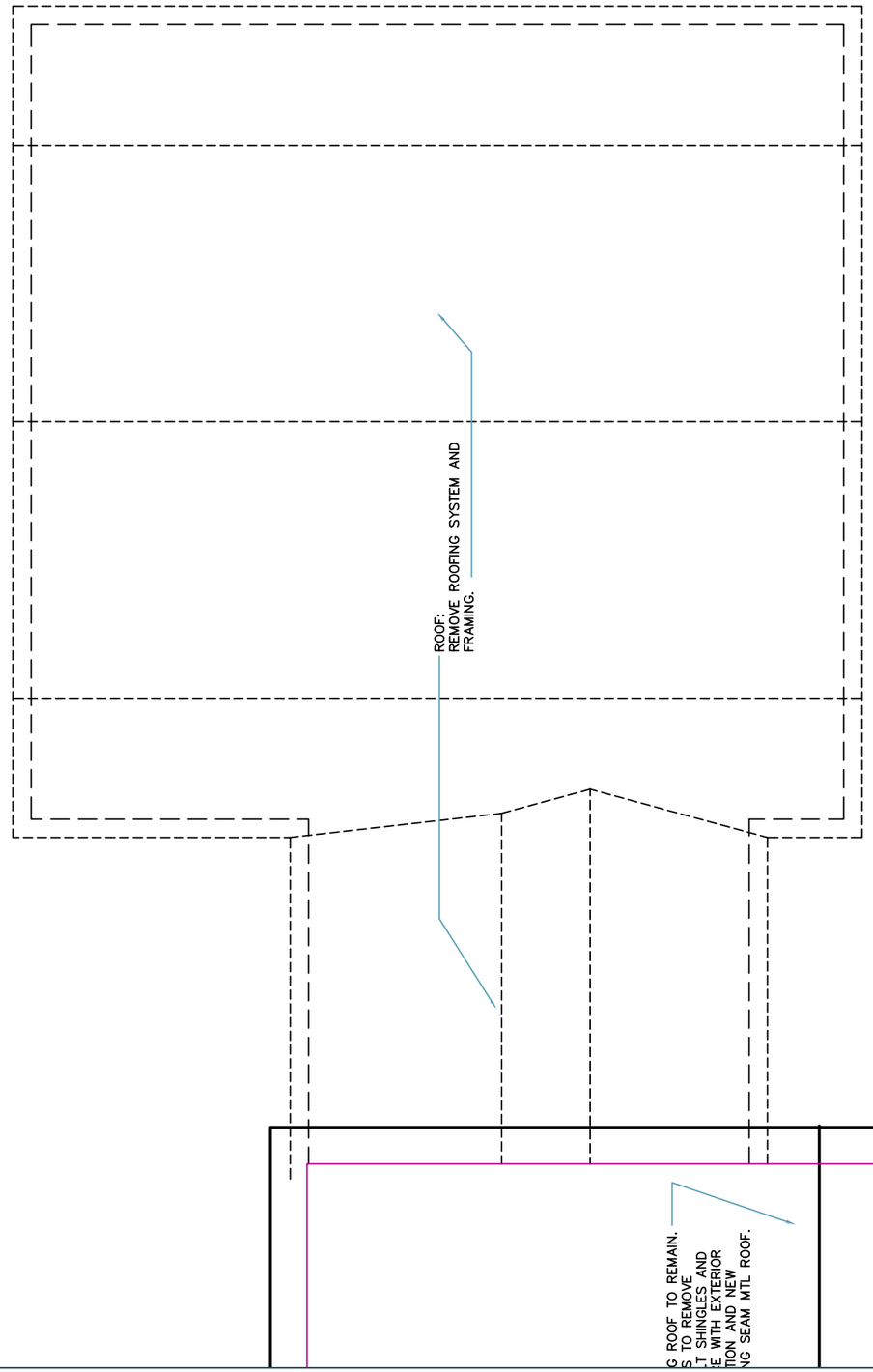
N

0' 1' 2' 6' 10'

1/4"=1'-0"

SOUTH FIST FLOOR PLAN REMOVALS

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023



NORTH ROOF PLAN REMOVALS

SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

NORTH ROOF PLAN REMOVALS

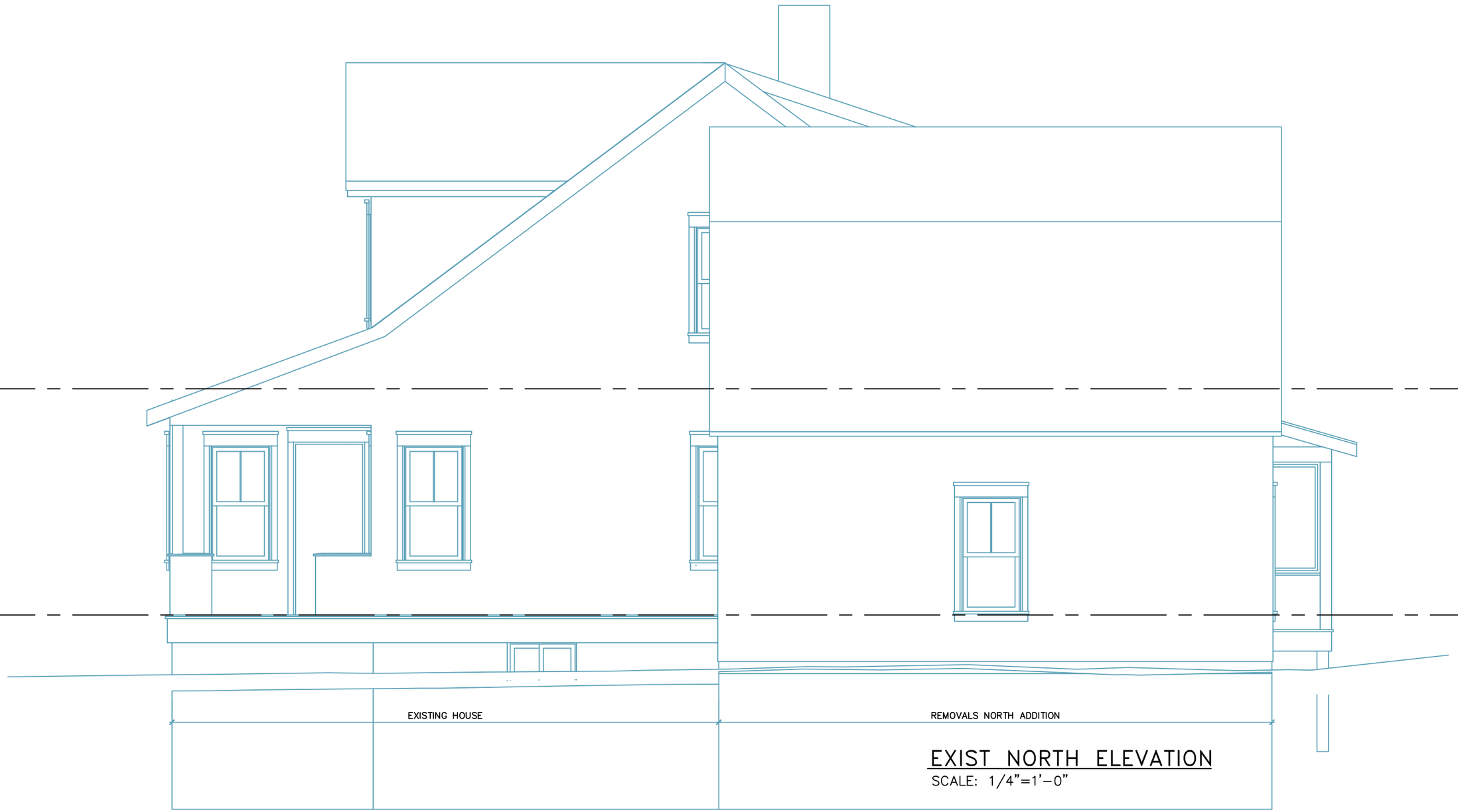
EXIST EAST ELEVATION
SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

EXIST EAST ELEVATION

AD11



EXIST NORTH ELEVATION

SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

EXISTING NORTH ELEVATION

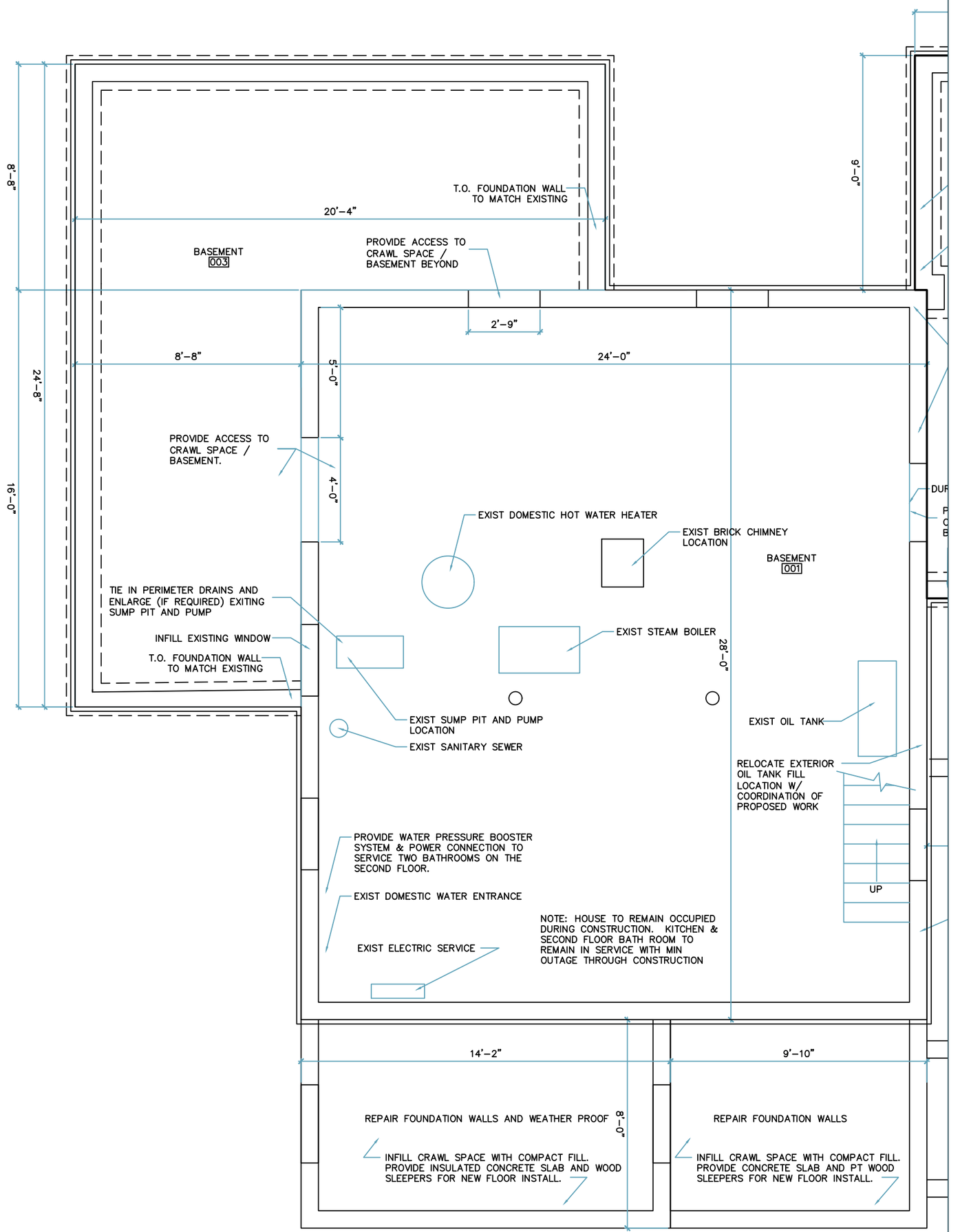
AD12

EXIST SOUTH ELEVATION
SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

EXIST SOUTH ELEVATION

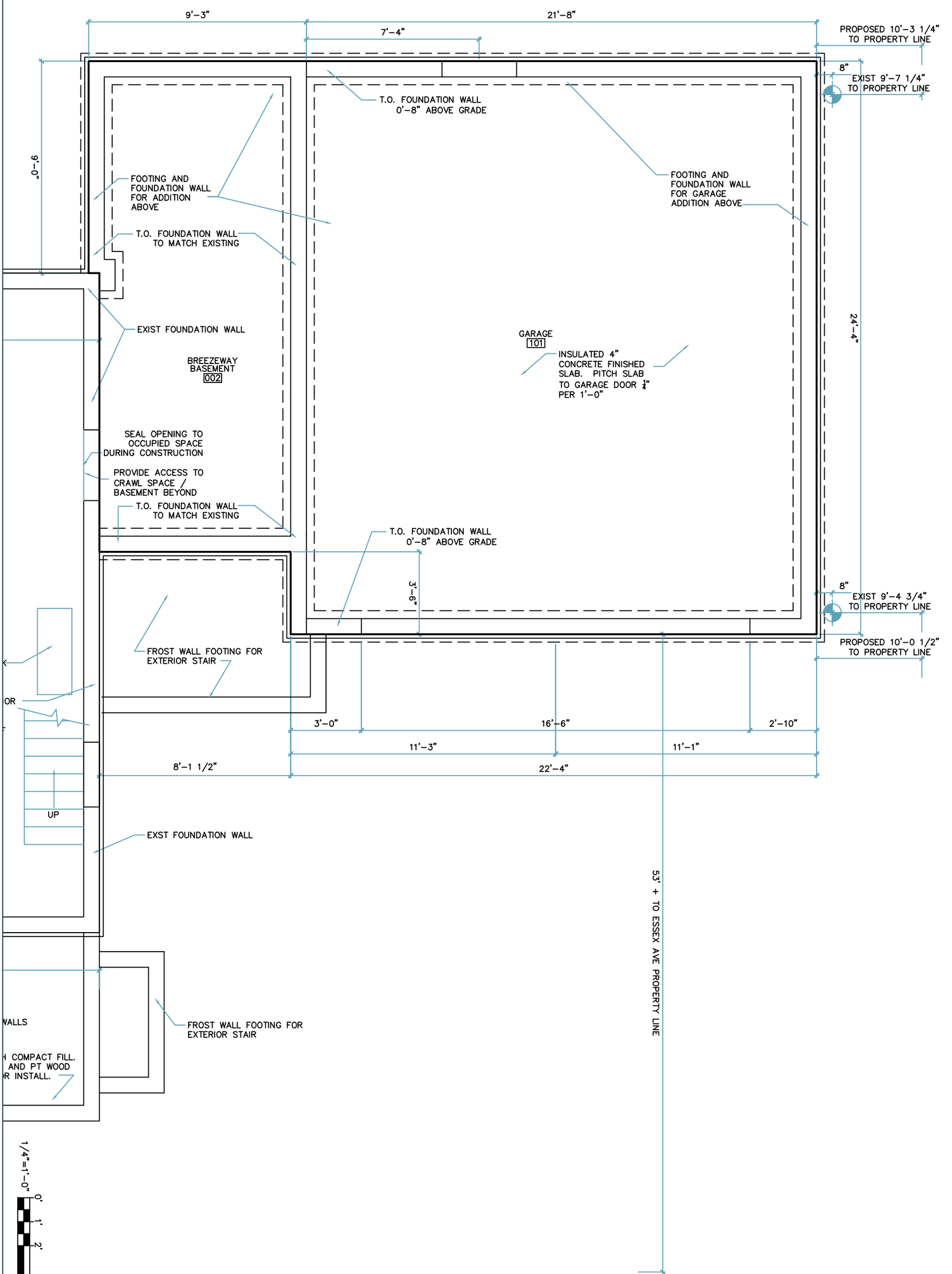


1/4"=1'-0"

0' 1' 2' 6' 10'

AE0Bs

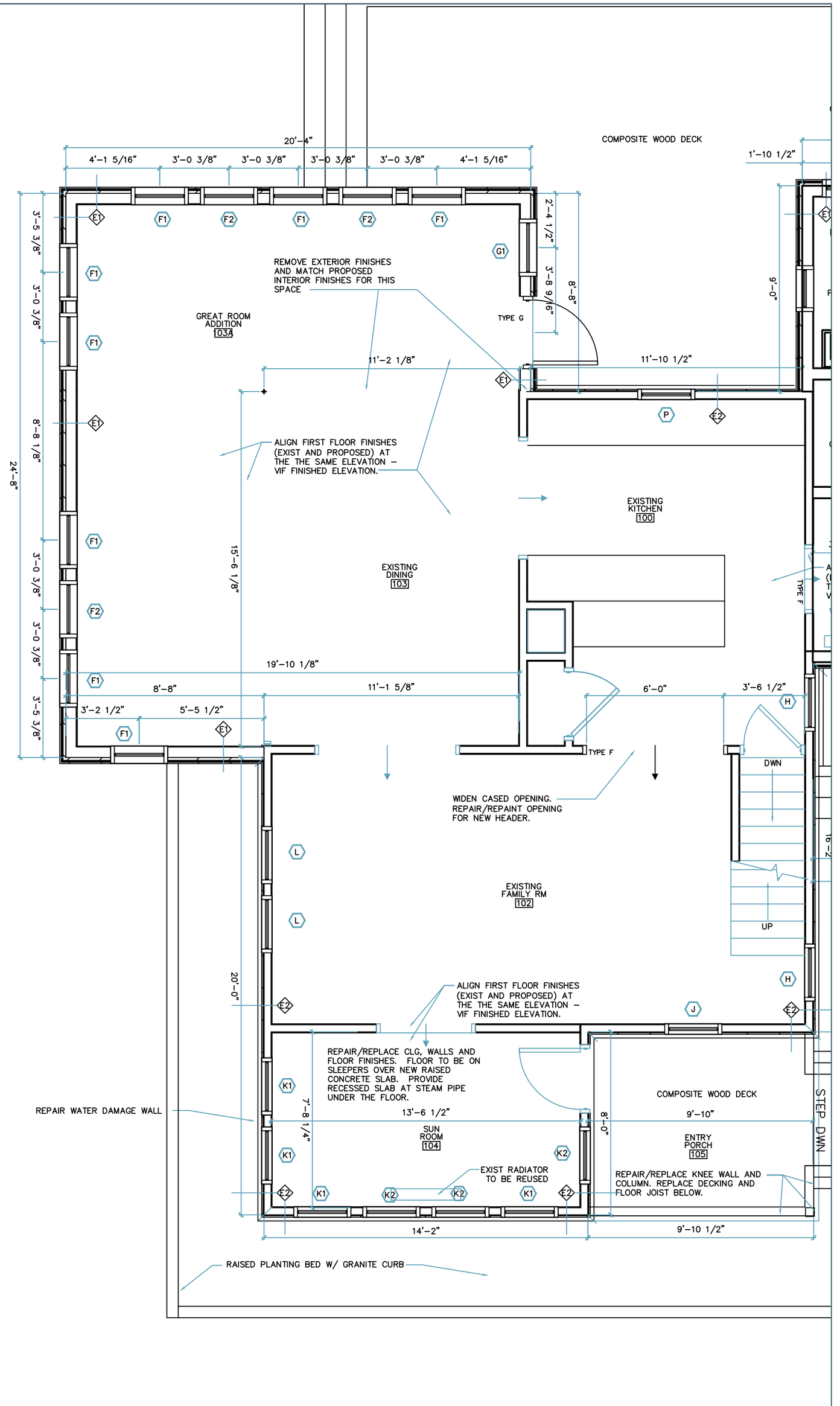
SOUTH BASEMENT / FOUNDATION PLAN



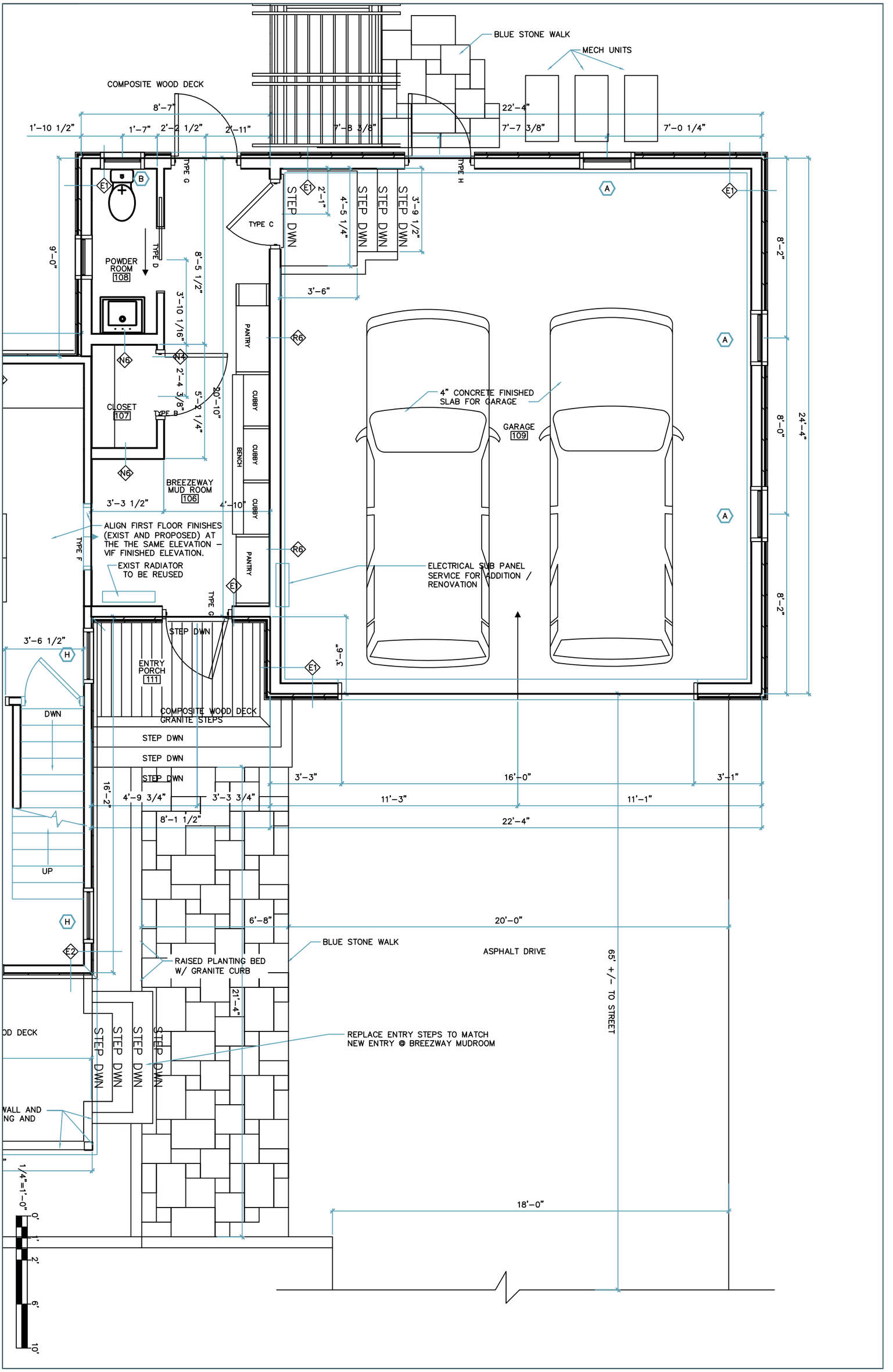
NORTH BASEMENT / FOUNDATION PLAN

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

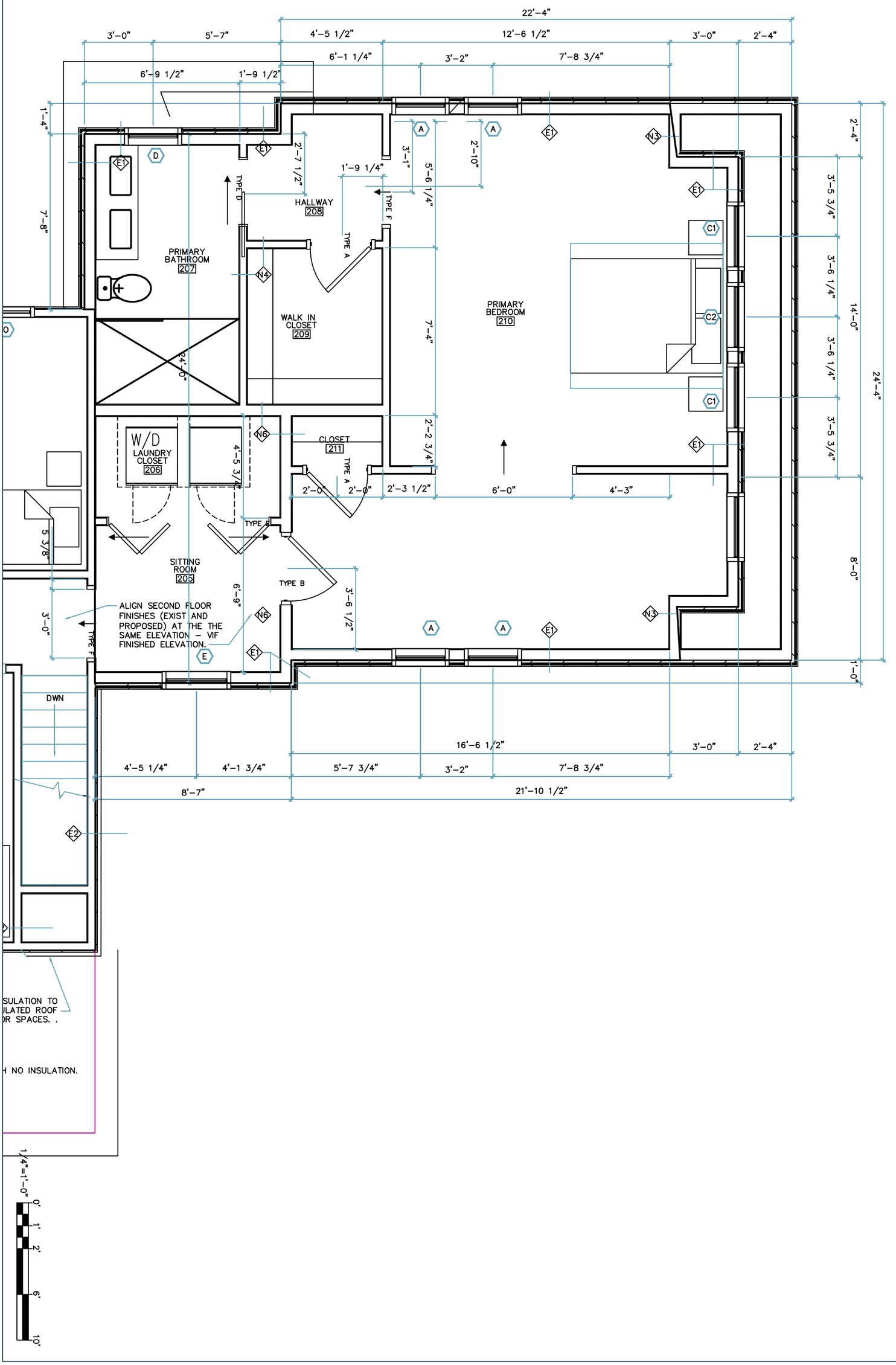
AE0Bn



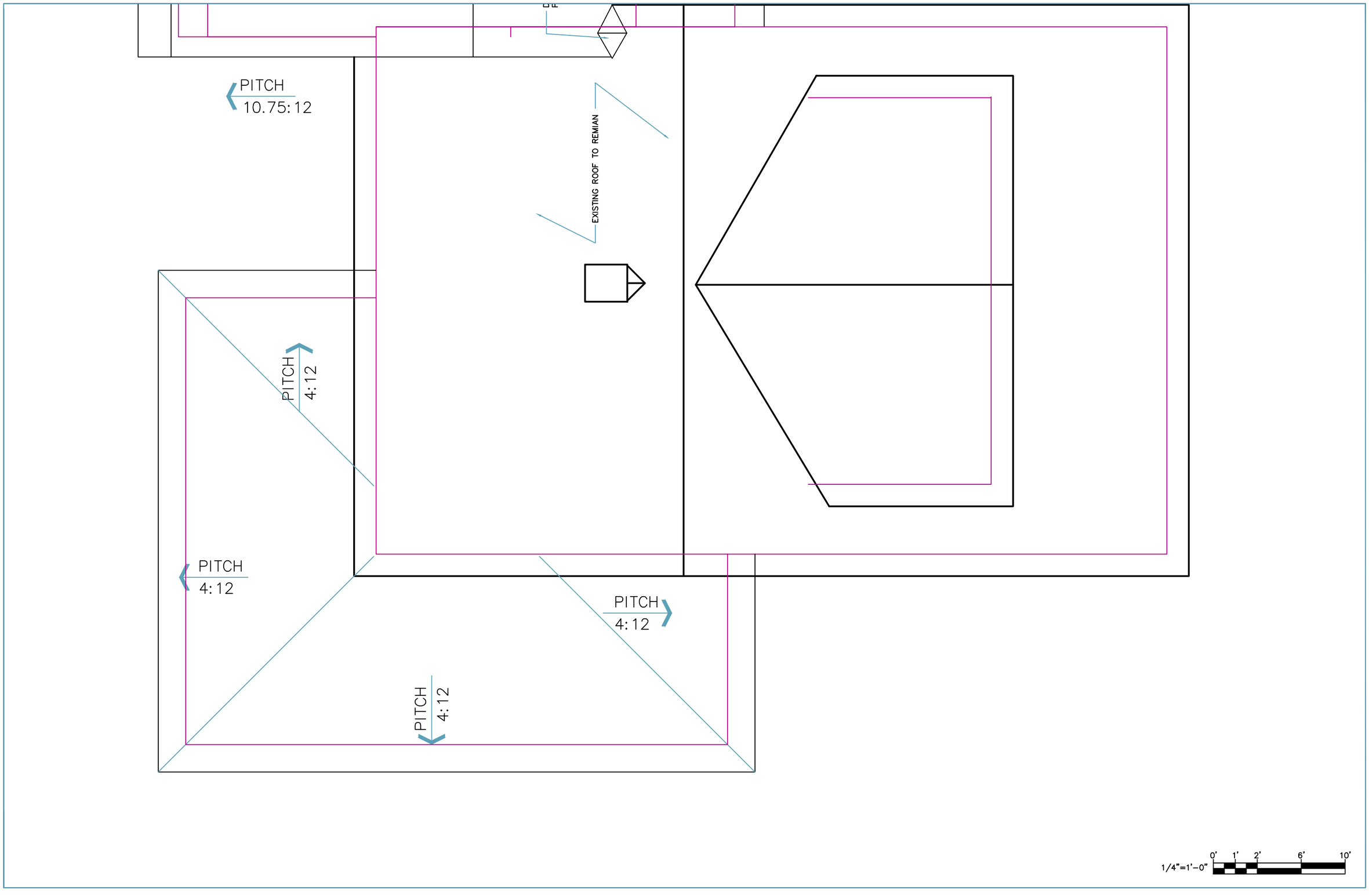
SOUTH FIRST FLOOR PLAN



NORTH FIRST FLOOR PLAN



NORTH SECOND FLOOR PLAN

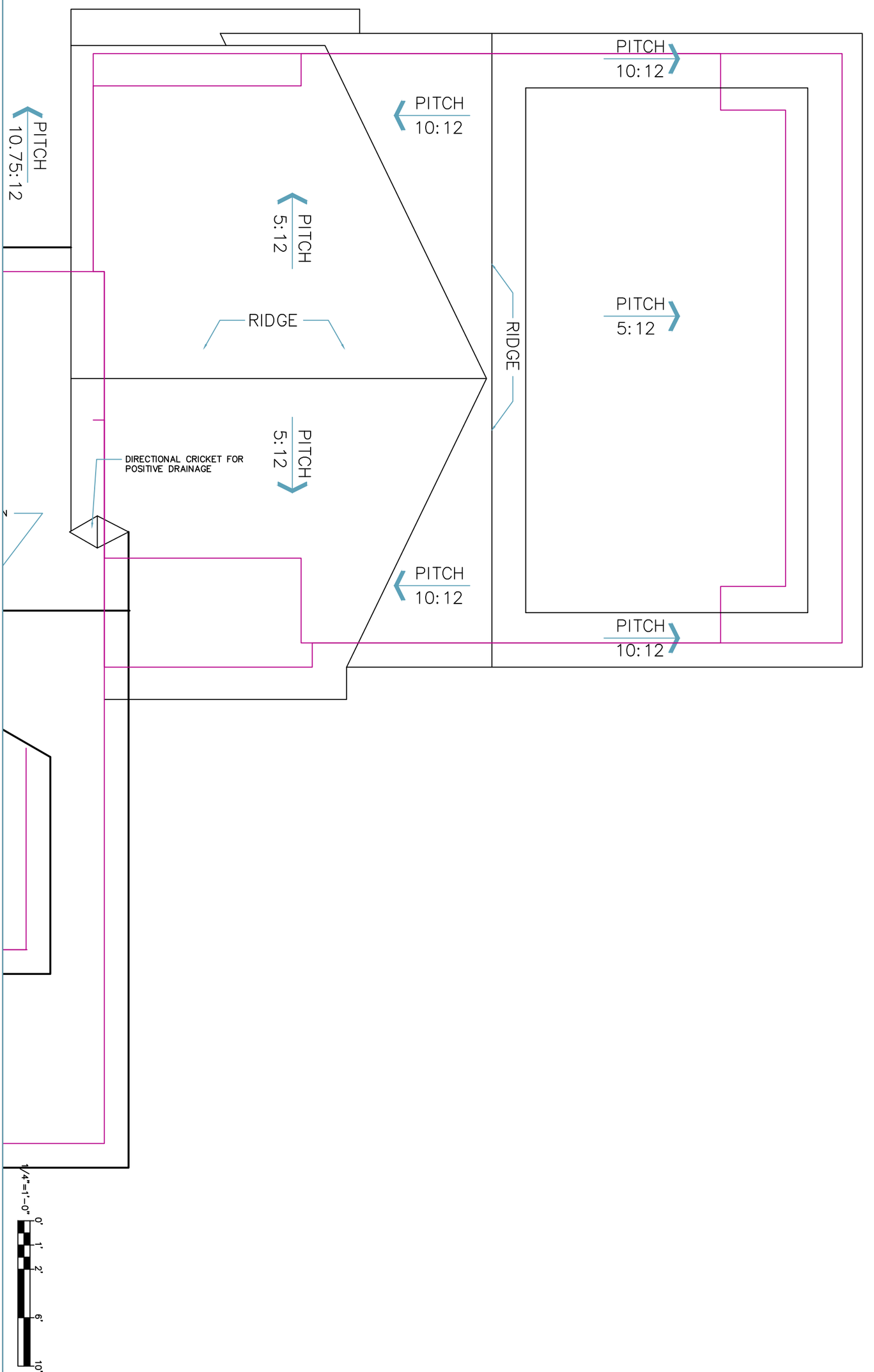


1/4"=1'-0" 0' 1' 2' 6' 10'

SOUTH ROOF PLAN SOUTH

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

AE03s



NORTH ROOF PLAN NORTH

EAST ELEVATION

SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

EAST ELEVATION

NORTH ELEVATION
SCALE: 1/4"=1'-0"

1/4"=1'-0" 0' 1' 2' 6' 10'

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

NORTH ELEVATION

AE12

WEST ELEVATION SOUTH

SCALE: 1/4"=1'-0"

0' 1' 2' 6' 10'

1/4"=1'-0"

NORTH ELEVATION

WEST ELEVATION NORTH
SCALE: 1/4"=1'-0"

WEST ELEVA
SCALE: 1/4"=1'-0

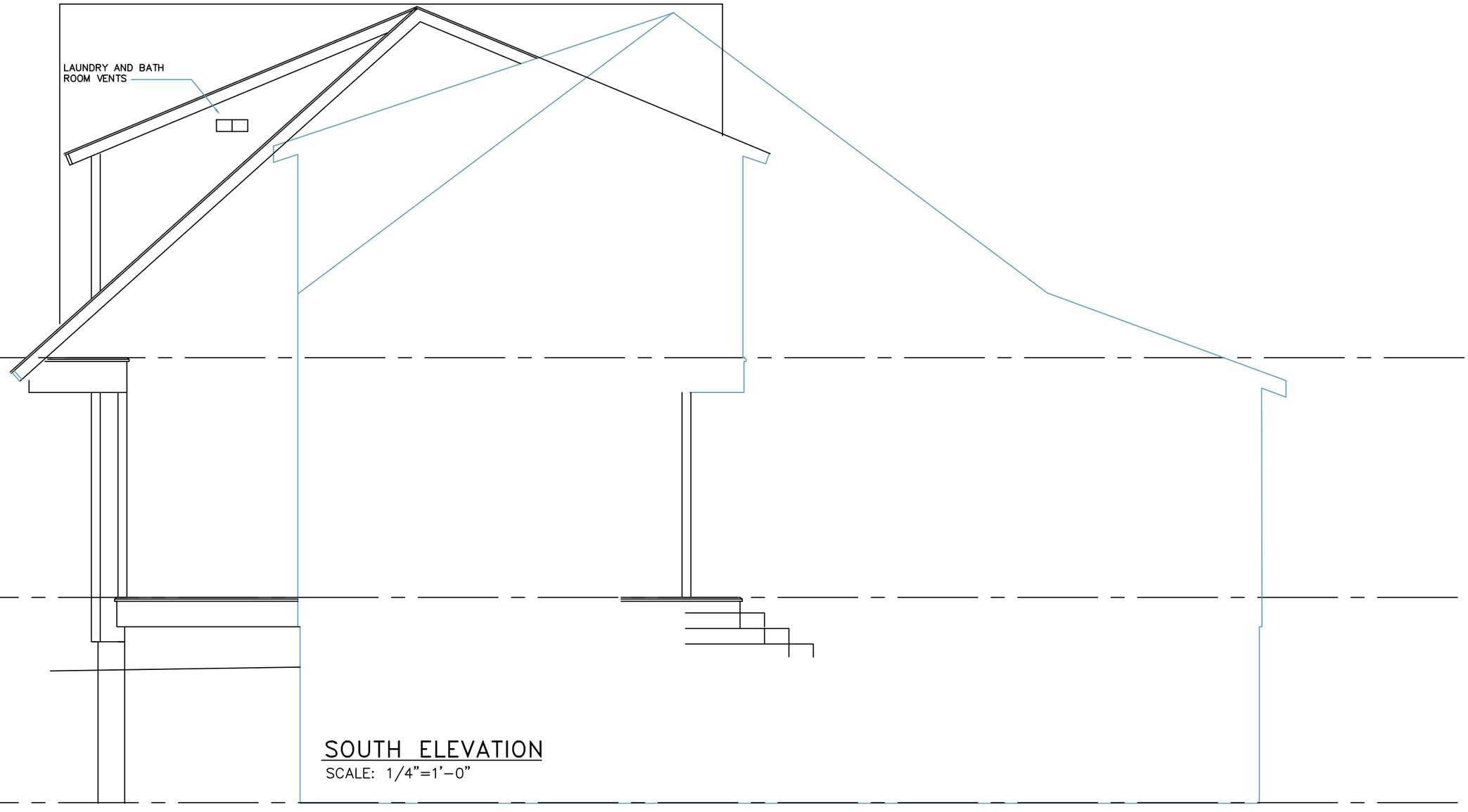
1/4"=1'-0" 0' 1' 2' 6' 10'

NORTH ELEVATION

1/4"=1'-0" 0' 1' 2' 6' 10'

SOUTH ELEVATION

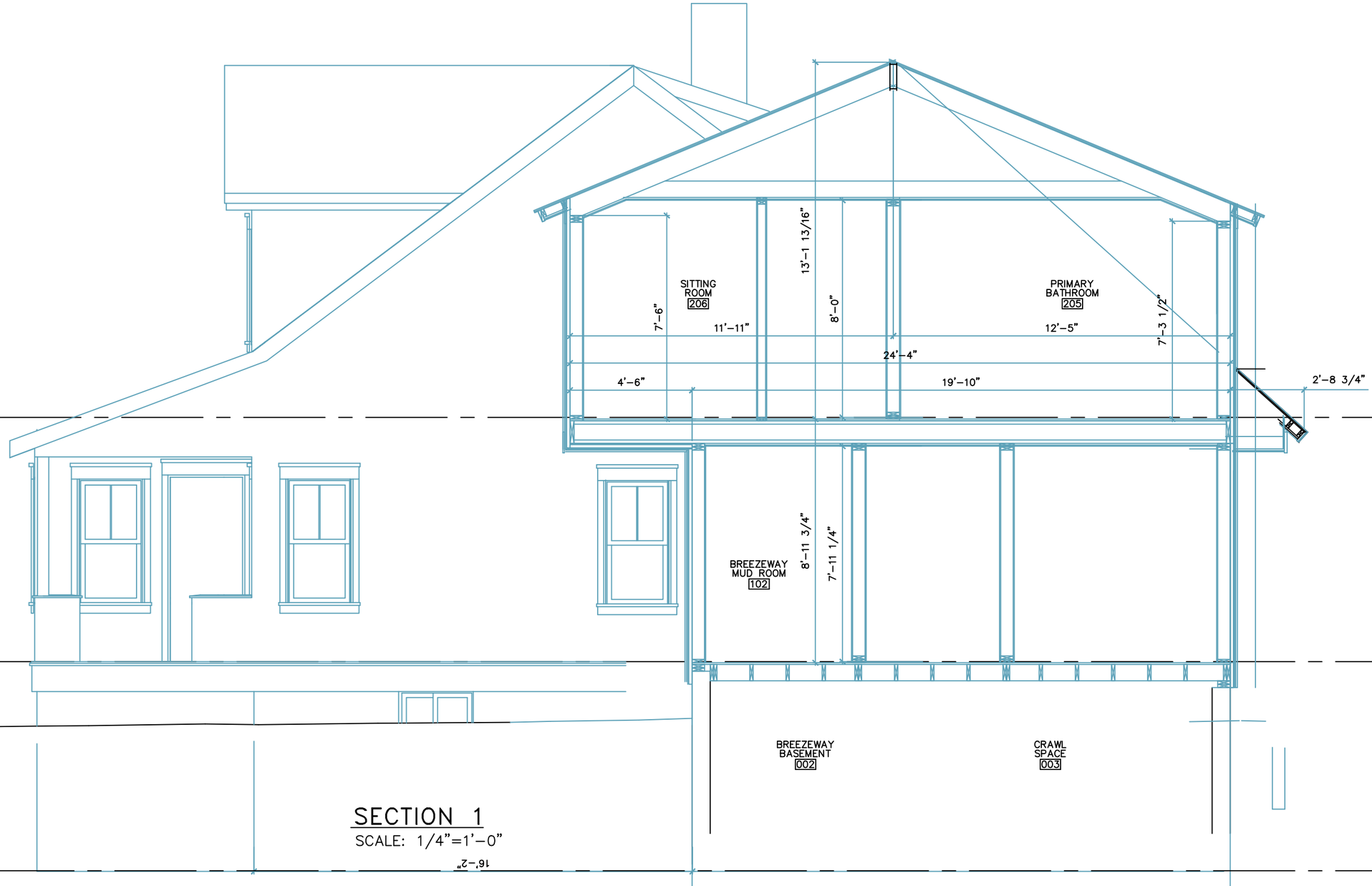
Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023



SOUTH ELEVATION
SCALE: 1/4"=1'-0"

0' 1' 2' 6' 10'
1/4"=1'-0"

SECTION



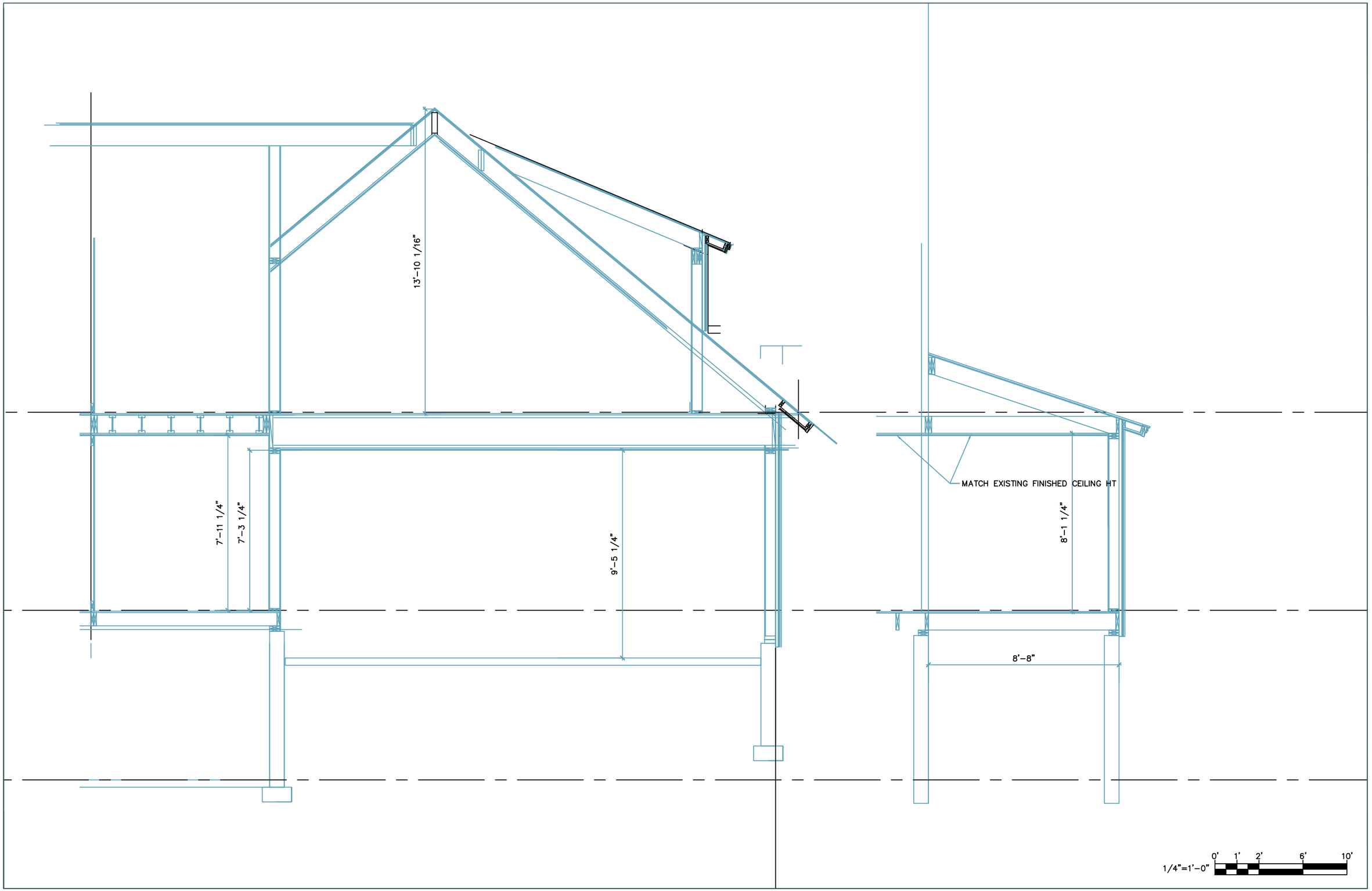
SECTION 1

SCALE: 1/4"=1'-0"

16'-2"

1/4"=1'-0" 0' 1' 2' 6' 10'

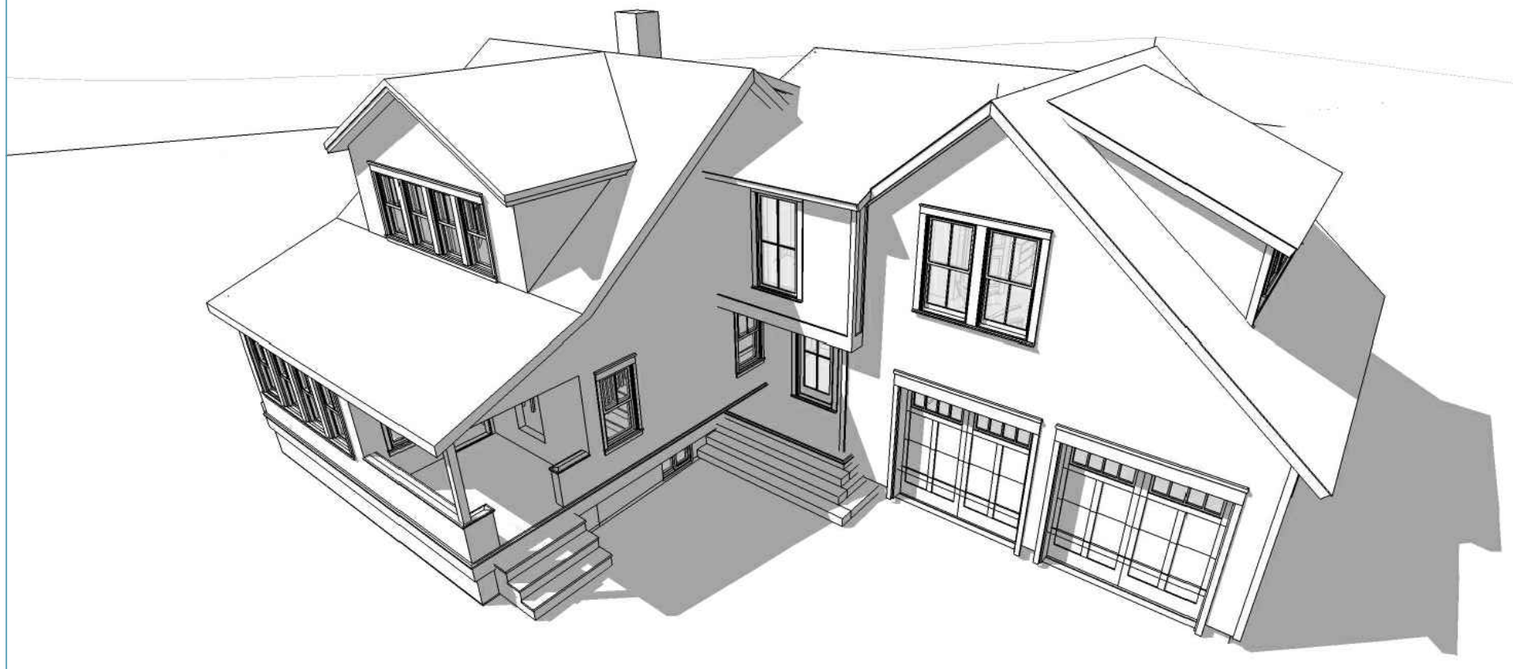
SECTION

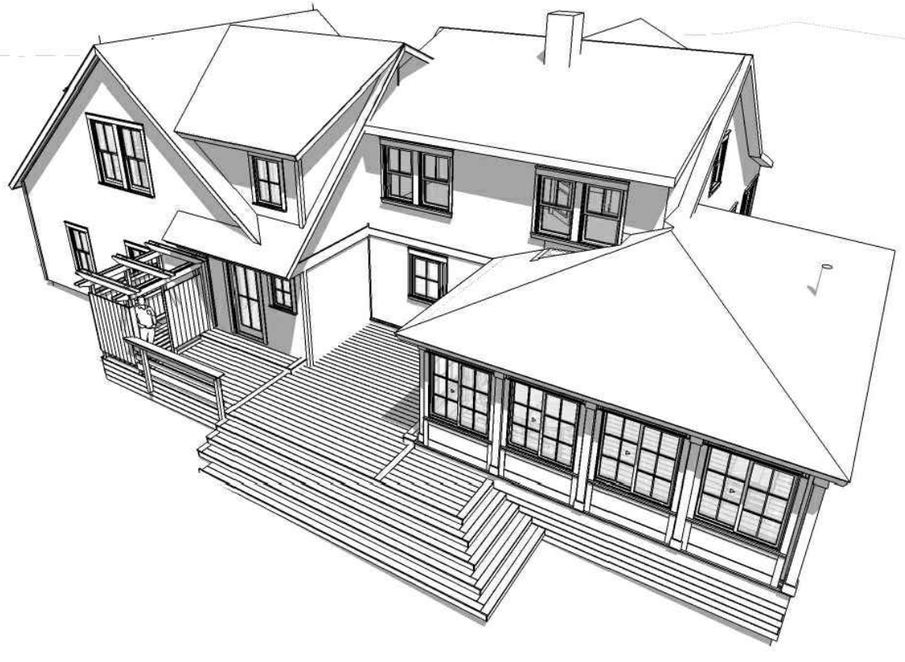


Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

SECTION

AE17





Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

PERSPECTIVES

Robert & Whitney Westhelle :: 198 Essex Avenue :: Portsmouth, NH 03801:: FEB 01, 2023

PERSPECTIVES

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

CONSERVATION COMMISSION

July 25, 2023

Robert Westhelle
Whitney Westhelle
198 Essex Avenue
Portsmouth, NH 03801

RE: Wetland Conditional Use Permit for property located at 198 Essex Avenue (LU-23-88)

Dear Mr. and Ms. Westhelle:

The Conservation Commission, at its regularly scheduled meeting of **Wednesday, July 12, 2023**, considered your application for In accordance with Section 10.1010 of the zoning ordinance this application proposes to create two new additions to a residential home. One of these additions is mainly outside of the 100' wetland buffer and calls for the removal of an existing garage and breezeway proposed to be replaced with a new two-story garage and breezeway. Proposed additional impervious areas would not extend closer to the wetland than the existing structure. Additionally, a patio and deck space are proposed to be constructed as part of this addition. The second building addition (South) is an attached new family room. This addition would be located approximately 62 feet from the wetland and would be completely within the wetland buffer. Total proposed impervious impacts to the buffer (including both the north and south additions) will be 512 s.f. of added impact. The deck addition adds an additional 481 square feet of impact in the wetland buffer. Said property is shown on Assessor Map 232 as Lot 128 and lies within the Single Residence B (SRB). 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. Any trees to be removed will be replaced with a similar species type and number trees.
2. Any patio or deck area installed shall be pervious.
3. In accordance with Section 10.1018.40 of the Zoning Ordinance, applicant shall install permanent wetland boundary markers during project construction along the 25' vegetated buffer. These can be purchased through the City of Portsmouth Planning and Sustainability Department.
4. Applicant shall provide a report back to the Planning and Sustainability Department one year after vegetated buffer area has been planted, demonstrating at least an 80%

survival rate of new plantings.
5. An additional method of infiltration shall be provided for rain barrel overflows.
6. Any increase in impervious surface will require a new wetland conditional use permit.
7. Applicant shall use only dark sky friendly lighting on the exterior of the home.
8. Applicant shall update site plans to indicate exact locations of proposed rain barrels and include a detail sheet showing a cross-section of the proposed deck/patio including details of how infiltration from the design will occur. These updates shall be approved by the Planning & Sustainability Department prior to submission to the Planning Board.

This matter will be placed on the agenda for the Planning Board meeting scheduled for **Thursday, August 17, 2023**. 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, July 26, 2023.

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

Very truly yours,

Samantha Collins, Chair
Conservation Commission

cc:

The Vermont Shoreland Protection Act – Pervious Surfaces

What is a pervious surface?

The Shoreland Protection Act (Chapter 49A of Title 10 §1441 *et seq.*) regulates new impervious surface and new cleared area within 250 feet of the mean water level (the protected shoreland area) of lakes and ponds 10 acres or larger. Surfaces such as decks and patios are presumed to be impervious surfaces, in which precipitation runs off rather than infiltrates. However, decks and patios can be constructed so that precipitation infiltrates through the structure and into the subsurface soil layer, rather than generating stormwater runoff, potentially making them a pervious surface.

What do I need to do if I'd like to construct a pervious deck or patio within the protected shoreland area?

Before beginning construction, a landowner must submit a Shoreland Jurisdictional Determination form describing how the project will be built and maintained in accordance with the five criteria below in order to demonstrate how the project will be a pervious surface. If additional aspects of a project involve the creation of cleared area or impervious surface, the landowner will need to submit a Shoreland Permit Application instead. Construction of a project prior to issuance of a final decision will be presumed to be the unauthorized creation of impervious surface.

What are the design criteria for a pervious deck or patio?

Pervious Surface Criteria:

1. Gaps
2. Open design
3. Foundation
4. Perimeter
5. Design & Maintenance

Open design: The pervious deck or patio must be an open design (e.g., a roof is not placed over the pervious surface).

