AIREX BUILDING ADDITION

SP# 06-22

STAFF REPORT #2

July 13, 2022

(please see June 8, 2022 Staff Report for previous information)

SITE: 17 Executive Drive, Map 209 Lot 008-000; 19 Executive Drive, Map 215-008-000

ZONING: Industrial (I)

PURPOSE OF PLAN: To show a proposed 1-story, 26,200 SF building addition with appurtenant parking, loading, and other site improvements.

PLANS UNDER REVIEW:

Map 209, Lot 8 & Map 215, Lot 8 Site Plan, Proposed Building Addition, 17 Executive Drive, Hudson, New Hampshire; prepared by Hayner/Swanson, Inc., 3 Congress Street, Nashua, NH 03062 & 131 Middlesex Turnpike, Burlington, MA 01803; prepared for Schroeder Construction Management, Inc., 2 Townsend West, Unit #3, Nashua, New Hampshire 03060 & Stonehill Realty, LLC, 17 Executive Drive, Hudson, New Hampshire 03051; consisting of 13 sheets and an additional cover sheet, and general notes 1-26 on Sheet 1; dated March 29, 2022; last revised June 21, 2022.

Stormwater Management & Erosion Control Plan, prepared by Hayner/Swanson, Inc., revised June 28, 2022. (Provided digitally only)

ATTACHMENTS:

A. Applicant Response to Town Department & Peer Review Comments

B. Additional Waiver Request - §275-8.C(7)

C. Correspondence with Town Engineer re: post-development runoff

D. Correspondence with 2 Wentworth Drive re: notification

E. CAP Fee worksheet

APPLICATION TRACKING:

- May 9, 2022 – Application received.
- June 8, 2022 – Application accepted by Planning Board. Waivers granted from § 275-8.C (2), to allow 91 parking spaces on a lot where 175 spaces are required, and § 275-8.C (6), to allow 10 loading spaces on a lot where 11 spaces are required.
- July 13, 2022 – Application continued.

COMMENTS:

RESPONSE TO REVIEW COMMENTS

The Applicant has provided responses to review comments received from Town Departments and the Peer Reviewer in **Attachment A**. The Applicant has addressed all Town Department comments and all but two Peer Review comments:

1. Comment 9.a, §275-8.C(7) – "The applicant has not shown any landscape calculations for the new parking area or the existing site. We note that multiple parking areas include access from more than a single lane."

   No new (as in not pre-existing) parking areas are proposed although the parking area between the existing building and the proposed addition is being reconstructed. In response, the Applicant has added landscape calculations and 3 additional shade trees and has submitted a waiver request for the requirement that 10% of the interior of the parking area be landscaped (**Attachment B**). The proposal provides new landscaping for the parking area, however it is around the periphery of the lot rather than within it.

2. Comment 6.a, §290-5.A(5): "The applicant should discuss the slight increase in the 50-year storm event at POA-A with the Town Engineer. A waiver may be required for this slight 0.1 cfs increase."

   The Town Engineer found that the minor 0.1 cfs increase is offset by POA-B (**Attachment C**), thus the regulation is met.

JURISDICTION

Since some work (landscaping, drainage) is being proposed within the reciprocal easement with 19 Executive Drive, this lot is part of the application as well. Therefore it is recommended that the Board clarify that their jurisdiction in this matter encompasses both 17 & 19 Executive Drive. A draft motion is provided later in this report. There is no problem with ownership or authorization since both lots are owned by the Applicant. The extension of this jurisdiction did result in one additional indirect abutter, Integra Biosciences at 2 Wentworth Drive, who have been notified and have stated they have no objection to the application moving forward. Correspondence with Matthew Ladd, the owner's representative in **Attachment D**.

RECOMMENDATION:

Staff recommends that the Planning Board address the jurisdiction of the application, the additional waiver request and consider plan approval that defines active and substantial development.

DRAFT MOTIONS

ACCEPT the site plan application:

I move to acknowledge that the Planning Board's jurisdiction on this application encompasses 17 Executive Drive, Map 209 Lot 008-000, and, 19 Executive Drive, Map 215-008-000.

Motion by: _____Second: _____Carried/Failed: _____

CONTINUE the public hearing to a date certain:

I move to continue the site plan application for the Airex Building Addition, 17 Executive Drive; Map 209 Lot 008-000, to date certain, _____, 2022.

Motion by: _____Second: _____Carried/Failed: _____

To GRANT a waiver:

I move to grant a waiver from § **275-8.C (7)**, that requires interior landscaping of parking areas, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: _____Second: _____Carried/Failed: _____

APPROVE the site plan application and conditional use permit application:

I move to approve the Site Plan entitled: Map 209, Lot 8 & Map 215, Lot 8 Site Plan, Proposed Building Addition, 17 Executive Drive, Hudson, New Hampshire; prepared by Hayner/Swanson, Inc., 3 Congress Street, Nashua, NH 03062 & 131 Middlesex Turnpike, Burlington, MA 01803; prepared for Schroeder Construction Management, Inc., 2 Townsend West, Unit #3, Nashua, New Hampshire 03060 & Stonehill Realty, LLC, 17 Executive Drive, Hudson, New Hampshire 03051; consisting of 13 sheets and an additional cover sheet, and general notes 1-26 on Sheet 1; dated March 29, 2022; last revised June 21, 2022; subject to, and revised per, the following stipulations:

1. All stipulations of approval shall be incorporated into the Development Agreement, which shall be recorded at the HCRD, together with the Plan.
2. The Planning Board finds that the Stormwater Management Report, last revised June 28, 2022, complies with the requirements of §290 – Stormwater Management.
3. A cost allocation procedure (CAP) amount of $19,650 shall be paid prior to the issuance of a Certificate of Occupancy for the building addition.

4. Prior to the issuance of a final certificate of occupancy, an L.L.S. Certified "as-built" site plan shall be provided to the Town of Hudson Land Use Division confirming that the development conforms to the Plan approved by the Planning Board.
5. Prior to the Planning Board endorsement of the Plan, it shall be subject to final administrative review by Town Planner and Town Engineer.
6. Prior to application for a building permit, the Applicant shall schedule a pre-construction meeting with the Town Engineer.
7. Construction activities involving the subject lot shall be limited to the hours between 7:00 A.M. and 7:00 P.M. No exterior construction activities shall be allowed on Sundays.
8. Hours of refuse removal shall be exclusive to the hours between 7:00 A.M. and 7:00 P.M., Monday through Friday only.
9. For the purposes of this subdivision plan, the term "active and substantial development" shall mean _____.

Motion by: _____Second: _____Carried/Failed: _____.

SP #06-22 AIREX BUILDING ADDITION SUPPLEMENT

In consultation with Town Counsel, an additional condition of approval has been drafted for the Planning Board's consideration to address the minor improvements shown on 19 Executive Drive as part of this site plan application. There is currently a cross easement in place between the two lots for pedestrian & vehicular access and some utilities, but it does not exactly encompass the proposed landscaping and drainage improvements proposed in this application. While both lots are part of this application and under common ownership today, it is recommended to have a condition in place in the event that common ownership is severed.

Therefore, the following additional condition of approval is provided for the Board's consideration:

10. "The final plan shall show the easement areas on 19 Executive Drive (Map 215 Lot 008-000) which benefit 17 Executive Drive (Map 209 Lot 008-000). There shall be a note on the plan that describes the purpose of the easement. There shall also be a note that states that any conveyance of either 19 Executive Drive (Map 215 Lot 008-000) or 17 Executive Drive (Map 209 Lot 008-000) which severs common ownership shall include the easements. The development agreement shall identify the easements and require a deed for the easements upon severance of common ownership."

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors

June 28, 2022
Job No. 5843

Mr. Brian Groth, AICP, Land Use Director
Town of Hudson Planning Department
12 School Street
Hudson, NH 03051

RE: RESPONSE TO TOWN DEPARTMENT & PEER REVIEW COMMENTS
PROPOSED INDUSTRIAL BUILDING ADDITION
17 & 19 EXECUTIVE DRIVE (TAX MAP 209, LOT 8 & TAX MAP 215, LOT 8)
HUDSON, NEW HAMPSHIRE

Dear Mr. Groth:

Please find enclosed revised site plans and supplemental information addressing the Town Department and peer review comments provided to us for the above-referenced project. Our responses to comments are shown in ***bold italics*** and appear after each corresponding comment.

Town Engineer Comments (dated May 17, 2022)

1. Applicant should consider replacing the proposed detention basin with underground chamber system.
We considered underground detention/infiltration practices in evaluating our choices for our stormwater management design, but decided we had adequate space for an open detention/infiltration basin which would provide equally effective stormwater management more economically. The stormwater management area will be maintained as outlined in the Inspection and Maintenance Plan.

2. Applicant shall evaluate the need for a guardrail installation along the proposed detention basin, same areas show more than 4-foot drop.
We have added 200 linear feet of metal beam guardrail with wooden posts (see Site Plan Sheet 5 of 14) and a Guardrail Detail (see Site Plan Sheet 8 of 14).

3. Applicant shall state that the sewer and water services will be serviced by the existing building. Plans don't indicate a new sewer or water service.
See Construction Note #4 on Sheet 2 of 14 for utility service information. Also see Fire Department comment response below.

Fire Department Comments (dated May 16, 2022)

1. 2 additional yard hydrants will need to be added to the site to support the addition. Location shall be approved by the Department.
Two(2) proposed fire hydrants, and associated new water main and fittings have been added to the Site Plan at locations discussed with Fire Chief Buxton (see Sheet 5 of 14). Water construction details have also been added to Sheet 8 of 14.

Fuss & O'Neill Peer Review Letter (dated May 24, 2022)

1. **Site Plan Review Codes (HR 275)**

   a. Hudson Regulation (HR) 275-6.C. The site currently does not have a sidewalk at Executive Drive and the applicant has not proposed to add any sidewalks as part of this project.
   Correct.

   b. HR 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed building addition. The applicant has not shown the existing water connection to the site on the plan set.
   Sprinkler system calculation will be provided to the Building and Fire Departments for the required Building permit. The existing water main information is shown on Sheet 3 of 14 of the Site Plan, which has been revised from 20-scale to 40-scale to show the entire site.

   c. HR 275-6.T. The applicant is not proposing any offsite improvements on the plan set.
   Correct.

   d. HR 275-8.C.(2)(g) and Zoning Ordinance (ZO) 334-15.A. The applicant has provided parking calculations on the plan set and noted that 175 parking spaces are required for the industrial use using the 1 space per 600 sf formula, and that 91 spaces are provided. The applicant has requested a waiver from the Regulation, noting that the parking provided meets the Regulation for 0.75 spaces per number of employees formula, as the facility currently has 66 employees and does not plan to expand that number. Therefore 50 spaces would be required for that number of employees.
   The requested parking waiver was granted by the Planning Board on June 8, 2022.

   We note that per the narrative the existing storage containers would be moved to allow use of the parking area at the north corner of the site once the addition is complete.
   Correct. Note #26 was added to Sheet 1 of 14 at the Planning Board's request.

   e. HR 275-8.C.(6). The applicant has noted that eight off-street loading spaces are provided and has requested a waiver from the 11 spaces required by the

Regulation. The applicant should clearly label all 8 spaces on the plan set. The applicant should also remove the reference to Integra from the waiver request.
The 8 existing and 2 proposed loading spaces have been added to Sheet 1 of 14 of the Site Plan. The requested loading waiver was granted by the Planning Board on June 8, 2022.

f. HR 275-9.C.(11). The applicant has provided four handicap accessible parking spaces for the site which meets the minimum requirement.
No response required.

g. HR 275-9.F. The applicant provided copies of easements and deeds as part of the package received for review.
No response required.

2. Administrative Review Codes (HR 276)

a. HR 276-11.1.B.(13). The applicant should revise the sign note on Sheet 1 of 15 match the note required in the Regulation.
Note #11 on Sheet of 14 has been revised accordingly.

b. HR 276-11.1.B.(20). The applicant has not provided the height of the existing building on the plan set.
The height of the existing building is noted on the building on Sheet 3 of 14 at the southwest building corner of the bump-out on the westerly side of the building ("PEAK = 184.65"). Therefore the existing building is 18+/- feet in height (22+/- at depressed loading docks).

c. HR 276-11.1.B.(23). The applicant has not noted any pertinent highway projects on the plan set.
See Note #18 on Sheet 1 of 14 of the Site Plan.

d. HR 276-11.1.B.(24). The applicant should provide a detailed plan showing the open space areas. Our area measurements of the pdf plan came up with less than the minimum 35% required.
We have rechecked our open space calculation using AutoCAD and confirm it to be 35.2%. A color exhibit highlighting the open space is attached, and was submitted to the Planning Board at the June 8, 2022 hearing.

e. HR 276-11.1.B.(25). The applicant has shown existing pavement within the side and rear setback areas of the site, and is proposing to keep these areas as travel ways and parking.
Correct. These areas have been on prior approved site plans and are covered by the existing cross-access easement noted on the Site Plan.

3. Driveway Review Codes (HR 275-8.B. (34)/Chapter 193)

a. HR 193.10. The applicant has not proposed any changes to the existing driveway. The site will continue to have one driveway onto Executive Drive as well as access to another driveway on Map 215 Lot 8.
Correct.

b. We note that there appears to be an existing stop sign and stop bar at the driveway that is not shown on the plan set.
The existing stop sign and stop bar at the Executive Drive site driveway shown on the revised Sheet 3 of 14 of the Site Plan.

4. Traffic (HR 275-9.B)

We have reviewed the trip generation analysis memo prepared by Stephen G. Pernaw & Company, Inc. (SGP) dated April 25, 2022, for the proposed expansion of the existing Airex Filters Corporation building at 17 Executive Drive (Tax Map 209, Lot 8) in Hudson, New Hampshire. This analysis includes an estimate of the expected traffic to be generated by the additional 26,120 sf of warehouse space to be added to the building. Access to the site will not change.

The procedures that the SGP report uses are reasonable, with appropriate ITE trip generation information used for the scenario provided. This trip generation information shows that the estimated magnitude of the increase in peak hour traffic volumes related to the site expansion area on the order of 46 trips during the weekday, 4 trips during the weekday morning peak hour and 5 trips during the weekday evening peak hour.

We concur with Stephen G. Pernaw & Company, Inc.'s overall conclusion that, given the relatively low number of trips per day to be generated by the site's proposed expansion compared to volumes on the adjacent roadway network in this area, there should be minimal increased impacts on traffic operations on the roadway network adjacent to the 17 Executive Drive site. The applicant has also noted that there will not be an increase in the number of employees at the site due to the building addition and that the ITE estimates are considered to be conservatively high in this situation.
No response required.

5. Utility Design/Conflicts

a. HR 275-9.E. The applicant has noted that the site is currently serviced by municipal water and sewer, but has not shown those existing connections to the public water or sewer mains.
Existing water and sewer service information is shown on the revised Sheet 3 of 14 of the Site Plan.

b. HR 275-9.E. The applicant has not shown any water or sewer service connections between the existing building and the proposed building addition.
See Construction Note #4 on Sheet 2 of 14.

c. Engineering Technical Guideline & Typical Details (ETGTD) Section 801. The applicant should verify with the Town that the existing water main has adequate flow and pressure to meet both domestic and fire suppression requirements of the proposed expansion for this site.
This was discussed with the Town Engineer, Elvis Dhima. The proposed

warehouse addition won't have any bathroom or office space. Therefore no domestic water or sewer services are required for the warehouse addition, and the sprinkler system is being extended internally from the existing building through the proposed connector. Airex isn't proposing any additional employees as a result of building the addition, so we don't anticipate any additional domestic water usage, with the exception of that needed for cleaning purposes (100-200 gallons in a week – estimated). Per the attached NHDES design flows, warehouse (see factories) is calculated at 10 GPD/person. With no additional employees, domestic water usage should remain very close to their current level. Fire flow calculations will be submitted with the Sprinkler System Design Plans as part of the Building Permit review process.

6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

a. HR 275-9.A.1 and Stormwater Management Regulation 290-5.A.5. The applicant should discuss the slight increase in the 50-year storm event at POA-A with the Town Engineer. A waiver may be required for this slight 0.1cfs increase. F&O takes no exception to the request of the waiver if deemed necessary.
As noted in the Stormwater Report under Table 3; "*The 0.01 cfs increase in the 50-year storm at POA A is more than offset by the 8.19 cfs reduction in the 50-year storm at POA B. Both areas continue to flow towards the front of both 17 and 19 Executive Drive and combine in the wetland swale system at the front of 17 Executive Drive." Therefor the impacts should be added together to get an accurate assessment of impact of the project, which is a net reduction of 8.18 CFS for the 50-year design storm. Mr. Dhima concluded that a waiver is not required.

b. HR 275-9.A.3 and 290-5.A.4. We note the Infiltration Feasibility Report Section A.3. states "Sheet 3 of 22". The applicant should list the proper number of plan sheets.
The sheet numbers referenced have been revised.

c. HR 290-5.A.12. The applicant should list the required mowing schedule within the I&M manual.
The required mowing schedule has been added to section II.C – Detention/Infiltration Basin, of the I&M manual (see Page 3).

d. HR 290-6.A.8. The applicant should ensure a note is on the plan set stating the requirement to coordinate a pre-construction meeting with the Town Engineer.
A note directing the contractor to schedule a pre-construction meeting with the Town Engineer has been added to Sheet 10 of 14 of the Site Plan.

e. HR 290-7.A.7. We recommend that the applicant coordinate with the Lower Merrimack River Advisory Committee to ensure the committee is made aware of the activity, as a courtesy.
We have contacted the Chairman of the LMRAC via email to see if they wish to review the Site Plan and Stormwater Report, as a courtesy, even though the site is a little more than the 0.25 mile review threshold.

f. HR 290-7.B.16. We note the location of the infiltration basin in respect to snow storage areas near the pavement. Snow storage is not allowed by NHDES within infiltration basins, due to the use of sand clogging the infiltration ability, and the use of salt effecting the treatment ability of the infiltration practice. The applicant should review the need for signage or fencing as well as a salt minimization plan to help prolong the life of the infiltration basin.
Per discussions with the Town Engineer, we have added 200+/- linear feet of guardrail along the driveway shoulder adjacent to the detention/ infiltration basin for safety purposes; creating a barrier to plowing snow into the basin. In addition, Snow Storage and De-Icing Plan notes have been added to Sheet 2 of 14. The last note specifically prohibits plowing or stockpiling snow in the detention/infiltration basin.

g. HR 290-8.A.4 & 5. The applicant should ensure a note is on the plan set stating the requirement to coordinate the need for a Bond or Escrow with the Town Engineer.
See Construction Note #10 on Sheet 2 of 14 of the Site Plan.

h. HR 290-10.B. The applicant should ensure a note is on the plan set stating the requirement of the EPA/GCP/NOI is stated. We note the inclusion of the SWPPP within the drainage report, but contractors do not always review the drainage report.
These contractor requirements are noted in General Note #'s 1 and 2 on Sheet 2 of 14. The contractor will be provided with 2 copies of the final SWPPP binder, including a full copy of the 2022 Construction General Permit.

i. The applicant will be required to comply with all provisions of the Town of Hudson's MS4 permit, including but not limited to annual reporting requirements, construction site stormwater runoff control, and record keeping requirements.
Acknowledged.

j. Please note that this review was carried out in accordance with applicable regulations and standards in place in New Hampshire at this time. Note that conditions at the site, including average weather conditions, patterns and trends, and design storm characteristics, may change in the future. In addition, future changes in federal, state or local laws, rules or regulations, or in generally accepted scientific or industry information concerning environmental, atmospheric and geotechnical conditions and developments may affect the information and conclusions set forth in this review. In no way shall Fuss & O'Neill be liable for any of these changed conditions that may impact the review, regardless of the source of or reason for such changed conditions. Other than as described herein, no other investigation or analysis has been requested by the Client or performed by Fuss & O'Neill in preparing this review.
No response required.

7. Zoning (ZO 334)

a. ZO 334-14.A. The applicant has provided the proposed height of the addition on the plan set.

No response required.

b. ZO 334-17 & 334-21. The applicant has noted that the subject parcel is located within the Industrial (I) zoning district. The existing/proposed use is permitted by the Ordinance within this district.
No response required.

c. ZO 334-33. The applicant has not proposed any wetlands buffer impacts on the site. The existing site features adjacent to the site wetlands are not proposed to change.
No response required.

d. ZO 334-60. The applicant does not appear to be adding any new signs to the plan set. It appears the existing ground sign is to remain unaltered.
Correct.

e. ZO 334-83 and HR 218-4.E. The applicant has noted that the site is located within a designated flood hazard area X.
No response required.

8. Erosion Control/Wetland Impacts

a. The Town of Hudson should reserve the right to require any additional erosion control measures as needed. The applicant has noted this on the plans.
No response required.

9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

a. HR 275-8.C.(7). The applicant has not shown any landscape calculations for the new parking area or the existing site. We note that multiple parking areas include access from more than a single access lane.
A Landscape Requirements table has been added to Sheet 12 of 14, along with 3 additional shade trees. A waiver of the 10% interior planting requirement is being requested.

b. HR 276-11.1.B.(14). The applicant has shown lighting fixture locations on the plans with details and photometric information.
No response required.

c. HR 276-11.1.B.(14). The applicant has not noted the hours of operation for the facility. The applicant should provide information regarding hours of operation and whether the lights at the proposed building addition are intended to be in operation during nonworking hours.
The facility hours of operation are shown on Note #17 on Sheet 1 of 14. Site lighting will be left on during non-daylight hours 7 days a week for security purposes. This information has been added to Note #17.

10. State and Local Permits (HR 275-9.G.)

a. HR 275-9.G. The applicant has not listed required permits and their status on the plan set.
The only permit required for this project is site plan approval by the Planning Board. A note listing conditions of approval will be added to Sheet 2 of 14 following Planning Board approval.

b. HR 275-9.G. The applicant did not provide copies of any applicable Town, State or Federal approvals or permits in the review package.
See response 10.a above.

c. HR 275-9.G. The applicant has noted that the existing site is connected to the municipal sewer. We have no record of this facility completing an Industrial Pretreatment Permit application for the site, which is required by the Hudson Sewer Use Ordinance if there is an industrial use at the facility. Because products are manufactured at this site the facility is likely to be required to participate in the Industrial Pretreatment Program. We also note that if any manufacturing processes take place in the building at map 215 lot 8 and that lot is connected to the sewer system, a permit application will be needed for that site as well.
The applicant has contacted the Town Engineer regarding this matter.

d. Additional local and state permitting may be required.
None that we are aware of at this time.

11. Other

a. ETGTD Section 565.1.1. The applicant is reminded that the Town of Hudson has specific requirements for the importing of off-site fill materials for use in constructing this project. We recommended that these requirements be stated on the plans for the Contractors attention.
The requested notes have been added as Construction Note #9 on Sheet 2 of 14.

It is requested that this revised submittal be reviewed for concurrence with the comments referenced above. As always, please do not hesitate to contact our office if you have any questions regarding this project or if you need any additional information.

Sincerely,

Earle D. Blatchford
Senior Project Manager
Hayner/Swanson, Inc.

cc: Elvis Dhima, Hudson Town Engineer
Robert Buxton, Hudson Fire Chief
Steven Reichert, Fuss & O'Neill
Jack Schroeder, Schroeder Construction Management, Inc.

WAIVER REQUEST #3:

Site Plan Regulation: Hudson Site Plan Regulation Chapter 275-7C(7)(a) & (b) – 10% interior parking lot landscaping for parking lots with more than one drive aisle.

Waiver Request: A waiver is requested from **Chapter 275-7C(7)(a) & (b)** in order to allow 0% interior landscaping in the proposed 18 space parking lot, where 10% spaces as required per the regulation.

Basis of Waiver:

This section of the ordinance in intended for larger multi-bay parking lots to break-up large, continuous expanses of pavement and provide interior shading. The proposed lot has only 18 parking spaces, with 17 standard spaces able to be accessed from a single drive aisle. There is a second drive aisle to access a drive-in loading door on the west face of the existing building, located just north of the parking lot in the corner. This drive aisle has 1 parallel parking space on the right side to replace a similar space currently at that location. It is the second drive aisle that triggers this requirement.

Waiver Request Form Standards

The hardship reason for granting this waiver is that it would require eliminating 5 of the 18 parking spaces in order to comply with the Site Plan Regulation. Doing so doesn't make sense given the small size of the parking lot. The Landscape Plan meets the other requirements of **Chapter 275-7C(7)**, and there is ample landscaping around the perimeter of the parking lot. Also, this parking area is in a rear portion of the site, surrounded by buildings and out of public view.

Granting this waiver will not be contrary to the spirit and intent of the Town's Land Use Regulations because the spirit and intent of **Chapter 275-7C(7)** is that adequate landscaping is provided for the intended use.

Chapter 276-7 Waivers

The requirements of Chapter 275-7C(7)(a) & (b) are unnecessary.

The purpose of Chapter 275-7C(7) is to ensure adequate landscaping is provided in parking areas. Given the above-stated reasons, it is Airex's opinion that ample landscaping is provided for this proposal.

Granting the waiver will not violate the purposes or general standards of the Land Use Regulations.

This waiver will not violate the public safety purposes of Chapter 275-7(7), in that the plan represents good planning principles and is balanced with regard to parking lot landscaping.

Granting the waiver shall result in a general benefit to the Town and surrounding properties.

Granting the waiver will support the Airex building addition which will increase annual tax revenue and is the type of development specifically contemplated by the Town's Master Plan. As a result, the waiver will result in a general benefit to the Town.

Groth, Brian

From: Dhima, Elvis
Sent: Wednesday, June 29, 2022 11:53 AM
To: Earle Blatchford
Cc: Groth, Brian
Subject: RE: Airex - 17 & 19 Executive Drive

Earle

You all set with this , I don't have a problem with the 0.01 cfs increase , especially when it's been offset by POA B

No further comment

E

Elvis Dhima, P.E.
Town Engineer

12 School Street
Hudson, NH 03051
Phone: (603) 886-6008
Mobile: (603) 318-8286
Town of Hudson
NEW HAMPSHIRE 03051

From: Earle Blatchford <eblatchford@hayner-swanson.com>
Sent: Wednesday, June 29, 2022 10:49 AM
To: Dhima, Elvis <edhima@hudsonnh.gov>
Cc: Groth, Brian <bgroth@hudsonnh.gov>
Subject: Airex - 17 & 19 Executive Drive

Good morning Elvis,

I think I forgot to discuss Fuss & O'Neill's comment 6.a (see attached) with you. I've attached Table 3 (Peak Flow) and Table 4 (Peak Volume) from the Stormwater Report for reference. As noted under the tables, the slight increases for the 50-year storm at POA A are more than offset by the reductions for the 50-year storm at POA B. They should be considered as a single impact, as they combine in the wetland swale system at the front of 17 & 19 Executive before discharging to Telegraph Pond on the east side of 17 Executive Drive. Let me know if you've got a couple minutes to discuss.

Thanks,

Earle

Earle Blatchford
Senior Project Manager
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062
phone: 603.883.2057 x132
fax: 603.883.5057
eblatchford@hayner-swanson.com
www.hayner-swanson.com

From: Matthew Ladd <mladd@sakonnetassociates.com>
Sent: Thursday, June 30, 2022 8:36 AM
To: Groth, Brian
Cc: Hiroko Lindsey; Robert Fougere; Dan Tesoro; David Nelson; Joseph Silva
Subject: Re: Integra - Notification

Hi Brian,
Our Team has reviewed the documents and do not have any objections.

Have a great 4th!
Matthew

On Wed, Jun 29, 2022 at 12:24 PM Groth, Brian <bgroth@hudsonnh.gov> wrote:

> Hi Matt,
>
> Hayner Swanson has a site plan application at 17 Executive Drive (Airex) for a building addition. Airex also owns 19 Executive Drive. During review it was noticed that a small amount of their work on 17 Executive spills over into 19 executive (drainage, landscaping), which technically makes 19 Executive part of the application as well. Due to this… the indirect abutter "bubble" expands and now includes 2 Wentworth Drive. I've attached the abutter notification, and the link to the project files is pasted below. The application was first heard on June 8 and was continued to July 13.
>
> Question – Does Integra have any objections with the application moving forward?
>
> Link: Microsoft Word - 060822_SP# 06-22 Airex Building Addition_Staff Report.docx (hudsonnh.gov)
>
> Thank you,
>
> Brian
>
> **Brian Groth, AICP**

Town Planner

Town of Hudson, NH

12 School Street

Hudson, NH 03051

Phone: (603) 886-6008

Fax: (603) 594-1142

bgroth@hudsonnh.gov

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Matthew Ladd, LEED BD & C
O:401-592-0030
C:603-930-3589

Massachusetts - Rhode Island - New Hampshire - Maine

www.sakonnetassociates.com

TOWN OF HUDSON

Planning Board

Timothy Malley, Chairman

12 School Street · Hudson, New Hampshire 03051 · Tel: 603-886-6008 · Fax: 603-594-1142

CAP FEE WORKSHEET - 2022

Date: 06-24-22 Zone # 1 Map/Lot: 176/Lots 021, 022, & 023
196-202 Central Street

Project Name: Airex Building Addition

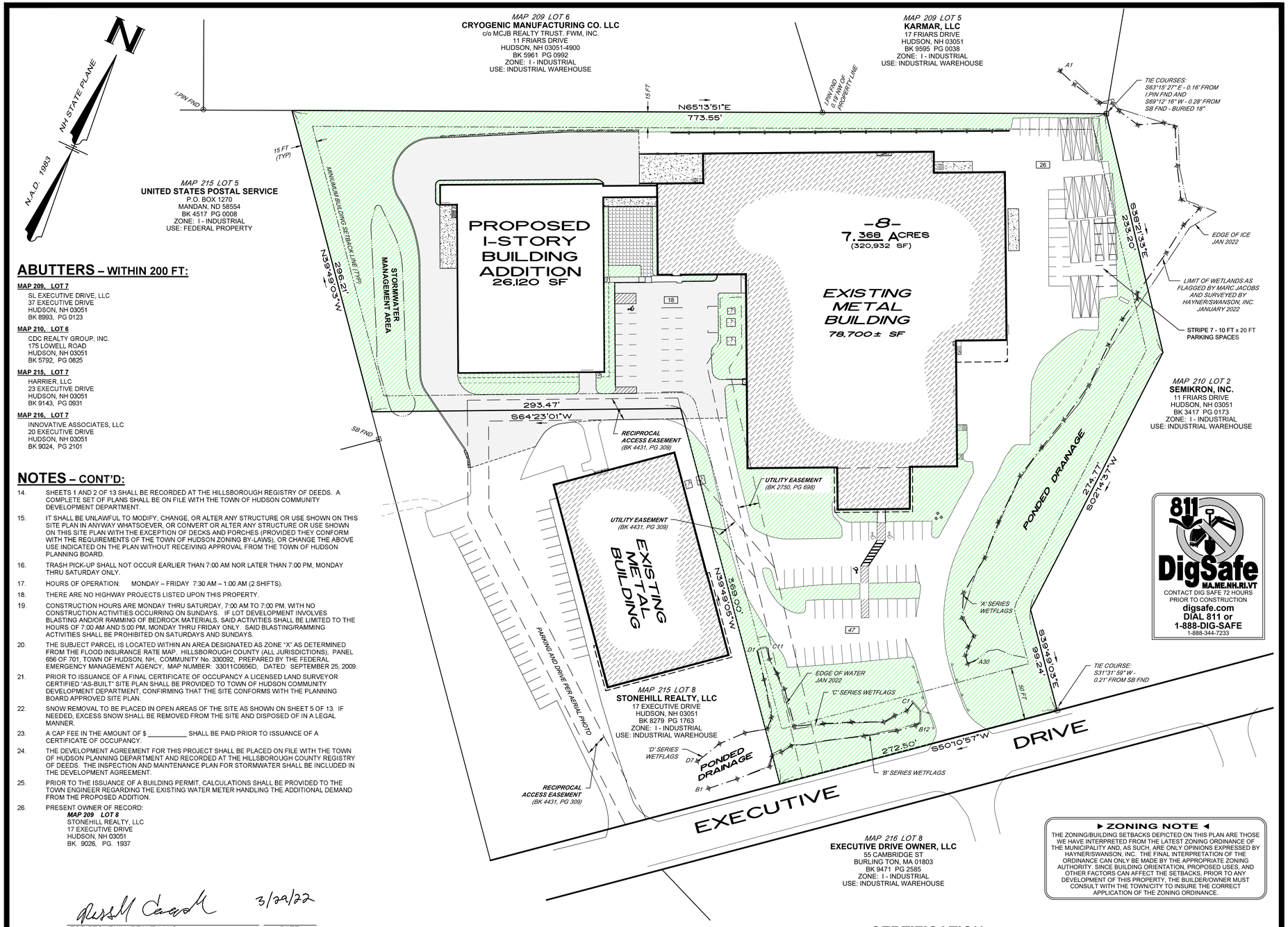
Proposed ITE Use #1: Warehousing

Proposed Building Area (net square footage): 26,200 S.F.

CAP FEES: (ONE CHECK NEEDED)

1.	**(Bank 09)**		
	2070-701	**Zone 1**	**$ $19,650.00**
		($0.75 per sf X 39,338 sf)	

Check should be made payable to the Town of Hudson.



ABUTTERS – WITHIN 200 FT:

MAP 209, LOT 7
SL EXECUTIVE DRIVE, LLC
37 EXECUTIVE DRIVE
HUDSON, NH 03051
BK 8993, PG 0123

MAP 210, LOT 6
CDC REALTY GROUP, INC.
175 LOWELL ROAD
HUDSON, NH 03051
BK 5792, PG 0825

MAP 215, LOT 7
HARRIER, LLC
23 EXECUTIVE DRIVE
HUDSON, NH 03051
BK 9143, PG 0931

MAP 216, LOT 7
INNOVATIVE ASSOCIATES, LLC
20 EXECUTIVE DRIVE
HUDSON, NH 03051
BK 9024, PG 2101

NOTES – CONT'D:

14. SHEETS 1 AND 2 OF 13 SHALL BE RECORDED AT THE HILLSBOROUGH REGISTRY OF DEEDS. A COMPLETE SET OF PLANS SHALL BE ON FILE WITH THE TOWN OF HUDSON COMMUNITY DEVELOPMENT DEPARTMENT.
15. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN WITH THE EXCEPTION OF DECKS AND PORCHES (PROVIDED THEY CONFORM WITH THE REQUIREMENTS OF THE TOWN OF HUDSON ZONING BY-LAWS), OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE TOWN OF HUDSON PLANNING BOARD.
16. TRASH PICK-UP SHALL NOT OCCUR EARLIER THAN 7:00 AM NOR LATER THAN 7:00 PM, MONDAY THRU SATURDAY ONLY.
17. HOURS OF OPERATION: MONDAY – FRIDAY 7:30 AM – 1:00 AM (2 SHIFTS).
18. THERE ARE NO HIGHWAY PROJECTS LISTED UPON THIS PROPERTY.
19. CONSTRUCTION HOURS ARE MONDAY THRU SATURDAY, 7:00 AM TO 7:00 PM. WITH NO CONSTRUCTION ACTIVITIES OCCURRING ON SUNDAYS. IF LOT DEVELOPMENT INVOLVES BLASTING AND/OR RAMMING OF BEDROCK MATERIALS, SAID ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM AND 5:00 PM, MONDAY THRU FRIDAY ONLY. SAID BLASTING/RAMMING ACTIVITIES SHALL BE PROHIBITED ON SATURDAYS AND SUNDAYS.
20. THE SUBJECT PARCEL IS LOCATED WITHIN AN AREA DESIGNATED AS ZONE "X" AS DETERMINED FROM THE FLOOD INSURANCE RATE MAP, HILLSBOROUGH COUNTY (ALL JURISDICTIONS), PANEL 656 OF 701, TOWN OF HUDSON, NH, COMMUNITY No. 330092, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33011C0656D, DATED: SEPTEMBER 25, 2009.
21. PRIOR TO ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY A LICENSED LAND SURVEYOR CERTIFIED "AS-BUILT" SITE PLAN SHALL BE PROVIDED TO TOWN OF HUDSON COMMUNITY DEVELOPMENT DEPARTMENT, CONFIRMING THAT THE SITE CONFORMS WITH THE PLANNING BOARD APPROVED SITE PLAN.
22. SNOW REMOVAL TO BE PLACED IN OPEN AREAS OF THE SITE AS SHOWN ON SHEET 5 OF 13. IF NEEDED, EXCESS SNOW SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER.
23. A CAP FEE IN THE AMOUNT OF $ _____ SHALL BE PAID PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
24. THE DEVELOPMENT AGREEMENT FOR THIS PROJECT SHALL BE PLACED ON FILE WITH THE TOWN OF HUDSON PLANNING DEPARTMENT AND RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. THE INSPECTION AND MAINTENANCE PLAN FOR STORMWATER SHALL BE INCLUDED IN THE DEVELOPMENT AGREEMENT.
25. PRIOR TO THE ISSUANCE OF A BUILDING PERMIT, CALCULATIONS SHALL BE PROVIDED TO THE TOWN ENGINEER REGARDING THE EXISTING WATER METER HANDLING THE ADDITIONAL DEMAND FROM THE PROPOSED ADDITION.
26. PRESENT OWNER OF RECORD:
MAP 209 LOT 8
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE
HUDSON, NH 03051
BK. 9026, PG. 1937

Russell Cavanaugh 3/29/22
FOR STONEHILL REALTY, LLC — DATE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.

WETLAND NOTE

MAN-MADE AND NATURAL JURISDICTIONAL WETLAND BOUNDARIES WERE DELINEATED BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, IN JANUARY 2022 ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS – 1987 WETLANDS DELINEATION MANUAL; THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION; THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES - WETLANDS BUREAU – ENV WT 100-900 AND ARTICLE IX – §334-33 – WETLAND CONSERVATION OVERLAY DISTRICT OF THE HUDSON ZONING ORDINANCE. PREDOMINANT HYDRIC SOILS WERE IDENTIFIED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, JUNE 2020 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8, 2016. THE STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS - NORTHCENTRAL AND NORTHEAST 2020 REGIONAL WETLAND PLANT LIST. COPIES OF SITE PLANS DEPICTING THE WETLAND DELINEATION WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED, SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS PROJECT.

CERTIFICATION

PURSUANT TO RSA 676:18,III AND RSA 672:14

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

I FURTHER CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS ADOPTED 08/23/01, EFFECTIVE 01/01/09.

I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTEEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

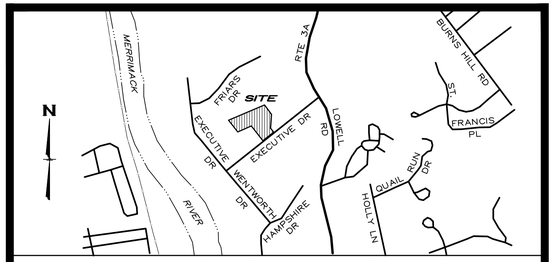
_____ DATE

_____ DENNIS C. POLLOCK, LLS

811 DigSafe MA.ME.NH.RI.VT
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
DIAL 811 or 1-888-DIG-SAFE
1-888-344-7233

▶ ZONING NOTE ◀

THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY HAYNER/SWANSON, INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SINCE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS, PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO INSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.



VICINITY MAP SCALE: 1" = 1,500'±

NOTES:

1. LOT AREA: (MAP 209, LOT 8) 7.368 ACRES (320,932 SF)
2. PRESENT ZONING: I - INDUSTRIAL
   MINIMUM LOT REQUIREMENTS:
   - LOT AREA 30,000 SF
   - LOT FRONTAGE 150 FT
   MINIMUM BUILDING SETBACKS REQUIREMENTS
   - FRONT YARD 50 FT
   - SIDE YARD 15 FT
   - REAR YARD 15 FT
   MAXIMUM BUILDING HEIGHT: 50 FT
3. LOT NUMBERS REFER TO THE TOWN OF HUDSON ASSESSORS MAPS 209, 210, 215 AND 216.
4. SITE IS CURRENTLY SERVICED BY MUNICIPAL WATER AND MUNICIPAL SEWER, GAS AND OVERHEAD ELECTRIC AND TELECOMMUNICATION UTILITIES.
5. PURPOSE OF PLAN:
   TO SHOW PROPOSED BUILDING ADDITIONS ALONG WITH ACCOMPANYING PARKING LOADING AND SITE IMPROVEMENTS.
6. PARKING:
   REQUIRED: 1 SPACE/600 SF X 104,820 SF (INDUSTRIAL) = 175 SPACES
   PROVIDED: (INCLUDES 4 ACCESSIBLE SPACES) = 91 SPACES *
   * WAIVER REQUESTED
7. LOADING:
   REQUIRED: 11 SPACES
   PROVIDED: 10 SPACES
8. OPEN SPACE:
   REQUIRED: 35 %
   PROVIDED: 35.2± %
9. BUILDING HEIGHT:
   MAXIMUM: 50 FT
   PROPOSED: 39.5± FT
10. SURVEY CONTROL:
    HORIZONTAL DATUM: NAD83
    PROJECTION: NH STATE PLANE
    VERTICAL DATUM: NGVD29
    UNITS: US SURVEY FEET
11. ALL SIGNS ARE SUBJECT TO ALL REQUIREMENTS OF THE ZONING ORDINANCE AS DETERMINED DURING THE SIGN PERMIT APPLICATION PROCESS.
12. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT (LATEST EDITION).
13. SITE LIGHTING SHALL BE SHOWN ON THE PLAN, DIRECTED ONTO THE SITE, AND SHALL CONFORM WITH ALL APPLICABLE TOWN OF HUDSON ZONING REGULATIONS.