Perimeter: The perimeter dripline of the pervious deck or patio must be vegetation, grass, or loose drainage stone, to manage for water infiltration.

Gaps: Gaps between decking boards or patio surface (e.g., ¼ inch gaps) must allow passage of stormwater to the underlying substrate.

Foundation: The ground underneath the pervious deck or patio allows for infiltration of stormwater (e.g., bed of loose stone or vegetation/grass lawn). The foundation must not be an impervious surface such as concrete, asphalt, or compacted dirt.

Design & Maintenance: Heavily trafficked surfaces, or surfaces on steep slopes (greater than 20%) may prevent the infiltration of stormwater runoff. A pervious surface requires regular maintenance to ensure adequate infiltration. A landowner wishing to convert a pervious surface to an impervious one (e.g., open deck to porch with roof) will require a Shoreland Permit.

P0595-015
August 2, 2023

Mr. Peter Britz, Director of Planning and Sustainability
City of Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Amended Site Review Permit Application**
Proposed Fidelitone Facility – 100 New Hampshire Avenue

Dear Peter:

On behalf of Aviation Avenue Group, LLC, we are pleased to submit one (1) set of hard copies and one electronic file (.pdf) of the following amended information to support a request from the Planning Board for a recommendation of approval to the Pease Development Authority (PDA) for an Amended Site Plan Review Permit for the above referenced project:

- Site Plan Set, last revised August 2, 2023
- PDA Application for Site Review, dated June 16, 2023;
- Owner Authorization, dated October 25, 2022;
- Drainage Analysis, last revised August 2, 2023;
- Operations and Maintenance Plan, dated December 19, 2022;
- Trip Generation Memorandum, dated June 16, 2023;
- Truck Turning Exhibits, dated July 21, 2023;
- Eversource Will Serve Letter, dated July 21, 2022;
- Unitil Will Serve Letter, dated July 28, 2023
- Proposed Light Poles and Fixtures Cut Sheets;
- Drainage Peer Review Documents
    - Underwood Engineers Drainage Review Memo, dated July 31, 2023;
    - Drainage Peer Review Comment Response Letter, dated August 2, 2023;

On April 20, 2023, the Planning Board recommended approval to the PDA for an advanced manufacturing facility at 100 New Hampshire Avenue. The project is seeking amendments to the previously approved Site Plan for the applicant's prospective tenant, Fidelitone, which is a supply chain management company. The amended project consists of the construction of Fidelitone's facility, a proposed ±101,200 SF footprint that includes ±4,700 SF of office space and associated site improvements the consist of parking, loading docks, improvements to Rochester Avenue, pedestrian sidewalks, underground utilities, stormwater management, lighting, and landscaping.

Since receiving a recommendation from approval from TAC, the amended plans and drainage analysis have been revised to reduce the size of the underground detention and stormwater treatment systems to only manage this proposed development. The design previously included an underground detention system and stormwater treatment system

that was oversized to manage future development on the remaining portion of the property if it were ever to be developed in the future. As there are no confirmed plans for future buildout, the applicant has chosen to reduce the size of the system to manage just this development to reduce sitework costs. Overall, there have been no changes to the plans other than reducing the number of rows in the underground detention system and a smaller jellyfish treatment unit. The applicant understands if there is any future development, a separate drainage system would need to be designed for that undeveloped portion of the parcel.

We respectfully request to be placed on the Planning Board (PB) meeting agenda meeting agenda for the August 17, 2023, meeting. If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at pmcrimmins@tighebond.com.

Sincerely,
TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Vice President

Neil A. Hansen, PE
Project Manager

Copy: Aviation Avenue Group, LLC (via email)
Pease Development Authority

\\tighebond.com\data\Data\Projects\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue_Submissions\20230726_PB Submission\P0595-015_PB Cover Letter.docx

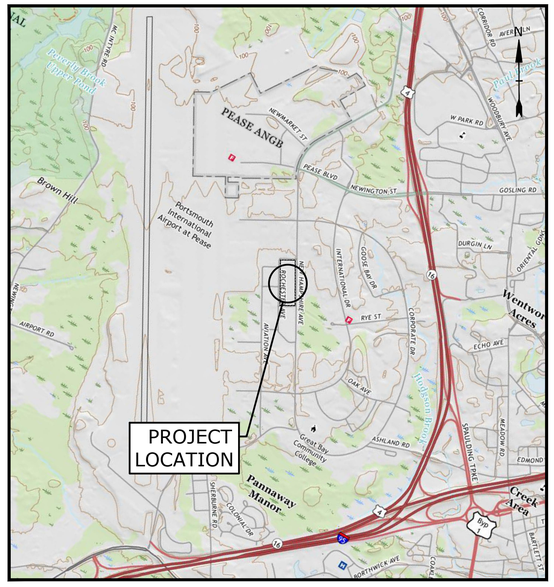
PROPOSED FIDELITONE FACILITY

100 NEW HAMPSHIRE AVENUE
PORTSMOUTH, NEW HAMPSHIRE
PERMIT DRAWINGS

DECEMBER 10, 2022

LAST REVISED: AUGUST 2, 2023

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	08/02/2023
1 OF 8	EXISTING CONDITIONS PLAN	07/05/2023
2 OF 8	EXISTING CONDITIONS PLAN	07/05/2023
7 OF 8	EXISTING CONDITIONS PLAN	07/05/2023
8 OF 8	EXISTING CONDITIONS PLAN	07/05/2023
C-101	OVERALL EXISTING CONDITIONS / DEMOLITION PLAN	08/02/2023
C-101.1	EXISTING CONDITIONS / DEMOLITION PLAN	08/02/2023
C-101.2	EXISTING CONDITIONS / DEMOLITION PLAN	08/02/2023
C-102	OVERALL SITE PLAN	08/02/2023
C-102.1	SITE PLAN	08/02/2023
C-102.2	SITE PLAN	08/02/2023
C-103	OVERALL GRADING, DRAINAGE & EROSION CONTROL PLAN	08/02/2023
C-103.1	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/02/2023
C-103.2	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/02/2023
C-104	UTILITY PLAN	08/02/2023
C-105	OVERALL LANDSCAPE PLAN	08/02/2023
C-105.1	LANDSCAPE PLAN	08/02/2023
C-105.2	LANDSCAPE PLAN	08/02/2023
C-501	EROSION CONTROL NOTES & DETAILS SHEET	08/02/2023
C-502	DETAILS SHEET	08/02/2023
C-503	DETAILS SHEET	08/02/2023
C-504	DETAILS SHEET	08/02/2023
C-505	DETAILS SHEET	08/02/2023
C-506	DETAILS SHEET	08/02/2023
A1.03	PROPOSED EXTERIOR ELEVATIONS	06/16/2023
C-701	PHOTOMETRICS PLAN	08/02/2023



LOCATION MAP
SCALE: 1" = 2,000'

WILDLIFE PROTECTION NOTES:

- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB23-0148, PROPOSED ADVANCED MANUFACTURING FACILITY, WILDLIFE SPECIES OBSERVATION.
- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE.
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04.
- THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE ALTERATION OF TERRAIN PERMIT (AoT-2342).

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
08/02/2023

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 – LICENSED PROFESSIONAL ENGINEER
08/02/2023

LESSOR:

Pease Development Authority
55 International Drive
Portsmouth, NH 03801
603.433.6088

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

APPLICANT:

Aviation Avenue Group, LLC
210 Commerce Way, Suite 300
Portsmouth New Hampshire, 03801
603.427.5500

811 DigSafe MA-ME-NH-RI-VT

COMPLETE SET 26 SHEETS

Last Save Date: August 2, 2023 2:59 PM By: CML
Plot Date: Wednesday, August 2, 2023 Plotted By: Craig M. Langton
T&B File Location: I:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_CS.dwg Layout Tab: CS

NOTES:

1. REFERENCE: PEASE HANGAR 227 AREA
(ENCOMPASSING PARTS OF NEW HAMPSHIRE AVE, AVIATION AVE, STRATHAM ST, ROCHESTER AVE, NEWFIELD ST, LEE STREET, & FLIGHTLINE ROAD IN PORTSMOUTH, NH)
D.S.I. PROJECT NO. 7239

2. OWNER OF RECORD: PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH NH 03801

3. FIELD SURVEY PERFORMED BY DOUCET SURVEY LLC STAFF DURING JANUARY & FEBRUARY 2022 AND IN MARCH 2023 USING A TRIMBLE TOTAL STATION AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

4. HORIZONTAL DATUM BASED ON NAD83(2011) NEW HAMPSHIRE STATE PLANE COORDINATE ZONE (2800) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK INCLUDING OBSERVATIONS ON PRIMARY AIRPORT CONTROL STATION PSM C AND PSM D.

5. VERTICAL DATUM IS BASED PRIMARY AIRPORT CONTROL STATION PSM C (NAVD88 ELEVATION = 78.70 AS PUBLISHED BY NATIONAL GEODETIC SURVEY).

6. JURISDICTIONAL WETLANDS DELINEATED BY TIGHE & BOND DURING DECEMBER 2021 IN ACCORDING TO THE:
   - US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JANUARY, 1987).
   - REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION (2012).
   - NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). U.S. FISH AND WILDLIFE SERVICE (2013).
   - CODE OF ADMINISTRATIVE RULES. WETLANDS BOARD, STATE OF NEW HAMPSHIRE (CURRENT).
   - FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.0, 2016 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEHSTC (MAY 2017).

7. 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. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.

8. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVED PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.

9. 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. SEVERAL STRUCTURES SHOWN HEREON WERE INACCESSIBLE FOR INVERT MEASUREMENTS DUE TO WINTER CONDITIONS.

10. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF (THE ROAD(S)) AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE PEASE DEVELOPMENT AUTHORITY (PDA), NHDOT, PORTSMOUTH ENGINEERING DEPARTMENT, AND ROCKINGHAM COUNTY REGISTRY OF DEEDS. AN OFFICIAL AT PDA ADVISED DOUCET SURVEY THAT THEY HAVE PREVIOUSLY SEARCHED AND BELIEVE THAT THERE WERE NEVER ANY LAYOUT PLANS DEVELOPED FOR THE RIGHT-OF-WAYS AT PEASE. ROAD LAYOUTS FOR THE STREETS SHOWN HEREON WERE ALSO NOT FOUND AT NHDOT PROJECT VIEWER OR AT THE PORTSMOUTH CITY ENGINEERING OFFICES.

11. 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.

12. AERIAL TOPOGRAPHY WAS CONDUCTED BY EASTERN TOPOGRAPHICS FROM IMAGES TAKEN DURING DECEMBER 2021 WITH A PHOTO SCALE OF 40 FEET. AERIAL MAPPING CONTOURS AND OBJECTS SHOWN WITHIN OBSCURED AREAS ARE APPROXIMATE AND SHOULD BE VERIFIED BEFORE USE FOR DESIGN & CONSTRUCTION PURPOSES.

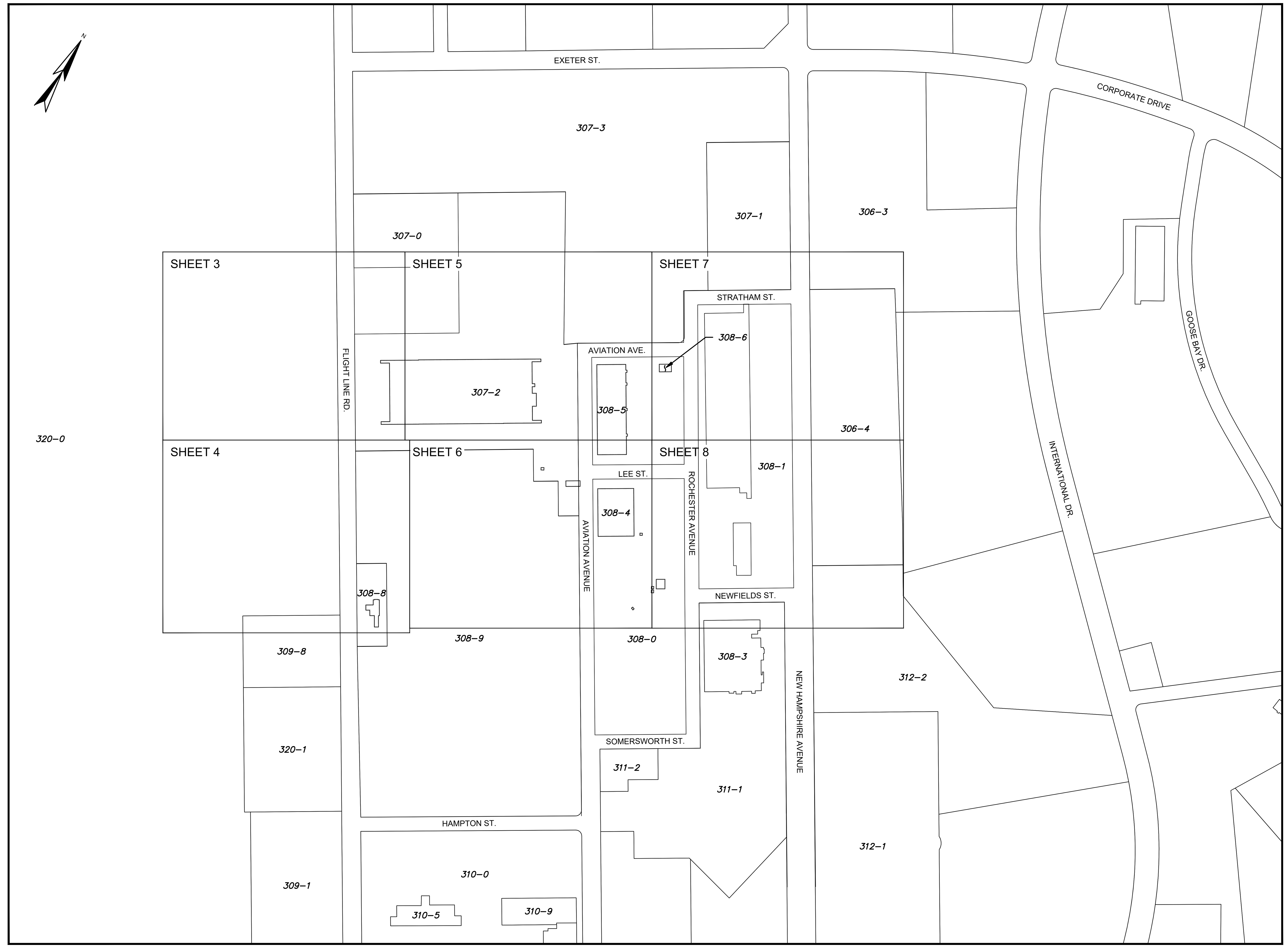
13. THIS PLAN WAS PREPARED FROM RECORD RESEARCH, OTHER MAPS, LIMITED FIELD MEASUREMENTS AND OTHER SOURCES. IT IS NOT TO BE CONSTRUED AS A PROPERTY / BOUNDARY SURVEY FOR THE COMPLETE SET OF TAX MAP AND LOTS SHOWN HEREON, AND IS SUBJECT TO SUCH FACTS AS SAID SURVEYS MAY DISCLOSE. THIS PLAN DOES, HOWEVER, ILLSTRATE THE BOUNDARIES OF THE FOLLOWING TAX MAP AND LOT NUMBERS PER THE REFERENCE PLANS INDICATED BELOW AND RECORD MONUMENTS RECOVERED BY THIS SURVEY:
    A. MAP 307 LOT 1 (PER REF. PLAN 3)
    B. MAP 307 LOT 2 (PER REF. PLAN 7)
    C. MAP 306 LOT 4 (PER REF. PLAN 12)

14. THE LOCATIONS OF THE VARIOUS RESTRICTED ZONES CALLED FOR IN REFERENCE PLANS 8, 9, 10, 12, AND 14 ARE SHOWN HEREON BASED ON COORDINATE VALUES PROVIDED IN THOSE PLANS AND/OR FEATURES SHOWN IN THOSE PLANS (E.G. MONITORING WELLS) THAT WERE LOCATED DURING THIS SURVEY.

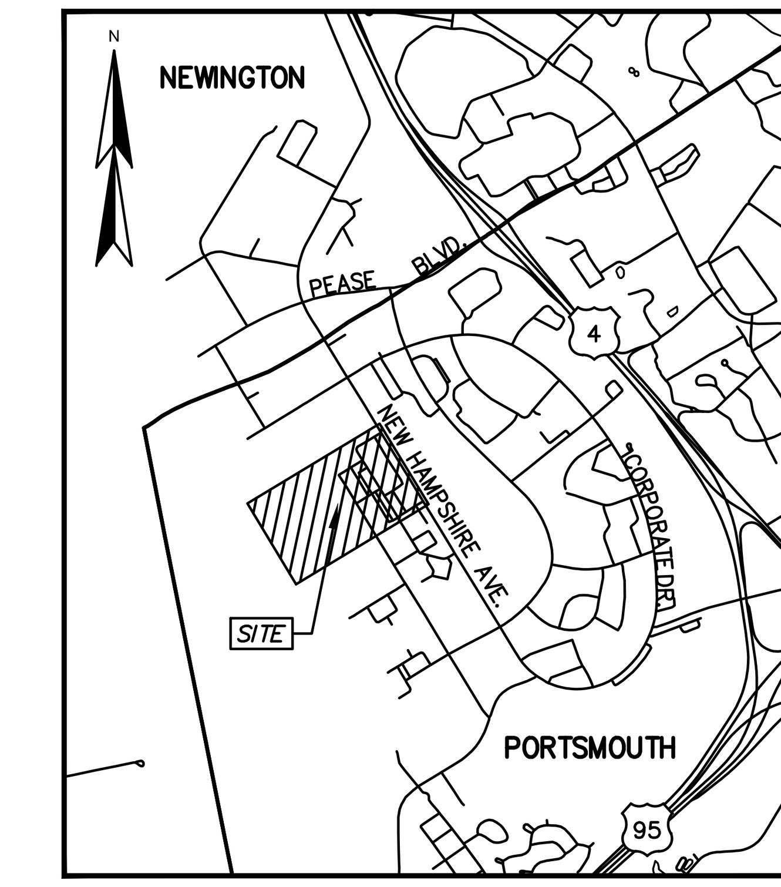
REFERENCE PLANS:

1. "SUBLEASE BOUNDARY PLAN FOR PEASE DEVELOPMENT AUTHORITY – BUILDINGS 115 AND 116 – 31 ROCHESTER AVENUE – PEASE INTERNATIONAL TRADEPORT – PORTSMOUTH, N.H.: DATED NOV. 6, 1995 AND LAST REVISED (REV-2) ON 03/03/97 BY RICHARD P. MILLETTE AND ASSOCIATES.
2. "SUBDIVISION PLAN FOR 5, 7, 19, AND 21 HAMPTON STREET – PORTSMOUTH, NH – LAND OF PEASE DEVELOPMENT AUTHORITY LEASED TO EXECUTIVE AIRDOCK, LLC (A PORTION OF TAX MAP 310, LOT 0) HAMPTON ST. & AVIATION AVE. PORTSMOUTH, NEW HAMPSHIRE" DATED JULY 1, 2021 AND REVISED (REV-1) NOV 30, 2021 BY DOUCET SURVEY LLC
3. "ALTA/NSPS LAND TITLE SURVEY FOR CINTHESYS REAL ESTATE MANAGEMENT LLC (LESSEE) C/O THE KANE COMPANY AND PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LOT 1 – 68 NEW HAMPSHIRE AVE. PORTSMOUTH, NEW HAMPSHIRE" DATED DECEMBER 21, 2021 BY DOUCET SURVEY LLC.
4. "APPENDIX VI MUNICIPAL SERVICES AGREEMENT BETWEEN CITY OF PORTSMOUTH – TOWN OF NEWINGTON– AND PEASE DEVELOPMENT AUTHORITY EFFECTIVE AS OF JULY 1, 1998".
5. "SUBDIVISION PLAN 68 NEW HAMPSHIRE AVENUE"FOR LONDAVIA, INC. DATED 29-SEPT-1998 BY KIMBALL CHASE. R.C.R.D. PLAN 26777.
6. "SUBDIVISION PLAN – AIR CARGO FACILITY 139 FLIGHTLINE ROAD" DATED 20-FEB-1998 AND REVISED (REV-1) 26-OCT-98 BY KIMBALL CHASE. R.C.R.D. PLAN 26778.
7. "SUBDIVISON PLAN FOR LAND TO BE LEASED TO PAN-AM 14 AVIATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NH" LAST REVISED (REV-3) ON AUG. 26, 1999 BY EMANUEL ENGINEERING, INC. R.C.R.D. PLAN 27540.
8. "EXCEPTED SUBPARCEL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED OCTOBER 22, 2002 AND LAST REVISED (REV-3) 10/22-03 BY TFM. R.C.R.D. PLAN 31494.
9. "PLAN OF GROUNDWATER MANAGEMENT ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31503.
10. "PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506.
11. "PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33301.
12. "PLAN OF USE RESTRICTION ZONE SITE 72 – BASE MOTOR POOL – PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302.
13. "SUBDIVISION PLAN DEPICTING PORTSMOUTH TAX MAP 306 LOT 3" DATED AUGUST 1, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEERING. R.C.R.D. PLAN 33592.
14. "USE RESTRICTION ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 10, 2005 AND REVISED (REV-1) JUNE 17, 2005 BY TFM. R.C.R.D. PLAN 33593.
15. "SUBDIVISION PLAN FOR 75 NEW HAMPSHIRE LLC – 75 NEW HAMPSHIRE AVENUE – 50 INTERNATIONAL DRIVE & 80 INTERNATIONAL DRIVE (TAX MAP 306, LOTS 1, 2, 4 & 5) PEASE INTERNATIONAL TRADEPORT ROCKINGHAM COUNTY PORTSMOUTH, NEW HAMPSHIRE" DATED AUG 14, 2007 AND LAST REVISED (REV-4) 10/15/07 BY DOUCET SURVEY INC. R.C.R.D. PLAN 35260.
16. "PLAN FOR NEW HAMPSHIRE AIR NATIONAL GUARD PEASE BLVD, AIRLINE AVE & NEW HAMSHIRE AVE PEASE INTERNATIONAL TRADEPORT, NEWINGTON ROCKINGHAM COUNTY, NH" DATED 7-DEC-2009 AND LAST REVISED 1/21/11 BY EASTERLY SURVEYING, INC.
17. "PROPOSED 4 STORY OFFICE BUILDING 100 NEW HAMPSHIRE AVENUE PORTSMOUTH, NH" DATED NOVEMBER 16, 2018 AND LAST REVISED 12/04/18 BY HOYLE, TANNER & ASSOCIATES.

FILE NAME: C:\Users\Michael\AppData\Local\Temp\AcPublish_24744\7239A (REV 2)(stamped version) 2023-07-05.dwg LAYOUT NAME: COVER PLOTTED: Wednesday, July 05, 2023 - 1:09pm



KEY MAP



LOCATION MAP (n.t.s.)

300 0 300 600
SCALE: 1 INCH = 300 FT.

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND
OF
PEASE HANGAR 227 AREA
PORTIONS OF AVIATION AVENUE, FLIGHTLINE ROAD, LEE STREET, NEWFIELDS STREET, NEW HAMPSHIRE AVENUE ROCHESTER AVENUE AND STRATHAM STREET
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	07/05/23	NOTE 2, ADD'L MONS, OTHER MISC.	M.J.C.
1	09/21/22	UPDATED DMH 1925 OUTLET SIZE	W.D.C.

DRAWN BY: W.D.C.	DATE: FEBRUARY 2022
CHECKED BY: M.J.C.	DRAWING NO. 7239A
JOB NO. 7239	SHEET 1 OF 8

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

Michael J. Carter L.L.S. #1017

JULY 5, 2023 DATE

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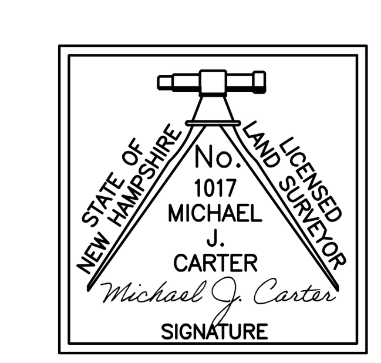

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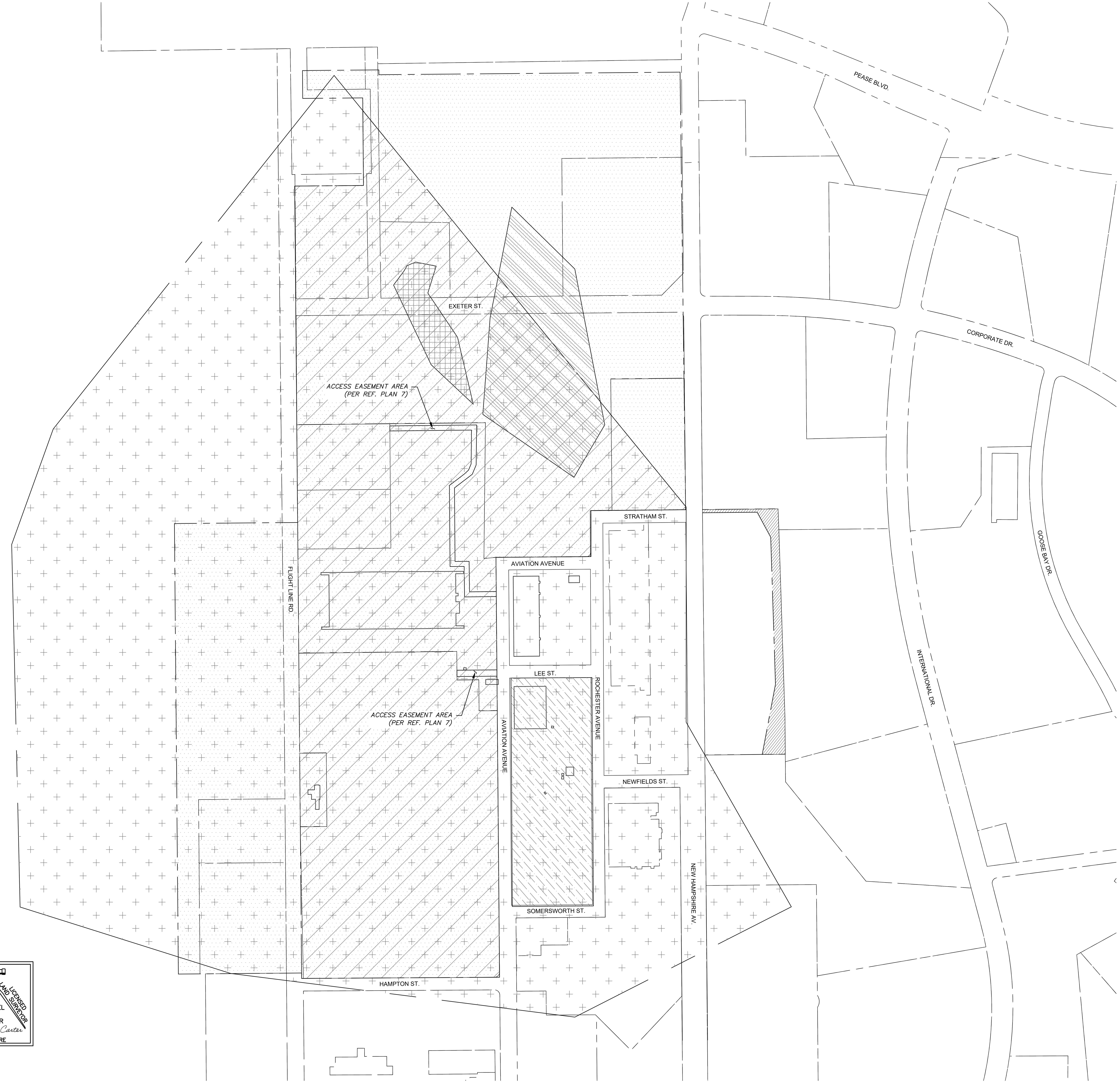

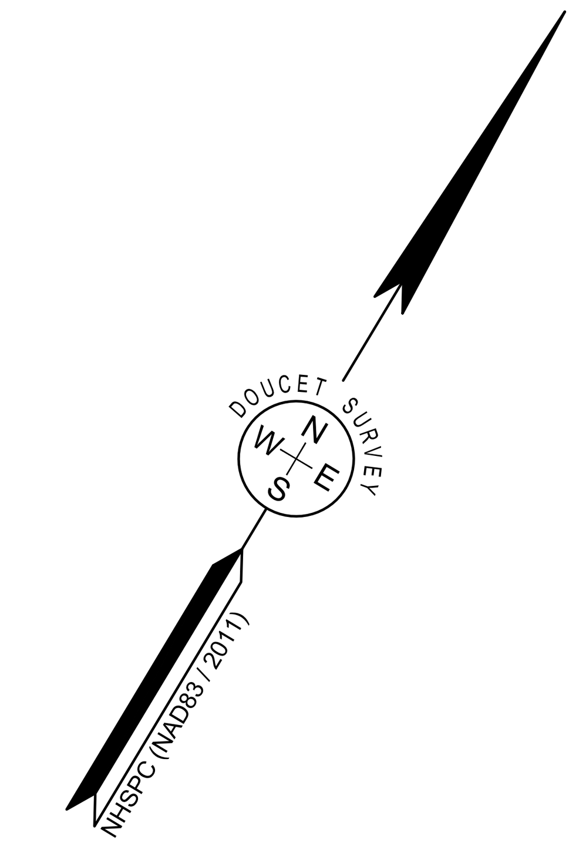

LEGEND

- EXCEPTED SUBPARCEL ZONE 3 (PER REF. PLAN 8)
- GROUNDWATER MANAGEMENT ZONE 3 (PER REF. PLAN 9)
- USE RESTRICTION ZONE SITE 32 (PER REF. PLAN 10)
- USE RESTRICTION ZONE SITE 81 (PER REF. PLAN 11)
- USE RESTRICTION ZONE SITE 72 (PER REF. PLAN 12)
- LIMIT OF DRAINAGE LICENSE RESERVED BY OWNER (PER REF. PLAN 13)
- USE RESTRICTION ZONE SITE 3 (PER REF. PLAN 14)

250 0 250 500

SCALE: 1 INCH = 250 FT.

EXISTING CONDITIONS PLAN

FOR

TIGHE & BOND

OF

PEASE HANGAR 227 AREA

PORTIONS OF AVIATION AVENUE,
FLIGHTLINE ROAD, LEE STREET,
NEWFIELDS STREET,
NEW HAMPSHIRE AVENUE
ROCHESTER AVENUE
AND STRATHAM STREET
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	07/05/23	NOTE 2, ADD'L MONS, OTHER MISC.	M.J.C.
1	09/21/22	UPDATED DMH 1925 OUTLET SIZE	W.D.C.

DRAWN BY: W.D.C.	DATE: FEBRUARY 2022
CHECKED BY: M.J.C.	DRAWING NO. 7239A
JOB NO. 7239	SHEET 2 OF 8

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Michael J. Carter L.L.S. #1017

JULY 5, 2023 DATE

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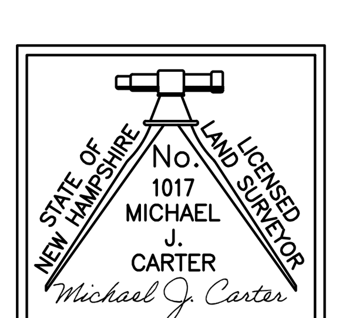

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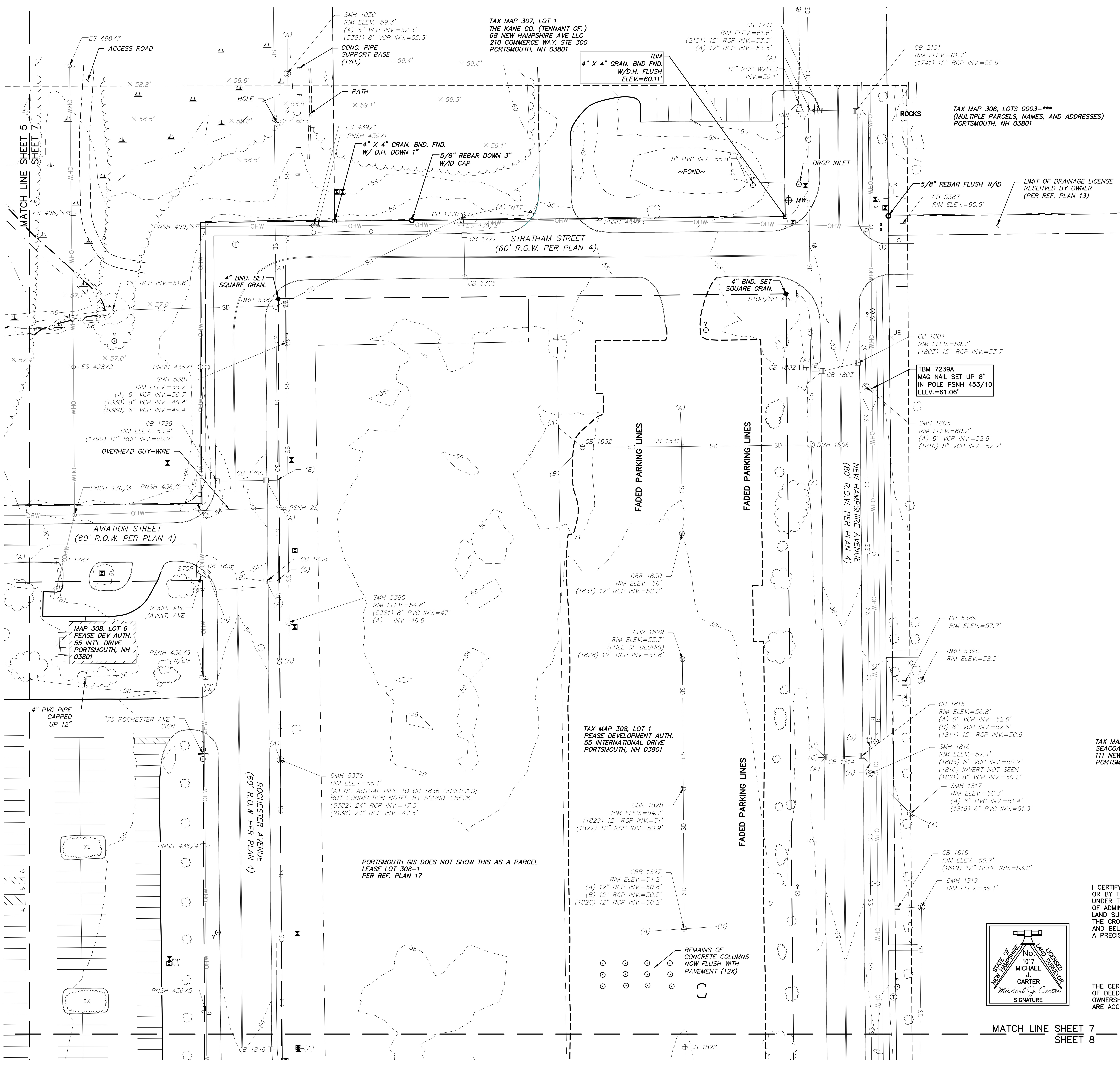

DRAINAGE STRUCTURES	
CB 1770	CB 1831
RIM ELEV.=52.3'	RIM ELEV.=56.5'
(1772) 12" RCP INV.=50.4'	(1806) 12" RCP INV.=51.7'
(A) 4" HDPE INV.=50.2'	(1830) 12" RCP INV.=51.5'
(5382) 15" RCP INV.=49.9'	(A) 12" RCP INV.=51.5'
SUMP ELEV.=50.2'	(1832) 10" VCP INV.=51.5'
CB 1772	CB 1832
RIM ELEV.=54.1'	RIM ELEV.=55'
(5385) 12" RCP INV.=50.5'	(A) 6" PVC INV.=53.1'
(1770) 12" RCP INV.=50.3'	(B) 6" PVC INV.=53'
DEBRIS=50.7'	(1831) 10" VCP INV.=52.5'
CB 1787	CB 1836
RIM ELEV.=55.7'	RIM ELEV.=53.6'
(A) 6" VCP INV.=51.1'	(A) 12" RCP INV.=50.4'
NOTE: "A" DOES NOT CON. TO CB 1719	DEBRIS=50.4'
(B) 12" RCP INV.=51.0'	
	CB 1838
CB 1790	RIM ELEV.=53.9'
RIM ELEV.=53.8'	(A) 6" VCP INV.=49.5'
(A) 6" UNK INV.=49.6'	(B) 18" RCP INV.=49.5'
(1789) 12" RCP INV.=49.6'	(C) 18" RCP INV.=49.4'
(B) 12" RCP INV.=49.6'	DEBRIS=49.3'
TO REFUSAL=49.5'	
	CB 1846
CB 1802	RIM ELEV.=53.8'
RIM ELEV.=56.4'	(A) 12" RCP INV.=49.5'
(A) 12" RCP INV.=52.5'	BROKEN BOTTOM=49.6'
CB 1803	DMH 5382
RIM ELEV.=59.6'	RIM ELEV.=55.4'
(A) 6" VCP INV.=55.3'	(1770) 15" RCP INV.=49.1'
(1804) 12" RCP INV.=51.1'	(WETLAND INLET) 18" RCP INV.=49.0'
(B) 12" RCP INV.=50.6'	(5383) 24" RCP INV.=48.7'
	(5379) 24" RCP INV.=48.7'
DMH 1806	DEBRIS=48.6'
RIM ELEV.=58.5'	
(1831) 12" RCP INV.=50.6'	CB 5385
(2152) 36" RCP INV.=49.0'	RIM ELEV.=54.3'
(A) 36" RCP INV.=48.8'	(1772) 12" RCP INV.=50.6'
GIS SHOWS ONE STRUCTURE BETWEEN DMH 1806 & DMH 1925 (VERY CLOSE TO 1925) BUT IT WAS NOT FOUND BELOW SNOWBANKS.	DEBRIS=50.7'
CB 1814	
RIM ELEV.=56.8'	
(A) 6" VCP INV.=52'	
(B) 6" VCP INV.=51.9'	
(1815) 12" RCP INV.=49.3'	
(C) 12" RCP INV.=49.1'	

DOUCET SURVEY
NHSPC (NAD83 2011)

40 0 40 80
SCALE: 1 INCH = 40 FT.

LIMIT OF DRAINAGE LICENSE RESERVED BY OWNER (PER REF. PLAN 13)

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND
OF
PEASE HANGAR 227 AREA
PORTIONS OF AVIATION AVENUE, FLIGHTLINE ROAD, LEE STREET, NEWFIELDS STREET, NEW HAMPSHIRE AVENUE ROCHESTER AVENUE AND STRATHAM STREET
PORTSMOUTH, NEW HAMPSHIRE

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Michael J. Carter L.L.S. #1017
JULY 5, 2023 DATE

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 1017 MICHAEL J. CARTER
SIGNATURE

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NO.	DATE	DESCRIPTION	BY
2	07/05/23	NOTE 2, ADD'L MONS, OTHER MISC.	M.J.C.
1	09/21/22	UPDATED DMH 1925 OUTLET SIZE	W.D.C.

DRAWN BY: W.D.C.	DATE: FEBRUARY 2022
CHECKED BY: M.J.C.	DRAWING NO. 7239A
JOB NO. 7239	SHEET 7 OF 8

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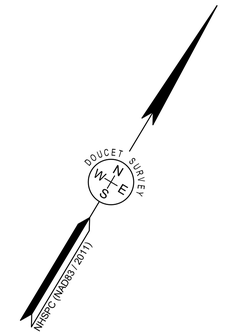
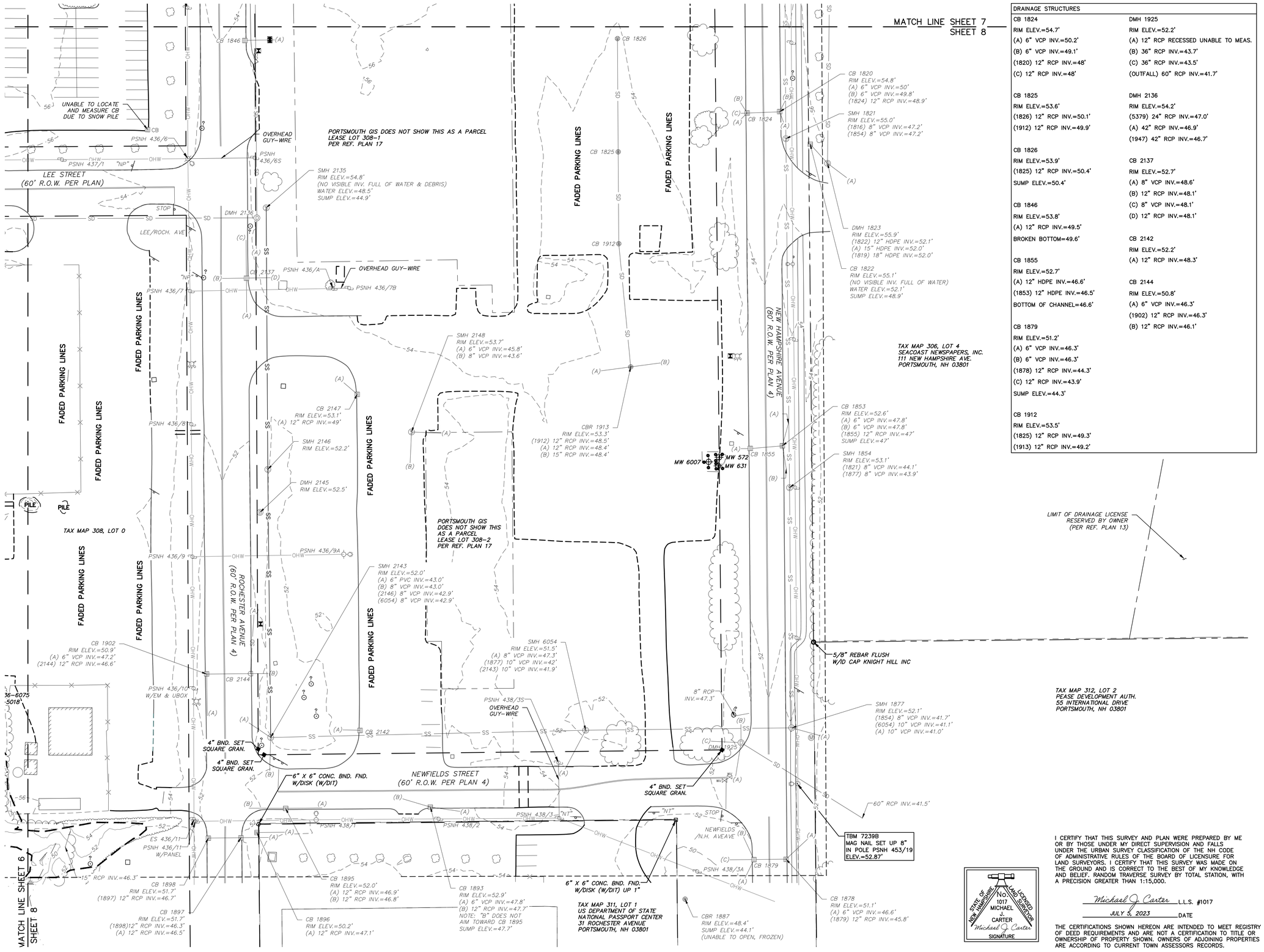
MATCH LINE SHEET 7
SHEET 8

DRAINAGE STRUCTURES	
CB 1824	DMH 1925
RIM ELEV.=54.7'	RIM ELEV.=52.2'
(A) 6" VCP INV.=50.2'	(A) 12" RCP RECESSED UNABLE TO MEAS.
(B) 6" VCP INV.=49.1'	(B) 36" RCP INV.=43.7'
(1820) 12" RCP INV.=48'	(C) 36" RCP INV.=43.5'
(C) 12" RCP INV.=48'	(OUTFALL) 60" RCP INV.=41.7'
CB 1825	DMH 2136
RIM ELEV.=53.6'	RIM ELEV.=54.2'
(1826) 12" RCP INV.=50.1'	(5379) 24" RCP INV.=47.0'
(1912) 12" RCP INV.=49.9'	(A) 42" RCP INV.=46.9'
	(1947) 42" RCP INV.=46.7'
CB 1826	
RIM ELEV.=53.9'	CB 2137
(1825) 12" RCP INV.=50.4'	RIM ELEV.=52.7'
SUMP ELEV.=50.4'	(A) 8" VCP INV.=48.6'
	(B) 12" RCP INV.=48.1'
CB 1846	(C) 8" VCP INV.=48.1'
RIM ELEV.=53.8'	(D) 12" RCP INV.=48.1'
(A) 12" RCP INV.=49.5'	
BROKEN BOTTOM=49.6'	CB 2142
	RIM ELEV.=52.2'
CB 1855	(A) 12" RCP INV.=48.3'
RIM ELEV.=52.7'	
(A) 12" HDPE INV.=46.6'	CB 2144
(1853) 12" HDPE INV.=46.5'	RIM ELEV.=50.8'
BOTTOM OF CHANNEL=46.6'	(A) 6" VCP INV.=46.3'
	(1902) 12" RCP INV.=46.3'
CB 1879	(B) 12" RCP INV.=46.1'
RIM ELEV.=51.2'	
(A) 6" VCP INV.=46.3'	
(B) 6" VCP INV.=46.3'	
(1878) 12" RCP INV.=44.3'	
(C) 12" RCP INV.=43.9'	
SUMP ELEV.=44.3'	
CB 1912	
RIM ELEV.=53.5'	
(1825) 12" RCP INV.=49.3'	
(1913) 12" RCP INV.=49.2'	





40 0 40 80
SCALE: 1 INCH = 40 FT.

EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND
OF
PEASE HANGAR 227 AREA
PORTIONS OF AVIATION AVENUE,
FLIGHTLINE ROAD, LEE STREET,
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NEW HAMPSHIRE AVENUE
ROCHESTER AVENUE
AND STRATHAM STREET
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	07/05/23	NOTE 2, ADD'L MONS, OTHER MISC.	M.J.C.
1	09/21/22	UPDATED DMH 1925 OUTLET SIZE	W.D.C.

DRAWN BY:	W.D.C.	DATE:	FEBRUARY 2022
CHECKED BY:	M.J.C.	DRAWING NO.	7239A
JOB NO.	7239	SHEET	8 OF 8

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STATE OF NEW HAMPSHIRE — No. 1017 — MICHAEL J. CARTER — LAND SURVEYOR — SIGNATURE

Michael J. Carter L.L.S. #1017
JULY 5, 2023 DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

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

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY DOUCET SURVEY LLC DURING JANUARY & FEBRUARY 2022.
2. JURISDICTIONAL WETLANDS DELINEATED BY TIGHE & BOND, DURING DECEMBER 2021.

REFERENCE PLANS:

1. "EXISTING CONDITIONS PLAN FOR TIGHE & BOND OF PEASE HANGAR 227 AREA, PORTIONS OF AVIATION AVENUE, FLIGHTLINE ROAD, LEE STREET, NEWFIELDS STREET, NEW HAMPSHIRE AVENUE, ROCHESTER AVENUE, AND STRATHEM STREET" PREPARED BY DOUCET SURVEY LLC, LAST REVISED 09/21/2022.

DEMOLITION NOTES:

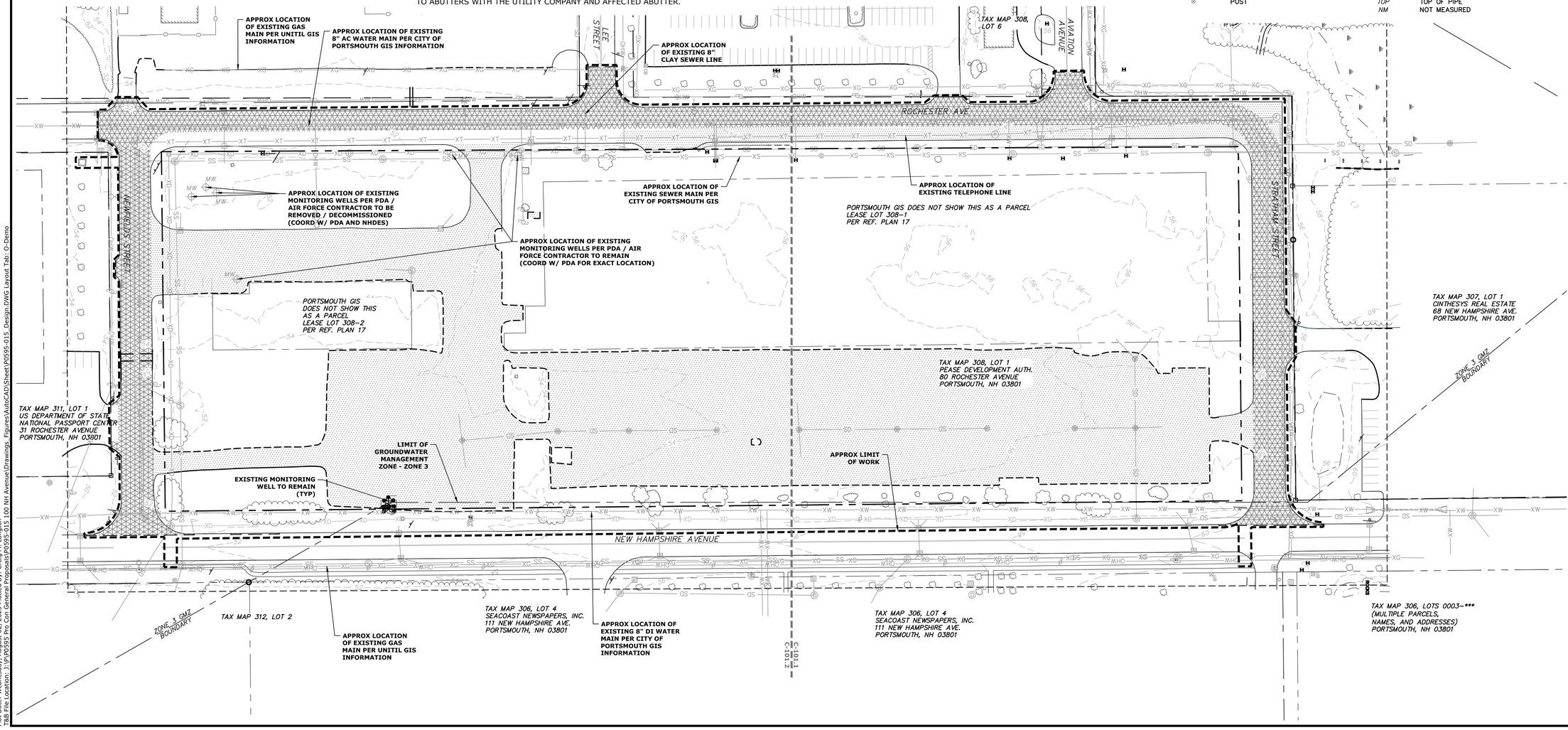
1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. 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. MATERIAL DEMOLITION AND DISPOSAL SHALL BE DONE IN CONFORMANCE WITH THE PEASE WASTE MANAGEMENT PLAN REQUIREMENTS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY AND CITY OF PORTSMOUTH STANDARD. 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. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, SIGNS, BOLLARDS, TREES AND LANDSCAPING.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH AND PEASE DEVELOPMENT AUTHORITY.
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. BEFORE ANY DEWATERING IS PERFORMED A TEMPORARY DISCHARGE PERMIT FROM THE NHDES IS REQUIRED.
23. THE SITE IS IN A GROUNDWATER MANAGEMENT ZONE (GMZ). THE APPLICANT SHALL COORDINATE WITH PDA, NHDES AND THE AIR FORCE TO DETERMINE IF ANY SPECIAL MEASURES ARE REQUIRED DURING CONSTRUCTION TO ENSURE THE SAFETY OF WORKERS AND PROPER HANDLING OF MATERIALS. NO EXISTING SOILS OR MATERIALS MAY BE REMOVED AND DISPOSED OF OFFSITE UNLESS TESTING AND PROTOCOLS ESTABLISHED ARE FOLLOWED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROVED AREA OF SPECIAL NOTICE PROVISIONS ISSUED BY THE AIR FORCE.
24. THE CONTRACTOR SHALL ACQUIRE A PDA DIG PERMIT BEFORE ANY DISTURBANCE CAN TAKE PLACE. ALLOW 7 CALENDAR DAYS FOR PROCESSING.
25. ALL MONITORING WELLS WITHIN THE LIMIT OF WORK SHALL BE PROTECTED DURING CONSTRUCTION. IF ANY MONITORING WELL NEEDS TO BE REMOVED OR ADJUSTED THIS WORK SHALL BE COORDINATED WITH PDA AND THE AIR FORCE.
26. NO EXCAVATED SOIL FROM THE SITE SHALL BE REMOVED FROM THE SITE.
27. BOLD LINETYPES SHOWN ON SHEETS C-101.1 AND C-101.2 WITHIN THE LIMITS OF WORK INDICATE SITE FEATURES TO BE REMOVED, SPECIFICALLY IDENTIFIED TO REMAIN.

DEMOLITION LEGEND

- APPROXIMATE LIMIT OF WORK / APPROXIMATE LIMIT OF SAWCUT
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE RECLAIMED

LEGEND

- SUBDIVISION LINE
- APPROXIMATE LOT LINE
- APPROXIMATE ABUTTERS LOT LINE
- EXISTING EASEMENT LINE / GROUNDWATER MANAGEMENT ZONE (GMZ) LINE
- APPROXIMATE RIGHT-OF-WAY LINE
- CHAIN LINK FENCE
- FENCE
- FENCE OBSCURED
- OHW — OVERHEAD WIRE
- SS — SEWER LINE
- D — DRAIN LINE
- G — GAS LINE
- W — WATER LINE
- 100 — MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- 100 — LIDAR MAJOR CONTOUR LINE
- 98 — LIDAR MINOR CONTOUR LINE
- TREE LINE
- SHRUB LINE
- EDGE OF WETLAND
- EDGE OF WETLAND (PER CLIENT)
- EDGE OF WATER
- WATERCOURSE
- WETLAND AREA
- CONCRETE
- RIP RAP
- RETAINING WALL
- DRIVEWAY
- DRIVEWAY OBSCURED
- ASPHALT TAXIWAY
- CONCRETE TAXIWAY
- CURB BOTTOM
- CURB BACK
- PIPELINES
- UTILITY POLE
- UTILITY POLE & GUY WIRE
- UTILITY POLE W/LIGHT
- UTILITY POLE OBSCURED
- LIGHT POLE
- SIGN
- SIGN (TWO POSTS)
- BOUND FOUND
- IRON PIPE/ROD FOUND
- POST
- POST
- BOLLARD
- LOCATED OBJECT
- MEDIUM LONE TREE
- SMALL LONE TREE
- UTILITY COVER
- UTILITY COVER
- FIRE HYDRANT
- WATER GATE VALVE
- GAS GATE VALVE
- VENT PIPE
- ELECTRIC BOX
- TELEPHONE BOX
- DRAIN
- CATCH BASIN
- DRAIN MANHOLE
- F.E.S — FLARED END SECTION
- MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- CLEANOUT
- FLAG POLE
- MW — MONITORING WELL LOCATION
- ACCESSIBLE PARKING SPACE
- SPOT GRADE
- BND. FND. TYP. — BOUND FOUND
- I.P.F. — IRON PIPE FOUND
- CONC. — CONCRETE
- GRAN. — GRANITE
- HDWL — HEADWALL
- SGC — SLOPED GRANITE CURB
- "NP" — NO PARKING SIGN
- "NT" — NO TRESPASSING SIGN
- "NTT" — NO THRU TRAFFIC SIGN
- ACP — ASBESTOS CEMENT PIPE
- CIP — CAST IRON PIPE
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- HDPE — HIGH DENSITY POLYETHYLENE PIPE
- PVC — POLYVINYL CHLORIDE PIPE
- UNK — UNKNOWN
- VCP — VITREOUS CLAY PIPE
- TOP — TOP OF PIPE
- NM — NOT MEASURED



SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
08/02/2023

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
K	8/2/2023	Rev per Eversource & Drainage Review Comments
J	7/21/2023	Planning Board Submission
I	7/10/2023	Amended AoT
H	6/30/2023	DPW Response to Comments
G	6/28/2023	PDA Response to Comments
F	6/16/2023	TAC Resubmission
E	3/29/2023	Planning Board / Revised AoT Submission
D	2/23/2023	TAC Resubmission
C	2/6/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

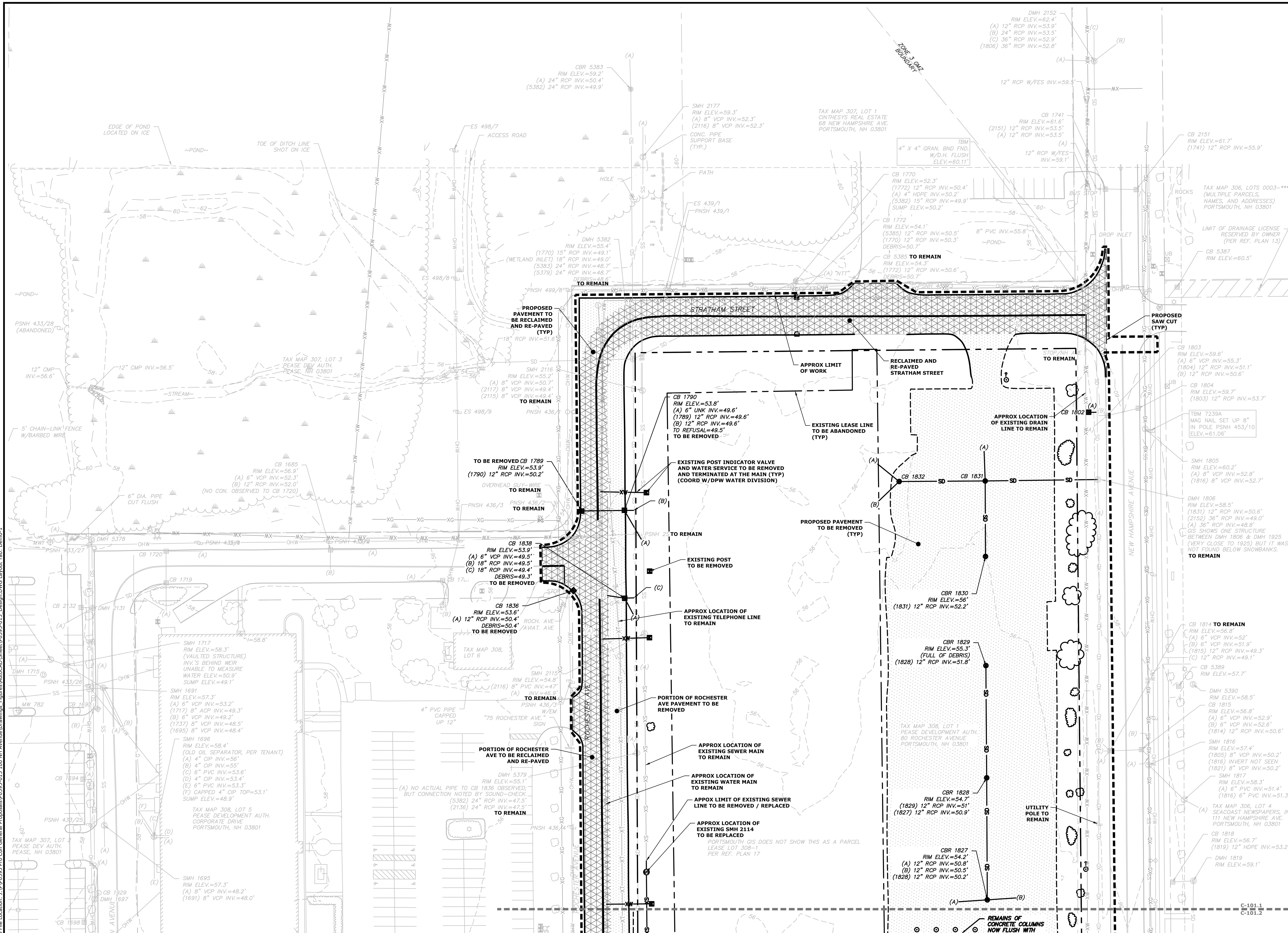
PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

OVERALL EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101

Last Save Date: August 2, 2023 3:02 PM By: CML
Plot Date: August 2, 2023 3:02 PM By: Craig M. Langton
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: O-Demo



Tighe&Bond

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EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101.1

Last Save Date: August 2, 2023 3:02 PM By: CML
Plot Date: Wednesday, August 02, 2023 Plotted By: Craig M. Langton
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings_Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: Demo-1

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T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings_Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: Demo-2

Tighe&Bond

N

PATRICK CRIMMINS No. 12378 08/02/2023

NEIL A. HANSEN No. 15227 08/02/2023

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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EXISTING CONDITIONS / DEMOLITION PLAN

SCALE: AS SHOWN

C-101.2

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 AND PEASE DEVELOPMENT AUTHORITY.
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 ARCHITECTURAL/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 AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
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. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY OR RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PEASE DEVELOPMENT AUTHORITY, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
17. SUBMISSION OF A MINIMUM OF TWO 7460-1'S TO THE FAA WILL BE REQUIRED FOR THE CONSTRUCTION OF THE BUILDING AND TEMPORARY USE OF A CRANE. ALLOW A MINIMUM OF 45 DAYS FOR PROCESSING.
18. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND AIRSIDE PAVEMENT AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.
19. RETAINING WALL SHALL BE DESIGNED AND STAMPED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED TO PEASE DEVELOPMENT AUTHORITY FOR REVIEW.
20. TRUCK TRAFFIC GENERATED BY THIS PROJECT SHALL ACCESS THE ADJACENT HIGHWAYS TO/FROM THE SOUTH ONLY. NO TRUCK TRAFFIC IS ALLOWED TO/FROM THE NORTH OF THE SITE.

SITE DATA:
LOCATION: TAX MAP 308, LOT 1
80 ROCHESTER AVENUE
PORTSMOUTH, NEW HAMPSHIRE

ZONING DISTRICT: INDUSTRIAL
ALLOWED USE: INDUSTRIAL / WAREHOUSE

DIMENSIONAL REQUIREMENTS:	REQUIRED	PROPOSED
MINIMUM LOT AREA:	10 ACRES	±10.95 ACRES
MINIMUM STREET FRONTAGE:	200 FT	±1,200 FT
MINIMUM SETBACKS:		
• FRONT:	70 FT	51 FT(1)
• SIDE:	50 FT	142 FT
• REAR:	50 FT	161.6 FT
MAXIMUM BUILDING HEIGHT:	PER FAA	36 FT
MINIMUM OPEN SPACE:	25%	±54%

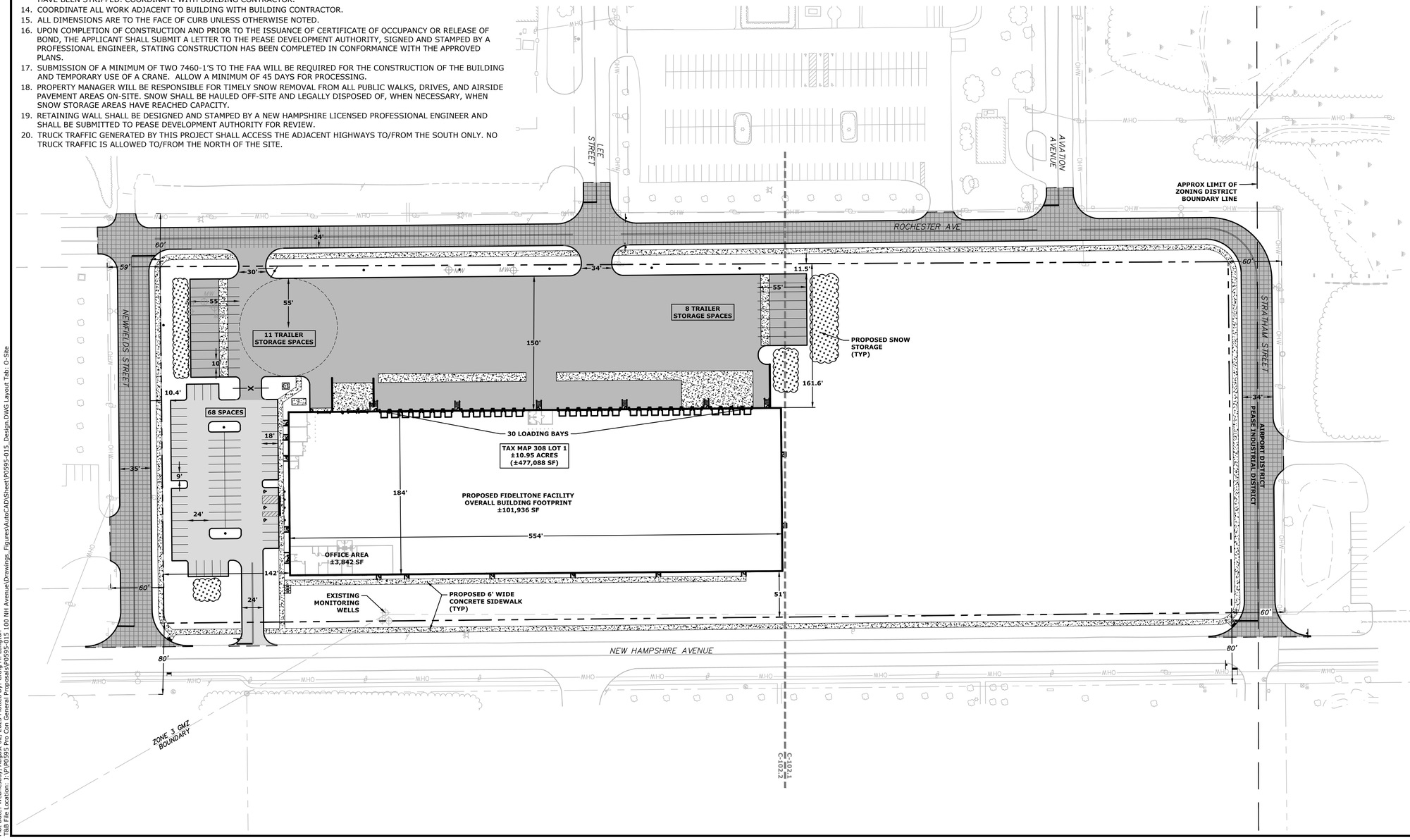
(1) - ON NOVEMBER 15, 2022 THE CITY OF PORTSMOUTH ZONING BOARD OF ADJUSTMENT VOTED TO RECOMMEND APPROVAL TO THE PDA BOARD FOR A VARIANCE FROM PART 304.03(C) TO ALLOW A 51 FOOT FRONT YARD WHERE 70 FEET IS REQUIRED.

PARKING REQUIREMENTS:	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	WIDTH: 8.5' MIN AREA: 160 SF MIN	9' X 18' (162 SF)
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT (MIN)
PARKING SPACE REQUIREMENTS:		
INDUSTRIAL:		
2 / 3 EMPLOYEES (LARGEST SHIFT)		
+1 / COMPANY-OWNED-VEHICLE		
= 60 EMPLOYEES x 2/3 EMPLOYEES)		
+ 2 COMPANY-OWNED-VEHICLE =	42 SPACES	
TOTAL REQUIRED PARKING:	42 SPACES	68 SPACES(1)

(1) - THREE (3) ADA SPACES PROVIDED

LEGEND

- PROPOSED LEASE LINE
- PROPOSED CONCRETE
- PROPOSED STANDARD DUTY PAVEMENT SECTION
- PROPOSED HEAVY DUTY PAVEMENT SECTION
- PROPOSED RECLAIM AND RE-PAVE
- PROPOSED SNOW STORAGE AREA
- APPROXIMATE LIMIT OF SAWCUT
- PROPOSED LIGHT POLE BASE
- EXISTING PROPOSED SIGN
- PROPOSED BOLLARD



Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
08/02/2023

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

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OVERALL SITE PLAN

SCALE: AS SHOWN

C-102

Last Save Date: August 2, 2023 3:02 PM By: CML
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T&B File Location: I:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: O-Site

Tighe&Bond

ZONE 3 GWZ BOUNDARY

STRATHAM STREET

AIRPORT DISTRICT
PEASE INDUSTRIAL DISTRICT

AVIATION AVENUE

ROCHESTER AVE

APPROX LIMIT OF ZONING DISTRICT BOUNDARY LINE

PROPOSED DOUBLE YELLOW LANE LINE (TYP)

BEGIN VGC MEET EXISTING CURBING

PROPOSED PAINTED STOP BAR

END VGC MEET EXISTING CURBING

BEGIN VGC MEET EXISTING CURBING

PROPOSED RECLAIMED AND RE-PAVED

END VGC MEET EXISTING CURBING

PROPOSED "NO RIGHT TURN FOR TRUCKS" SIGN (COORD W/ CITY OF PORTSMOUTH & PDA)

PROPOSED PAINTED STOP BAR

RELOCATE STOP SIGN & PROPOSED R5-2 NO TRUCK ENTRY SIGNS (COORD W/ CITY OF PORTSMOUTH & PDA)

PROPOSED CONCRETE TIP DOWN RAMP WITH DETECTABLE WARNING PANEL

PROPOSED "NO LEFT TURN FOR TRUCKS" SIGN (COORD W/ CITY OF PORTSMOUTH & PDA)

BEGIN VGC MEET EXISTING CURBING

PROPOSED CONCRETE TIP DOWN RAMP WITH DETECTABLE WARNING PANEL

PROPOSED 6' WIDE CONCRETE SIDEWALK

PROPOSED SNOW STORAGE (TYP)

END VGC BEGIN SGC

END SGC BEGIN VGC

PROPOSED 6' WIDE CONCRETE SIDEWALK

TAX MAP 308 LOT 1
±10.95 ACRES
(±477,088 SF)

VGC

70'R

40'R

30'R

25'R

15'R

55'

10'

51'

TH=58.8'

C-102.1
C-102.2

STATE OF NEW HAMPSHIRE
PATRICK CRIMMINS
No. 12378
LICENSED
PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED
PROFESSIONAL ENGINEER
08/02/2023

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
K	8/2/2023	Rev per Eversource & Drainage Review Comments
J	7/21/2023	Planning Board Submission
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PROJECT NO:	P0595-015
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CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102.1

Last Save Date: August 2, 2023 3:02 PM By: CML
Plot Date: Wednesday, August 02, 2023 3:02 PM By: Craig M. Langton
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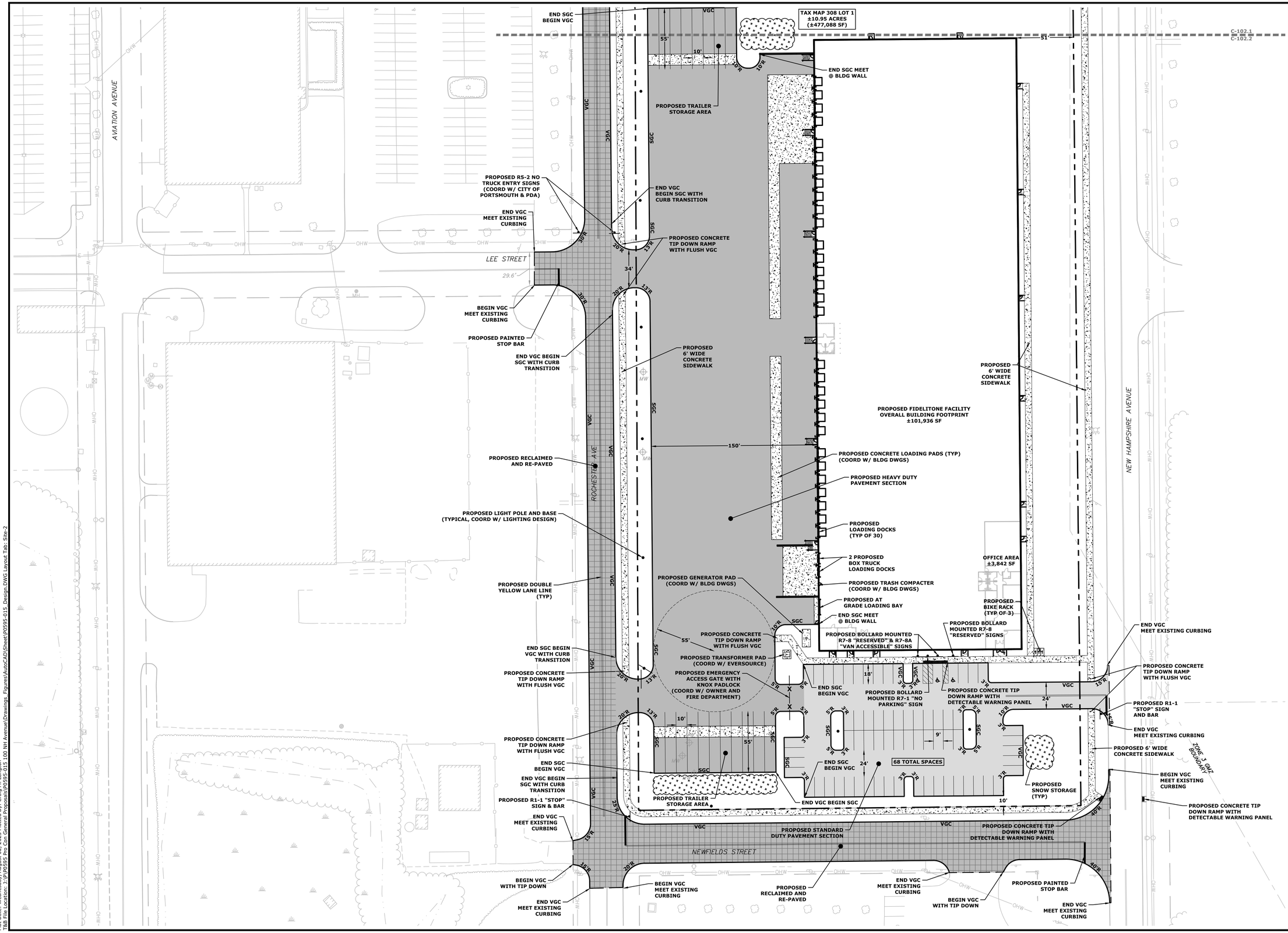

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Tighe&Bond

STATE OF NEW HAMPSHIRE
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08/02/2023

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SCALE: AS SHOWN

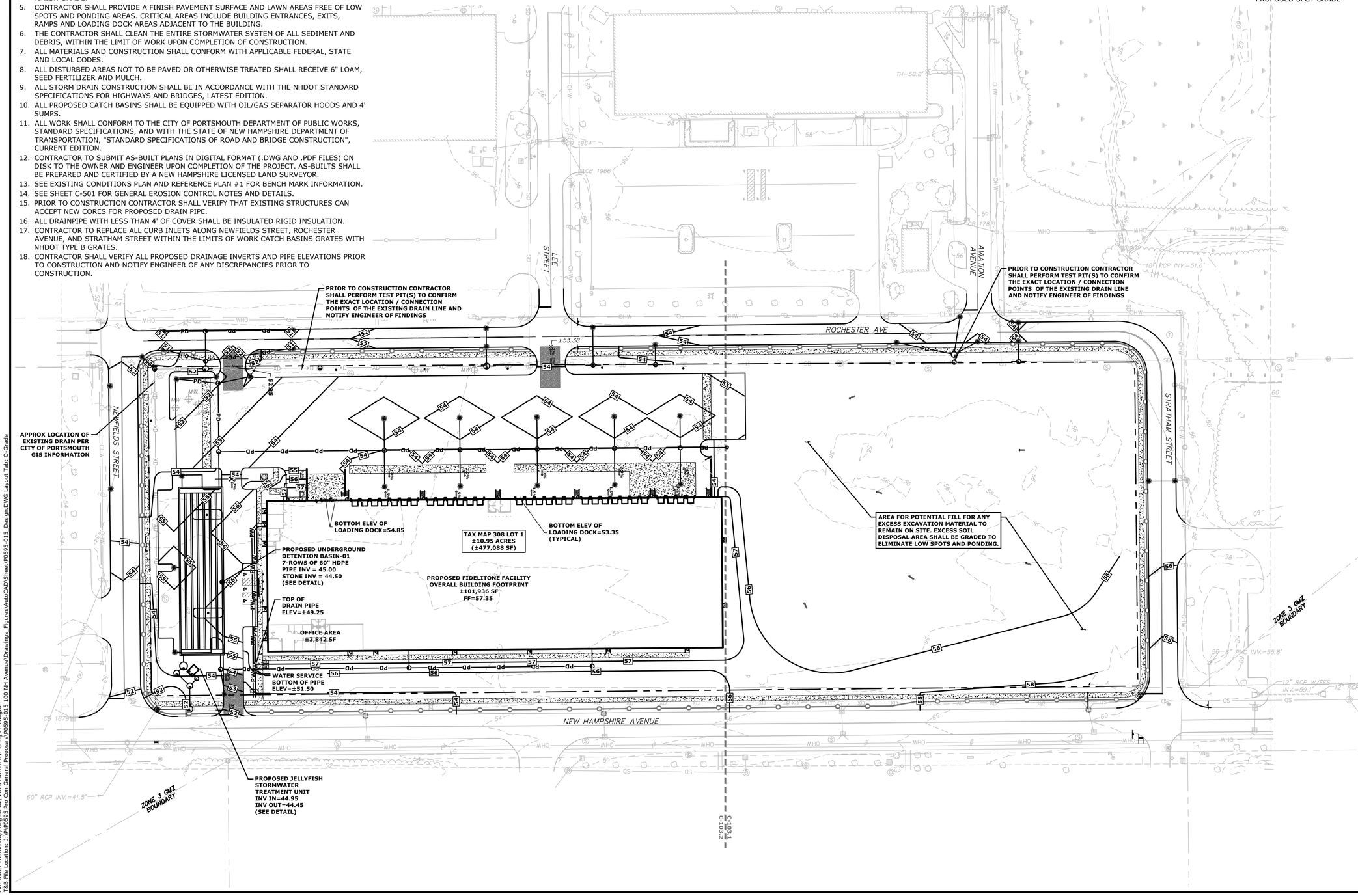
C-102.2

GRADING, DRAINAGE & EROSION CONTROL 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. THE CONTRACTOR SHALL CLEAN THE ENTIRE STORMWATER SYSTEM OF ALL SEDIMENT AND DEBRIS, WITHIN THE LIMIT OF WORK 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 AND REFERENCE PLAN #1 FOR BENCH MARK INFORMATION.
14. SEE SHEET C-501 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.
15. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY THAT EXISTING STRUCTURES CAN ACCEPT NEW CORES FOR PROPOSED DRAIN PIPE.
16. ALL DRAINPIPE WITH LESS THAN 4' OF COVER SHALL BE INSULATED RIGID INSULATION.
17. CONTRACTOR TO REPLACE ALL CURB INLETS ALONG NEWFIELDS STREET, ROCHESTER AVENUE, AND STRATHAM STREET WITHIN THE LIMITS OF WORK CATCH BASINS GRATES WITH NHDOT TYPE B GRATES.
18. CONTRACTOR SHALL VERIFY ALL PROPOSED DRAINAGE INVERTS AND PIPE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

LEGEND

- PD PD — PROPOSED DRAIN LINE
- PTD PTD — PROPOSED TRENCH DRAIN
- XD XD — APPROXIMATE LOCATION OF EXISTING DRAIN PER CITY OF PORTSMOUTH GIS INFORMATION
- 100 — EXISTING MAJOR CONTOUR LINE
- 98 — EXISTING MINOR CONTOUR LINE
- 56 — PROPOSED CONTOUR LINE
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED DRAIN MANHOLE
- ±44.45 — APPROX EXISTING SPOT GRADE
- 44.45 — PROPOSED SPOT GRADE



Tighe&Bond

PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE
08/02/2023

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE
08/02/2023

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

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Portsmouth, NH

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CHECKED:	NAH
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OVERALL GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

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T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: O-Grade

Tighe&Bond

STRATHAM STREET

AVIATION AVENUE

ROCHESTER AVE

ZONE 3 GWZ BOUNDARY

REPLACE FRAME AND GRATE

PROPOSED INLET PROTECTION BARRIER (TYP)

CONNECT NEW 24" HDPE TO EXISTING DRAIN LINE

21 LF 12" HDPE @ S=0.005

PCB-14
RIM=53.90
INV IN=49.90 SW
INV OUT=49.80 NE

PCB-07
RIM=53.85
INV OUT=50.10 NE

18 LF 12" HDPE @ S=0.011

7 LF 24" HDPE @ S=0.005

PDMH-06
RIM=54.35
INV IN=49.70 SW
INV IN=49.60 NW
INV OUT=49.60 SE

7 LF 24" HDPE @ S=0.005

CONNECT NEW 24" HDPE TO EXISTING DRAIN LINE

PCB-19
RIM=53.85
INV OUT=49.65 SE

27 LF 12" HDPE @ S=0.006

CONNECT NEW 24" HDPE TO EXISTING DRAIN LINE

41 LF 18" HDPE @ S=0.006

7 LF 24" HDPE @ S=0.005

PDMH-05 (4' DIA)
RIM=53.95
INV IN=49.35 SW
INV IN=49.25 NW
INV OUT=49.25 SE

7 LF 24" HDPE @ S=0.005

5 LF 18" HDPE @ S=0.010

CONNECT NEW 24" HDPE TO EXISTING DRAIN LINE

PCB-25
RIM=54.25
INV OUT=49.75 E
(SEE GRADING & DRAINAGE NOTE #18)

CONNECT NEW 18" HDPE TO EXISTING RCP @ ELEV=49.60 (CONTRACTOR TO CONFIRM CONNECTION ELEVATION PRIOR TO CONSTRUCTION)

67 LF 12" HDPE @ S=0.005

PCB-15
RIM=53.65
INV OUT=49.85 N

PDMH-07 (6' DIA)
RIM=54.05
INV IN=49.50 S
INV IN=49.50 NW
INV IN=49.50 W
INV OUT=49.40 NE

PROPOSED SILT SOCK (TYP)

TOC:56.05
BOC:55.55

PYD-01
RIM=54.00
INV OUT=48.75 SE

TOC:55.60
BOC:55.10

35 LF 12" HDPE @ S=0.006

54 LF 12" HDPE @ S=0.006

PCB-05
RIM=53.55

PDMH-03 (4' DIA)
RIM=54.00
INV IN=48.40 NE

TAX MAP 308 LOT 1
±10.95 ACRES
(±477,088 SF)

DMH 2152
RIM ELEV.=62.4'
(A) 12" RCP INV.=53.9'
(B) 24" RCP INV.=53.5'
(C) 36" RCP INV.=52.9'
(1806) 36" RCP INV.=52.8'

12" RCP W/FES INV.=59.5'

CB 1741
RIM ELEV.=61.6'
(2151) 12" RCP INV.=53.5'
(A) 12" RCP INV.=53.5'

12" RCP W/FES INV.=59.1'

CB 2151
RIM ELEV.=61.7'
(1741) 12" RCP INV.=55.9'

CB 1770
RIM ELEV.=52.3'
(1772) 12" RCP INV.=50.4'
(A) 4" HDPE INV.=50.2'
(5382) 15" RCP INV.=49.9'
SUMP ELEV.=50.2'

CB 1772
RIM ELEV.=54.1'
(5385) 12" RCP INV.=50.5'
(1770) 12" RCP INV.=50.3'
DEBRIS=50.7'

8" PVC INV.=55.8'

CB 5385
RIM ELEV.=54.3'
(1772) 12" RCP INV.=50.6'
DEBRIS=50.7'

LIMIT OF DRAINAGE LICENSE RESERVED BY OWNER (PER REF. PLAN 13)

CB 5387
RIM ELEV.=60.5'

CB 1803
RIM ELEV.=59.6'
(A) 6" VCP INV.=55.3'
(1804) 12" RCP INV.=51.1'
(B) 12" RCP INV.=50.6'

CB 1804
RIM ELEV.=59.7'
(1803) 12" RCP INV.=53.7'

DMH 1806
RIM ELEV.=58.5'
(1831) 12" RCP INV.=50.6'
(2152) 36" RCP INV.=49.0'
(A) 36" RCP INV.=48.8'
GIS SHOWS ONE STRUCTURE BETWEEN DMH 1806 & DMH 1925 (VERY CLOSE TO 1925) BUT IT WAS NOT FOUND BELOW SNOWBANKS.

CB 1814
RIM ELEV.=56.8'
(A) 6" VCP INV.=52'
(B) 6" VCP INV.=51.9'
(1815) 12" RCP INV.=49.3'
(C) 12" RCP INV.=49.1'

CB 5389
RIM ELEV.=57.7'

DMH 5390
RIM ELEV.=58.5'

CB 1815
RIM ELEV.=56.8'
(A) 6" VCP INV.=52.9'
(B) 6" VCP INV.=52.6'
(1814) 12" RCP INV.=50.6'

CB 1818
RIM ELEV.=56.7'
(1819) 12" HDPE INV.=53.2'

DMH 1819
RIM ELEV.=59.1'

CB 1685
RIM ELEV.=56.9'
(A) 6" VCP INV.=52.3'
(B) 12" RCP INV.=52.0'
(NO CON. OBSERVED TO CB 1720)

12" CMP INV.=56.6'

12" CMP INV.=56.5'

18" RCP INV.=51.6'

DMH 5382
RIM ELEV.=55.4'
(1770) 15" RCP INV.=49.1'
(WETLAND INLET) 18" RCP INV.=49.0'
(5383) 24" RCP INV.=48.7'
(5379) 24" RCP INV.=48.7'
DEBRIS=48.6'

CBR 5383
RIM ELEV.=59.2'
(A) 24" RCP INV.=50.4'
(5382) 24" RCP INV.=49.9'

CB 1787

DMH 5379
RIM ELEV.=55.1'
(A) NO ACTUAL PIPE TO CB 1836 OBSERVED; BUT CONNECTION NOTED BY SOUND--CHECK.
(5382) 24" RCP INV.=47.5'
(2136) 24" RCP INV.=47.5'

DMH 5378
CB 1720
CB 1719
CB 2132
DMH 2131
TH=58.8'
DMH 1715
CB 1695
CB 1694
CB 1929
DMH 1697
CB 1698

C-103.1
C-103.2

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

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GRADING, DRAINAGE & EROSION CONTROL PLAN

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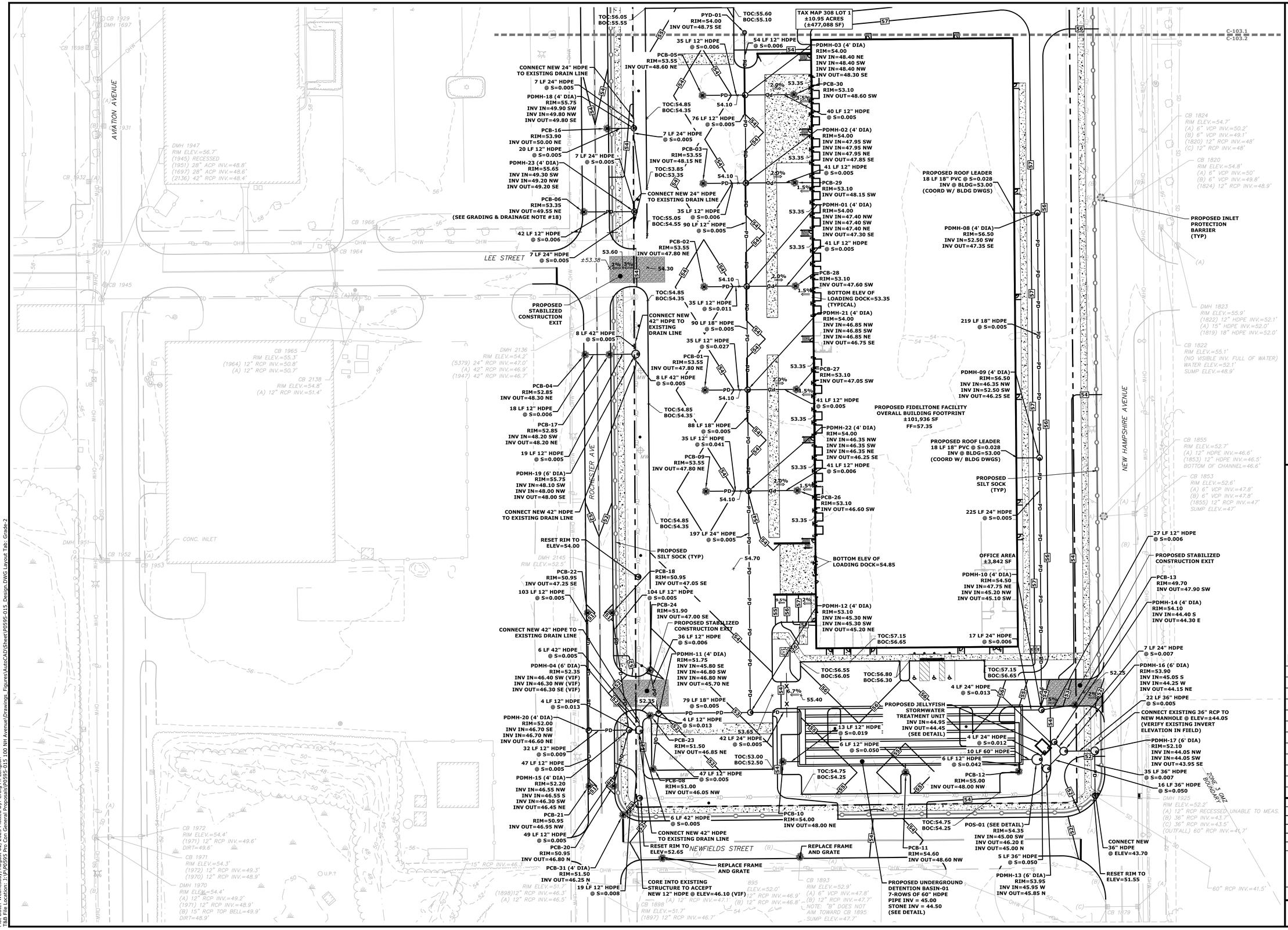

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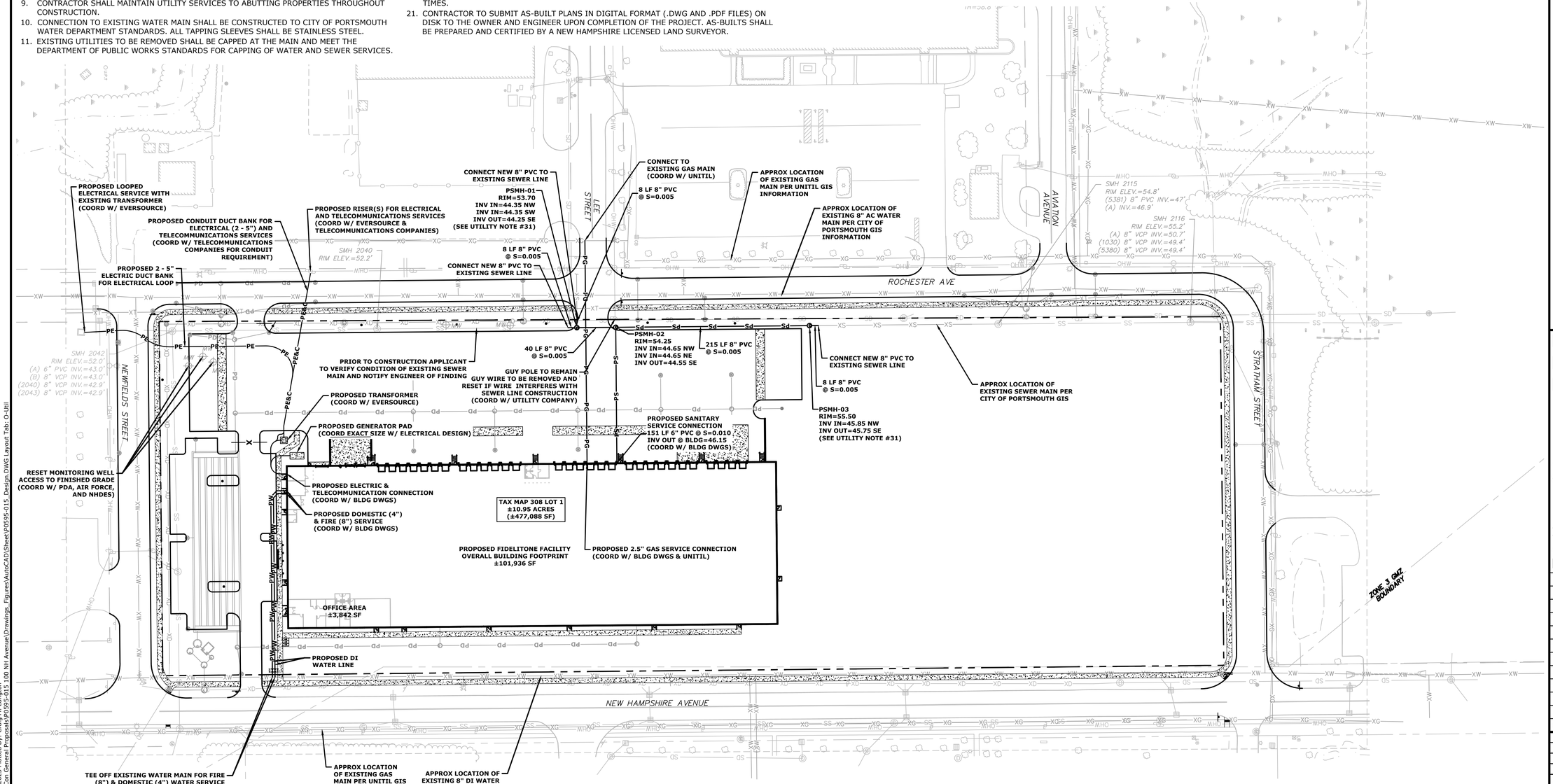
UTILITY NOTES:

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 / NORTHERN UTILITIES
   - WATER - CITY OF PORTSMOUTH
   - SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - FAIRPOINT COMMUNICATIONS
3. SEE EXISTING CONDITIONS PLAN AND REFERENCE PLAN #1 FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. 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.
7. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
8. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH AND PEASE DEVELOPMENT AUTHORITY.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS. ALL TAPPING SLEEVES SHALL BE STAINLESS STEEL.
11. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. 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.
17. 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.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. 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.
20. 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.
21. 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.
22. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH / PEASE FIRE DEPARTMENT.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
25. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
26. 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.
27. 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.
28. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
29. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
30. FINAL LOCATION OF ALL WATER METER AND VALVE SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DPW PRIOR TO CONSTRUCTION.
31. CONTRACTOR SHALL VERIFY ALL PROPOSED SEWER INVERTS AND PIPE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

LEGEND

PS PS	PROPOSED SEWER LINE
PG PG	PROPOSED GAS LINE
PC PC	PROPOSED COMMUNICATIONS LINE
PE PE	PROPOSED ELECTRIC LINE
PE&C PE&C	PROPOSED ELECTRIC & COMMUNICATIONS LINE
PW PW	PROPOSED WATER LINE
	PROPOSED WATER GATE VALVE
	PROPOSED ELECTRIC MANHOLE
	PROPOSED SEWER MANHOLE



Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
08/02/2023

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
K	8/2/2023	Rev per Eversource & Drainage Review Comments
J	7/21/2023	Planning Board Submission
I	7/10/2023	Amended AoT
H	6/30/2023	DPW Response to Comments
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DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

UTILITY PLAN

SCALE: AS SHOWN

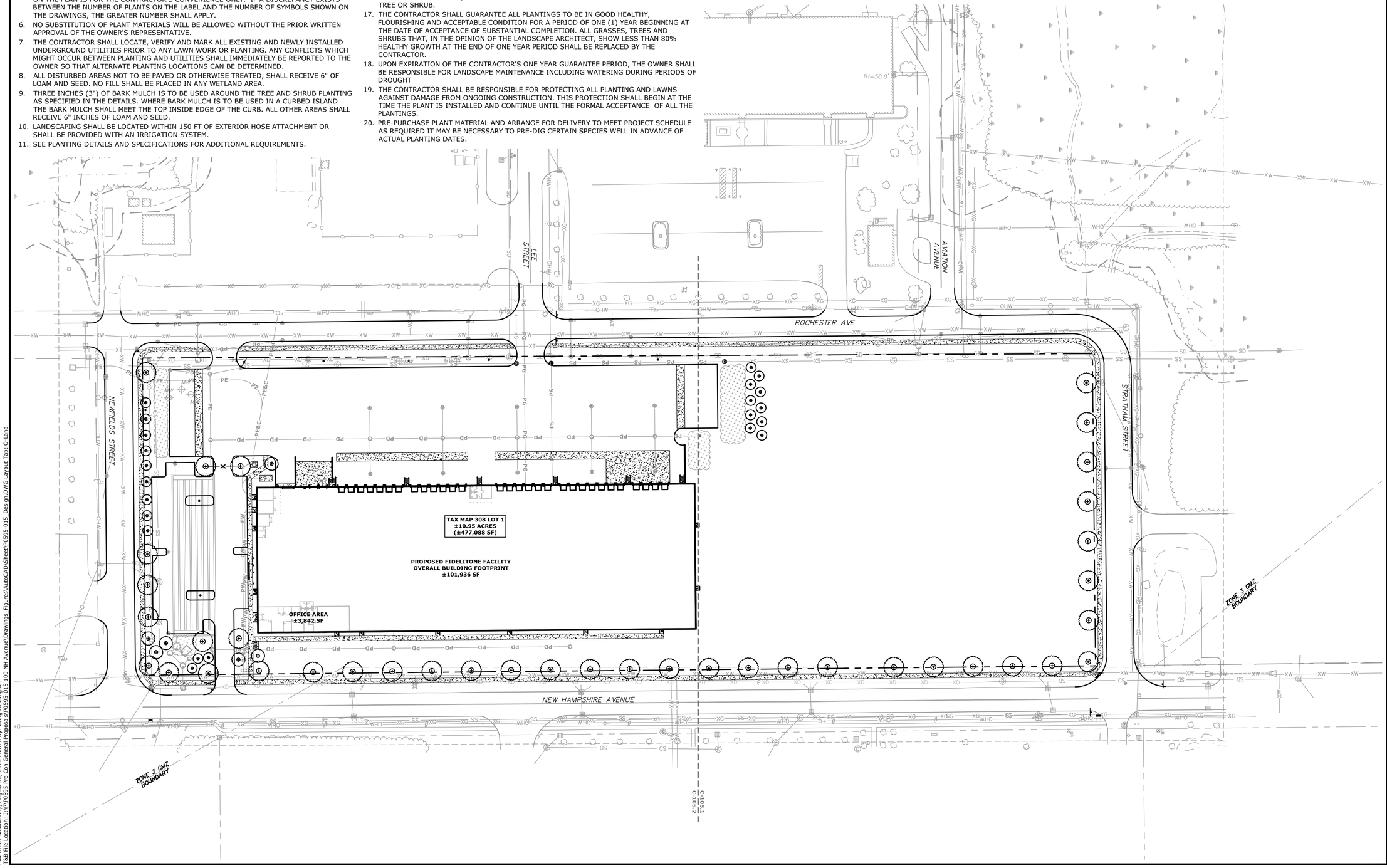
C-104

Last Save Date: August 2, 2023 3:02 PM By: CML
Plot Date: Wednesday, August 2, 2023 3:02 PM By: Craig M. Langton
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings - Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: O-Util

LANDSCAPE NOTES:

1. 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.
2. 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.
3. 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.
4. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
5. 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.
6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. 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.
8. 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.
9. 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.
10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
14. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
15. 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.
16. 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.
17. 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.
18. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
19. 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.
20. 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.

PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
AF	ACER FREEMANII	AUTUM BLAZE MAPLE	2-1/2" - 3"	CALIPER
GD	GYMNOCLADUS DIOICUS 'ESPROSSO'	KENTUCKY COFFEE	2-1/2" - 3"	CALIPER
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	2-1/2" - 3"	CALIPER
QR	QUERCUS RUBRA	RED OAK	2-1/2" - 3"	CALIPER
MS	MALUS 'SUTYZAM'	SUGAR TYME CRABAPPLE	2" - 2-1/2"	CALIPER
MP	MALUS 'PRAIRIE FIRE'	PRAIRIE FIRE CRABAPPLE	2" - 2-1/2"	CALIPER
CK	CORNUS KOUSA	KOUSA DOGWOOD	2" - 2-1/2"	CALIPER
PG	PICEA GLAUCA	WHITE SPRUCE	7' - 8' HT	
PN	CASUARINA EQUISETIFOLIA	AUSTRALIAN PINE	7' - 8' HT	



LEGEND

PROPOSED DECIDUOUS TREE (W/ BARK MULCH)

PROPOSED DECICUOUS TREE (W/O BARK MULCH)

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Tighe&Bond

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08/02/2023

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OVERALL LANDSCAPE PLAN

SCALE: AS SHOWN

C-105

Last Save Date: August 2, 2023 3:02 PM By: CML
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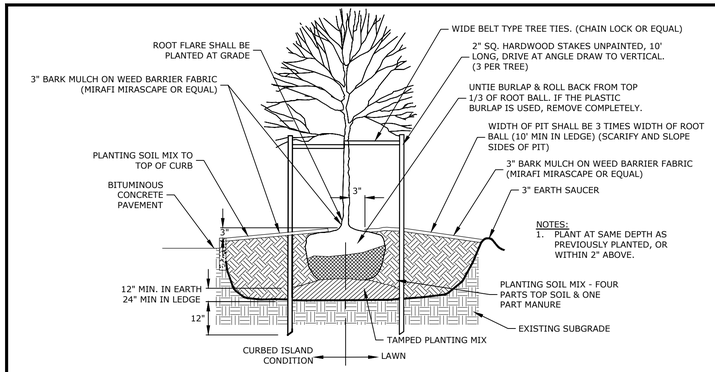
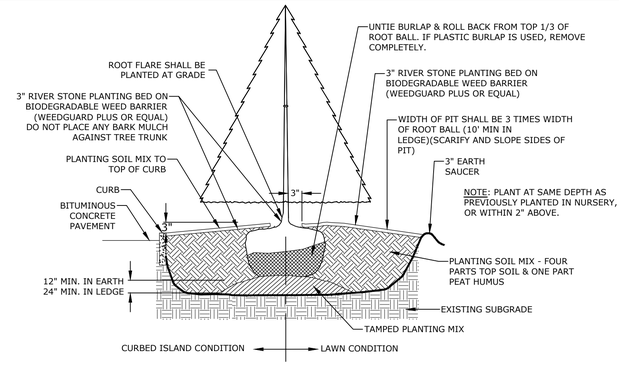
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings_Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: O-Land



DECIDUOUS TREE PLANTING

NO SCALE



EVERGREEN TREE PLANTING

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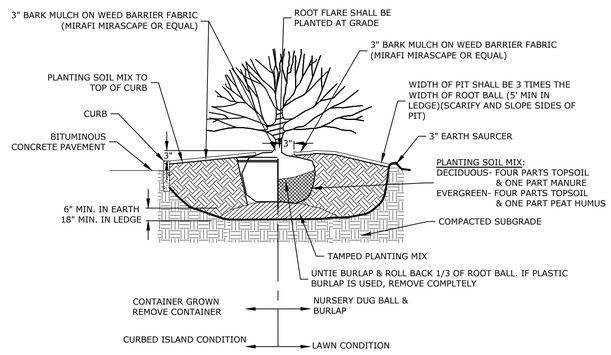

NOTES:
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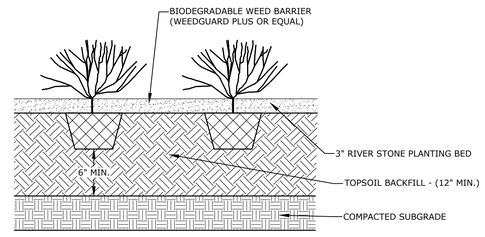
SHRUB PLANTING

NO SCALE



PERENNIAL PLANTING

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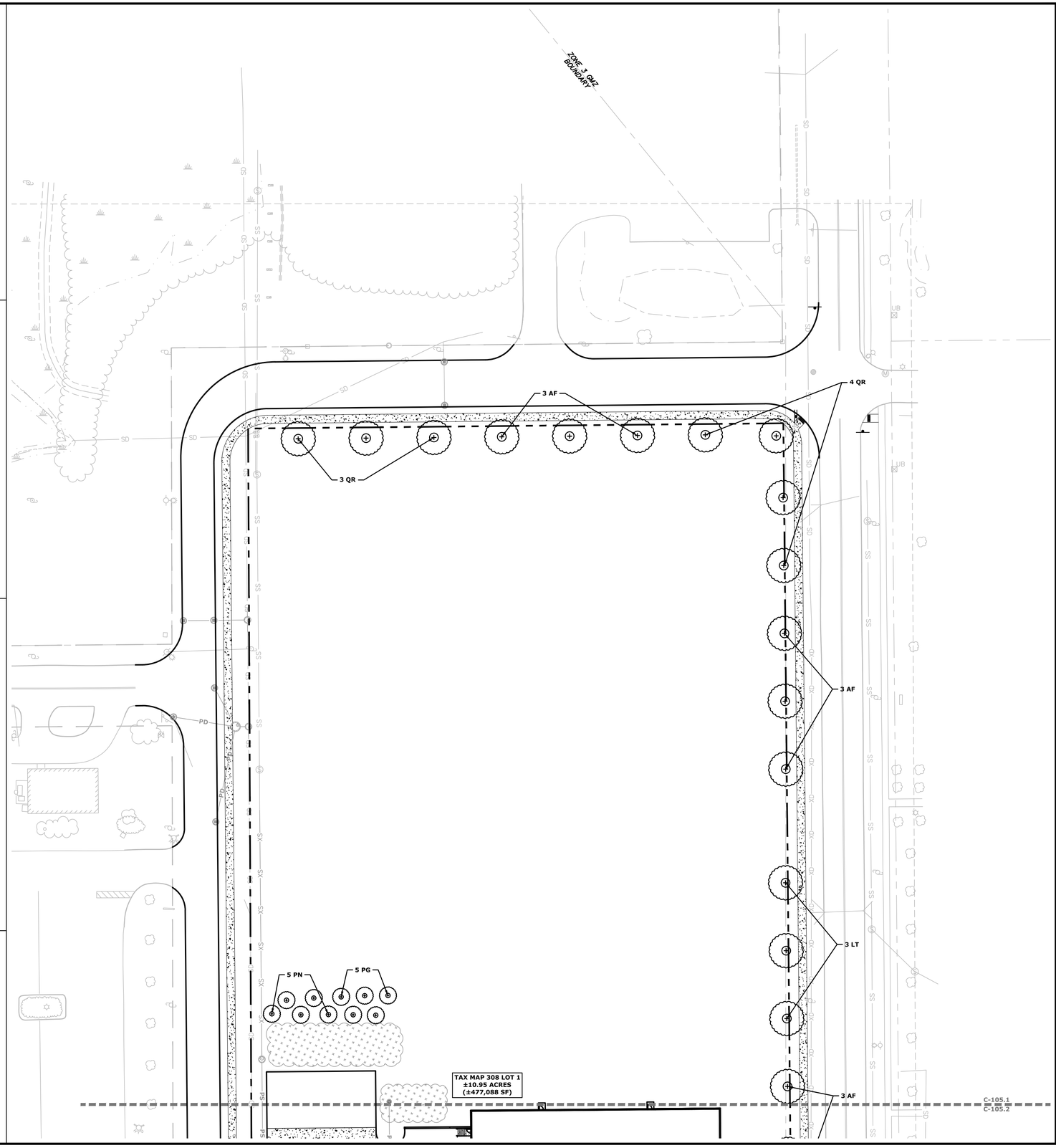

Tighe&Bond

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SCALE IN FEET
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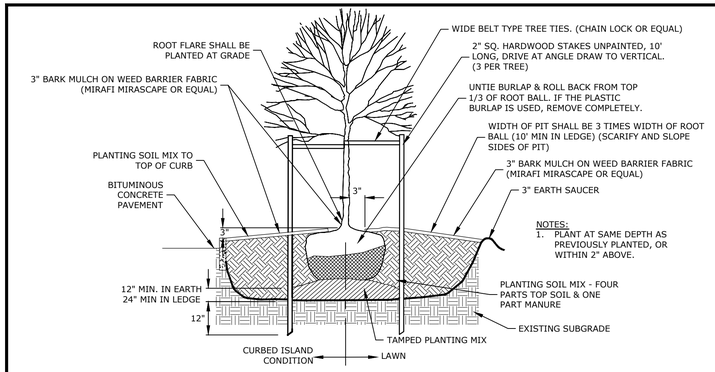
LANDSCAPE PLAN

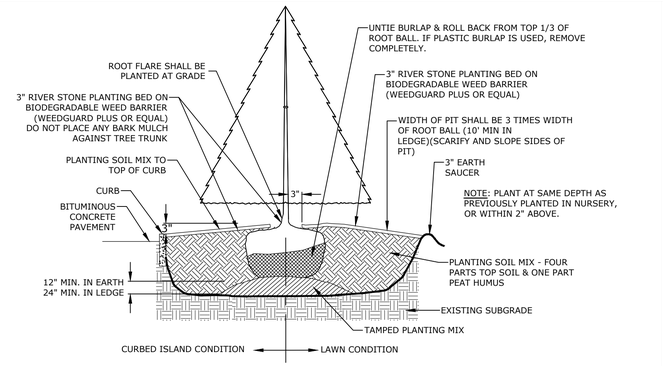
SCALE: AS SHOWN

C-105.1



DECIDUOUS TREE PLANTING

NO SCALE



EVERGREEN TREE PLANTING

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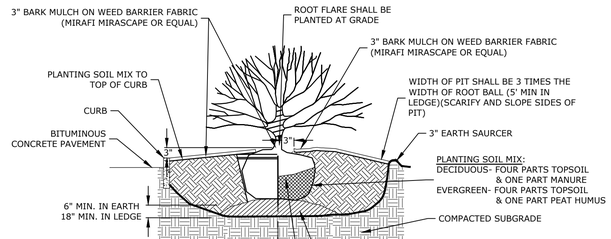

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SHRUB PLANTING

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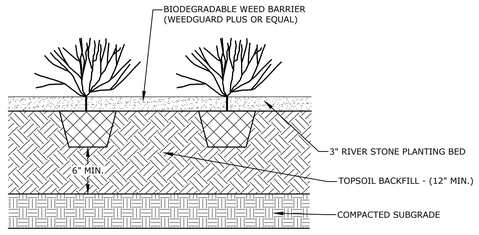

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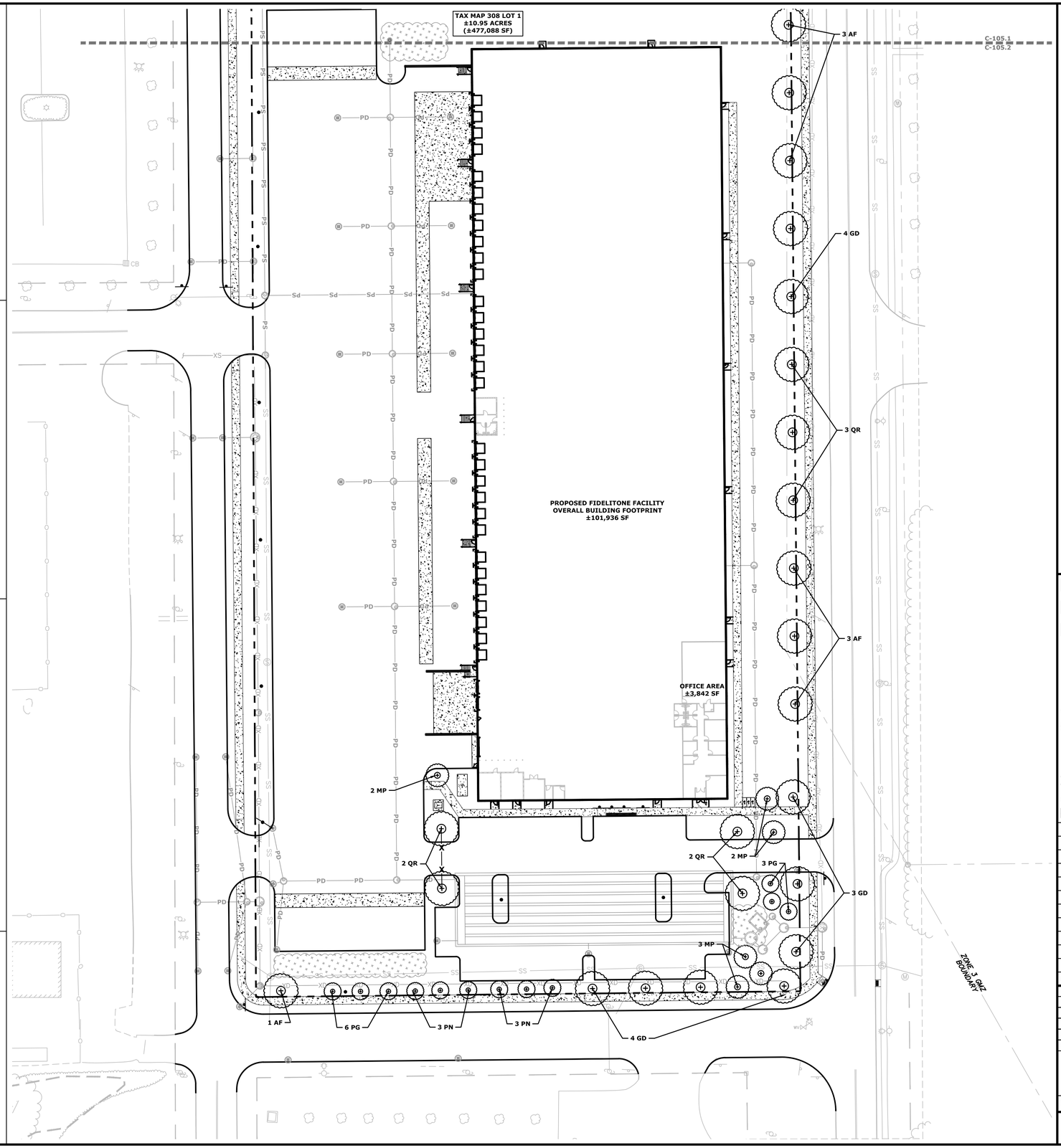

Tighe&Bond

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LANDSCAPE PLAN

SCALE: AS SHOWN

C-105.2

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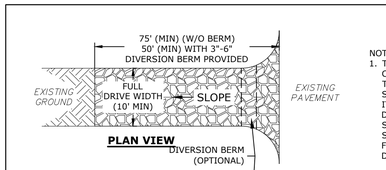
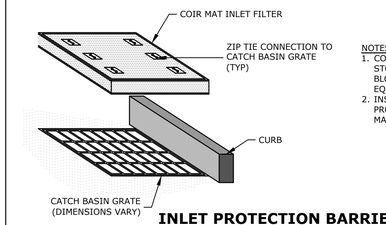
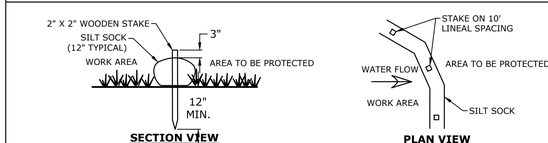
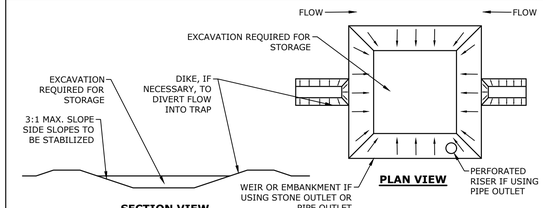








GENERAL PROJECT INFORMATION

PROJECT LESSOR: PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801
PROJECT APPLICANT: AVIATION AVENUE GROUP, LLC
210 COMMERCE WAY, SUITE 300
PROJECT NAME: PROPOSED FIDELITONE FACILITY
PROJECT ADDRESS: 80 ROCHESTER AVE (100 NEW HAMPSHIRE AVE)
PORTSMOUTH, NH 03801
PROJECT MAP / LOT: MAP 308 / LOT 1
PROJECT LATITUDE: 43°04'49.9"N
PROJECT LONGITUDE: 70°48'33.6"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE CONSTRUCTION OR A NEW INDUSTRIAL WAREHOUSE ON A PREVIOUSLY DEVELOPED LOT THE WORK IS ANTICIPATED TO START IN FALL OF 2023, AND BE COMPLETED BY WINTER OF 2025.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 11.4 ACRES.