OPEN SPACE
113,060 SF (35.2±%)

NO.	DATE	REVISION	BY
		REVIEW ONLY NOT FOR CONSTRUCTION	

MASTER SITE PLAN
(MAP 209, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

50 0 50 100 150 200 FEET
25 0 25 50 METERS
SCALE: 1"=50 Feet
1"=15.240 Meters

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-FQ51	5843 SITE	1 OF 13
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

MAP 209, LOT 8 & MAP 215, LOT 8

SITE PLAN

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NEW HAMPSHIRE

PREPARED FOR

SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3
NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER

STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE 03051

29 MARCH 2022
REVISED
21 JUNE 2022

REVIEW ONLY
NOT FOR CONSTRUCTION

INDEX OF PLANS		
SHEET No.	TITLE	
1 OF 14	MASTER SITE PLAN	1"= 50'
2 OF 14	NOTES AND LEGEND	1"= 20'
3 OF 14	EXISTING CONDITIONS PLAN	1"= 40'
4 OF 14	SITE DEMOLITION PLAN	1" = 20'
5 OF 14	SITE PLAN	1"= 20'
6 OF 14	UTILITY PROFILES	1"= 20' H 1"= 4' V
7-9 OF 14	DETAIL SHEET - GENERAL SITE	
10 OF 14	EROSION CONTROL PLAN	1"=20'
11 OF 14	DETAIL SHEET - EROSION CONTROL	
12 OF 14	LANDSCAPE PLAN	1"= 20'
13 OF 14	DETAIL SHEET - LANDSCAPE	
14 OF 14	PHOTOMETRIC SITE LIGHTING PLAN	1"= 20'
	BUILDING ELEVATIONS	

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

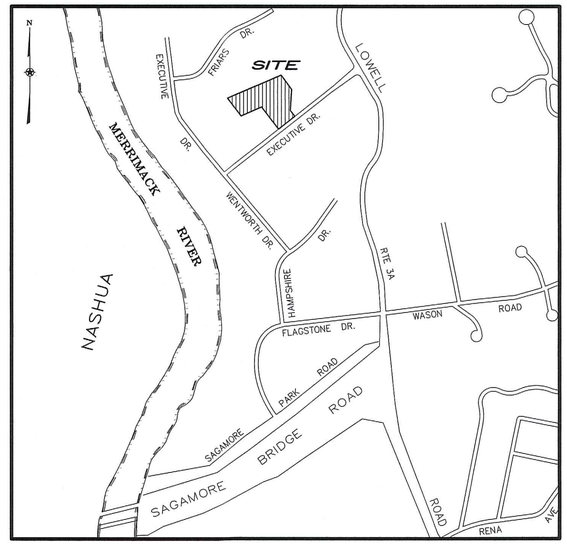
APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.



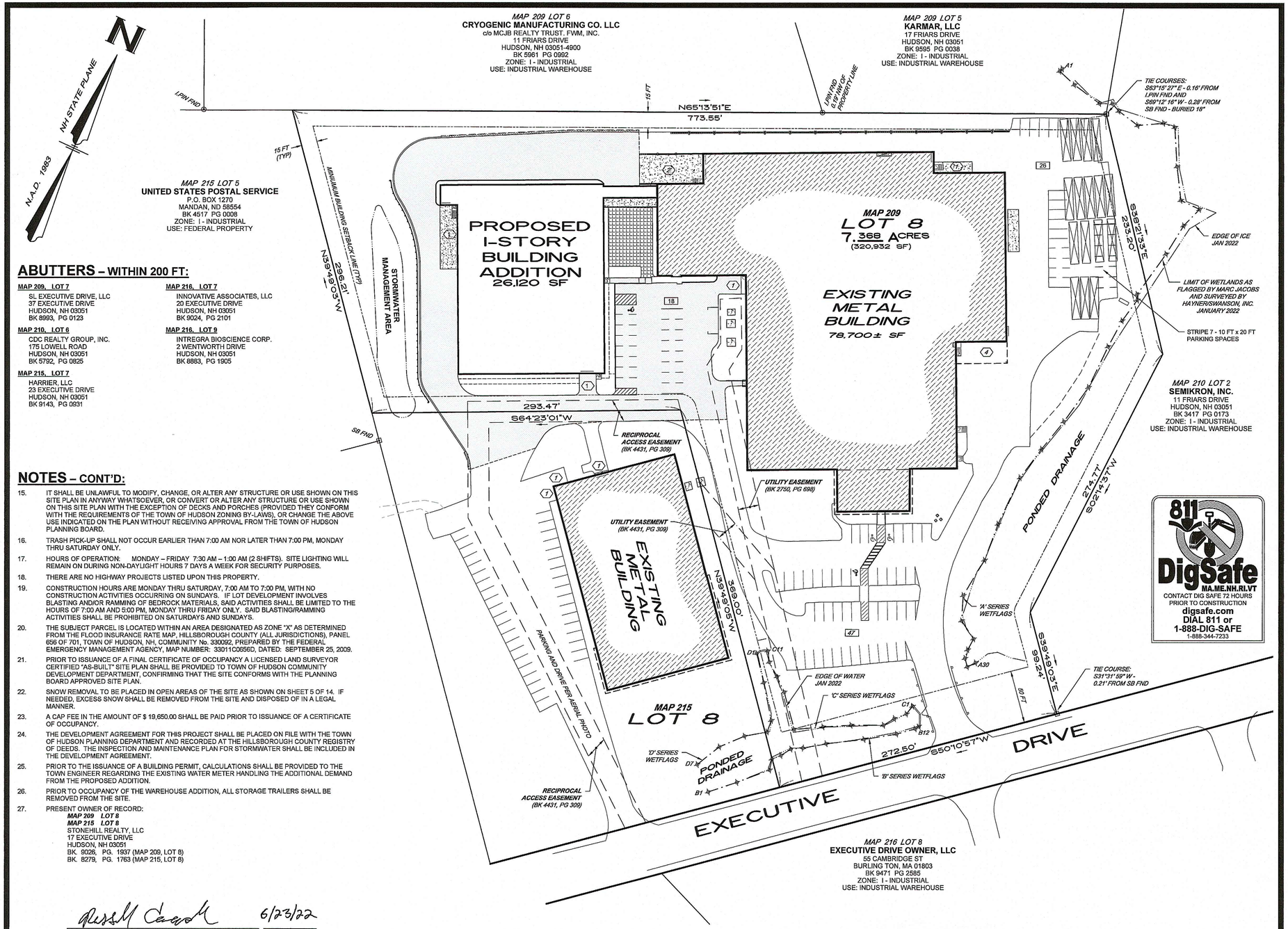
VICINITY PLAN
SCALE 1" = 1,000'

STATE OF NEW HAMPSHIRE
JAMES N. PETROPULOS
No. 10274
LICENSED PROFESSIONAL ENGINEER

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

STATE OF NEW HAMPSHIRE
No. 855
DENNIS C. POLLOCK
SIGNATURE
LICENSED LAND SURVEYOR

FILE No. J:\5000\5843\DWG\5843 SITE\5843SITE-CS00



ABUTTERS – WITHIN 200 FT:

MAP 209, LOT 7
SL EXECUTIVE DRIVE, LLC
37 EXECUTIVE DRIVE
HUDSON, NH 03051
BK 8993, PG 0123

MAP 210, LOT 6
CDC REALTY GROUP, INC.
175 LOWELL ROAD
HUDSON, NH 03051
BK 5792, PG 0825

MAP 215, LOT 7
HARRIER, LLC
23 EXECUTIVE DRIVE
HUDSON, NH 03051
BK 9143, PG 0931

MAP 216, LOT 7
INNOVATIVE ASSOCIATES, LLC
20 EXECUTIVE DRIVE
HUDSON, NH 03051
BK 9024, PG 2101

MAP 216, LOT 9
INTREGRA BIOSCIENCE CORP.
2 WENTWORTH DRIVE
HUDSON, NH 03051
BK 8883, PG 1905

NOTES – CONT'D:

15. IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN WITH THE EXCEPTION OF DECKS AND PORCHES (PROVIDED THEY CONFORM WITH THE REQUIREMENTS OF THE TOWN OF HUDSON ZONING BY-LAWS), OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE TOWN OF HUDSON PLANNING BOARD.
16. TRASH PICK-UP SHALL NOT OCCUR EARLIER THAN 7:00 AM NOR LATER THAN 7:00 PM, MONDAY THRU SATURDAY ONLY.
17. HOURS OF OPERATION: MONDAY – FRIDAY 7:30 AM – 1:00 AM (2 SHIFTS). SITE LIGHTING WILL REMAIN ON DURING NON-DAYLIGHT HOURS 7 DAYS A WEEK FOR SECURITY PURPOSES.
18. THERE ARE NO HIGHWAY PROJECTS LISTED UPON THIS PROPERTY.
19. CONSTRUCTION HOURS ARE MONDAY THRU SATURDAY, 7:00 AM TO 7:00 PM, WITH NO CONSTRUCTION ACTIVITIES OCCURRING ON SUNDAYS. IF LOT DEVELOPMENT INVOLVES BLASTING AND/OR RAMMING OF BEDROCK MATERIALS, SAID ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM AND 5:00 PM, MONDAY THRU FRIDAY ONLY. SAID BLASTING/RAMMING ACTIVITIES SHALL BE PROHIBITED ON SATURDAYS AND SUNDAYS.
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22. SNOW REMOVAL TO BE PLACED IN OPEN AREAS OF THE SITE AS SHOWN ON SHEET 5 OF 14. IF NEEDED, EXCESS SNOW SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER.
23. A CAP FEE IN THE AMOUNT OF $ 19,650.00 SHALL BE PAID PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
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25. PRIOR TO THE ISSUANCE OF A BUILDING PERMIT, CALCULATIONS SHALL BE PROVIDED TO THE TOWN ENGINEER REGARDING THE EXISTING WATER METER HANDLING THE ADDITIONAL DEMAND FROM THE PROPOSED ADDITION.
26. PRIOR TO OCCUPANCY OF THE WAREHOUSE ADDITION, ALL STORAGE TRAILERS SHALL BE REMOVED FROM THE SITE.
27. PRESENT OWNER OF RECORD:
    MAP 209 LOT 8
    MAP 215 LOT 8
    STONEHILL REALTY, LLC
    17 EXECUTIVE DRIVE
    HUDSON, NH 03051
    BK. 9026, PG. 1937 (MAP 209, LOT 8)
    BK. 8279, PG. 1763 (MAP 215, LOT 8)

Russell Cavanaugh 6/23/22
FOR STONEHILL REALTY, LLC — DATE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

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▶ ZONING NOTE ◀
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CERTIFICATION

PURSUANT TO RSA 676:18,III AND RSA 672:14

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

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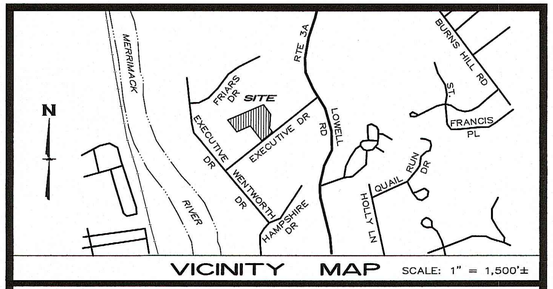
I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTEEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

6/21/22
DATE

STATE OF NEW HAMPSHIRE — No. 885 — DENNIS C. POLLOCK — LICENSED LAND SURVEYOR

DENNIS C. POLLOCK, LLS

811 DigSafe
MA.ME.NH.RI.VT
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
DIAL 811 or
1-888-DIG-SAFE
1-888-344-7233



VICINITY MAP SCALE: 1" = 1,500'±

NOTES:

1. LOT AREA: (MAP 209, LOT 8) 7.368 ACRES (320,932 SF)
2. PRESENT ZONING: I - INDUSTRIAL
   MINIMUM LOT REQUIREMENTS:
   - LOT AREA 30,000 SF
   - LOT FRONTAGE 150 FT
   MINIMUM BUILDING SETBACKS REQUIREMENTS
   - FRONT YARD 50 FT
   - SIDE YARD 15 FT
   - REAR YARD 15 FT
   MAXIMUM BUILDING HEIGHT: 50 FT
3. LOT NUMBERS REFER TO THE TOWN OF HUDSON ASSESSORS MAPS 209, 210, 215 AND 216.
4. SITE IS CURRENTLY SERVICED BY MUNICIPAL WATER AND MUNICIPAL SEWER, GAS AND OVERHEAD ELECTRIC AND TELECOMMUNICATION UTILITIES.
5. PURPOSE OF PLAN:
   TO SHOW PROPOSED BUILDING ADDITION ALONG WITH ACCOMPANYING PARKING LOADING AND SITE IMPROVEMENTS ON MAP 209, LOT 8; WITH MINOR REPAVING AND DRAINAGE IMPROVEMENTS ON MAP 215, LOT 8.
6. PARKING:
   REQUIRED: 1 SPACE/600 SF X 104,820 SF (INDUSTRIAL) = 175 SPACES
   PROVIDED: (INCLUDES 4 ACCESSIBLE SPACES) = 91 SPACES *
   * WAIVER REQUESTED
7. LOADING:
   REQUIRED: 11 SPACES
   PROVIDED: 10 SPACES
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   MAXIMUM: 50 FT
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    HORIZONTAL DATUM: NAD83
    PROJECTION: NH STATE PLANE
    VERTICAL DATUM: NGVD29
    UNITS: US SURVEY FEET
11. ALL SIGNS ARE SUBJECT TO APPROVAL BY THE HUDSON PLANNING BOARD PRIOR TO INSTALLATION THEREOF.
12. SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT (LATEST EDITION).
13. SITE LIGHTING SHALL BE SHOWN ON THE PLAN, DIRECTED ONTO THE SITE, AND SHALL CONFORM WITH ALL APPLICABLE TOWN OF HUDSON ZONING REGULATIONS.
14. SHEETS 1 AND 2 OF 14 SHALL BE RECORDED AT THE HILLSBOROUGH REGISTRY OF DEEDS. A COMPLETE SET OF PLANS SHALL BE ON FILE WITH THE TOWN OF HUDSON COMMUNITY DEVELOPMENT DEPARTMENT.

REVIEW ONLY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

MASTER SITE PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

50 0 50 100 150 200 FEET
25 0 25 50 METERS
SCALE: 1"=50 Feet
1"=15.240 Meters

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
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FIELD BOOK: 1284	DRAWING NAME: 5843SITE-FQS1	5843 SITE	1 OF 14
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

PLAN REFERENCES:

1. AMENDED SITE PLAN, THE TELEGRAPH, 17 EXECUTIVE DRIVE, HUDSON, NH, PREPARED FOR DAVID W. CHEEVER, ARCHITECT, SCALE: 1" = 40', DATED: OCTOBER 21, 1999 WITH REVISIONS THRU 12/22/99 AND PREPARED BY TFM.
   RECORDED: HCRD – PLAN No. 31078.
2. UPDATED SITE PLAN, MAP 10, LOT 15, THE TELEGRAPH, 17 EXECUTIVE DRIVE, HUDSON, NH, PREPARED FOR: DAVID W. CHEEVER, ARCHITECT, SCALE: 1" = 40', DATED: JUNE 8, 1995 WITH REVISIONS THRU 10/13/95 AND PREPARED BY TFMORAN, INC.
   RECORDED: HCRD – PLAN No. 27676.
3. SITE PLAN, THE TELEGRAPH, MAP 10 LOT 15, 17 EXECUTIVE DRIVE, HUDSON, NH, SCALE: 1" = 40', DATED: 4 DECEMBER 1986 AND PREPARED BY: DAVID W. CHEEVER, ARCHITECT
   RECORDED: HCRD – PLAN No. 21082.
4. RESUBDIVISION & CONSOLIDATION PLAN OF LAND, TELEGRAPH PUBLISHING CO., HUDSON, NEW HAMPSHIRE, SCALE: 1" = 40', DATED: NOVEMBER 24, 1986 WITH REVISIONS THRU 02/03/87 AND PREPARED BY THOMAS F. MORAN, INC.
   RECORDED: HCRD – PLAN No. 21080.
5. RESUBDIVISION PLAN, ROBERT ROBBINS & FERD CORP. & UPACO ADHESIVIES INC., HUDSON, NEW HAMPSHIRE, SCALE: 1" = 100', DATED: NOVEMBER 14, 1973 WITH REVISIONS THRU 04/07/76 AND PREPARED BY: THOMAS F. MORAN, INC.
   RECORDED: HCRD – PLAN No. 9509.
6. RESUBDIVISION PLAN, ROBERT ROBBINS & FERD CORP. & UPACO ADHESIVIES INC., HUDSON, NEW HAMPSHIRE, SCALE: 1" = 100', DATED: NOVEMBER 14, 1973 WITH REVISIONS THRU 09/13/74 AND PREPARED BY: THOMAS F. MORAN, INC.
   RECORDED: HCRD – PLAN No. 7937.

EASEMENTS, RIGHTS & RESTRICTIONS (E,R&R)

1. THE PARCEL IS SUBJECT TO THE TELEGRAPH AMENDED SITE PLAN DEVELOPMENT AGREEMENT BETWEEN TELEGRAPH PUBLISHING COMPANY AND THE TOWN OF HUDSON, DATED 11/11/2000 AND RECORDED IN BK 6411, PG 1082.
2. THE PARCEL IS SUBJECT TO AND HAS THE BENEFIT OF THE EASEMENT AGREEMENT AS DESCRIBED IN BK 4431, PG 309 AND DATED 10/5/1987, WHICH INCLUDES RECIPROCAL ACCESS AGREEMENTS BETWEEN THE SUBJECT PARCEL AND ABUTTING LOT 215-8, AS WELL AS A UTILITY EASEMENT OVER THE SUBJECT PARCEL BENEFITING ABUTTING LOT 216-8.
3. A PORTION OF THE PROPERTY IS SUBJECT TO THE UTILITY EASEMENT BENEFITING NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY AND PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE AS DESCRIBED IN BK 2750, PG 698 AND DATED 1/29/1980.
4. IN SO MUCH AS THEY MAY STILL BE IN EFFECT, THE PARCEL IS SUBJECT TO THE MODIFIED PROTECTIVE COVENANT STANDARDS FOR LAND KNOWN AS EXECUTIVE PARK, HUDSON, NEW HAMPSHIRE AS DESCRIBED IN BK 2734, PG 704 AND DATED 11/9/1979.
5. THE PARCEL IS SUBJECT TO THE RIGHT AND EASEMENT BENEFITING PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE AND NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY AS DESCRIBED IN BK 2323, PG 533 AND DATED 8/7/1973.
6. THE PARCEL IS SUBJECT TO SUCH IMPLIED EASEMENT(S) AND/OR RIGHT(S) AS MAY EXIST, IF ANY SUCH THERE MAY BE, AS RESERVED IN DEED FROM LIZZIE M. HOLT TO PETER KASHULINES RECORDED IN BK 727, PG 249 AND DATED NOVEMBER 24, 1914.

WAIVERS GRANTED ON JUNE 8, 2022:

1. SPR 275-8C (2) REQUIRED PARKING SPACES.
2. SPR 275-8C (6) REQUIRED LOADING SPACES.

WAIVERS REQUESTED:

3. SPR 275-8C (7)(a) & (b) 10% INTERIOR LANDSCAPING.

SURVEY NOTES:

1. TOPOGRAPHY SHOWN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE IN JANUARY THRU FEBRUARY 2022.
2. UTILITIES SHOWN ARE APPROXIMATE BASED ON RECORD PLANS AND OBSERVED EVIDENCE.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF THE EXISTING TOPOGRAPHY PRIOR TO EARTHWORK OPERATIONS. NO CLAIM FOR EXTRA WORK DUE TO TOPOGRAPHIC INACCURACY SHALL BE CONSIDERED AFTER EARTHWORK HAS COMMENCED.
4. SURVEY CONTROL:
   HORIZONTAL DATUM: NAD83 PROJECTION: NH STATE PLANE
   VERTICAL DATUM: NGVD29 SCALE FACTOR APPLIED: 1.000000
   UNITS: US SURVEY FEET
5. THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
7. TEST PITS AS SHOWN ARE APPROXIMATE. TEST PITS WERE PERFORMED UNDER THE SUPERVISION OF HAYNER/SWANSON, INC., NASHUA, NH.
8. THIS SITE CONTAINS WINDSOR (WdA, WdC), PIPESTONE (PlA) SOILS AND WATER (W), AS DETERMINED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) NATURAL RESOURCES CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY.

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.

SITE DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL STRUCTURES, PADS, WALLS, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE GEOTECHNICAL SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR SITE DEMOLITION AND DISPOSAL.
3. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
4. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ON SITE LOCATIONS OF EXISTING UTILITIES.
5. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. THE CONTRACTOR SHALL GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
6. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. THE CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN THE ROAD RIGHT OF WAY DURING CONSTRUCTION.
7. PRIOR TO SITE DEMOLITION OCCURRING, ALL APPROPRIATE EROSION CONTROL DEVICES ARE TO BE INSTALLED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE TOWN OF HUDSON PRIOR TO THE START OF DEMOLITION OR CONSTRUCTION. A DEMOLITION APPROVAL PERMIT SHALL BE OBTAINED FORM THE TOWN OF HUDSON PRIOR TO THE ANY BUILDING DEMOLITION.
9. FOR WORK WITHIN A PUBLIC STREET THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE TOWN ENGINEERING DEPARTMENT.
10. THE CONTRACTOR SHALL REMOVE AND STOCKPILE EXISTING SLOPE AND VERTICAL GRANITE CURB IN A LOCATION PROVIDED BY THE OWNER'S REPRESENTATIVE. CURB THAT IS IN GOOD CONDITION AND ACCEPTABLE TO THE OWNER'S REPRESENTATIVE MAY BE REUSED IN LOCATIONS SHOWN ON THE SITE GRADING & UTILITY PLAN. SURPLUS OR UNACCEPTABLE CURB SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROPERTY.

CONSTRUCTION SEQUENCE:

1. INSTALL SILT SOCK AND CONSTRUCT GRAVEL CONSTRUCTION EXIT AS SHOWN ON THE PLAN.
2. CLEAR & GRUB SITE ACCORDING TO PLAN. CUT AND DISPOSE OF ANY DEBRIS PRODUCED DURING THE CLEARING AND GRUBBING ACTIVITY.
3. PERFORM SITE GRADING OF THE PROPOSED BUILDING ADDITION, PARKING AND LOADING AREAS. ALL SIDE SLOPES SHALL BE LOAMED AND SEEDED AND MULCHED IMMEDIATELY AFTER BEING CONSTRUCTED.
4. BEGIN BUILDING ADDITION AND LOADING AREA CONSTRUCTION.
5. INSTALL SITE UTILITIES IN ACCORDANCE WITH THE PLAN.
6. INSTALL INLET PROTECTION AROUND ALL STORM DRAIN STRUCTURES. INSTALLATION OF UNDERGROUND UTILITIES AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT IN ACCORDANCE WITH THE 'SILTSACK DETAIL'. THE CONTROL SHALL REMAIN UNTIL THE SITE IS SUFFICIENTLY STABILIZED.
7. PREPARE SITE FOR PAVING.
8. AS BUILDING ADDITION AND LOADING AREAS ARE COMPLETED, ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED, NO PORTION OF THE PROJECT SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR A PERIOD OF 30 DAYS.
9. LOAM AND SEED ALL REMAINING DISTURBED AREAS. COMPLETED AREAS SHALL BE STABILIZED 72 HOURS AFTER BEING CONSTRUCTED.
10. FINAL PAVING OF LOADING AREA AND PARKING AREAS.
11. INSPECTION OF ALL SEDIMENT AND EROSION CONTROL MEASURES.
12. SITE LANDSCAPING ALONG WITH PERMANENT SEEDING OF DISTURBED AREAS.
13. REMOVE ANY TEMPORARY EROSION CONTROL MEASURES NOT NEEDED.

SNOW STORAGE AND DE-ICING PLAN:

- PRIOR TO FIRST STORM, ESTABLISH PLOWING SCHEDULE AND REVIEW PROPOSED MATERIALS FOR TREATMENT OF ICE/SNOW CONDITIONS.
- CONDUCT SITE VISIT TO CONFIRM SNOW STORAGE AREAS CONSISTENT WITH APPROVED SITE PLAN.
- CALCIUM CHLORIDE, SAND AND NON-TOXIC ADDITIVES PRE-APPROVED BY AIREX WILL BE APPLIED.
- USE OF GLYCOL-CONTAINING DE-ICING PRODUCTS IS PROHIBITED.
- USE OF SODIUM CHLORIDE (AKA ROCK SALT) AND/OR SODIUM CHLORIDE BLENDS ARE PROHIBITED.
- MATERIALS ARE TO BE APPLIED TO IMPERVIOUS SURFACES ONLY; LANDSCAPING AND GRASSED AREAS ARE TO BE AVOIDED.
- PLOW LOGS TO RECORD DATE/TIME AND WORK PERFORMED WILL BE MAINTAINED BY THE CONTRACTOR AND PROVIDED TO AIREX.
- SNOW STORAGE AREAS WILL BE MONITORED; WHEN SIZE OR HEIGHT BECOMES AN ISSUE SNOW WILL BE REMOVED FROM THE SITE AS DIRECTED BY AIREX.
- DEPENDENT ON THE FORECAST AND IF EXTENDED COLD WEATHER OR SNOW IS ANTICIPATED, CONTRACTOR WILL PRETREAT ALL DRIVEWAYS AND SIDEWALKS PRIOR TO A STORM, AS NEEDED.
- SAND MAY BE APPLIED BY HAND, SIDEWALK SPREADER OR TRUCK SPREADER, TO PROVIDE ADDITIONAL TRACTION.
- ALL SAND APPLIED OVER THE COURSE OF THE WINTER SEASON WILL BE COLLECTED AND REMOVED FROM THE SITE BASED ON SEASONAL CONDITIONS BUT NO LATER THAN MAY 15TH OF EACH YEAR.
- AT NO TIME SHALL SNOW BE PLOWED TO OR STOCKPILED IN THE STORMWATER DETENTION BASIN LOCATED ALONG THE NORTHWEST PORTION OF THE PROPERTY.

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO FILE AN ELECTRONIC NOTICE OF INTENT (ENOI) WITH THE US-EPA A MINIMUM OF 14 DAYS PRIOR TO COMMENCING ANY EARTHWORK OPERATIONS.
2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH THE PROJECT SHALL OBTAIN A COPY OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND SHALL COMPLY WITH THE TERMS OF SWPPP AND NPDES PERMIT.
3. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY SITE CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
5. STOCKPILE AREAS SHALL BE SURROUNDED BY SILT SOCK AND RE-SEEDED IF THEY ARE LEFT UNTOUCHED FOR MORE THAN FOURTEEN (14) DAYS.
6. ALL MEASURES STATED ON THIS EROSION CONTROL PLAN, AND IN THE STORMWATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETE PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION CONTROL MEASURES SHALL BE CHECKED BY A QUAUIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT.
7. SILT SOCK SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED.
8. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
9. ALL SEEDED AREAS SHALL BE CHECK REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED.
10. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXIT AS CONDITIONS DEMAND.
11. THE TOWN OF HUDSON RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION IF NEEDED.

CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF HUDSON, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, LATEST ADDITION, ARE HEREBY INCORPORATED BY REFERENCE.
2. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPT., HUDSON, NEW HAMPSHIRE. ALL DRAINAGE PIPES SHALL BE ADS N-12 (SOIL TIGHT). CATCH BASINS SHALL BE TYPE B, AND HAVE 4 FT SUMPS AND GAS HOODS UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
4. WATER SUPPLY, GAS, AND TELECOMMUNICATION UTILITIES SHALL BE EXTENDED FROM THE EXISTING BUILDING TO THE PROPOSED ADDITION WITHIN THE BUILDING STRUCTURE. NO NEW SANITARY SEWER IS REQUIRED
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND MAINTAINED THROUGH THE CONSTRUCTION PROCESS UNTIL STABILIZATION OCCURS.
6. STUMPS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
7. DIMENSIONS TO CURB AND GUTTERS INDICATE EDGE OF PAVING UNLESS OTHERWISE NOTED.
8. EXISTING PAVEMENT SHALL BE SAW-CUT AS NECESSARY. CONTRACTOR SHALL ENSURE A SMOOTH TRANSITION BETWEEN NEW AND EXISTING PAVEMENT.
9. OFF-SITE FILL MATERIAL
   A. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING, CONTAINING, AND DULY REMOVING ALL CONSTITUENTS OF CONCERN BROUGHT TO THE SITE BY CONTRACTOR, SUBCONTRACTORS, SUPPLIERS, OR ANYONE ELSE FOR WHOM CONTRACTOR IS RESPONSIBLE, AND FOR ANY ASSOCIATED COSTS; AND FOR THE COSTS OF REMOVING AND REMEDIATING ANY HAZARDOUS ENVIRONMENTAL CONDITION CREATED BY THE PRESENCE OF ANY SUCH CONSTITUENTS OF CONCERN.
   B. CONTRACTOR SHALL NOT IMPORT ANY FILL OVER THE AMOUNT OF TEN CUBIC YARDS CUMULATIVE TOTAL PER SOURCE TO ANY JOB SITE IN THE TOWN OF HUDSON WITHOUT SOILS TESTING VERIFYING THE ABSENCE OF ALL CONSTITUENTS OF CONCERN, AND WITHOUT PRIOR APPROVAL BY ENGINEERING DEPARTMENT STAFF. DOCUMENTATION SUCH AS TEST REPORTS, CERTIFICATIONS AND SIEVE ANALYZES OF FILL SHALL BE PROVIDED TO THE ENGINEERING DEPARTMENT FOR APPROVAL PRIOR TO TRANSPORTING THE MATERIAL TO HUDSON.
10. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN ENGINEER FOR ANY REQUIRED BOND OR ESCROW.

▶ UTILITY NOTE ◀

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

811 DigSafe MA.ME.NH.RI.VT
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
DIAL 811 or 1-888-DIG-SAFE
1-888-344-7233

CERTIFICATION

PURSUANT TO RSA 676:18,III AND RSA 672:14

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

I FURTHER CERTIFY, TO MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN SHOWS THE RESULTS OF AN ON THE GROUND "STANDARD PROPERTY SURVEY" AND THAT SAID SURVEY MEETS THE MINIMUM PRECISION AND/OR ACCURACY MEASUREMENTS FOR SURVEY CLASSIFICATION "U" (URBAN) AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS ADOPTED 08/23/01, EFFECTIVE 01/01/09.

I FURTHER CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN FIFTEEN THOUSAND ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

STATE OF NEW HAMPSHIRE — No. 855 — DENNIS C. POLLOCK — LICENSED LAND SURVEYOR — SIGNATURE

6/21/22
DATE

DENNIS C. POLLOCK, LLS

TEST PIT LOGS

MAP 209 LOT 8
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE
HUDSON, NH

WEATHER: 45-50° CLEAR
EQUIPMENT: BOBCAT E45 MINI EXCAVATOR
LOGGED BY: PAUL CARIDEO, NHDES PERMIT #68

TEST PIT # 1 DATE: 3/21/22

0-28" FILL MATERIAL, LEAVES, WOOD, LOAM AND SAND
28-36" 10YR 3/2, VERY DARK GRAYISH BROWN, FINE SANDY LOAM, FRIABLE, MASSIVE WITH FEW ROOTS
36-42 10YR 5/4, YELLOWISH BROWN, SANDY LOAM, FRIABLE, FINE GRANULAR WITH FEW ROOTS
42-60" 10YR 6/4, LIGHT YELLOWISH BROWN, FINE SAND, VERY FRIABLE, GRANULAR WITH FEW ROOTS
60-96" 10YR 5/4, YELLOWISH BROWN, LOAMY SAND, 2% ROUNDED COBBLES, VERY FRIABLE, FINE GRANULAR WITH FEW ROOTS TO 72"

ESHWT: NONE OBSERVED OWT: NONE ROOTS: 72 LEDGE: NONE

TEST PIT # 2 DATE: 3/21/22

0-6" 10YR 3/3, DARK BROWN, SANDY LOAM, VERY FRIABLE, VERY FRIABLE WITH FEW ROOTS
6-14" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, VERY FRIABLE, FINE GRANULAR WITH COMMON ROOTS
14-48" 10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 10% GRAVEL, LOOSE, SINGLE GRAIN, WITH FEW ROOTS
48-70" 10YR 7/3, VERY PALE BROWN, COARSE SAND, LOOSE, SINGLE GRAIN WITH FEW ROOTS
70-100" 10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 5% GRAVEL, 10% ROUNDED COBBLES, LOOSE, SINGLE GRAIN, WITH FEW ROOTS TO 78"
100-132" 10YR 7/3, VERY PALE BROWN, COARSE SAND, LOOSE AND SINGLE GRAIN

ESHWT: NONE OBSERVED OWT: NONE ROOTS: 78" LEDGE: NONE

TEST PIT # 3 DATE: 3/21/22

0-16" 10YR 3/3, DARK BROWN, SANDY LOAM, VERY FRIABLE, VERY FRIABLE WITH FEW ROOTS
16-28" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, VERY FRIABLE, FINE GRANULAR WITH COMMON ROOTS
28-72" 10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 10% GRAVEL, LOOSE, SINGLE GRAIN, WITH FEW ROOTS
72-100" 10YR 7/3, VERY PALE BROWN, COARSE SAND, LOOSE, SINGLE GRAIN WITH FEW ROOTS TO 78"
100-120" 10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 5% GRAVEL, 10% ROUNDED COBBLES, LOOSE, AND SINGLE GRAIN

ESHWT: NONE OBSERVED OWT: NONE ROOTS: 78" LEDGE: NONE

TOWN OF HUDSON CONTACTS

PLANNING DEPARTMENT
HUDSON PLANNING DEPT.
12 SCHOOL STREET
HUDSON, NH 03051
ATT: BRIAN GROTH, AICP
LAND USE DIRECTOR
(603) 886-6008

ENGINEERING DEPARTMENT
HUDSON ENGINEERING DEPT.
12 SCHOOL STREET
HUDSON, NH 03051
ATT: ELVIS DHIMA, P.E.
TOWN ENGINEER
(603) 886-6008

FIRE DEPARTMENT
HUDSON FIRE DEPARTMENT
12 SCHOOL STREET
HUDSON, NH 03051
ATT: ROBERT BUXTON, FIRE CHIEF
(603) 886-6021

UTILITY CONTACTS

GAS:
LIBERTY UTILITIES
130 ELM STREET
MANCHESTER, NH 03103
ATT: ANDREW MORGAN
(603) 327-5357

TELEPHONE:
CONSOLIDATED COMMUNICATIONS
257 DANIEL WEBSTER HIGHWAY
MERRIMACK, NH 03054
ATT: HEATHER ARUJUO
(603) 296-5998

POWER:
EVERSOURCE
370 AMHERST STREET
NASHUA, NH 03060
ATT: MARC GAGNON
(603) 882-5894

No.	DATE	REVISION	BY
		REVIEW ONLY NOT FOR CONSTRUCTION	
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

NOTES AND LEGEND
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

NO SCALE

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-FQ51	5843 SITE	2 OF 14
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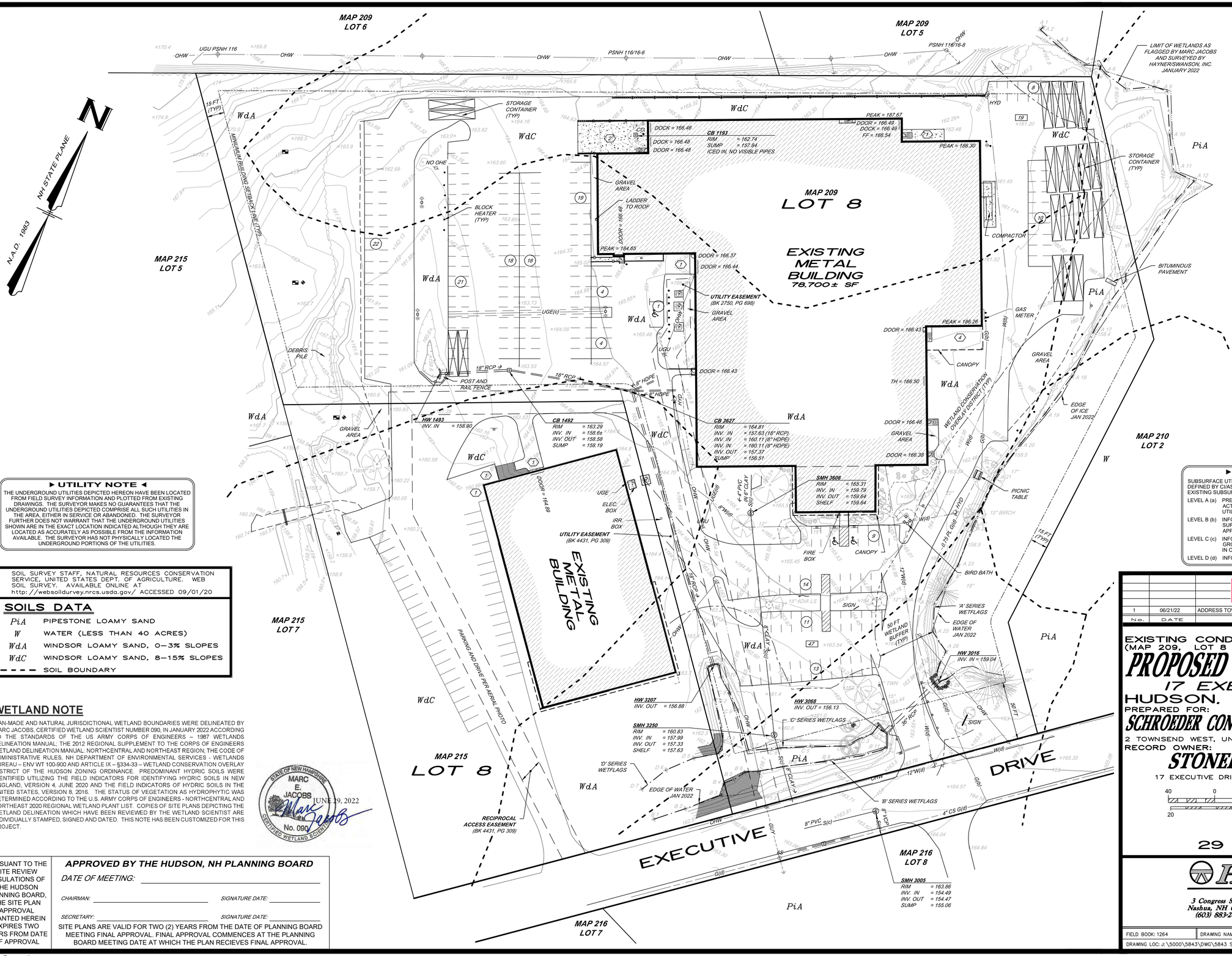

LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED GRADE
- PROPOSED SPOT GRADE
- STORM DRAIN & CATCH BASIN
- STORM DRAIN & MANHOLES
- STORM DRAIN & HEADWALL
- STORM DRAIN & END SECTION
- SANITARY SEWER & MANHOLES
- WATER MAIN & HYDRANT
- WATER MAIN & GATE VALVE
- GAS LINE & GATE VALVE
- UTILITY POLE WITH GUY SUPPORT
- STREET LIGHT
- LIGHT POLES
- OVERHEAD ELECTRIC & TELEPHONE
- UNDERGROUND ELEC/TEL & MANHOLES
- SIGN
- STONE BOUND
- IRON PIN
- TEMPORARY BENCHMARK
- BUILDING SETBACK LINE
- WETLAND FLAGGING LIMIT
- WETLAND BUFFER LINE
- CHAINLINK FENCE
- VERTICAL GRANITE CURBING
- SLOPE GRANITE CURBING
- STORMWATER RUNOFF DIRECTION
- HANDICAP PARKING SPACE
- PARKING SPACE COUNT
- LOADING SPACES COUNT
- GUARDRAIL
- PAVEMENT SAWCUT
- REINFORCED CONCRETE
- PROPOSED FULL-DEPTH PAVEMENT
- RIPRAP / STONE
- RETAINING WALL
- TREE LINE
- CONIFEROUS TREE
- DECIDUOUS TREE
- SHRUBS

▶ UTILITY NOTE ◀

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

▶ UTILITY QUALITY LEGEND ◀

SUBSURFACE UTILITIES AS DEPICTED ON THIS PLAN ARE IDENTIFIED BY QUALITY LEVELS DEFINED BY CI/ASCE 38-02 "ASCE STANDARD GUIDELINE FOR COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

- LEVEL A (a) PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENTS OF SUBSURFACE UTILITIES.
- LEVEL B (b) INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. (IE. DIGSAFE)
- LEVEL C (c) INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.
- LEVEL D (d) INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

SOIL SURVEY STAFF, NATURAL RESOURCES CONSERVATION SERVICE, UNITED STATES DEPT. OF AGRICULTURE. WEB SOIL SURVEY. AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/ ACCESSED 09/01/20

SOILS DATA

PiA	PIPESTONE LOAMY SAND
W	WATER (LESS THAN 40 ACRES)
WdA	WINDSOR LOAMY SAND, 0–3% SLOPES
WdC	WINDSOR LOAMY SAND, 8–15% SLOPES
- - - -	SOIL BOUNDARY

WETLAND NOTE

MAN-MADE AND NATURAL JURISDICTIONAL WETLAND BOUNDARIES WERE DELINEATED BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, IN JANUARY 2022 ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS – 1987 WETLANDS DELINEATION MANUAL; THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION; THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES - WETLANDS BUREAU – ENV WT 100-900 AND ARTICLE IX – §334-33 – WETLAND CONSERVATION OVERLAY DISTRICT OF THE HUDSON ZONING ORDINANCE. PREDOMINANT HYDRIC SOILS WERE IDENTIFIED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, JUNE 2020 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8, 2016. THE STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS - NORTHCENTRAL AND NORTHEAST 2020 REGIONAL WETLAND PLANT LIST. COPIES OF SITE PLANS DEPICTING THE WETLAND DELINEATION WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED, SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS PROJECT.