SOIL CHARACTERISTICS

BASED ON THE NRCS WEB SOIL SURVEY FOR ROCKINGHAM COUNTY - NEW HAMPSHIRE. THE SOILS ON SITE CONSIST OF URBAN LAND AS THE SITE HAS BEEN PREVIOUSLY DEVELOPED AND THE HYDROLOGIC SOIL GROUP RATING(S) IS ASSUMED TO BE "C".

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA OVERLAND FLOW TO A CLOSED DRAINAGE SYSTEM AND ULTIMATELY FLOWS TO NEWFIELDS DITCH.
(STATE WATERBODY ID: NHRIV600031001-10).

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

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

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
3. NO MORE THAN 5 ACRES SHALL BE DISTURBED (NOT STABILIZED) AT ANY TIME.

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

DUST CONTROL:

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

STOCKPILES:

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

OFF SITE VEHICLE TRACKING:

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

VEGETATION:

1. TEMPORARY GRASS COVER:
    A. SEEDBED PREPARATION:
        a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
    B. SEEDING:
        a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
        b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
        c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
    C. MAINTENANCE:
        a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. 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	MINIMUM GERMINATION (%)	MINIMUM PURITY (%)
TALL FESCUE (*FESTUCA ARUNDINACEA*)	72 LBS/ACRE	85%	96%
SALTY ALKALI GRASS (*PUCCINELLIA TENUIFLORA*)	36 LBS/ACRE	85%	96%
RELIANT HARD FESCUE / CREEPING RED FESCUE	12 LBS/ACRE	85%	96%

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 CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
2. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
3. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
4. 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. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

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

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
    A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
        a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
        b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
        c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
        d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
        e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
        f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
        g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
    B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
        a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
        b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
        c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
    C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
        a. PETROLEUM PRODUCTS:
            - 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.
            - SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
            - INSPECT FUEL STORAGE AREAS WEEKLY;
            - 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;
            - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
            - 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.
            - THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
                (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
                (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
                (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
                (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
                (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
            - FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
              HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
        b. FERTILIZERS:
            - 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.
            - 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 EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
        b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
        c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
        d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
        e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
        f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

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

NOTES:
1. THE EXIT 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 WAITERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE

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

INLET PROTECTION BARRIER
NO SCALE

NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. SILT SOCK SHALL BE FILLED WITH FILTERMEDIA BY FILTREXX OR APPROVED EQUAL.
3. WHERE TWO SILT SOCKS ARE JOINED, A MINIMUM OF 2 FEET OF OVERLAP SHALL BE MAINTAINED.
4. SILT SOCKS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

SILT SOCK
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

Tighe&Bond

PATRICK CRIMMINS
No. 12378
08/02/2023

NEIL A. HANSEN
No. 15227
08/02/2023

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
K	8/2/2023	Rev per Eversource & Drainage Review Comments
J	7/21/2023	Planning Board Submission
I	7/10/2023	Amended AoT
H	6/30/2023	DPW Response to Comments
G	6/28/2023	PDA Response to Comments
F	6/16/2023	TAC Resubmission
E	3/29/2023	Planning Board / Revised AoT Submission
D	2/23/2023	TAC Resubmission
C	2/6/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

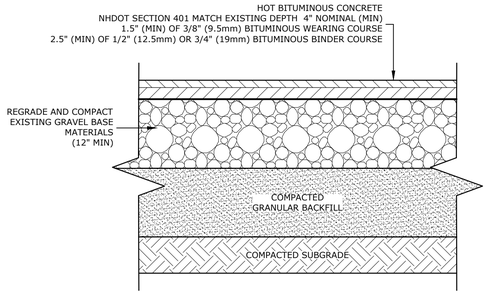
PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DETAILS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

EROSION CONTROL NOTES & DETAILS SHEET

SCALE: AS SHOWN

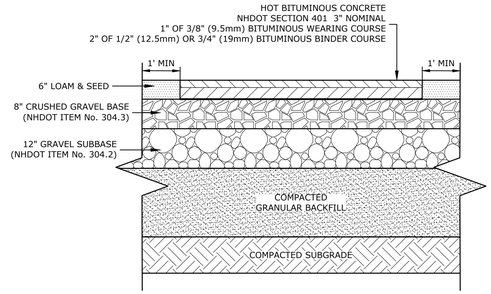
C-501

Last Save Date: August 2, 2023 3:01 PM By: CML
Plot Date: Wednesday, August 02, 2023 Plotted By: Craig M. Langton
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings_Figures\AutoCAD\Sheet\P0595-015_Details.DWG Layout Tab: C-501



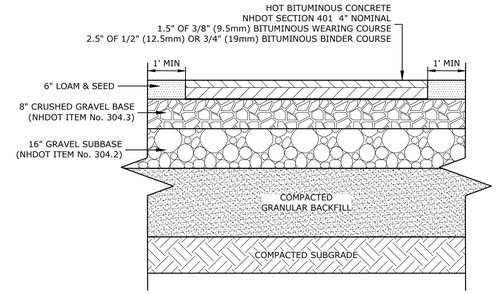
NOTES:
1. RECLAIM EXISTING PAVEMENT, REGRADE AND COMPACT GRAVEL BASE AND REPAVE
2. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
3. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
4. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

RECLAIM PAVEMENT SECTION
NO SCALE



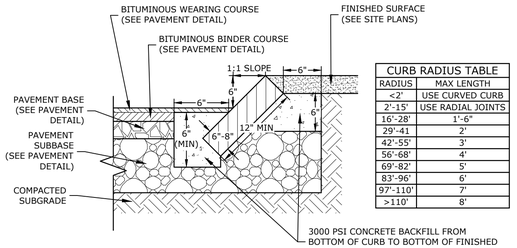
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. FINAL PAVEMENT SECTION DESIGN SHALL BE APPROVED BY THE PROJECTS GEOTECHNICAL ENGINEER.
5. THE PAVEMENT SECTION SHOULD BE THICKENED AT THE ENTRANCE AND EXIT WAY AREAS OVER A 5' SECTION TO MATCH THE EXISTING ROADWAY PAVEMENT DEPTHS.

TYPICAL STANDARD DUTY PAVEMENT SECTION
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.
4. FINAL PAVEMENT SECTION DESIGN SHALL BE APPROVED BY THE PROJECTS GEOTECHNICAL ENGINEER.
5. THE PAVEMENT DEPTH, BOTH WEARING AND BINDER COURSE, FOR AREAS TO BE RECLAIMED AND RE-PAVED SHALL MATCH EXISTING DEPTH.
6. THE PAVEMENT SECTION SHOULD BE THICKENED AT THE ENTRANCE AND EXIT WAY AREAS OVER A 5' SECTION TO MATCH THE EXISTING ROADWAY PAVEMENT DEPTHS.

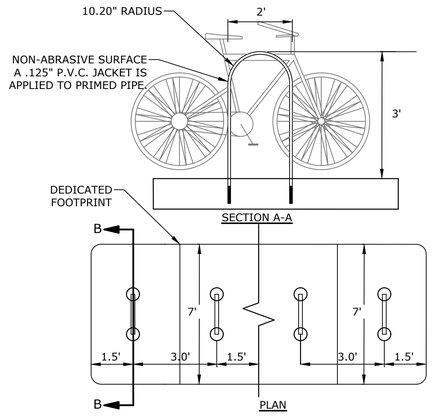
TYPICAL HEAVY DUTY PAVEMENT SECTION
NO SCALE



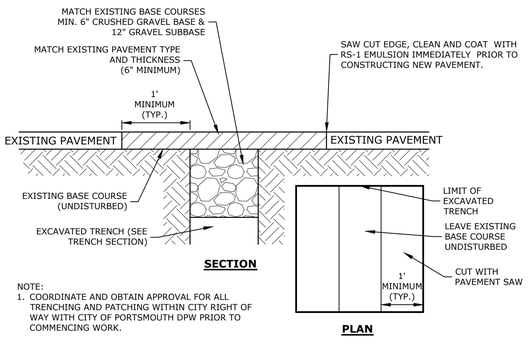
CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

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

SLOPED GRANITE CURB
NO SCALE

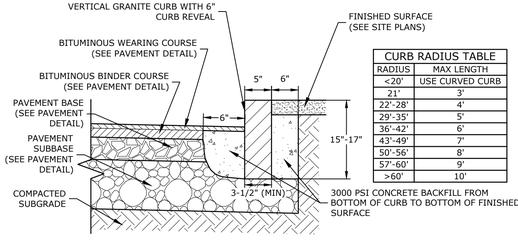


BIKE RACK
NO SCALE



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.

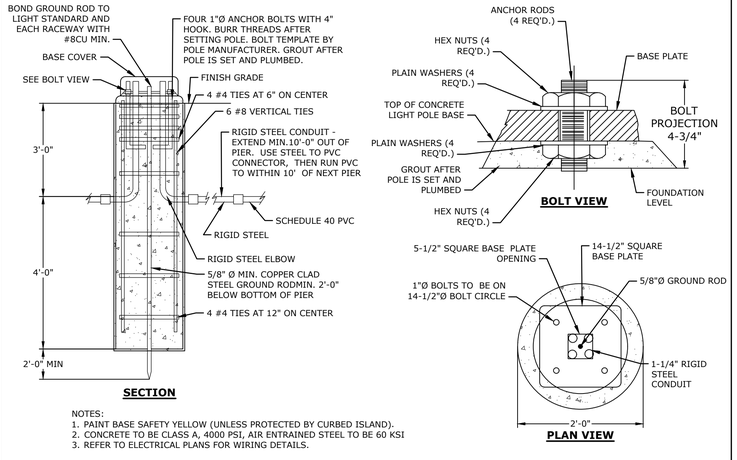
ROADWAY TRENCH PATCH
NO SCALE



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'

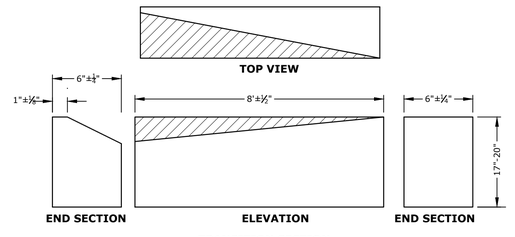
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE 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.
8. VERTICAL GRANITE CURB WITHIN THE CITY ROW SHALL BE NHDOT SPEC 609.01.

VERTICAL GRANITE CURB
NO SCALE



NOTES:
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.

TYPICAL LIGHT POLE BASE
NO SCALE



TRANSITION SECTION

GRANITE SLOPE CURB TO VERTICAL GRANITE CURB

NOTES:
1. THE INTENT OF THIS ITEM IS TO PROVIDE A SMOOTH TRANSITION BETWEEN STRAIGHT GRANITE CURB AND SLOPE CURB WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION. THE SLOPE CURB MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SLOPE CURB TO STANDARD REVEAL AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

CURB TRANSITION
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
08/02/2023

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
K	8/2/2023	Rev per Eversource & Drainage Review Comments
J	7/21/2023	Planning Board Submission
I	7/10/2023	Amended AoT
H	6/30/2023	DPW Response to Comments
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A	12/19/2022	TAC Submission

PROJECT NO:	P0595-015
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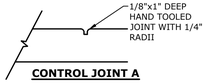
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

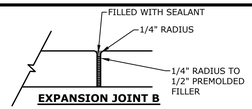
SCALE: AS SHOWN

C-502

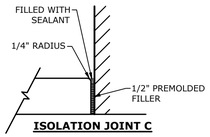
Last Save Date: August 2, 2023 3:01 PM By: CML
Plot Date: August 02, 2023 3:02 PM By: Craig M. Langton
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Details.DWG Layout Tab: C-502



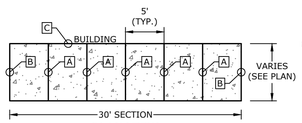
CONTROL JOINT A



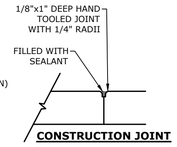
EXPANSION JOINT B



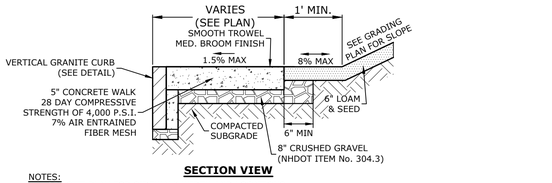
ISOLATION JOINT C



PLAN VIEW



CONSTRUCTION JOINT

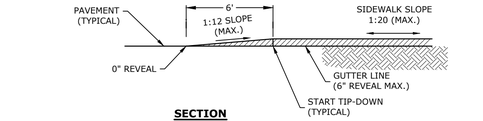


SECTION VIEW

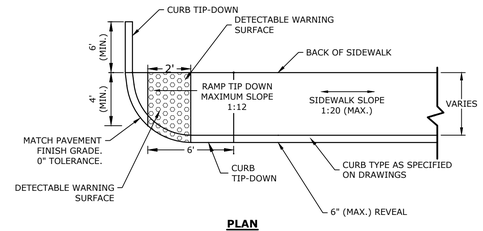
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
4. CONCRETE SIDEWALKS WITHIN THE CITY ROW SHALL BE SEALED WITH SILOXANE CONCRETE SEALER OR APPROVED EQUAL 30 DAYS AFTER SIDEWALK SETS.

CONCRETE SIDEWALK WITH GRANITE CURB

NO SCALE



SECTION

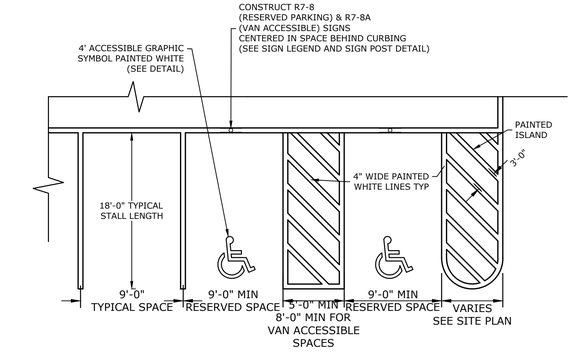


PLAN

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 – PROFESSIONAL ENGINEER – PATRICK CRIMMINS No. 12378 LICENSED
08/02/2023

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – NEIL A. HANSEN No. 15227 LICENSED
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DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

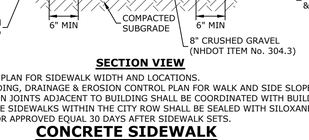
DETAILS SHEET

SCALE: AS SHOWN

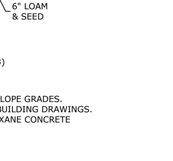
C-503

CONTROL JOINT A

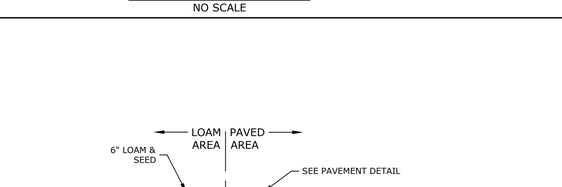
EXPANSION JOINT B



PLAN VIEW



CONSTRUCTION JOINT

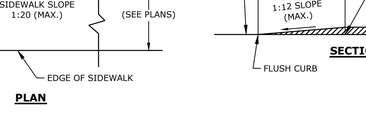


SECTION VIEW

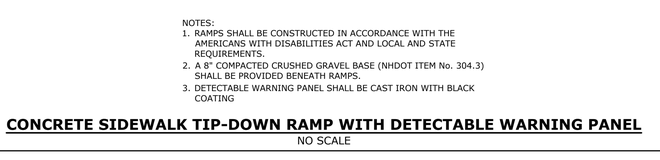
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
4. CONCRETE SIDEWALKS WITHIN THE CITY ROW SHALL BE SEALED WITH SILOXANE CONCRETE SEALER OR APPROVED EQUAL 30 DAYS AFTER SIDEWALK SETS.

CONCRETE SIDEWALK

NO SCALE



PLAN VIEW



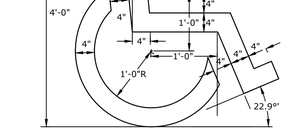
PLAN

SECTION

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

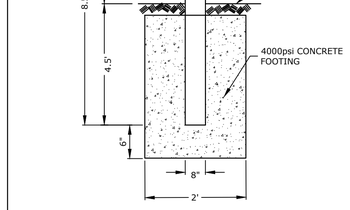
NO SCALE



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.

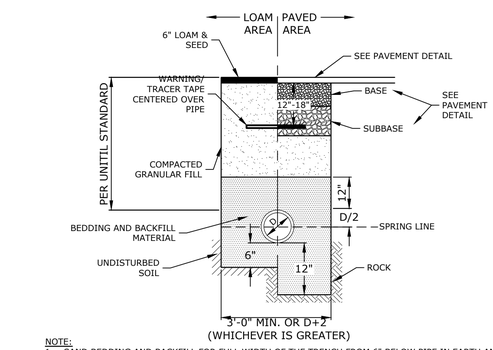
ACCESSIBLE SYMBOL

NO SCALE



TYPICAL BOLLARD

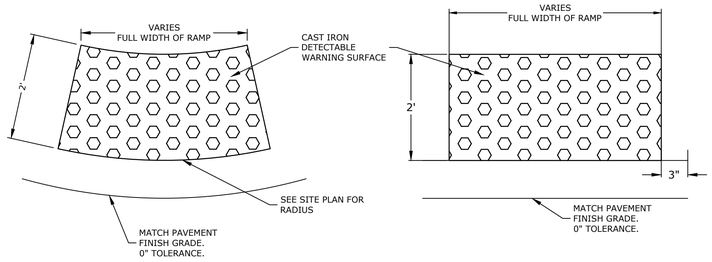
NO SCALE



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

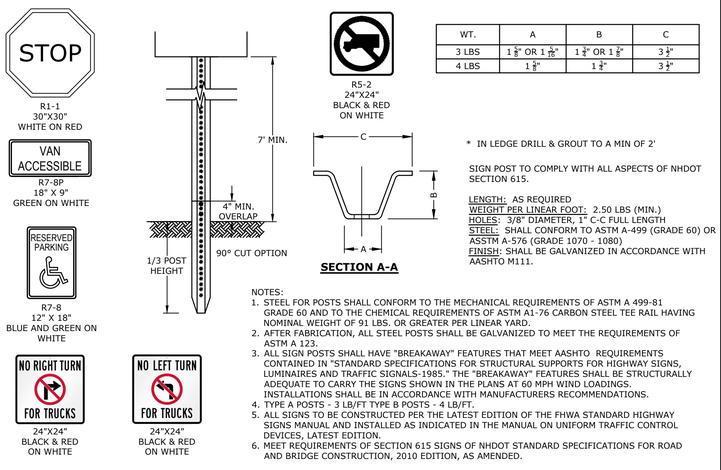
NO SCALE



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



WT.	A	B	C
3 LBS	1 7/8" OR 1 7/16"	1 3/4" OR 1 5/8"	3 1/2"
4 LBS	1 7/8"	1 3/4"	3 1/2"

* IN LEDGE DRILL & GROUT TO A MIN OF 2'

SIGN POST TO COMPLY WITH ALL ASPECTS OF NHDOT SECTION 615.

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

NOTES:
1. STEEL FOR POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499-81 GRADE 60 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1-76 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT OF 91 LBS. OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION, ALL STEEL POSTS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A 123.
3. ALL SIGN POSTS SHALL HAVE "BREAKAWAY" FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS-1985." THE "BREAKAWAY" FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. TYPE A POSTS - 3 LB/FT TYPE B POSTS - 4 LB/FT.
5. ALL SIGNS TO BE CONSTRUCTED PER THE LATEST EDITION OF THE FHWA STANDARD HIGHWAY SIGNS MANUAL AND INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
6. MEET REQUIREMENTS OF SECTION 615 SIGNS OF NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2010 EDITION, AS AMENDED.

SIGN LEGEND & POST

NO SCALE

Last Save Date: August 2, 2023 3:01 PM By: CML
Plot Date: August 2, 2023 3:02 PM By: Craig M. Langton
T&B File Location: J:\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Details.DWG Layout Tab: C-503

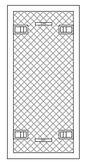
JELLYFISH DESIGN NOTES

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

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	4.90	3.67	2.45	1.36
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

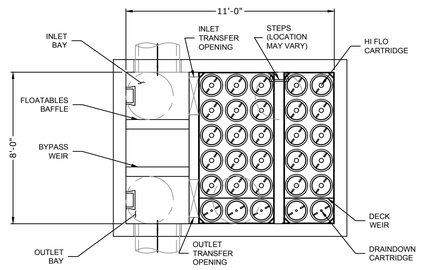
FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



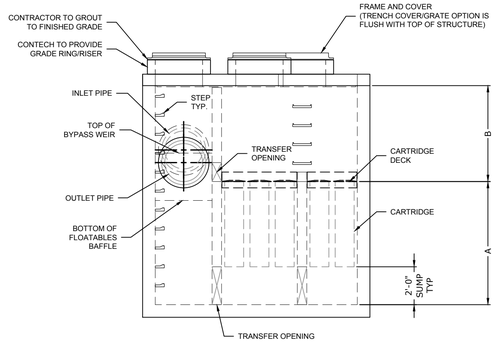
24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	JFPD0816
WATER QUALITY FLOW RATE (cfs)	4.64
PEAK FLOW RATE (cfs)	21.40
RETURN PERIOD OF PEAK FLOW (yrs)	50
# OF CARTRIDGES REQUIRED (HF / DD)	25/5
CARTRIDGE LENGTH	54"



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)

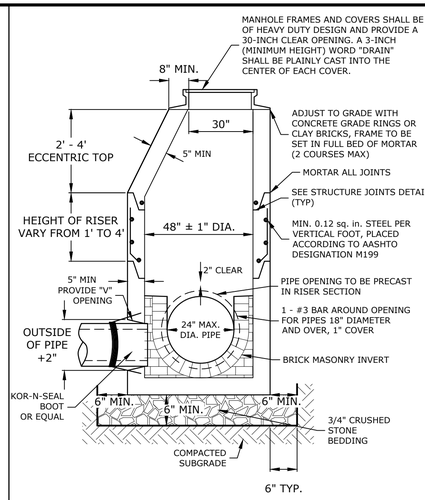


ELEVATION VIEW

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' - 10', 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-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

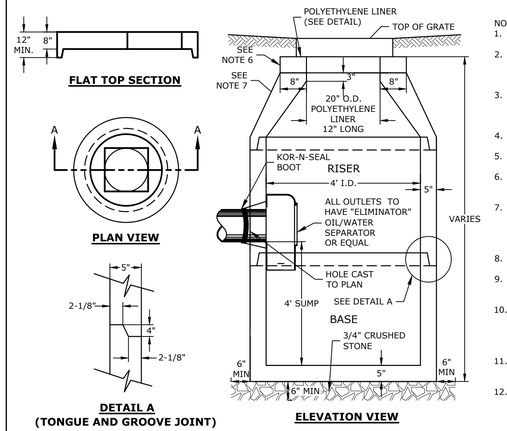
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. 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.

JELLYFISH (JFPD0811) TREATMENT UNIT
NO SCALE



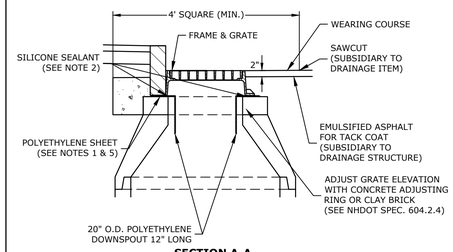
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL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

4' DIAMETER DRAIN MANHOLE
NO SCALE

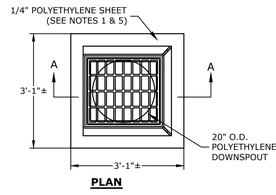


NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 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



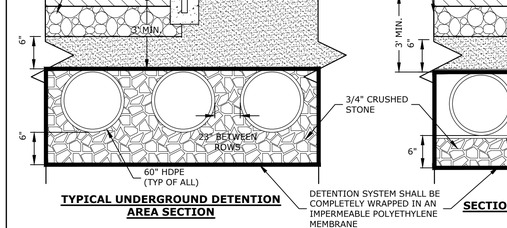
SECTION A-A



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



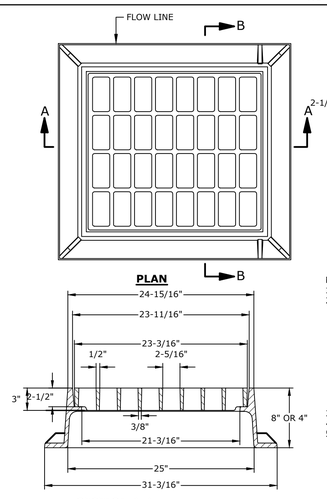
TYPICAL UNDERGROUND DETENTION AREA SECTION

SECTION THROUGH HEADER ROW PIPE

FIELD ELEVATIONS				
	TOP OF STONE ELEV	TOP OF PIPE ELEV	BOTTOM OF PIPE ELEV	BOTTOM OF STONE ELEV
PUD-01	50.50'	50.50'	45.00'	44.50'

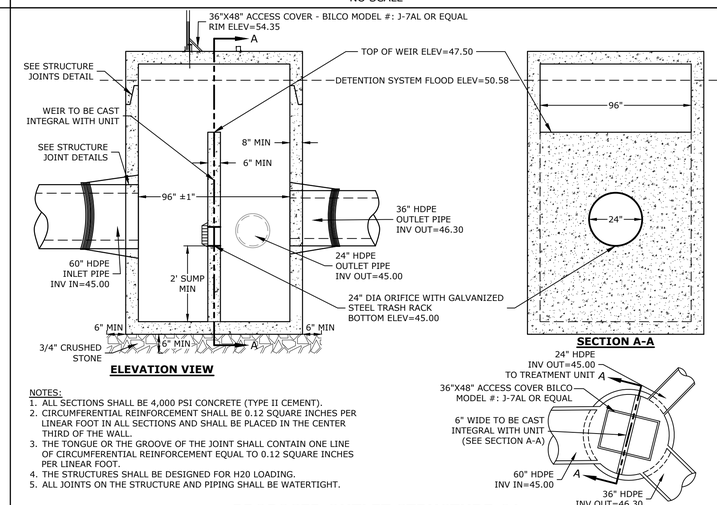
NOTES:
1. UNDERGROUND DETENTION SYSTEM TO BE 60" HDPE PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR APPROVAL.
2. MANUFACTURER TO SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
3. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE APPROVED DESIGN PLAN.

UNDERGROUND DETENTION SYSTEM
NO SCALE



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



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
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 OR 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. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

PROPOSED OUTLET STRUCTURE-01
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
08/02/2023

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

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C	2/6/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

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CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-504

Last Save Date: August 2, 2023 3:01 PM By: CML
Plot Date: August 2, 2023 3:02 PM By: Craig M. Langton
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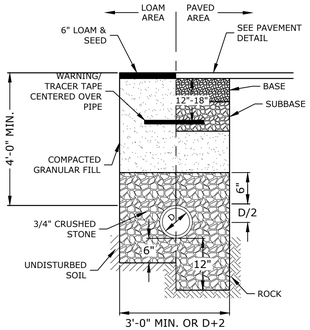
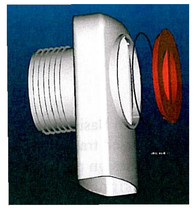


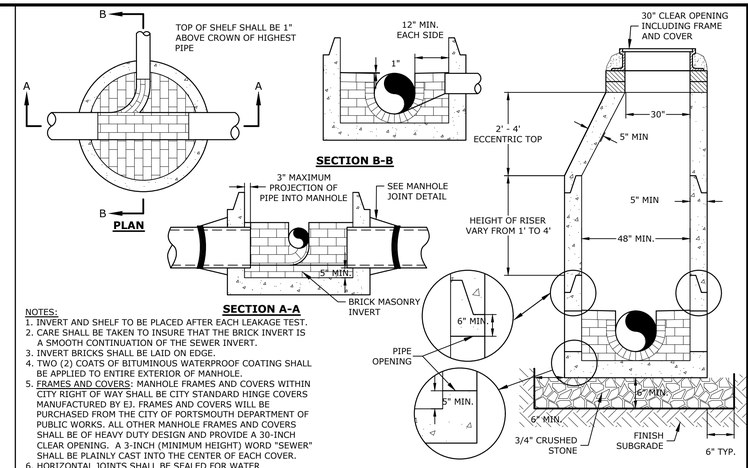
NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES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

STORM DRAIN TRENCH
NO SCALE



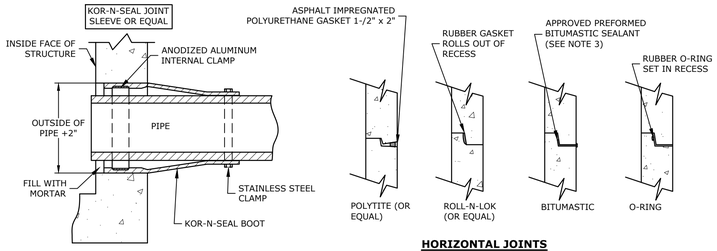
NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

"ELIMINATOR" OIL FLOATING DEBRIS TRAP
NO SCALE



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

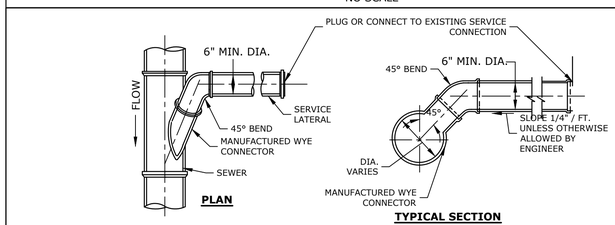


NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC 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.

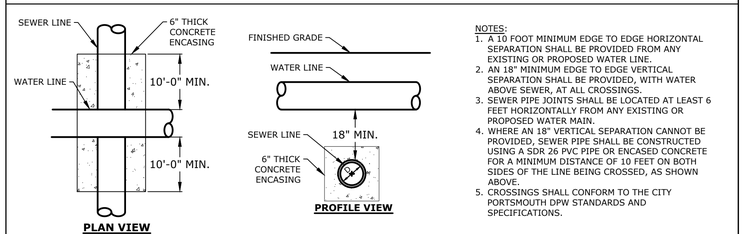
STRUCTURE JOINTS
NO SCALE

NOTES:
1. SEE TYPICAL SEWER TRENCH DETAIL FOR BEDDING AND BACKFILL MATERIAL.
2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER CONNECTION DETAIL
NO SCALE

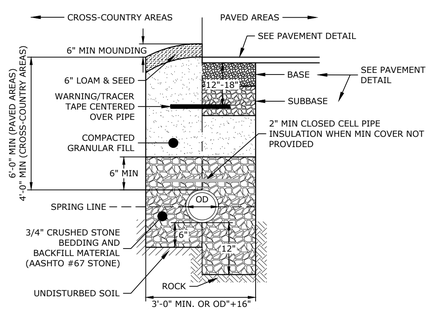


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



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



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

Tighe&Bond

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08/02/2023

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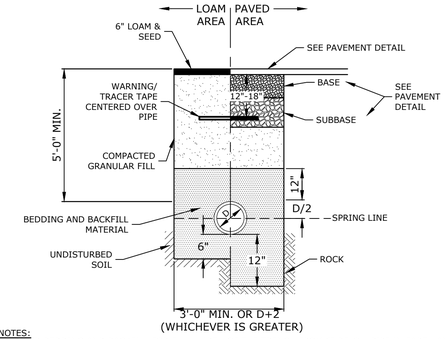
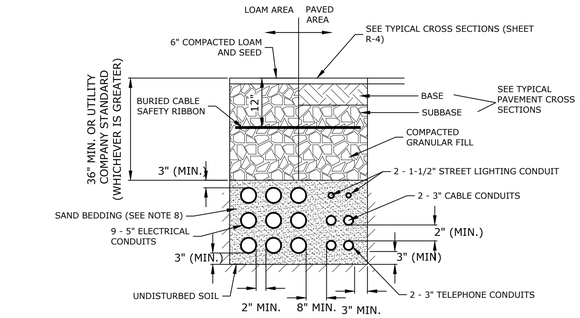


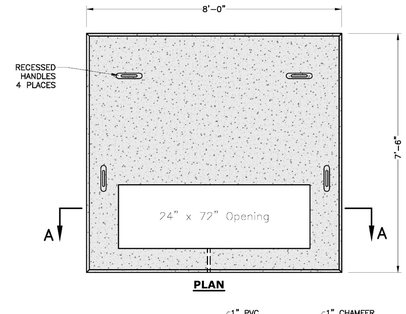
NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

TYPICAL WATER TRENCH
NO SCALE



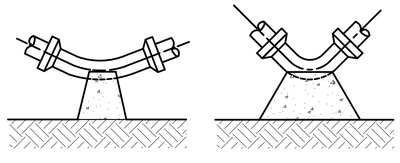
NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY 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, WHEN WITHIN THE CITY RIGHT OF WAY, OR WHERE SHOWN ON THE UTILITIES PLAN.

TYPICAL ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

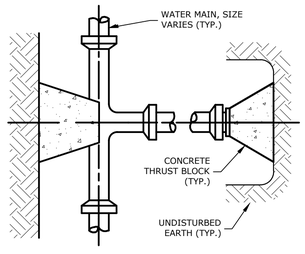


NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

TYPICAL 3-PHASE TRANSFORMER PAD
NO SCALE

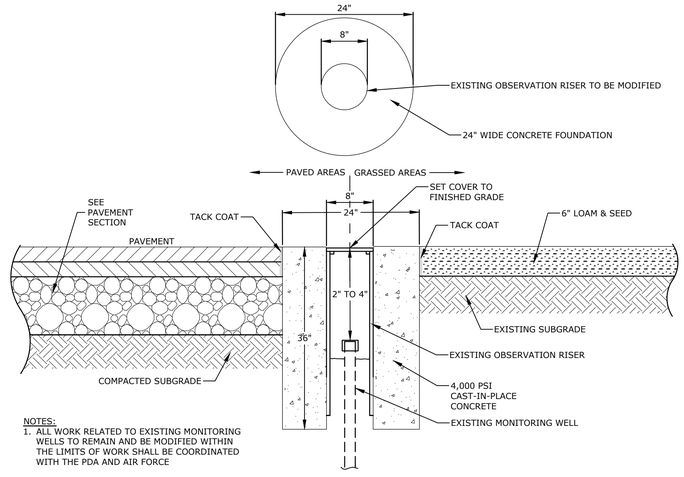


TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30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



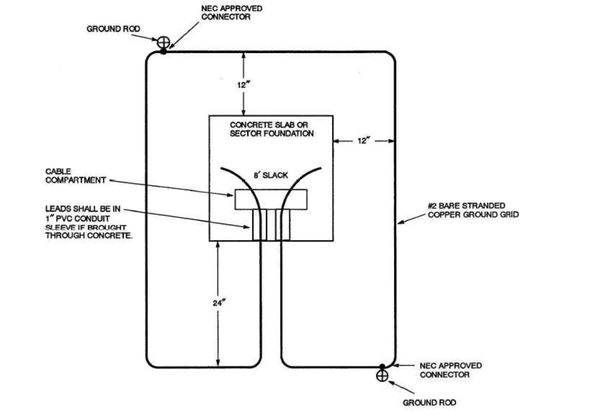
NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT 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



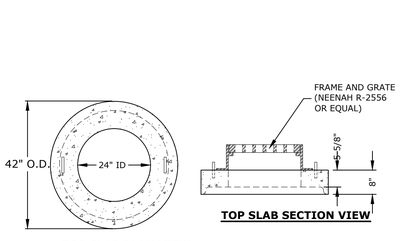
NOTES:
1. ALL WORK RELATED TO EXISTING MONITORING WELLS TO REMAIN AND BE MODIFIED WITHIN THE LIMITS OF WORK SHALL BE COORDINATED WITH THE PDA AND AIR FORCE

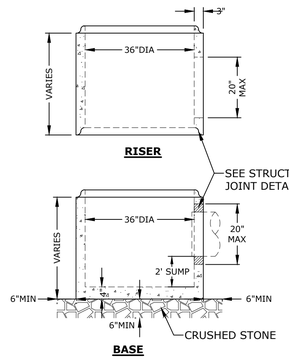
MONITORING WELL PROTECTION DETAIL
NO SCALE



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

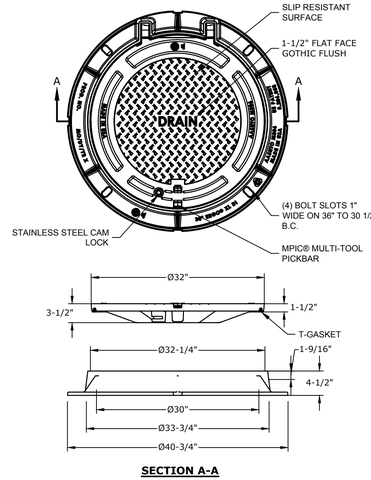
TYPICAL PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL
NO SCALE





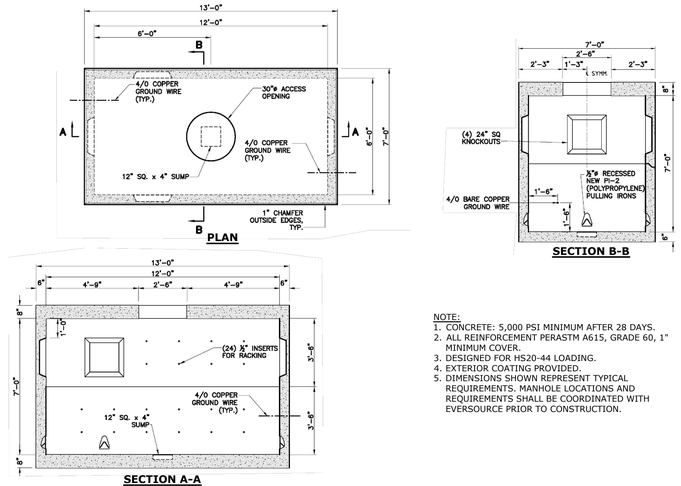
NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
3. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.
4. PRECAST CONCRETE YARD DRAINS SHALL BE PHOENIX PRECAST PRODUCTS OR EQUAL.

YARD DRAIN
NO SCALE



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

DRAIN MANHOLE FRAME & COVER
NO SCALE



NOTE:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. ALL REINFORCEMENT PERASTM A615, GRADE 60, 1" MINIMUM COVER.
3. DESIGNED FOR HS20-44 LOADING.
4. EXTERIOR COATING PROVIDED.
5. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION.

TYPICAL ELECTRIC MANHOLE
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK CRIMMINS No. 12378 LICENSED PROFESSIONAL ENGINEER
08/02/2023

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
08/02/2023

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
K	8/2/2023	Rev per Eversource & Drainage Review Comments
J	7/21/2023	Planning Board Submission
I	7/10/2023	Amended AoT
H	6/30/2023	DPW Response to Comments
G	6/28/2023	PDA Response to Comments
F	6/16/2023	TAC Resubmission
E	3/29/2023	Planning Board / Revised AoT Submission
D	2/23/2023	TAC Resubmission
C	2/6/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

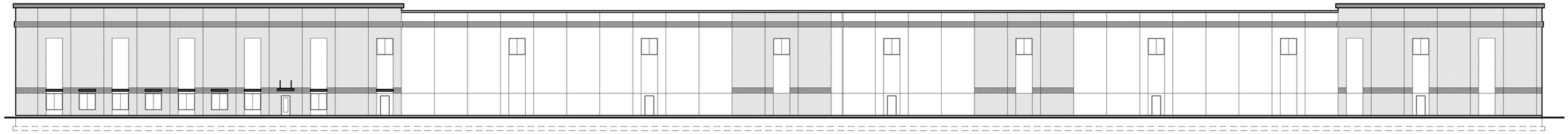
PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DETAILS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

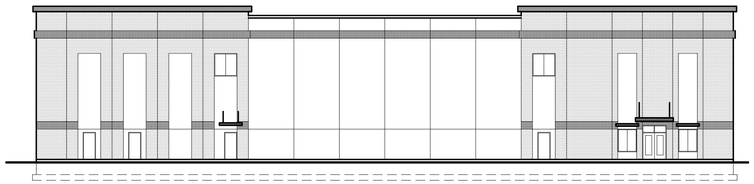
SCALE: AS SHOWN

C-506

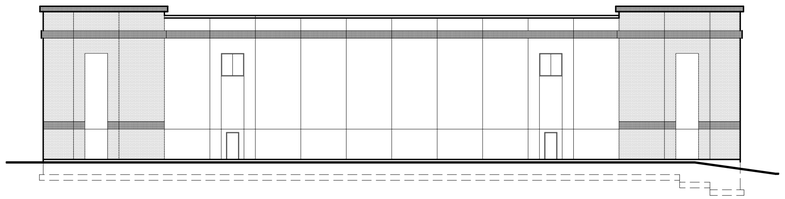
Last Save Date: August 2, 2023 3:01 PM By: CML
Plot Date: August 3, 2023 Plotted By: Craig M. Langton
T&b File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Details.DWG Layout Tab: C-506



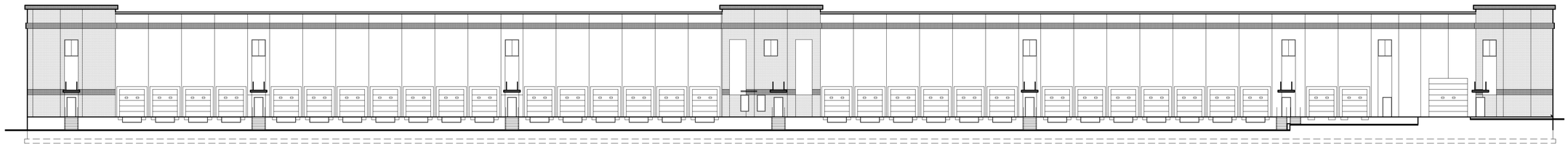
EAST ELEVATION



SOUTH ELEVATION



NORTH ELEVATION



WEST ELEVATION

PROCON
CONNECT • CREATE • CONSTRUCT
PO BOX 4430 | MANCHESTER NH | 03108 | 603.623.8811 | PROCONINC.COM

FIDELITONE

100 NEW HAMPSHIRE AVENUE
SUPPLY CHAIN LOGISTICS CENTER
PORTSMOUTH, NEW HAMPSHIRE

PROPOSED EXTERIOR ELEVATIONS

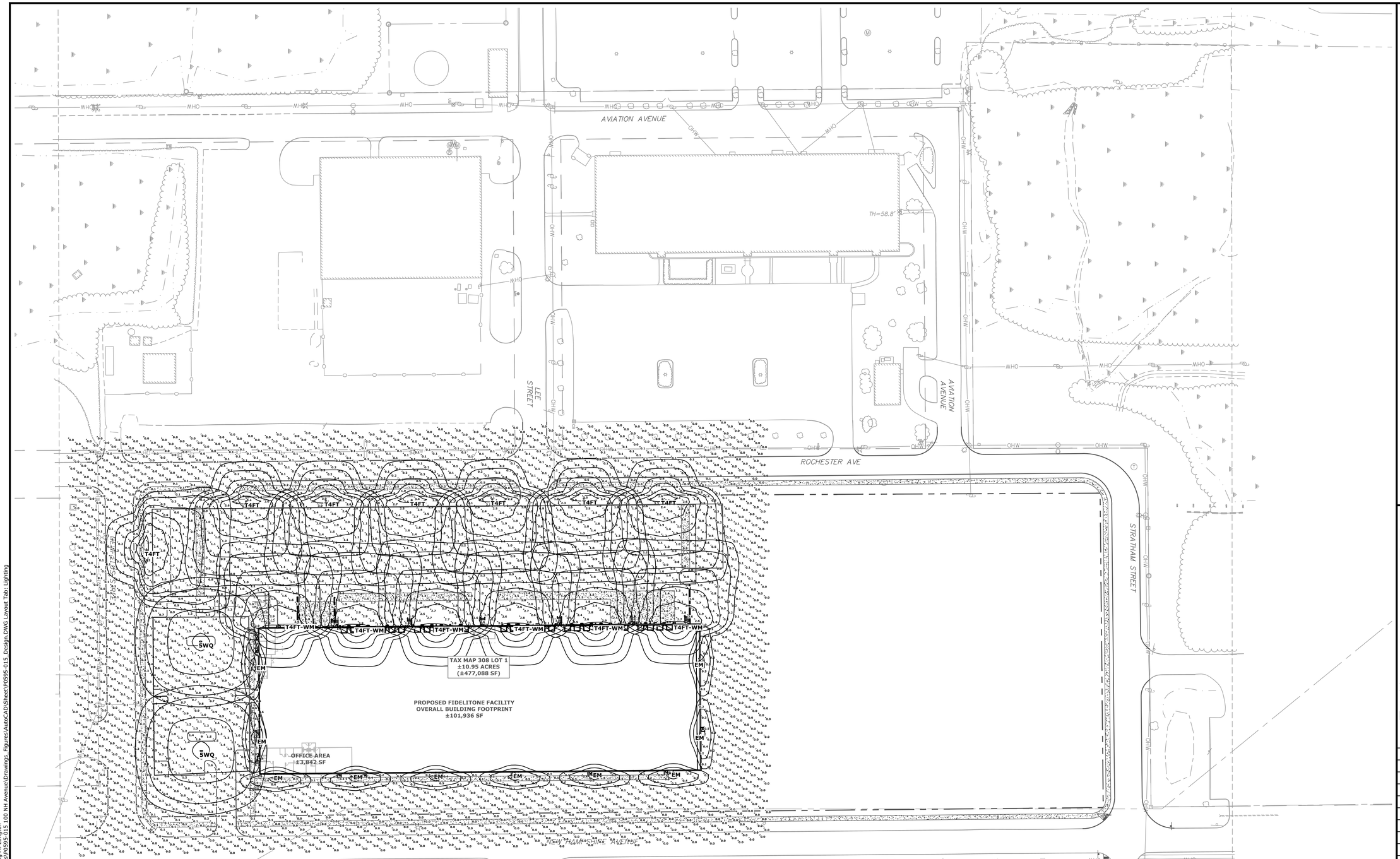
North

Date: JUNE 16, 2023

Scale: 1" = 20'

No: FIDELITONE

A1.03



Luminaire Schedule									
Symbol	Qty	Label	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	[MANUFAC]	Mounting Height
	4	5WQ	GALN-SA2A-740-U-5WQ	1.000	9625	63	252	COOPER LIGHTING SOLUTIONS	25
	10	EM	MERU-ACEM-DB	1.000	676	17	170	MULE LIGHTING	25
	7	T4FT	GALN-SA2D-740-U-T4FT-QM-BZ-WOFXX / SSS4A25SFN1XX	1.000	15522	125	875	COOPER LIGHTING SOLUTIONS	25
	6	T4FT-WM	GALN-SA2D-740-U-T4FT-WM-BZ-WOFXX	1.000	15522	125	750	COOPER LIGHTING SOLUTIONS	25

Side Parking Lot

Illuminance (Fc)
Average = 1.02
Maximum = 1.8
Minimum = 0.4
Avg/Min Ratio = 2.55
Max/Min Ratio = 4.50

Trucking Area

Illuminance (Fc)
Average = 1.41
Maximum = 2.9
Minimum = 0.6
Avg/Min Ratio = 2.35
Max/Min Ratio = 4.83

Last Save Date: August 2, 2023 3:02 PM By: CML
Plot Date: Wednesday, August 02, 2023 3:02 PM By: Craig M. Langton
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Tighe&Bond

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
PATRICK CRIMMINS
No. 12378
LICENSED
08/02/2023

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
NEIL A. HANSEN
No. 15227
LICENSED
08/02/2023

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
I	8/2/2023	Rev per Eversource & Drainage Review Comments
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B	2/23/2023	TAC Resubmission
A	2/6/2023	AoT Submission

PROJECT NO:	P0595-015
DATE:	2/2/2023
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PHOTOMETRICS PLAN

SCALE: AS SHOWN

C-701

Pease Development Authority
55 International Drive, Portsmouth, NH 03801, (603) 433-6088

Application for Site Review

For PDA Use Only			
Date Submitted:_____	Municipal Review:_____	Fee:_____	
Application Complete:_____	Date Forwarded:_____	Paid:_____	Check #:_____

Applicant Information

Applicant: **Aviation Avenue Group, LLC**	Agent: **Tighe & Bond**
Address: **210 Commerce Way, Suite 300, Portsmouth, NH**	Address: **177 Corporate Drive Portsmouth, NH**
Business Phone: **603-430-4000**	Business Phone: **603-433-8818**
Mobile Phone:	Mobile Phone:
Fax: **603-430-8940**	Fax:

Site Information

Portsmouth Tax Map: **308**	Lot #: **1**	Zone: **Pease Industrial (PI)**
Site Address / Location : **80 Rochester Ave (100 New Hampshire Ave)**		
Site Address / Location :		Area of On-site Wetlands:

Activity Information

Change of Use: Yes [X] No [ ] Existing Use: **Vacant**

Proposed Use: **Warehouse**

Description of Project: **The proposed project is for the construction of a ±101,200 SF Fidelitone facility including ±4,700 SF of office space, parking areas, loading dock areas, minor realignment of a portion of Rochester Avenue, and associated site improvements consisting of underground utilities, landscaping, lighting, and a stormwater management system.**

All above information shall be shown on a site plan submitted with this application. Provide 3 full size hard copies and one PDF copy of all application materials as well as one half-size set of drawings to PDA. Applicant shall supply additional copies as may be required by applicable municipality. Refer to Chapter 400 of PDA land Use Controls for additional information.

Certification

I hereby certify under the penalties of perjury that the foregoing information and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I hereby apply for Site Review and acknowledge I will comply with all regulations and any conditions established by the Review Committee(s) and PDA Board in the development and construction of this project.