STATE OF NEW HAMPSHIRE — MARC E. JACOBS — No. 090 — CERTIFIED WETLAND SCIENTIST — JUNE 29, 2022

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

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SECRETARY: _____ SIGNATURE DATE: _____

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REVIEW ONLY
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No.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

EXISTING CONDITIONS PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

40 0 40 80 120 160 FEET
20 0 20 40 METERS
SCALE: 1"=40 Feet
1"=12.192 Meters

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-EC21	5843 SITE	3 OF 14
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

MAP 209 LOT 6

PSNH 5
NYNEX 29001R
15-5 UGW

MAP 209 LOT 5

MAP 209
LOT 8

MAP 215
LOT 5

MAP 215
LOT 7

MAP 215
LOT 8

STORAGE CONTAINERS TO BE REMOVED BY OWNER (TYP)

REMOVE UTILITY POLE

REMOVE BLOCK HEATERS AND WIRING

REMOVE BITUMINOUS PAVEMENT (TYP)

REMOVE UNDERGROUND ELECTRICAL LIGHTING CONDUIT/CABLE

REMOVE LIGHT POLE (TYP)

REMOVE CONCRETE HEADWALL

REMOVE P.T. WOOD FENCE

REMOVE 18" RCP AND CATCH BASIN

EXISTING UTILITY POLE TO BE PROTECTED WITH JERSEY BARRIERS OR OTHER APPROVED MEANS

INVERT FOR EXISTING 18" RCP TO BE SEALED WITH BRICK AND HYDRAULIC MORTAR

PAVEMENT SAWCUT (TYP)

EXISTING METAL BUILDING
78,700± SF

GRAVEL AREA

LADDER TO ROOF

RAMP

CANOPY

DEBRIS PILE

ELEC. METER

ELEC. BOX

HYD

TP 1 IT 1

TP 2 IT 2

TP 3

N.A.D. 1983 NH STATE PLANE

N

NOTE
SEE SHEET 2 OF 14 FOR SITE DEMOLITION NOTES

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

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SITE DEMOLITION PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

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HUDSON, NEW HAMPSHIRE

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2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

29 MARCH 2022

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FIELD BOOK: 1264 | DRAWING NAME: 5843SITE-DM21
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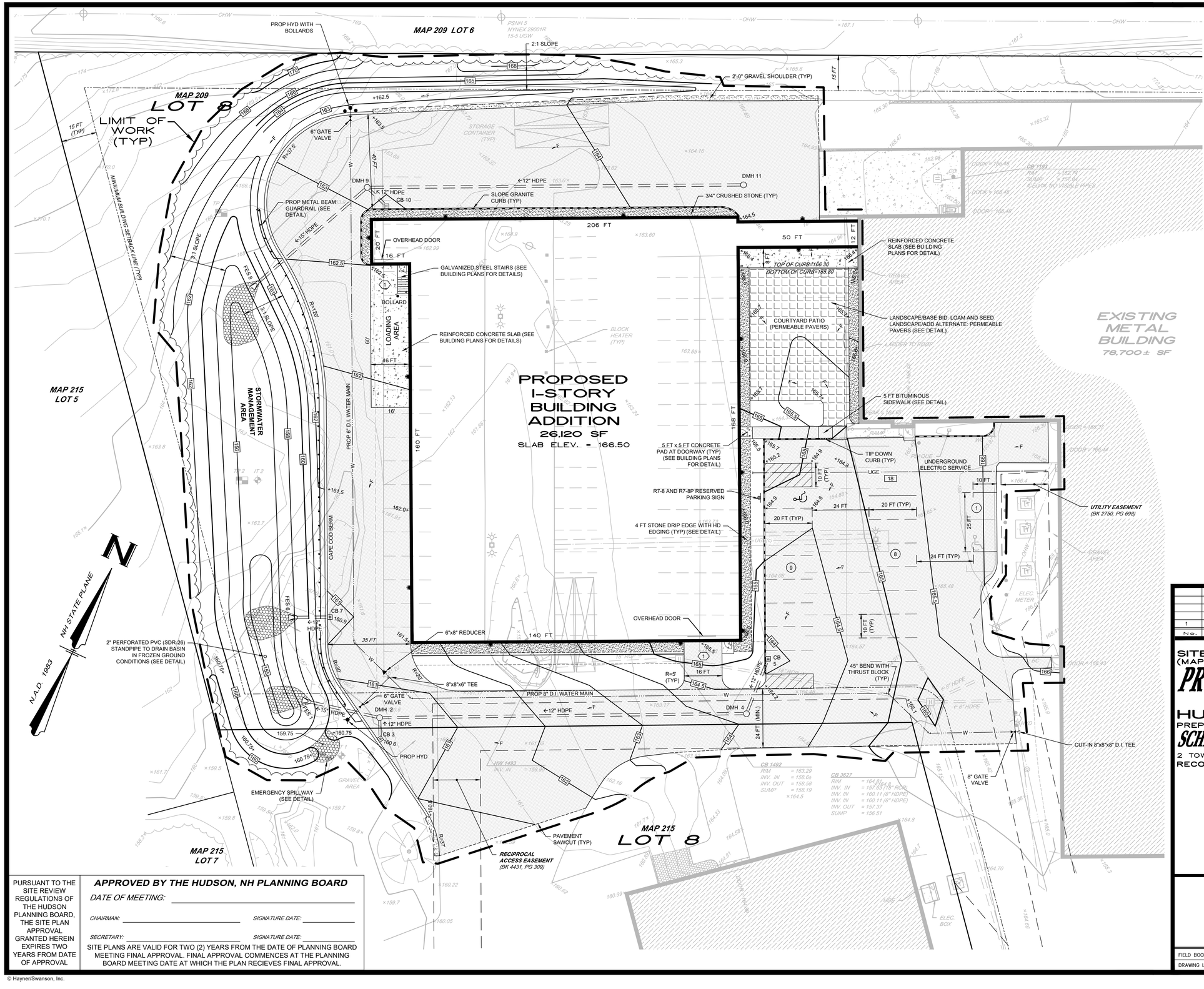
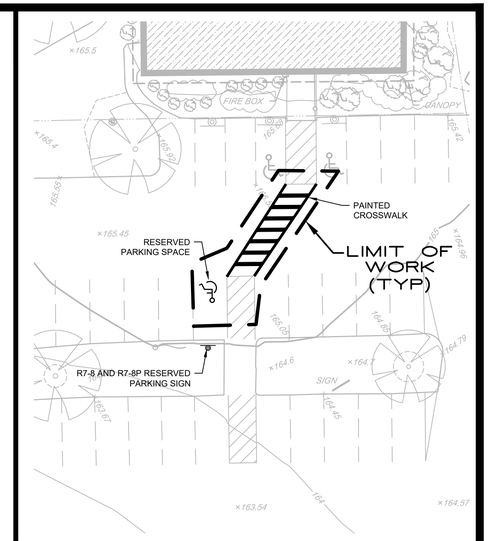
5843 SITE (File Number) | 4 OF 14 (Sheet)





RESERVED PARKING IMPROVEMENTS

NOTE
SEE SHEET 2 OF 14 FOR CONSTRUCTION NOTES

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

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SITE PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
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20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

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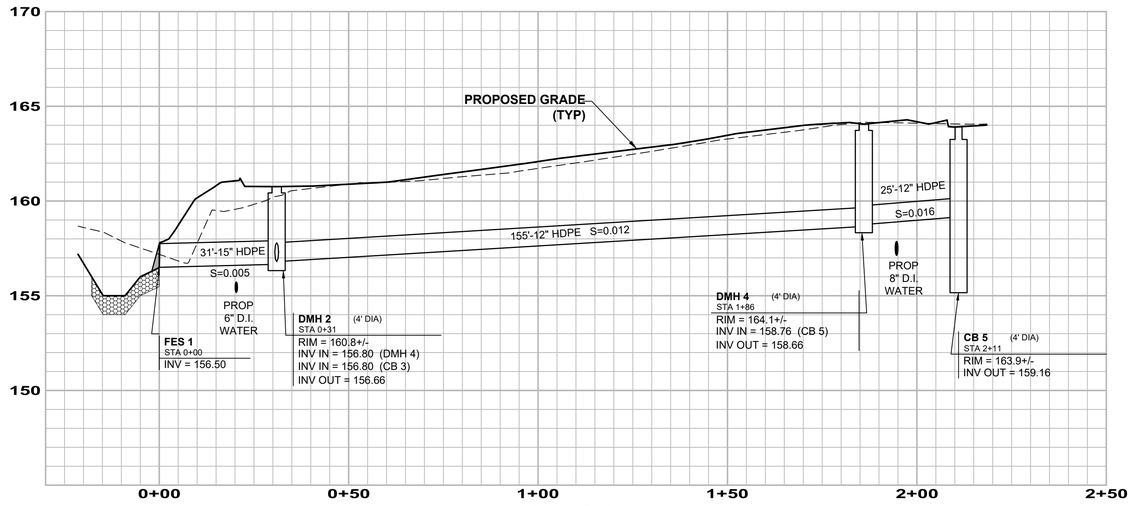
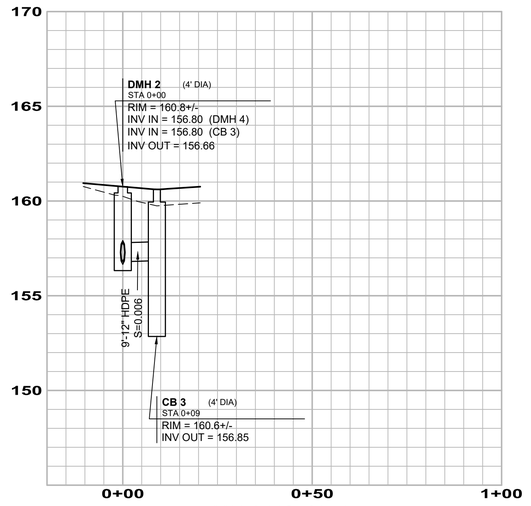
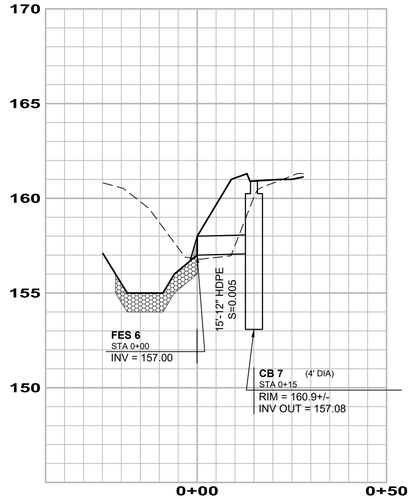


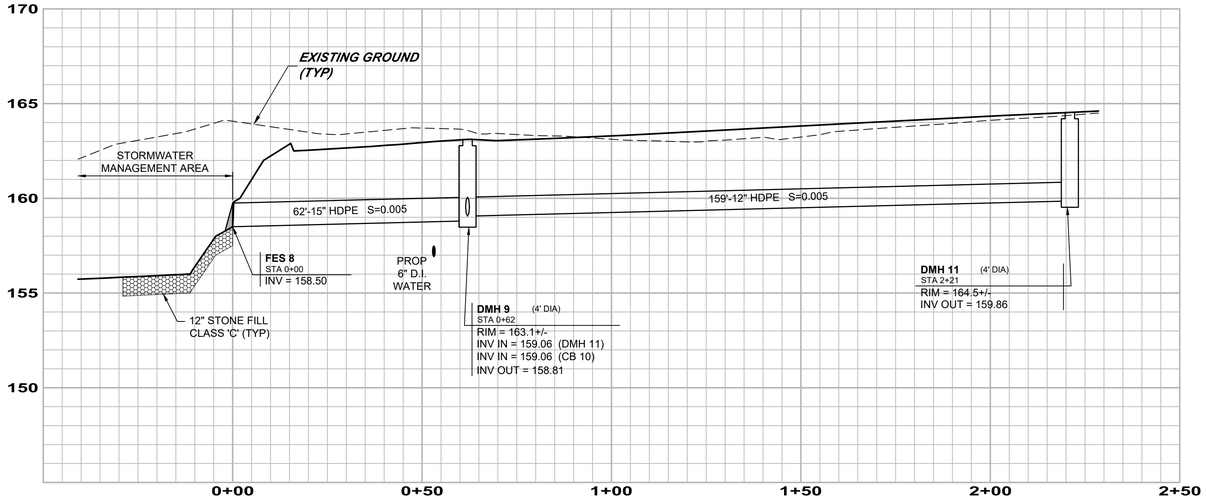
FES 1 TO CB 5



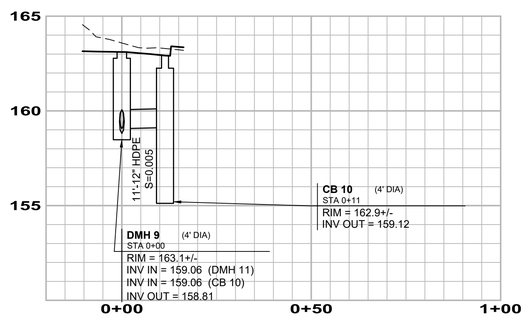
DMH 2 TO CB 3



FES 6 TO FES 7



FES 8 TO DMH 11



DMH 9 TO CB 10

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

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NOTES

1. STRUCTURE DIAMETERS AS SHOWN ON DRAINAGE PROFILES ARE CONSIDERED TO BE MINIMUM INSIDE DIMENSIONS. ALL STRUCTURES SHALL BE A MINIMUM INSIDE DIAMETER OF 48" UNLESS OTHERWISE INDICATED. LARGER STRUCTURES MAY BE NECESSARY DUE TO ALIGNMENT AND/OR PIPE SIZES. STRUCTURE MANUFACTURER SHALL DETERMINE FINAL SIZE.
2. PIPE LENGTHS ARE MEASURED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.
3. VERTICAL DATUM IS NGVD29 (SEE NOTE 4 ON SHEET 2).
4. SEE SHEET 8 OF 13 FOR ADDITIONAL STORMWATER MANAGEMENT AREA INFORMATION.

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1	06/21/22	ADDRESS TOWN COMMENTS	EDB

UTILITY PROFILES
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

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HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

20 0 20 40 60 80 FEET
SCALE: HORIZ. 1" = 20 Feet
VERT. 1" = 4 Feet

29 MARCH 2022

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FIELD BOOK: 1264	DRAWING NAME: 5843SITE-FY21	5843 SITE	6 OF 14
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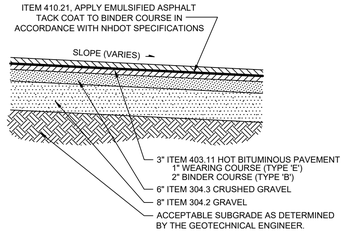
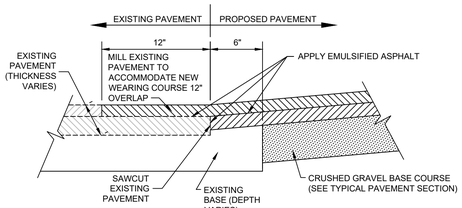


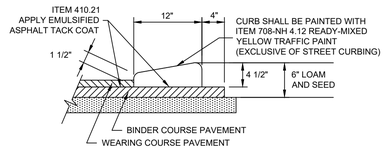
TYPICAL PAVEMENT SECTION

NOT TO SCALE



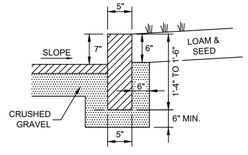
SAWCUT PAVEMENT DETAIL

NOT TO SCALE



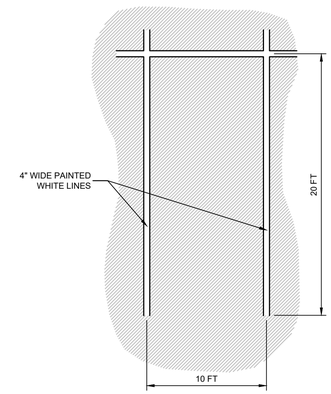
CAPE COD BERM DETAIL

NOT TO SCALE



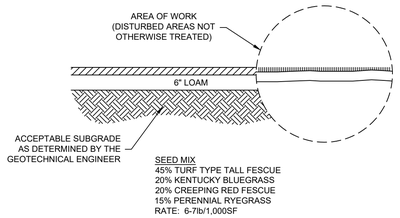
STRAIGHT OR CURVED GRANITE CURB

(ITEM 609.1 OR 609.2-MODIFIED)
NOT TO SCALE



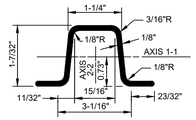
TYP. PARKING STALL DETAIL

NOT TO SCALE



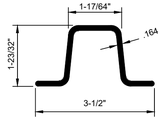
LOAM AND SEED DETAIL

NOT TO SCALE



SECTION P2-10, P2-11

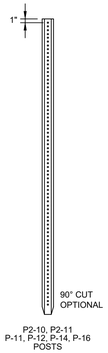
LENGTH: P2-10, 10'-0", P2-11, 11'-0"
WEIGHT PER LINEAR FOOT: 3.00 LBS
HOLES: 3/8" DIA. 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-5761 (GRADE 1070-1080).
FINISH: SHALL BE PAINTED WITH TWO COATS OF BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING. PAINT SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.



SECTION P-11 THRU P-16

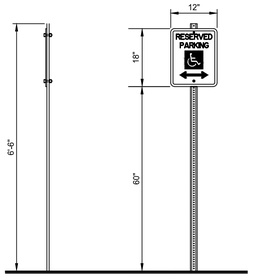
LENGTH: P-11', 11'-0", P-12', 12'-0", P-14, 14'-0", P-16, 16'-0"
WEIGHT PER LINEAR FOOT: 3.00 LBS
STEEL: SAME AS FOR P2-10, P2-11
FINISH: SAME AS FOR P2-10, P2-11

DIMENSIONS SHOWN ARE NOMINAL.
ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.



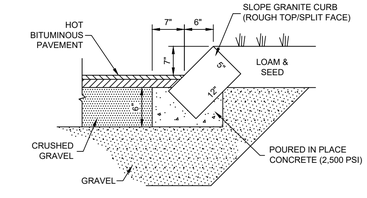
TRAFFIC SIGN SUPPORT DETAIL

NOT TO SCALE



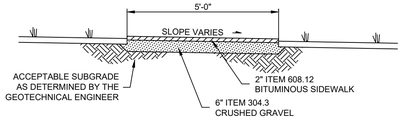
ACCESSIBLE PARKING SIGN DETAIL

NOT TO SCALE



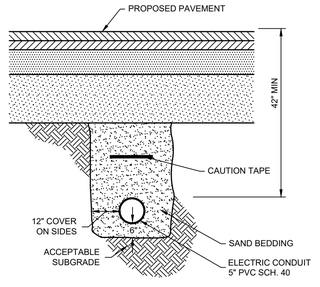
SLOPE GRANITE CURB DETAIL

NOT TO SCALE



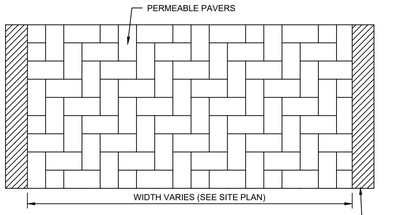
TYPICAL SECTION BITUMINOUS SIDEWALK

NOT TO SCALE

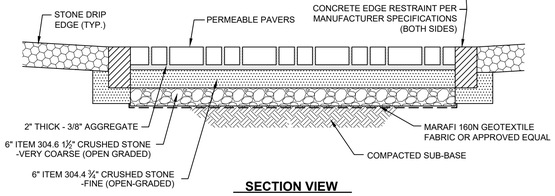


ELECTRIC SERVICE CONDUIT TYPICAL TRENCH SECTION

NOT TO SCALE



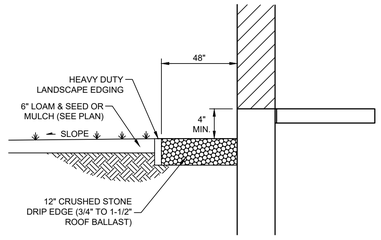
PLAN VIEW



SECTION VIEW

PERMEABLE PAVER TYPICAL SECTION (LANDSCAPE ADD ALTERNATE)

NOT TO SCALE



CRUSHED STONE DRIP EDGE DETAIL

NOT TO SCALE

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DATE OF MEETING: _____

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SECRETARY: _____ *SIGNATURE DATE:* _____

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REVIEW ONLY
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NO.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

DETAIL SHEET - GENERAL SITE
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

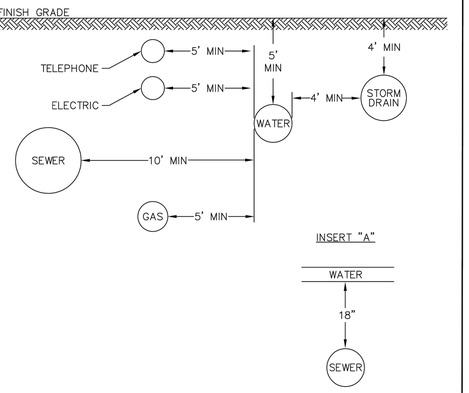
RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

SCALE AS SHOWN

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-DET1	5843 SITE	7 OF 14
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet



NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF HUDSON TECHNICAL SPECIFICATIONS.
2. ALL WATER MAINS SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL A-2 FOR TRENCH DETAIL.
4. SEE DETAIL A-11 FOR OUTSIDE SERVICE ENTRANCE DETAIL.
4. AT CROSSINGS WHERE 10' HORIZONTAL SEPERATION IS NOT POSSIBLE, 18" VERTICAL SEPERATION SHALL BE PROVIDED. SEE INSERT "A".

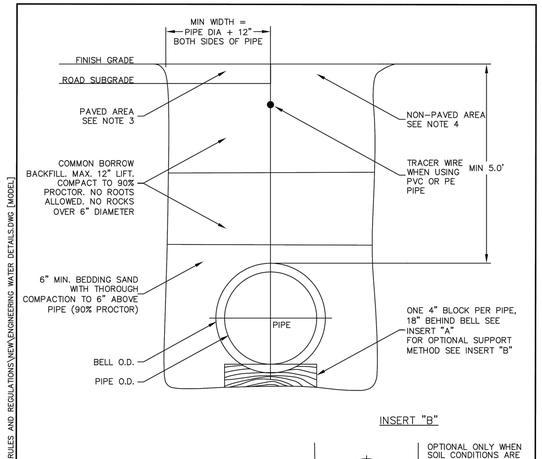
75

DRAWINGS COURTESY PENNICHUCK WATER WORKS.

TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, NH 03051

DETAIL W-1
WATER UTILITY SEPARATION
REV: 2019 SCALE: NTS

DRAWING: \\HD-FILESRVTH\ENGINEERING$\WATER\0-WATER RULES AND REGULATIONS\NEW\ENGINEERING WATER DETAILS.DWG [MODEL]



NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF HUDSON TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH TOWN OF HUDSON STANDARDS. SEE DEATIL R-1.
4. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH TOWN OF HUDSON STANDARDS. SEE DETAIL.

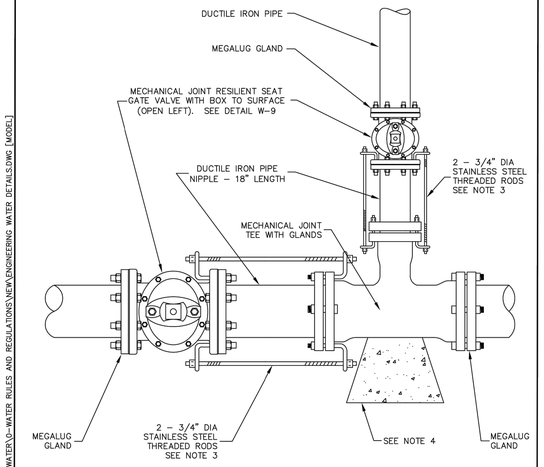
76

DRAWINGS COURTESY PENNICHUCK WATER WORKS.

TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, NH 03051

DETAIL W-2
WATER TRENCH
REV: 2019 SCALE: NTS

DRAWING: \\HD-FILESRVTH\ENGINEERING$\WATER\0-WATER RULES AND REGULATIONS\NEW\ENGINEERING WATER DETAILS.DWG [MODEL]



NOTES:

1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF HUDSON TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. ALL THREADED RODS AND NUTS MUST BE STAINLESS STEEL.
4. MIN 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH P.W.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN. SEE DETAIL W-7.

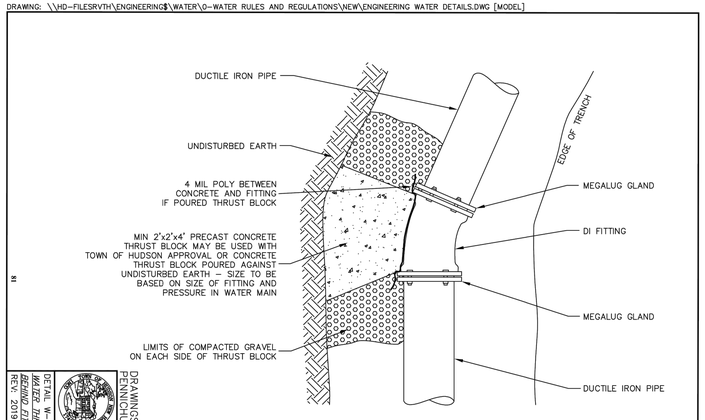
80

DRAWINGS COURTESY OF PENNICHUCK WATER WORKS.

TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, NH 03051

DETAIL W-6
WATER TEE INSTALLATION
REV: 2019 SCALE: NTS

DRAWING: \\HD-FILESRVTH\ENGINEERING$\WATER\0-WATER RULES AND REGULATIONS\NEW\ENGINEERING WATER DETAILS.DWG [MODEL]



NOTES:

1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF HUDSON TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.

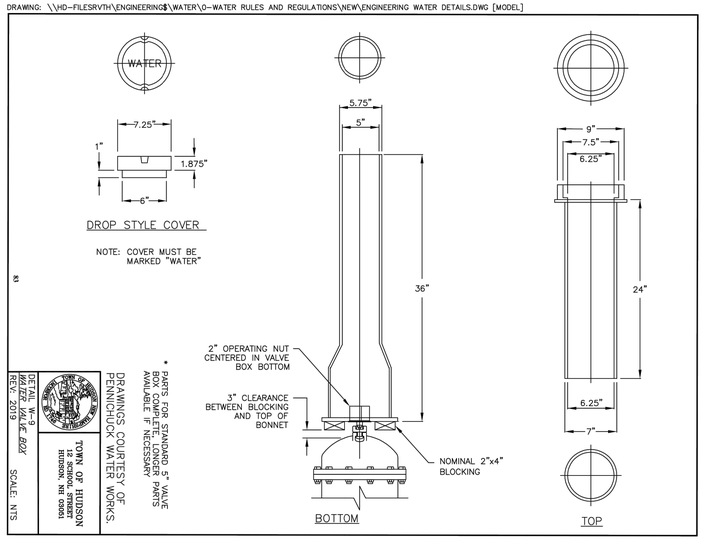
81

DRAWINGS COURTESY OF PENNICHUCK WATER WORKS.

TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, NH 03051

DETAIL W-7
WATER THRUST BLOCK BEHIND FITTINGS INSTALLATION
REV: 2019 SCALE: NTS

DRAWING: \\HD-FILESRVTH\ENGINEERING$\WATER\0-WATER RULES AND REGULATIONS\NEW\ENGINEERING WATER DETAILS.DWG [MODEL]



83

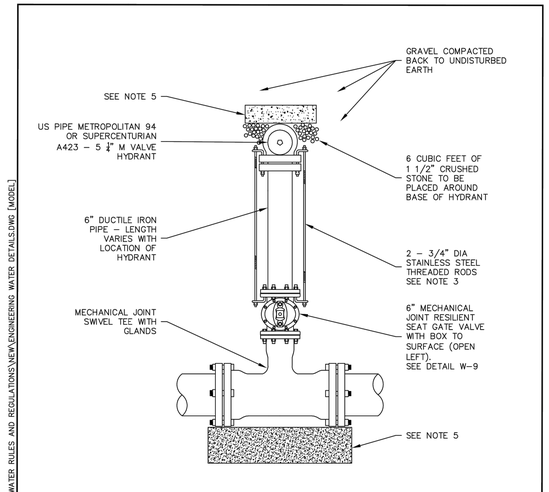
DRAWINGS COURTESY OF PENNICHUCK WATER WORKS.

TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, NH 03051

DETAIL W-9
GATE VALVE BOX
REV: 2019 SCALE: NTS

* PARTS FOR STANDARD 5" VALVE BOX COMPLETE. LONGER PARTS AVAILABLE IF NECESSARY

DRAWING: \\HD-FILESRVTH\ENGINEERING$\WATER\0-WATER RULES AND REGULATIONS\NEW\ENGINEERING WATER DETAILS.DWG [MODEL]



NOTES:

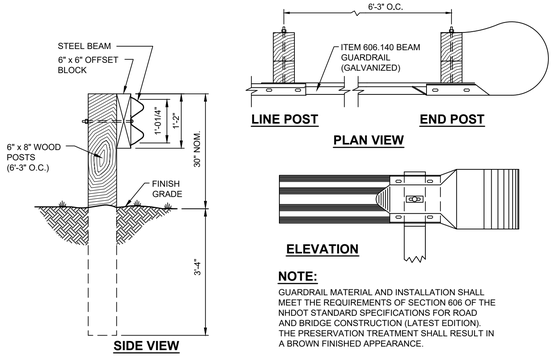
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF HUDSON TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. ALL THREADED RODS AND NUTS MUST BE STAINLESS STEEL.
4. WHEN DISTANCE FROM WATER MAIN TO HYDRANT IS MORE THAN 10', SUBSTITUTE MEGALUGS IN LIEU OF THREADED ROD OR GRIP RINGS.
5. MIN OF 2-2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH TOWN OF HUDSON APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH – SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN. SEE DETAIL W-7.

84

DRAWINGS COURTESY OF PENNICHUCK WATER WORKS.

TOWN OF HUDSON
12 SCHOOL STREET
HUDSON, NH 03051

DETAIL W-10
WATER HYDRANT INSTALLATION
REV: 2019 SCALE: NTS

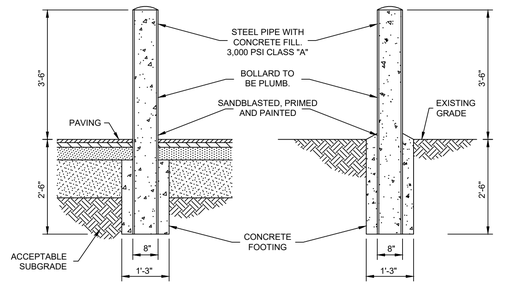


NOTE:

GUARDRAIL MATERIAL AND INSTALLATION SHALL MEET THE REQUIREMENTS OF SECTION 606 OF THE NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION). THE PRESERVATION TREATMENT SHALL RESULT IN A BROWN FINISHED APPEARANCE.

WOOD POST/BEAM TYPE GUARDRAIL DETAIL

NOT TO SCALE



BOLLARD DETAIL

NOT TO SCALE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.

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DETAIL SHEET - GENERAL SITE
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

SCALE AS SHOWN

29 MARCH 2022

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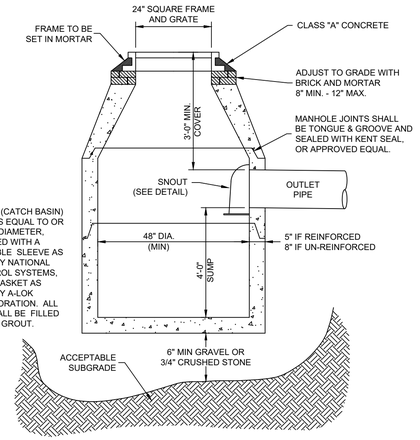
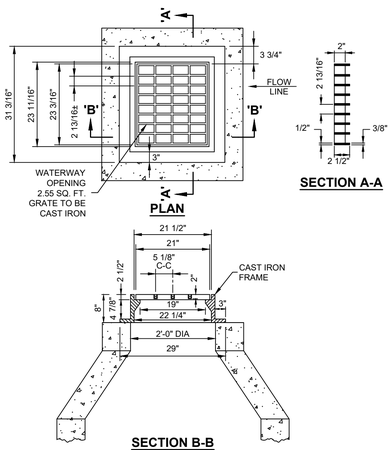


NOTE:

PIPE TO MANHOLE (CATCH BASIN) JOINTS, FOR PIPES EQUAL TO OR LARGER THAN 24" DIAMETER, SHALL BE PROVIDED WITH A KOR'N'SEAL FLEXIBLE SLEEVE AS MANUFACTURED BY NATIONAL POLLUTION CONTROL SYSTEMS, INC., OR A-LOCK GASKET AS MANUFACTURED BY A-LOK PRODUCTS CORPORATION. ALL OTHER JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT.

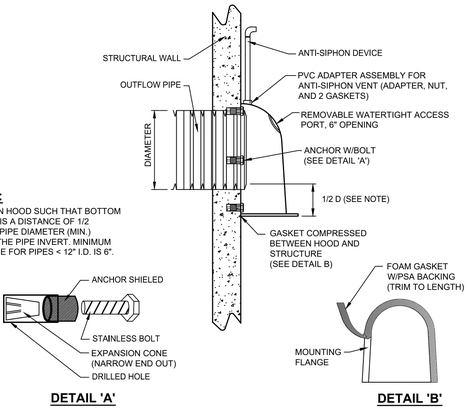
CATCH BASIN DETAIL

NOT TO SCALE



CATCH BASIN - TYPE B FRAME AND COVER DETAIL

(NHDOT STANDARD)
NOT TO SCALE

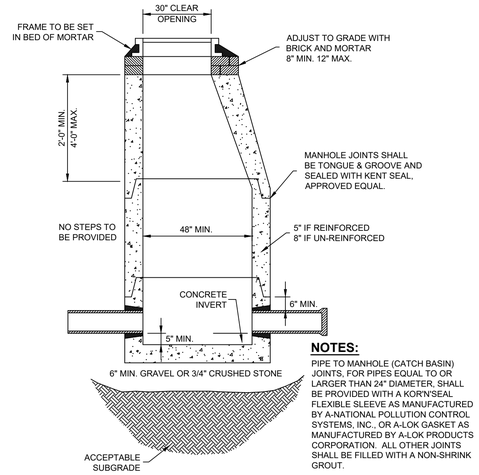


NOTE:

POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR PIPES < 12" I.D. IS 6".

SNOUT® OIL AND DEBRIS STOP DETAIL

NOT TO SCALE



NOTES:

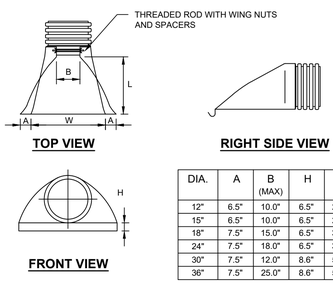
PIPE TO MANHOLE (CATCH BASIN) JOINTS, FOR PIPES EQUAL TO OR LARGER THAN 24" DIAMETER, SHALL BE PROVIDED WITH A KORN'SEAL FLEXIBLE SLEEVE AS MANUFACTURED BY A-NATIONAL POLLUTION CONTROL SYSTEMS, INC., OR A-LOK GASKET AS MANUFACTURED BY A-LOK PRODUCTS CORPORATION. ALL OTHER JOINTS SHALL BE FILLED WITH A NON-SHRINK GROUT.

DRAIN MANHOLE DETAIL

NOT TO SCALE

PERFORATED STANDPIPE DETAIL

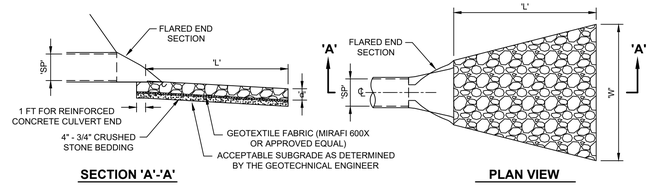
NOT TO SCALE



DIA.	A	B (MAX)	H	L	W
12"	6.5"	10.0"	6.5"	25.0"	29.0"
15"	6.5"	10.0"	6.5"	25.0"	29.0"
18"	7.5"	15.0"	6.5"	32.0"	35.0"
24"	7.5"	18.0"	6.5"	36.0"	45.0"
30"	7.5"	12.0"	8.6"	58.0"	63.0"
36"	7.5"	25.0"	8.6"	58.0"	63.0"

FLARED END SECTION FOR ADS PIPE

NOT TO SCALE

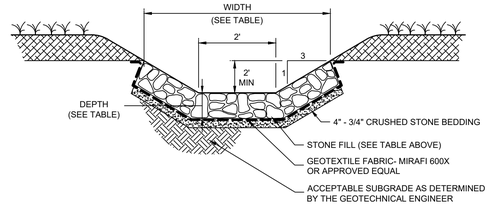


SECTION 'A'-'A'

PLAN VIEW

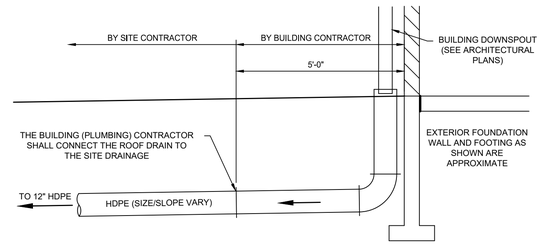
RIPRAP OUTLET PROTECTION SPECIFICATION TABLE

LOCATION	WIDTH (W) (FT)	LENGTH (L) (FT)	DEPTH (D) (FT)	d_{50} (IN)	DIAMETER (SP) (IN)	MATERIAL
FES 1	11	18	1.0	2	15	ITEM 585.3 STONE FILL CLASS C
FES 6	7	11	1.0	1	12	ITEM 585.3 STONE FILL CLASS C
FES 8	10	16	1.0	1	15	ITEM 585.3 STONE FILL CLASS C



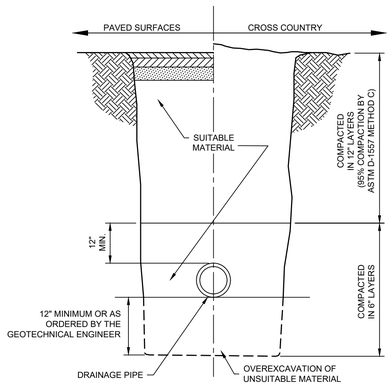
RIPRAP DETAIL AT HEADWALL/OUTLET DETAIL

NOT TO SCALE



ROOF DRAIN CONNECTION DETAIL

NOT TO SCALE

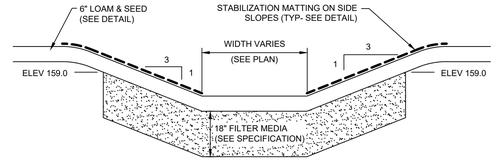


TYPICAL DRAINAGE TRENCH SECTION

NOT TO SCALE

INFILTRATION BASIN NOTES:

1. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN.
2. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION BASIN.
3. AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
4. VEGETATION SHOULD BE ESTABLISHED IMMEDIATELY.
5. DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.



FILTER MEDIA SPECIFICATIONS:

THE PROPOSED FILTER MEDIA LAYER SHALL MEET THE REQUIREMENTS OF ENV-WQ1508.07(K)(4) BY USING ONE OF THE FOLLOWING SPECIFICATIONS:

A. 50% TO 55% BY VOLUME SAND THAT IS CERTIFIED BY ITS PRODUCER AS MEETING THE REQUIREMENTS FOR ASTM C-33 CONCRETE SAND, 20% TO 30% BY VOLUME OF LOAMY SAND TOPSOIL WITH 15% TO 25% FINES PASSING THE NUMBER 200 SIEVE, AND 20% TO 30% BY VOLUME MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE NUMBER 200 SIEVE;

B. 20% TO 30% BY VOLUME OF MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH THAT HAS NO MORE THAN 5% FINES PASSING THE NUMBER 200 SIEVE, WITH 70 TO 80% BY VOLUME LOAMY COARSE SAND USED IN THE MIXTURE MEETING THE FOLLOWING SIEVE ANALYSIS SPECIFICATION:
   1. FROM 85 TO 100 PERCENT BY WEIGHT SHALL PASS THE NUMBER 10 SIEVE;
   2. FROM 70 TO 100 PERCENT BY WEIGHT SHALL PASS THE NUMBER 20 SIEVE;
   3. FROM 15 TO 40 PERCENT BY WEIGHT SHALL PASS THE NUMBER 60 SIEVE; AND
   4. FROM 8 TO 15 PERCENT BY WEIGHT SHALL PASS THE NUMBER 200 SIEVE;

INFILTRATION BASIN TYPICAL SECTION

NOT TO SCALE

STORMWATER MANAGEMENT AREA SPILLWAY TYPICAL SECTION

NOT TO SCALE

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APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

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DETAIL SHEET - GENERAL SITE
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

SCALE AS SHOWN

29 MARCH 2022

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Civil Engineers/Land Surveyors
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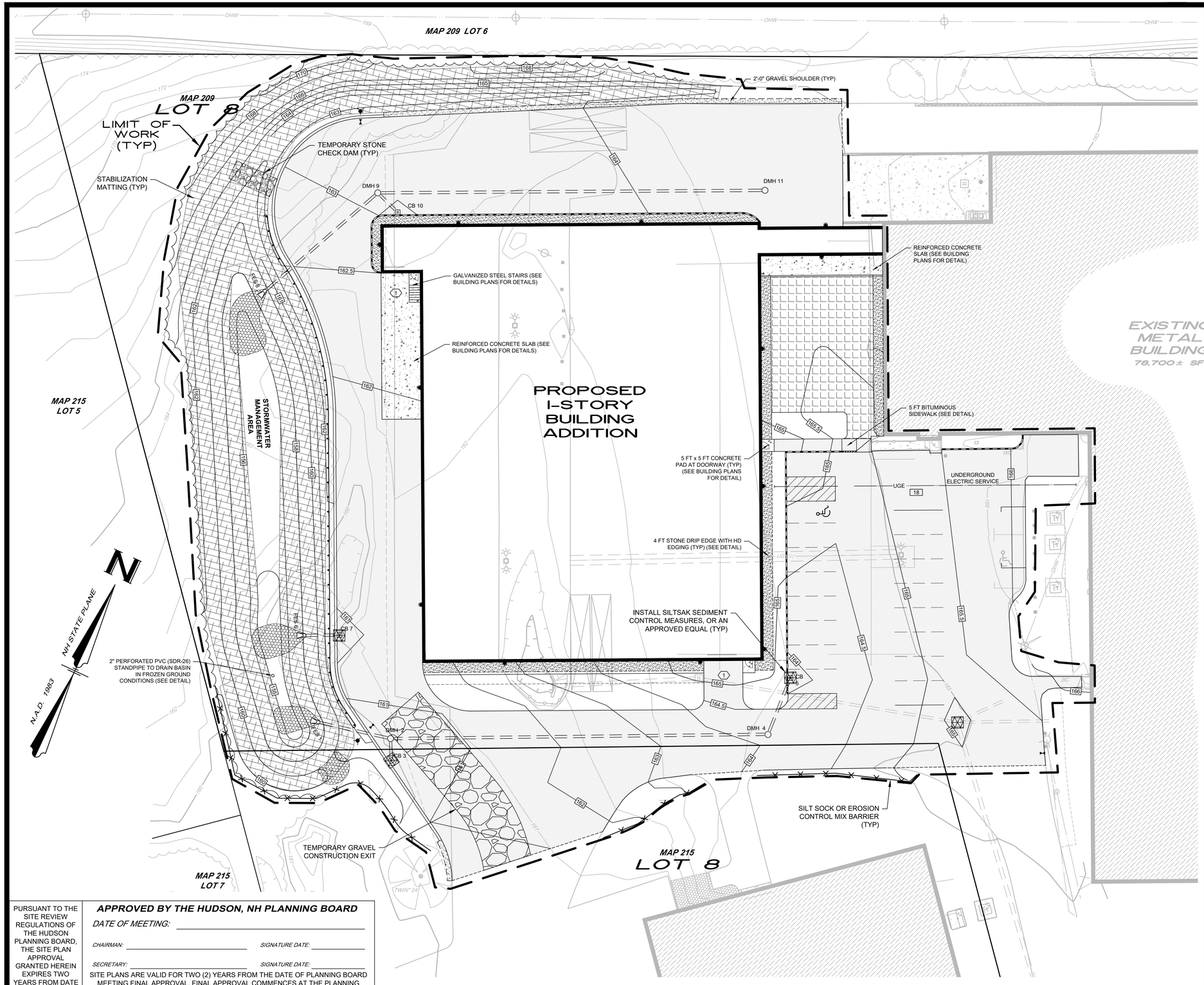

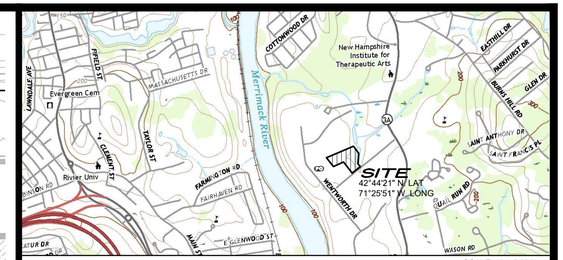

LEGEND

- EXISTING GROUND CONTOUR
- PROPOSED GRADE
- SILT SOCK
- SILT-SACK INLET PROTECTION DEVICES
- GRAVEL CONSTRUCTION EXIT
- STABILIZATION MATTING
- TEMPORARY STONE CHECK DAM
- LIMIT OF WORK

NOTE
THE CONTRACTOR SHALL TAKE MEASURES TO ENSURE THAT EXECUTIVE DRIVE IS KEPT FREE OF DIRT AND DEBRIS FOR THE DURATION OF THE CONTRACT.

NOTE
PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE TOWN ENGINEER TO REVIEW THE INSTALLED EROSION CONTROL MEASURES

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

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EROSION CONTROL PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

29 MARCH 2022

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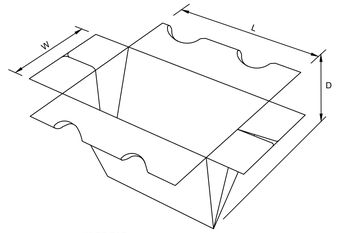


SILTSAK® NOTES:

1.0 THE SILTSAK® SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE AND SEWN BY A DOUBLE NEEDLE MACHINE, USING A HIGH STRENGTH NYLON THREAD.

2.0 THE SILTSAK® SEAMS SHALL HAVE A CERTIFIED AVERAGE WIDE WIDTH STRENGTH PER ASTM D-4884 STANDARDS AS FOLLOWS:

SILTSAK® STYLE	*TEST METHOD*	*TEST METHOD*
REGULAR FLOW	ASTM D-4884	165.0 LBS/IN
HI-FLOW	ASTM D-4884	114.6 LBS/IN

3.0 THE SILTSAK® WILL BE MANUFACTURED TO FIT THE OPENING OF THE CATCH BASIN OR DROP INLET. THE SILTSAK® WILL HAVE THE FOLLOWING FEATURES: TWO DUMP STRAPS ATTACHED AT THE BOTTOM TO FACILITATE THE EMPTYING OF THE SILTSAK®; THE SILTSAK® SHALL HAVE LIFTING LOOPS AS AN INTEGRAL PART OF THE SYSTEM TO BE USED TO LIFT THE SILTSAK® FROM THE BASIN; THE SILTSAK® SHALL HAVE A RESTRAINT CORD APPROXIMATELY HALFWAY UP THE SACK TO KEEP THE SIDES AWAY FROM THE CATCH BASIN WALLS, THIS YELLOW CORD IS ALSO A VISIBLE MEANS OF INDICATING WHEN THE SACK SHOULD BE EMPTIED, CLEANED, AND PLACED BACK INTO THE BASIN.

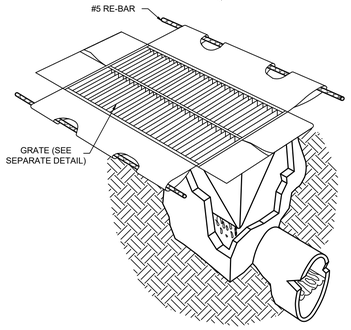
4.0 THE GEOTEXTILE FABRIC SHALL BE WOVEN POLYPROPYLENE FABRIC WITH THE FOLLOWING PROPERTIES:

SILTSAK® REGULAR FLOW

PROPERTY	*TEST METHOD*	*TEST RESULT*
GRAB TENSILE	ASTM D-4632	300 LBS
GRAB ELONGATION	ASTM D-4631	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	0.55 SEC

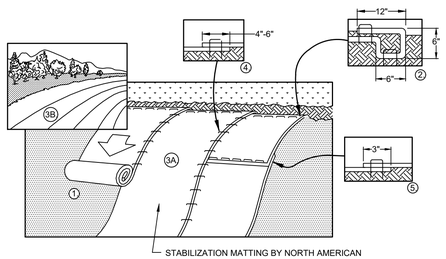
OR **SILTSAK® HI-FLOW**

PROPERTY	*TEST METHOD*	*TEST RESULT*
GRAB TENSILE	ASTM D-4632	265 LBS
GRAB ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	1.5 SEC



SILTSAK® DETAIL

NOT TO SCALE



STABILIZATION MATTING BY NORTH AMERICAN GREEN BIONET S150BN, OR APPROVED EQUAL

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.
4. 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURE RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

STABILIZATION MATTING DETAIL

NOT TO SCALE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

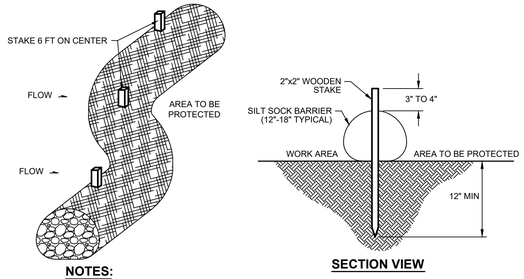
CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.

EPA

THE CONTRACTOR SHALL FILE THE EPA NOTICE OF INTENT (NOI) FORM AT LEAST 14 DAYS PRIOR TO CONSTRUCTION



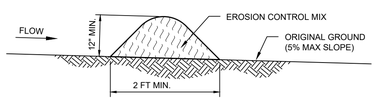
SECTION VIEW

NOTES:

1. SILT SOCK BARRIER SHALL BE FILTREXX SILTSOXX NATURAL PLUS (OR APPROVED EQUAL) AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT SOCK BARRIER SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
3. IF THE SILT SOCK SHOULD DECOMPOSE OR BECOME INEFFECTIVE, THE BARRIER SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
5. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.
6. COMPOST TO BE REMOVED OR DISPOSED ON-SITE AS DETERMINED BY THE ENGINEER.

SILT SOCK DETAIL

NOT TO SCALE

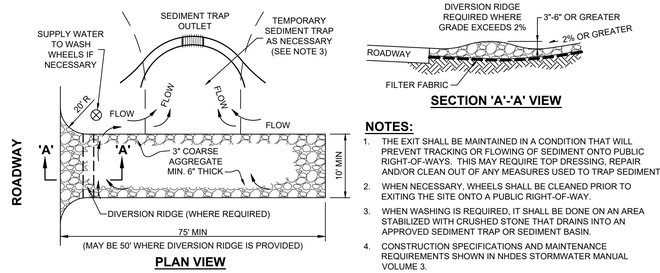


NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
2. EROSION CONTROL MIX SHOULD CONTAIN A WELL- GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:
   - THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25 AND 65 %, DRY WEIGHT BASIS
   - PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-INCH SCREEN, 70%-100% PASSING A 0.75-INCH SCREEN, AND A MAXIMUM OF 30% TO 75%, PASSING A 0.25-INCH SCREEN.
   - THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   - THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
   - SOLUBLE SALTS CONTENT SHOULD BE <4.0 MMHOS/CM
   - THE PH SHOULD BE BETWEEN 5.0 AND 8.0.
3. FILTER BERMS SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF BREACHING OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THEN THEY SHOULD BE REPLACED WITH OTHER MEASURES TO INTERCEPT AND TRAP SEDIMENT.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD OF THE HEIGHT OF THE BARRIER.
5. FILTER BERMS SHOULD BE RESHAPED OR REAPPLIED AS NEEDED.
6. EROSION CONTROL MIX TO BE REMOVED OR SPREAD OUT AS COMPOST UPON PROJECT COMPLETION.

EROSION CONTROL MIX BERM

NOT TO SCALE



PLAN VIEW

SECTION 'A'-'A' VIEW

NOTES:

1. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO EXITING THE SITE ONTO A PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS SHOWN IN NHDES STORMWATER MANUAL VOLUME 3.

TEMPORARY GRAVEL CONSTRUCTION EXIT

NOT TO SCALE

GENERAL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUALS, VOLUME 1-3, LATEST EDITION.
2. THE WORK AREA SHALL BE GRADED, SHAPED, AND OTHERWISE DRAINED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE THE LIMITS OF THE WORK AREA. SILT FENCES, STRAW BALES AND/OR DETENTION BASINS WILL BE NECESSARY TO ACCOMPLISH THIS END.
3. STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION IN ACCORDANCE WITH "TEMPORARY STABILIZATION OF DISTURBED AREAS", AS OUTLINED IN NOTE No. 4.
4. TEMPORARY STABILIZATION OF DISTURBED AREAS:
   SEED BED PREPARATION: 10-10-10 FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS PER 1,000 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1,000 SF AND INCORPORATED INTO THE SOIL. THE SOIL, FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.
   A. SEED MIXTURE: USE ANY OF THE FOLLOWING:

SPECIES	RATE PER 1,000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1"	08/15 TO 09/15
OATS	2.5 LBS	1"	04/15 TO 10/15
ANNUAL RYE GRASS	1.0 LBS	0.25"	08/15 TO 09/15

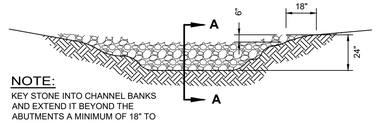
   B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODABLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:

TYPE	RATE PER 1,000 SF	USE & COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE. USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE.
CRUSHED STONE ¼" TO 1 ½" DIA	SPREAD TO GREATER THAN ½" THICKNESS	USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NEEDED.

5. PERMANENT STABILIZATION OF DISTURBED AREAS:
   A. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
   B. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
7. AN AREA SHALL BE CONSIDERED STABILIZED IF 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 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
   D. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
8. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
9. SITE LOCATION:
   42° 44' 21" N LATITUDE, 71° 25' 51" W LONGITUDE (PER GOOGLE EARTH)
10. TOTAL AREA OF DISTURBED SOILS: 91,000± SF
11. REFERENCE IS MADE TO THE LATEST EDITION OF THE FEDERAL REGISTER (63 FR 7857), ENVIRONMENTAL PROTECTION AGENCY NPDES GENERAL PERMITS FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. FOR ADDITIONAL INFORMATION CONTACT (202) 564-9545 OR www.epa.gov/npdes/stormwater.
12. THE ENTIRE CONTENTS OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE RETAINED ON-SITE FOR THE DURATION OF THE CONTRACT AND BE MADE AVAILABLE TO LOCAL, STATE AND FEDERAL CODE ENFORCEMENT PERSONNEL.
13. THIS PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:63 AND AGR 3800 RELATIVE TO INVASIVE SPECIES; AND FUGITIVE DUST IS CONTROLLED IN ACCORDANCE WITH ENV-A 1000,

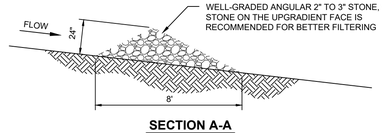
WINTER CONDITION NOTES

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOR OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

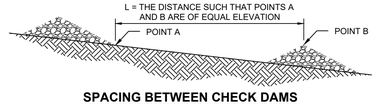


NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

VIEW LOOKING UPSTREAM



SECTION A-A



SPACING BETWEEN CHECK DAMS

TEMPORARY STONE CHECK DAM TYPICAL SECTION

NOT TO SCALE

SITE MAINTENANCE/INSPECTION PROGRAM

THE FOLLOWING PROVIDES AN ITEMIZATION OF SPECIFIC SITE MAINTENANCE PRACTICES THAT WILL BE EMPLOYED ON THE SITE TO MINIMIZE POLLUTANT GENERATION AND TRANSPORT FROM THE SITE. THE SITE MAINTENANCE PROGRAM INCLUDES ROUTINE INSPECTIONS, PREVENTATIVE MAINTENANCE AND "GOOD HOUSEKEEPING" PRACTICES.

ROUTINE INSPECTIONS

THE CONTRACTOR SHALL INSPECT ALL CONTROL MEASURES AT LEAST ONCE A WEEK AND WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A STORM WITH RAINFALL AMOUNT GREATER THAN 0.5 INCHES. THE INSPECTIONS WILL VERIFY THAT THE STRUCTURAL BMPs DESCRIBED IN THE PLANS ARE IN GOOD CONDITION AND ARE MINIMIZING EROSION. A MAINTENANCE INSPECTION REPORT WILL BE MADE WITH EACH INSPECTION. COMPLETED INSPECTION FORMS SHALL BE KEPT ON-SITE FOR THE DURATION OF THE PROJECT. FOLLOWING CONSTRUCTION, THE COMPLETED FORMS SHALL BE RETAINED AT THE CONTRACTOR'S OFFICE FOR A MINIMUM OF ONE YEAR.

PREVENTATIVE MAINTENANCE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY AND PERMANENT CONTROLS THROUGHOUT THE DURATION OF THIS CONTRACT. MAINTENANCE PRACTICES SHALL INCLUDE, BUT ARE NOT LIMITED TO:

1. CLEANING OF CATCH BASINS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY QUARTERLY INSPECTIONS.
2. CLEANING OF SEDIMENT AND DEBRIS FROM STORMWATER MANAGEMENT AREA FOREBAY TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY MONTHLY INSPECTIONS.
3. IMPLEMENTATION OF OTHER MAINTENANCE OR REPAIR ACTIVITIES AS DEEMED NECESSARY BASED UPON WEEKLY INSPECTIONS.
4. REMOVAL OF BUILT UP SEDIMENT ALONG SILT FENCES AND/OR HAY BALE BARRIERS.
5. REMOVAL OF BUILT UP SEDIMENT IN BOTH TEMPORARY AND PERMANENT CONTROLS SUCH AS GRASS SWALES, SEDIMENT FOREBAYS AND RECHARGE/DETENTION BASINS.
6. RECONSTRUCTING THE TEMPORARY GRAVEL CONSTRUCTION EXIT IF NOT WORKING PROPERLY.
7. TREATMENT OF NON-STORM WATER DISCHARGES SUCH AS WATER FROM WATER LINE FLUSHINGS OR GROUNDWATER FROM DEWATERING EXCAVATIONS. SUCH FLOWS SHOULD BE DIRECTED TO A TEMPORARY SEDIMENTATION BASIN OR STORMWATER MANAGEMENT AREA.
8. SWEEP PARKING LOTS AND DRIVES REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION. FREQUENCY WILL VARY SEASONALLY ACCORDING TO SEDIMENT ACCUMULATION ON PAVE SURFACES (E.G., MORE FREQUENT SWEEPING DURING THE WINTER AND SPRING).

GOOD HOUSEKEEPING PRACTICES

THE CONTRACTOR SHALL EMPLOY MEASURES AND PRACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS TO STORM AND WATER RUNOFF. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE HANDLING, USE AND DISPOSAL OF MATERIALS SUCH AS PETROLEUM PRODUCTS, FERTILIZERS AND PAINTS TO ENSURE THAT THE RISK ASSOCIATED WITH THE USE OF THESE PRODUCTS IS MINIMIZED. THE FOLLOWING "GOOD HOUSEKEEPING" PRACTICES SHALL BE FOLLOWED DURING CONSTRUCTION OF THE PROJECT:

A. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
B. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
C. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THEIR MANUFACTURERS' LABELS.
D. WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.
E. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
F. THE CONTRACTOR SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

SPILL PREVENTION AND CLEANUP PRACTICES

A. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE. EQUIPMENT AND MATERIAL WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

NOTE
SEE SHEET 2 OF 14 FOR CONSTRUCTION SEQUENCE

REVIEW ONLY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

DETAIL SHEET - EROSION CONTROL
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

SCALE AS SHOWN

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-DET1	5843 SITE	11 OF 14
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

MAP 209 LOT 6

MAP 209 LOT 5

MAP 209
LOT 8

MAP 215
LOT 5

3/4" CRUSHED STONE (TYP)

PROPOSED
1-STORY
BUILDING
ADDITION

EXISTING
METAL
BUILDING
78,700± SF

STORMWATER
MANAGEMENT
AREA

SANDY
SOIL LAWN
SEED MIX

(1) - APA
1 1/2" - 2" CAL.

(14) - BOX
6' O.C.

(18) - BOX
6' O.C.

SANDY SOIL LAWN SEED MIX

(2) - ARU
2" - 2 1/2" CAL.

(1) - ARU
2" - 2 1/2" CAL.

(2) - ARU
2" - 2 1/2" CAL.

MAP 215
LOT 8

MAP 215
LOT 7

N

NH STATE PLANE

N.A.D. 1983

LANDSCAPE REQUIREMENTS PER HR 275-8.C (7)		
SECTION	REQUIRED	PROVIDED
275-C.C(7)(a) & (b)	9,600 SF X 10% = 960 SF	0 SF (WAIVER REQUESTED)
275-C.C(7)(c)	9,600 SF ÷ 1 SHADE TREE/1,600 SF = 6	6
275-C.C(7)(d)	18 PARKING SPACES X 1.6 SHRUBS/SPACE = 29	32

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ SIGNATURE DATE: _____

SECRETARY: _____ SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.

REVIEW ONLY
NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

LANDSCAPE PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

20 0 20 40 60 80 FEET
10 0 10 20 METERS

SCALE: 1"=20 Feet
1"=6.096 Meters

29 MARCH 2022

PREPARED BY :

CARROLL'S LANDSCAPE
DESIGN & BUILD
P.O. BOX 694 WINDHAM, NH 03087
PHONE (603) 821 - 7389

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-LS21	5843 SITE	12 OF 14
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

General Specifications

1. The contractor shall at his expense furnish all the materials, supplies, machinery, equipment, tool, superintendent, labor, insurance, & other accessories and services necessary to complete the said project within the unit costs stated within the bid price.
2. The work to be done under this contract is as shown and described on the drawings. Each bidder shall make a careful examination of the plans and specifications (the plan shall dictate quantities) and acquaint himself with all conditions before making his proposal. He will be held responsible for errors in his proposal resulting from his failure to make such an examination. All bidders shall visit the site and inform themselves of all conditions.
3. The bids shall be based on materials and equipment complying with the drawings and the specifications. The contractor shall be responsible under this contract price, for furnishing and installing materials confirming to the bid items. Under no circumstances may a species `hybrid' be substituted or size changed without written consent of the landscape architect.
4. The contractor shall be responsible for the protection of such existing utilities as water mains, sewer systems, gas mains, electrical conduits, telephone lines and any other utilities and if any damage or destruction may occur to these utilities, he shall be responsible for their repair and/or replacement at his expense.
5. The contractor shall make payment for all damages to buildings, structures, trees, shrubs and/or any other property outside the construction area or located within those limits but not designated for removal or reconstructed providing such damage shall result from accident caused by negligence for which the contractor shall be legally liable.
6. If additional labor and/or materials is requested or required, the contractor shall submit a price to the owner. If the owner approves the price he shall prepare a change order for approval and signature. The contractor shall not proceed without a written authorization from the owner for the additional work. If the contractor proceeds with the additional work without this authorization he shall forfeit any claim for additional compensation.
7. The landscape architect shall reserve the right to inspect the project work at any time deemed necessary to Insure that the specifications and plans and any other contract documents are being followed.
8. The L.A. shall have the right to reject any plant on-site based upon condition, size, or incorrect species or hybrid. LA must be contacted prior to install, to inspect materials delivered to the site, and to insure that soil amendments, bark mulch, roof ballust, etc. are to the written specifications.
9. All seeded areas shall receive a minimum 6" topsoil blanket (by site contractor) w/site preparation, raking and general clean up prior to application. Operations shall include a preemergence type herbicide, 12 -25 -12 granular fertilizer @ 10 lbs./1000 sf., and pelletized limestone @ 25 1bs. /1000 s/f power raked into the top 2" of soil prior to hydro-seeding. Ratios & application rates may change based upon the required soil analysis.
10. Contractor is responsible for establishing a thick, weed free lawn. Seed shall be spread @ 4lbs./1000. Lawn germination shall be 95% free of noxious weeds for acceptance. Define differences in seed mixes (if applicable) with irrigation flagging until 2nd mowing. Site review by LA is required.
11. Review of the installed irrigation system by the designer is required prior to release of final payment.
12. Hydroseeding operations shall be a one part process with a paper fiber mulch; a tackifier shall be applied on all slopes greater than 3:1, Excelsor Drainage mat shall be applied to all 3:1 slopes and drainage swales per plan.
13. Contractor shall maintain, from acceptance date, the lawn areas through the first mowing. Contractor is not responsible for the first mowing.
14. All plant materials shall be installed in accordance with A.L.C.C. Trees and shrubs shall have appropriate soil mixtures, fertilizer and soil retention granules.
15. If the soil conditions are extremely sandy, all trees shall have a 6" layer of compacted topsoil (verify with Landscape Architect) placed in the base of the plant pit as a moisture retention layer. The plant pit sidewalls shall be over excavated by an additional 12" beyond the normal outside radius of the hole. A topsoil planting mixture shall be used to backfill as per spec # 22.
16. Landscape architect shall have the right to reject and have ground removed any plant material not of proper size or of weak quality, ie. thin, no lower branching, etc. Contractor must submit shipping lists (billing invoices) for verification, prior to installation.
17. All plant material shall be guaranteed for a period of one (1) year from date of installation. Any material which dies or does not show a healthy appearance within this time shall be replaced at the contractors expense; with same warranty requirements as the original. Warranty does not cover loss due mechanical damage, Ie. snow storage. Contractor should protect susceptable species from insect infestation. Use a liquid systemic application on birch, etc.
18. Plant beds and saucers vary in dia. (refer to dwg). Trees and shrubs shall receive a 4" (settled) covering of pine/hemlock bark mulch; saucer diameters per drawing & details. Deciduous trees shall have a 6' dia. saucer (typ.), evergreen trees shall have a saucer 2' min. beyond it's outter branches. All edges shall have a 'V' groove.
19. All B&B material which are encased in wire baskets shall have the wires cut loose and the top third removed prior to backfill operation.
20. If road base is encountered in any plant bed areas, ie. parking islands, it shall be removed and suitable amended soil installed per drawings and specifications.
21. Soil planting mixture shall be a 6%-10% organic topsoil, amended with 10% wood ash, 10%%% manure, & 30%%% peatmoss or incorporate a dehydrated compost material. If planting in sand, gravel or other well drained soils, a 50% peatmoss to excavated soil. Other soil amendments shall include; Agriform tablets, Hydro-Gel or equal, and Roots growth enhancer to all trees and shrubs listed, per manufacturers specifications. All plant material pits will receive a min. 20%%% in volume mix of a compost soil amendment. Submittal required. 'Roots' STEP 1 can be substituted for the individual supplements. Install per manufacturer's specs.
22. Landscape contractor shall not be responsible for topsoil spreading but shall coordinate with the site contractor adherence to the mound grades, plant bed soil depths and soil type per dwgs & spec. Landscape contractor shall power rake-out for seed.
23. Landscape contractor shall provide a soil analysis of the topsoil planting mixture. Analysis to show soil classification (min. sandy loam) and nutrients.
24. Contractor shall protect all B&B materials left above grade prior to installation from drying out. All plants shall be stored, covered in mulch, and irrigated until planted. Any plant left on the ground and whose outter ball surface drys out, shall be rejected by the landscape architect. Plants stored in shade and off pavement.
25. Plan dictates, contractor shall alert Landscape Architect if any discrepancies exist between the plan, the material list, and as-built site conditions.
26. Installer shall notify landscape architect prior to planting, to review plant locations and bedline configurations. If contractor installs without the placement approval of the L.A., said architect shall have the right to relocate any installed plants at the contractor's expense.
27. Installer shall notify landscape architect prior to plant installation to review all materials. Any plants of poor condition, improper size, or species will be rejected.
28. Upon one year review, contractor shall straighten any trees that have shifted. Any weak or bare spots in lawn shall be reseeded.
29. All bedlines shall have a deep 'V' groove to define lawn to mulch edge. No 'Beehive" mounding of mulch is allowed, also keep mulch away from base of perennials.
30. Do not plant materials too close to the edge of bedlines. Refer to drawings for center of plant to bedline. At a minimum no outter branching of a shrub or perennial shall be closer than two feet from the bedlines. If the as-built does not comply contractor shall adjust the plant location or bedline at his expense.
31. Seed mixes include: Sandy Soil Lawn Mix by: deercreekseed.com; refer to planting plan for designations.
32. Any items not completed to the specifications will be required at contractors expense prior to final approvals. Contractor is to bid the work according to the specifications and not to what they may do under their standard practices. Special attention will be payed to soils, amendments, guy stakes, bedline & saucer configurations, seed mixtures, etc.
33. Certain designated foundation edging is rood ballust (washed rounds, non-crushed, natural) Size of stone is a range of 3/4"-1.5"dia. placed to a depth of 3", upon placement apply a coating of granular Preen (preemergent).

PLANTING SCHEDULE:

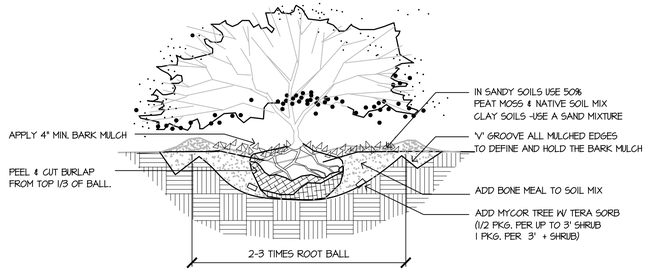
1/ APA	ACER PALMATUM (BLOODGOOD JAPANESE MAPLE	1 1/2" – 2" CAL.
32/ BOX	BUXUS 'GREEN VELVET' (GREEN VELVET BOXWOOD)	#1 GAL.
5/ ARU	ACER RUBRUM 'FRANKSRED' (RED SUNSET MAPLE)	2" – 2 1/2" CAL.

MISCELLANEOUS:

N.E. EROSION CONTROL RESTORATION SEED MIX (DRY)

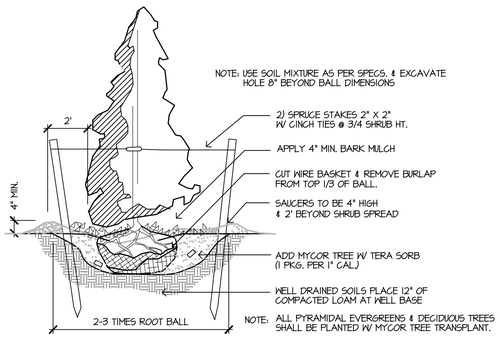
SANDY SOIL LAWN SEED MIX

PREMIUM BLEND PINE/ SPRUCE BARK MULCH



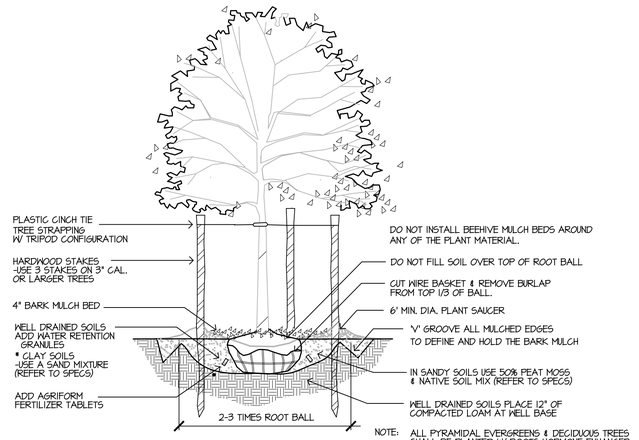
B&B SHRUB PLANTING

NOT TO SCALE



PYRAMIDAL EVERGREEN TREE PLANTING

NOT TO SCALE



TREE PLANTING 2" + CAL.

NOT TO SCALE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

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NO.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

DETAIL SHEET – LANDSCAPE
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

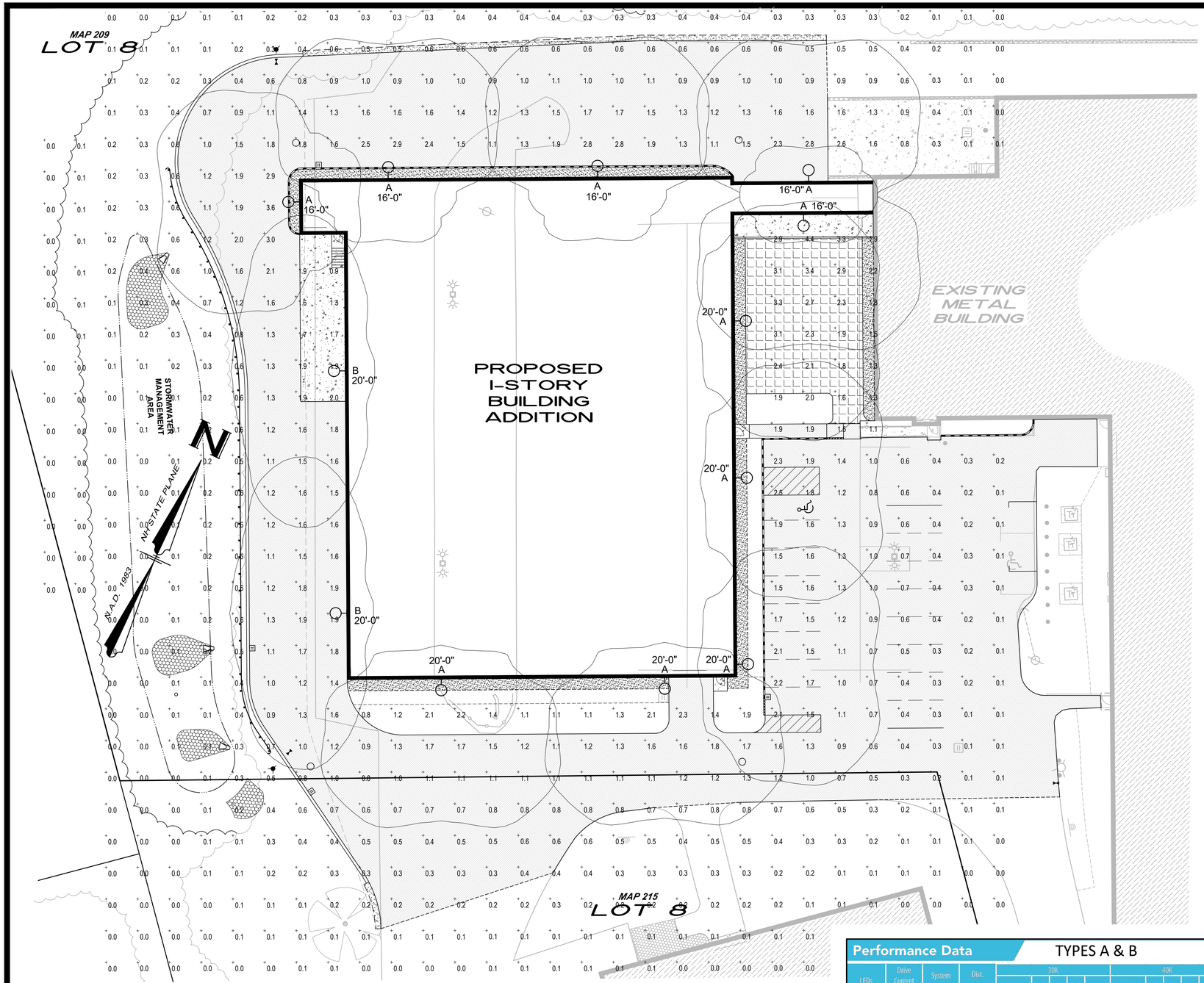
RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

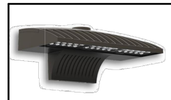
NO SCALE

29 MARCH 2022

PREPARED BY :
CARROLL'S LANDSCAPE
DESIGN & BUILD
P.O. BOX 694 WINDHAM, NH 03087
PHONE (603) 821 - 7389

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-LS21	5843 SITE	13 OF 14
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet





D-Series Size 2
LED Wall Luminaire

Catalog Number

Notes

Type A & B

Hit the Tab key or mouse over the page to see all interactive elements.

d^series

Buy American

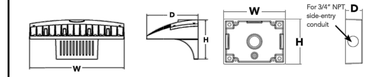
Specifications

Luminaire

Width:	18-1/2" (47.0 cm)	**Weight:**	21 lbs (9.5 kg)
Depth:	10" (25.4 cm)		
Height:	7-5/8" (19.4 cm)		

Back Box (BBW)

Width:	5-1/2" (14.0 cm)	**BBW Weight:**	1 lbs (0.5 kg)
Depth:	1-1/2" (3.8 cm)		
Height:	4" (10.2 cm)		



A+ Capable options indicated by this color background.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background.