Signature of Applicant — Date: 6/16/23

Neil A. Hansen

Printed Name

N:\Engineer\ ApplicationforSiteReview.xlsx

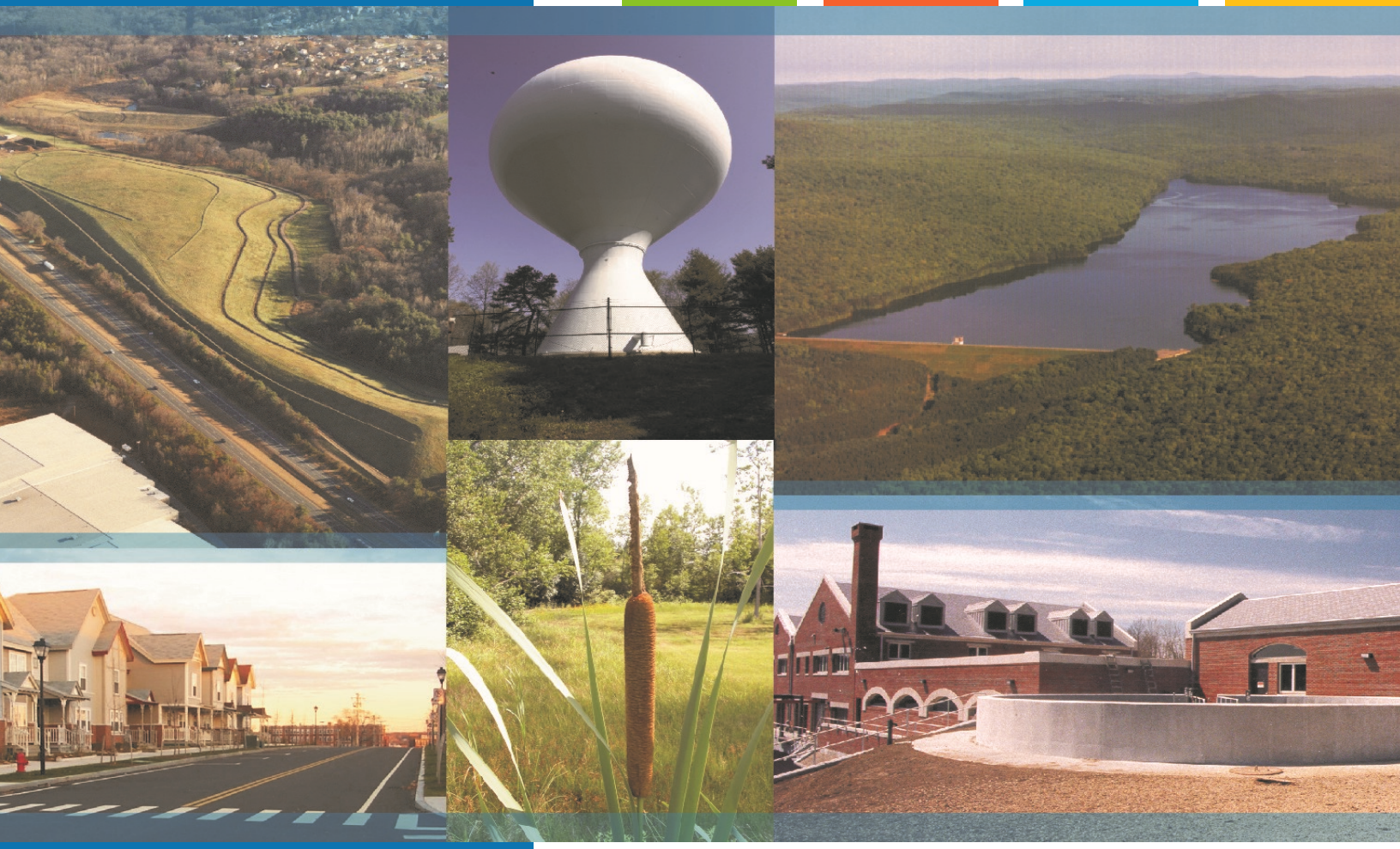
AUTHORIZATION
100 New Hampshire Avenue
Map 308, Lot 1

The undersigned owner of the above referenced property hereby authorizes representatives of Bosen & Associates, PLLC, and Tighe & Bond to represent the company's interests before the Portsmouth land use boards and to submit any and all applications and materials related thereto on its behalf.

Aviation Avenue Group, LLC

Date: October 25, 2022

By: _____
Name: JOHN STEBBER
Title: MANAGING MEMBER



Proposed Fidelitone Facility

Portsmouth, NH

Drainage Analysis

Prepared For:

Aviation Avenue Group, LLC
210 Commerce Way Suite 300
Portsmouth, NH 03801

December 19, 2022

Last Revised: August 2, 2023

Section 1 Drainage Analysis

Appendices

J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Report_Evaluation\Drainage Report\P0595-015_Drainage Analysis_Rev-04.docx

Section 1
Drainage Analysis

The project site is identified as Map 308 Lot 1 on the City of Portsmouth Tax Maps. The site is located on a piece of land that is bound by Stratham Street to the north, New Hampshire Avenue to the east, Newfields Street to the south, and Rochester Avenue to the west. The proposed project is for the construction of a ±101,936 SF Fidelitone facility including ±3,842 SF of office space, a parking area, loading dock areas, minor realignment of a portion of Rochester Avenue, and associated site improvements consisting of underground utilities, landscaping, lighting, and a stormwater management system. There is approximately 196,665 SF of existing impervious area that is currently untreated before entering the municipal drainage system. The proposed stormwater management system has been designed to provide treatment for the existing impervious surface that are currently untreated and for ±182,040 SF of additional impervious that results from the proposed project. In addition to the on-site stormwater treatment the proposed project decreases the impervious area within the Rochester Avenue Right of Way by ±15,900 SF, while also adding seven (7) new offline catch basins to provide additional stormwater treatment within the Right of Way.

The Stormwater Management System was designed in accordance with the requirements of the New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AoT) rules and regulations (Env-Wq 1500). The system includes deep sump catch basins with oil water separator hoods, an underground detention system and a proprietary Jellyfish Filter Treatment Unit. In accordance with Env-Wq 1500 the proposed Jellyfish Filter Treatment Unit was sized to treat the Water Quality Flow (WQF). The WQF is the peak flow rate associated with the Water Quality Volume (WQV), which is based on equivalent to the volume of runoff attributable to the first one (1) inch of rainfall. The use of a proprietary treatment unit is proposed due to the site being located within multiple remediation areas as well as a Groundwater Management Zone (GMZ), and per the requirements of Env-Wq 1507.02 (c) no infiltration, filtering, or groundwater recharge practices are permitted in these areas.

1.1 Calculation Methods

The design storms analyzed in this study are the 1-year, 2-year, 10-year, 25-year and 50-year 24-hour Type III duration storm events. 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 was obtained from the data published by the Northeast Regional Climate Center (NRCC) at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(l) and shown in Table 1.1.

TABLE 1.1 – EXTREME PRECIPITATION ESTIMATES (NRCC)

YEAR	24-hr Estimate (inches)	+ 15% (inches)
1	2.66	3.06
2	3.21	3.69
10	4.87	5.60
25	6.17	7.10
50	7.40	8.51

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.

1.2 Pre-Development Conditions

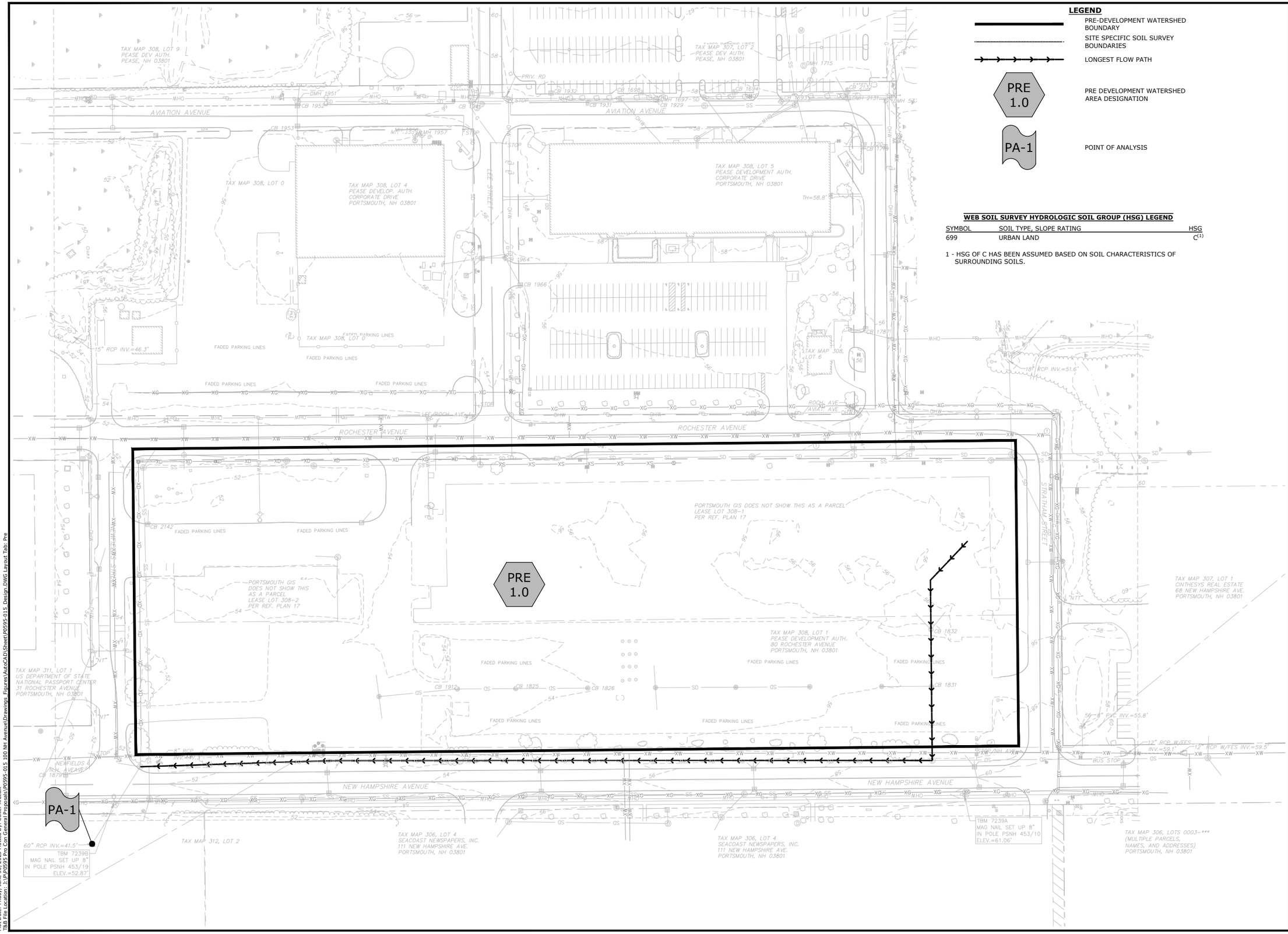
To analyze the Pre-Development condition, the site has been modeled utilizing one (1) sub-catchment area (PRE-1.0) with the distinct point of analysis (PA-1). This point of analysis and watershed are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

The point of analysis and their contributing watershed area is described below:

Point of Analysis One (PA-1)

Point of analysis PA-1 is comprised of one (1) watershed area (PRE-1.0). This area includes the land that is currently utilized as an abandoned parking lot along with a grassed area. Runoff from this area travels southwest to northeast across the site via overland flow which is then collected in a closed drainage system then flowing through Point of Analysis 1 (PA-1).

1.2.1 Pre-Development Watershed Plan



LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- SITE SPECIFIC SOIL SURVEY BOUNDARIES
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

WEB SOIL SURVEY HYDROLOGIC SOIL GROUP (HSG) LEGEND

SYMBOL	SOIL TYPE, SLOPE RATING	HSG
699	URBAN LAND	C(1)

1 - HSG OF C HAS BEEN ASSUMED BASED ON SOIL CHARACTERISTICS OF SURROUNDING SOILS.

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
F	6/30/2023	DPW Response to Comments
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C	2/2/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

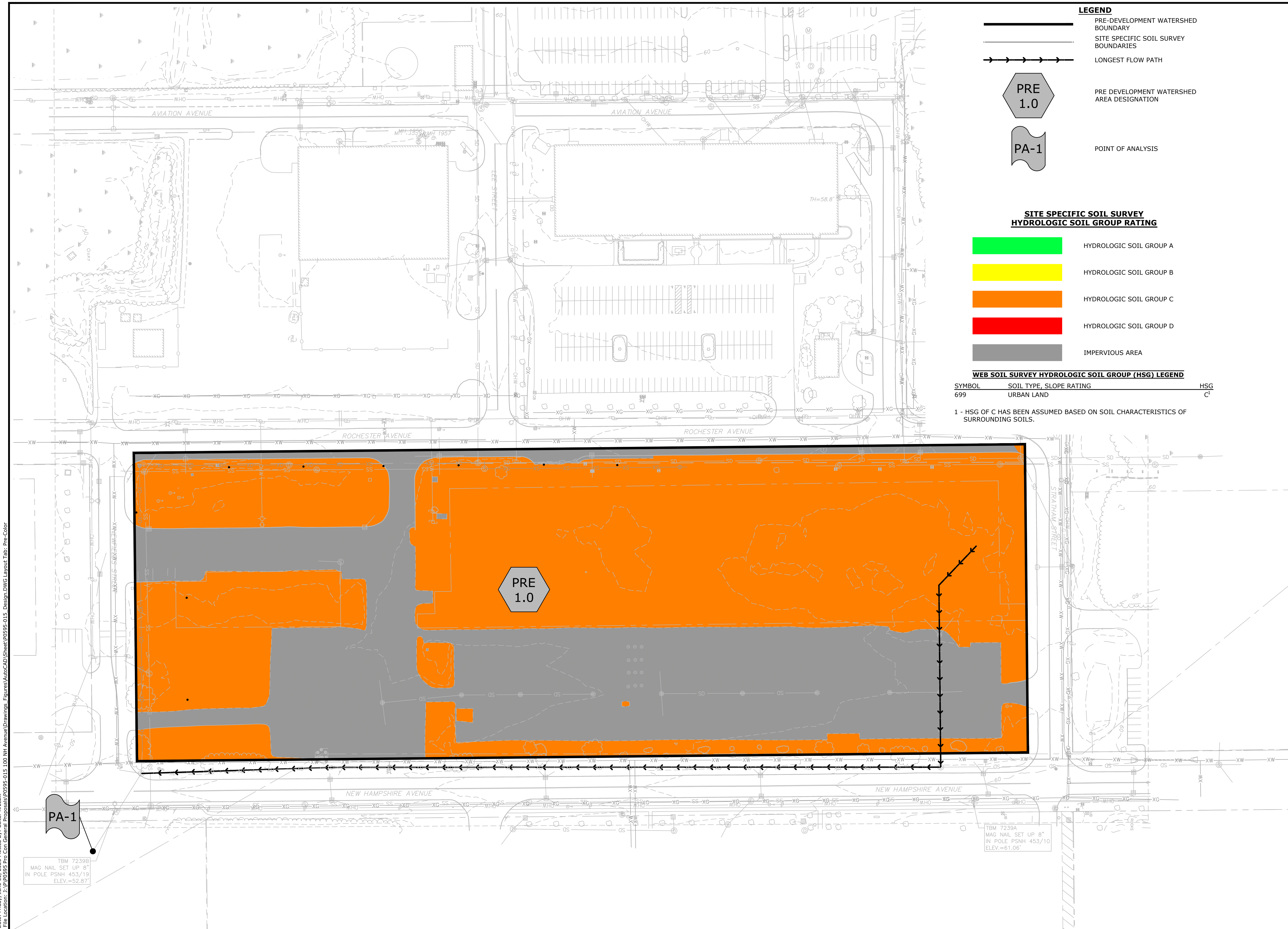
PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Save Date: June 30, 2023 11:19 AM By: CMZCLUIK
Plot Date: June 30, 2023 11:20 AM By: CMZCLUIK
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings_Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: Pre

1.2.2 Pre-Development Soil Plan



Tighe&Bond

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

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PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

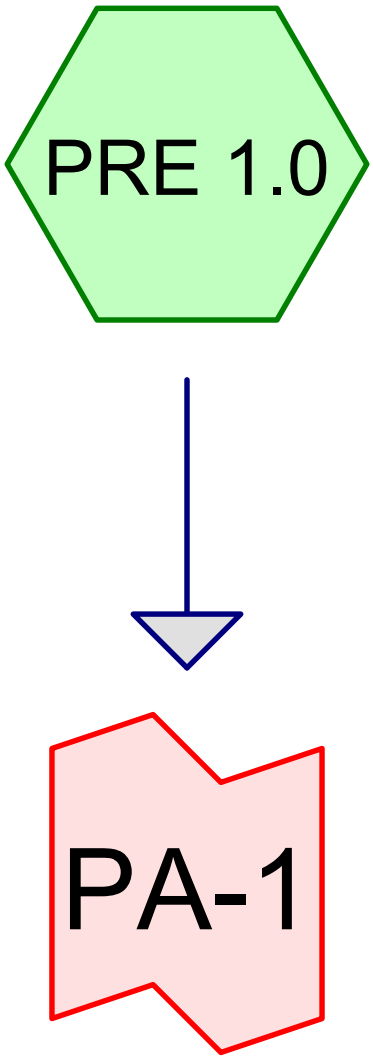
PRE-DEVELOPMENT SOIL COVERAGE COLOR PLAN

SCALE: AS SHOWN

C-803

Last Save Date: June 30, 2023 11:19 AM By: CKRZCUIK
Plot Date: Friday, June 30, 2023 Plotted By: Colter Krzcuik
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings_Figures\AutoCAD\Sheet\P0595-015_Design.DWG Layout Tab: Pre-Color

1.2.3 Pre-Development Calculation



Subcat Reach Pond Link

Routing Diagram for P0595-015_Pre
Prepared by Tighe & Bond, Printed 6/29/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.914	74	>75% Grass cover, Good, HSG C (PRE 1.0)
4.515	98	Paved parking, HSG C (PRE 1.0)
11.429	**83**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
11.429	HSG C	PRE 1.0
0.000	HSG D	
0.000	Other	
11.429		**TOTAL AREA**

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

SubcatchmentPRE 1.0: Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>1.49"
Flow Length=1,512' Tc=5.0 min CN=83 Runoff=20.01 cfs 1.423 af

Link PA-1: Inflow=20.01 cfs 1.423 af
Primary=20.01 cfs 1.423 af

Total Runoff Area = 11.429 ac Runoff Volume = 1.423 af Average Runoff Depth = 1.49"
60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

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

SubcatchmentPRE 1.0: Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>2.02"
Flow Length=1,512' Tc=5.0 min CN=83 Runoff=27.08 cfs 1.922 af

Link PA-1: Inflow=27.08 cfs 1.922 af
Primary=27.08 cfs 1.922 af

Total Runoff Area = 11.429 ac Runoff Volume = 1.922 af Average Runoff Depth = 2.02"
60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

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

SubcatchmentPRE 1.0: Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>3.72"
Flow Length=1,512' Tc=5.0 min CN=83 Runoff=49.71 cfs 3.542 af

Link PA-1: Inflow=49.71 cfs 3.542 af
Primary=49.71 cfs 3.542 af

Total Runoff Area = 11.429 ac Runoff Volume = 3.542 af Average Runoff Depth = 3.72"
60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

Summary for Subcatchment PRE 1.0:

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

Runoff = 49.71 cfs @ 12.07 hrs, Volume= 3.542 af, Depth> 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.60"

Area (sf)	CN	Description
301,177	74	>75% Grass cover, Good, HSG C
196,664	98	Paved parking, HSG C
497,841	83	Weighted Average
301,177		60.50% Pervious Area
196,664		39.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	10	0.0150	0.83		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.69"
0.2	38	0.0050	3.47	2.73	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.3	595	0.0030	4.27	13.42	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
2.3	869	0.0030	6.20	59.70	**Pipe Channel,** 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.012 Concrete pipe, finished
5.0	1,512	Total			

Summary for Link PA-1:

Inflow Area = 11.429 ac, 39.50% Impervious, Inflow Depth > 3.72" for 10-Year event
Inflow = 49.71 cfs @ 12.07 hrs, Volume= 3.542 af
Primary = 49.71 cfs @ 12.07 hrs, Volume= 3.542 af, Atten= 0%, Lag= 0.0 min

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

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

SubcatchmentPRE 1.0: Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>5.12"
Flow Length=1,512' Tc=5.0 min CN=83 Runoff=67.64 cfs 4.876 af

Link PA-1: Inflow=67.64 cfs 4.876 af
Primary=67.64 cfs 4.876 af

Total Runoff Area = 11.429 ac Runoff Volume = 4.876 af Average Runoff Depth = 5.12"
60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

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

SubcatchmentPRE 1.0: Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>6.46"
Flow Length=1,512' Tc=5.0 min CN=83 Runoff=84.49 cfs 6.154 af

Link PA-1: Inflow=84.49 cfs 6.154 af
Primary=84.49 cfs 6.154 af

Total Runoff Area = 11.429 ac Runoff Volume = 6.154 af Average Runoff Depth = 6.46"
60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

1.3 Post-Development Conditions

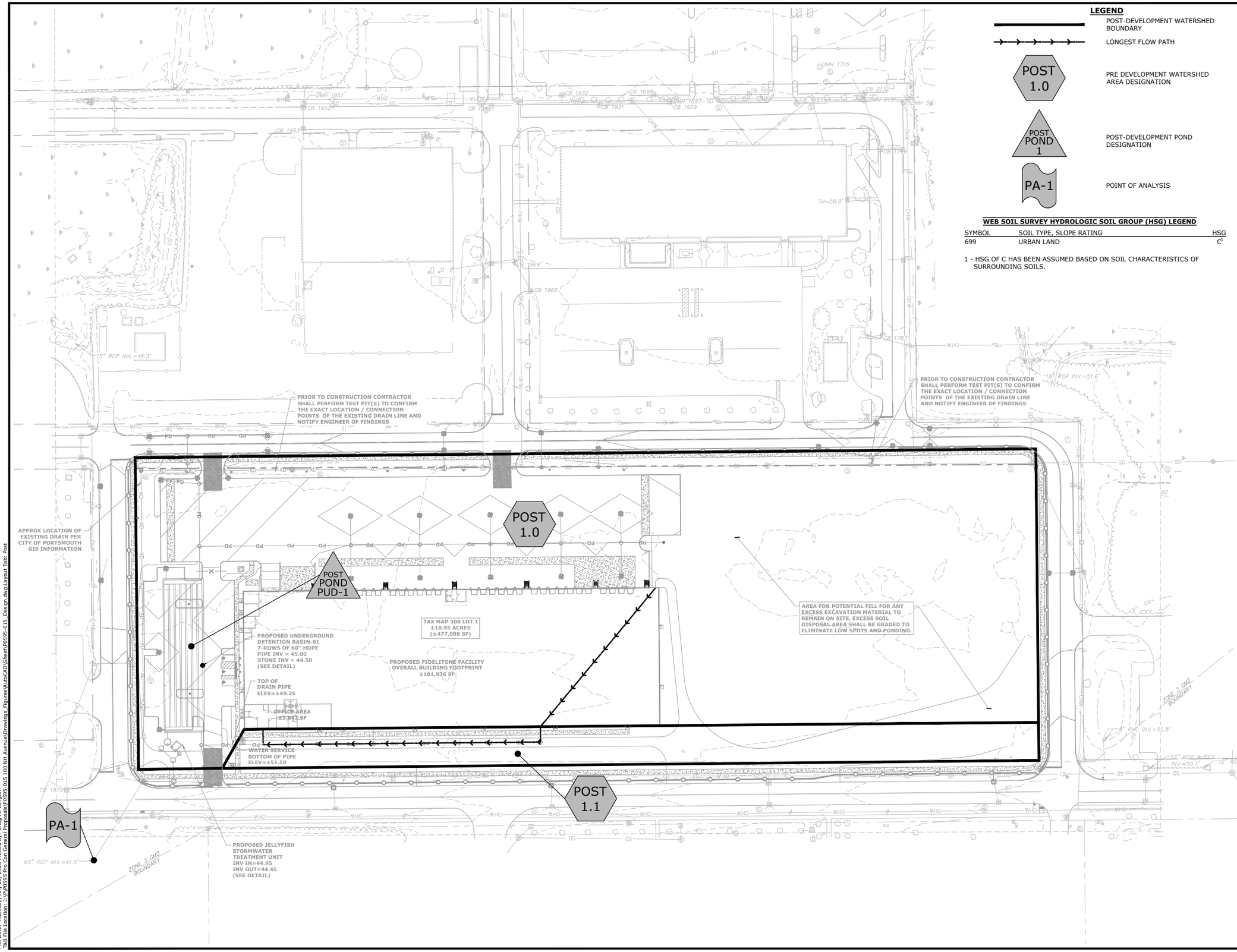
The post-development drainage condition is characterized by two (2) sub watershed areas POST-1.0 and POST-1.1modeled at the same point of analysis as the pre-development condition. This point of analysis and watersheds are depicted on the plan entitled "Post Development Watershed Plan", Sheets C-802.

The point of analysis and their contributing watershed area is described below:

Point of Analysis One (PA-1)

Point of analysis PA-1 is comprised of two (2) sub watershed areas POST-1.0 and POST-1.1 as shown on the Post-Development Watershed Plan (Sheet C-802). These areas include the additional proposed impervious area on site as well the proposed green / landscaped areas on site. The proposed impervious areas generating runoff on site include roofs, parking lots, concrete sidewalks, and loading dock areas. Runoff from site is captured via overland flow then captured in the proposed onsite drainage system where it is detained and treated prior to being discharged through Point of Analysis 1 (PA-1).

1.3.1 Post-Development Watershed Plan



LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- POST POND 1 — POST-DEVELOPMENT POND DESIGNATION
- PA-1 — POINT OF ANALYSIS

WEB SOIL SURVEY HYDROLOGIC SOIL GROUP (HSG) LEGEND

SYMBOL	SOIL TYPE, SLOPE RATING	HSG
699	URBAN LAND	C[1]

1 - HSG OF C HAS BEEN ASSUMED BASED ON SOIL CHARACTERISTICS OF SURROUNDING SOILS.

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
H	7/21/2023	Planning Board Submission
G	7/10/2023	Amended AoT
F	6/30/2023	DPW Response to Comments
E	6/28/2023	PDA Response to Comments
D	6/16/2023	TAC Resubmission
C	2/2/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Save Date: July 20, 2023 11:23 AM By: CML
Plot Date: July 20, 2023 11:32 AM By: Chip M. Langton
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Design.dwg Layout Tab: Post

1.3.2 Post-Development Soil Plan

PRIOR TO CONSTRUCTION CONTRACTOR SHALL PERFORM TEST PIT(S) TO CONFIRM THE EXACT LOCATION / CONNECTION POINTS OF THE EXISTING DRAIN LINE AND NOTIFY ENGINEER OF FINDINGS

APPROX LOCATION OF EXISTING DRAIN PER CITY OF PORTSMOUTH GIS INFORMATION

POST 1.0

POST POND PUD-1

PROPOSED UNDERGROUND DETENTION BASIN-01
7-ROWS OF 60" HDPE
PIPE INV = 45.00
STONE INV = 44.50
(SEE DETAIL)

TAX MAP 308 LOT 1
±10.95 ACRES
(±477,088 SF)

PROPOSED FIDELITONE FACILITY
OVERALL BUILDING FOOTPRINT
±101,936 SF

TOP OF DRAIN PIPE ELEV=±49.25

OFFICE AREA
±3,842 SF

WATER SERVICE
BOTTOM OF PIPE
ELEV=±51.50

AREA FOR POTENTIAL FILL FOR ANY EXCESS EXCAVATION MATERIAL TO REMAIN ON SITE. EXCESS SOIL DISPOSAL AREA SHALL BE GRADED TO ELIMINATE LOW SPOTS AND PONDING.

POST 1.1

PA-1

PROPOSED JELLYFISH STORMWATER TREATMENT UNIT
INV IN=44.95
INV OUT=44.45
(SEE DETAIL)

ZONE 3 GMZ BOUNDARY

LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- POST POND 1 — POST-DEVELOPMENT POND DESIGNATION
- PA-1 — POINT OF ANALYSIS

SITE SPECIFIC SOIL SURVEY HYDROLOGIC SOIL GROUP RATING

- HYDROLOGIC SOIL GROUP A
- HYDROLOGIC SOIL GROUP B
- HYDROLOGIC SOIL GROUP C
- HYDROLOGIC SOIL GROUP D
- IMPERVIOUS AREA

WEB SOIL SURVEY HYDROLOGIC SOIL GROUP (HSG) LEGEND

SYMBOL	SOIL TYPE, SLOPE RATING	HSG
699	URBAN LAND	C[1]

1 - HSG OF C HAS BEEN ASSUMED BASED ON SOIL CHARACTERISTICS OF SURROUNDING SOILS.

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
H	7/21/2023	Planning Board Submission
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F	6/30/2023	DPW Response to Comments
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D	6/16/2023	TAC Resubmission
C	2/2/2023	AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

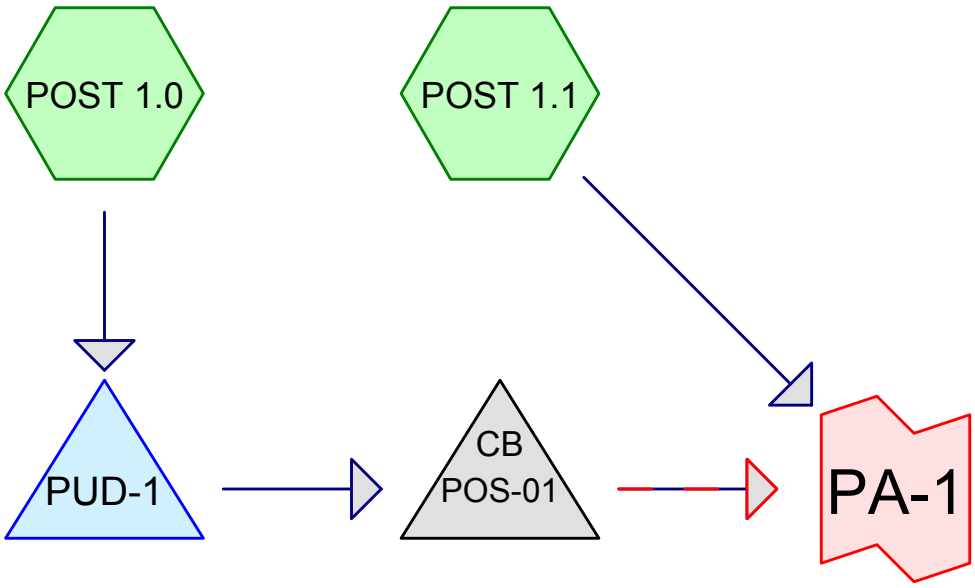
POST-DEVELOPMENT SOIL COVERAGE COLOR PLAN

SCALE: AS SHOWN

C-804

Last Save Date: July 20, 2023 11:39 AM By: CML
Plot Date: July 20, 2023 2:21 PM By: Philip M. Langdon
T&B File Location: J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Drawings, Figures\AutoCAD\Sheet\P0595-015_Design.dwg Layout Tab: Post-Color

1.3.3 Post-Development Calculation



Subcat Reach Pond Link

Routing Diagram for P0595-015_Post-Rev-05
Prepared by Tighe & Bond, Printed 8/1/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.039	74	>75% Grass cover, Good, HSG C (POST 1.0, POST 1.1)
3.049	98	Paved parking, HSG C (POST 1.0, POST 1.1)
2.340	98	Roofs, HSG C (POST 1.0)
11.429	**85**	**TOTAL AREA**

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

SubcatchmentPOST 1.0: Runoff Area=263,789 sf 85.25% Impervious Runoff Depth>2.41"
Flow Length=721' Tc=5.5 min CN=94 Runoff=16.22 cfs 1.214 af

SubcatchmentPOST 1.1: Runoff Area=234,052 sf 4.22% Impervious Runoff Depth>1.00"
Tc=5.0 min CN=75 Runoff=6.02 cfs 0.447 af

Pond POS-01: Peak Elev=46.40' Inflow=9.59 cfs 1.215 af
Primary=9.51 cfs 1.214 af Secondary=0.08 cfs 0.001 af Outflow=9.59 cfs 1.215 af

Pond PUD-1: Peak Elev=46.83' Storage=7,175 cf Inflow=16.22 cfs 1.214 af
Outflow=9.59 cfs 1.215 af

Link PA-1: Inflow=15.01 cfs 1.662 af
Primary=15.01 cfs 1.662 af

Total Runoff Area = 11.429 ac Runoff Volume = 1.662 af Average Runoff Depth = 1.75"
52.84% Pervious = 6.039 ac 47.16% Impervious = 5.390 ac

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

SubcatchmentPOST 1.0: Runoff Area=263,789 sf 85.25% Impervious Runoff Depth>3.02"
Flow Length=721' Tc=5.5 min CN=94 Runoff=20.09 cfs 1.524 af

SubcatchmentPOST 1.1: Runoff Area=234,052 sf 4.22% Impervious Runoff Depth>1.44"
Tc=5.0 min CN=75 Runoff=8.89 cfs 0.643 af

Pond POS-01: Peak Elev=46.55' Inflow=11.54 cfs 1.524 af
Primary=11.06 cfs 1.515 af Secondary=0.47 cfs 0.009 af Outflow=11.54 cfs 1.524 af

Pond PUD-1: Peak Elev=47.12' Storage=9,164 cf Inflow=20.09 cfs 1.524 af
Outflow=11.54 cfs 1.524 af

Link PA-1: Inflow=19.73 cfs 2.167 af
Primary=19.73 cfs 2.167 af

Total Runoff Area = 11.429 ac Runoff Volume = 2.167 af Average Runoff Depth = 2.28"
52.84% Pervious = 6.039 ac 47.16% Impervious = 5.390 ac

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

SubcatchmentPOST 1.0: Runoff Area=263,789 sf 85.25% Impervious Runoff Depth>4.90"
Flow Length=721' Tc=5.5 min CN=94 Runoff=31.69 cfs 2.472 af

SubcatchmentPOST 1.1: Runoff Area=234,052 sf 4.22% Impervious Runoff Depth>2.94"
Tc=5.0 min CN=75 Runoff=18.56 cfs 1.317 af

Pond POS-01: Peak Elev=47.14' Inflow=21.18 cfs 2.472 af
Primary=16.15 cfs 2.377 af Secondary=5.04 cfs 0.095 af Outflow=21.18 cfs 2.472 af

Pond PUD-1: Peak Elev=47.89' Storage=14,607 cf Inflow=31.69 cfs 2.472 af
Outflow=21.18 cfs 2.472 af

Link PA-1: Inflow=35.68 cfs 3.789 af
Primary=35.68 cfs 3.789 af

Total Runoff Area = 11.429 ac Runoff Volume = 3.789 af Average Runoff Depth = 3.98"
52.84% Pervious = 6.039 ac 47.16% Impervious = 5.390 ac

Summary for Subcatchment POST 1.0:

Runoff = 31.69 cfs @ 12.08 hrs, Volume= 2.472 af, Depth> 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.60"

Area (sf)	CN	Description
101,938	98	Roofs, HSG C
38,896	74	>75% Grass cover, Good, HSG C
122,955	98	Paved parking, HSG C
263,789	94	Weighted Average
38,896		14.75% Pervious Area
224,893		85.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	100	0.0050	0.85		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.69"
2.0	140	0.0050	1.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	20	0.0280	9.95	17.58	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
1.5	461	0.0050	5.09	16.00	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
5.5	721	Total			

Summary for Subcatchment POST 1.1:

Runoff = 18.56 cfs @ 12.08 hrs, Volume= 1.317 af, Depth> 2.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.60"

Area (sf)	CN	Description
0	98	Roofs, HSG C
224,177	74	>75% Grass cover, Good, HSG C
9,875	98	Paved parking, HSG C
234,052	75	Weighted Average
224,177		95.78% Pervious Area
9,875		4.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0					**Direct Entry,**
3.0	0	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond POS-01:

Inflow Area = 6.056 ac, 85.25% Impervious, Inflow Depth > 4.90" for 10-Year event
Inflow = 21.18 cfs @ 12.16 hrs, Volume= 2.472 af
Outflow = 21.18 cfs @ 12.16 hrs, Volume= 2.472 af, Atten= 0%, Lag= 0.0 min
Primary = 16.15 cfs @ 12.16 hrs, Volume= 2.377 af
Secondary = 5.04 cfs @ 12.16 hrs, Volume= 0.095 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 47.14' @ 12.16 hrs
Flood Elev= 54.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	**24.0" Vert. To JellyFish Treatment Unit** C= 0.600
#2	Secondary	46.30'	**36.0" Vert. To PDMH-13** C= 0.600

Primary OutFlow Max=15.97 cfs @ 12.16 hrs HW=47.11' TW=0.00' (Dynamic Tailwater)
↑—**1=To JellyFish Treatment Unit** (Orifice Controls 15.97 cfs @ 5.08 fps)

Secondary OutFlow Max=4.78 cfs @ 12.16 hrs HW=47.12' TW=0.00' (Dynamic Tailwater)
↑—**2=To PDMH-13** (Orifice Controls 4.78 cfs @ 3.07 fps)

Summary for Pond PUD-1:

Inflow Area = 6.056 ac, 85.25% Impervious, Inflow Depth > 4.90" for 10-Year event
Inflow = 31.69 cfs @ 12.08 hrs, Volume= 2.472 af
Outflow = 21.18 cfs @ 12.16 hrs, Volume= 2.472 af, Atten= 33%, Lag= 4.8 min
Primary = 21.18 cfs @ 12.16 hrs, Volume= 2.472 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Starting Elev= 45.00' Surf.Area= 10,994 sf Storage= 0 cf
Peak Elev= 47.89' @ 12.18 hrs Surf.Area= 10,994 sf Storage= 14,607 cf
Flood Elev= 50.00' Surf.Area= 10,994 sf Storage= 27,166 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 9.6 min (779.1 - 769.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	44.50'	0 cf	**53.59'W x 205.17'L x 6.08'H Field A** 66,887 cf Overall - 32,950 cf Embedded = 33,937 cf x 0.0% Voids
#2A	45.00'	27,757 cf	**ADS N-12 60"** x 63 Inside #1 Inside= 59.5"W x 59.5"H => 19.30 sf x 20.00'L = 386.0 cf Outside= 67.0"W x 67.0"H => 22.91 sf x 20.00'L = 458.2 cf Row Length Adjustment= +11.00' x 19.30 sf x 7 rows 50.59' Header x 19.30 sf x 2 = 1,952.7 cf Inside
		27,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	**24.0" Vert. Orifice** C= 0.600
#2	Primary	47.50'	**8.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=19.41 cfs @ 12.16 hrs HW=47.88' TW=47.11' (Dynamic Tailwater)
└─**1=Orifice** (Orifice Controls 13.26 cfs @ 4.22 fps)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 6.15 cfs @ 2.02 fps)

Summary for Link PA-1:

Inflow Area = 11.429 ac, 47.16% Impervious, Inflow Depth > 3.98" for 10-Year event
Inflow = 35.68 cfs @ 12.12 hrs, Volume= 3.789 af
Primary = 35.68 cfs @ 12.12 hrs, Volume= 3.789 af, Atten= 0%, Lag= 0.0 min

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

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

SubcatchmentPOST 1.0: Runoff Area=263,789 sf 85.25% Impervious Runoff Depth>6.38"
Flow Length=721' Tc=5.5 min CN=94 Runoff=40.70 cfs 3.222 af

SubcatchmentPOST 1.1: Runoff Area=234,052 sf 4.22% Impervious Runoff Depth>4.23"
Tc=5.0 min CN=75 Runoff=26.66 cfs 1.896 af

Pond POS-01: Peak Elev=47.60' Inflow=30.44 cfs 3.220 af
Primary=19.11 cfs 2.986 af Secondary=11.33 cfs 0.234 af Outflow=30.44 cfs 3.220 af

Pond PUD-1: Peak Elev=48.27' Storage=17,297 cf Inflow=40.70 cfs 3.222 af
Outflow=30.44 cfs 3.220 af

Link PA-1: Inflow=55.19 cfs 5.116 af
Primary=55.19 cfs 5.116 af

Total Runoff Area = 11.429 ac Runoff Volume = 5.118 af Average Runoff Depth = 5.37"
52.84% Pervious = 6.039 ac 47.16% Impervious = 5.390 ac

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

SubcatchmentPOST 1.0: Runoff Area=263,789 sf 85.25% Impervious Runoff Depth>7.78"
Flow Length=721' Tc=5.5 min CN=94 Runoff=49.12 cfs 3.929 af

SubcatchmentPOST 1.1: Runoff Area=234,052 sf 4.22% Impervious Runoff Depth>5.50"
Tc=5.0 min CN=75 Runoff=34.65 cfs 2.463 af

Pond POS-01: Peak Elev=47.99' Inflow=39.39 cfs 3.928 af
Primary=21.34 cfs 3.533 af Secondary=18.05 cfs 0.395 af Outflow=39.39 cfs 3.928 af

Pond PUD-1: Peak Elev=48.58' Storage=19,368 cf Inflow=49.12 cfs 3.929 af
Outflow=39.39 cfs 3.928 af

Link PA-1: Inflow=72.03 cfs 6.391 af
Primary=72.03 cfs 6.391 af

Total Runoff Area = 11.429 ac Runoff Volume = 6.392 af Average Runoff Depth = 6.71"
52.84% Pervious = 6.039 ac 47.16% Impervious = 5.390 ac

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)

6.05	ac	A = Area draining to the practice
5.16	ac	A_I = Impervious area draining to the practice
0.85	decimal	I = Percent impervious area draining to the practice, in decimal form
0.82	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
4.95	ac-in	WQV= 1" x Rv x A
17,957	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".
0.82	inches	Q = Water quality depth. Q = WQV/A
98	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.2	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.035	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T_c = Time of Concentration
600.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
4.638	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:

This calculation represents the treatment train directed to Contech Jellyfish Treatment Unit.

Full Treatment in compliance with Env-Wq 1508.10 shall be achieved by use of a proprietary flow-through device. The proposed Contech Jellyfish Treatment Unit - Model#: JFPD0811 will be used to treat the WQF as calculated in the above spreadsheet. The specified device is designed to treat up to 4.90 cfs of flow.

Stage-Discharge for Pond POS-01:

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
45.00	0.00	0.00	0.00
45.02	0.00	0.00	0.00
45.04	0.01	0.01	0.00
45.06	0.02	0.02	0.00
45.08	0.04	0.04	0.00
45.10	0.06	0.06	0.00
45.12	0.09	0.09	0.00
45.14	0.12	0.12	0.00
45.16	0.16	0.16	0.00
45.18	0.20	0.20	0.00
45.20	0.25	0.25	0.00
45.22	0.30	0.30	0.00
45.24	0.36	0.36	0.00
45.26	0.42	0.42	0.00
45.28	0.48	0.48	0.00
45.30	0.55	0.55	0.00
45.32	0.62	0.62	0.00
45.34	0.70	0.70	0.00
45.36	0.79	0.79	0.00
45.38	0.87	0.87	0.00
45.40	0.96	0.96	0.00
45.42	1.06	1.06	0.00
45.44	1.16	1.16	0.00
45.46	1.26	1.26	0.00
45.48	1.37	1.37	0.00
45.50	1.48	1.48	0.00
45.52	1.59	1.59	0.00
45.54	1.71	1.71	0.00
45.56	1.83	1.83	0.00
45.58	1.96	1.96	0.00
45.60	2.09	2.09	0.00
45.62	2.22	2.22	0.00
45.64	2.36	2.36	0.00
45.66	2.50	2.50	0.00
45.68	2.64	2.64	0.00
45.70	2.79	2.79	0.00
45.72	2.94	2.94	0.00
45.74	3.09	3.09	0.00
45.76	3.25	3.25	0.00
45.78	3.41	3.41	0.00
45.80	3.57	3.57	0.00
45.82	3.74	3.74	0.00
45.84	3.91	3.91	0.00
45.86	4.08	4.08	0.00
45.88	4.25	4.25	0.00
45.90	4.43	4.43	0.00
45.92	4.61	4.61	0.00
45.94	4.79	4.79	0.00
45.96	4.97	4.97	0.00
45.98	5.16	5.16	0.00
46.00	5.35	5.35	0.00
46.02	5.54	5.54	0.00
46.04	5.73	5.73	0.00
46.06	5.93	5.93	0.00
46.08	6.12	6.12	0.00
46.10	6.32	6.32	0.00
46.12	6.52	6.52	0.00
46.14	6.72	6.72	0.00
46.16	6.93	6.93	0.00
46.18	7.13	7.13	0.00
46.20	7.34	7.34	0.00
46.22	7.55	7.55	0.00
46.24	7.76	7.76	0.00
46.26	7.97	7.97	0.00
46.28	8.18	8.18	0.00
46.30	8.39	8.39	0.00
46.32	8.61	8.60	0.00
46.34	8.83	8.82	0.01
46.36	9.06	9.03	0.03
46.38	9.30	9.25	0.05
46.40	9.54	9.46	0.08
46.42	9.79	9.68	0.11
46.44	10.05	9.89	0.15
46.46	10.31	10.11	0.20
46.48	10.57	10.32	0.25
46.50	10.85	10.54	0.31
46.52	11.13	10.75	0.37
46.54	11.41	10.97	0.44
46.56	11.70	11.18	0.52
46.58	11.99	11.39	0.60
46.60	12.29	11.60	0.69
46.62	12.59	11.81	0.78
46.64	12.90	12.02	0.88
46.66	13.21	12.23	0.98
46.68	13.52	12.43	1.09
46.70	13.84	12.63	1.21
46.72	14.16	12.83	1.33
46.74	14.48	13.03	1.45
46.76	14.81	13.23	1.59
46.78	15.14	13.42	1.72
46.80	15.47	13.60	1.86
46.82	15.80	13.79	2.01
46.84	16.13	13.97	2.16
46.86	16.46	14.14	2.32
46.88	16.79	14.31	2.49
46.90	17.12	14.47	2.65
46.92	17.45	14.62	2.83
46.94	17.77	14.77	3.01
46.96	18.09	14.90	3.19
46.98	18.40	15.03	3.38
47.00	18.70	15.13	3.57
47.02	19.05	15.28	3.77
47.04	19.40	15.43	3.97
47.06	19.75	15.57	4.18

1.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates from the 1-year, 2-year, 10-year, 25-year and 50-year storm events at each point of analysis.

Table 1.4 – Comparison of Pre- and Post-Development Flows (CFS)

Point of Analysis	1-Year Storm	2-Year Storm	10-Year Storm	25-Year Storm	50-Year Storm
Pre-Development Watershed (PA-1)	20.01	27.08	49.71	67.64	84.49
Post-Development Watershed (PA-1)	15.01	19.73	35.68	55.19	72.03

The Peak Runoff Control Requirements of Env-Wq 1507.06 are required to be met for the point of analysis. As shown in Table 1.4 the Post-Development flows are decreased from the Pre-Development flows at PA-1.

The Channel Protection requirements of Env-Wq 1507.05 are met for the point of analysis as the 2-year, 24-hour Post-Development peak flowrate (19.73 cfs) is less than or equal to the 1-year, 24-hour pre-development peak flowrate (20.01 cfs).

1.5 Mitigation Description

1.5.1 Mitigation Calculations

The proposed project area has been evaluated to treat the required water quality flow (WQF) per the requirements of Env-Wq 1500. These calculations have been provided in appendix E of this report.

1.5.2 Pre-Treatment Methods for Protecting Water Quality

Pretreatment methods for protecting water quality on this site include offline deep sump catch basins with oil water separator hoods.

Table 1.5 – Pollutant Removal Efficiencies

BMP	Total Suspended Solids	Total Phosphorus
Deep Sump Catch Basin w/Hood[1]	15%	5%

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.

1.5.3 Treatment Methods for Protecting Water Quality

The runoff from proposed impervious areas will be captured in the proposed closed drainage system directed to an underground detention system and then treated by an ADS Water Quality Unit. The water quality unit has been sized to treat the Water Quality Flow from the contributing subcatchment areas. The system has been designed with an internal bypass structure that diverts peak flows greater than the 1-inch storm event.

APPENDIX A

(Bound Separately)

APPENDIX B

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	70.808 degrees West
Latitude	43.075 degrees North
Elevation	0 feet
Date/Time	Tue, 29 Jun 2021 09:16:17 -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	0.82	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.66	2.92	**1yr**	2.35	2.81	3.21	3.94	4.54	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.94	2.49	3.21	3.57	**2yr**	2.84	3.43	3.93	4.67	5.32	**2yr**
5yr	0.37	0.58	0.73	0.97	1.24	1.60	**5yr**	1.07	1.46	1.88	2.43	3.14	4.07	4.57	**5yr**	3.60	4.40	5.03	5.93	6.70	**5yr**
10yr	0.41	0.64	0.81	1.11	1.44	1.88	**10yr**	1.25	1.72	2.22	2.88	3.74	4.87	5.53	**10yr**	4.31	5.31	6.07	7.10	7.98	**10yr**
25yr	0.47	0.75	0.96	1.32	1.76	2.32	**25yr**	1.52	2.13	2.76	3.61	4.73	6.17	7.10	**25yr**	5.46	6.82	7.78	9.02	10.06	**25yr**
50yr	0.53	0.85	1.09	1.52	2.05	2.74	**50yr**	1.77	2.51	3.27	4.30	5.65	7.40	8.58	**50yr**	6.55	8.25	9.40	10.81	11.99	**50yr**
100yr	0.60	0.97	1.25	1.76	2.39	3.22	**100yr**	2.06	2.96	3.86	5.11	6.74	8.86	10.38	**100yr**	7.84	9.98	11.35	12.96	14.30	**100yr**
200yr	0.67	1.09	1.41	2.02	2.79	3.80	**200yr**	2.41	3.49	4.58	6.09	8.06	10.62	12.55	**200yr**	9.40	12.07	13.71	15.54	17.05	**200yr**
500yr	0.79	1.30	1.69	2.45	3.43	4.71	**500yr**	2.96	4.34	5.71	7.65	10.19	13.50	16.15	**500yr**	11.95	15.53	17.61	19.77	21.55	**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	1.66	2.23	2.53	**1yr**	1.97	2.43	2.85	3.16	3.88	**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	3.05	3.46	**2yr**	2.70	3.32	3.82	4.55	5.07	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.13	2.74	3.80	4.21	**5yr**	3.36	4.05	4.71	5.54	6.26	**5yr**
10yr	0.39	0.59	0.73	1.03	1.32	1.60	**10yr**	1.14	1.56	1.81	2.40	3.07	4.38	4.89	**10yr**	3.88	4.70	5.46	6.43	7.22	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.78	3.56	4.70	5.94	**25yr**	4.16	5.72	6.69	7.84	8.73	**25yr**
50yr	0.48	0.73	0.91	1.31	1.77	2.17	**50yr**	1.53	2.12	2.35	3.10	3.97	5.31	6.88	**50yr**	4.70	6.61	7.80	9.11	10.08	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.47	**100yr**	1.74	2.42	2.63	3.45	4.40	5.96	7.96	**100yr**	5.27	7.65	9.09	10.60	11.64	**100yr**
200yr	0.59	0.89	1.13	1.64	2.29	2.82	**200yr**	1.98	2.76	2.94	3.83	4.86	6.67	9.21	**200yr**	5.91	8.85	10.59	12.34	13.46	**200yr**
500yr	0.69	1.03	1.32	1.92	2.73	3.38	**500yr**	2.36	3.30	3.41	4.39	5.56	7.76	11.16	**500yr**	6.87	10.73	12.98	15.12	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	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.75	2.21	3.00	3.14	**1yr**	2.66	3.02	3.58	4.37	5.05	**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	3.43	3.69	**2yr**	3.03	3.54	4.07	4.82	5.64	**2yr**
5yr	0.40	0.61	0.76	1.05	1.33	1.61	**5yr**	1.15	1.58	1.88	2.53	3.24	4.33	4.93	**5yr**	3.84	4.74	5.36	6.34	7.13	**5yr**
10yr	0.47	0.71	0.89	1.24	1.60	1.96	**10yr**	1.38	1.92	2.27	3.09	3.93	5.33	6.16	**10yr**	4.72	5.92	6.75	7.80	8.71	**10yr**
25yr	0.57	0.87	1.08	1.54	2.03	2.55	**25yr**	1.75	2.49	2.93	4.05	5.10	7.79	8.26	**25yr**	6.90	7.95	9.02	10.27	11.35	**25yr**
50yr	0.66	1.01	1.26	1.81	2.43	3.10	**50yr**	2.10	3.03	3.57	4.96	6.24	9.76	10.34	**50yr**	8.64	9.94	11.25	12.63	13.88	**50yr**
100yr	0.78	1.18	1.47	2.13	2.92	3.77	**100yr**	2.52	3.68	4.34	6.10	7.64	12.21	12.94	**100yr**	10.81	12.44	14.02	15.57	16.99	**100yr**
200yr	0.91	1.37	1.73	2.51	3.50	4.59	**200yr**	3.02	4.49	5.29	7.51	9.36	15.32	16.21	**200yr**	13.56	15.59	17.49	19.17	20.80	**200yr**
500yr	1.12	1.67	2.15	3.13	4.44	5.95	**500yr**	3.84	5.81	6.86	9.90	12.27	20.70	21.84	**500yr**	18.32	21.00	23.45	25.25	27.19	**500yr**

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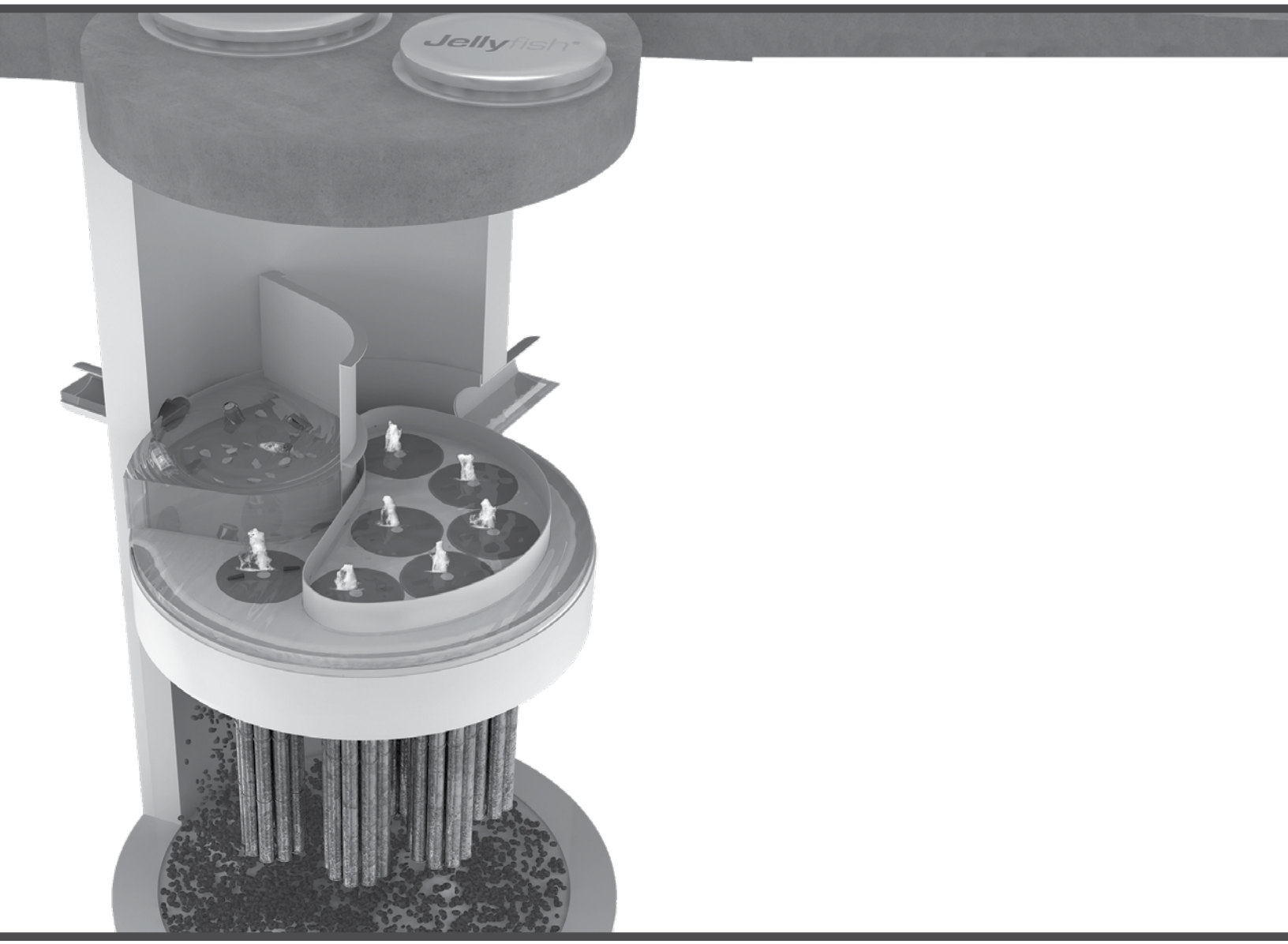
Northeast Regional Climate Center

APPENDIX C

CONTECH®
ENGINEERED SOLUTIONS

Jellyfish® Filter Maintenance Guide



Jellyfish®

JELLYFISH® FILTER
INSPECTION & MAINTENANCE GUIDE

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

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1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

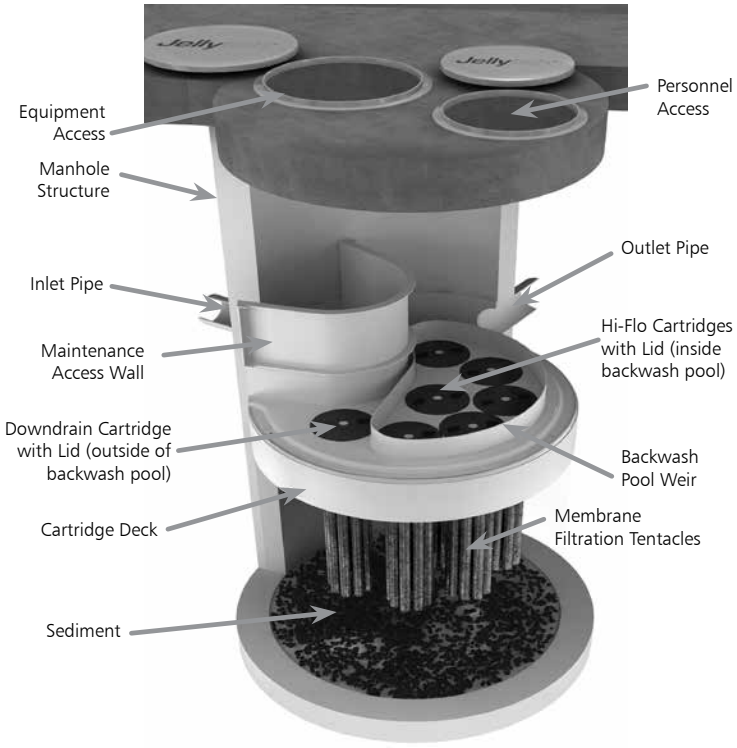
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



Note: Separator Skirt not shown

2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent*.