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

Ordering Information

EXAMPLE: DSXW2 LED 30C 700 40K T3M MVOLT DDBTXD

DSXW2 LED							
Series	**LEDs**	**Drive Current**	**Color temperature**	**Distribution**	**Voltage**	**Mounting**	**Control Options**
DSXW2 LED	20C 20 LEDs (two engines) 30C 30 LEDs (three engines)	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA[4] (1 A)	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted[2]	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	MVOLT[2,3] 120[3] 208[3] 240[3] 277[3] 347[3,5] 480[3,5]	**Shipped included** (blank) Surface mounting bracket **Shipped separately[6]** BBW Surface-mounted back box (for conduit entry)	**Shipped installed** PE Photoelectric cell, button type[7] PER NEMA twist-lock receptacle only (control ordered separate)[2] PER5 Five-wire receptacle only (control ordered separate)[2,3] PER7 Seven-wire receptacle only (control ordered separate)[2,3] DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) PIR 180° motion/ambient light sensor, <15' mtg ht[8,11] PIRH 180° motion/ambient light sensor, 15-30' mtg ht[8,11] PIR1FCSV Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[4,11] PIRH1FCSV Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[4,11]

Other Options		Finish (required)			
Shipped installed	**Shipped separately[12]**	DDBXD Dark bronze	DSSXD Sandstone	DWHGXD Textured white	
SF Single fuse (120, 277, 347V)[3]	BSW Bird-deterrent spikes	DBLXD Black	DDBTXD Textured dark bronze	DSSTXD Textured sandstone	
DF Double fuse (208, 240, 480V)[3]	VG Vandal guard	DNAXD Natural aluminum	DBLBXD Textured black		
HS House-side shield[4]		DWHXD White	DNATXD Textured natural aluminum		
SPD Separate surge protection[13]					

Performance Data — TYPES A & B

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K Lumens	30K B	30K U	30K G	30K LPW	40K Lumens	40K B	40K U	40K G	40K LPW	50K Lumens	50K B	50K U	50K G	50K LPW
30C			T2M	5,838	1	0	2	108	6,270	2	0	2	116	6,308	2	0	2	117
			TFTM	5,937	1	0	2	110	6,376	1	0	2	118	6,415	1	0	2	119

Light Fixture Schedule

Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage
	A	10	DSXW2-LED-30C-530-40K-TFTM-MVOLT (CONTROL OPTIONS & FINISH TO BE DETERMINED)	LITHONIA D-SERIES SIZE 2 LED WALL LUMINAIRE - FORWARD THROW MEDIUM OPTIC - MOUNT WITH BOTTOM OF FIXTURE ABOVE FINISHED GRADE AT THE HEIGHT NOTED ON THE DRAWINGS - BUG RATING B1/U0/G2	LED	3	6376	1.0	54
	B	2	DSXW2-LED-30C-530-40K-T2M-MVOLT (CONTROL OPTIONS & FINISH TO BE DETERMINED)	LITHONIA D-SERIES SIZE 2 LED WALL LUMINAIRE - TYPE 2 MEDIUM OPTIC DISTRIBUTION - MOUNT WITH BOTTOM OF FIXTURE ABOVE FINISHED GRADE AT THE HEIGHT NOTED ON THE DRAWINGS - BUG RATING B1/U0/G2	LED	3	6269	1.0	54

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

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No.	DATE	REVISION	BY
1	06/21/22	ADDRESS TOWN COMMENTS	EDB

PHOTOMETRIC LIGHTING PLAN
(MAP 209, LOT 8 & MAP 215, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

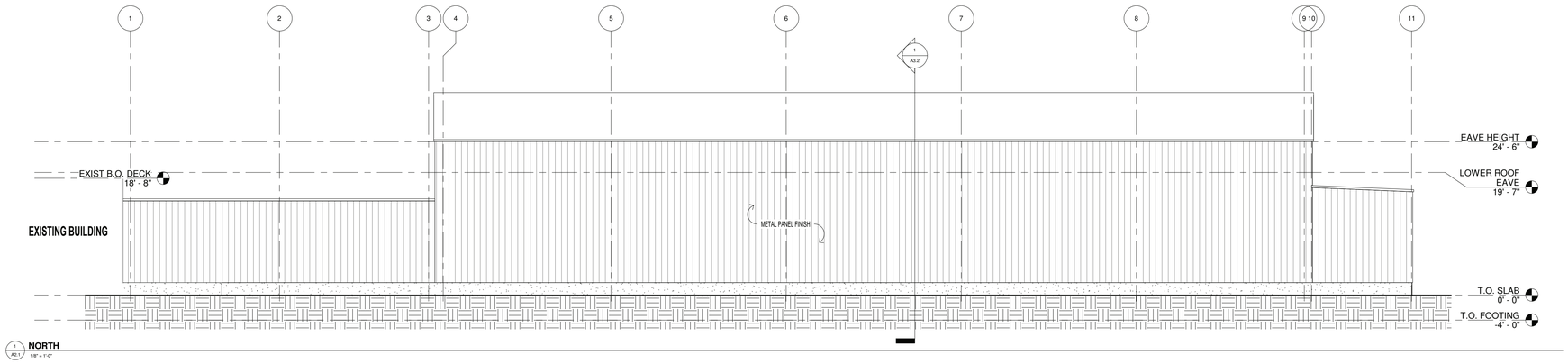
20 0 20 40 60 80 FEET
10 0 10 20 METERS

SCALE: 1"=20 Feet
1"=6.096 Meters

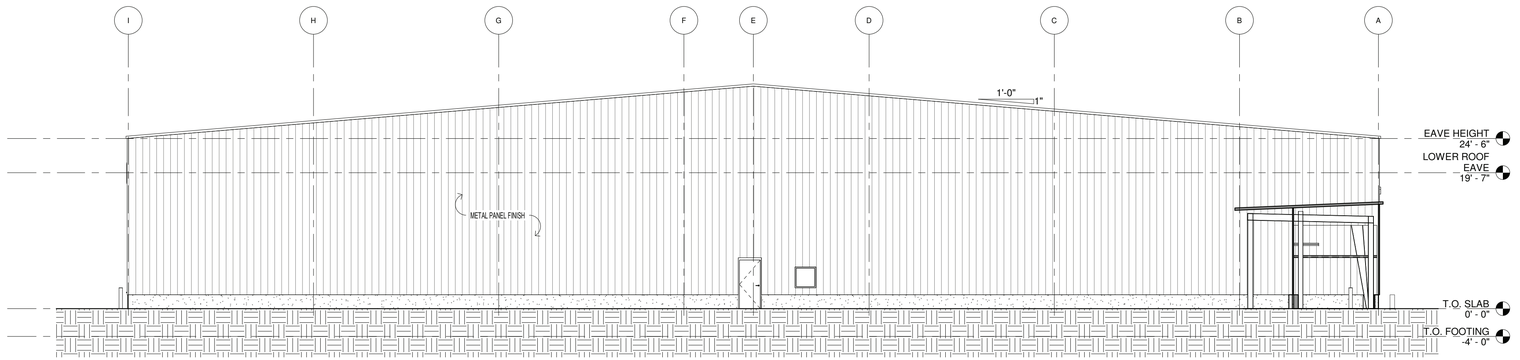
29 MARCH 2022

YEATON
M.E.P. Inc.
Bedford, NH | Littleton, NH
MEP/FP Engineers
603.444.6578
Project # 22028MEP

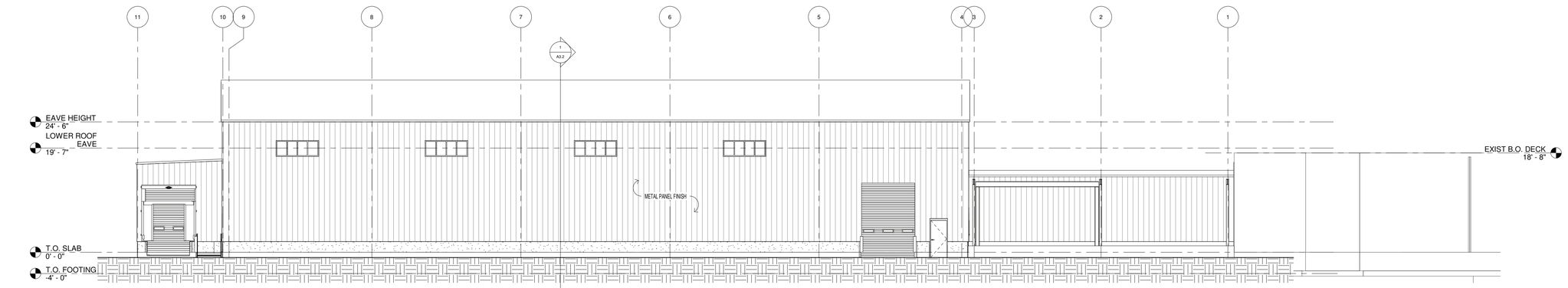
FIELD BOOK: 1264	DRAWING NAME: 5843SITE-SL21
DRAWING LOC: J:\5000\5843\DWG\5843 SITE	5843 SITE (File Number) / 14 OF 14 (Sheet)



1 A2.1 **NORTH**
1/8" = 1'-0"



1 A2.1 **EAST**
1/8" = 1'-0"



1 A2.1 **SOUTH**
1/8" = 1'-0"

MATUSZEWSKI
ARCHITECTS
39 Bourbon Street,
Bedford, New Hampshire, 03110
Phone: (603) 785-7519

PROGRESS PRINT

REVISIONS

TITLE: **EXTERIOR ELEVATIONS**

PROJECT: **ADDITIONS TO AIREX FILTER CO. 19 EXECUTIVE DRIVE, HUDSON NH**
for
SCHROEDER CONSTRUCTION INC.
NASHUA, NH

DATE	6/17/2022
SCALE	1/8" = 1'-0"
PROJECT NO.	21.17

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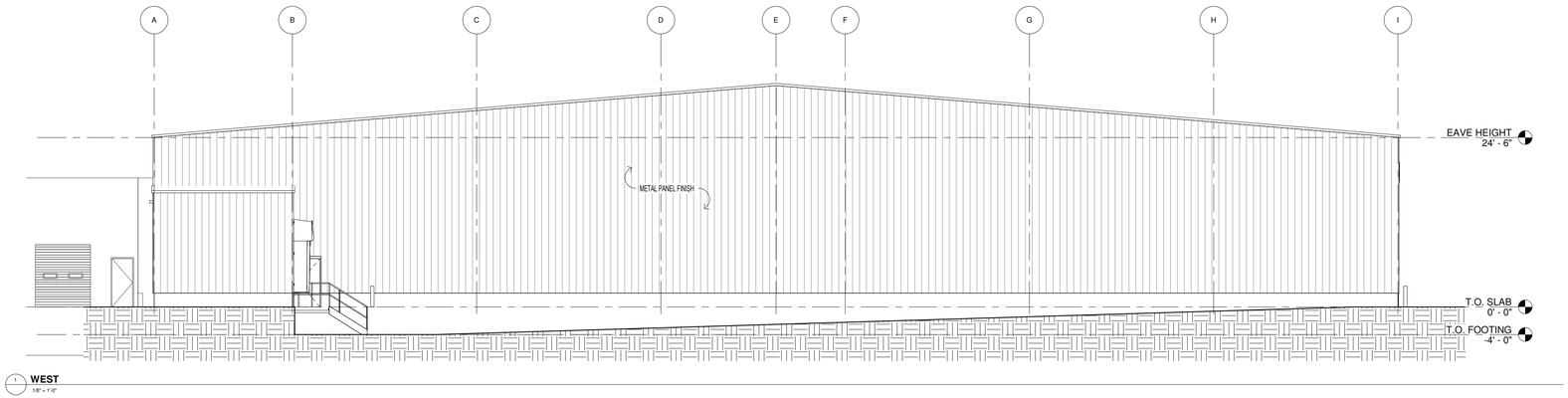
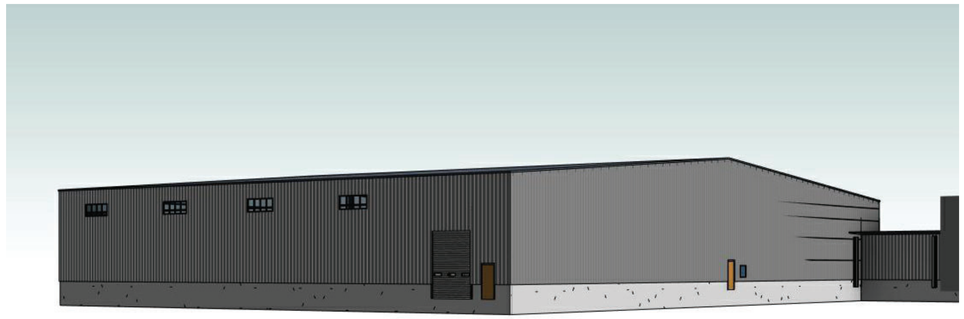
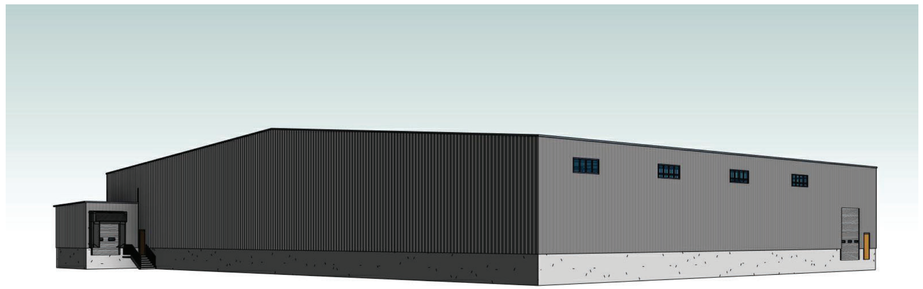
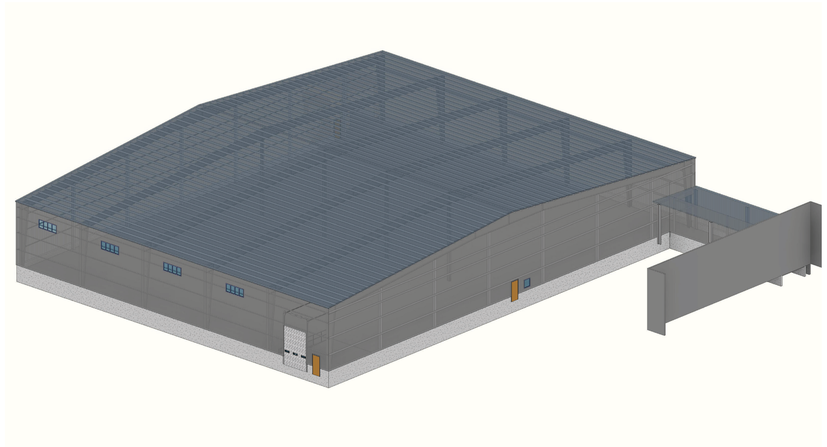
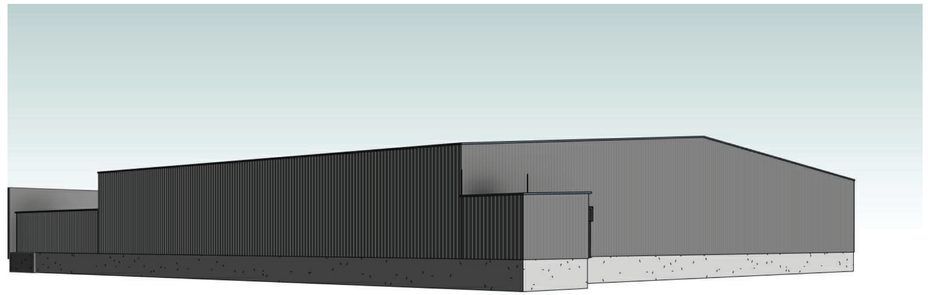


1 **WEST**
1/8" = 1'-0"









MATUSZEWSKI
ARCHITECTS
19 Bourbon Street,
Bedford, New Hampshire, 03110
Phone: (603) 785-7519

PROGRESS
PRINT

REVISIONS

TITLE: **EXTERIOR ELEVATIONS & RENDERINGS**

PROJECT: **ADDITIONS TO AIREX FILTER CO. 19 EXECUTIVE DRIVE, HUDSON NH**
for
SCHROEDER CONSTRUCTION INC.
NASHUA, NH

DATE	6/17/2022
SCALE	1/8" = 1'-0"
PROJECT NO.	21.17

A2.2
DRAWING NO.

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Stormwater Management & Erosion Control Plan (SMECP)

Proposed Building Addition

MAP 209, LOT 8
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

MAY 4, 2022
Revised: June 28, 2022

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3
NASHUA, NH 03063

PREPARED BY:

HSI Hayner/Swanson, Inc.

Civil Engineers/Land Surveyors

3 Congress Street
Nashua, New Hampshire 03062
(603) 883-2057

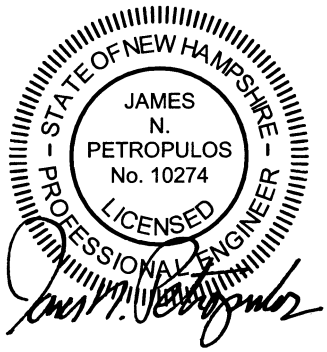
131 Middlesex Turnpike
Burlington, Massachusetts 01803
(781) 203-1501

www.hayner-swanson.com

STORMWATER MANAGEMENT & EROSION CONTROL PLAN (SMECP)

Proposed Building Addition
Tax Map 209, Lot 8
17 Executive Drive
Hudson, New Hampshire

May 4, 2022



Prepared for:
Schroeder Construction Management, Inc.
2 Townsend West, Unit #3
Nashua, NH 03063

Prepared by:
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062

TABLE OF CONTENTS

Plan Reference: Site Plan (13 Sheets) Map 209, Lot 8, Proposed Building Addition, 17 Executive Drive, Hudson, NH, prepared for: Schroeder Construction Management, Inc, Nashua, NH, dated 22 March 2022 and prepared by Hayner/Swanson, Inc., Nashua, NH

I. INTRODUCTION

A. Abstract

The following report is a detailed stormwater study of the Proposed Building Addition project located at 17 Executive Drive in Hudson, NH. The purpose of the study is to analyze the qualitative and quantitative stormwater impacts of the proposed building expansion. The goal of the stormwater management system for this project is to comply with the stormwater management regulations set forth in the Town of Hudson Stormwater Management Regulations (Chapter 290) and the New Hampshire Department of Environmental Services (NHDES) stormwater design standards.

B. Existing Conditions

The project area under consideration for this application is located at 17 Executive Drive, Hudson, NH (see Figure 1). The site is known to the Hudson Assessors Department as Map 209, Lot 8. The parcel measures 7.368 acres and is located in the I - Industrial zoning district in the Sagamore Industrial Park. The site is abutted by Executive Drive to the south; and commercial/industrial properties to the west, north, east, and across Executive Drive.

The lot currently contains a 1-story, 78,700 square foot office, manufacturing and warehouse building along with associated parking and loading areas. Primary access to the site is provided via a curb cut on Executive Drive. Secondary access to the site is through an access easement on 19 Executive Drive. The site is currently serviced by municipal sewer and water, natural gas, and overhead telecommunications and electric utilities. Existing stormwater management practices consist of a series of catch basins, underground drain pipes, and vegetated swales. This collection system discharges to a series of manmade wetland swales, which in-turn discharge to the drainage pond, known as Telegraph Pond, along the easterly site boundary.

NRCS soil mapping shows that this site contains mostly Windsor loamy sands and a small amount of Pipestone loamy sands. The proposed building addition improvements are entirely in the area of Windsor soils. The project's certified wetland scientist flagged the limit of wetlands associated with the drainage swales and drainage pond along the southern and eastern boundaries of the property. Telegraph Pond discharges in a northerly direction through an unnamed drainage pond to Third Brook; which flows in a northerly and westerly direction, and eventually empties into the Merrimack River approximately 1.0 mile from the site (via the water courses). The site is located 0.3+/- miles from the Merrimack River "as the crow flies". No portion of the subject site is located within the 100-year Flood Hazard Area.

It should be noted that the subject site was originally constructed in the early 1970's, and is the former Telegraph newspaper property. The property, along with 19 Executive Drive, was sold to the current owner in late 2017.

C. Proposed Development

Airex Filters Corporation manufactures and distributes air and water filters, and specialty filtration products for residential, commercial, and industrial applications. It is being proposed to construct a 1-story, 26,120 square foot warehouse addition on the westerly side of the existing building. The addition will have one loading dock, and one overhead door ramp access to the addition. The site currently has several storage containers located around the site for supplemental storage space. The warehouse addition will eliminate the need for these storage containers, which will be removed from the site when the warehouse addition is completed. Airex isn't adding any additional employees as part of this proposal. Associated site improvements include new parking and loading area, stormwater management systems, a new electric utility extension, landscaping, and site lighting. No sanitary sewer is required for the addition; and water for fire protection, natural gas, and communications will be extended internally from the existing building. To the best of our knowledge the sewer, water, gas, telecommunication, and electric utilities present in the adjacent roadway have adequate capacity to service this intended use.

Upon project completion, the site will contain approximately 35.2% open space, where 35% is the minimum required by zoning. There are no wetland impacts proposed. The layout for the building addition and associated site improvements has been developed to integrate with the existing manufacturing operation and minimize environmental issues. The site development associated with the overall construction of this project disturbs approximately 91,000 square feet of contiguous area and therefore a NHDES Alteration of Terrain permit is not required. Construction is expected to begin in the summer of 2022 and will be completed in the summer of 2023.

II. STORM DRAINAGE ANALYSES

A. Intent

With regard to stormwater management, it is the intent of this design to address both qualitative and quantitative aspects of the runoff produced by the proposed improvements. The design shall address the requirements of the Town of Hudson Stormwater Management Regulations (Chapter 290) and NHDES stormwater design requirements by using, to the maximum practical extent, Low Impact Development (LID) strategies to promote recharge and reduce site disturbances. Furthermore, the

design shall seek to maintain existing drainage patterns, provide permanent methods for protecting water quality and minimize impacts to downstream drainage facilities.

To meet these goals, the proposed project will include a combination of stormwater management practices that include offline deep-sump catch basins fitted with gas hoods for stormwater pretreatment, and a detention/infiltration basin for stormwater treatment. The catch basins are design to capture pavement areas less than 0.25 acres in size to meet NHDES requirements for pretreatment practices. The infiltration basin will have an engineered filter media in the base. These measures are permanent methods for protecting water quality by providing pollutant removal through the use of vertical filtration through the filter media and native soils. Through settling, storage and recharge, infiltration practices can achieve high rates of removal for a number of urban pollutants (sediment, trace metals, hydrocarbons, BOD, nutrients, pesticides, etc.) and provide removal of total suspended solids, total nitrogen, and total phosphorous (New Hampshire Stormwater Manual). In addition to water quality benefits, the stormwater management area will provide flood control during large storm events by reducing the peak rates of runoff leaving this site.

B. Methodology

In accordance with the Town of Hudson and NHDES stormwater management design requirements; the 2-year, 10-year, 25-year and 50-year 24-hour storm events were evaluated. Evaluation of the quantitative runoff impacts of the proposed development were determined by comparing the post-development flows with the pre-development flows for the project portion of this site.

Total drainage area calculations for pre-development conditions and post-development conditions were evaluated and designed using the HydroCAD® version 10.1 stormwater modeling program for the Soil Conservation Service (SCS) type III storm distribution. Values for time of concentration used in the analysis were calculated using the methodology contained within U.S.D.A-S.C.S. publication Urban Hydrology for Small Watersheds Technical Release No. 55 (TR55).

The Rational Method of determining peak rates of runoff was used to size and design the individual drain lines for this project based upon the 25-year storm frequency. Stormwater Management Areas were designed in accordance with the methodology for the "best management practice" (BMP), as presented in the New Hampshire Department of Environmental Services New Hampshire Stormwater Manual.

C. Pre-Development Drainage Conditions

As can be seen on the Pre-Development Drainage Area Map (in Exhibits), the existing project area is divided into two drainage subareas 1 and 2. Subarea 1 is the westerly

portion of the project area which sheet flows into an existing depression which acts as a detention/infiltration basin, and is analyzed as such. Subarea 1 is predominantly wooded, with some grass areas, and a small area of pavement. Approximately half of this drainage subarea includes land on abutting lots, determined with the help of Town GIS topographic mapping. The summation of runoff leaving this portion of the project area is analyzed in this study as Point of Analysis A (POA A).

Subarea 2 is the easterly portion of the project area; part of which sheet flows into a grass swale and then to an inlet headwall to a closed drainage system, and the remainder sheet flowing to a catch basin which is part of the same closed drainage system. Subarea 1 is predominantly a paved parking area, with some grass areas, and a small area of woods. The closed drainage system flows toward the front of the property where it discharges into the aforementioned wetland swales, which in-turn discharge to Telegraph Pond. The summation of runoff leaving this portion of the of the project area is analyzed at the outlet of the aforementioned catch basin as Point of Analysis B (POA B).

The pre-development drainage calculations are shown in Appendix A of this study and summarized in Table 1 below.

TABLE 1: SUMMARY OF PRE-DEVELOPMENT PEAK FLOWS

Location	Storm Frequency	Pre-Development Peak Flows (cfs)
POA A	2-year	0.00
	10-year	0.00
	25-year	0.00
	50-year	0.00
POA B	2-year	2.24
	10-year	4.62
	25-year	6.61
	50-year	8.51

D. Post-Development Drainage Conditions

The intent of the overall stormwater management design to address both qualitative and quantitative aspects of runoff in accordance with the Town of Hudson and NHDES stormwater design regulations, pre-treatment and treatment practices are included in the overall drainage system. The design intent is to capture all of the redevelopment area plus a majority of the adjacent areas, and treat and infiltrate the stormwater to groundwater.

As can be seen on the Post-Development Drainage Area Map (in Exhibits), the existing project area is divided into nine drainage subareas 1 through 7, 9 and 10. All of the subareas except subarea 4 and subarea 6 will be collected in a new closed drainage system and conducted to the stormwater management area (SMA). Subarea 4 is a small area of the abutting lots that can't freely flow into the proposed SMA. Subarea 6 is a small driveway area that will continue to flow to the existing parking lot catch basin, previously mentioned. The paved parking and loading areas and proposed roof area will be collected by a system of roof drains and catch basins. This runoff is conveyed in a westerly direction into the SMA**.** The summation of runoff from the SMA plus subarea 4 is analyzed in this study as Point of Analysis A (POA A). The summation of runoff from the small portion of the reconfigured driveway area to the existing catch basin to remain is analyzed in this study as Point of Analysis B (POA B).

The characteristics of the proposed stormwater management areas are shown below in Table 2. The post-development runoff computations are detailed in Appendix B.

TABLE 2: SUMMARY OF POST-DEVELOPMENT STORMWATER MANAGEMENT AREA CHARACTERISTICS

Location	Storm Frequency	Inflow (cfs)	Outflow (cfs)	Bottom of Practice Elevation	Top of Practice Elevation	Max. Water Elevation
SMA A	2-year	3.56	0.00	155.00	159.75	150.05
	10-year	6.11	0.00			151.26
	25-year	8.13	0.00			152.70
	50-year	10.12	0.00			153.90

A comparison of pre-development and post-development peak flows and volumes are summarized in Tables 3 and 4, respectfully below:

TABLE 3: COMPARISON OF PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK FLOWS

Location	Storm Frequency	Pre-Development Peak Flows (cfs)	Post-Development Peak Flows (cfs)	**Δ** (cfs)
POA A	2-year	0.00	0.00	-
	10-year	0.00	0.00	-
	25-year	0.00	0.00	-
	50-year	0.00	0.01	**+0.01***

POA B	2-year	2.24	0.08	-2.16
	10-year	4.62	0.17	-4.45
	25-year	6.61	0.25	-6.36
	50-year	8.51	0.32	-8.19

***The 0.01 cfs increase in the 50-year storm at POA A is more than offset by the 8.19 cfs reduction in the 50-year storm at POA B. Both areas continue to flow towards the front of both 17 and 19 Executive Drive and combine in the wetland swale system at the front of 17 Executive Drive.**

TABLE 4: COMPARISON OF PRE-DEVELOPMENT AND POST-DEVELOPMENT VOLUMES

Location	Storm Frequency	Pre-Development Runoff (cf)	Post-Development Runoff (cf)	Δ (cf)
POA A	2-year	0.00	0.00	-
	10-year	0.00	0.00	-
	25-year	0.00	0.00	-
	50-year	0.00	174.01	**+174.01***
POA B	2-year	7,100.28	261.36	-6,838.92
	10-year	14,287.68	522.72	-13,764.96
	25-year	20,516.76	784.08	-19,732.68
	50-year	26,484.48	1,001.88	-25,482.60

***The 174.01 cf increase in the 50-year storm at POA A is more than offset by the 25,482.60 cf reduction in the 50-year storm at POA B. Both areas continue to flow towards the front of both 17 and 19 Executive Drive and combine in the wetland swale system at the front of 17 Executive Drive.**

E. Impervious Area Calculations

This proposed building addition results in a net increase in onsite impervious area of 0.24 acres. A summary of on-site impervious cover is provided below in table 5.

TABLE 5: COMPARISON OF PRE-DEVELOPMENT AND POST-DEVELOPMENT IMPERVIOUS AREAS

	Pre-Development	Post-Development	Δ
Total Impervious Area (Ac)	4.53	4.77	+0.24
Treated Impervious Area (Ac)	2.83 (estimated)	3.07 (estimated)	+0.24 (estimated)

In order to comply with the Town of Hudson Stormwater Management standards, this project will meet requirement 290-5B2(a) by implementing treatment measures for at least 30% of existing impervious and 50% of additional proposed impervious cover using filtration/infiltration practices. Using these guidelines, a minimum area of 1.48 acres of impervious cover would need to be treated. The proposed stormwater management features provide treatment for 3.07 acres of impervious cover; thus, meeting the requirement.

F. Results

1. The project uses Low Impact Development techniques to accommodate stormwater runoff created by the proposed building additions and associated site improvements.
2. The project provides permanent methods for protecting water quality through the use of treatment practices such as deep-sump catch basins with gas hoods, and the detention/infiltration basin to promote the recharge of runoff into native soils.
3. The proposed stormwater management systems provides sufficient recharge and storage volumes so that the post-development peak rates of runoff are less than the pre-development peak rates of runoff for the 2-, 10-, 25- and 50-year storm events to POA A and POA B.
4. The design complies with Chapter 290 of the Town of Hudson Stormwater Management standards with regard to treatment of impervious areas for redeveloped sites. Given that the project reduces peak rates and volumes leaving this site at both Points of Analysis, it is our opinion that there will be no adverse impact to the downstream drainage condition.

III. STORMWATER MANAGEMENT INFORMATION

A. Chapter 290 – Report/Plan Checklist:

Town of Hudson – Chapter 290 - Stormwater Management

Chapter 290-7A Report Checklist	
Item	**Applicant Comment**
1.Project Narrative	See SMECP report, Pages 1 & 2
2.Description of wetlands	See SMECP report, Page 1 & 2
3.Description of LID practices	See SMECP report, Page 5
4.Description of application buffers	See SMECP report, Page 1
5.Description of erosion control practices	See SMECP report, Page 9
6.Drainage Calculations	See SMECP report/Appendices A, B & C
7.Other studies	See SMECP Appendix E for Geotech Report
8.Stamped Report and Plans	See SMECP report and Plans
9.Inspection & Maintenance Manual	See SMECP Appendix E
10.BMP Maintenance Plan	See I & M Manual in SMECP Appendix E

Chapter 290-7B Plan Checklist	
Item	**Applicant Comment**
1.Locus Map	See Cover Sheet, Sheet 1 of 13
2.Parcel Map	See Sheet 1 of 13
3.Base Map Information	See Sheet 3 of 13 for Existing Conditions
4.Existing and Proposed Plan Information	See Sheet 1-5 of 13
5.Location of CRITICAL areas	See Sheets 1, 3, & 5 of 13
6.Wetland Locations	See Sheet 1 of 13
7.Limits of Disturbance	See note 10 on Sheet 10 of 13
8.Proposed Erosion Control Measures	See Sheets 9 & 10 of 13
9.Proposed Construction Information	See Sheets 2, 4, & 5 of 13
10.Sanitary Waste Locations	N/A
11.Construction Schedule/Phasing	12 Month Construction Project
12.100-Year Flood Boundaries	None
13.Soils Information	See SMECP Appendix E
14.Wetland Impact Areas	N/A
15.Permanent BMP's	See Sheets 5, and 8 of 13
16.Snow Storage Areas	See Sheet 5 of 13
17.Proposed Drainage Information	See Sheets 5, 6, & 8 of 13
18.Test Pit and Infiltration rates	See SMECP report and Sheet 2 & 3 of 13
19.Location of Nearest Receiving Wetland	Telegraph Pond along easterly boundary
20.Downstream Drainage Capacity	See SMECP report, Page 7
21.Explanation of Downstream Impact	See SMECP report, Page 7

IV. EROSION CONTROL PROVISIONS

Temporary and permanent erosion control measures are proposed throughout the project, to ensure that the adjacent off-site areas and public roadways are protected from erosion and debris during and after construction of this project. A DRAFT copy of the prepared Stormwater Pollution Prevention Plan (SWPPP) for this project is also included as an Appendix to this report to provide additional information regarding erosion control measures during construction.

A. Temporary Erosion Control Measures

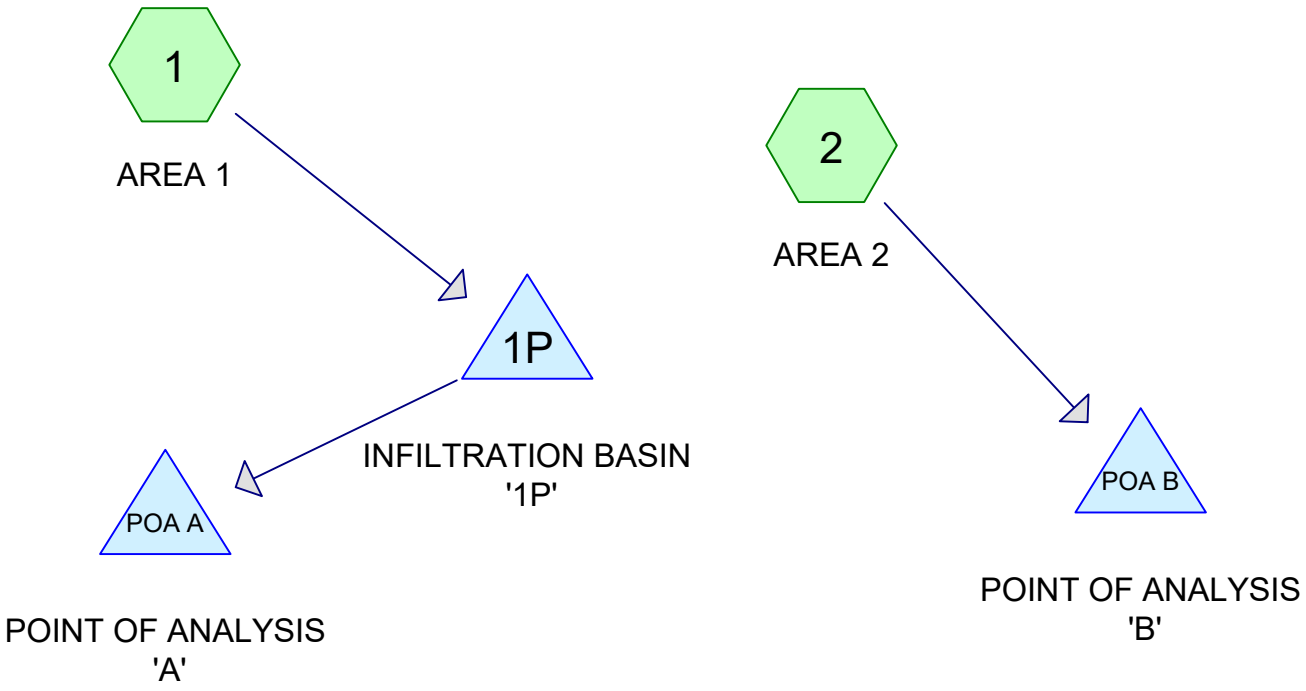
During the site construction phase of the project, specific erosion and sedimentation controls have been developed into the design of the project. Proposed locations and construction details of these devices are shown in greater detail on the attached site plans. Reference to the New Hampshire Stormwater Management Manual, Vol. 3, Construction Phase Erosion and Sediment Controls was made for the temporary erosion control devices such as silt socks, a gravel construction exit, and temporary seeding. The erosion control notes and construction sequence were developed to limit soil loss due to erosion and are therefore directed at minimizing the degradation of water quality on and off the site.

B. Permanent Erosion Control Measures

Permanent erosion control measures have been included in the design of the project to limit long-term erosion conditions. The proposed subsurface infiltration basins reduce peak rates of runoff which lessens he likelihood of downstream adverse impacts caused by erosion. Riprap aprons provide outlet protection at the new discharge headwall and where needed to reduce stormwater velocities to manageable levels. Loam and seed requirements have been specified to establish conditions that minimize erodible conditions. This is complemented by the minimization of stormwater flow lengths to keep runoff quantities and velocities as low as possible. These permanent measures, when completed and in place, provide treatment methods that will maintain long-term water quality in downstream waterways.