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.

Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

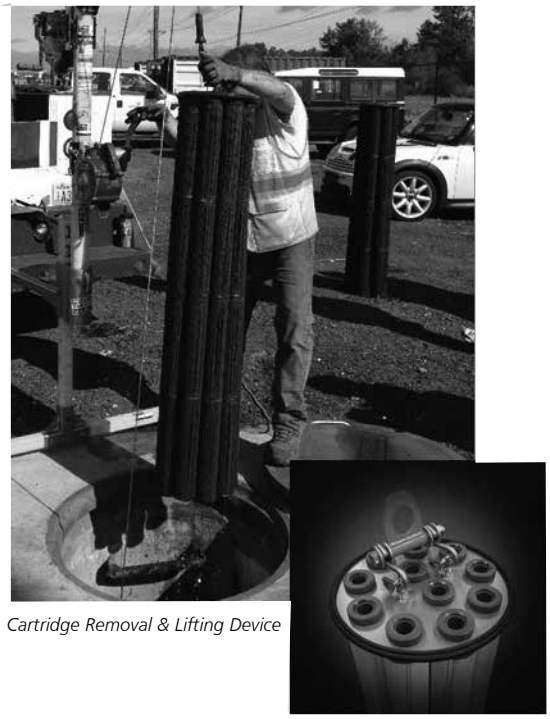
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs*.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



Cartridge Removal & Lifting Device

2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane*.

4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

5.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.

Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.

Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. ***Caution: Do not force the cartridge downward; damage may occur.***
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

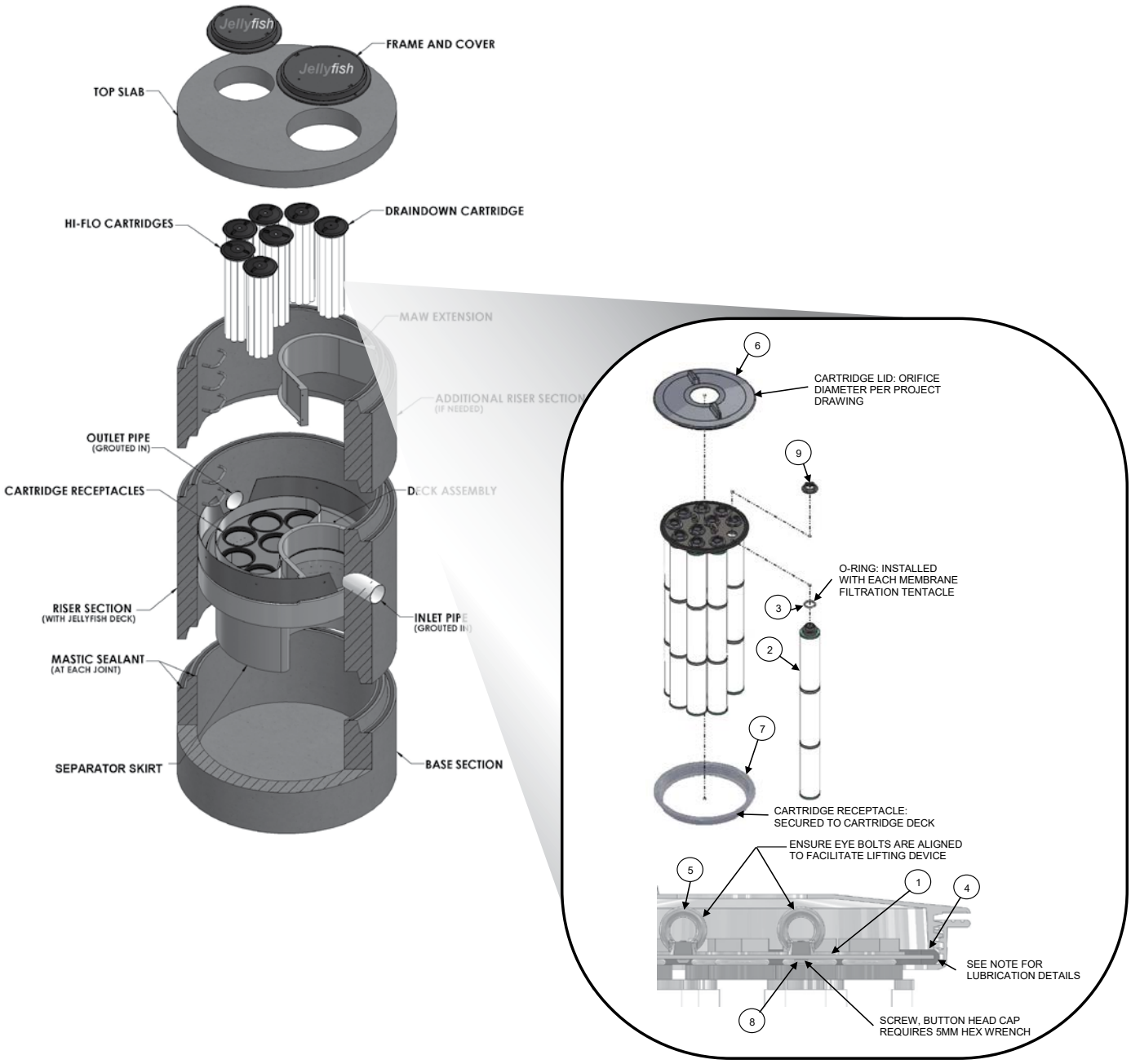


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (ITem 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner:				Jellyfish Model No:		
Location:				GPS Coordinates:		
Land Use:	Commercial:		Industrial:		Service Station:	
	Roadway/Highway:		Airport:		Residential:	

Date/Time:						
Inspector:						
Maintenance Contractor:						
Visible Oil Present: (Y/N)						
Oil Quantity Removed:						
Floatable Debris Present: (Y/N)						
Floatable Debris Removed: (Y/N)						
Water Depth in Backwash Pool						
Draindown Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Draindown Cartridges: (Y/N)						
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Hi-Flo Cartridges: (Y/N)						
Sediment Depth Measured: (Y/N)						
Sediment Depth (inches or mm):						
Sediment Removed: (Y/N)						
Cartridge Lids intact: (Y/N)						
Observed Damage:						
Comments:						

Jellyfish®

CONTECH ENGINEERED SOLUTIONS

Support

- Drawings and specifications are available at www.conteches.com/jellyfish.
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at www.conteches.com/ccmp

800.338.1122
www.ContechES.com

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, wastewater treatment and earth stabilization products. For information on other Contech segment offerings, visit ContechES.com or call 800.338.1122

APPENDIX D

Underground Injection Control Project Report

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36) 5B6**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0036693**

Responsible Party: **BUILDING 119 (SITE 36) 5B6**
PORTSMOUTH

Wellhead Protection Area: **No**

Assigned To: **REGISTRATION**

Eligibile:

MTBE: **N**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Discovery Date: **04/12/2016**

Eligibilty Determined on:

Brownfield: **N**

Activities (1)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
04/12/2016	UIC Application Received	LOCKER	04/26/2016	UIC Registration Issued	REGISTERED

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4601803	REGISTRATION	SITE #36 INJECTION REGISTRATION (5B6) ISSUED	04/26/2016	.08 MB

Underground Injection Control Project Report

Site Number:	**100330336**	Project Number:	**0036693**
Name and Address:	**BUILDING 119 (SITE 36) 5B6 PEASE AIR FORCE BASE PORTSMOUTH**	Responsible Party:	**BUILDING 119 (SITE 36) 5B6 PORTSMOUTH**
Mapit			
Wellhead Protection Area:	**No**	Risk Level:	**DW SUPPLY WITHIN 1000' OR SITE IN SWPA**
Assigned To:	**REGISTRATION**	Discovery Date:	**04/12/2016**
Eligibile:		Eligibilty Determined on:	
MTBE:	**N**	Brownfield:	**N**

No Vapor Recovery Information

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Assigned To: **SANDIN**

Eligibile:

MTBE: **N**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Discovery Date: **05/14/1993**

Eligibilty Determined on:

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
06/09/2022	Non-Permit GW Monitoring Result Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
5001486	REPORT TO DES	SITE 36 FALL 2021 SAMPLING EVENT DATA TRANSMITTAL 7-APR-2022	06/09/2022	5.00 MB

10/19/2021	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4958065	REPORT TO DES	FINAL SS036 FAALL 2021 REMEDIAL ACTION-OPERATIONS FIELD WORK NOTIFICATION	10/19/2021	4.61 MB

10/23/2020	Annual Report Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4884500	REPORT	DRAFT 2019 GROUNDWATER MONITORING REPORT	10/23/2020	5.00 MB

01/22/2019	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4755436	REPORT TO DES	FINAL IN SITU CHEMICAL OXIDATION PILOT STUDY COMPLETION REPORT	01/22/2019	5.00 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
11/14/2018	Additional Information Received	SANDIN	12/14/2018	TECHNICAL INFORMATION PROVIDED	REPORT INCOMPLETE

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4749416	CORRESPONDENCE	DES COMMENTS 12.14.18	12/14/2018	.08 MB
4746936	REPORT TO DES	DRAFT IN-SITU CHEMICAL OXIDATION PILOT STUDY COMPLETION REPORT	11/14/2018	5.00 MB

11/07/2018	Additional Information Received	OTHER	11/13/2018	No Action Necessary (Report filed)	WETLANDS VIOLATIONS CASE CLOSED

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4747011	CORRESPONDENCE-FROM	WETLANDS CASE CLOSED	11/13/2018	.20 MB
4746460	REPORT TO DES	2018 WETLAND MONITORING REPORT	11/07/2018	2.90 MB

01/31/2018	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4696966	REPORT TO DES	FINAL IN SITU CHEMICAL OXIDATION PILOT STUDY	01/31/2018	5.00 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
01/30/2018	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4696071	REPORT TO DES	DRAFT IN SITU CHEMICAL OXIDATION PILOT STUDY IMPLEMENTATION REPORT	01/30/2018	5.00 MB

12/20/2017	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4688637	REPORT TO DES	2017 WETLAND MONITORING REPORT	12/20/2017	5.00 MB

08/24/2017	Additional Information Received	UNASSIGNED			
01/27/2017	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4640648	CORRESPONDENCE-TO	RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION	01/27/2017	1.20 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
12/21/2016	Additional Information Received	OTHER			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4635429	REPORT TO DES	2016 WETLAND MONITORING REPORT	12/21/2016	3.81 MB

11/15/2016	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4632437	REPORT TO DES	2015 ANNUAL REPORT	11/15/2016	5.00 MB

11/02/2016	Additional Information Received	OTHER	11/16/2016	TECHNICAL INFORMATION PROVIDED	RESTORATION PLAN APPROVED BY D. PRICE

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4637567	CORRESPONDENCE	WETLANDS RESTORATION PLAN APPROVAL	11/16/2016	.22 MB
4630201	REPORT TO DES	WETLAND RESTORATION PLAN LEE STREET SITE 36	11/01/2016	5.00 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
10/27/2016	Additional Information Received	HILTON	11/04/2016	Not Approved	ISCO FAILURE NOT EVALUATED. DES DID NOT APPROVE ORIGINALLY, CANNOT CONCUR NOW

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4630401	CORRESPONDENCE	DES COMMENTS 11.4.16 TO ISCO RESTART PLAN 10.27.16	11/04/2016	.08 MB
4629781	REPORT TO DES	IN SITU CHEMICAL OXIDATION (ISCO) INJECTIONS RESTART PLAN	10/27/2016	1.75 MB

10/27/2016	Additional Information Received	OTHER	11/01/2016	No Action Necessary (Report filed)	WETLANDS BUREAU TO OVERSEE VIOLATIONS

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4629780	CORRESPONDENCE-TO	RESPONSE TO NHDES LRM REGARDING ISCO	10/25/2016	.13 MB

08/10/2016	Additional Information Received	UNASSIGNED			

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4616481	REPORT TO DES	DRAFT LONG-TERM MONITORING PLAN REVISION 5	08/10/2016	5.00 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
07/27/2016	Additional Information Received	HILTON	09/14/2016	TECHNICAL INFORMATION PROVIDED	AF PROCEEDING WITHOUT REGULATOR CONCURRENCE. IMPLEMENTATION RESULTED IN WETLANDS VIOLATIONS

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4624264	CORRESPONDENCE	DES EMAIL 9.22.16	09/22/2016	.07 MB
4614946	REPORT TO DES	FINAL ADDITIONAL INVESTIGATION AND PILOT STUDY WORK PLAN 01-JUL-2016	07/27/2016	5.00 MB

06/09/2016	Additional Information Received	HILTON	06/30/2016	No Action Necessary (Report filed)	EPA TO ADDRESS

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4606629	CORRESPONDENCE-TO	RESPONSE TO COMMENTS (EPA) ON DRAFT SUPPLEMENTAL SITE INVEST STATUS REPORT 22-APR-2016	06/09/2016	.17 MB

06/09/2016	Additional Information Received	HILTON	06/30/2016	Not Approved	SEE 6.30.16 PBC LETTER ATTACHED TO DRAFT PSWP

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4606630	CORRESPONDENCE-TO	RESPONSE TO COMMENTS ON THE DRAFT SUPPPLEMENTAL SITE INVESTIGATION STATUS REPORT 22-APR-2016	06/09/2016	.19 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
06/09/2016	Work Plan Received	HILTON	06/30/2016	Not Approved	PREVIOUS COMMENTS UNRESOLVED, DES DOES NOT CONCUR WITH APPROACH AS PROPOSED. PROGRAM-WIDE LETTTER OF 6.30.16 APPLIES

Activity Documents (3)

	Document Type	Document Title	Document Date	File Size
4624250	CORRESPONDENCE	EMAIL TRANSMITING DES 6.30.16 LETTER	06/30/2016	.04 MB
4624249	CORRESPONDENCE	DES LETTER 6.30.16	06/30/2016	.04 MB
4606631	REPORT TO DES	DRAFT ADDITIONAL INVESTIGATION AND PILOT STUDY WORK PLAN 01-JUN-2016	06/09/2016	5.00 MB

06/05/2015	Additional Information Received	UNASSIGNED			
01/27/2015	Additional Information Received	HILTON	03/31/2015	TECHNICAL INFORMATION PROVIDED	DES EMAIL DETAILING REPORT AND CONCEPTUAL SITE MODEL DEFICIENCIES

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4541861	CORRESPONDENCE	DES EMAIL COMMENTS 3.31.15 TO 1.26.15 SSI STATUS REPORT	03/31/2015	.06 MB
4535965	REPORT TO DES	SUPPLEMENTAL SITE INVESTIGATION STATUS REPORT SITE 36 SS036 BUILDING 119 26-JAN-2015	01/27/2015	5.00 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
02/10/2014	Additional Information Received	HILTON	10/02/2014	TECHNICAL INFORMATION PROVIDED	DES EMAIL COMMENTS TO SITE STATUS AND WORK THROUGH SUMMER 2014

Activity Documents (4)

	Document Type	Document Title	Document Date	File Size
4520591	CORRESPONDENCE	SITE 36 ADDITIONAL COMMENTS-CONCERNS	11/03/2014	.08 MB
4521795	CORRESPONDENCE	10-2-14 DES EMAIL	10/02/2014	.07 MB
4487323	CORRESPONDENCE	SITE 36 STATUS REPORT AND WORK PLAN; DES COMMENTS	03/17/2014	.05 MB
4484102	REPORT TO DES	STATUS REPORT AND SUPPLEMENTAL SITE INVESTIGATION WORK PLAN ADDENDUM 10-FEB-2014	02/10/2014	3.72 MB

12/13/2012	Additional Information Received	HILTON	12/13/2012	TECHNICAL INFORMATION PROVIDED	S HILTON HELD CONF CALL WITH SHAW TO DISCUSS HYDROPUNCH DRILL & SAMPLE DEPTHS.

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4424839	CORRESPONDENCE-FROM	SITE 36 S HILTON DEC 13 2012 EMAIL TO SHAW ENV	12/13/2012	.03 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Assigned To: **SANDIN**

Discovery Date: **05/14/1993**

Eligibile:

Eligibilty Determined on:

MTBE: **N**

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
11/09/2012	Additional Information Received	HILTON	12/13/2012	TECHNICAL INFORMATION PROVIDED	SEE DES TELE CONFERENCE E-MAIL DATED 13-DEC-2012

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4422065	REPORT TO DES	RESPONSE TO COMMENTS TABLE SUPPLEMENTAL SITE INVESTIGATION WORK PLAN 01-NOV-2012	11/09/2012	.14 MB

11/09/2012	Additional Information Received	HILTON	12/13/2012	TECHNICAL INFORMATION PROVIDED	SEE DES TELE CONFERENCE E-MAIL 13 DEC 2012

Activity Documents (1)

	Document Type	Document Title	Document Date	File Size
4422064	REPORT TO DES	DRAFT FINAL SUPPLEMENTAL SITE INVESTIGATION WORK PLAN 01-NOV-2012	11/09/2012	2.48 MB

08/03/2012	Additional Information Received	HILTON	09/13/2012	TECHNICAL INFORMATION PROVIDED

Activity Documents (3)

	Document Type	Document Title	Document Date	File Size
4487465	CORRESPONDENCE	SITE 36 COMMENTS TO AUG 2012 DRAFT SOIL GW CONF SAM.	09/13/2012	.05 MB
4487464	CORRESPONDENCE	SITE 36 COVER TO COMMENTS SI WORK PLAN AUGUST 2012.	09/13/2012	.06 MB
4402604	REPORT TO DES	DRAFT SUPPLEMENTAL SITE INVESTIGATION WORK PLAN 01-AUG-2012	08/03/2012	1.43 MB

Site Number: **100330336**

Name and Address: **BUILDING 119 (SITE 36)**
PEASE AIR FORCE BASE
PORTSMOUTH

Mapit

Project Number: **0004283**

Responsible Party: **U S AIR FORCE**
2261 HUGHES AVE, STE 155
JBSA LACKLAND TX 78236-9853

PHONE: 210-395-9420

Wellhead Protection Area: **Unknown**

Assigned To: **SANDIN**

Eligibile:

MTBE: **N**

Risk Level: **DW SUPPLY WITHIN 1000' OR SITE IN SWPA**

Discovery Date: **05/14/1993**

Eligibilty Determined on:

Brownfield: **N**

Activities (31)

Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments
12/12/2011	Additional Information Received	UNASSIGNED			

Activity Documents (2)

	Document Type	Document Title	Document Date	File Size
4543394	CORRESPONDENCE	PEASE AFB; DES REVIEW OF WHITE PAPER FOR SITE 36	12/12/2011	.02 MB
4543395	CORRESPONDENCE	CDES REVIEW WHITE PAPER FOR SITE 36	12/12/2011	.02 MB

06/29/1993	Additional Information Received	SMITH	07/02/1993	Technical Report Approved	
04/07/1993	Additional Information Received	SMITH	05/14/1993	Comments to Waste Management Division	

Site Number:	**100330336**	Project Number:	**0004283**
Name and Address:	**BUILDING 119 (SITE 36)** **PEASE AIR FORCE BASE** **PORTSMOUTH**	Responsible Party:	**U S AIR FORCE** **2261 HUGHES AVE, STE 155** **JBSA LACKLAND TX 78236-9853** **PHONE: 210-395-9420**
Mapit			
Wellhead Protection Area:	**Unknown**	Risk Level:	**DW SUPPLY WITHIN 1000' OR SITE IN SWPA**
Assigned To:	**SANDIN**	Discovery Date:	**05/14/1993**
Eligibile:		Eligibilty Determined on:	
MTBE:	**N**	Brownfield:	**N**

No Vapor Recovery Information

APPENDIX E

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)

6.05	ac	A = Area draining to the practice
5.16	ac	A_I = Impervious area draining to the practice
0.85	decimal	I = Percent impervious area draining to the practice, in decimal form
0.82	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
4.95	ac-in	WQV= 1" x Rv x A
17,957	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".
0.82	inches	Q = Water quality depth. Q = WQV/A
98	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.2	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.035	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T_c = Time of Concentration
600.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
4.638	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:

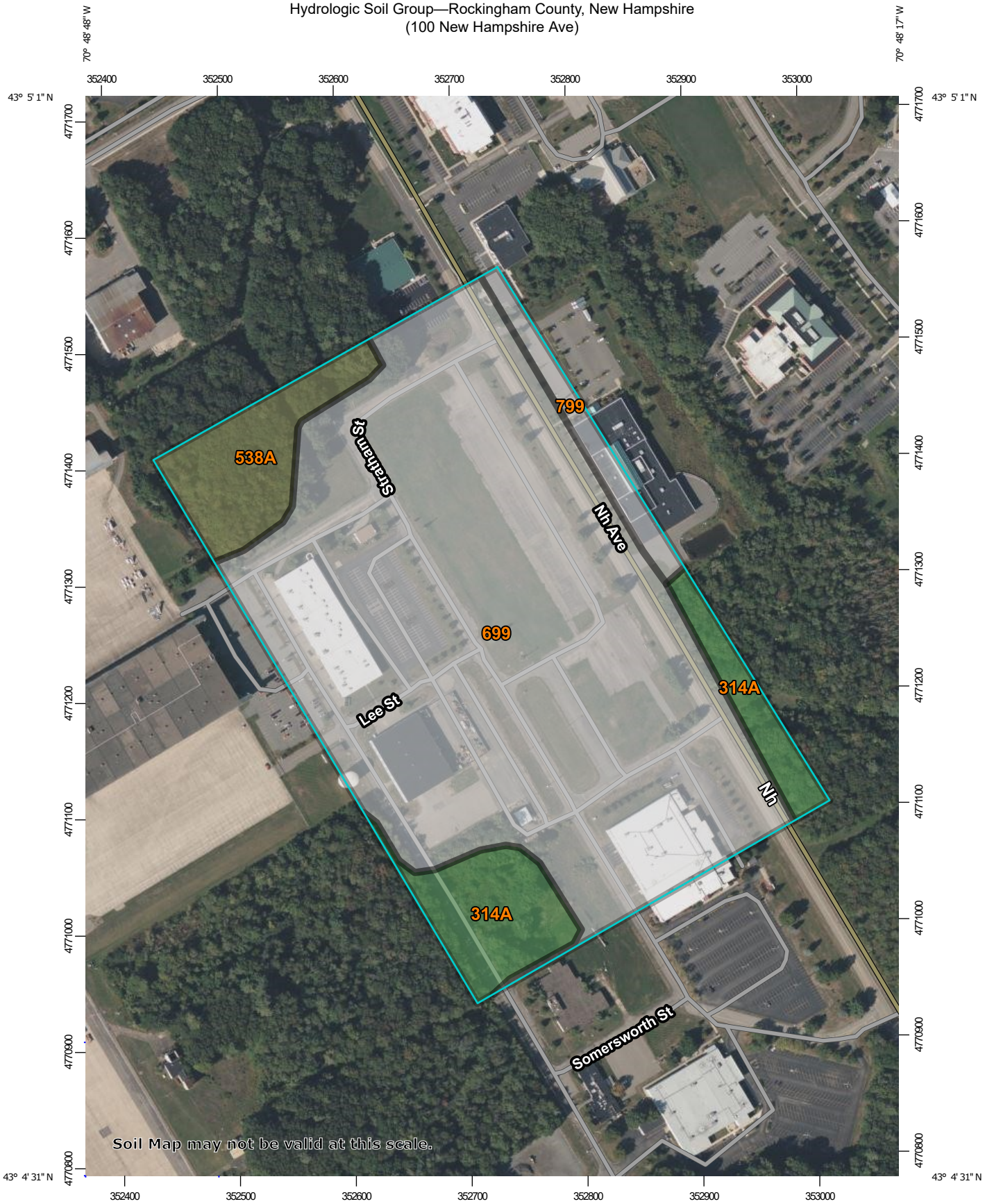
This calculation represents the treatment train directed to Contech Jellyfish Treatment Unit.

Full Treatment in compliance with Env-Wq 1508.10 shall be achieved by use of a proprietary flow-through device. The proposed Contech Jellyfish Treatment Unit - Model#: JFPD0811 will be used to treat the WQF as calculated in the above spreadsheet. The specified device is designed to treat up to 4.90 cfs of flow.

Tighe&Bond

APPENDIX F

Hydrologic Soil Group—Rockingham County, New Hampshire
(100 New Hampshire Ave)



Map Scale: 1:4,520 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil 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: Jun 19, 2020—Sep 20, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
314A	Pipestone sand, 0 to 5 percent slopes	A/D	4.7	10.0%
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	C/D	3.4	7.4%
699	Urban land		36.8	79.3%
799	Urban land-Canton complex, 3 to 15 percent slopes		1.5	3.3%
Totals for Area of Interest			**46.5**	**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

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Table 1.6 below, shows design pollutant removal efficient for the proposed Jellyfish Filter Treatment Unit which meets the requirements of Env-Wq 1508.10. Additional reference information on the proposed Jellyfish Filter Treatment Unit can be found in Appendix C.

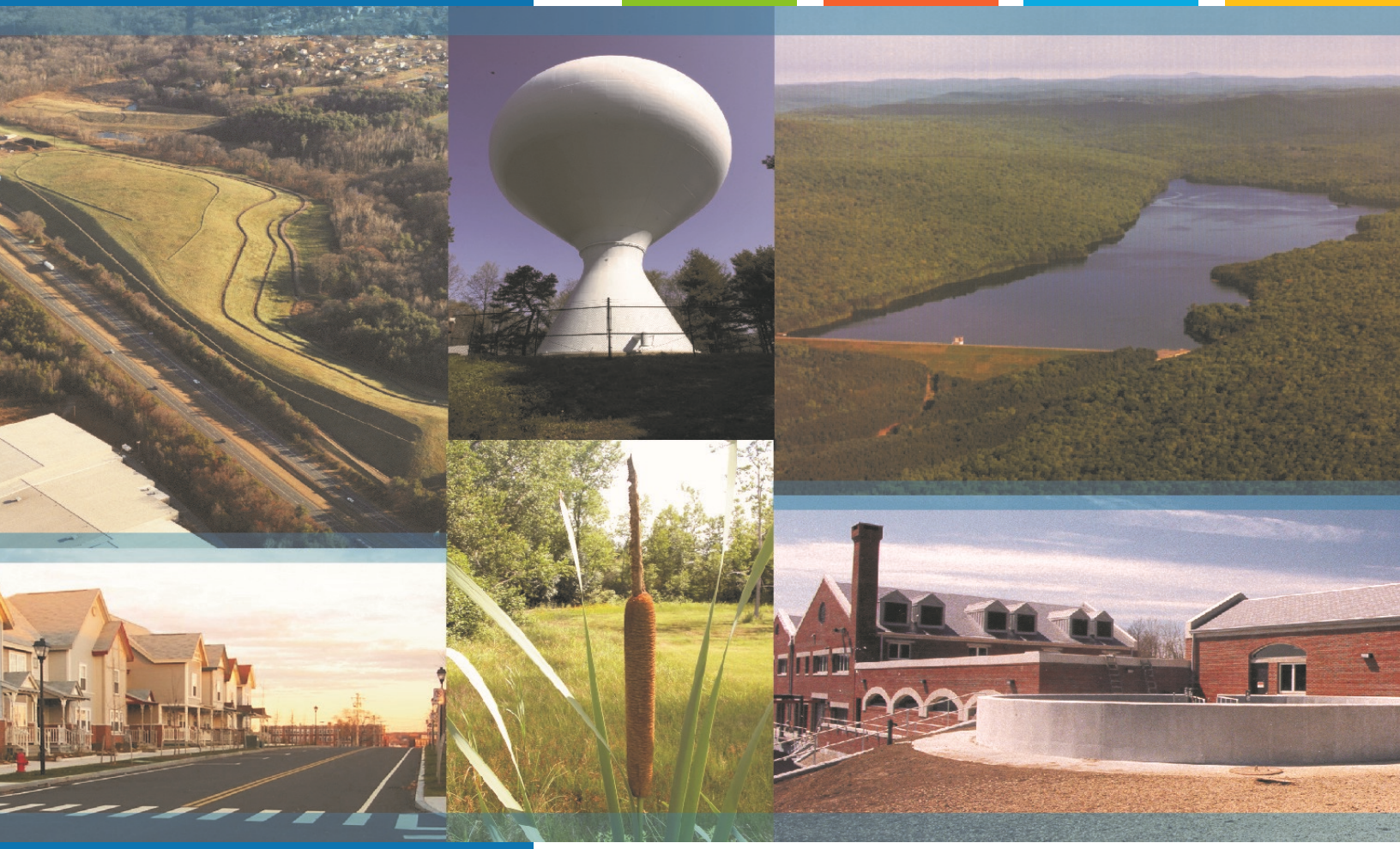
Table 1.6 – Pollutant Removal Efficiencies		
BMP	Total Suspended Solids	Total Phosphorus
Jellyfish Filter Treatment Unit [1]	89%	59%

1. Pollutant removal efficiencies per Contech Engineered Solutions Jellyfish Filter Performance testing results.

Table 1.7 – Pollutant Removal Calculations				
Total Suspended Solids Removal				
BMP	TSS Removal Rate	Starting TSS Load	TSS Removed	Remaining TSS Load
Deep Sump Catch Basin w/Hood[1]	0.15	1.00	0.15	0.85
Jellyfish Filter Treatment Unit [2]	0.89	0.85	0.76	0.09
			Total Suspended Solids Removed:	**91%**

Total Phosphorus Removal				
	TP Removal Rate	Starting TP Load	TP Removed	Remaining TP Load
Deep Sump Catch Basin w/Hood[1]	0.05	1.00	0.05	0.95
Jellyfish Filter Treatment Unit [2]	0.59	0.95	0.56	0.39
			Total Phosphorus Removed:	**61%**

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.
2. Pollutant removal efficiencies per Contech Engineered Solutions Jellyfish Filter Performance testing results.



Proposed Advanced Manufacturing Facility

Portsmouth, NH

Long Term Operation & Maintenance Plan

Prepared For:

Aviation Avenue Group, LLC
210 Commerce Way Suite 300
Portsmouth, NH 03801

December 19, 2022

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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

Joe Geoghegan
Aviation Avenue Group, LLC
210 Commerce Way Suite 300
Portsmouth, NH 03801

Cell: 603 518.2113
Office: 207.650.0907

Email: Joe@tdmrk.com

(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 / Sediment & Oil Separator Cleaning
- Pavement Sweeping
- Underground Detention Basin
- Jellyfish Filter Treatment 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 / as needed
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring
Catch Basin (CB) - CBs to be cleaned of solids and oils.	Bi-Annually / as needed when catch basin sumps
Underground Detention Basin - Visual observation of sediment levels within system	Bi-Annually
Jellyfish Filter Treatment Unit - Per manufacturer recommendations	- In accordance with Manufacturer's Recommendations

1.3.1 Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

1.4 Underground Detention System Maintenance Requirements

Underground Detention System Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Monitor inlet and outlet structures for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed
Deep Sump Catchbasins	Two (2) times annually	- Removal of sediment as warranted by inspection - No less than once annually

Monitor detention system for sediment accumulation	Two (2) times annually	- Trash, debris and sediment to be removed - Any required maintenance shall be addressed

1.5 Jellyfish Filter Treatment Unit Maintenance Requirements

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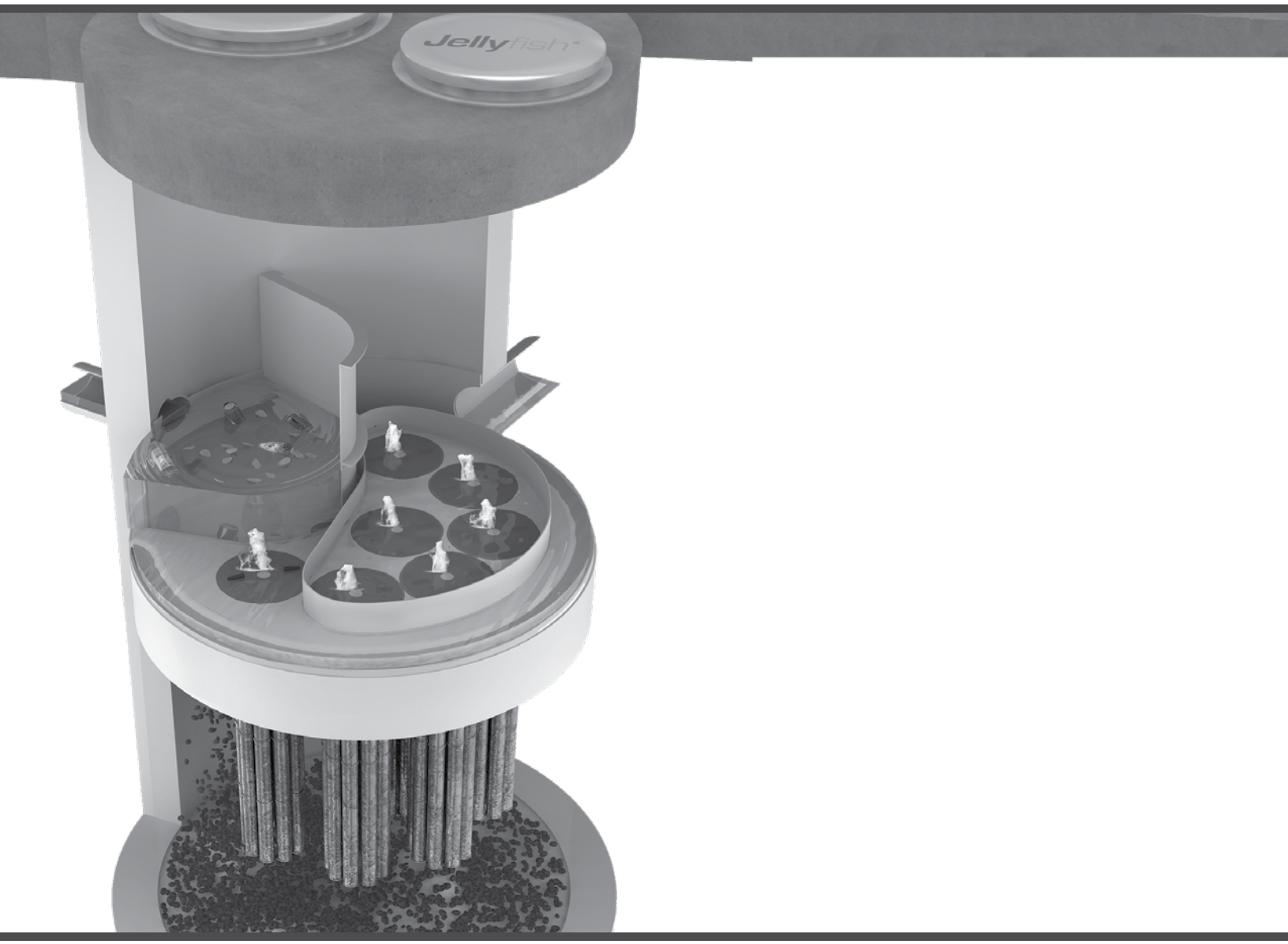
ENGINEERED SOLUTIONS

Jellyfish® Filter Maintenance Guide



Jellyfish®

JELLYFISH® FILTER
INSPECTION & MAINTENANCE GUIDE

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

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1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

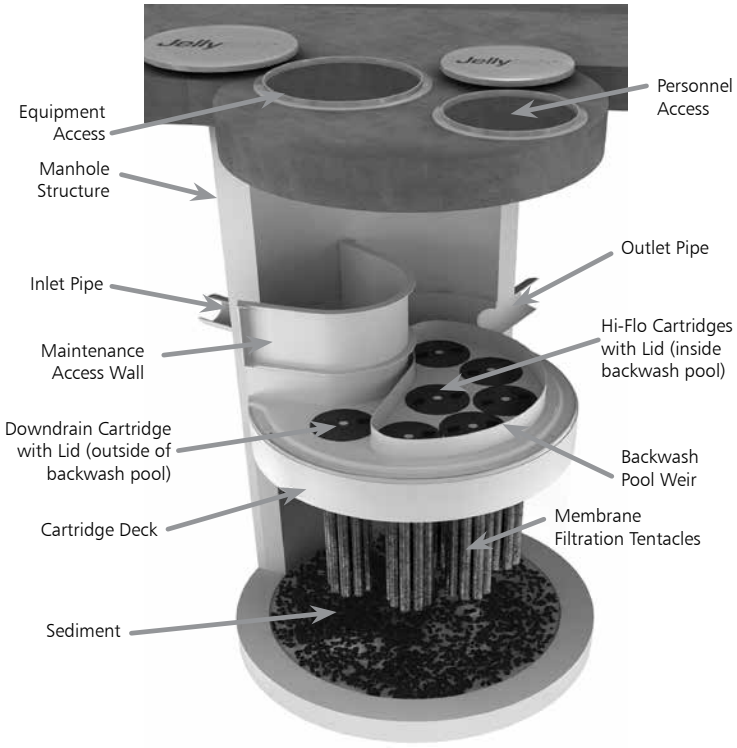
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



Note: Separator Skirt not shown

2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent*.

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.

Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

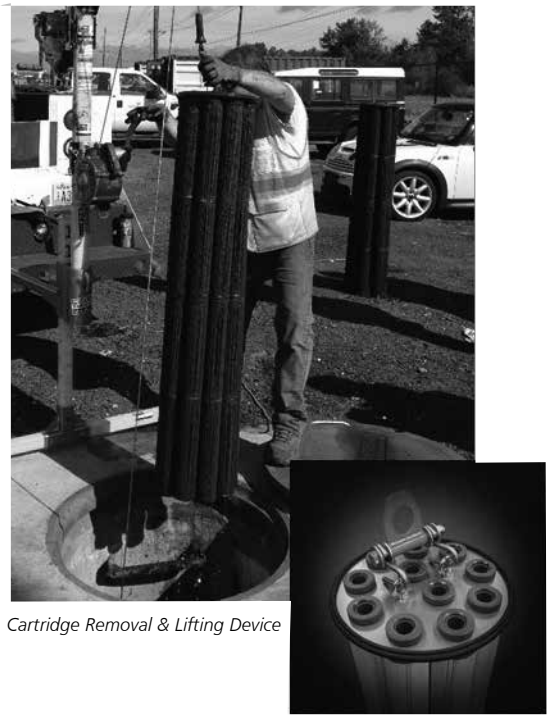
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs*.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



Cartridge Removal & Lifting Device

2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane*.

4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

5.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.

Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.

Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. ***Caution: Do not force the cartridge downward; damage may occur.***
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

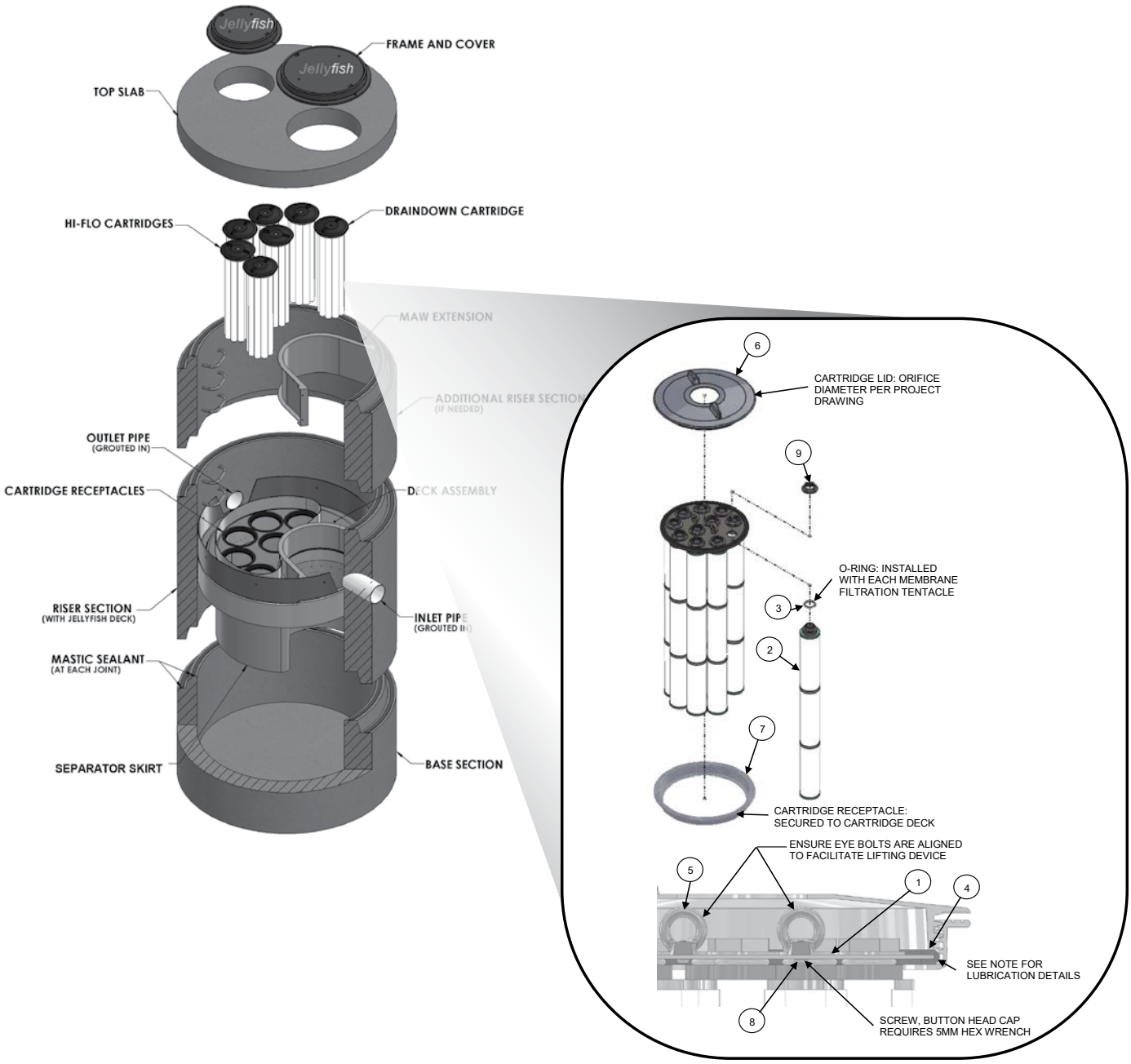


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (ITem 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner:				Jellyfish Model No:		
Location:				GPS Coordinates:		
Land Use:	Commercial:		Industrial:		Service Station:	
	Roadway/Highway:		Airport:		Residential:	

Date/Time:						
Inspector:						
Maintenance Contractor:						
Visible Oil Present: (Y/N)						
Oil Quantity Removed:						
Floatable Debris Present: (Y/N)						
Floatable Debris Removed: (Y/N)						
Water Depth in Backwash Pool						
Draindown Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Draindown Cartridges: (Y/N)						
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Hi-Flo Cartridges: (Y/N)						
Sediment Depth Measured: (Y/N)						
Sediment Depth (inches or mm):						
Sediment Removed: (Y/N)						
Cartridge Lids intact: (Y/N)						
Observed Damage:						
Comments:						

Jellyfish®

CONTECH ENGINEERED SOLUTIONS

Support

- Drawings and specifications are available at www.conteches.com/jellyfish.
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at www.conteches.com/ccmp

800.338.1122
www.ContechES.com

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, wastewater treatment and earth stabilization products. For information on other Contech segment offerings, visit ContechES.com or call 800.338.1122

1.6 Snow & Ice Management for Standard Asphalt and Walkways

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). Salt and sand shall be used to the minimum extent practical (refer to the attached for de-icing application rate guideline from the New Hampshire Stormwater Management Manual, Volume 2,).

Deicing Application Rate Guidelines

24' of pavement (typcial two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Anti-icing Route Data Form				
Truck Station:				
Date:				
Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky
Reason for applying:				
Route:				
Chemical:				
Application Time:				
Application Amount:				
Observation (first day):				
Observation (after event):				
Observation (before next application):				
Name:				

Section 2
Chloride Management Plan

Winter Operational Guidelines

The following Chloride Management Plan is for the Proposed Advanced Manufacturing Facility in Portsmouth, New Hampshire. The Plan includes operational guidelines for; winter operator certification requirements, weather monitoring, equipment calibration requirements, mechanical removal, and salt usage evaluation and monitoring. Due to the evolving nature of chloride management efforts, the Chlorides Management Plan will be reviewed annually, in advance of the winter season, to reflect the current management standards.

2.1 Background Information

The Proposed Advanced Manufacturing Facility is located within the Portsmouth Harbor Watershed in Portsmouth, New Hampshire. Portsmouth Harbor watershed is identified as a chloride-impaired waterbody.

2.2 Operational Guidelines – Chloride Management

All Aviation Avenue Group, LLC private contractors engaged at the advanced manufacturing facility premises for the purposes of winter operational snow removal and surface maintenance, are responsible for assisting in meeting compliance for the following protocols. Aviation Avenue Group, LLC private contractors are expected to minimize the effects of the use of de-icing, anti-icing and pretreatment materials by adhering to the strict guidelines outlined below.

The advanced manufacturing facility winter operational de-icing, anti-icing and pretreatment materials will adhere to the following protocols:

2.2.1 Winter Operator Certification Requirements

All private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance must be current UNHT2 Green SnowPro Certified operators or equivalent and will use only pre-approved methods for spreading abrasives on private roadways and parking lots. All private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance shall provide to Aviation Avenue Group, LLC management two copies of the annual UNHT2 Green SnowPro certificate or equivalent for each operator utilized on the advanced manufacturing facility premises. The annual UNHT2 Green SnowPro certificate or equivalent for each operator will be available on file in the advanced manufacturing facility office and be present in the vehicle/carrier at all times.

2.2.2 Improved Weather Monitoring

Aviation Avenue Group, LLC will coordinate weather information for use by winter

maintenance contractors. This information in conjunction with site specific air/ground surface temperature monitoring will ensure that private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance will make more informed decisions as to when and to what extent de-icing, anti-icing and pretreatment materials are applied to private roadways, sidewalks, and parking lots.

2.2.3 Equipment Calibration Requirements

All equipment utilized on the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance will conform to the following calibration requirements.

2.2.3.1 Annual Calibration Requirements

All private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of the annual calibration report for each piece of equipment utilized on the advanced manufacturing facility premises. Each calibration report shall include the vehicle/carrier VIN number and the serial numbers for each component including, but not limited to, spreader control units, salt aggregate spreader equipment, brining/pre-wetting equipment, ground speed orientation unit, and air/ground surface temperature monitor. Annual calibration reports will be available on file in the advanced manufacturing facility office and be present in the vehicle/carrier at all times.

Prior to each use, each vehicle/carrier operator will perform a systems check to verify that unit settings remain within the guidelines established by the Aviation Avenue Group, LLC Team in order to accurately dispense material. All private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance will be subject to spot inspections by members of the Aviation Avenue Group, LLC Team to ensure that each vehicle/carrier is operating in a manner consistent with the guidelines set herein or State and Municipal regulations. All units will be recalibrated, and the updated calibration reports will be provided each time repairs or maintenance procedures affect the hydraulic system of the vehicle/carrier.

2.2.4 Increased Mechanical Removal Capabilities

All private contractors engaged at the advanced manufacturing facility premises will endeavor to use mechanical removal means on a more frequent basis for roadways, parking lots and sidewalks. Dedicating more manpower and equipment to increase snow removal frequencies prevents the buildup of snow and the corresponding need for de-icing, anti-icing and pretreatment materials. Shortened maintenance routes, with shorter service intervals, will be used to stay ahead of snowfall. Minimized snow and ice packing will reduce the need for abrasives, salt aggregates, and/or brining solution to restore surfaces back to bare surface states after winter precipitation events.

After storm events the Aviation Avenue Group, LLC management team will be

responsible for having the streets swept to recapture un-melted de-icing materials, when practical.

2.3 Salt Usage Evaluation and Monitoring

All private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance shall provide two copies of a storm report, which includes detailed information regarding treatment areas and the use of de-icing, anti- icing and pretreatment materials applied for the removal of snow and surface maintenance on the advanced manufacturing facility premises. Aviation Avenue Group, LLC will maintain copies of Summary Documents, including copies of the Storm Reports, operator certifications, equipment used for roadway and sidewalk winter maintenance, calibration reports and amount of de-icing materials used.

2.4 Summary

The above-described methodologies are incorporated into the advanced manufacturing facility Operational Manual and are to be used to qualify and retain all private contractors engaged at the advanced manufacturing facility premises for the purpose of winter operational snow removal and surface maintenance. This section of the Manual is intended to be an adaptive management document that is modified as required based on experience gained from past practices and technological advancements that reflect chloride BMP standards. All advanced manufacturing facility employees directly involved with winter operational activities are required to review this document and the current standard Best Management Practices published by the UNH Technology Transfer (T2) program annually. All advanced manufacturing facility employees directly involved with winter operational activities, and all private contractors engaged at the advanced manufacturing facility premises for the purposes of winter operational snow removal and surface maintenance, must be current UNHT2 Green SnowPro Certified operators or equivalent and undergo the necessary requirements to maintain this certification annually.

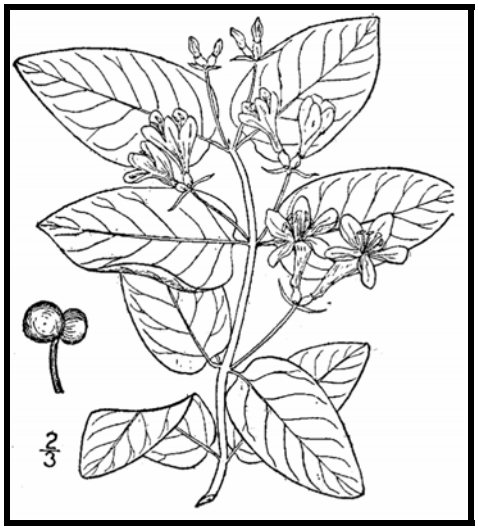
Section 3
Invasive Species

With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem is classified as an invasive species. Refer to the following fact sheet prepared by the University of New Hampshire Cooperative Extension entitled Methods for Disposing Non-Native Invasive Plants for recommended methods to dispose of invasive plant species.

UNIVERSITY of NEW HAMPSHIRE COOPERATIVE EXTENSION

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

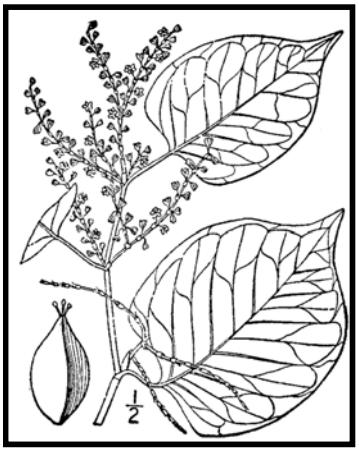
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

<table>
<tr><th>Non-Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">garlic mustard
(Alliaria petiolata)
spotted knapweed
(Centaurea maculosa)
▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling.
black swallow-wort
(Cynanchum nigrum)
▪ May cause skin rash. Wear gloves and long sleeves when handling.
pale swallow-wort
(Cynanchum rossicum)
giant hogweed
(Heracleum mantegazzianum)
▪ Can cause major skin rash. Wear gloves and long sleeves when handling.
dame’s rocket
(Hesperis matronalis)
perennial pepperweed
(Lepidium latifolium)
purple loosestrife
(Lythrum salicaria)
Japanese stilt grass
(Microstegium vimineum)
mile-a-minute weed
(Polygonum perfoliatum)</td><td rowspan="2">Fruits and Seeds
  </td><td>Prior to flowering
Depends on scale of infestation
Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>During and following flowering
Do nothing until the following year or remove flowering heads and bag and let rot.

Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>common reed
(Phragmites australis)
Japanese knotweed
(Polygonum cuspidatum)
Bohemian knotweed
(Polygonum x bohemicum)</td><td>Fruits, Seeds, Plant Fragments
Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn’t materially influence disposal activities.</td><td>Small infestation
▪ Bag all plant material and let rot.
▪ Never pile and use resulting material as compost.
▪ Burn.

Large infestation
▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile.
▪ Monitor and remove any sprouting material.
▪ Pile, let dry, and burn.</td></tr>
</table>

January 2010

Managing Invasive Plants
Methods of Control

by Christopher Mattrick

They're out there. The problem of invasive plants is as close as your own backyard.

Maybe a favorite dogwood tree is struggling in the clutches of an Oriental bittersweet vine. Clawlike canes of multiflora rose are scratching at the side of your house. That handsome burning bush you planted few years ago has become a whole clump in practically no time … but what happened to the azalea that used to grow right next to it?

If you think controlling or managing invasive plants on your property is a daunting task, you're not alone. Though this topic is getting lots of attention from federal, state, and local government agencies, as well as the media, the basic question for most homeowners is simply, "How do I get rid of the invasive plants in my own landscape?" Fortunately, the best place to begin to tackle this complex issue is in our own backyards and on local conservation lands. We hope the information provided here will help you take back your yard. We won't kid you—there's some work involved, but the payoff in beauty, wildlife habitat, and peace of mind makes it all worthwhile.

PLAN OF ATTACK

Three broad categories cover most invasive plant control: mechanical, chemical, and biological. Mechanical control means physically removing plants from the environment through cutting or pulling. Chemical control uses herbicides to kill plants and inhibit regrowth. Techniques and chemicals used will vary depending on the species. Biological controls use plant diseases or insect predators, typically from the targeted species' home range. Several techniques may be effective in controlling a single species, but there is usually one preferred method—the one that is most resource efficient with minimal impact on non-target species and the environment.

Spraying chemicals to control invasive plants.

MECHANICAL CONTROL METHODS

Mechanical treatments are usually the first ones to look at when evaluating an invasive plant removal project. These procedures do not require special licensing or introduce chemicals into the environment. They do require permits in some situations, such as wetland zones. [See sidebar on page 23.] Mechanical removal is highly labor intensive and creates a significant amount of site disturbance, which can lead to rapid reinvasion if not handled properly.

Pulling and digging

Many herbaceous plants and some woody species (up to about one inch in diameter), if present in limited quantities, can be pulled out or dug up. It's important to remove as much of the root system as possible; even a small portion can restart the infestation. Pull plants by hand or use a digging fork, as shovels can shear off portions of the root system, allowing for regrowth. To remove larger woody stems (up to about three inches in diameter), use a Weed Wrench™, Root Jack, or Root Talon. These tools, available from several manufacturers, are designed to remove the aboveground portion of the plant as well as the entire root system. It's easiest to undertake this type of control in the spring or early summer when soils are moist and plants come out more easily.

Using tools to remove woody stems.

Volunteers hand pulling invasive plants.

Suffocation

Try suffocating small seedlings and herbaceous plants. Place double or triple layers of thick UV-stabilized plastic sheeting, either clear or black (personally I like clear), over the infestation and secure the plastic with stakes or weights. Make sure the plastic extends at least five feet past the edge of infestation on all sides. Leave the plastic in place for at least two years. This technique will kill everything beneath the plastic—invasive and non-invasive plants alike. Once the plastic is removed, sow a cover crop such as annual rye to prevent new invasions.