APPENDIX A

PRE-DEVELOPMENT DRAINAGE CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for PRE-DEVELOPMENT
Prepared by {enter your company name here}, Printed 5/6/2022

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25-YR	Type III 24-hr		Default	24.00	1	5.65	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.604	39	>75% Grass cover, Good, HSG A (1, 2)
1.260	98	Pavement, HSG A (1, 2)
1.221	30	Woods, Good, HSG A (1, 2)
3.085	**60**	**TOTAL AREA**

Soil Listing (all nodes)

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

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.604	0.000	0.000	0.000	0.000	0.604	>75% Grass cover, Good	1, 2
1.260	0.000	0.000	0.000	0.000	1.260	Pavement	1, 2
1.221	0.000	0.000	0.000	0.000	1.221	Woods, Good	1, 2
3.085	**0.000**	**0.000**	**0.000**	**0.000**	**3.085**	**TOTAL AREA**	

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: AREA 1 Runoff Area=1.409 ac 7.03% Impervious Runoff Depth=0.22"
Flow Length=290' Tc=8.0 min CN=36 Runoff=0.05 cfs 0.026 af

Subcatchment 2: AREA 2 Runoff Area=1.676 ac 69.27% Impervious Runoff Depth=3.37"
Tc=6.0 min CN=79 Runoff=6.61 cfs 0.471 af

Pond 1P: INFILTRATION BASIN '1P' Peak Elev=157.02' Storage=20 cf Inflow=0.05 cfs 0.026 af
Outflow=0.05 cfs 0.026 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=6.61 cfs 0.471 af
Primary=6.61 cfs 0.471 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.496 af Average Runoff Depth = 1.93"
59.16% Pervious = 1.825 ac 40.84% Impervious = 1.260 ac

Summary for Subcatchment 1: AREA 1

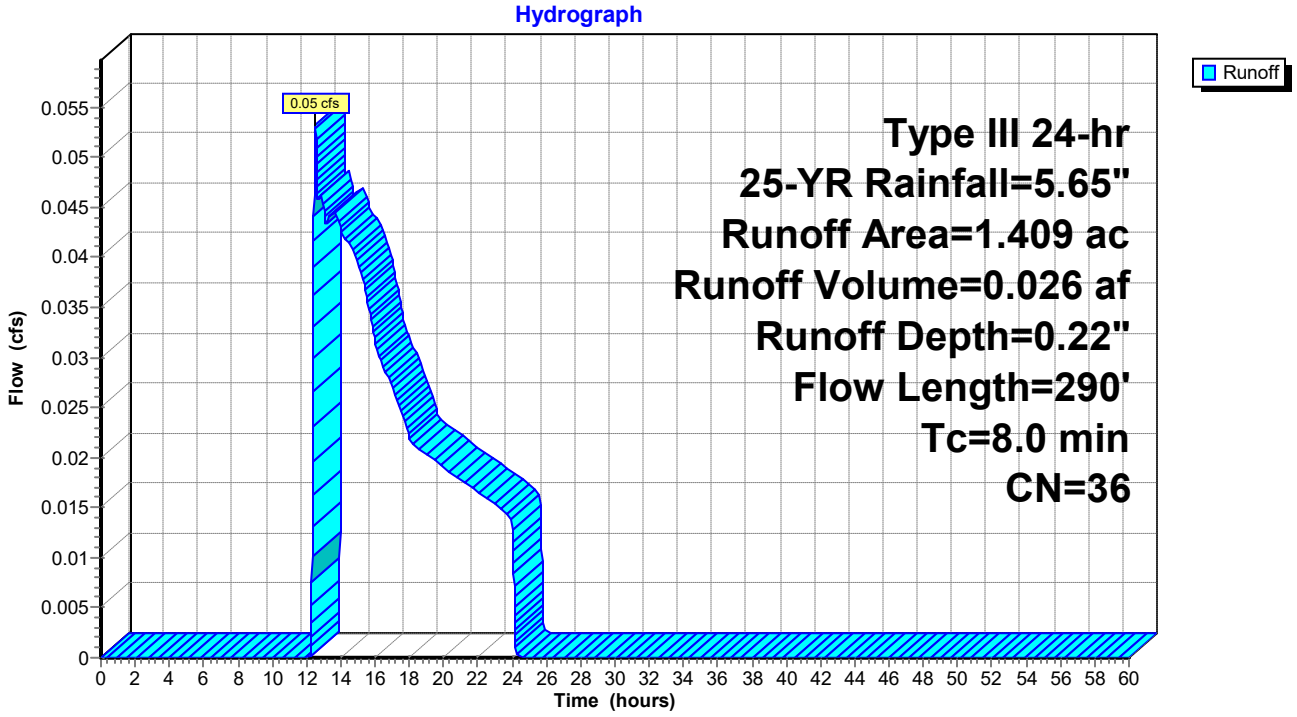
Runoff = 0.05 cfs @ 12.51 hrs, Volume= 0.026 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

	Area (ac)	CN	Description
	1.103	30	Woods, Good, HSG A
	0.207	39	>75% Grass cover, Good, HSG A
*	0.099	98	Pavement, HSG A
	1.409	36	Weighted Average
	1.310		92.97% Pervious Area
	0.099		7.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	50	0.1200	0.13		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
1.7	130	0.0650	1.27		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
0.1	110	0.0650	15.93	318.65	**Channel Flow, Grass** Area= 20.0 sf Perim= 11.2' r= 1.79' n= 0.035 High grass
8.0	290	Total			

Subcatchment 1: AREA 1



Summary for Subcatchment 2: AREA 2

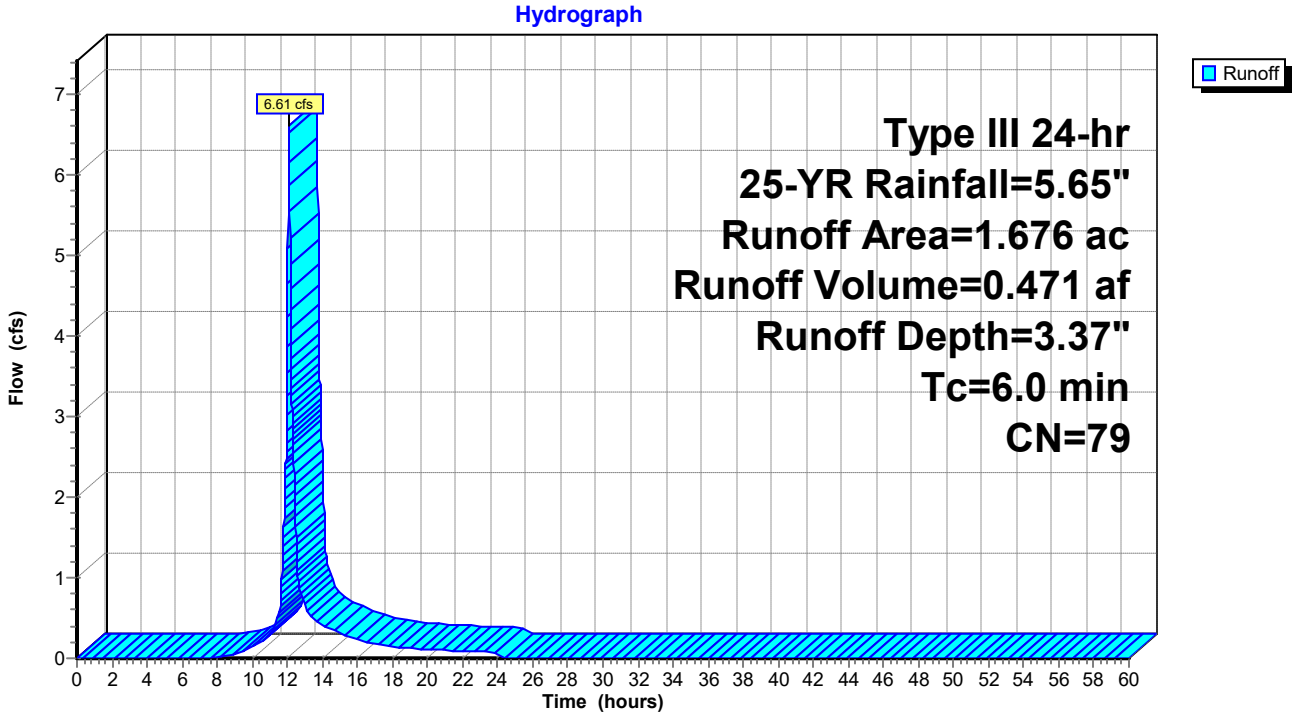
Runoff = 6.61 cfs @ 12.09 hrs, Volume= 0.471 af, Depth= 3.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

	Area (ac)	CN	Description
	0.118	30	Woods, Good, HSG A
	0.397	39	>75% Grass cover, Good, HSG A
*	1.161	98	Pavement, HSG A
	1.676	79	Weighted Average
	0.515		30.73% Pervious Area
	1.161		69.27% Impervious Area

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

Subcatchment 2: AREA 2



Summary for Pond 1P: INFILTRATION BASIN '1P'

Inflow Area = 1.409 ac, 7.03% Impervious, Inflow Depth = 0.22" for 25-YR event
Inflow = 0.05 cfs @ 12.51 hrs, Volume= 0.026 af
Outflow = 0.05 cfs @ 12.93 hrs, Volume= 0.026 af, Atten= 14%, Lag= 25.2 min
Discarded = 0.05 cfs @ 12.93 hrs, Volume= 0.026 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 157.02' @ 12.93 hrs Surf.Area= 1,239 sf Storage= 20 cf

Plug-Flow detention time= 7.1 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 7.1 min (1,021.4 - 1,014.3)

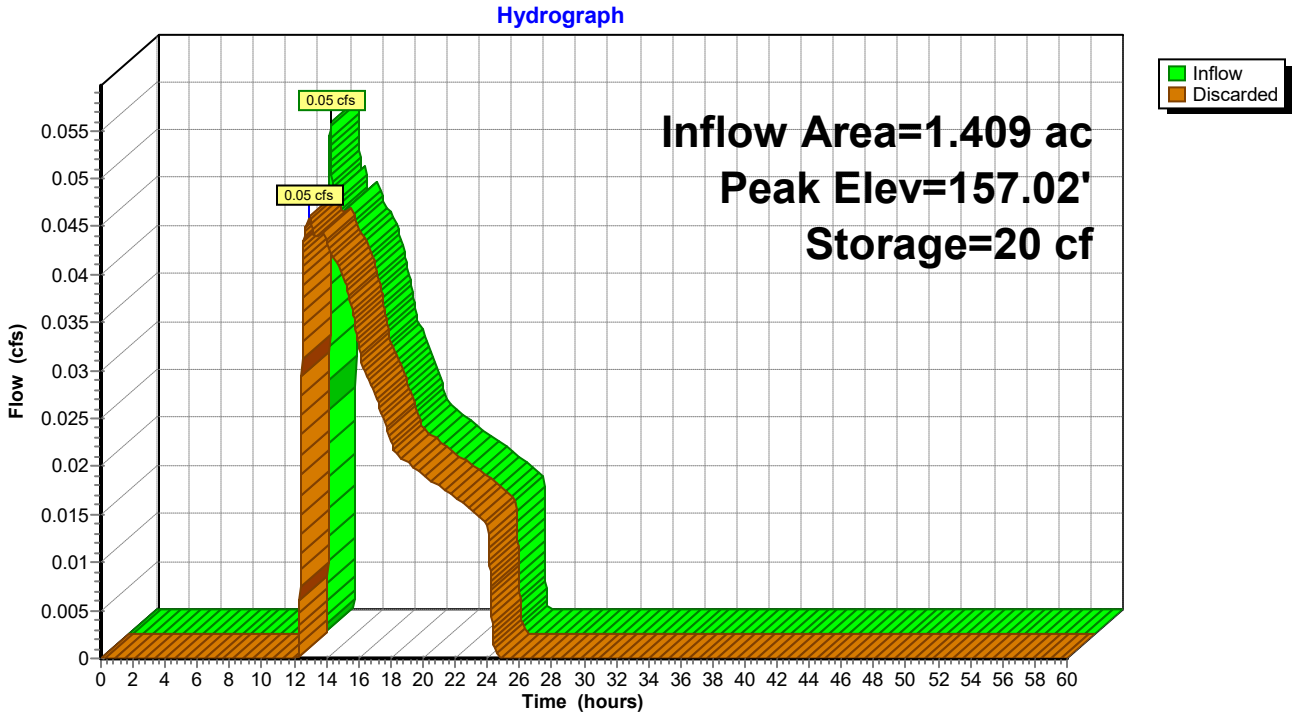
Volume	Invert	Avail.Storage	Storage Description
#1	157.00'	16,482 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
157.00	1,200	0	0	1,200
158.00	4,800	2,800	2,800	4,805
159.00	9,000	6,791	9,591	9,015
159.50	19,200	6,891	16,482	19,217

Device	Routing	Invert	Outlet Devices
#1	Discarded	157.00'	**10.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 150.00' Phase-In= 0.10'

Discarded OutFlow Max=0.05 cfs @ 12.93 hrs HW=157.02' (Free Discharge)
↑**1=Exfiltration** (Controls 0.05 cfs)

Pond 1P: INFILTRATION BASIN '1P'



Stage-Area-Storage for Pond 1P: INFILTRATION BASIN '1P'

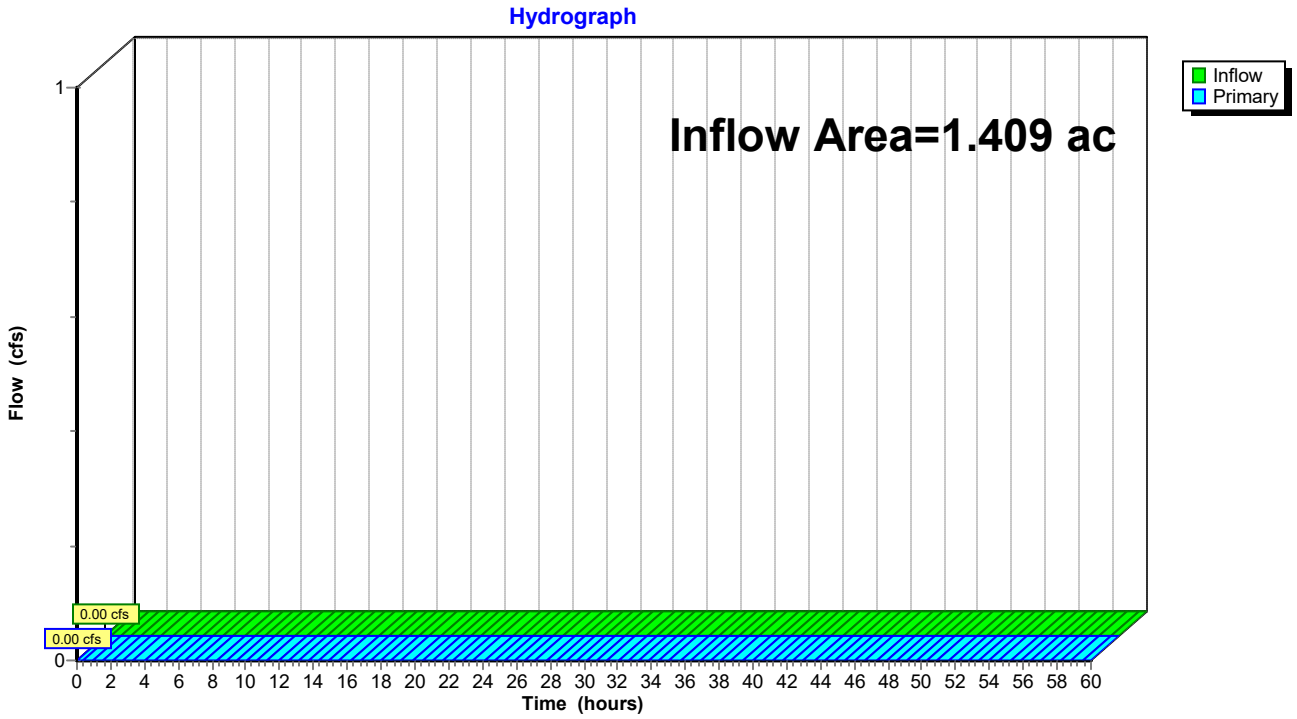
Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
157.00	1,200	1,200	0
157.05	1,323	1,323	63
157.10	1,452	1,452	132
157.15	1,587	1,588	208
157.20	1,728	1,729	291
157.25	1,875	1,876	381
157.30	2,028	2,029	479
157.35	2,187	2,188	584
157.40	2,352	2,354	698
157.45	2,523	2,525	819
157.50	2,700	2,702	950
157.55	2,883	2,885	1,090
157.60	3,072	3,074	1,238
157.65	3,267	3,270	1,397
157.70	3,468	3,471	1,565
157.75	3,675	3,678	1,744
157.80	3,888	3,892	1,933
157.85	4,107	4,111	2,133
157.90	4,332	4,336	2,344
157.95	4,563	4,567	2,566
158.00	4,800	4,805	2,800
158.05	4,979	4,984	3,044
158.10	5,161	5,167	3,298
158.15	5,347	5,353	3,561
158.20	5,535	5,542	3,833
158.25	5,727	5,734	4,114
158.30	5,923	5,930	4,405
158.35	6,121	6,129	4,707
158.40	6,323	6,331	5,018
158.45	6,528	6,537	5,339
158.50	6,736	6,746	5,670
158.55	6,948	6,958	6,013
158.60	7,163	7,173	6,365
158.65	7,381	7,392	6,729
158.70	7,603	7,614	7,103
158.75	7,827	7,839	7,489
158.80	8,055	8,068	7,886
158.85	8,287	8,300	8,295
158.90	8,521	8,535	8,715
158.95	8,759	8,773	9,147
159.00	9,000	9,015	9,591
159.05	9,848	9,863	10,062
159.10	10,735	10,750	10,576
159.15	11,659	11,674	11,136
159.20	12,622	12,637	11,743
159.25	13,623	13,638	12,399
159.30	14,662	14,678	13,106
159.35	15,739	15,755	13,866
159.40	16,855	16,871	14,680
159.45	18,008	18,025	15,552
159.50	**19,200**	**19,217**	**16,482**

Summary for Pond POA A: POINT OF ANALYSIS 'A'

Inflow Area = 1.409 ac, 7.03% Impervious, Inflow Depth = 0.00" for 25-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3

Pond POA A: POINT OF ANALYSIS 'A'

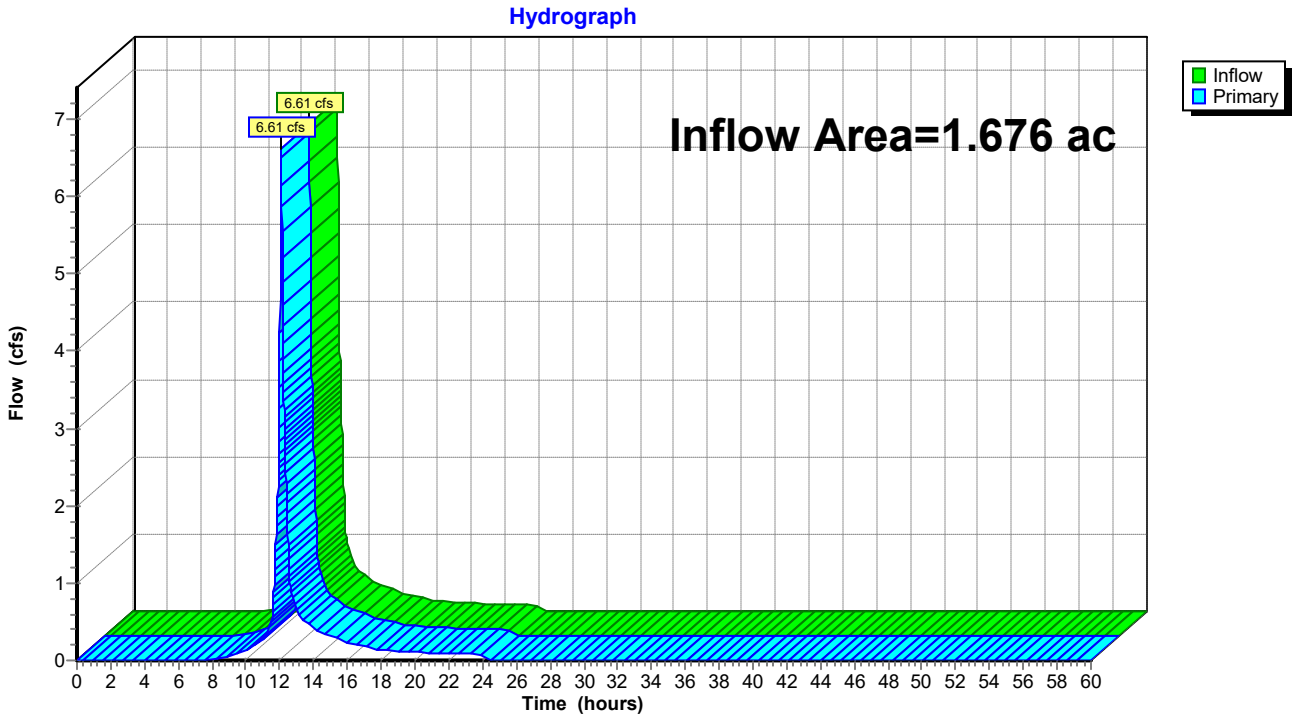


Summary for Pond POA B: POINT OF ANALYSIS 'B'

Inflow Area = 1.676 ac, 69.27% Impervious, Inflow Depth = 3.37" for 25-YR event
Inflow = 6.61 cfs @ 12.09 hrs, Volume= 0.471 af
Primary = 6.61 cfs @ 12.09 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3

Pond POA B: POINT OF ANALYSIS 'B'



Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: AREA 1 Runoff Area=1.409 ac 7.03% Impervious Runoff Depth=0.00"
Flow Length=290' Tc=8.0 min CN=36 Runoff=0.00 cfs 0.000 af

Subcatchment 2: AREA 2 Runoff Area=1.676 ac 69.27% Impervious Runoff Depth=1.17"
Tc=6.0 min CN=79 Runoff=2.24 cfs 0.163 af

Pond 1P: INFILTRATION BASIN '1P' Peak Elev=157.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=2.24 cfs 0.163 af
Primary=2.24 cfs 0.163 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.163 af Average Runoff Depth = 0.63"
59.16% Pervious = 1.825 ac 40.84% Impervious = 1.260 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: AREA 1 Runoff Area=1.409 ac 7.03% Impervious Runoff Depth=0.04"
Flow Length=290' Tc=8.0 min CN=36 Runoff=0.01 cfs 0.005 af

Subcatchment 2: AREA 2 Runoff Area=1.676 ac 69.27% Impervious Runoff Depth=2.35"
Tc=6.0 min CN=79 Runoff=4.62 cfs 0.328 af

Pond 1P: INFILTRATION BASIN '1P' Peak Elev=157.00' Storage=3 cf Inflow=0.01 cfs 0.005 af
Outflow=0.01 cfs 0.005 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=4.62 cfs 0.328 af
Primary=4.62 cfs 0.328 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.334 af Average Runoff Depth = 1.30"
59.16% Pervious = 1.825 ac 40.84% Impervious = 1.260 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: AREA 1 Runoff Area=1.409 ac 7.03% Impervious Runoff Depth=0.49"
Flow Length=290' Tc=8.0 min CN=36 Runoff=0.26 cfs 0.057 af

Subcatchment 2: AREA 2 Runoff Area=1.676 ac 69.27% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=79 Runoff=8.51 cfs 0.608 af

Pond 1P: INFILTRATION BASIN '1P' Peak Elev=157.07' Storage=94 cf Inflow=0.26 cfs 0.057 af
Outflow=0.23 cfs 0.057 af

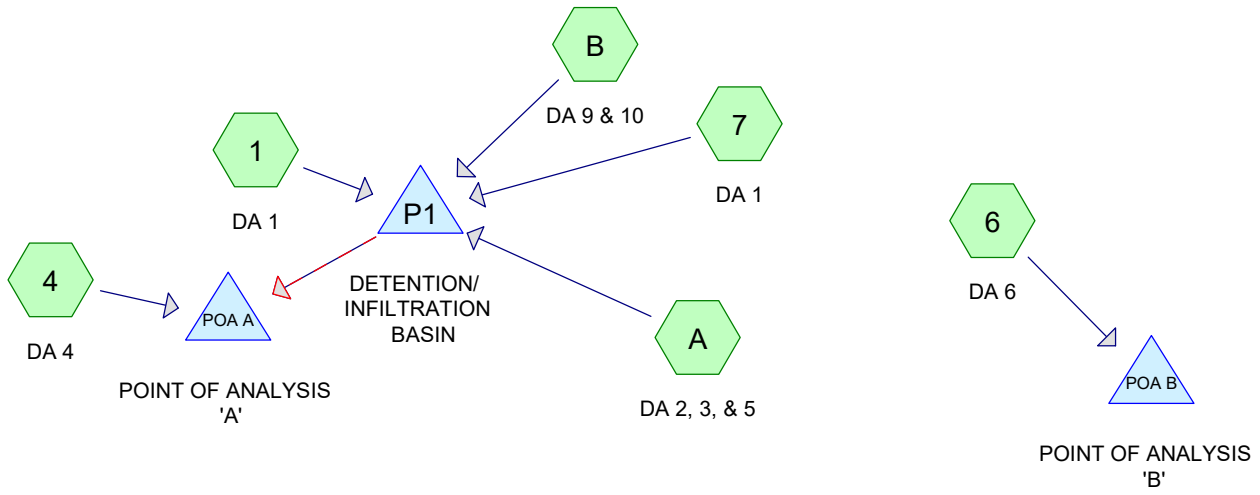
Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=8.51 cfs 0.608 af
Primary=8.51 cfs 0.608 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.666 af Average Runoff Depth = 2.59"
59.16% Pervious = 1.825 ac 40.84% Impervious = 1.260 ac

APPENDIX B

POST DEVELOPMENT DRAINAGE CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for POST-DEVELOPMENT

Prepared by {enter your company name here}, Printed 5/6/2022

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25-YR	Type III 24-hr		Default	24.00	1	5.65	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.758	39	>75% Grass cover, Good, HSG A (1, 4, 6, A, B)
0.842	98	Paved parking, HSG A (7, A, B)
0.043	98	Paved, HSG A (6)
0.016	70	Riprap, HSG A (1)
0.612	98	Roofs, HSG A (A, B)
0.814	30	Woods, Good, HSG A (1, 4, B)
3.085	**65**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
3.085	HSG A	1, 4, 6, 7, A, B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
3.085		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.758	0.000	0.000	0.000	0.000	0.758	>75% Grass cover, Good	1, 4, 6, A, B
0.043	0.000	0.000	0.000	0.000	0.043	Paved	6
0.842	0.000	0.000	0.000	0.000	0.842	Paved parking	7, A, B
0.016	0.000	0.000	0.000	0.000	0.016	Riprap	1
0.612	0.000	0.000	0.000	0.000	0.612	Roofs	A, B
0.814	0.000	0.000	0.000	0.000	0.814	Woods, Good	1, 4, B
3.085	**0.000**	**0.000**	**0.000**	**0.000**	**3.085**	**TOTAL AREA**	

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.147 ac 0.00% Impervious Runoff Depth=0.15"
Flow Length=265' Tc=10.3 min CN=34 Runoff=0.02 cfs 0.014 af

Subcatchment 4: DA 4 Runoff Area=0.149 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=230' Slope=0.0400 '/' Tc=12.7 min CN=33 Runoff=0.00 cfs 0.001 af

Subcatchment 6: DA 6 Runoff Area=0.065 ac 66.15% Impervious Runoff Depth=3.27"
Tc=6.0 min CN=78 Runoff=0.25 cfs 0.018 af

Subcatchment 7: DA 1 Runoff Area=0.209 ac 100.00% Impervious Runoff Depth=5.41"
Tc=6.0 min CN=98 Runoff=1.16 cfs 0.094 af

Subcatchment A: DA 2, 3, & 5 Runoff Area=0.904 ac 76.99% Impervious Runoff Depth=3.87"
Tc=7.0 min CN=84 Runoff=3.91 cfs 0.292 af

Subcatchment B: DA 9 & 10 Runoff Area=0.611 ac 89.85% Impervious Runoff Depth=4.73"
Tc=7.0 min CN=92 Runoff=3.08 cfs 0.241 af

Pond P1: DETENTION/ INFILTRATION Peak Elev=158.16' Storage=9,416 cf Inflow=8.13 cfs 0.641 af
Discarded=1.57 cfs 0.641 af Secondary=0.00 cfs 0.000 af Outflow=1.57 cfs 0.641 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.001 af
Primary=0.00 cfs 0.001 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=0.25 cfs 0.018 af
Primary=0.25 cfs 0.018 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.660 af Average Runoff Depth = 2.57"
51.47% Pervious = 1.588 ac 48.53% Impervious = 1.497 ac

Summary for Subcatchment 1: DA 1

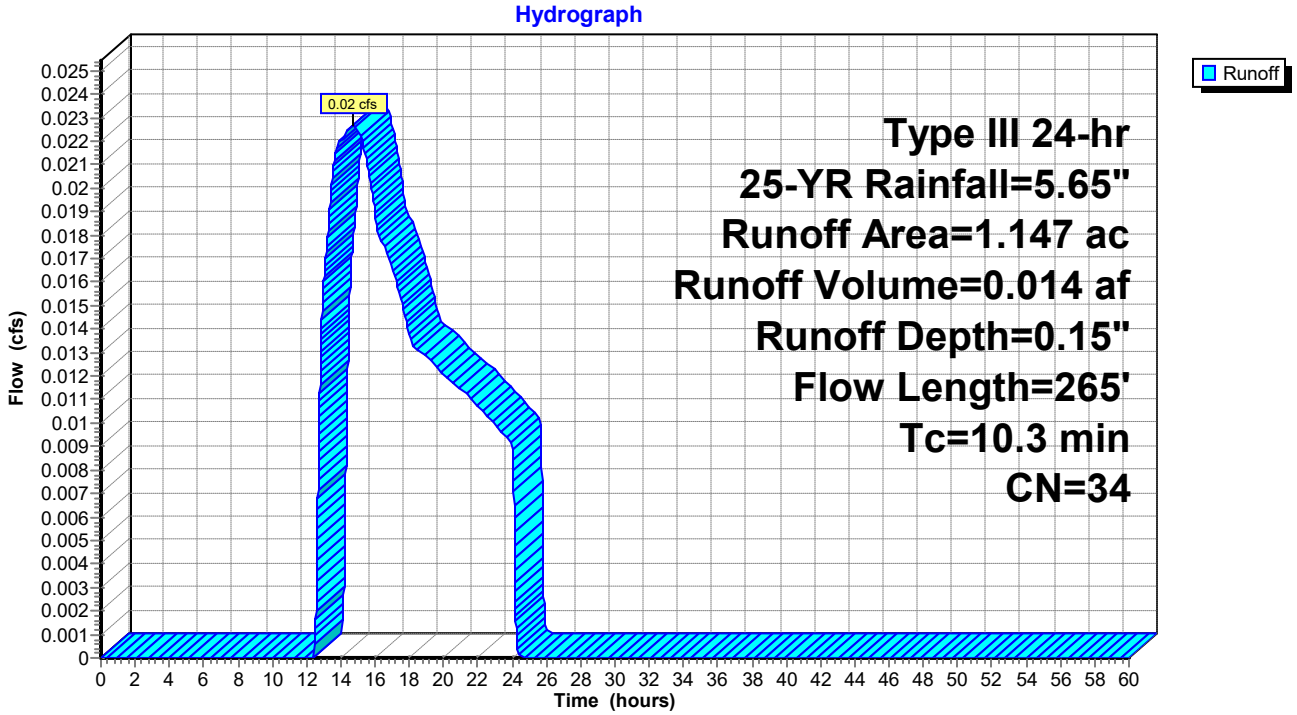
Runoff = 0.02 cfs @ 14.73 hrs, Volume= 0.014 af, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

	Area (ac)	CN	Description
	0.420	39	>75% Grass cover, Good, HSG A
*	0.016	70	Riprap, HSG A
	0.711	30	Woods, Good, HSG A
	1.147	34	Weighted Average
	1.147		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	50	0.0800	0.11		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	190	0.0470	1.08		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
0.1	25	0.3300	4.02		**Shallow Concentrated Flow, Grass** Short Grass Pasture Kv= 7.0 fps
10.3	265	Total			

Subcatchment 1: DA 1



Summary for Subcatchment 4: DA 4

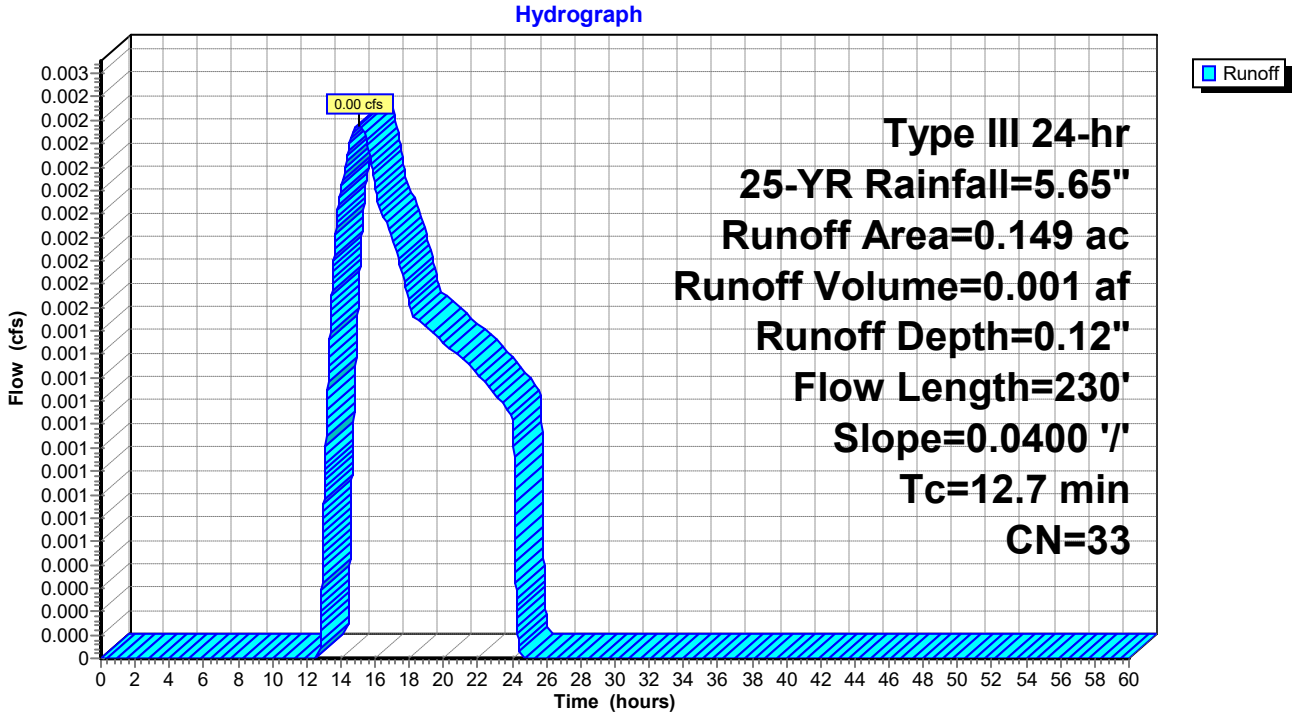
Runoff = 0.00 cfs @ 15.03 hrs, Volume= 0.001 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

Area (ac)	CN	Description
0.047	39	>75% Grass cover, Good, HSG A
0.102	30	Woods, Good, HSG A
0.149	33	Weighted Average
0.149		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.00"
3.0	180	0.0400	1.00		**Shallow Concentrated Flow, Woods** Woodland Kv= 5.0 fps
12.7	230	Total			

Subcatchment 4: DA 4



Summary for Subcatchment 6: DA 6

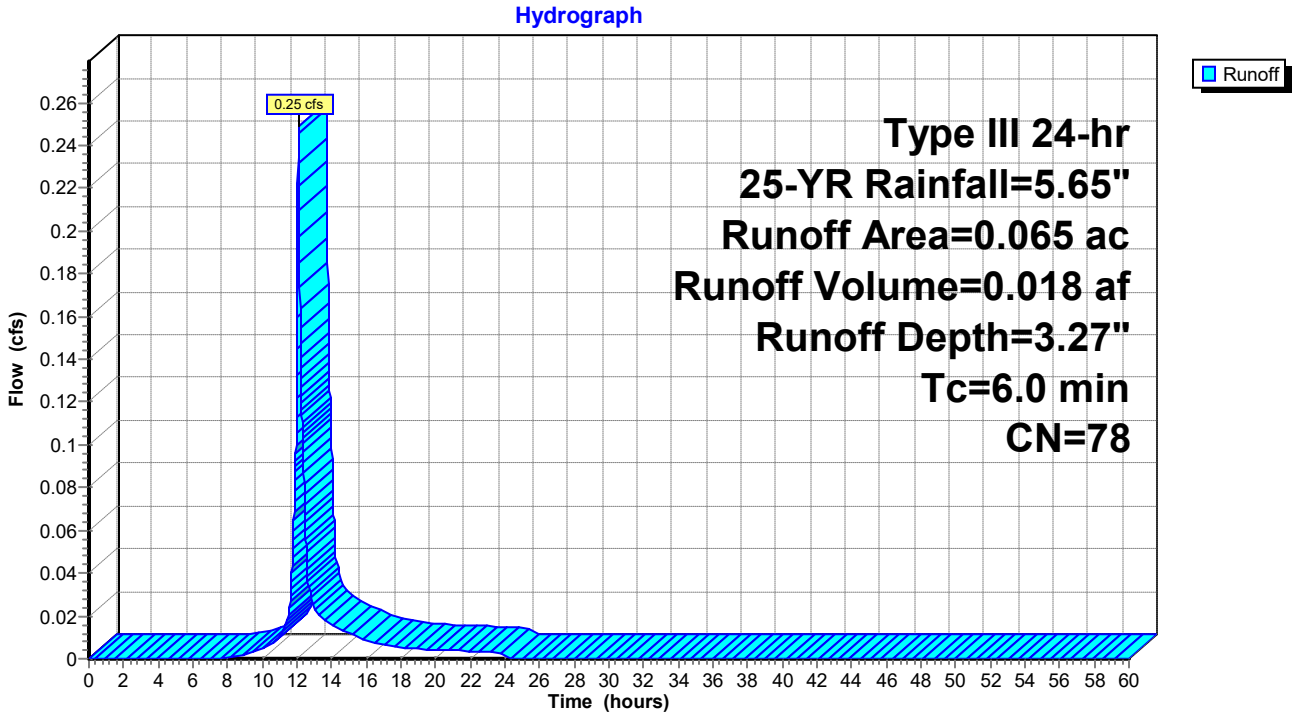
Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

	Area (ac)	CN	Description
	0.022	39	>75% Grass cover, Good, HSG A
*	0.043	98	Paved, HSG A
	0.065	78	Weighted Average
	0.022		33.85% Pervious Area
	0.043		66.15% Impervious Area

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

Subcatchment 6: DA 6



Summary for Subcatchment 7: DA 1

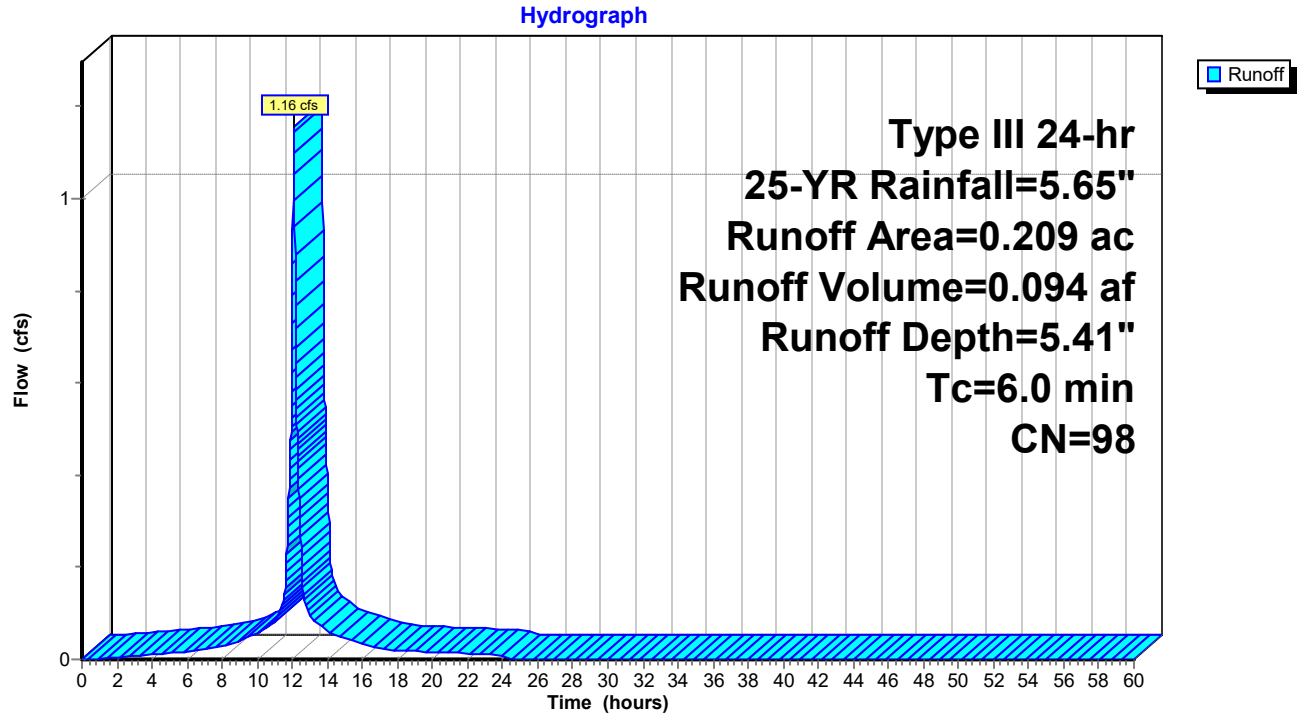
Runoff = 1.16 cfs @ 12.08 hrs, Volume= 0.094 af, Depth= 5.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

Area (ac)	CN	Description
0.209	98	Paved parking, HSG A
0.209		100.00% Impervious Area

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

Subcatchment 7: DA 1



Summary for Subcatchment A: DA 2, 3, & 5

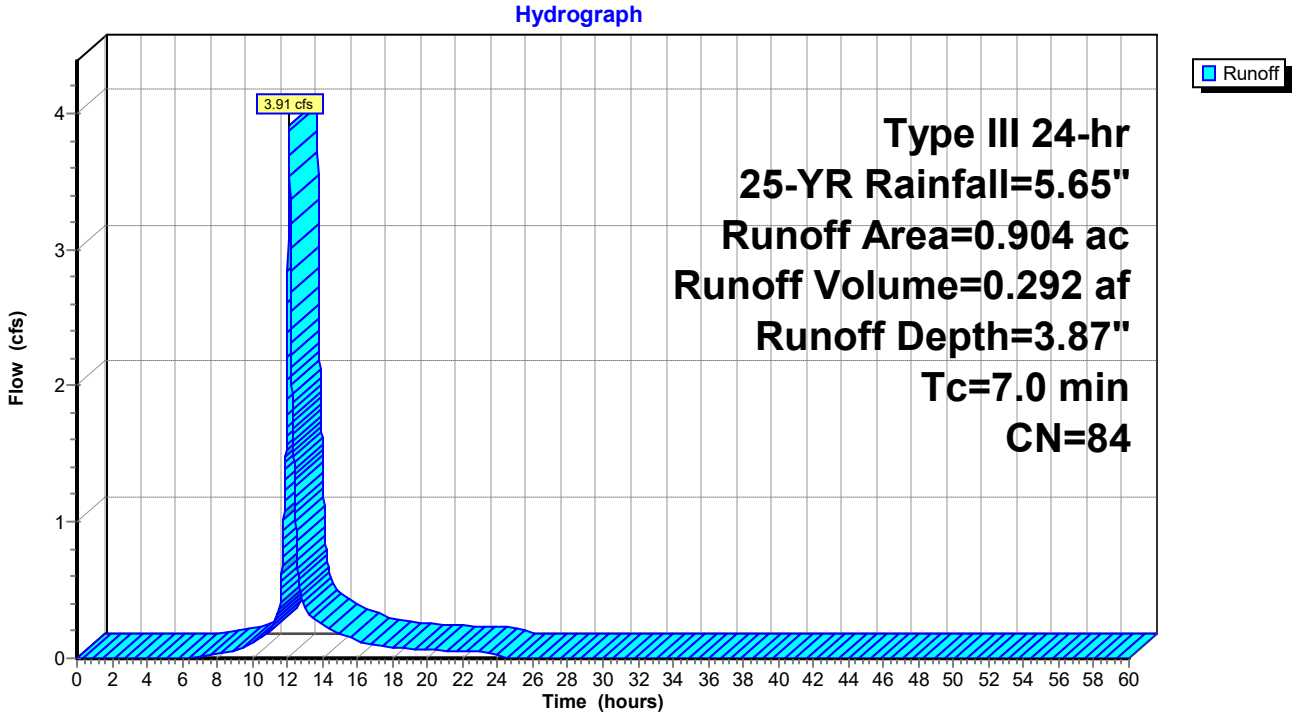
Runoff = 3.91 cfs @ 12.10 hrs, Volume= 0.292 af, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