Cutting or mowing

This technique is best suited for locations you can visit and treat often. To be effective, you will need to mow or cut infested areas three or four times a year for up to five years. The goal is to interrupt the plant's ability to photosynthesize by removing as much leafy material as possible. Cut the plants at ground level and remove all resulting debris from the site. With this treatment, the infestation may actually appear to get worse at first, so you will need to be as persistent as the invasive plants themselves. Each time you cut the plants back, the root system gets slightly larger, but must also rely on its energy reserves to push up new growth. Eventually, you will exhaust these reserves and the plants will die. This may take many years, so you have to remain committed to this process once you start; otherwise the treatment can backfire, making the problem worse.

CHEMICAL CONTROL METHODS

Herbicides are among the most effective and resource-efficient tools to treat invasive species. Most of the commonly known invasive plants can be treated using only two herbicides—glyphosate (the active ingredient in Roundup™ and Rodeo™) and triclopyr (the active ingredient in Brush-B-Gone™ and Garlon™). Glyphosate is non-selective, meaning it kills everything it contacts. Triclopyr is selective and does not injure monocots (grasses, orchids, lilies, etc.). Please read labels and follow directions precisely for both environmental and personal safety. These are relatively benign herbicides, but improperly used they can still cause both short- and long-term health and environmental problems. Special aquatic formulations are required when working in wetland zones. You are required to have a state-issued pesticide applicator license when applying these chemicals on land you do not own. To learn more about the pesticide regulations in your state, visit or call your state's pesticide control division, usually part of the state's Department of Agriculture. In wetland areas, additional permits are usually required by the Wetlands Protection Act. [See sidebar on page 23.]

Foliar applications

When problems are on a small scale, this type of treatment is usually applied with a backpack sprayer or even a small handheld spray bottle. It is an excellent way to treat large monocultures of herbaceous plants, or to spot-treat individual plants that are difficult to remove mechanically, such as goutweed, swallowwort, or purple loosestrife. It is also an effective treatment for some woody species, such as Japanese barberry, multiflora rose, Japanese honeysuckle, and Oriental bittersweet that grow in dense masses or large numbers over many acres. The herbicide mixture should contain no more than five percent of the active ingredient, but it is important to follow the instructions on the product label. This treatment is most effective when the plants are actively growing, ideally when they are flowering or beginning to form fruit. It has been shown that plants are often more susceptible to this type of treatment if the existing stems are cut off and the regrowth is treated. This is especially true for Japanese knotweed. The target plants should be thoroughly wetted with the herbicide on a day when there is no rain in the forecast for the next 24 to 48 hours.

Cut stem treatments

There are several different types of cut stem treatments, but here we will review only the one most commonly used. All treatments of this type require a higher concentration of the active ingredient than is used in foliar applications. A 25 to 35 percent solution of the active ingredient should be used for cut stem treatments, but read and follow all label instructions. In most cases, the appropriate herbicide is glyphosate, except for Oriental bittersweet, on which triclopyr should be used. This treatment can be used on all woody stems, as well as phragmites and Japanese knotweed.

For woody stems, treatments are most effective when applied in the late summer and autumn—between late August and November. Stems should be cut close to the ground, but not so close that you will lose track of them. Apply herbicide directly to the cut surface as soon as possible after cutting. Delaying the application will reduce the effectiveness of the treatment. The herbicide can be applied with a sponge, paintbrush, or spray bottle.

Cut stem treatment tools.

For phragmites and Japanese knotweed, treatment is the same, but the timing and equipment are different. Plants should be treated anytime from mid-July through September, but the hottest, most humid days of the summer are best for this method. Cut the stems halfway between two leaf nodes at a comfortable height. Inject (or squirt) herbicide into the exposed hollow stem. All stems in an infestation should be treated. A wash bottle is the most effective application tool, but you can also use an eyedropper, spray bottle, or one of the recently developed high-tech injection systems.

It is helpful to mix a dye in with the herbicide solution. The dye will stain the treated surface and mark the areas that have been treated, preventing unnecessary reapplication. You can buy a specially formulated herbicide dye, or use food coloring or laundry dye.

There is not enough space in this article to describe all the possible ways to control invasive plants. You can find other treatments, along with more details on the above-described methods, and species-specific recommendations on The Nature Conservancy Web site (tncweeds.ucdavis.edu). An upcoming posting on the Invasive Plant Atlas of New England (www.ipane.org) and the New England Wild Flower Society (www.newfs.org) Web sites will also provide further details.

Hollow stem injection tools.

Biological controls—still on the horizon

Biological controls are moving into the forefront of control methodology, but currently the only widely available and applied biocontrol relates to purple loosestrife. More information on purple loosestrife and other biological control projects can be found at www.invasiveplants.net.

DISPOSAL OF INVASIVE PLANTS

Proper disposal of removed invasive plant material is critical to the control process. Leftover plant material can cause new infestations or reinfest the existing project area. There are many appropriate ways to dispose of invasive plant debris. I've listed them here in order of preference.

1. **Burn it**—Make a brush pile and burn the material following local safety regulations and restrictions, or haul it to your town's landfill and place it in their burn pile.

2. **Pile it**—Make a pile of the woody debris. This technique will provide shelter for wildlife as well.

3. **Compost it**—Place all your herbaceous invasive plant debris in a pile and process as compost. Watch the pile closely for resprouts and remove as necessary. Do not use the resulting compost in your garden. The pile is for invasive plants only.

Injecting herbicide into the hollow stem of phragmites.

4. **Dry it/cook it**—Place woody debris out on your driveway or any asphalt surface and let it dry out for a month. Place herbaceous material in a doubled-up black trash bag and let it cook in the sun for one month. At the end of the month, the material should be non-viable and you can dump it or dispose of it with the trash. The method assumes there is no viable seed mixed in with the removed material.

Care should be taken in the disposal of all invasive plants, but several species need extra attention. These are the ones that have the ability to sprout vigorously from plant fragments and should ideally be burned or dried prior to disposal: Oriental bittersweet, multiflora rose, Japanese honeysuckle, phragmites, and Japanese knotweed.

Christopher Mattrick is the former Senior Conservation Programs Manager for New England Wild Flower Society, where he managed conservation volunteer and invasive and rare plant management programs. Today, Chris and his family work and play in the White Mountains of New Hampshire, where he is the Forest Botanist and Invasive Species Coordinator for the White Mountain National Forest.

Controlling Invasive Plants in Wetlands

Special concerns; special precautions

Control of invasive plants in or around wetlands or bodies of water requires a unique set of considerations. Removal projects in wetland zones can be legal and effective if handled appropriately. In many cases, herbicides may be the least disruptive tools with which to remove invasive plants. You will need a state-issued pesticide license to apply herbicide on someone else's property, but all projects in wetland or aquatic systems fall under the jurisdiction of the Wetlands Protection Act and therefore require a permit. ***Yes, even hand-pulling that colony of glossy buckthorn plants from your own swampland requires a permit.*** Getting a permit for legal removal is fairly painless if you plan your project carefully.

1. Investigate and understand the required permits and learn how to obtain them. The entity charged with the enforcement of the Wetlands Protection Act varies from state to state. For more information in your state, contact:

   ME: Department of Environmental Protection
   www.state.me.us/dep/blwq/docstand/nrpapage.htm

   NH: Department of Environmental Services
   www.des.state.nh.us/wetlands/

   VT: Department of Environmental Conservation
   www.anr.state.vt.us/dec/waterq/permits/htm/pm_cud.htm

   MA: Consult your local town conservation commission

   RI: Department of Environmental Management
   www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm

   CT: Consult your local town Inland Wetland and Conservation Commission

2. Consult an individual or organization with experience in this area. Firsthand experience in conducting projects in wetland zones and navigating the permitting process is priceless. Most states have wetland scientist societies whose members are experienced in working in wetlands and navigating the regulations affecting them. A simple Web search will reveal the contact point for these societies. Additionally, most environmental consulting firms and some nonprofit organizations have skills in this area.

3. Develop a well-written and thorough project plan. You are more likely to be successful in obtaining a permit for your project if you submit a project plan along with your permit application. The plan should include the reasons for the project, your objectives in completing the project, how you plan to reach those objectives, and how you will monitor the outcome.

4. Ensure that the herbicides you plan to use are approved for aquatic use. Experts consider most herbicides harmful to water quality or aquatic organisms, but rate some formulations as safe for aquatic use. Do the research and select an approved herbicide, and then closely follow the instructions on the label.

5. If you are unsure—research, study, and most of all, ask for help. Follow the rules. The damage caused to aquatic systems by the use of an inappropriate herbicide or the misapplication of an appropriate herbicide not only damages the environment, but also may reduce public support for safe, well-planned projects.

Section 4
Annual Updates and Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site including NHDES.

Copies of the Stormwater Maintenance report shall be submitted to the Pease Development Authority on an annual basis.

Stormwater Management Report						
Proposed Advanced Manufacturing Facility		**100 New Hampshire Avenue – 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			
Underground Detention			❑Yes ❑No			
Jellyfish Filter Treatment Unit			❑Yes ❑No			

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P0595-015
June 16, 2023

Michael R. Mates, PE
Pease Development Authority
55 International Drive
Portsmouth, NH 03801

Re: **Trip Generation Memorandum**
Distribution Facility
100 New Hampshire Avenue, Portsmouth, NH

Dear Mr. Mates:

Tighe & Bond has prepared this trip generation memorandum as an update to the previously approved *Traffic Impact Assessment*, revised February 17, 2023, for an Advanced Manufacturing Facility located at 100 New Hampshire Avenue within the Pease International Tradeport in Portsmouth, NH. The applicant has revised the proposed use and site layout to construct a 100,000+/- square foot distribution facility in place of the previously proposed and approved advanced manufacturing facility. The revised site design accommodates truck access via two full access driveways on Rochester Avenue: one directly opposite Lee Street, and one east of Newfields Street. Passenger car access will be provided via a full access driveway on New Hampshire Avenue. Visitor/employee parking will be separated from truck parking and loading dock operation by an emergency access gate. The proposed building is expected to be complete and occupied by Fall 2024. This memorandum describes the proposed trip generation based on tenant data, and resultant impact on traffic operations.

Trip Generation

Site generated traffic volumes were estimated using site-specific data provided by the perspective building tenant. The distribution facility is anticipated to be a low throughput facility, operating between 5:00 AM and 5:00 PM with no overnight operations. The facility will utilize approximately 30 box trucks to deliver large-scale items such as large furniture directly to the consumer. These deliveries typically require large amounts of time, often requiring on-site assembly. As such, it is assumed each of the 30 trucks will make two delivery runs each day. Trip generation also assumes up to four large tractor trailer deliveries to provide goods to be partially assembled on site and delivered to the end customer via box truck.

Additionally, the building will be staffed by up to 30 employees who will remain at the facility throughout the day. Based on the trip generation analysis, the facility is expected to generate approximately 288 total trips (160 cars and 128 trucks) per day with the majority of the projected trips occurring outside the peak periods between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The full trip generation summary is shown in Table 1.

The previously developed distribution of site traffic for the full study is expected to remain the same for this tenant. Based on the low throughput of the facility, the proposed development is expected to generate significantly less site traffic than the previously approved advanced manufacturing facility.

Conclusions & Recommendations

1. A 100,000+/- square foot distribution facility is proposed to be constructed on the presently vacant lot on New Hampshire Avenue in the Pease Tradeport area in Portsmouth, NH. The development will provide approximately 74 parking spaces to accommodate employee and visitor parking. A total of 30 truck loading docks and 20 trailer storage spaces will also be provided. The proposed development is expected to be complete and occupied by Fall 2024.

2. Access to the Site will be provided via three full access, unsignalized driveways. One driveway on New Hampshire Avenue will serve passenger cars, while two driveways on Rochester Avenue will serve truck traffic to and from the proposed loading docks. Trucks will access the site to and from Rochester Avenue to the south. The employee and visitor parking area will be separated from the truck parking and loading dock area by an emergency access gate.

3. Based on the program data provided by the perspective tenant, the proposed manufacturing facility is expected to generate 288 trips over a typical weekday with minimal estimated trips during the peak hours. The total number of daily and peak hour trips projected are significantly lower than the previously approved trip generation, which included 996 total trips. Truck trips are also significantly reduced under the proposed site use, with minimal tractor trailer deliveries and up to 30 box trucks providing local delivery of large-scale goods such as furniture.

4. Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the addition of site-generated traffic is expected to have a negligible effect on traffic operations within the study area.

Sincerely,

TIGHE & BOND, INC.

Greg Lucas, PE, PTOE, RSP1
Senior Project Manager

Enclosures Trip Generation Summary (Table 1)
Conceptual Site Plan

J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Report_Evaluation\Traffic Impact Study\Traffic Study Memo Update (June 2023)\100 NH Ave Traffic Memo Update.docx

TABLE 1

Site-Generated Traffic Summary

	Entering Trips					Exiting Trips					Total Trips			
Time Period	**Enter Truck**	**Enter Cars**	**Total Enter**	**% of Total Entering Trips**	**% of Total Entering Trucks**	**Exit Truck**	**Exit Cars**	**Total Exit**	**% of Total Exiting Trips**	**% of Total Exiting Trucks**	**% Total Trips**	**Total Trips**	**Total Trucks**	**Total Cars**
5:00 AM	2	30	32	22.2%	3%			0	0.0%	0%	11.1%	32	2	30
6:00 AM	2	25	27	18.8%	3%			0	0.0%	0%	9.4%	27	2	25
7:00 AM		5	5	3.5%	0%	15		15	10.4%	23%	6.9%	20	15	5
8:00 AM			0	0.0%	0%	15		15	10.4%	23%	5.2%	15	15	0
9:00 AM			0	0.0%	0%	2		2	1.4%	3%	0.7%	2	2	0
10:00 AM			0	0.0%	0%	2		2	1.4%	3%	0.7%	2	2	0
11:00 AM	20		20	13.9%	31%		5	5	3.5%	0%	8.7%	25	20	5
12:00 PM	10	10	20	13.9%	16%	15	15	30	20.8%	23%	17.4%	50	25	25
1:00 PM		10	10	6.9%	0%	15		15	10.4%	23%	8.7%	25	15	10
2:00 PM			0	0.0%	0%			0	0.0%	0%	0.0%	0	0	0
3:00 PM	10		10	6.9%	16%		10	10	6.9%	0%	6.9%	20	10	10
4:00 PM	20		20	13.9%	31%		20	20	13.9%	0%	13.9%	40	20	20
5:00 PM			0	0.0%	0%		30	30	20.8%	0%	10.4%	30	0	30
	64	**80**	**144**	**100.0%**	**100.0%**	**64**	**80**	**144**	**100.0%**	**100.0%**	**100%**	**288**	**128**	**160**

Methodology Notes (based on tenant data)

1. Hours of operation are between 5:00 AM and 5:00 PM
2. Assume delivery trucks leave and return to the site twice during the day
3. Assume maximum of 30 box trucks take two delivery runs per day
4. Maximum of 30 employees who work on site throughout day
5. Assume 30 employee box truck drivers
6. Assume four tractor trailer truck deliveries to site each day

SITE DATA:

LOCATION: TAX MAP 308, LOT 1
80 ROCHESTER AVENUE
PORTSMOUTH, NEW HAMPSHIRE

ZONING DISTRICT: INDUSTRIAL
ALLOWED USE: INDUSTRIAL / WAREHOUSE

DIMENSIONAL REQUIREMENTS:	REQUIRED	PROPOSED
MINIMUM LOT AREA:	10 ACRES	±10.95 ACRES
MINIMUM STREET FRONTAGE:	200 FT	±1,200 FT
MINIMUM SETBACKS:		
• FRONT:	70 FT	51 FT(1)
• SIDE:	50 FT	142 FT
• REAR:	50 FT	150.2 FT
MAXIMUM BUILDING HEIGHT:	PER FAA	36 FT
MINIMUM OPEN SPACE:	25%	±51%

(1) - ON NOVEMBER 15, 2022 THE CITY OF PORTSMOUTH ZONING BOARD OF ADJUSTMENT VOTED TO RECOMMEND APPROVAL TO THE PDA BOARD FOR A VARIANCE FROM PART 304.03(C) TO ALLOW A 51 FOOT FRONT YARD WHERE 70 FEET IS REQUIRED.

PARKING REQUIREMENTS:	REQUIRED	PROPOSED
PARKING STALL LAYOUT:		
• STANDARD 90°	WIDTH: 8.5' MIN AREA: 160 SF MIN	9' X 18' (162 SF)
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT (MIN)
PARKING SPACE REQUIREMENTS:		
INDUSTRIAL:		
2 / 3 EMPLOYEES (LARGEST SHIFT) +1 / COMPANY-OWNED-VEHICLE = 60 EMPLOYEES x 2/3 EMPLOYEES) + 2 COMPANY-OWNED-VEHICLE =	40 SPACES	
TOTAL REQUIRED PARKING:	42 SPACES	74 SPACES(1)

(1) - FOUR (4) ADA SPACES PROVIDED

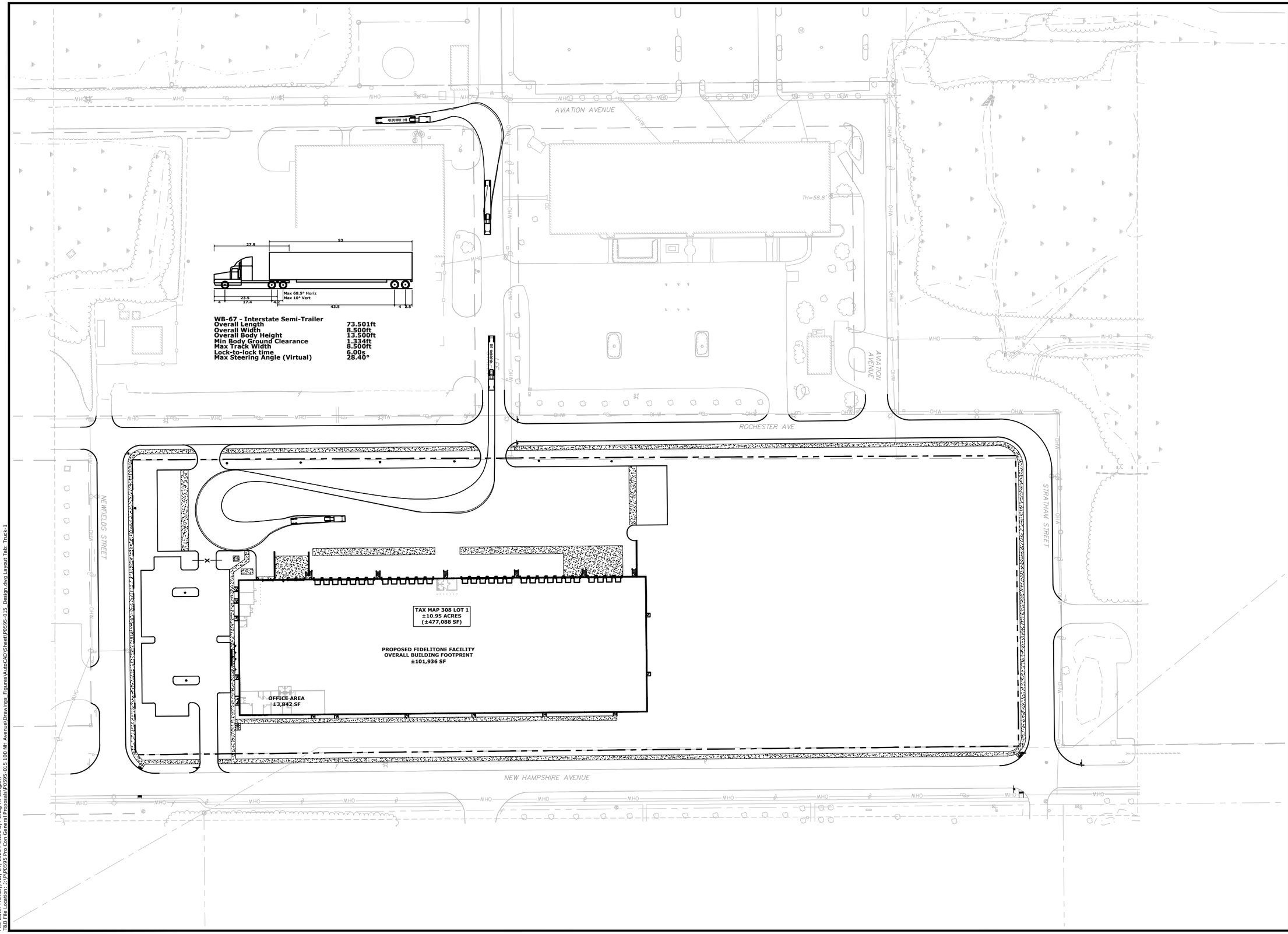
SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

PROPOSED LOGISTICS DISTRIBUTION FACILITY
PORTSMOUTH, NEW HAMPSHIRE

CONCEPTUAL SITE PLAN

FIGURE:	1 OF 1
DATE:	5/30/2023
DRAWN BY:	CML/NHW
CHECKED:	PMC
APPROVED:	PMC

Tighe&Bond



Tighe&Bond

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

Proposed Fidelitone Facility

Aviation Avenue Group, LLC

100 New Hampshire Avenue
Portsmouth, NH

MARK	DATE	DESCRIPTION
F	6/30/2023	DPW Response to Comments
E	6/28/2023	PDA Response to Comments
D	6/16/2023	TAC Resubmission
C	3/29/2023	Planning Board / Revised AoT Submission
B	1/25/2023	TAC Resubmission
A	12/19/2022	TAC Submission

PROJECT NO:	P0595-015
DATE:	12/19/2022
FILE:	P0595-015_DESIGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

WB-67 TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

1 OF 1

EVERSOURCE ENERGY

1700 Lafayette Road
Portsmouth, NH 03801

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

July 21, 2023

Jay Gemmiti
Aviation Avenue Group, LLC
210 Commerce Way
Suite 300
Portsmouth, NH 03801

Dear Mr. Gemmiti:

I am responding to your request to confirm the availability of electric service for the proposed project, which is currently located at 80 Rochester Avenue but will have an address of 100 New Hampshire Avenue upon completion, being constructed by PROCON for Aviation Avenue Group, LLC.

The proposed project consists of a 1-story +/-101,568 SF logistics facility, inclusive of roughly 3,840 SF of office The proposed development will be constructed along New Hampshire Avenue.

The developer will be responsible for the installation of all underground/overhead facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan C-104, dated 7/21/23. The proposed building service will be fed from a new transformer adjacent to the building as determined by Eversource Engineering as depicted on utility plan C-104, dated 7/21/2023. Developer and Tenant wish to serve the building with 1,600 amp, 277/480 volt, 3-phase main electrical service, which will be provided using panelboards and the proposed transformer on the southwest corner of the proposed building. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground/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 "C-104: Utility Plan" dated 7/21/2023, shows transformer and conduit 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.

July 28th, 2023

Jay Gemmiti
Project Manger
Aviation Avenue Group, LLC
210 Commerce Way Suite 300
Portsmouth, NH 03801

Natural Gas to 100 New Hampshire Ave - Portsmouth, NH

Hi Jay,

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 building at 100 New Hampshire Ave - Portsmouth, NH.

If you have any questions, please contact me at 603-534-2379.

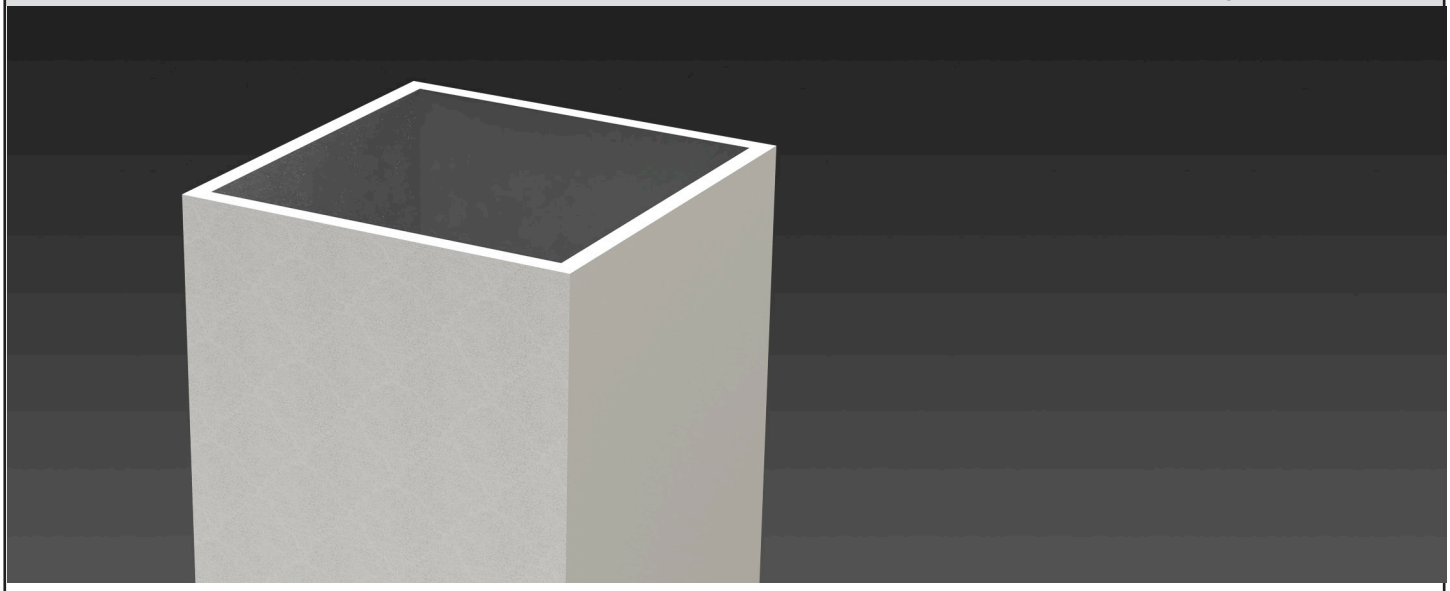
Sincerely,

Dave MacLean
Senior Business Development Rep
Unitil
T 603.294.5261
M 603.534.2379
F 603.294.5264
Email macleand@unitil.com

NLS LIGHTING

SSAP

Square Straight Aluminum Pole



Height
10' - 25'

Pole Shaft
Square straight aluminum 6061 alloy, extruded pole shaft. Heat treated to produce a T6 temper. Ground lug welded inside hand hole opposite side of the Pole Extrusion. Pole shaft is welded to base plate on top and bottom of base plate.

Base Plate
Machined from aluminum. The Base Plate vary in size from 3/4" thick for poles 10 to 20 feet, or 1" thick for poles 20 feet and over.

Anchor Bolts
All anchor bolts are hot dipped galvanized steel and come with two galvanized nuts and washers per bolt. Minimum yield strength 50,000 psi. Anchor bolts are not included for Custom Bolt Circle.

Base Cover
All base covers are fabricated two-piece 6063 aluminum and powder coated to match the pole.

Hand-Hole
A reinforced hand-hole is 12" on center from the base plate and is constructed of 3"x 5" rectangular aluminum tubing which is welded to pole shaft for added strength. The hand-hole covers are provided with internal bridge support and powder coated to match pole finish.

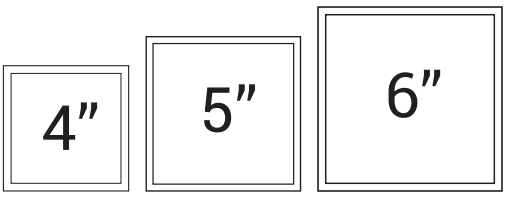
Pole Cap
All poles come with removable polymer pole cap installed. All pole caps are black finish.

Finish
All poles are treated with sand blast media for a near white finish, power blasted with 100 psi prior to powder coat application. Poles are pre-heated then electrostatically applied polyester powder coat with a 3 to 5 mil thickness for maximum adherence.

Marine Grade Finish
All poles are washed through a 5-stage cleaning system with a deionized rinse, a 3 to 5 mils zinc rich durable polyester primer powder coat, followed by a 3 to 5 mils super durable polyester powder coat finish.

Anodized Under Powder
Anodized Under Powder (AUP) poles are dipped in a 3 step process for a clear anodized finish inside and outside of the pole. The final stage is electrostatically applied polyester powder coat with a 3 to 5 mil thickness for maximum adherence.

Vibration Dampener
The Vibration Dampener is factory installed. The Vibration Dampener consists of a rugged galvanized chain coated with heavy duty polyester tubing that is factory secured at the bottom 2-3rds of the pole and field secured by contractor at the base during installation.



Project Name:	Type:

SSAP ORDERING GUIDE

Cat#

Square
Straight
Aluminum Pole
(SSAP)

Height

10′ **(10)**
12′ **(12)**
14′ **(14)**
16′ **(16)**
18′ **(18)**
20′ **(20)**
22′ **(22)**
24′ **(24)**
25′ **(25)**

Pole Dimension

4″ Square
(4S)

5″ Square
(5S)

6″ Square
(6S)

Gauge

.120
Wall Thickness
(120)❶

.188
Wall Thickness
(188)

.25
Wall Thickness
(250)

Base Pattern

(10′-20′)
8 3/16″- 10 3/16″
Bolt Circle
(9BC)

(22′-Over)
11 1/2″- 14″
Bolt Circle
(12BC)

Custom
Bolt Circle
(CBC)
** Consult Factory*

Mounting

Single
(SGL)

Double
(D-90)
(D-180)

Triple
(T-90)

Quad
(QD)

No Drill
(ND)
**Tenon Option*

Tenon

2 3/8″ Round **(T2R)**

3″ Round **(T3R)**

3 1/2″ Round **(T312R)**

4 1/2″ Round **(T412R)**

3 1/2″ Square **(T312S)**

4 1/2″ Square **(T412S)**

5 1/2″ Square **(T512S)**

Color

Bronze Textured
(BRZ)

White Textured
(WHT)

Smooth White
Gloss
(SWT)

Silver
(SVR)

Green Textured
(GRN)

Hunter Green Textured
(HGN)

Black Textured
(BLK)

Smooth Black
Gloss
(SBK)

Graphite Textured
(GPH)

Grey Textured
(GRY)

Custom
(CS)

Bolts

3/4″ x 30″
(3430)

1″ x 36″
(136)

Less Anchor
Bolts
(LAB)

Options

GFI Kit
(GFI20A)
20 Amp
Weather Proof Receptacle

GFI
Provision Only
(PROV)

1/2″ Coupling
(COUP)
** Specify Location*

Vibration Dampener
(VD)

Extra Hand Hole
(XHH)
** Specify Location*

Marine Grade
Finish
(MGF)

Anodized Under Powder
(AUP)

Notes:

❶ .120 Wall Thickness only available in Poles 16′ or shorter.
Pole Dimension of 6″ not available with .120 Wall Thickness.

Max. allowable EPA - SSAP poles (per AASHTO LRFDLTS-1)

Catalog Number	Shaft Length, ft	Wall thick-ness, in.	Shaft dia., in.	Base Plate	Bolt Circle	Bolts	80 mph	Max. wt. (lb)	90 mph	Max. wt. (lb)	100 mph	Max. wt. (lb)	110 mph	Max. wt. (lb)	115 mph	Max. wt., lb	120 mph	Max. wt., lb	130 mph	Max. wt., lb	140 mph	Max. wt., lb	150 mph	Max. wt., lb	160 mph	Max. wt., lb	170 mph	Max. wt., lb	180 mph	Max. wt., lb
SSAP-10-4S-120-9BC	10	0.120	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	8.3	208	7.3	208	6.4	208	5.1	208	4.0	208	3.2	208	2.5	208	1.9	208	1.4	208
SSAP-12-4S-120-9BC	12	0.120	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	6.9	173	5.1	128	4.5	128	4.0	128	3.2	128	2.4	128	1.7	128	1.1	128	0.6	128	--	128
SSAP-14-4S-120-9BC	14	0.120	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	6.0	150	4.6	115	3.3	83	2.8	83	2.5	83	1.5	83	0.8	83	0.2	83	--	83	--	83	--	83
SSAP-15-4S-120-9BC	15	0.120	4	9"sq X 3/4"	9-3/16"	3/4"x30"	7.1	178	4.9	123	3.8	95	2.7	68	2.1	68	1.8	68	1.0	68	0.2	68	--	68	--	68	--	68	--	68
SSAP-16-4S-120-9BC	16	0.120	4	9"sq X 3/4"	9-3/16"	3/4"x30"	5.2	130	3.9	98	2.9	73	1.9	60	1.3	60	0.9	60	0.2	60	--	60	--	60	--	60	--	60	--	60
SSAP-18-4S-120-9BC	18	0.120	4	9"sq X 3/4"	9-3/16"	3/4"x30"	3.7	93	2.6	65	1.6	60	0.7	60	0.3	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-10-4S-188-9BC	10	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	7.9	225	6.4	225	5.4	225	4.4	225	3.8	225
SSAP-12-4S-188-9BC	12	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.4	225	6.4	225	5.2	225	4.2	225	3.2	225	2.6	225	2.0	225
SSAP-14-4S-188-9BC	14	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	7.2	180	6.3	180	5.3	180	4.3	180	3.3	180	2.3	180	1.7	180	1.1	180	0.4	180
SSAP-15-4S-188-9BC	15	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	8.2	205	5.7	143	5.0	143	4.5	143	3.3	143	2.5	143	1.7	143	1.0	143	0.4	143	--	143
SSAP-16-4S-188-9BC	16	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	8.8	220	6.0	150	4.6	115	4.0	115	3.3	115	2.5	115	1.5	115	0.9	115	0.3	115	--	115	--	115
SSAP-18-4S-188-9BC	18	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	8.7	218	5.6	140	4.2	105	3.0	75	2.3	75	2.0	75	1.1	75	0.2	75	--	75	--	75	--	75	--	75
SSAP-20-4S-188-9BC	20	0.188	4	9"sq X 3/4"	9-3/16"	3/4"x30"	5.3	133	4.0	100	2.6	65	1.5	60	1.0	60	0.7	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-22-4S-188-12BC	22	0.188	4	12"sq X 1"	12-3/4"	1"x36"	3.6	90	2.3	60	1.2	60	0.4	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-4S-188-12BC	24	0.188	4	12"sq X 1"	12-3/4"	1"x36"	2.5	63	1.3	60	0.1	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-4S-188-12BC	25	0.188	4	12"sq X 1"	12-3/4"	1"x36"	1.9	60	0.6	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-15-4S-250-9BC	15	0.250	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	8.3	225	7.0	225	5.4	225	4.0	225	3.0	225	1.9	225	1.1	225	0.6	225
SSAP-16-4S-250-9BC	16	0.250	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	7.2	180	6.1	180	5.4	180	4.2	180	3.0	180	2.0	180	1.0	180	0.3	180	--	180
SSAP-18-4S-250-9BC	18	0.250	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	6.6	165	4.9	123	4.1	123	3.5	123	2.4	123	1.3	123	0.4	123	--	123	--	123	--	123
SSAP-20-4S-250-9BC	20	0.250	4	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	6.3	158	4.6	115	3.1	78	2.7	78	2.0	78	0.9	78	--	78	--	78	--	78	--	78	--	78
SSAP-22-4S-250-12BC	22	0.250	4	12"sq X 1"	12-3/4"	1"x36"	5.6	140	4.0	100	2.7	68	1.7	60	1.2	60	0.7	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-4S-250-12BC	24	0.250	4	12"sq X 1"	12-3/4"	1"x36"	4.0	100	2.6	65	1.4	60	0.5	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-4S-250-12BC	25	0.250	4	12"sq X 1"	12-3/4"	1"x36"	3.3	83	2.1	60	0.8	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60

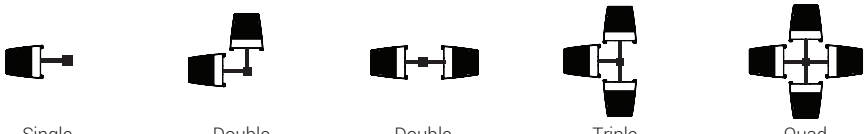
*Pole Assemblies With EPA>9.0 Require Specific Review

4"

***Anchor Bolts are NOT included with Custom Bolt Circle.**
***Do NOT pour concrete referencing this drawing. Consult Factory.**

***All wind loading calculations are based on sustained wind force plus an additional 1.3 gust.**

MOUNTING CONFIGURATION



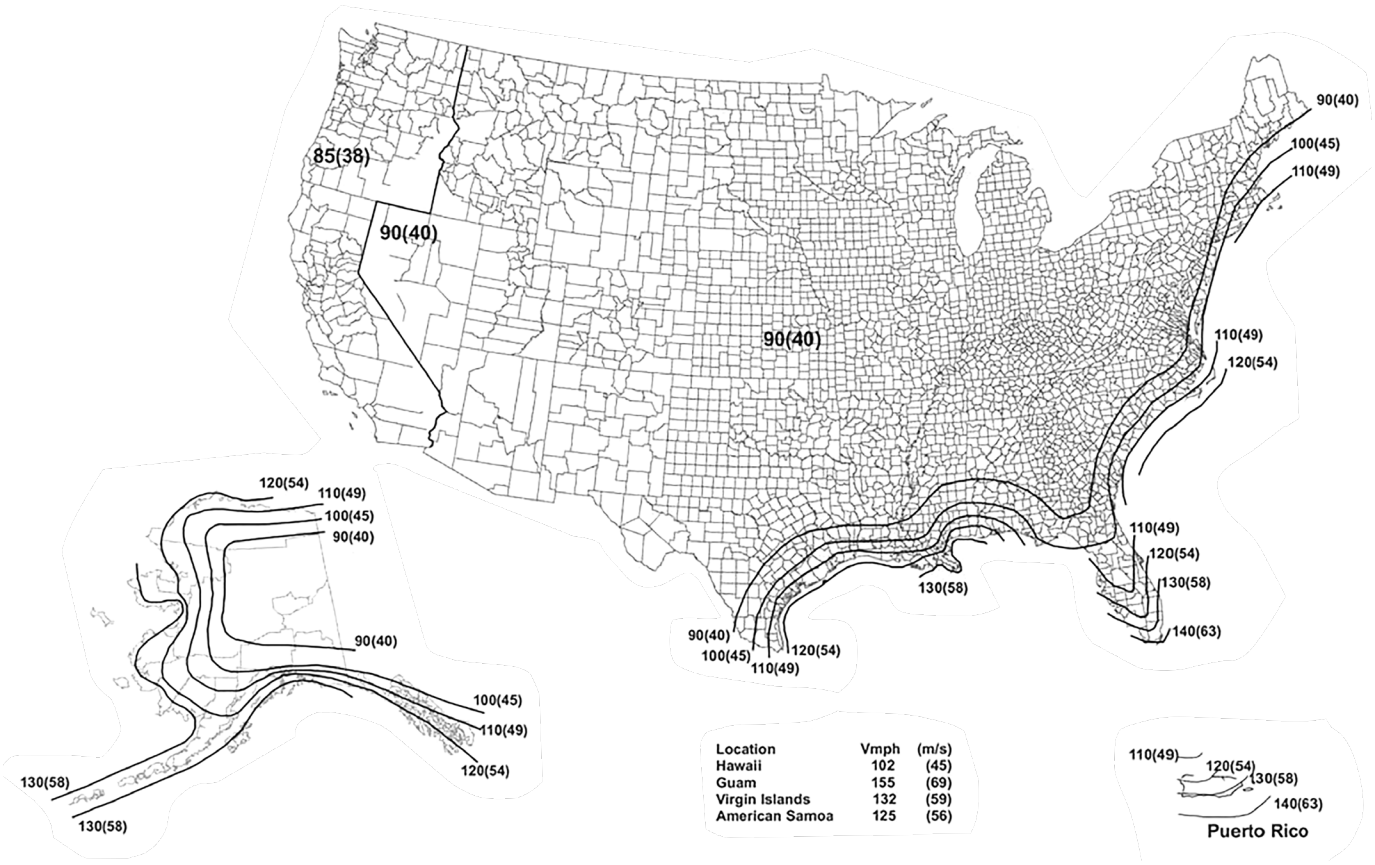
Single **(SGL)** | Double **(D-90)** | Double **(D-180)** | Triple **(T-90)** | Quad **(QD)**

Max. allowable EPA - SSAP poles (per AASHTO LRFDLTS-1)

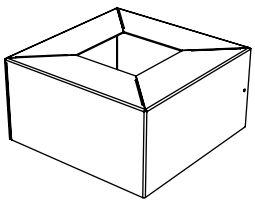
Catalog Number	Shaft Length, ft	Wall thick-ness, in.	Shaft dia., in.	Base Plate	Bolt Circle	Bolts	80 mph	Max. wt. (lb)	90 mph	Max. wt. (lb)	100 mph	Max. wt. (lb)	110 mph	Max. wt. (lb)	115 mph	Max. wt., lb	120 mph	Max. wt., lb	130 mph	Max. wt., lb	140 mph	Max. wt., lb	150 mph	Max. wt., lb	160 mph	Max. wt., lb	170 mph	Max. wt., lb	180 mph	Max. wt., lb
SSAP-10-5S-120-9BC	10	0.120	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.2	225	6.4	225	5.3	225	4.2	225	3.5	225
SSAP-12-5S-120-9BC	12	0.120	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.6	225	6.4	225	4.9	225	3.8	225	3.0	225	2.0	225	1.3	225
SSAP-14-5S-120-9BC	14	0.120	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	7.4	185	6.2	185	5.4	185	3.9	185	2.9	185	1.8	185	1.1	185	0.4	185	--	185
SSAP-15-5S-120-9BC	15	0.120	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	8.4	210	5.9	148	4.9	148	4.2	148	2.9	148	2.0	148	0.9	148	0.3	148	--	148	--	148
SSAP-16-5S-120-9BC	16	0.120	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	6.2	155	4.5	113	3.8	113	3.0	113	2.0	113	0.9	113	0.2	113	--	113	--	113	--	113
SSAP-18-5S-120-9BC	18	0.120	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	6.0	150	4.0	100	2.5	63	1.9	63	1.3	63	0.4	63	--	63	--	63	--	63	--	63	--	63
SSAP-10-5S-188-9BC	10	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	7.7	225	6.1	225	4.9	225	4.1	225
SSAP-12-5S-188-9BC	12	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.0	225	6.1	225	4.7	225	3.7	225	2.6	225	1.9	225
SSAP-14-5S-188-9BC	14	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	8.5	225	7.3	225	5.2	225	3.7	225	2.5	225	1.5	225	0.8	225	0.1	225
SSAP-15-5S-188-9BC	15	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	8.2	205	7.1	205	5.8	205	4.2	205	2.7	205	1.7	205	0.6	205	--	205	--	205
SSAP-16-5S-188-9BC	16	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	6.3	158	5.2	158	4.3	158	2.8	158	1.7	158	0.7	158	--	158	--	158	--	158
SSAP-18-5S-188-9BC	18	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	6.5	163	4.2	105	3.1	105	2.3	105	0.9	105	--	105	--	105	--	105	--	105	--	105
SSAP-20-5S-188-9BC	20	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	7.0	175	4.3	108	2.1	60	1.4	60	0.5	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-22-5S-188-12BC	22	0.188	5	9"sq X 3/4"	9-3/16"	3/4"x30"	7.6	190	4.4	110	2.1	60	0.2	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-5S-188-12BC	24	0.188	5	12"sq X 1"	12-3/4"	1"x36"	6.9	173	4.1	103	2.5	63	0.9	60	0.2	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-5S-188-12BC	25	0.188	5	12"sq X 1"	12-3/4"	1"x36"	5.4	135	3.3	83	1.6	60	0.3	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-10-5S-250-9BC	10	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	7.7	193	6.1	153	4.9	123	4.1	103
SSAP-12-5S-250-9BC	12	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.0	200	6.1	153	4.7	118	3.7	93	2.6	65	1.9	60
SSAP-14-5S-250-9BC	14	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	8.5	213	7.3	183	5.2	130	3.7	93	2.5	63	1.5	60	0.8	60	0.1	60
SSAP-15-5S-250-9BC	15	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	8.2	205	7.1	178	5.8	145	4.2	105	2.7	68	1.7	60	0.6	60	--	60	--	60
SSAP-16-5S-250-9BC	16	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	6.3	158	5.2	130	4.3	108	2.8	70	1.7	60	0.7	60	--	60	--	60	--	60
SSAP-18-5S-250-9BC	18	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	6.5	163	4.2	105	3.1	78	2.3	60	0.9	60	--	60	--	60	--	60	--	60	--	60
SSAP-20-5S-250-9BC	20	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	7.0	175	4.3	108	2.1	60	1.4	60	0.5	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-22-5S-250-12BC	22	0.250	5	9"sq X 3/4"	9-3/16"	3/4"x30"	7.6	190	4.4	110	2.1	60	0.2	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-5S-250-12BC	24	0.250	5	12"sq X 1"	12-3/4"	1"x36"	9.0	225	7.9	198	5.0	125	3.2	80	2.4	60	1.7	60	0.4	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-5S-250-12BC	25	0.250	5	12"sq X 1"	12-3/4"	1"x36"	9.0	225	6.4	160	4.1	103	2.2	60	1.6	60	0.9	60	--	60	--	60	--	60	--	60	--	60	--	60

*Pole Assemblies With EPA>9.0 Require Specific Review

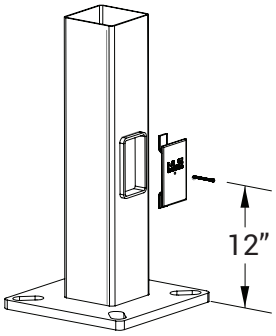
Max. allowable EPA - SSAP poles (per AASHTO LRFDLTS-1)																																
Catalog Number	Shaft Length, ft	Wall thick-ness, in.	Shaft dia., in.	Base Plate	Bolt Circle	Bolts	80 mph	Max. wt. (lb)	90 mph	Max. wt. (lb)	100 mph	Max. wt. (l b)	110 mph	Max. wt. (lb)	115 mph	Max. wt., lb	120 mph	Max. wt., lb	130 mph	Max. wt., lb	140 mph	Max. wt., lb	150 mph	Max. wt., lb	160 mph	Max. wt., lb	170 mph	Max. wt., lb	180 mph	Max. wt., lb
SSAP-10-6S-120-9BC	10	0.120	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.4	210	6.6	165	5.2	130	4.2	105	3.1	78
SSAP-12-6S-120-9BC	12	0.120	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	7.0	175	5.2	130	3.8	95	2.5	63	1.7	60	0.7	60
SSAP-14-6S-120-9BC	14	0.120	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	8.4	210	7.2	180	6.0	150	4.0	100	2.5	63	1.3	60	0.3	60	--	60	--	60
SSAP-16-6S-120-9BC	16	0.120	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	7.6	190	4.9	123	3.9	98	3.1	78	1.7	60	0.3	60	--	60	--	60	--	60	--	60
SSAP-18-6S-120-9BC	18	0.120	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	8.0	200	4.8	120	2.8	70	1.7	60	0.9	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-20-6S-120-12BC	20	0.120	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	8.8	220	5.3	133	3.4	85	2.5	60	1.7	60	0.3	60	--	60	--	60	--	60	--	60	--	60
SSAP-22-6S-120-12BC	22	0.120	6	12"sq X 1"	12-3/4"	1"x36"	8.8	220	5.0	125	3.0	60	1.1	60	0.5	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-6S-120-12BC	24	0.120	6	12"sq X 1"	12-3/4"	1"x36"	5.2	60	3.0	60	1.2	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-6S-120-12BC	25	0.120	6	12"sq X 1"	12-3/4"	1"x36"	4.4	60	2.1	60	0.2	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-10-6S-188-9BC	10	0.188	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.4	210	6.6	165	5.2	130	4.2	105	3.1	78
SSAP-12-6S-188-9BC	12	0.188	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	7.0	175	5.2	130	3.8	95	2.5	63	1.7	60	0.7	60
SSAP-14-6S-188-9BC	14	0.188	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	8.4	210	7.2	180	6.0	150	4.0	100	2.5	63	1.3	60	0.3	60	--	60	--	60
SSAP-16-6S-188-9BC	16	0.188	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	7.8	195	5.1	128	4.1	103	3.2	80	1.5	60	0.4	60	--	60	--	60	--	60	--	60
SSAP-18-6S-188-9BC	18	0.188	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	8.2	205	5.0	125	2.6	65	1.8	60	1.0	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-20-6S-188-12BC	20	0.188	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	9.0	225	9.0	225	8.7	218	7.1	178	5.5	138	3.3	83	1.5	60	--	60	--	60	--	60	--	60
SSAP-22-6S-188-12BC	22	0.188	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	9.0	225	8.4	210	5.1	128	4.0	100	2.7	68	0.8	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-6S-188-12BC	24	0.188	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	9.0	225	5.8	145	2.9	73	1.6	60	0.7	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-6S-188-12BC	25	0.188	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	8.3	208	4.6	115	1.8	60	0.5	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-10-6S-250-9BC	10	0.250	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	8.4	210	6.6	165	5.2	130	4.2	105	3.1	78
SSAP-12-6S-250-9BC	12	0.250	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	9.0	225	7.0	175	5.2	130	3.8	95	2.5	63	1.7	60	0.7	60
SSAP-14-6S-250-9BC	14	0.250	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	9.0	225	8.4	210	7.2	180	6.0	150	4.0	100	2.5	63	1.3	60	0.3	60	--	60	--	60
SSAP-16-6S-250-9BC	16	0.250	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	9.0	225	7.8	195	5.1	128	4.1	103	3.2	80	1.5	60	0.4	60	--	60	--	60	--	60	--	60
SSAP-18-6S-250-9BC	18	0.250	6	9"sq X 3/4"	9-3/16"	3/4"x30"	9.0	225	8.2	205	5.0	125	2.6	65	1.8	60	1.0	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-20-6S-250-12BC	20	0.250	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	9.0	225	9.0	225	8.7	218	7.1	178	5.5	138	3.3	83	1.5	60	--	60	--	60	--	60	--	60
SSAP-22-6S-250-12BC	22	0.250	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	9.0	225	8.4	210	5.1	128	4.0	100	2.7	68	0.8	60	--	60	--	60	--	60	--	60	--	60
SSAP-24-6S-250-12BC	24	0.250	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	9.0	225	5.8	145	2.9	73	1.6	60	0.7	60	--	60	--	60	--	60	--	60	--	60	--	60
SSAP-25-6S-250-12BC	25	0.250	6	12"sq X 1"	12-3/4"	1"x36"	9.0	225	8.3	208	4.6	115	1.8	60	0.5	60	--	60	--	60	--	60	--	60	--	60	--	60	--	60
*Pole Assemblies With EPA>9.0 Require Specific Review																														



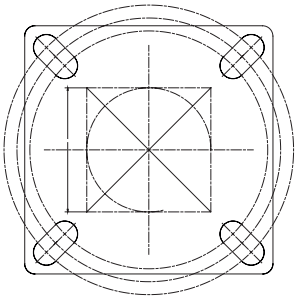
1) All wind load calculations are based on sustained wind force plus and additional 1.3 gust
2) Wind Map is to be used as a reference only. Please coordinate with local agencies for further review.
3) Wind Map values are based on a 50 year mean recurrence. These values do not account for severe conditions, such as hurricanes, tornadoes, etc…
4) For review of poles with additional configurations (arms, banners, shorter/longer pole lengths, etc…), please contact factory.



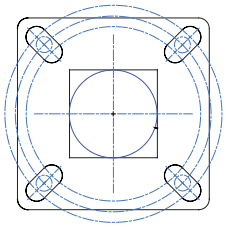
Base Cover



Base Detail



12″ Base Detail



9″ Base Detail

NLS LIGHTING

NV-1

AREA, SITE & ROADWAY

FORM AND FUNCTION

- Sleek, low profile housing
- Spec grade performance
- Engineered for optimum thermal management
- Low depreciation rate
- Reduces energy consumption and costs up to 65%
- Exceeds IES foot candle levels utilizing the least number of poles and fixtures per project
- Optical system designed for:
  - Parking Lots
  - Auto Dealerships
  - General Area Lighting

CONSTRUCTION

- Die Cast Aluminum
- External cooling fins
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- One-piece Optics Plate™ mounting silicone Micro Optics
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB
- Grade 2 Clear Anodized Optics Plate™ standard

FINISH

- 3-5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion, protects against extreme environmental conditions

WARRANTY

Five-year limited warranty for drivers and LEDs.

LED WATTAGE CHART

	16L	32L	48L	64L
350 milliamps	18w	-	-	-
530 milliamps	28w	-	-	-
700 milliamps	36w	71w	104w	136w
1050 milliamps	56w	106w	156w	205w

Project Name:

Type:

Cat#	Light Dist.	# of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options
NV-1 **(NV-1)**	Type 2 **(T2)** Type 3 **(T3)** Type 4 **(T4)** Type 5 **(T5)** Nema 2 24° Narrow Beam **(N2)** Nema 3 30° Narrow Beam **(N3)**	16 **(16L)** 32 **(32L)** 48 **(48L)** 64 **(64L)**	350 **(35)** 530 **(53)** 700 **(7)** 1050 **(1)**	2700K, 70 CRI **(27K7)**❻ 2700K, 80 CRI **(27K8)**❶❻ 3000K, 70 CRI **(30K7)**❻ 3000K, 80 CRI **(30K8)**❶❻ 3500K, 80 CRI **(35K8)** 4000K, 70 CRI **(40K7)** 4000K, 80 CRI **(40K8)**❶ 5000K, 70 CRI **(50K7)** 5000K, 80 CRI **(50K8)**❶	120-277 **(UNV)** 347-480 **(HV)**	Architectural Sweep Arm **(ASA)** Direct Pole 3" Arm Single, D180 **(DPS3)**❷ Direct Pole 7" Arm D180, D90, T90, T120, Quad **(DPS7)**❷ Knuckle Mount **(KM)** Wall Mount **(WM)** Trunnion Mount **(TM)**❸ Tennis Arm **(TA)** Mast Arm **(MA)**	Bronze Textured **(BRZ)** White Textured **(WHT)** Smooth White Gloss **(SWT)** Silver **(SVR)** Black Textured **(BLK)** Smooth Black Gloss **(SBK)** Graphite Textured **(GPH)** Grey Textured **(GRY)** Custom **(CS)**	Bird Spikes **(BS)** Marine Grade Finish **(MGF)** Optic Plate Painted to Match Fixture **(OPP)** Nema 7-Pin Receptacle **(PE7)** Photocell + Receptacle **(PCR)** Receptacle + Shorting Cap **(PER)** FSP-211 with Motion Sensor **(FSP-20)**❹ *9'-20" Heights* **(FSP-40)**❹ *21'-40' Heights* Quick Mount Bracket **(QMB)** Retrofit Mount Bracket **(RQMB)** Round Pole Adaptor 3"- 4" Pole **(RPA4)** Round Pole Adaptor 5"- 6" Pole **(RPA5)** Rotated Optic Left **(ROL)** Rotated Optic Right **(ROR)** Automotive House Side Shield **(AHS)** House Side Shield **(HSS)**❺ Black Hardware **(BH)** Black Optic Frame **(BOF)**

Notes:

❶ Consult Factory for Lead Time. Consult Factory for 90 CRI Requests.
❷ For Round Pole Specify RPA4 or RPA5
❸ Standard finish is stainless steel. Can be painted to match fixture
❹ Universal Voltage 120-277
❺ HSS not applicable with Nema 2 and Nema 3 Optics
❻ 3000K or lower must be selected to meet International Dark-Sky Association certification.

PRODUCT SPECIFICATIONS

ELECTRICAL
- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver
- Driver power factor at maximum load is ≥ .95, THD maximum load is 15%
- LED Drivers Ambient Temp. Min is -40°C and Ambient Temp. Max ranges from 50°C to 55°C and, in some cases, even higher. Consult the factory for revalidation by providing the fixture catalog string before quoting and specifying it.
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP65 compartment
- CRI 70, 80 or 90
- Color temperatures: 2700K, 3000K, 3500K, 4000K, 5000K
- Surge Protection: 20KVA supplied as standard.