Area (ac)	CN	Description
0.208	39	>75% Grass cover, Good, HSG A
0.410	98	Paved parking, HSG A
0.286	98	Roofs, HSG A
0.904	84	Weighted Average
0.208		23.01% Pervious Area
0.696		76.99% Impervious Area

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

Subcatchment A: DA 2, 3, & 5



Summary for Subcatchment B: DA 9 & 10

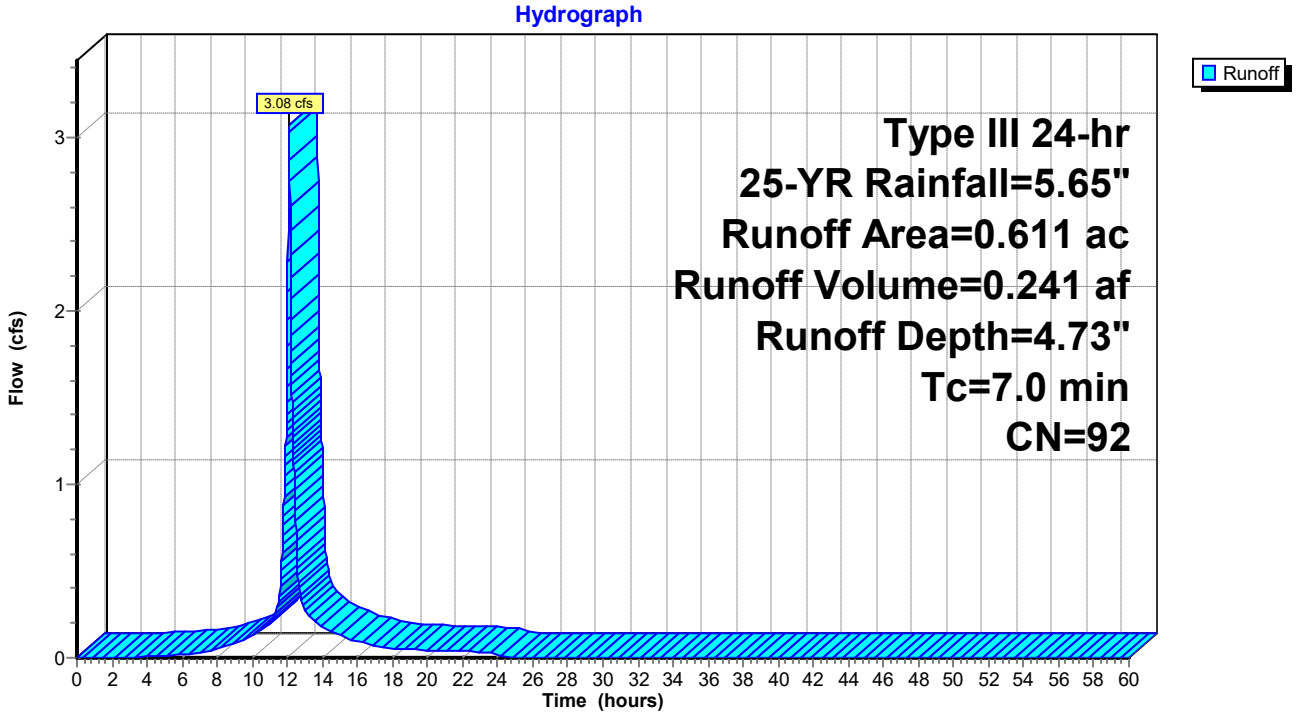
Runoff = 3.08 cfs @ 12.10 hrs, Volume= 0.241 af, Depth= 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.65"

Area (ac)	CN	Description
0.061	39	>75% Grass cover, Good, HSG A
0.223	98	Paved parking, HSG A
0.001	30	Woods, Good, HSG A
0.326	98	Roofs, HSG A
0.611	92	Weighted Average
0.062		10.15% Pervious Area
0.549		89.85% Impervious Area

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

Subcatchment B: DA 9 & 10



Summary for Pond P1: DETENTION/ INFILTRATION BASIN

Inflow Area = 2.871 ac, 50.64% Impervious, Inflow Depth = 2.68" for 25-YR event
Inflow = 8.13 cfs @ 12.10 hrs, Volume= 0.641 af
Outflow = 1.57 cfs @ 12.55 hrs, Volume= 0.641 af, Atten= 81%, Lag= 27.0 min
Discarded = 1.57 cfs @ 12.55 hrs, Volume= 0.641 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 158.16' @ 12.55 hrs Surf.Area= 5,092 sf Storage= 9,416 cf
Flood Elev= 172.00' Surf.Area= 7,680 sf Storage= 21,144 cf

Plug-Flow detention time= 57.8 min calculated for 0.640 af (100% of inflow)
Center-of-Mass det. time= 57.8 min (850.9 - 793.1)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	21,144 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

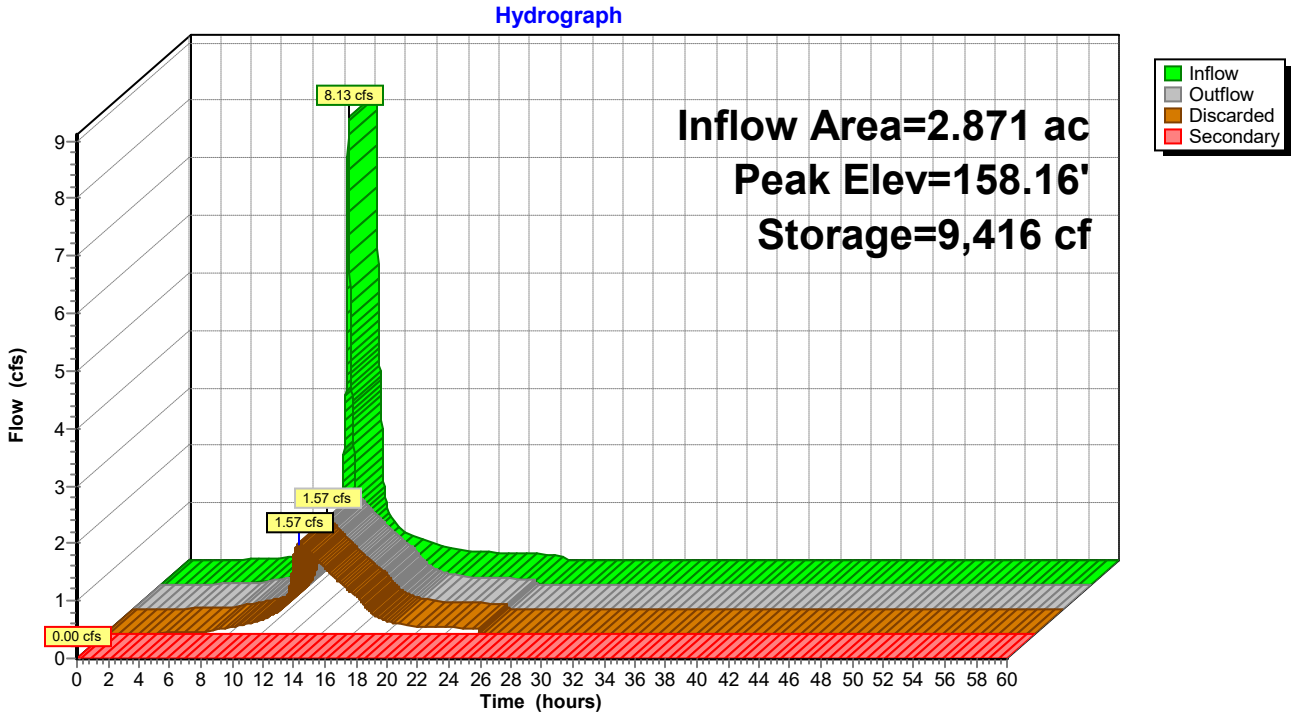
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
155.00	505	0	0	505
156.00	2,455	1,358	1,358	2,459
157.00	3,640	3,028	4,386	3,660
158.00	4,890	4,250	8,636	4,931
159.00	6,250	5,556	14,192	6,317
160.00	7,680	6,953	21,144	7,777

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.00'	**10.000 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 150.00' Phase-In= 0.10'
#2	Secondary	159.75'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=1.57 cfs @ 12.55 hrs HW=158.16' (Free Discharge)
1=Exfiltration (Controls 1.57 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=155.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P1: DETENTION/ INFILTRATION BASIN



Stage-Area-Storage for Pond P1: DETENTION/ INFILTRATION BASIN

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
155.00	505	505	0
155.50	1,297	1,298	435
156.00	2,455	2,459	1,358
156.50	3,018	3,030	2,724
157.00	3,640	3,660	4,386
157.50	4,242	4,272	6,355
158.00	4,890	4,931	8,636
158.50	5,549	5,603	11,244
159.00	6,250	6,317	14,192
159.50	6,947	7,028	17,489
160.00	**7,680**	**7,777**	**21,144**
160.50	7,680	7,777	21,144
161.00	7,680	7,777	21,144
161.50	7,680	7,777	21,144
162.00	7,680	7,777	21,144
162.50	7,680	7,777	21,144
163.00	7,680	7,777	21,144
163.50	7,680	7,777	21,144
164.00	7,680	7,777	21,144
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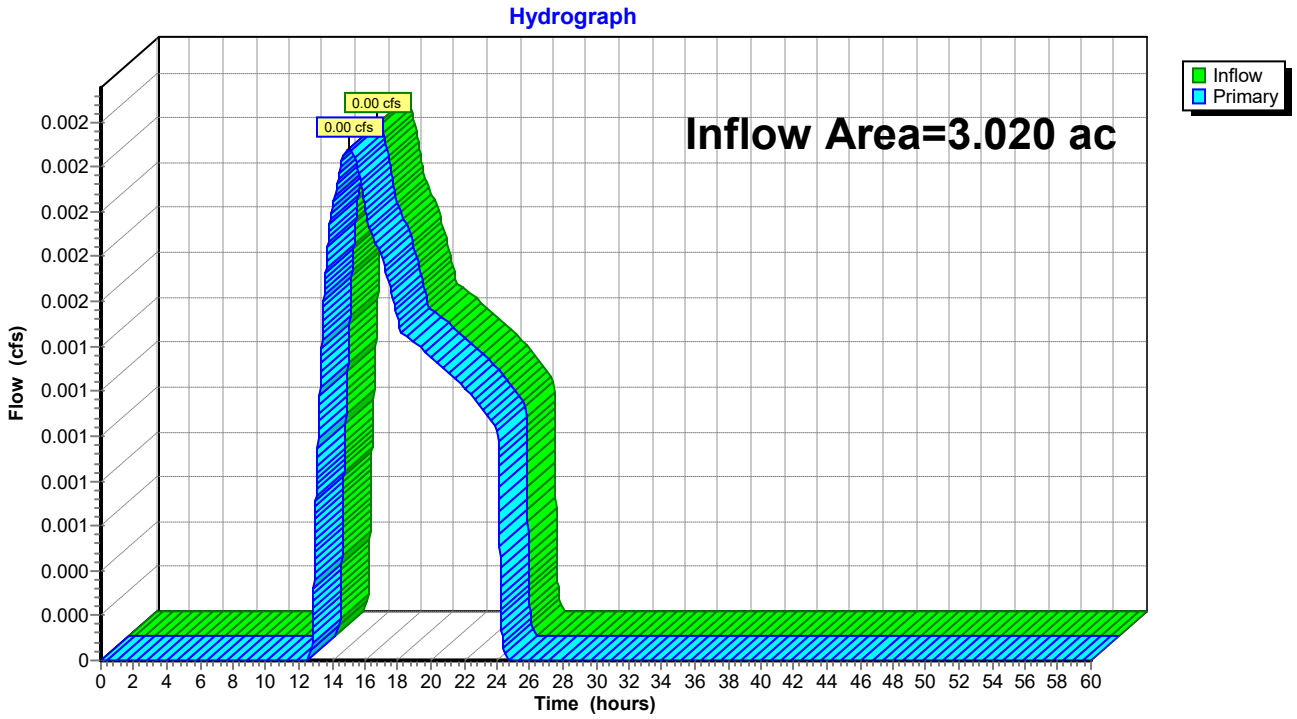
165.00	7,680	7,777	21,144
165.50	7,680	7,777	21,144
166.00	7,680	7,777	21,144
166.50	7,680	7,777	21,144
167.00	7,680	7,777	21,144
167.50	7,680	7,777	21,144
168.00	7,680	7,777	21,144
168.50	7,680	7,777	21,144
169.00	7,680	7,777	21,144
169.50	7,680	7,777	21,144
170.00	7,680	7,777	21,144
170.50	7,680	7,777	21,144
171.00	7,680	7,777	21,144
171.50	7,680	7,777	21,144
172.00	7,680	7,777	21,144

Summary for Pond POA A: POINT OF ANALYSIS 'A'

Inflow Area = 3.020 ac, 48.15% Impervious, Inflow Depth = 0.01" for 25-YR event
Inflow = 0.00 cfs @ 15.03 hrs, Volume= 0.001 af
Primary = 0.00 cfs @ 15.03 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3

Pond POA A: POINT OF ANALYSIS 'A'

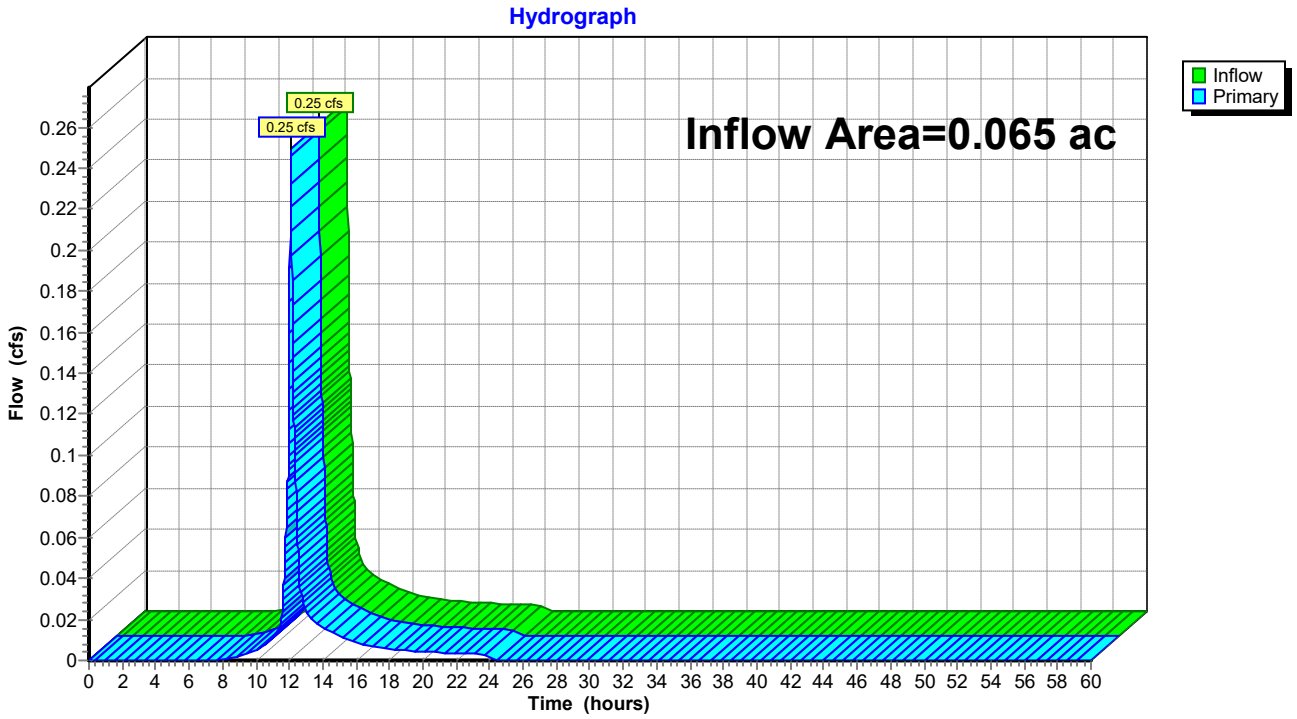


Summary for Pond POA B: POINT OF ANALYSIS 'B'

Inflow Area = 0.065 ac, 66.15% Impervious, Inflow Depth = 3.27" for 25-YR event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af
Primary = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3

Pond POA B: POINT OF ANALYSIS 'B'



Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.147 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=265' Tc=10.3 min CN=34 Runoff=0.00 cfs 0.000 af

Subcatchment 4: DA 4 Runoff Area=0.149 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=230' Slope=0.0400 '/' Tc=12.7 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 6: DA 6 Runoff Area=0.065 ac 66.15% Impervious Runoff Depth=1.11"
Tc=6.0 min CN=78 Runoff=0.08 cfs 0.006 af

Subcatchment 7: DA 1 Runoff Area=0.209 ac 100.00% Impervious Runoff Depth=2.74"
Tc=6.0 min CN=98 Runoff=0.60 cfs 0.048 af

Subcatchment A: DA 2, 3, & 5 Runoff Area=0.904 ac 76.99% Impervious Runoff Depth=1.49"
Tc=7.0 min CN=84 Runoff=1.52 cfs 0.112 af

Subcatchment B: DA 9 & 10 Runoff Area=0.611 ac 89.85% Impervious Runoff Depth=2.13"
Tc=7.0 min CN=92 Runoff=1.45 cfs 0.109 af

Pond P1: DETENTION/ INFILTRATION Peak Elev=156.71' Storage=3,370 cf Inflow=3.56 cfs 0.269 af
Discarded=0.90 cfs 0.269 af Secondary=0.00 cfs 0.000 af Outflow=0.90 cfs 0.269 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=0.08 cfs 0.006 af
Primary=0.08 cfs 0.006 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.275 af Average Runoff Depth = 1.07"
51.47% Pervious = 1.588 ac 48.53% Impervious = 1.497 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.147 ac 0.00% Impervious Runoff Depth=0.02"
Flow Length=265' Tc=10.3 min CN=34 Runoff=0.00 cfs 0.002 af

Subcatchment 4: DA 4 Runoff Area=0.149 ac 0.00% Impervious Runoff Depth=0.01"
Flow Length=230' Slope=0.0400 '/' Tc=12.7 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 6: DA 6 Runoff Area=0.065 ac 66.15% Impervious Runoff Depth=2.27"
Tc=6.0 min CN=78 Runoff=0.17 cfs 0.012 af

Subcatchment 7: DA 1 Runoff Area=0.209 ac 100.00% Impervious Runoff Depth=4.23"
Tc=6.0 min CN=98 Runoff=0.91 cfs 0.074 af

Subcatchment A: DA 2, 3, & 5 Runoff Area=0.904 ac 76.99% Impervious Runoff Depth=2.79"
Tc=7.0 min CN=84 Runoff=2.85 cfs 0.210 af

Subcatchment B: DA 9 & 10 Runoff Area=0.611 ac 89.85% Impervious Runoff Depth=3.57"
Tc=7.0 min CN=92 Runoff=2.36 cfs 0.182 af

Pond P1: DETENTION/ INFILTRATION Peak Elev=157.57' Storage=6,644 cf Inflow=6.11 cfs 0.467 af
Discarded=1.28 cfs 0.467 af Secondary=0.00 cfs 0.000 af Outflow=1.28 cfs 0.467 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=0.17 cfs 0.012 af
Primary=0.17 cfs 0.012 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.480 af Average Runoff Depth = 1.87"
51.47% Pervious = 1.588 ac 48.53% Impervious = 1.497 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: DA 1 Runoff Area=1.147 ac 0.00% Impervious Runoff Depth=0.37"
Flow Length=265' Tc=10.3 min CN=34 Runoff=0.12 cfs 0.035 af

Subcatchment 4: DA 4 Runoff Area=0.149 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=230' Slope=0.0400 '/' Tc=12.7 min CN=33 Runoff=0.01 cfs 0.004 af

Subcatchment 6: DA 6 Runoff Area=0.065 ac 66.15% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=78 Runoff=0.32 cfs 0.023 af

Subcatchment 7: DA 1 Runoff Area=0.209 ac 100.00% Impervious Runoff Depth=6.51"
Tc=6.0 min CN=98 Runoff=1.38 cfs 0.113 af

Subcatchment A: DA 2, 3, & 5 Runoff Area=0.904 ac 76.99% Impervious Runoff Depth=4.90"
Tc=7.0 min CN=84 Runoff=4.91 cfs 0.369 af

Subcatchment B: DA 9 & 10 Runoff Area=0.611 ac 89.85% Impervious Runoff Depth=5.81"
Tc=7.0 min CN=92 Runoff=3.74 cfs 0.296 af

Pond P1: DETENTION/ INFILTRATION Peak Elev=158.67' Storage=12,204 cf Inflow=10.02 cfs 0.814 af
Discarded=1.83 cfs 0.814 af Secondary=0.00 cfs 0.000 af Outflow=1.83 cfs 0.814 af

Pond POA A: POINT OF ANALYSIS 'A' Inflow=0.01 cfs 0.004 af
Primary=0.01 cfs 0.004 af

Pond POA B: POINT OF ANALYSIS 'B' Inflow=0.32 cfs 0.023 af
Primary=0.32 cfs 0.023 af

Total Runoff Area = 3.085 ac Runoff Volume = 0.841 af Average Runoff Depth = 3.27"
51.47% Pervious = 1.588 ac 48.53% Impervious = 1.497 ac

APPENDIX C

INDIVIDUAL DRAIN LINE SIZING

STORM DRAIN DESIGN

PROJECT:	PROPOSED BUILDING ADDITION, 17 EXECUTIVE DRIVE
HSI JOB #:	5843
DESIGN METHOD:	RATIONAL METHOD
DESIGN STORM EVENT:	25-YR (PER TOWN OF HUDSON STORMWATER REGULATIONS)
COMPUTED BY:	EDB
DATE:	3/29/2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
Three Congress Street Nashua, New Hampshire 03062-3301
Tel (603) 883-2057 www.hayner-swanson.com Fax (603) 883-5057

FROM PIPE INLET				TO PIPE OUTLET				SUBCATCHMENT AREA					PIPE SIZE & MATERIAL					PIPE CAPACITY						Water Velocity			
LOCATION	RIM	INVERT	COVER	LOCATION	RIM	INVERT	COVER	ACRES (ACRES)	C	CA (ACRES)	ΣCA (ACRES)	Tc (MIN)	LENGTH (FT)	SLOPE (FT/FT)	DIA. (IN)	MATERIAL	n	I (in/hr)	Q_{DESIGN} (cfs)	Q_{FULL} (cfs)	V_{FULL} (fps)	T_{FLOW} (min)	Q CHECK:	q/Q	d/D	v/V	Vdesign
CB 5	163.9	159.16	3.74	DMH 4	164.1	158.76	4.34	0.40	0.67	0.27	0.27	6.0	25	0.016	12	HDPE	0.012	6.5	1.73	4.89	6.23	0.1	OK	35%	41%	91%	5.67
DMH 4	164.1	158.66	4.44	DMH 2	160.8	156.80	3.00			0.00	0.27	6.1	155	0.012	12	HDPE	0.012	6.5	1.73	4.23	5.39	0.5	OK	41%	44%	95%	5.10
RD 2	-	157.31	-	DMH 2	160.8	157.00	2.97	0.29	0.90	0.26	0.26	6.6	31	0.010	10	PVC	0.012	6.3	1.64	2.37	4.34	0.1	OK	70%	61%	108%	4.69
CB 3	160.6	156.85	2.75	DMH 2	160.8	156.78	3.02	0.22	0.75	0.17	0.17	6.6	12	0.006	12	HDPE	0.012	6.3	1.04	2.99	3.81	0.1	OK	35%	40%	90%	3.43
DMH 2	160.8	157.70	1.85	FES 1		157.55				0.00	0.70	6.7	31	0.005	15	HDPE	0.012	6.3	4.41	4.96	4.04	0.1	OK	89%	73%	113%	4.54
CB 7	160.9	157.08	2.82	FES 6		157.00		0.24	0.90	0.22	0.22	6.0	15	0.005	12	HDPE	0.012	6.5	1.40	2.73	3.48	0.1	OK	51%	50%	101%	3.50
RD 9		160.01		DMH 11	164.5	159.86	3.81	0.33	0.90	0.29	0.29	6.0	15	0.010	10	PVC	0.012	6.5	1.91	2.37	4.34	0.1	OK	81%	68%	111%	4.82
DMH 11	-	152.00	-	DMH 9	155.6	151.21	3.39			0.00	0.29	6.5	159	0.005	12	HDPE	0.012	6.3	1.83	2.73	3.48	0.8	OK	67%	59%	107%	3.71
CB 10	162.9	159.12	2.78	DMH 9	163.1	159.07	3.04	0.29	0.77	0.22	0.22	6.0	11	0.005	12	HDPE	0.012	6.5	1.43	2.73	3.48	0.0	OK	52%	41%	95%	3.65
DMH 9	163.1	158.81	3.04	FES 8	-	158.50	-	-	-	0.00	0.51	6.6	62	0.005	15	HDPE	0.012	6.3	3.21	4.96	4.04	0.3	OK	65%	58%	106%	4.28

INDIVIDUAL DRAIN LINE DESIGN - DRAINAGE AREAS

DRAINAGE AREA	AREA (AC)	Cw	WOODS (AC)	GRASS (AC)	ROOF (AC)	PAVED (AC)
1	1.15	0.21	0.71	0.42	0.00	0.16 (riprap)
2	0.29	0.91	0.00	0.00	0.29	0.00
3	0.22	0.75	0.00	0.06	0.00	0.17
4	1.15	0.20	0.10	0.05	0.00	0.00
5	0.40	0.67	0.00	0.15	0.00	0.25
6	0.07	0.71	0.00	0.02	0.00	0.05
7	0.21	0.90	0.00	0.00	0.00	0.21
9	0.33	0.90	0.00	0.00	0.33	0.00
10	0.29	0.79	0.00	0.06	0.00	0.23

APPENDIX D

NHDES BMP/GRV WORKSHEETS

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

INFILTRATION PRACTICE CRITERIA (Env-Wq 1508.06)

Type/Node Name: **SMA DETENTION/INFILTRATION BASIN**

Enter the type of infiltration practice (e.g., basin, trench) and the node name in the drainage analysis, if applicable.

YES		Have you reviewed Env-Wq 1508.06(a) to ensure that infiltration is allowed?	**← yes**
2.87	ac	A = Area draining to the practice	
1.45	ac	A_I = Impervious area draining to the practice	
0.51	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.51	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.45	ac-in	WQV= 1" x Rv x A	
5,271	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
1,318	cf	25% x WQV (check calc for sediment forebay volume)	
Deep sump offline CB		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
19,316	cf	V = Volume[1] (attach a stage-storage table)	**≥ WQV**
505	sf	A_{SA} = Surface area of the bottom of the pond	
10.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
12.5	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
155.00	feet	E_{BTM} = Elevation of the bottom of the basin	
150.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
150.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
5.00	feet	D_{SHWT} = Separation from SHWT	**≥ *** [3]
5.0	feet	D_{ROCK} = Separation from bedrock	**≥ *** [3]
2.0	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	**≥ 24"**
	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	**←yes**
		If a trench is proposed, does materialmeet Env-Wq 1508.06(k)(2) requirements.[4]	**← yes**
YES	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	**← yes**
3.0	:1	If a basin is proposed, pond side slopes.	**≥3:1**
157.57	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
158.67	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
159.75	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	**← yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	**← yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: 24" thick filter course added to base and slopes of SMA 'A' in accordance with Env-Wq 1708.7(k)(4).

GROUNDWATER RECHARGE VOLULME (GRV) CALCULATION (Env-Wq 1507.04)

0.24	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.40	inches	Rd = Weighted groundwater recharge depth	
0.0948	ac-in	GRV = AI * Rd	
344	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12”)	

Provide calculations below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

Storage volume of SMA below lowest invert (19,316 CF @ elev. 159.75) far exceeds minimum GRV (344 CF).

APPENDIX E

DRAINAGE DESIGN SUPPORT MATERIAL

Outlet Protection		
Reference: NH Stormwater Manual: Volume 2 Revision 1.0		
Job #:	5843	
Project:	17 Exec. Dr. Building Addition	
Design by:	EDB	
Date:	3/25/222	
Structure:	FES 1	
Invert:	156.50	
A. Conditions:		
Pipe D_o =	1.25	ft
Q_{25}=	4.41	cfs
Q_F =	4.96	cfs
Q_{25}/Q_F =	89	%
d/D =	73	%
Tw =	0.91	ft
	Tw > Do/2	
B. Design Parameters		
Apron Length =	18	ft
Apron Width at Culvert Outlet =	4	ft
Apron Width at End of Apron =	11	ft
Median Stone =	2	in
Maximum Size of Stone =	2	in
Minimum Depth of Stone =	3	in

Outlet Protection		
Reference: NH Stormwater Manual: Volume 2 Revision 1.0		
Job #:	5843	
Project:	17 Exec. Dr. Building Addition	
Design by:	EDB	
Date:	3/25/2022	
Structure:	FES 6	
Invert:	157.00	
A. Conditions:		
Pipe D_o =	1	ft
Q_{25}=	1.4	cfs
Q_F =	2.73	cfs
Q_{25}/Q_F =	50	%
d/D =	51	%
Tw =	0.51	ft
	Tw > Do/2	
B. Design Parameters		
Apron Length =	11	ft
Apron Width at Culvert Outlet =	3	ft
Apron Width at End of Apron =	7	ft
Median Stone =	1	in
Maximum Size of Stone =	1	in
Minimum Depth of Stone =	2	in

Outlet Protection		
Reference: NH Stormwater Manual: Volume 2 Revision 1.0		
Job #:	5843	
Project:	17 Exec. Dr. Building Addition	
Design by:	EdB	
Date:	3/25/2022	
Structure:	FES 8	
Invert:	158.50	
A. Conditions:		
Pipe D_o =	1.25	ft
Q_{25}=	3.21	cfs
Q_F =	4.96	cfs
Q_{25}/Q_F =	65	%
d/D =	58	%
Tw =	0.73	ft
	Tw > Do/2	
B. Design Parameters		
Apron Length =	16	ft
Apron Width at Culvert Outlet =	4	ft
Apron Width at End of Apron =	10	ft
Median Stone =	1	in
Maximum Size of Stone =	2	in
Minimum Depth of Stone =	3	in

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	71.429 degrees West
Latitude	42.740 degrees North
Elevation	0 feet
Date/Time	Tue, 03 May 2022 15:03:35 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.27	0.42	0.52	0.69	0.86	1.08	**1yr**	0.74	1.01	1.24	1.56	1.97	2.49	2.73	**1yr**	2.20	2.62	3.06	3.75	4.37	**1yr**
2yr	0.33	0.51	0.64	0.84	1.06	1.33	**2yr**	0.91	1.22	1.53	1.91	2.38	2.97	3.30	**2yr**	2.63	3.17	3.68	4.40	5.01	**2yr**
5yr	0.39	0.61	0.77	1.03	1.32	1.67	**5yr**	1.14	1.52	1.94	2.42	3.02	3.75	4.19	**5yr**	3.32	4.03	4.66	5.54	6.26	**5yr**
10yr	0.44	0.70	0.88	1.20	1.56	2.00	**10yr**	1.35	1.80	2.32	2.91	3.62	4.47	5.03	**10yr**	3.96	4.84	5.58	6.58	7.41	**10yr**
25yr	0.53	0.84	1.07	1.47	1.95	2.52	**25yr**	1.68	2.26	2.94	3.69	4.59	5.65	6.40	**25yr**	5.00	6.16	7.08	8.27	9.27	**25yr**
50yr	0.59	0.95	1.22	1.71	2.31	3.01	**50yr**	1.99	2.67	3.53	4.43	5.50	6.75	7.69	**50yr**	5.98	7.39	8.47	9.84	10.99	**50yr**
100yr	0.68	1.10	1.42	2.01	2.74	3.59	**100yr**	2.36	3.17	4.21	5.30	6.58	8.07	9.24	**100yr**	7.14	8.88	10.15	11.71	13.03	**100yr**
200yr	0.77	1.26	1.64	2.35	3.25	4.29	**200yr**	2.80	3.76	5.05	6.36	7.88	9.65	11.11	**200yr**	8.54	10.68	12.17	13.94	15.46	**200yr**
500yr	0.93	1.53	2.00	2.91	4.08	5.43	**500yr**	3.52	4.72	6.40	8.08	10.01	12.23	14.18	**500yr**	10.82	13.63	15.46	17.57	19.38	**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	0.35	0.42	0.57	0.70	0.80	**1yr**	0.61	0.79	1.06	1.33	1.68	2.30	2.56	**1yr**	2.04	2.47	2.73	3.02	3.80	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.20	**2yr**	0.87	1.18	1.37	1.79	2.30	2.91	3.22	**2yr**	2.58	3.10	3.59	4.31	4.90	**2yr**
5yr	0.36	0.56	0.69	0.95	1.21	1.42	**5yr**	1.04	1.39	1.63	2.12	2.70	3.52	3.92	**5yr**	3.11	3.77	4.32	5.18	5.88	**5yr**
10yr	0.40	0.61	0.76	1.06	1.36	1.61	**10yr**	1.18	1.57	1.82	2.39	3.05	4.06	4.56	**10yr**	3.60	4.38	4.97	5.94	6.73	**10yr**
25yr	0.45	0.69	0.85	1.22	1.61	1.88	**25yr**	1.39	1.84	2.14	2.82	3.56	4.92	5.57	**25yr**	4.35	5.35	5.98	7.14	8.05	**25yr**
50yr	0.49	0.75	0.93	1.34	1.80	2.14	**50yr**	1.55	2.09	2.42	3.21	4.00	5.69	6.49	**50yr**	5.04	6.25	6.89	8.20	9.22	**50yr**
100yr	0.54	0.81	1.02	1.47	2.01	2.41	**100yr**	1.74	2.36	2.73	3.48	4.51	6.58	7.60	**100yr**	5.82	7.31	7.94	9.42	10.53	**100yr**
200yr	0.59	0.89	1.13	1.63	2.27	2.73	**200yr**	1.96	2.67	3.06	3.93	5.11	7.63	8.91	**200yr**	6.75	8.57	9.16	10.83	12.06	**200yr**
500yr	0.67	1.00	1.28	1.86	2.65	3.23	**500yr**	2.29	3.16	3.60	4.63	6.05	9.29	11.04	**500yr**	8.22	10.61	11.05	13.02	14.40	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.31	0.48	0.58	0.78	0.96	1.13	**1yr**	0.83	1.10	1.28	1.67	2.11	2.64	2.89	**1yr**	2.33	2.78	3.42	4.20	4.78	**1yr**
2yr	0.35	0.55	0.67	0.91	1.12	1.32	**2yr**	0.97	1.29	1.50	1.94	2.48	3.06	3.40	**2yr**	2.70	3.27	3.79	4.52	5.15	**2yr**
5yr	0.44	0.67	0.83	1.15	1.46	1.68	**5yr**	1.26	1.64	1.91	2.44	3.07	4.02	4.52	**5yr**	3.56	4.35	5.00	5.92	6.65	**5yr**
10yr	0.53	0.81	1.00	1.40	1.81	2.05	**10yr**	1.56	2.01	2.32	2.92	3.64	4.97	5.61	**10yr**	4.40	5.40	6.20	7.27	8.11	**10yr**
25yr	0.68	1.03	1.28	1.83	2.41	2.66	**25yr**	2.08	2.61	3.01	3.71	4.55	6.58	7.48	**25yr**	5.82	7.19	8.23	9.55	10.57	**25yr**
50yr	0.82	1.25	1.55	2.23	3.00	3.25	**50yr**	2.59	3.18	3.67	4.44	5.39	8.13	9.29	**50yr**	7.19	8.93	10.19	11.74	12.91	**50yr**
100yr	1.00	1.51	1.89	2.73	3.74	3.98	**100yr**	3.23	3.89	4.47	5.53	6.39	10.08	11.52	**100yr**	8.92	11.08	12.64	14.45	15.80	**100yr**
200yr	1.21	1.83	2.31	3.35	4.67	4.85	**200yr**	4.03	4.75	5.44	6.66	7.58	12.47	14.29	**200yr**	11.03	13.74	15.67	17.80	19.33	**200yr**
500yr	1.58	2.35	3.03	4.40	6.26	6.31	**500yr**	5.40	6.17	7.07	8.53	9.49	16.52	18.96	**500yr**	14.62	18.23	20.84	23.43	25.26	**500yr**

INSPECTION & MAINTENANCE (I&M) MANUAL

Proposed Building Addition
Tax Map 209, Lot 8
17 Executive Drive
Hudson, New Hampshire

May 4, 2022
Revised: June 28, 2022

Prepared for:
Stonehill Realty, LLC
17 Executive Drive
Hudson, NH 03051

Prepared by:
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062

In accordance with the Town of Hudson Stormwater Regulations Section 290, the mechanism for providing long-term inspection and maintenance of stormwater management practices for this development are as follows:

I. RESPONSIBLE MAINTENANCE PARTY

Stonehill Realty, LLC
17 Executive Drive
Hudson, NH 03051

Attn: Russ Carroll
Phone: (800) 660-2298
Email: rcarroll@airexco.com

For Stonehill Realty, LLC:

_____ _____
Name Date

II. MAINTENANCE RECOMMENDATIONS FOR BMP's

The following recommendations are to be used as a guide for the inspection and maintenance of the permanent erosion and sediment control measures.

A. PARKING/LOADING AREA SWEEPING

- Inspect parking and loading areas at least semi-annually for the accumulation of sediment along drainage flow lines. Additional inspections recommended particularly during and after the winter months if the ice conditions during the winter were severe.
- Sweep parking and loading areas to remove sediment buildup along and drainage flow lines.
- Dispose of sediments and other wastes in conformance with applicable local, state, and federal regulations.

B. DEEP-SUMP CATCH BASINS, DRAIN MANHOLES, AND INLET STRUCTURES

- Inspect structures at least semi-annually at the same time that the parking lot and loading areas are inspected.
- Vacuum the sediment in the catch basins when the sediment reaches one-half the depth from the bottom of the sump to the invert of the outlet pipe.
- Repair damaged catch basin structure grates immediately after the inspection.
- Repair pavement damage around structures immediately after the inspection to prevent further damage.

- Dispose of sediments and other wastes in conformance with applicable local, state, and federal regulations.

C. DETENTION/INFILTRATION BASIN

- Inspect the basins at least twice annually, and following any rainfall event exceeding 2.5-inches in a 24-hour period, with maintenance or rehabilitation as warranted by such inspection.
- Inspect, repair and remove debris from basin, grass swales, and areas around the associated and inlet structures as needed.
- Dispose of sediments and other wastes in conformance with applicable local, state, and federal regulations.
- If the systems do not drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including but not limited to removal of accumulated sediments or reconstruction.
- Mowing of the detention basin shall occur, on average, twice a year during the growing season.

III. INSPECTION CHECKLIST/MAINTENANCE AND DEICING LOGS

The accompanying sheets to this section are to be used as a guide for the inspection reporting for this project. Inspection reports shall include photographs of the above-referenced practices.

Completed inspection reports should be kept on-site and be easily accessible to the Town Engineer.

Inspection Checklist & Maintenance Log

Project Name: Proposed Building Addition, 17 Executive Drive, Hudson, NH

☐ Deep-sump catch basins, and drain manholes.

☐ Riprap aprons at inlets.

☐ Stormwater management area slope stability and debris removal.

Inspection Date	Inspector Name(s)	Description of BMP Condition	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

Deicing Log

Project Name: Proposed Building Addition, 17 Executive Drive, Hudson, NH

Application Date	Application	Type of Deicer	Amount of Deicer

MAP 209 LOT 6

PSNH 5
NYNEX 29001R
15-5 UGW

OHW

15 FT

15 FT (TYP)

LIMIT OF WORK (TYP)

-8-

MINIMUM BUILDING SETBACK LINE (TYP)

OVERHEAD DOOR

PROPOSED 1-STORY BUILDING ADDITION
26,120 SF
SLAB ELEV. = 166.50

EXISTING METAL BUILDING
78,700± SF

OVERHEAD DOOR

STORMWATER MANAGEMENT AREA

MAP 215 LOT 5

MAP 215 LOT 7

MAP 215 LOT 8

DRAINAGE STRUCTURE (TYP)

PAVEMENT SAWCUT (TYP)

RECIPROCAL ACCESS EASEMENT
(BK 4431, PG 309)

UTILITY EASEMENT
(BK 2750, PG 698)

ELEC METER

ELEC BOX

UGE

N.A.D. 1983 NH STATE PLANE

N

LEGEND

DRAINAGE STRUCTURE

DETENTION/INFILTRATION BASIN

No.	DATE	REVISION	BY

INSPECTION & MAINTENANCE PLAN
(MAP 209, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

20 0 20 40 60 80 FEET
10 0 10 20 METERS

SCALE: 1"=20 Feet
1"=6.096 Meters

6 MAY 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-INSP-MAINT	5843 SITE	1 OF 1
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

INFILTRATION FEASIBILITY REPORT

Proposed Building Addition
Site Plan
17 Executive Drive
Hudson, NH

The proposed development project contains one stormwater practice that will require infiltration to properly function. The project proposes one stormwater detention/infiltration basin (SMA).