CONSTRUCTION
- Die Cast Aluminum
- External cooling fins
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP65 seal for electronics compartment
- One-piece Optics Plate™ mounting silicone Micro Optics
- Two-piece silicone Micro Optic system ensures IP67 level seal around each PCB
- Grade 2 Clear Anodized Optics Plate™ standard

OPTIONS

- BIRD SPIKES (BS) - Offers a practical and humane deterrent for larger bird species and provides a cost-effective long-term solution to nuisance bird infestations and protects your property.

- MARINE GRADE FINISH (MGF) - A multi-step process creating protective finishing coat against harsh environments. Chemically washed in a 5 stage cleaning system. Pre-baked, Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer. Oven Baked. Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.

- OPTIC PLATE PAINTED TO MATCH FIXTURE (OPP) - Optic plate is clear anodized as standard. The optic plate can be powder coated to match the finish of the fixture.

- QUICK MOUNT BRACKET (QMB) - Optional Cast Aluminum Bracket designed for quick mounting on Direct Square or Round Poles. Cleat mounts directly to pole for easily hung fixtures. Has a 2″x4″ Drill Pattern.

- RETROFIT MOUNT BRACKET - Optional Cast Aluminum Bracket designed for quick mounting on Direct Square or Round Poles. Cleat mounts directly to pole for easily hung fixtures. Drill Pattern is adjustable from 2″x4″ to 2″x6″.

- ROUND POLE ADAPTER (RPA) - When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3″-4″ round poles, and RPA5 when installing on 5″-6″ round poles.

- ROTATED OPTICS (ROL) (ROR) - Rotated optics are designed for perimeter lighting for auto dealerships.

- SHIELDS (HSS, AHS) - House Side Shield (HSS) is designed for full property line cut-off. Automotive House Side Shield (AHS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.

- BLACK HARDWARE (BH) - Optional black, zinc coated steel hardware.

- BLACK OPTIC FRAME (BOF) - Optional black optic frame. Standard is white.

CONTROL OPTIONS
- FSP-211 (FSP-X) - Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
  - FSP-20 mounting heights 9-20 feet
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.
  - FSIR-100 commissioning remote is required to change sensor settings. Please contact factory for ordering.

- Controls Agnostics: Please contact factory for your preferred controls option.

- NEMA 7-PIN RECEPTACLE (PE7)—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

- PHOTOCELL + RECEPTACLE (PCR)—7-Pin Receptacle and Electronic Twist Lock Photocell for dusk to dawn operation.

- RECEPTACLE + SHORTING CAP (PER)—7-Pin Receptacle and Shorting Cap.

FINISH
- 3-5 mils electrostatic powder coat.
- NLS Light's standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY
Five-year limited warranty for drivers and LEDs.

OPTICS
Silicone optics high thermal stability and light output provide higher powered LEDs with minimized lumen depreciation. UV stability with scratch resistance increases exterior application durability. Silicone optics do not yellow, crack or brittle over time

LISTINGS
- Certified to UL 1598
- UL 8750
- CSA C22.2 No. 250.0
- DesignLights Consortium® (DLC)
- DesignLights Consortium Premium® (DLCP)
- IP65/ IP67 Rated
- 3G Vibration Rated per ANSI C136.31-2010
- IDA Dark Sky Approved
- IK10 Rated

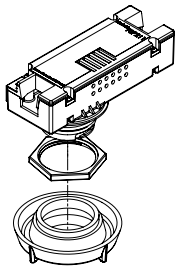
The information and specifications on this document are subject to change without any notification. All values are design, nominal, typical or prorated values when measured under internal and external laboratory conditions.

NLS LIGHTING
701 Kingshill Place, Carson, CA 90746
Call Us Today (310) 341-2037
nlslighting.com

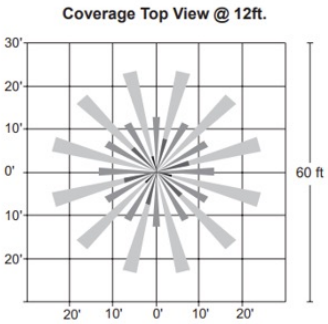
PRODUCT SPECIFICATIONS

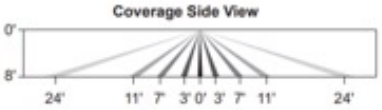
CONTROLS

- **DIMMING CONTROL (FSP)**—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
  - FSP-8 mounting heights 8 feet and below
  - FSP-20 mounting heights 9-20 feet
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.

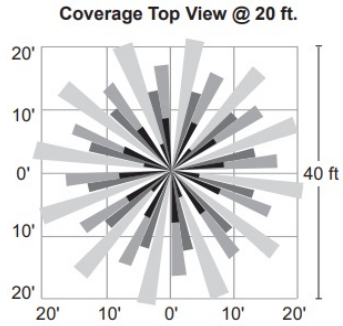


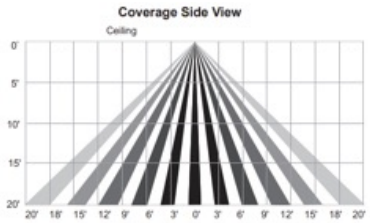
FSP-8



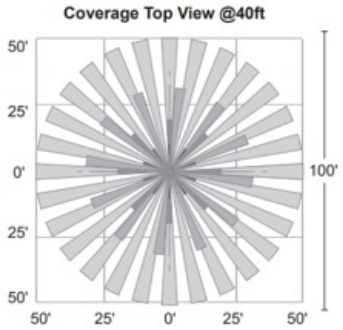


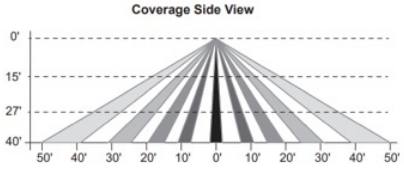
FSP-20



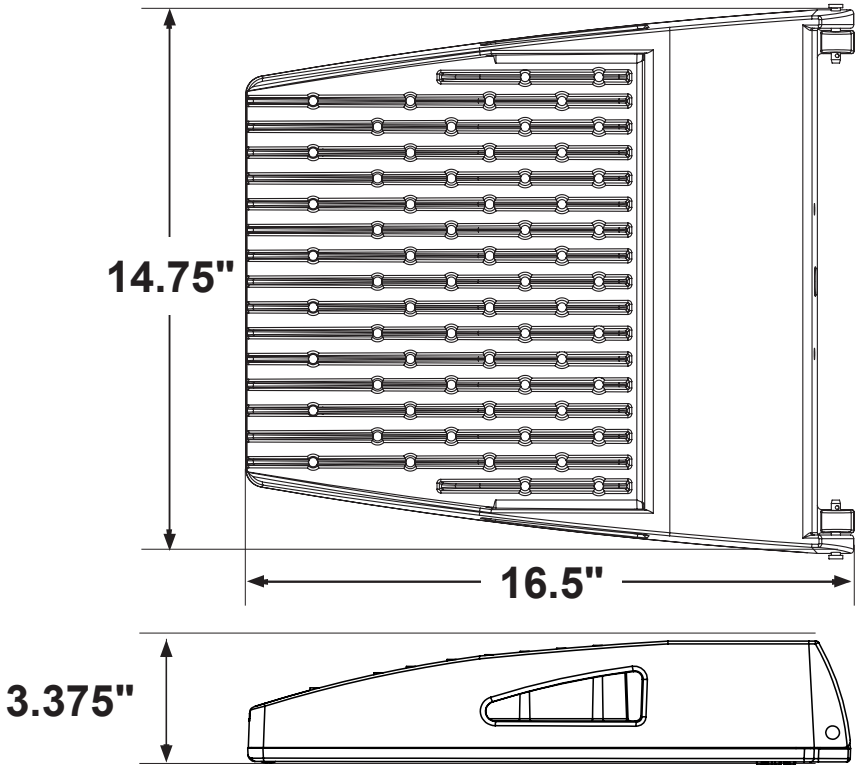


FSP-40





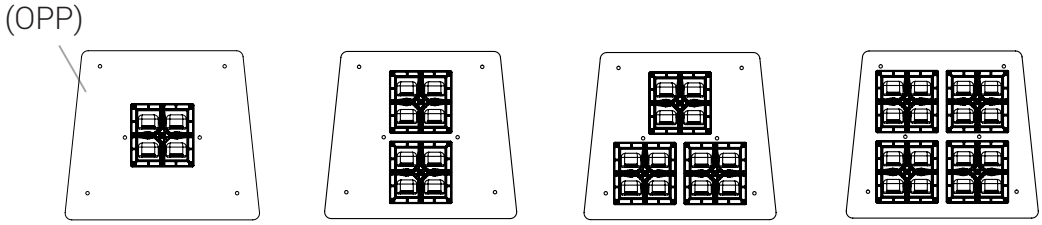
PRODUCT SPECIFICATIONS



Weight: 24 lbs

OPTICAL CONFIGURATIONS

Rotatable Optics (ROR) Rotated Right, (ROL) Rotated Left options available. Optics field and factory rotatable.



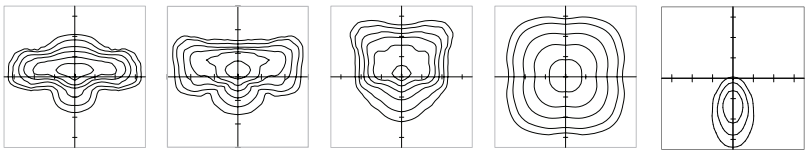
NV-1 / 16L **NV-1 / 32L** **NV-1 / 48L** **NV-1 / 64L**

*** OPTIC PLATE PAINTED TO MATCH FIXTURE FINISH (OPP)**– Optic Plate standard clear anodized, Grade 2. When (OPP) specified, Optic Plate finish will match fixture finish.

OPTICS

Silicone optics high photothermal stability and light output provides higher powered LEDs with minimized lumen depreciation LED life. UV and thermal stability with scratch resistance increases exterior application durability.

- IES Types

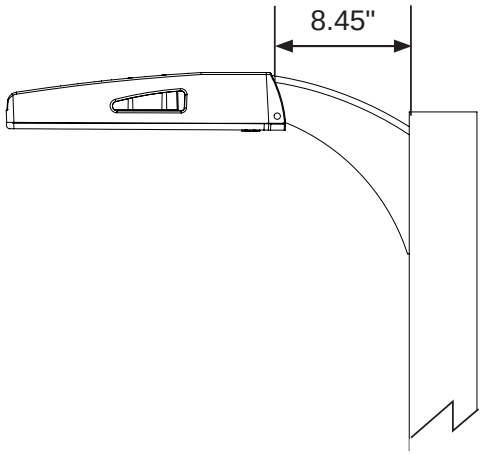


TYPE II (T2) TYPE III (T3) TYPE IV (T4) TYPE V (T5) NEMA 3 (N3)

MOUNTING OPTIONS

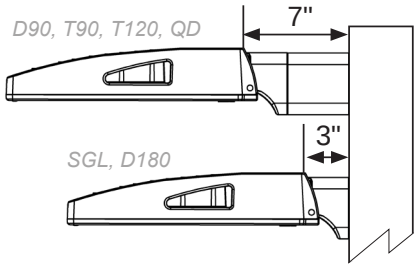
ARCHITECTURAL SWEEP ARM (ASA)

Cast Sweep Arm includes (as standard)
Internal Quick Mount Bracket.



DIRECT POLE (DP)

Standard mounting arm is extruded aluminum in lengths of 3" and 7".
**Arm lengths may vary depending on configuration*

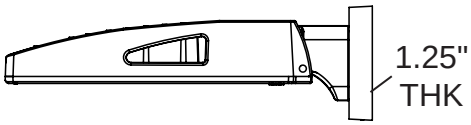


DPX ARM LENGTH

DPX ARM LENGTH	SGL	D90	D180	D180	T90	T120	QD
NV-1	3"	7"	3"	7"	7"	7"	7"

WALL MOUNT (WM)

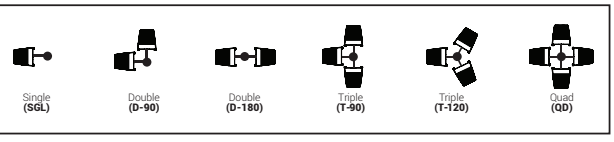
Cast Aluminum Plate for direct wall mount. 3" extruded aluminum arm mounts directly to a cast wall mount box.



EPA

EPA	SGL	D90	D180	T90	T120	QD
NV-1-DP3	0.46		0.92			
NV-1-DP7		1.14	1.05	1.34	1.37	1.34
NV-1-KM	0.54	N/A	1.08	N/A	N/A	N/A
NV-1-ASA	0.75	1.29	1.50	1.99	2.05	1.99

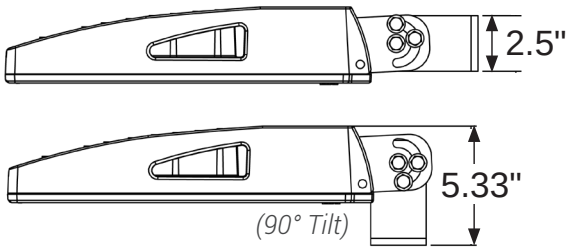
MOUNTING CONFIGURATION



MOUNTING OPTIONS

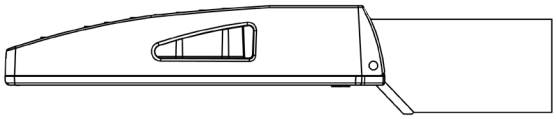
TRUNNION MOUNT (TM)

Steel, bolt-on-mounting for adjustable installation with a maximum uplift of 90 degrees.
**Unpainted stainless steel is standard*



TENNIS ARM (TA)

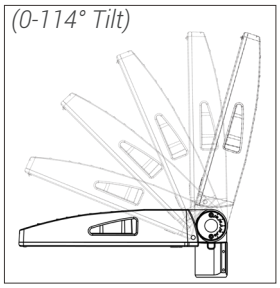
Steel fitter slips over 3.5" x 1.5" rectangular arm.
**See Tennis Arm Spec Sheet for details*

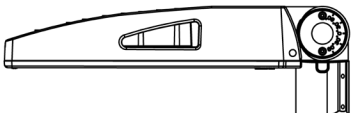


KNUCKLE MOUNT (KM)

Die Cast Knuckle great for adjustable installation on 2-3/8" OD vertical or horizontal tenon.

- Max Up-tilt of 90 degrees
- Adjustable in 6 degree increments
- 1.5G Vibration Rated per ANSI C136.31-2010



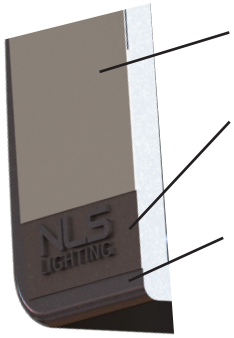


BIRD SPIKES (BS)

Bird Spikes offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.

MARINE GRADE FINISH (MGF)

The **(MGF)** is a multi step process. Chemically washed in a 5 stage cleaning system. Pre-baked. Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer. Oven Baked. Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.



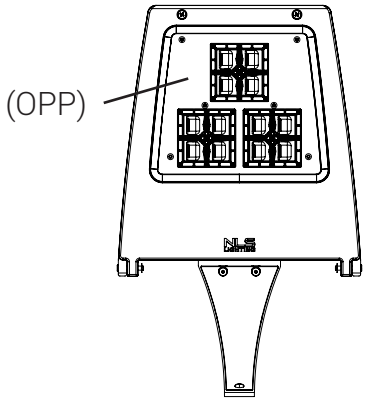
Powder Coat Finish
3-5mm Powder Coat

Primer Layer
3-5mm Zinc Rich
Super Durable Polyester Primer

Prepared Casting
Chemically washed in multi Step 5 stage cleaning process

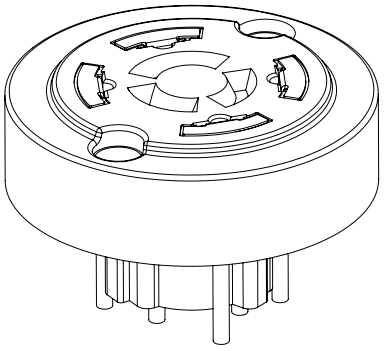
OPTIC PLATE PAINTED TO MATCH (OPP)

Optic plate is clear anodized as standard. The optic plate can be powder coated to match the finish of the fixture.



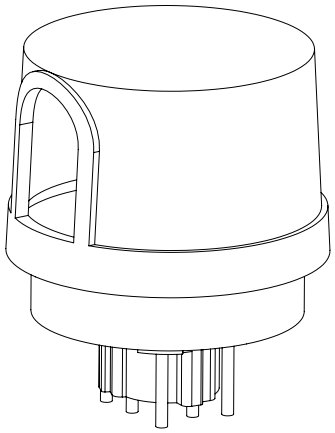
NEMA 7-PIN RECEPTACLE (PE7)

An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.



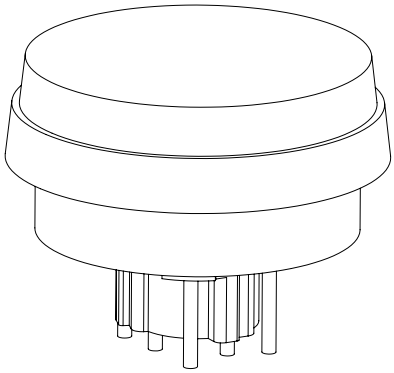
PHOTOCELL + RECEPTACLE (PCR)

7-Pin Receptacle and Electronic Twist Lock Photocell for dusk to dawn operation.



RECEPTACLE + SHORTING CAP (PER)

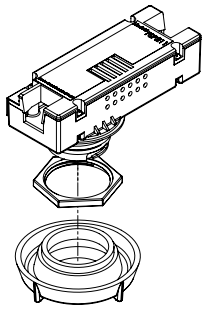
7-Pin Receptacle and Shorting Cap.



FSP-211 WITH MOTION SENSOR (FSP-XX)

- FSP-211 (FSP-X)—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
- All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
- FSP-20 mounting heights 9-20 feet
- FSP-40 mounting heights 21-40 feet.
- Includes 5 dimming event cycles, 0-10V dimming with motion sensing, re-programmable in the field.

FSP-211



QUICK MOUNT BRACKET (QMB)

Optional Cast Aluminum Bracket designed for quick mounting on Direct Square or Round Poles. Cleat mounts directly to pole for easily hung fixtures. Has a 2”x4” Drill Pattern.

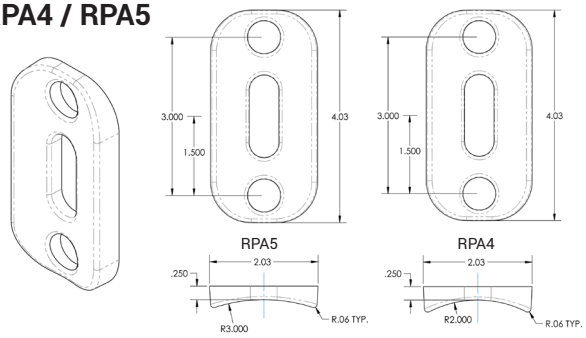
RETROFIT MOUNT BRACKET (RQMB)

Optional Cast Aluminum Bracket designed for quick mounting on Direct Square or Round Poles. Cleat mounts directly to pole for easily hung fixtures. Drill Pattern is adjustable from 2"x4" to 2"x6".

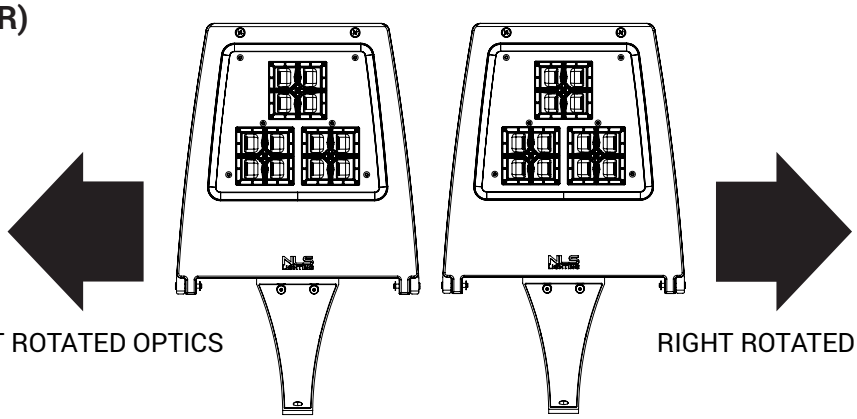
ROUND POLE ADAPTER OPTIONS (RPA4) (RPA5)

When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3"-4" round poles, and RPA5 when installing on 5"-6" round poles.

RPA4 / RPA5



ROTATED OPTICS (ROL) (ROR)



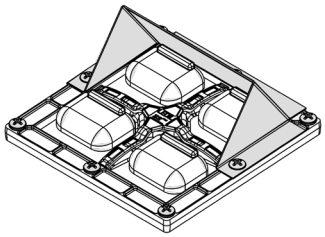
LEFT ROTATED OPTICS

RIGHT ROTATED OPTICS

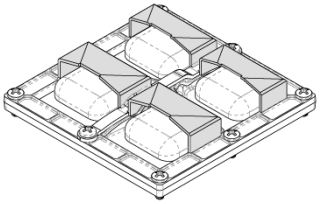
SHIELDING OPTIONS (AHS) (HSS)

SHIELDS (HSS, AHS)—House Side Shield (HSS) is designed for full property line cut-off. Automotive House Side Shield (AHS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.

AUTOMOTIVE HOUSE SIDE SHIELD

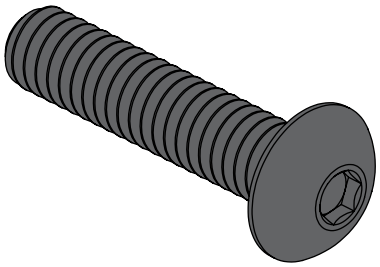


HOUSE SIDE SHIELD



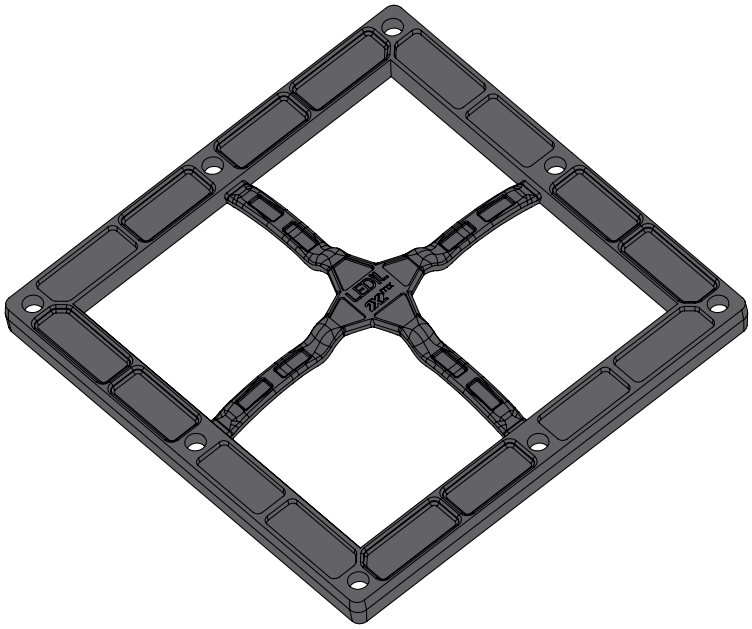
BLACK HARDWARE

Optional black, zinc coated steel hardware.



BLACK OPTIC FRAME

Optional Black Optic Frame.
Standard is white.



LUMENS

PART NUMBER	N3	LM/W	T2	LM/W	DLC	T3	LM/W	DLC	T3 HSS	LM/W	T4	LM/W	DLC	T4 AHS	LM/W	T4 HSS	LM/W	T5	LM/W	DLC	W
NV-1-16L-35-30K7	2016	112	2106	117	P	2106	117	P	1134	63	2187	116	P	1296	72	1116	62	2231	118	P	18
NV-1-16L-35-40K7	2088	116	2268	126	P	2286	127	P	1206	67	2250	125	P	1368	76	1188	66	2304	128	P	18
NV-1-16L-35-50K7	2160	120	2376	132	P	2394	133	P	1278	71	2358	131	P	1440	80	1260	70	2412	134	P	18
NV-1-16L-53-30K7	3136	112	3192	114	P	3220	115	P	1764	63	3119	113	P	2016	72	1736	62	3248	116	P	28
NV-1-16L-53-40K7	3248	116	3472	124	P	3472	124	P	1876	67	3444	123	P	2128	76	1848	66	3500	125	P	28
NV-1-16L-53-50K7	3360	120	3612	129	P	3640	130	P	1988	71	3584	128	P	2240	80	1960	70	3668	131	P	28
NV-1-16L-7-30K7	4032	112	3960	110	P	3960	110	P	2268	63	3973	109	P	2592	72	2232	62	3996	111	P	36
NV-1-16L-7-40K7	4176	116	4428	123	P	4284	119	P	2412	67	4212	117	P	2736	76	2376	66	4320	120	P	36
NV-1-16L-7-50K7	4320	120	4644	129	P	4500	125	P	2556	71	4428	123	P	2880	80	2520	70	4500	125	P	36
NV-1-16L-1-30K7	6272	112	6160	110	S	6384	114	P	3528	63	6232	112	P	4032	72	3472	62	6440	115	P	56
NV-1-16L-1-40K7	6496	116	6832	122	P	6888	123	P	3752	67	6776	121	P	4256	76	3696	66	6944	124	P	56
NV-1-16L-1-50K7	6720	120	7168	128	P	7224	129	P	3976	71	7112	127	P	4480	80	3920	70	7280	130	P	56
NV-1-32L-7-30K7	7952	112	7810	110	S	7810	110	S	4473	63	7739	109	S	5112	72	4402	62	7881	111	S	71
NV-1-32L-7-40K7	8236	116	9017	127	P	8449	119	P	4757	67	8307	117	P	5396	76	4686	66	8520	120	P	71
NV-1-32L-7-50K7	8520	120	9159	129	P	8875	125	P	5041	71	8733	123	P	5680	80	4970	70	8946	126	P	71
NV-1-32L-1-30K7	11872	112	11660	110	S	12084	114	S	6678	63	11820	112	S	7632	72	6572	62	12190	115	S	106
NV-1-32L-1-40K7	12296	116	12932	122	P	13038	123	P	7102	67	12826	121	P	8056	76	6996	66	13144	124	P	106
NV-1-32L-1-50K7	12720	120	13568	128	P	13674	129	P	7526	71	13462	127	P	8480	80	7420	70	13780	130	P	106
NV-1-48L-7-30K7	11648	112	11440	110	S	11440	110	S	6552	63	11336	109	S	7488	72	6448	62	11544	111	S	104
NV-1-48L-7-40K7	12064	116	13208	127	P	12376	119	P	6968	67	12168	117	P	7904	76	6864	66	12480	120	P	104
NV-1-48L-7-50K7	12480	120	13520	130	P	13000	125	P	7384	71	12792	123	P	8320	80	7280	70	13104	126	P	104
NV-1-48L-1-30K7	17472	112	17160	110	S	17784	114	S	9828	63	17472	112	S	11232	72	9672	62	17940	115	S	156
NV-1-48L-1-40K7	18096	116	19032	122	P	19188	123	P	10452	67	18876	121	P	11856	76	10296	66	19344	124	P	156
NV-1-48L-1-50K7	18720	120	19968	128	P	20124	129	P	11076	71	19812	127	P	12480	80	10920	70	20280	130	P	156
NV-1-64L-7-30K7	15232	112	14960	110	S	14960	110	S	8568	63	14824	109	S	9792	72	8432	62	15096	111	S	136
NV-1-64L-7-40K7	15776	116	17272	127	P	16184	119	P	9112	67	15912	117	P	10336	76	8976	66	16320	120	P	136
NV-1-64L-7-50K7	16320	120	17680	130	P	17000	125	P	9656	71	16728	123	P	10880	80	9520	70	17136	126	P	136
NV-1-64L-1-30K7	22960	112	22550	110	S	23370	114	S	12915	63	22960	112	S	14760	72	12710	62	23575	115	S	205
NV-1-64L-1-40K7	23780	116	25010	122	P	25215	123	P	13735	67	24805	121	P	15580	76	13530	66	25420	124	P	205
NV-1-64L-1-50K7	24600	120	26240	128	P	26445	129	P	14555	71	26035	127	P	16400	80	14350	70	26650	130	P	205

3000k or warmer must be selected to meet International Dark-Sky Association certification.

BUG RATINGS

PART NUMBER	T2	T3	T3 HSS	T4	T4 HSS	T5
NV-1-16L-35-30K7	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV-1-16L-35-40K7	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV-1-16L-35-50K7	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G2
NV-1-16L-53-30K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B2-U0-G1
NV-1-16L-53-40K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B2-U0-G1
NV-1-16L-53-50K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B2-U0-G1
NV-1-16L-7-30K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-7-40K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-7-50K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-1-30K7	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-1-40K7	B1-U0-G1	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B3-U0-G2
NV-1-16L-1-50K7	B1-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B3-U0-G2
NV-1-32L-7-30K7	B1-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B3-U0-G2
NV-1-32L-7-40K7	B1-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G2	B3-U0-G2
NV-1-32L-7-50K7	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B3-U0-G2
NV-1-32L-1-30K7	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-32L-1-40K7	B2-U0-G2	B2-U0-G2	B0-U0-G2	B3-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-32L-1-50K7	B2-U0-G2	B3-U0-G3	B0-U0-G2	B3-U0-G3	B0-U0-G2	B4-U0-G2
NV-1-48L-7-30K7	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-48L-7-40K7	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-48L-7-50K7	B2-U0-G2	B3-U0-G3	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-48L-1-30K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-48L-1-40K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-1-48L-1-50K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-1-64L-7-30K7	B2-U0-G2	B3-U0-G3	B0-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-64L-7-40K7	B3-U0-G3	B3-U0-G3	B0-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-64L-7-50K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-64L-1-30K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G3	B5-U0-G3
NV-1-64L-1-40K7	B3-U0-G3	B3-U0-G3	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-1-64L-1-50K7	B3-U0-G3	B3-U0-G3	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3

Lumen Maintenance Data							
Ambient Temperature	Drive Current	L90 Hours*	L70 Hours**	30,000 Hours*	50,000 Hours*	60,00 Hours*	100,000 Hours**
25°C	Up to 700mA	58,000	173,000	95.7%	91.6%	89.6%	82.1%
	1050mA	48,000	143,000	94.3%	89.5%	87.2%	78.5%

*Reported extrapolations per IESNA TM-21 **Projected extrapolations per IESNA TM-21

NV-2

AREA LIGHTING

FORM AND FUNCTION
- Sleek, low profile housing
- Spec grade performance
- Engineered for optimum thermal management
- Low depreciation rate
- Reduces energy consumption and costs up to 65%
- Exceeds IES foot candle levels utilizing the least number of poles and fixtures per project
- Optical system designed for:
  - Parking Lots
  - Auto Dealerships
  - General Area Lighting

CONSTRUCTION
- Die Cast Aluminum
- External cooling fins
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- One-piece Optics Plate™ mounting silicone Micro Optics
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB
- Grade 2 Clear Anodized Optics Plate™ standard

FINISH
- 3-5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY
Five-year limited warranty for drivers and LEDs.


NV-2 with DPS6

LISTINGS
- Certified to UL 1598
- UL 8750
- CSA C22.2 No. 250.0
- DesignLights Consortium® (DLC)
- DesignLights Consortium Premium® (DLCP)
- IP65/ IP67 Rated
- 3G Vibration Rated per ANSI C136.31-2010
- IDA Dark Sky Approved

LED WATTAGE CHART

	80L	96L	112L	128L
700 milliamps	168w	200w	243w	265w
1050 milliamps	263w	316w	366w	409w

Project Name:

Type:

Cat#	Light Dist.	# of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options
NV-2 **(NV-2)**	Type 2 **(T2)** Type 3 **(T3)** Type 4 **(T4)** Type 5 **(T5)** Nema 3 30° Narrow Beam **(N3)**	80 **(80L)** 96 **(96L)** 112 **(112L)** 128 **(128L)**	700 **(7)** 1050 **(1)**	2700K, 70 CRI **(27K7)** ❻ 2700K, 80 CRI **(27K8)** ❶ ❻ 3000K, 70 CRI **(30K7)** ❻ 3000K, 80 CRI **(30K8)** ❶ ❻ 3500K, 80 CRI **(35K8)** 4000K, 70 CRI **(40K7)** 4000K, 80 CRI **(40K8)** ❶ 5000K, 70 CRI **(50K7)** 5000K, 80 CRI **(50K8)** ❶	120-277 **(UNV)** 347-480 **(HV)**	Direct Pole 6" Arm Single, D180 **(DPS6)** ❷ Direct Pole 11" Arm D90, T90, T120, Quad **(DPS11)** ❷ Knuckle Mount **(KM)** Wall Mount **(WM)** Trunnion Mount **(TM)** ❸ Tennis Arm **(TA)** Mast Arm **(MA)**	Bronze Textured **(BRZ)** White Textured **(WHT)** Smooth White Gloss **(SWT)** Silver **(SVR)** Black Textured **(BLK)** Smooth Black Gloss **(SBK)** Graphite Textured **(GPH)** Grey Textured **(GRY)** Custom **(CS)**	Bird Spikes **(BS)** Marine Grade Finish **(MGF)** Optic Plate Painted to Match Fixture **(OPP)** Nema 7-Pin Receptacle **(PE7)** Photocell + Receptacle **(PCR)** Receptacle + Shorting Cap **(PER)** FSP-211 with Motion Sensor **(FSP-20)** ❹ *9'-20" Heights* **(FSP-40)** ❹ *21'-40' Heights* Quick Mount Bracket **(QMB)** Retrofit Mount Bracket **(RQMB)** Round Pole Adaptor 3"- 4" Pole **(RPA4)** Round Pole Adaptor 5"- 6" Pole **(RPA5)** Rotated Optic Left **(ROL)** Rotated Optic Right **(ROR)** Automotive House Side Shield **(AHS)** House Side Shield **(HSS)** ❺

Notes:
❶ Consult Factory for Lead Time. Consult Factory for 90 CRI Requests
❷ Standard finish is stainless steel. Can be painted to match fixture
❸ For Round Pole Specify RPA4 or RPA5
❹ Universal Voltage 120-277
❺ HSS not applicable with Nema 2
❻ 3000K or lower must be selected to meet International Dark-Sky Association certification.

ELECTRICAL

- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver
- Driver power factor at maximum load is ≥ .95, THD maximum load is 15%
- LED Drivers Ambient Temp. Min is -40°C and Ambient Temp. Max ranges from 50°C to 55°C and, in some cases, even higher. Consult the factory for revalidation by providing the fixture catalog string before quoting and specifying it.
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP-65 compartment
- CRI 70, 80 or 90
- Color temperatures: 2700K, 3000K, 3500K, 4000K, 5000K
- Surge Protection: 20KA supplies as standard.

OPTIONS

- **BIRD SPIKES (BS)**—Offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.
- **MARINE GRADE FINISH (MGF)**—A multi-step process creating protective finishing coat against harsh environments.
  - Chemically washed in a 5 stage cleaning system.
  - Pre-baked
  - Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer.
  - 1-2 feet inside pole coverage top and bottom.
  - Oven Baked.
  - Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.
- **SHIELDS (HSS, AHS)**—House Side Shield (HSS) is designed for full property line cut-off. Automotive House Side Shield (AHS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.
- **ROUND POLE ADAPTER (RPA)–** When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3"-4" round poles, and RPA5 when installing on 5"-6" round poles.

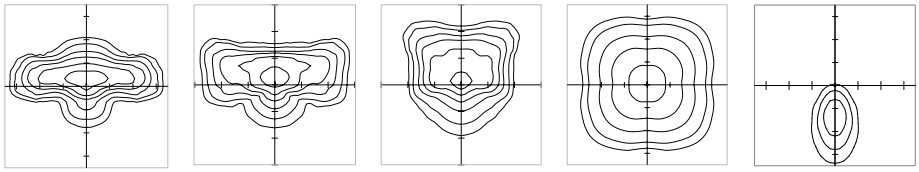
CONTROLS

- **FSP-211 (FSP-X)**—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
  - FSP-20 mounting heights 9-20 feet
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, reprogrammable in the field.
  - FSIR-100 commissioning remote is required to change sensor settings. Please contact factory for ordering.
- **NEMA 7-PIN RECEPTACLE (PE7)**—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

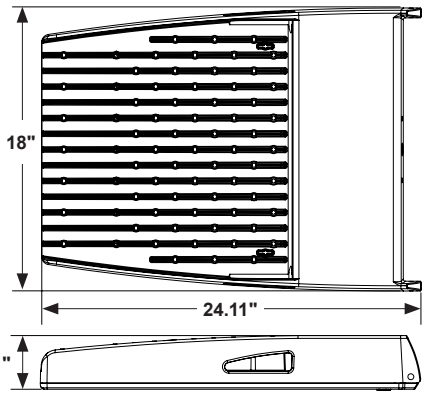
OPTICS

Silicone optics high photothermal stability and light output provides higher powered LEDs with minimized lumen depreciation LED life. UV and thermal stability with scratch resistance increases exterior application durability.

- IES Types

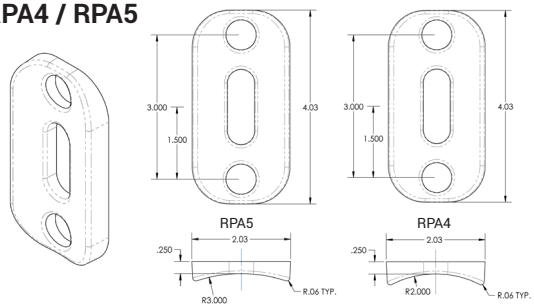


TYPE II (T2) | TYPE III (T3) | TYPE IV (T4) | TYPE V (T5) | NEMA 3 (N3)

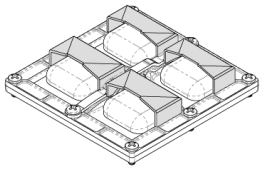


Weight: 42 lbs

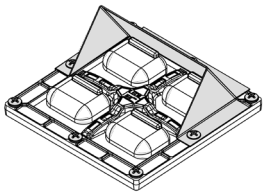
RPA4 / RPA5



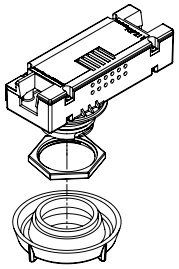
HOUSE SIDE SHIELD



AUTOMOTIVE HOUSE SIDE SHIELD



FSP-211



The information and specifications on this document are subject to change without any notification. All values are design, nominal, typical or prorated values when measured under internal and external laboratory conditions.

LUMENS

PART NUMBER	N3	LM/W	T2	LM/W	DLC	T3	LM/W	DLC	T3 HSS	LM/W	T4	LM/W	DLC	T4 AHS	LM/W	T4 HSS	LM/W	T5	LM/W	DLC	W
NV-2-80L-7-30K7	18816	112	19744	116	S	19218	113	S	9744	58	18992	112	S	12096	72	9576	57	19713	117	P	168
NV-2-80L-7-40K7	19488	116	21000	125	P	20328	121	P	10416	62	20160	120	P	12768	76	10248	61	21168	126	P	168
NV-2-80L-7-50K7	20160	120	21672	129	P	21168	126	P	11088	66	21000	125	P	13440	80	10920	65	21840	130	P	168
NV-2-80L-1-30K7	29456	112	28141	107	S	27352	104	S	15254	58	30245	115	S	18936	72	14991	57	29193	111	S	263
NV-2-80L-1-40K7	30508	116	30245	115	S	29456	112	S	16306	62	32086	122	S	19988	76	16043	61	31297	119	S	263
NV-2-80L-1-50K7	31560	120	31297	119	P	30508	116	S	17358	66	33664	128	P	21040	80	17095	65	33138	126	P	263
NV-2-96L-7-30K7	22400	112	23200	116	S	22600	113	S	11600	58	22400	112	S	14400	72	11400	57	23400	117	S	200
NV-2-96L-7-40K7	23200	116	25000	125	P	24200	121	P	12400	62	24000	120	P	15200	76	12200	61	25200	126	P	200
NV-2-96L-7-50K7	24000	120	25800	129	P	25200	126	P	13200	66	25000	125	P	16000	80	13000	65	26000	130	P	200
NV-2-96L-1-30K7	35392	112	33812	107	S	32864	104	S	18328	58	36340	115	S	22752	72	18012	57	35076	111	S	316
NV-2-96L-1-40K7	36656	116	36340	115	S	35392	112	S	19592	62	38552	122	S	24016	76	19276	61	37604	119	S	316
NV-2-96L-1-50K7	37920	120	37604	119	P	36656	116	S	20856	66	40448	128	P	25280	80	20540	65	39816	126	P	316
NV-2-112L-7-30K7	27216	112	28188	116	S	27459	113	S	14094	58	27216	112	S	17496	72	13851	57	28431	117	P	243
NV-2-112L-7-40K7	28188	116	30375	125	P	29403	121	P	15066	62	29160	120	P	18468	76	14823	61	30618	126	P	243
NV-2-112L-7-50K7	29160	120	31347	129	P	30618	126	P	16038	66	30375	125	P	19440	80	15795	65	31590	130	P	243
NV-2-112L-1-30K7	40992	112	39162	107	S	38064	104	S	21228	58	42090	115	S	26352	72	20862	57	40626	111	S	366
NV-2-112L-1-40K7	42456	116	42090	115	S	40992	112	S	22692	62	44652	122	S	27816	76	22326	61	43554	119	S	366
NV-2-112L-1-50K7	43920	120	43554	119	P	42456	116	S	24156	66	46848	128	P	29280	80	23790	65	46116	126	P	366
NV-2-128L-7-30K7	29680	112	30740	116	S	29945	113	S	15370	58	29680	112	S	19080	72	15105	57	31005	117	P	265
NV-2-128L-7-40K7	30740	116	33125	125	P	32065	121	P	16430	62	31800	120	P	20140	76	16165	61	33390	126	P	265
NV-2-128L-7-50K7	31800	120	34185	129	P	33390	126	P	17490	66	33125	125	P	21200	80	17225	65	34450	130	P	265
NV-2-128L-1-30K7	45808	112	43763	107	S	42536	104	S	23722	58	47035	115	S	29448	72	23313	57	45399	111	S	409
NV-2-128L-1-40K7	47444	116	47035	115	S	45808	112	S	25358	62	49898	122	S	31084	76	24949	61	48671	119	S	409
NV-2-128L-1-50K7	49080	120	48671	119	P	47445	116	S	26994	66	52352	128	P	33129	81	26585	65	51534	126	P	409

3000k or warmer must be selected to meet International Dark-Sky Association certification.

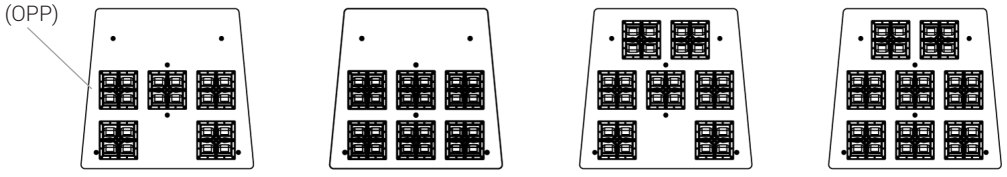
***DLC** *S= Standard* *P= Premium*

BUG RATINGS

PART NUMBER	T2	T3	T3 HSS	T4	T4 HSS	T5
NV-2-80L-7-30K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-2-80L-7-40K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-2-80L-7-50K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-2-80L-1-30K7	B3-U0-G3	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-2-80L-1-40K7	B3-U0-G3	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-2-80L-1-50K7	B3-U0-G4	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G4
NV-2-96L-7-30K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-2-96L-7-40K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-2-96L-7-50K7	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-2-96L-1-30K7	B3-U0-G4	B4-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G4
NV-2-96L-1-40K7	B3-U0-G4	B4-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G4	B5-U0-G4
NV-2-96L-1-50K7	B3-U0-G4	B4-U0-G4	B1-U0-G4	B3-U0-G4	B1-U0-G4	B5-U0-G4
NV-2-112L-7-30K7	B3-U0-G3	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-2-112L-7-40K7	B3-U0-G3	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-2-112L-7-50K7	B3-U0-G4	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G4
NV-2-112L-1-30K7	B4-U0-G4	B4-U0-G4	B1-U0-G4	B4-U0-G5	B1-U0-G4	B5-U0-G4
NV-2-112L-1-40K7	B4-U0-G4	B4-U0-G4	B1-U0-G4	B4-U0-G5	B1-U0-G4	B5-U0-G4
NV-2-112L-1-50K7	B4-U0-G4	B4-U0-G4	B1-U0-G4	B4-U0-G5	B1-U0-G4	B5-U0-G4
NV-2-128L-7-30K7	B3-U0-G3	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G4
NV-2-128L-7-40K7	B3-U0-G3	B3-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G4
NV-2-128L-7-50K7	B3-U0-G4	B4-U0-G4	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G4
NV-2-128L-1-30K7	B4-U0-G4	B4-U0-G4	B1-U0-G4	B4-U0-G5	B1-U0-G4	B5-U0-G4
NV-2-128L-1-40K7	B4-U0-G4	B4-U0-G4	B1-U0-G4	B4-U0-G5	B1-U0-G4	B5-U0-G4
NV-2-128L-1-50K7	B4-U0-G4	B4-U0-G5	B1-U0-G4	B4-U0-G5	B1-U0-G4	B5-U0-G5

OPTICAL CONFIGURATIONS

Rotatable Optics (ROR) Rotated Right, (ROL) Rotated Left options available. Optics field and factory rotatable.



NV-2 / 80L **NV-2 / 96L** **NV-2 / 112L** **NV-2 / 128L**

*** OPTIC PLATE PAINTED TO MATCH FIXTURE FINISH (OPP)**– Optic Plate standard clear anodized, Grade 2. When (OPP) specified, Optic Plate finish will match fixture finish.

EPA

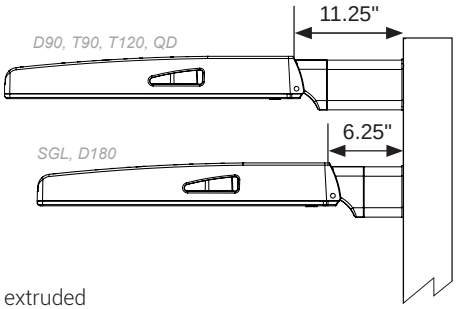
EPA	SGL	D90	D180	T90	T120	QD
NV-2-DP	0.89	1.22	1.78	1.96	1.91	1.96
NV-2-KM	0.69	1.18	1.38	1.85	2.68	1.85
NV-2-ASA	0.98	1.96	1.75	2.66	2.62	2.66

Lumen Maintenance Data							
Ambient Temperature	Drive Current	L90 Hours*	L70 Hours**	30,000 Hours*	50,000 Hours*	60,00 Hours*	100,000 Hours**
25°C	Up to 700mA	58,000	173,000	95.7%	91.6%	89.6%	82.1%
	1050mA	48,000	143,000	94.3%	89.5%	87.2%	78.5%
*Reported extrapolations per IESNA TM-21			**Projected extrapolations per IESNA TM-21				

DPX ARM LENGTH

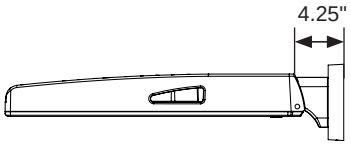
DPX ARM LENGTH	SGL	D90	D180	T90	T120	QD
NV-2	6.25"	11.25"	6.25"	11.25"	11.25"	11.25"

MOUNTING OPTIONS



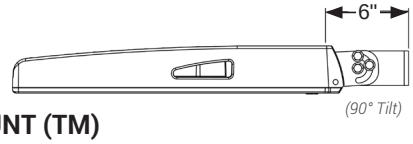
DIRECT POLE (DP)

Standard mounting arm is extruded aluminum in lengths of 6.25" and 11.25".
**Arm lengths may vary depending on configuration*



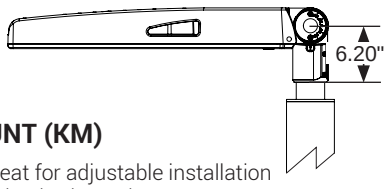
WALL MOUNT (WM)

Cast Aluminum Plate for direct wall mount. 3" extruded aluminum arm mounts directly to a cast wall mount box.



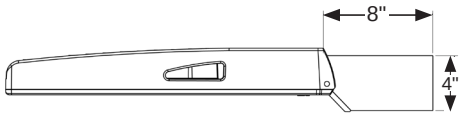
TRUNNION MOUNT (TM)

Steel, bolt-on-mounting for adjustable installation with a maximum uplift of 90 degrees.
**Unpainted stainless steel is standard*



KNUCKLE MOUNT (KM)

Die Cast Knuckle great for adjustable installation on 2-3/8" OD vertical or horizontal tenon.
- Max Up-tilt of 90 degrees
- Adjustable in 6 degree increments

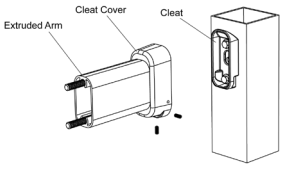


TENNIS ARM (TA)

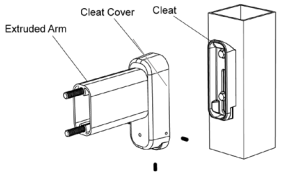
Steel fitter slips over 3.5" x 1.5" rectangular arm.
**See Tennis Arm Spec Sheet for details*

OPTIONAL

Optional Cast Aluminum Bracket, **Quick Mount Bracket (QMB)** and **Retrofit Quick Mount Bracket (RQMB)**, designed for quick mounting on Direct Square or Round Poles. Cleat mounts directly to pole for easily hung fixtures.



QMB



RQMB

25 Vaughan Mall
Portsmouth, NH, 03801-4012
Tel: 603-436-6192 Fax: 603-431-4733

Drainage Review Memorandum

To: Peter Stith, Principal Planner, City of Portsmouth
cc: Patrick Crimmins, P.E., Neil Hansen, P.E. Tighe & Bond

From: Allison Rees, P.E. (NH), Robert Saunders, P.E. (NH, ME, VT), Matthew Hall
Date: July 31, 2023 (Fourth Review)
Re: Fidelitone Facility (formerly Aviation Manufacturing Facility) / 100 New Hampshire Avenue - Portsmouth, NH

Background/Purpose:

Underwood Engineers previously performed a peer review of the Drainage Study/Drainage Design for a proposed manufacturing facility at 100 New Hampshire Avenue. The project has since been redesigned for a proposed Fidelitone Facility on the same site. The following comments are provided for consideration.

Findings and Recommendations:

1. Seeing how the drainage layout and plans have changed due to the size of the Facility. If the site is expanded in the future and more drainage is needed, will a new discharge point be needed or will it be discharged into the new proposed Jellyfish?

Site Development Plans

DWG C103.1 and C103.2:

2. The configuration of drainage structures at the Aviation Ave and Rochester Ave intersection appear to have not changed from the previous design. Was this intended with the thought of adding a driveway in the future as previously proposed?
3. Confirm that PDMH-07 structural sizing is adequate to handle the three inlet pipes all at the same elevation (N, NW, W)
4. Review all rim elevations, it appears a few rim elevations are off by 100'. UE notes the following examples, PDMH-20 and PCB-21.
5. Specify the method of connecting PDMH-04 to the 42" RCP line, will it be with 42" HDPE pipe or a doghouse manhole?
6. Review the location of PCB-20 and PCB-21, it is suggested that they are located closer to the Rochester Ave and Newfields Street Intersection to remove runoff from the intersection.

7. Review the location of PCB 18 and PCB 22 to reduce runoff entering the site through the driveway.

Landscaping Plans:

8. Proposed trees are shown in close proximity to proposed utilities including drainage lines and structures. Please confirm the roots of the trees will not compromise any utilities, drainage pipes, or structures.

Detail Sheet C-504

9. Update the detail of the Proposed Outlet Structure-01 to have the correct 36" inv out specified.

Drainage Analysis

10. Post-Development drainage summary of Subcatchment POST 1.0: (Page 7) – Review Tc and pipe channel lengths and diameters to ensure they match the updated drainage layout.

    The pipe channel flow sections look to be the same as the previously proposed design.

Follow-up:

Questions and comments concerning this review can be directed to any of the engineers listed.

P0595-015
August 2, 2023

Allison Rees, PE
Underwood Engineers
25 Vaughan Mall
Portsmouth, NH, 03801

Re: **Fidelitone Facility (formerly Advanced Manufacturing Facility)**
80 Rochester Avenue (100 New Hampshire Avenue) – Portsmouth NH

Dear Allison:

On behalf of Aviation Avenue Group, LLC we are pleased to submit the following revised information in support of a Pease Development Authority (PDA) Site Plan Review and Subdivision for the above referenced project in response to your Drainage Review Memorandum dated July 31, 2023:

- Site Plan Set, last revised August 2, 2023;
- Drainage Analysis, last revised August 2, 2023;

The following provides responses (in **bold**) to the Drainage Review Memorandum:

Findings and Recommendations:

1. Seeing how the drainage layout and plans have changed due to the size of the Facility. If the site is expanded in the future and more drainage is needed, will a new discharge point be needed or will it be discharged into the new proposed Jellyfish?

   In the event of future development on site it is likely that a new discharge point would be needed or a new tie into the existing drainage main along New Hampshire Avenue, with an additional Jellyfish Unit for treatment.

Site Development Plans:

2. The configuration of drainage structures at the Aviation Ave and Rochester Ave intersection appear to have not changed from the previous design. Was this intended with the thought of adding a driveway in the future as previously proposed?

   Confirmed, this is the intent.

3. Confirm that PDMH-07 structural sizing is adequate to handle the three inlet pipes all at the same elevation (N, NW, W).

   PDMH-07 has been revised to be a 6' diameter structure to adequately handle the three (3) incoming pipes.

4. Review all rim elevations, it appears a few rim elevations are off by 100'. UE notes the following examples, PDMH-20 and PCB-21.

   The proposed drainage structure rim elevations have been reviewed and adjusted as necessary.

5. Specify the method of connecting PDMH-04 to the 42" RCP line, will it be with 42" HDPE pipe or a doghouse manhole?

   The proposed connection configuration at PDMH-04 to the existing 42" RCP drain line has been revised to call for a new length of 42" HDPE pipe into/out of the structure and to be connected to the existing 42" RCP pipe.

6. Review the location of PCB-20 and PCB-21, it is suggested that they are located closer to the Rochester Ave and Newfields Street Intersection to remove runoff from the intersection.

   An additional catch basin has been added at the intersection of Newfields Street and Rochester Avenue to help remove runoff from the intersection.

7. Review the location of PCB 18 and PCB 22 to reduce runoff entering the site through the driveway.

   The grading at this entrance has been revised to reduce runoff from entering the site through the driveway.

Landscaping Plans:

8. Proposed trees are shown in close proximity to proposed utilities including drainage lines and structures. Please confirm the roots of the trees will not compromise any utilities, drainage pipes, or structures.

   The location of some of the proposed trees in close proximity to underground utilities have been revised to be further from the underground runs to ensure their root systems would not compromise the utilities.

Detail Sheet C-504:

9. Update the detail of the Proposed Outlet Structure-01 to have the correct 36" inv out specified.

   The Plan View of the Proposed Outlet Structure-01 detail has been revised to call the corrected invert out elevation of 46.30 and not 46.20.

Drainage Analysis:

10. Post-Development drainage summary of Subcatchment POST 1.0: (Page 7) – Review Tc and pipe channel lengths and diameters to ensure they match the updated drainage layout.

    The pipe channel flow sections look to be the same as the previously proposed design.

    The T_c for POST 1.0 has been revised to depict the proposed post development conditions more accurately. This resulted in T_c of 5.5 minutes verse the T_c of 5.3 minutes. This change resulted in very minor changes to the post development flow which are now reflected in the revised drainage analysis.

If you have any questions or need any additional information, please contact Patrick Crimmins or Neil Hansen by phone at (603) 433-8818 or by email at pmcrimmins@tighebond.com / nahansen@tighebond.com.

Sincerely,
TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Vice President

Neil A. Hansen, PE
Project Manager

Copy: Aviation Avenue Group, LLC (via email)
Pease Development Authority (via email)
City of Portsmouth Planning Department (via email)

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