A. Infiltration Report:

1. Location of the practice:

Stormwater Management Area – Located in the northwestern corner of the site.

2. Existing Topography:

The subject property is currently developed as an industrial building site. Parking and loading areas surround the building on four sides. There grassed and wooded depression area west of the existing building (west of paved area). The majority of the site contains slight to moderate topography, with somewhat steeper slopes at the rear of the site.

3. Test Pit Locations:

HSI witnessed three test pits performed in the area of the proposed stormwater management area. Sheet 3 of 14 of the Site Plan show the test pit locations on the site.

4. Test Pit Logs:

Test pits logs are attached as part of this report and included on Sheet 2 of 14 of the Site Plan.

5. Soil Plan in the area of the proposed stormwater practices:

According to NRCS Soils mapping, the subject property contains Windsor loamy sand (WdA, and WdC) type soils in the area of the proposed infiltration practice (stormwater management area – SMA).

6. Summary of Estimated Seasonal High-Water Table (ESWHT) at proposed stormwater practices:

Practice Location	Bottom of Practice Elevation	Test Pit Location	ESHWT Elevation
SMA	155.0	TP-1 through TP-3	150.0*

*ESHWT and ledge not encountered at bottom of test pit

7. Infiltration Rate Testing:

Infiltration rate testing (Ksat) was performed in two of the test pits (#1 and #2). The results of these infiltration tests are included in the appendices at the back of this report. The infiltration rate for TP-1 was 7.5 inches/hour, and TP-2 had infiltration rates of 62.0 inches/hour. As one of these field infiltration rates are over 10.0 inches/hour, a 24" filter course (18" filter media plus 6" loam and seed) has been added to the design under the stormwater infiltration basin; specified in accordance with Env-Wq 1508.07(k)(4). Therefore, a design infiltration rate of 10.0 inches/hour will is used for the SMA.

HSI #5743
MAP 209 LOT 8
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE
HUDSON, NH

TEST PITS: FOR DRAINAGE
WEATHER: 45-50° CLEAR
EQUIPMENT: BOBCAT E45 MINI EXCAVATOR
LOGGED BY: PAUL CARIDEO, NHDES PERMIT #68

TEST PIT # 1 DATE: 3/21/22

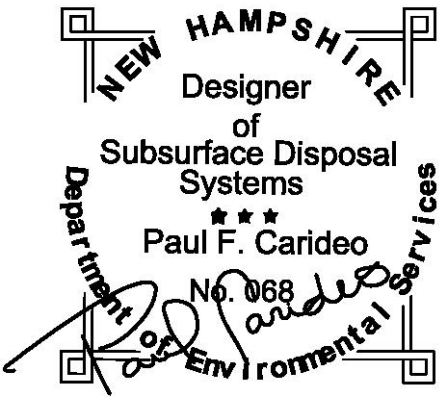
0-28" FILL MATERIAL, LEAVES, WOOD, LOAM AND SAND
28-36" 10YR 3/2, VERY DARK GRAYISH BROWN, FINE SANDY LOAM, FRIABLE, MASSIVE WITH FEW ROOTS
36-42 10YR 5/4, YELLOWISH BROWN, SANDY LOAM, FRIABLE, FINE GRANULAR WITH FEW ROOTS
42-60" 10YR 6/4, LIGHT YELLOWISH BROWN, FINE SAND, VERY FRIABLE, GRANULAR WITH FEW ROOTS
60-96" 10YR 5/4, YELLOWISH BROWN, LOAMY SAND, 2% ROUNDED COBBLES, VERY FRIABLE, FINE GRANULAR WITH FEW ROOTS TO 72"

ESHWT: NONE OBSERVED OWT: NONE ROOTS: 72 LEDGE: NONE

TEST PIT # 2 DATE: 3/21/22

0-6" 10YR 3/3, DARK BROWN, SANDY LOAM, VERY FRIABLE, VERY FRIABLE WITH FEW ROOTS
6-14" 10YR 5/6, YELLOWISH BROWN, SANDY LOAM, VERY FRIABLE, FINE GRANULAR WITH COMMON ROOTS
14-48" 10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 10% GRAVEL, LOOSE, SINGLE GRAIN, WITH FEW ROOTS
48-70" 10YR 7/3, VERY PALE BROWN, COARSE SAND, LOOSE, SINGLE GRAIN WITH FEW ROOTS
70-100" 10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 5% GRAVEL, 10% ROUNDED COBBLES, LOOSE, SINGLE GRAIN, WITH FEW ROOTS TO 78"
100-132" 10YR 7/3, VERY PALE BROWN, COARSE SAND, LOOSE AND SINGLE GRAIN

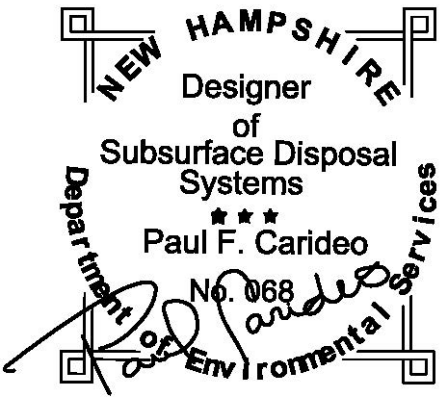
ESHWT: NONE OBSERVED OWT: NONE ROOTS: 78" LEDGE: NONE



TEST PIT # 3 DATE: 3/21/22

0-16”	10YR 3/3, DARK BROWN, SANDY LOAM, VERY FRIABLE, VERY FRIABLE WITH FEW ROOTS
16-28”	10YR 5/6, YELLOWISH BROWN, SANDY LOAM, VERY FRIABLE, FINE GRANULAR WITH COMMON ROOTS
28-72”	10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 10% GRAVEL, LOOSE, SINGLE GRAIN, WITH FEW ROOTS
72-100”	10YR 7/3, VERY PALE BROWN, COARSE SAND, LOOSE, SINGLE GRAIN WITH FEW ROOTS TO 78”
100-120”	10YR 6/6, BROWNISH YELLOW, GRAVELLY SAND, 5% GRAVEL, 10% ROUNDED COBBLES, LOOSE, AND SINGLE GRAIN

ESHWT: NONE OBSERVED OWT: NONE ROOTS: 78” LEDGE: NONE



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Hayner/Swanson, Inc.
Civil Engineering Land Surveying

Amoozemeter Data Sheet

User(s):	Paul Carideo		
Date:	3/21/2020	Permeameter #:	1
Location:	17 Executive Dr. Hudson, NH	Air Temperature (F) initial:	45+/-
Soil Survey Area/Special Project:	Stonehill Realty LLC	Air Temperature (F) final:	45+/-

Series or Map Unit Component:	Windsor	[1]Soil Moisture Content (%):	Dry
Horizon Tested:	C	[1] *If not known, give a relative soil moisture content. i.e. dry, moist, or wet.*	
Total Depth of Test:	66"		

Set-up Calculation	
Hole Depth (cm):	40.0
Distance from Bottom of Bubble Tube to soil surface (cm) = D:	13
Desired Water Depth in Hole (cm):	-15
CHT Tube setting (cm) = d:	**38**

H =	[2] Actual water level in hole (cm):		15.0
[2] *You want this value to be very close to 15 cm. (Record to nearest millimeter.)*		Initial:	15.2
		Final:	15.0
r =	[3]Auger Hole Radius (cm) Standard kit (6 cm) diam. auger		2.5

Outflow Chamber (s) used: [Associated **C**onversion **F**actor:]	105.0	(=20.0 cm^2) Set on 1 (Large Tank only) (=105.0 cm^2) Set on 2 (Both Tanks)

[4]Drop in Water	Outflow Chamber	Clock Time	Elapsed Time (between readings)		Outflow (Q)	Hydraulic Conductivity (Ksat)	
(cm)	(C.F.)	(hr:min)	(min) :	(min/60)	(cm^3/hr)	(cm/hr)	(in/hr)
Ex 4.9	105	10:15			392	0.4139	0.1629
Start		10:20	xxx	xxxx	xxxx	xxxxx	xxxxxx
3.10	105.0	10:21	1	0.017	19530.0	22.72030	8.94500
3.10	105.0	10:22	1	0.017	19530.0	22.72030	8.94500
2.80	105.0	10:23	1	0.017	17640.0	20.52156	8.07936
2.80	105.0	10:24	1	0.017	17640.0	20.52156	8.07936
2.80	105.0	10:25	1	0.017	17640.0	20.52156	8.07936
2.60	105.0	10:26	1	0.017	16380.0	19.05574	7.50226
2.60	105.0	10:27	1	0.017	16380.0	19.05574	7.50226
2.60	105.0	10:28	1	0.017	16380.0	19.05574	7.50226
2.60	105.0	10:29	1	0.017	16380.0	19.05574	7.50226
				*5	Mean K:	19.05574	7.50226
					St. Dev:	0.0000	0.0000
					Hydraulic Conductivity		High

Yellow fields are required and need to be filled in by the recorder.
Tan fields are calculated. Do not change!
Red fields are your mean, standard deviation and Hydraulic Conductivity Class
[3] *Lt green - if non standard Amoozemeter kit auger used change*
[4] *Only use stabilized or steady state readings (personal judgment required).*

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HSI

Hayner/Swanson, Inc.
Civil Engineering Land Surveying

Amoozemeter Data Sheet

User(s):	Paul Carideo		
Date:	3/21/2022	Permeameter #:	2
Location:	17 Executive Dr. Hudson, NH	Air Temperature (F) initial:	50+/-
Soil Survey Area/Special Project:	Stonehill Realty, LLc	Air Temperature (F) final:	50+

Series or Map Unit Component:	Windsor	[1]Soil Moisture Content (%):	Dry
Horizon Tested:	C	[1] *If not known, give a relative soil moisture content. i.e. dry, moist, or wet.*	
Total Depth of Test:	96"		

Set-up Calculation	
Hole Depth (cm):	48.0
Tube to soil surface (cm):	10
Desired Water Depth in Hole (cm):	-15
CHT Tube setting (cm):	**43**

H =	[2] Actual water level in hole (cm)		15.2
[2] *You want this value to be very close to 15 cm.*		Initial:	15.4
		Final:	15.1
r =	[3]Auger Hole Radius (cm)		2.5

Outflow Chamber (s) used:	105.0	(=20.0 cm^2) Set on 1 (Large Tank only)
[Associated **C**onversion **F**actor:]		(=105.0 cm^2) Set on 2 (Both Tanks)

[4]Drop in Water	Outflow Chamber	Clock Time	Elapsed Time (between readings)		Outflow (Q)	Hydraulic Conductivity (Ksat)	
(cm)	(C.F.)	(hr:min)	(min) : (min/60)		(cm^3/hr)	(cm/hr)	(in/hr)
Ex 4.9	105	10:15			392	0.4139	0.1629
Start		11:05	xxx	xxxx	xxxx	xxxxx	xxxxxx
3.80	105.0		0.17	0.003	140823.5	160.63436	63.24187
3.78	105.0		0.17	0.003	140082.4	159.78891	62.90902
3.78	105.0		0.17	0.003	140082.4	159.78891	62.90902
3.70	105.0		0.17	0.003	137117.6	156.40714	61.57761
3.70	105.0		0.17	0.003	137117.6	156.40714	61.57761
3.68	105.0		0.17	0.003	136376.5	155.56169	61.24476

Yellow fields are required and need to be filled in by the recorder.
Tan fields are calculated. Do not change!
Red fields are your mean, standard deviation and Hydraulic Conductivity Class
[3] *Lt green - if non standard Amoozemeter kit auger used change*
[4] *Only use stabilized or steady state readings (personal judgment required).*

*4			
	Mean K:	158.09802	62.24332
	St. Dev:	2.2046	0.8680
	Hydraulic Conductivity		High

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ConTest Consultants, Inc

Providing Inspection/Testing & Consulting Services

March 2, 2022

Mr. Jack Schroeder
Schroeder Construction Management
2 Townsend West, Unit #3
Nashua, NH 03063

Re: Geotechnical Recommendations
Airex Filter Corp. Addition
Hudson, New Hampshire
CTC Project No. 222101

Dear Mr. Schroeder:

As per your request, ConTest Consultants, Inc. is pleased to submit the Geotechnical Recommendations for the proposed addition at Airex Filter Corp. in Hudson, New Hampshire by our Geotechnical Consultant – Civil Connection. The investigation included performing test boring at the site, site visit and an evaluation of the conditions as they relate to foundation design and earthwork construction for the project.

We trust the contents of this report are satisfactory to your needs at this time. Should have any questions or require further assistance, please do not hesitate to contact our office or Mr. Richard Bushnell, P.E. at Civil Connection. Thank you for this opportunity to assist you and your design team on this phase of the project.

Best Regards,

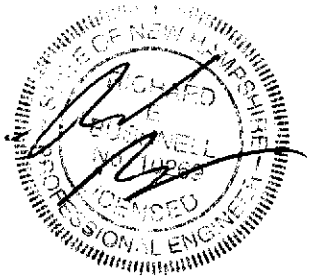
CONTEST CONSULTANTS, INC.

Donald C. Walden
President

Cc: Schroeder CM – Randy Franco

18 Cote Avenue, Unit 11, Goffstown, NH 03045
Phone (603) 626-4422 • Fax (603) 782-0064
www.contestconsultantsinc.com

GEOTECHNICAL INVESTIGATION
AIREX BUILDING ADDITION
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE



February 28, 2022

Civil Connection Project # 22-129

Prepared for:

ConTest Consultants, Inc.
18 Cote Avenue
Goffstown, NH 03045

Civil Connection, LLC
38 Edwards Drive
Gilmanton IW, New Hampshire 03837
Tel: 603-393-9842

February 28, 2022

ConTest Consultants, Inc.
Attn: Mr. Don Walden
18 Cote Avenue
Goffstown, New Hampshire 03045

RE: Geotechnical Recommendations
Airex Building Addition
17 Executive Drive
Hudson, New Hampshire
Project: No. 22-129

Dear Mr. Walden:

As requested, Civil Connection, LLC (CC) has conducted a geotechnical investigation for the above-referenced project. This report presents the findings of a subsurface exploration program and an evaluation of the conditions encountered as they relate to foundation design and earthwork construction for the project. The work was performed in general accordance with our proposal. The contents of this report are subject to the attached ***Limitations***.

PROJECT & SITE DESCRIPTION

The proposed site development and focus of this geotechnical investigation is located at 17 Executive Drive in Hudson, New Hampshire. In general, the project includes the construction of a 180' x 140' addition connected by a 50'x12' at the left rear of the existing building. The site of the proposed addition is existing parking for the building. The lot is relatively level and mostly paved.

SUBSURFACE EXPLORATION PROGRAM

The subsurface exploration program consisted of the advancement of soil borings within the proposed building area. The soil borings were advanced at five locations. Borings were advanced on February 15, 2022 by New England Boring Contractors, utilizing a Mobile Truck Mounted Drill Rig, under the observation of a representative from CC. The borings were advanced to a depth of 21 feet depth utilizing 2-1/4 inch inside diameter (I.D.) hollow-stem augers. Soil samples were typically taken at five foot intervals or strata changes with a 2 inch standard split-spoon sampler in accordance with ASTM D1586. Standard penetration resistance was measured in six inch increments for two feet, using a 140 pound hammer falling 30 inches as part of the sampling procedure.

The borings were located in the field by CC by taping from the existing site features. Boring locations are shown on the attached Boring Location Plan. Materials encountered during the exploration program were sampled and visually classified in the field by an experienced representative from CTC with additional review by a Geotechnical Engineer upon return to the office. Field descriptions of the soils encountered, the observed groundwater conditions upon completion of each test boring, as well as other pertinent observations are contained on the attached subsurface exploration logs.

SUBSURFACE CONDITIONS

The subsurface explorations encountered two general stratigraphic soil units at the site. These included a surficial material comprised of bituminous asphalt and previously placed fill and the underlying native outwash unit.

Surficial Material – The surficial stratum consisted of 2 to 3 inches of bituminous asphalt or minimal topsoil , underlain by previously placed fill. The fill thickness varied from 3 to 5 feet beneath existing grade. The material was typically a brown, loose to medium dense, fine to coarse SAND, little-some Gravel, trace-little Silt. The material was found to be dry with SPT values ranging from 9 to 18 blows per foot. This stratum was most likely associated with the prior development at the site. Some localized deeper areas may be encountered at time of construction.

Outwash Unit—The outwash sand unit consisted of primarily sand with varying amounts of silt and gravel. Typical relative densities within the outwash were medium dense. SPT values ranged from 12 to 24 with typical values in the mid to high teens. The strata was encountered until the termination of the borings.

Groundwater—Groundwater was encountered around 15 feet below grade. Groundwater conditions were observed during boring advancement, while sampling and immediately upon completion and should be anticipated to vary in response to equilibration time, rainfall, snowmelt, seasonal fluctuations, site development and other factors not present during the time the explorations were performed.

FOUNDATION DESIGN RECOMMENDATIONS

Foundation Design - The subsurface conditions are suitable for supporting the proposed building atop shallow spread footings with a concrete slab-on-grade. Prior to construction, the surficial material, previously placed fill, and other unsuitable material should be removed from beneath the entire building footprint and from within the perimeter footings' zone of influence. The footing zone of influence is defined as that area encompassed by a 1V:1H splay originating from 1 foot beyond the edge of the footing and projecting downward and outward. If required the removed material may be replaced with compacted structural fill.

Bearing Capacity & Settlement Evaluation - Based on our explorations and foundation design recommendations the footings will bear atop the native sand deposit or compacted structural fill. Provided the subgrade is prepared as outlined hereon below it is recommended the footings be proportioned for a net allowable bearing capacity of 1.5 **tsf**. The foregoing allowable bearing pressure for soil is predicated by footing geometry and depth below grade. With regards to footing geometry, the minimum footing width of column and strip footings should be 4 ft and 2 ft respectively.

Based on the net allowable bearing pressure for footings placed on prepared subgrades, total footing settlement is not expected to exceed 1 inch with differential settlement between adjacent columns being less than 3/4 inch. The majority of the settlement is expected to occur during construction and long term settlements are anticipated to be negligible.

Frost Protection—Exterior footings should be protected from frost at a minimum depth for the locality in which the structure is located. Based on local code and building practice, the exterior footing should be protected with at least 4 ft of earthen embedment. Interior footings should be placed at least 18 inches below finish floor grade provided the interior area is to be heated, otherwise a minimum 4 ft of earthen cover is required. If foundation construction is to occur during cold weather, the foundation elements should be protected against frost.

Seismic Design Considerations – Based upon a review of the observed site conditions in general accordance with IBC, the project site does not contain soil strata and groundwater conditions susceptible to earthquake-induced liquefaction. Based on the subsurface conditions the Site Class for the project would be D. For Site Coefficient, which reflects the potential site amplification of the traveling seismic waves, it is recommended that S = 1.2 be considered in design of the proposed building.

Slab-On-Grade— A concrete slab-on-grade is deemed suitable for the proposed building. Our recommendations are based on the provisions for floor slab design outlined in ACI 302.1. Based on the observed material from the subsurface exploration programs, the subgrades have been classified as a medium support soil. CC recommends that a minimum 8-inch layer of structural fill, meeting the gradation requirements outlined hereon below, be utilized above a properly prepared subgrade. The structural fill provides uniform support for the slab and improved drainage of water from beneath the slab.

The structural fill should be compacted to at least 95 percent relative compaction as determined by the Modified Proctor Test (ASTM D1557). Based upon the foregoing floor slab base preparation, a modulus of subbase reaction (K_s) of 200 pounds per cubic inch (pci) may be used for design.

Foundation Waterproofing/Damproofing Recommendations— Based on the encountered depth to groundwater and the proposed finish grades, underslab and perimeter foundation drains will not be required. However, CC recommends that a subslab vapor retarder be placed beneath the proposed slab-on-grade. The recommended retarder should be a 8-mil polyethylene with joints lapped a minimum of 12 inches across joints. As recommended in ACI 360R-92, *Design of Slabs on Grade,* paragraph 9.8, the vapor retarder should not be placed in direct contact with slabs on grade. The retarder should be placed atop a properly prepared subgrade beneath the floor slab base course material. This will allow excess bleed water to pass out the bottom of the slab, allowing faster finishing and prevent slab curling.

PAVEMENT DESIGN RECOMMENDATIONS

Based on experience with projects of similar size, scope, and subsurface conditions, CC recommends that the following pavement section be utilized:

Pavement Layer	*Thickness (inches)*
Bituminous Concrete Top Course *NHDOT Division 400, Table 2, Type E*	1.0
Bituminous Concrete Binder Course *NHDOT Division 400, Table 2, Type B*	2.0
Crushed Gravel Base Course *NHDOT Division 300, Table 1, 304.3*	6.0
Gravel Sub-Base Course *NHDOT Division 300, Table 1, 304.2*	8.0

Pavement subgrades should be proofrolled in order to densify the subgrades using a minimum of 4 passes with a 10-ton vibratory drum compactor. All material should be compacted to a minimum of 92 percent relative compaction of the maximum dry density as determined by the modified proctor test (ASTM-D 1557).

CONSTRUCTION CONSIDERATIONS

Foundation and Floor Slab Subgrade Preparation - Prior to foundation construction, all traces of surficial material, previously placed fill, and other unsuitable materials should be removed from the entire building footprint and within the footing zone of influence as previously discussed. Footings should bear directly upon a competent subgrade comprised of the outwash deposit or compacted structural fill.

After removing the unsuitable soils, the exposed foundation and floor slab subgrade soils should be proofrolled prior to foundation construction to densify disturbed soils resulting from the excavation and to preload the subgrade. Recommended proofrolling should include 4 coverages with a 2-ton double-drum vibratory roller or 8 coverages with a ¼ ton vibratory plate compactor. During the proofrolling process the subgrade should be observed by a qualified engineer to identify areas exhibiting weaving or excessive reaction. It may be necessary to remove such loose and unstable soils and replace with a free draining granular fill or crushed stone, at the direction of the Engineer.

Proofrolling upon soils that become saturated due to precipitation or within 1 foot of the groundwater table may be detrimental to the competency of the foundation subgrade. Under these circumstances, proofrolling is not recommended. However, the final excavation should be monitored to assess disturbance to prepared subgrades.

When excavating proximate to the adjacent building, the contractor should not undermine the existing footings. The proposed footings should be cast at similar elevations to minimize additional loading applied.

Construction Dewatering - Based on the subsurface explorations, construction dewatering is not anticipated to be required, however, it may be necessary to account for surficial run-off. It is anticipated that construction dewatering may be accomplished using filtered sumps and pumps. In addition the contractor should be prepared to remove any ponded surface water or run-off by means of localized sumps and pumps. A lift of crushed stone at excavation grade may be desired to facilitate dewatering during construction and provide a dry/stable subgrade during construction.

The Contractor should select whichever dewatering method is most familiar and cost-effective to him while, at the same time, meeting the performance criteria of maintaining dry, stable excavation bottoms at all times. The responsibility for a properly designed and executed dewatering program must remain with the Contractor.

Excavation Support - Deep excavations (greater than 5 ft) may be required for removal and replacement of previously placed fill and potentially for utility installation. It is envisioned that such excavations may be accomplished with slope laybacks. For stable excavation designs, the on-site soil deposits should be considered Type C soils in accordance with Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926). This preliminary soil classification should be verified in the field by a competent person as defined by OSHA.

The maximum temporary slopes for Soil Type C soils is 1.5H:1V provided the groundwater is lowered below the bottom of the excavation and the height of the cut is a maximum 20 feet. The foregoing slope requirement does not consider surcharge loads (stockpiled soils, equipment, materials) which may be situated at the crest of the slope and vibration loads (blasting, soil compaction). It should be noted that these slope requirements are minimums required by OSHA regulations and that any excavation which exceeds the minimum requirements must be designed by a registered professional engineer. Furthermore, it must be stressed the contractor is ultimately responsible for stability of temporary slopes associated with construction activities.

Structural Fill/Use of On-Site Soil for Backfill—Structural fill to be used below the building for foundation support should conform to the following gradation requirements. The specified gradation is based on consideration of the recommended allowable bearing pressure and estimated settlement of a spread footing foundation as presented in the **Foundation Considerations Section.**

Sieve Size	Percent Finer by Weight
3"	100%
#4	45-85
#40	10-50
#200	0-8

Structural fill should be placed in maximum loose lifts of 12-inches and be compacted to 95 percent of maximum dry density as determined by the modified proctor test (ASTM-D1557). The adequacy of the compaction efforts should be verified by field density testing.

In order to evaluate the potential re-use of the on-site soils for structural fill – two samples were obtained as follows: Boring B-2 (L-117-222) and B-4 (L-118-22). Based on the sieve analysis results, the soils ranged from a fine to coarse SAND, some Gravel, trace Silt to a fine to coarse SAND and Silt, little Gravel. In a review of these test results, it appears that some of the on-site fill material may be suitable for re-use on-site as structural fill. As the samples were retrieved from within the split-spoon sampler, it is recommended at the start of construction, a representative mix of the on-site fill be obtained and subjected to analysis to confirm the results. A copy of the Laboratory Results are attached.

Construction Monitoring—It is recommended that ConTest Consultants be retained on either a full-time or part-time basis to review construction procedures for conformance with contract requirements, documents and design concepts with engineering over-sight by CC. Prior to construction, CC would be pleased to provide a review of the earthwork specifications and structural design as they relate to geotechnical issues.

The following is the minimum recommended inspection tasks which should be performed with respect to earthwork construction:

1. Observation during excavation and dewatering of building and controlled fill areas.
2. Observation of the proofrolling of prepared subgrades.
3. Observation and monitoring of the placement and compaction of backfill.
4. Laboratory testing and analysis of fill materials for verification of compliance with project specifications.

In addition, ConTest Consultants construction monitoring division is available to monitor concrete placements, structural steel installation, masonry construction, paving procedures and other construction related tasks.

Closure - It has been a pleasure to assist you on this project, and I look forward to its successful completion. In the meantime, if you have any questions on the content of this report, please do not hesitate to contact me.

Very truly yours,

CIVIL CONNECTION, LLC

Richard E. Bushnell, P.E.
Principal Engineer

Attachments

c:\17 Executive Drive.Geotech

ATTACHMENTS

LIMITATIONS

Explorations

1. The analyses, recommendations and designs submitted in this report are based in part upon the data obtained from preliminary subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretation of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the individual test pit and/or boring logs.

3. Water level readings have been made in the test pits and/or test borings under conditions stated on the logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors differing from the time the measurements were made.

Review

4. It is recommended that this firm be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the recommendations provided herein.

5. In the event that any changes in the nature, design, or location of the proposed areas are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of the report modified or verified in writing by Civil Connection, LLC.

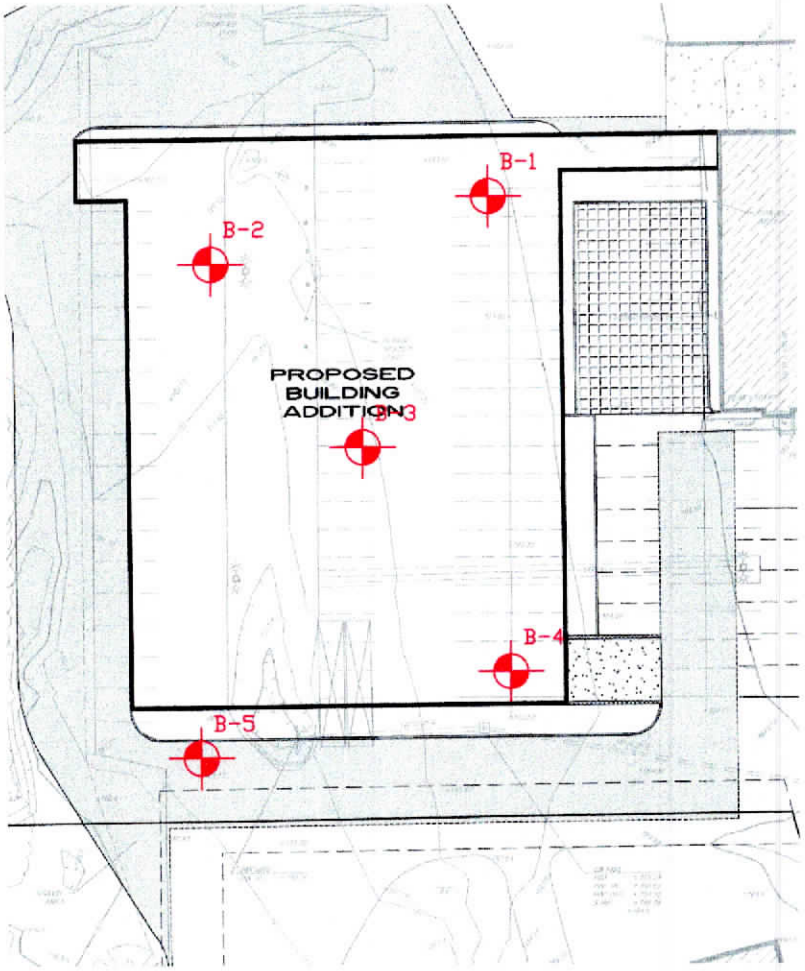
Construction

6. It is recommended that this firm be retained to provide geotechnical engineering services during the earthwork phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

7. This report has been prepared for the exclusive use of ConTest Consultants, Inc. and their assigned in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

8. This report has been prepared for this project by Civil Connection, LLC. This report was completed for preliminary design purposes and may be limited in its scope to complete an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to evaluation considerations only.



B-1 Test Boring Number & Location (TYP)

NOTES:

Test Borings were advanced on February 15, 2022 by New England Boring under the direction of Civil Connection, LLC. Test borings were located based on site features observed in the field by others and should be considered accurate to the degree implied by the survey method.

TEST BORING LOCATION PLAN	**CIVIL CONNECTION, LLC** 38 EDWARDS DRIVE GILMANTON IW, NEW HAMPSHIRE 03837 TEL. (603) 393-9842		
17 EXECUTIVE DRIVE **HUDSON, NEW HAMPSHIRE**	Drawn By: reb	Date: 2/28/22	Figure No. SK1
	Checked By: reb	Scale: NTS	
	File Name: c:richard 17 EXEC	Project No.: 22-129	

CTC

TEST BORING LOG

Boring No. B - 1

Page 1 of 1

Project	Airex Filter Corp	CTC Project No.	222101	Elevation	
Location	Hudson, NH	Project Mgr.		Datum	
Client	Schroeder CM	Inspector	S Fassi	Date Started	2/15/2022
Contractor	New England Borings Contractor	Checked By	R. Bushnell, PE	Date Finished	2/15/2022
Driller	Ken Smith	Rig Make & Model	Failin F-15		

Item:	Auger	Casing	Sampler	Core Barrel	x	Truck		Skid		Hammer Type:	
Type	HSA		Split Spoon			Track		ATV	X	Safety Hammer	
Inside Diameter (in).	2.25					Bomb		Geoprobe		Doughnut	
Hammer Weight (lb)	140					Tripod		Other	X	Automatic	
Hammer Fall (in.)	30					Winch		Cat Head		Roller Bit	Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data No.	Depth (ft)	Rec (in.)	SPT (Blows/ 6-in.)	Rock RQD (%)	PID Rdg. (ppm)	SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)
0								Surface – Asphalt – 2.5"
1								
2								
3								
4		S-1	4-6	8	8-7			S1: Brown medium dense, c-f Sand, some Gravel, trace Silt
5					12-11			
6								
7								
8								
9		S-2	9-11	18	6-9			S2: Brown medium dense, c-f Sand, some Gravel, trace Silt
10					10-11			
11								
12								
13								
14		S-3	14-16	18	10-9			S3: Brown medium dense, f-m Sand, trace Gravel, and Silt
15					7-8			
16								
17								
18								
19		S-4	19-21	24	4-8			S4: S3: Brown medium dense, f-m Sand, trace Gravel, and Silt
20					11-86			
21								Terminated Boring at 21'
22								
23								
24								
25								
26								
27								
28								
29								
30								

Water Level Data				
Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
				15'

Sample Identification
O = Open Ended
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
2 to 4: Soft
4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30: Very Stiff
Over 30: Hard

Granular Soils N-Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%) Little (10 to 20%) Some (20 to 35%) And (35 to 50%)

Standard Penetration Test (SPT) – 140# hammer falling 30", Blows are per 6" taken with an 18" long x 1.5" I.D. split spoon sampler in accordance with ASTM D 1586, unless otherwise noted.

REMARKS: The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Water level readings have been made in the test borings at times and under conditions stated on the test boring logs. Fluctuations in the level of the groundwater may occur due to other factors than those present at the time measurements were made.

Notes:	Encountered Ground Water at 15 Feet

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CTC

TEST BORING LOG

Boring No. B - 2

Page 1 of 1

Project	Airex Filter Corp	CTC Project No.	222101	Elevation	
Location	Hudson, NH	Project Mgr.		Datum	
Client	Schroeder CM	Inspector	S Fassi	Date Started	2/15/2022
Contractor	New England Borings Contractor	Checked By	R. Bushnell, P.E.	Date Finished	2/15/2022
Driller	Ken Smith	Rig Make & Model	Failin F-15		

Item:	Auger	Casing	Sampler	Core Barrel	x	Truck		Skid	Hammer Type:	
Type	HSA		Split Spoon			Track		ATV	X	Safety Hammer
Inside Diameter (in).	2.25					Bomb		Geoprobe		Doughnut
Hammer Weight (lb)	140					Tripod		Other	X	Automatic
Hammer Fall (in.)	30					Winch		Cat Head		Roller Bit		Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data No.	Depth (ft)	Rec (in.)	SPT (Blows/ 6-in.)	Rock RQD (%)	PID Rdg. (ppm)	SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)
0								Surface – Topsoil -3"
1								
2								
3								
4		S-1	4-6	16	5-8			S1: Brown medium dense, c-f Sand, some Gravel, trace Silt
5					11-15			
6								
7								
8								
9		S-2	9-11	22	3-5			S2: Brown medium dense, c-f Sand, some Gravel, trace Silt
10					6-10			(Last 3" Brown medium dense, medium to fine Sand, trace Silt)
11								
12								
13								
14		S-3	14-16	16	6-10			S3: Brown medium dense, f-m Sand, trace Silt
15					12-13			
16								
17								
18								
19		S-4	19-21	24	8-10			S4: S3: Brown medium dense, f-m Sand, trace Silt
20					11-12			
21								Terminated Boring at 21'
22								
23								
24								
25								
26								
27								
28								
29								
30								

Water Level Data

Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
				15'

Sample Identification
O = Open Ended
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
2 to 4: Soft
4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30: Very Stiff
Over 30: Hard

Granular Soils N-Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%) Little (10 to 20%) Some (20 to 35%) And (35 to 50%)

Standard Penetration Test (SPT) = 140# hammer falling 30", Blows are per 6" taken with an 18" long x 1.5" I.D. split spoon sampler in accordance with ASTM D 1586, unless otherwise noted.

REMARKS: The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Water level readings have been made in the test borings at times and under conditions stated on the test boring logs. Fluctuations in the level of the groundwater may occur due to other factors than those present at the time measurements were made.

Notes: Encountered Ground Water at 15 Feet

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CTC

TEST BORING LOG

Boring No. B - 3

Page 1 of 1

Project	Airex Filter Corp	CTC Project No.	222101	Elevation	
Location	Hudson, NH	Project Mgr.		Datum	
Client	Schroeder CM	Inspector	S Fassi	Date Started	2/15/2022
Contractor	New England Borings Contractor	Checked By	R. Bushnell, P.E.	Date Finished	2/15/2022
Driller	Ken Smith	Rig Make & Model	Failin F-15		

Item:	Auger	Casing	Sampler	Core Barrel	x	Truck		Skid		Hammer Type:	
Type	HSA		Split Spoon			Track		ATV	X	Safety Hammer	
Inside Diameter (in).	2.25					Bomb		Geoprobe		Doughnut	
Hammer Weight (lb)	140					Tripod		Other	X	Automatic	
Hammer Fall (in.)	30					Winch		Cat Head		Roller Bit	Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data No.	Depth (ft)	Rec (in.)	SPT (Blows/ 6-in.)	Rock RQD (%)	PID Rdg. (ppm)	SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)
0								Surface – Asphalt – 2"
1								
2								
3								
4		S-1	4-6	14	10-10			S1: Brown medium dense, c-f Sand, some Gravel, trace Silt
5					10-15			
6								
7								
8								
9		S-2	9-11	16	5-6			S2: Brown medium dense, c-f Sand, some Gravel, trace Silt
10					6-8			
11								
12								
13								
14		S-3	14-16	20	7-10			S3: Brown medium dense, f-m Sand, trace Silt
15					12-13			
16								
17								
18								
19		S-4	19-21	20	8-8			S4: S3: Brown medium dense, f-m Sand, trace Silt
20					7-9			
21								Terminated Boring at 21'
22								
23								
24								
25								
26								
27								
28								
29								
30								

Water Level Data				
Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
				15'

Sample Identification
O = Open Ended
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
2 to 4: Soft
4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30: Very Stiff
Over 30: Hard

Granular Soils N-Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%) Little (10 to 20%) Some (20 to 35%) And (35 to 50%)

Standard Penetration Test (SPT) = 140# hammer falling 30", Blows are per 6" taken with an 18" long x 1.5" I.D. split spoon sampler in accordance with ASTM D 1586, unless otherwise noted.

REMARKS: The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Water level readings have been made in the test borings at times and under conditions stated on the test boring logs. Fluctuations in the level of the groundwater may occur due to other factors than those present at the time measurements were made.

Notes:	Encountered Ground Water at 15 Feet

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CTC

TEST BORING LOG

Boring No. B - 4

Page 1 of 1

Project	Airex Filter Corp	CTC Project No.	222101	Elevation	
Location	Hudson, NH	Project Mgr.		Datum	
Client	Schroeder CM	Inspector	S Fassi	Date Started	2/15/2022
Contractor	New England Borings Contractor	Checked By	R. Bushnell, P.E.	Date Finished	2/15/2022
Driller	Ken Smith	Rig Make & Model	Failin F-15		

Item:	Auger	Casing	Sampler	Core Barrel	x	Truck		Skid		Hammer Type:	
Type	HSA		Split Spoon			Track		ATV	X	Safety Hammer	
Inside Diameter (in).	2.25					Bomb		Geoprobe		Doughnut	
Hammer Weight (lb)	140					Tripod		Other	X	Automatic	
Hammer Fall (in.)	30					Winch		Cat Head		Roller Bit	Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data No.	Depth (ft)	Rec (in.)	SPT (Blows/ 6-in.)	Rock RQD (%)	PID Rdg. (ppm)	SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)
0								Surface – Asphalt 3"
1								
2								
3								
4		S-1	4-6	16	3-6			S1: Brown medium dense, m-f Sand, little Gravel, trace Silt
5					8-8			
6								
7								
8								
9		S-2	9-11	19	5-9			S2: Brown medium dense, m-f Sand, some Gravel, trace Silt
10					10-12			
11								
12								
13								
14		S-3	14-16	16	8-14			S3: Brown medium dense, f-m Sand, trace Silt
15					10-11			
16								
17								
18								
19		S-4	19-21	24	3-6			S4: S3: Brown medium dense, f-m Sand, trace Silt
20					7-7			
21								Terminated Boring at 21'
22								
23								
24								
25								
26								
27								
28								
29								
30								

Water Level Data

Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
				15'

Sample Identification
O = Open Ended
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value
0 to 2: Very Soft
2 to 4: Soft
4 to 8: Medium Stiff
8 to 15: Stiff
15 to 30: Very Stiff
Over 30: Hard

Granular Soils N-Value
0 to 4: Very Loose
4 to 10: Loose
11 to 30: Medium Dense
31 to 50: Dense
Over 50: Very Dense

Trace (0 to 5%) Little (10 to 20%) Some (20 to 35%) And (35 to 50%)

Standard Penetration Test (SPT) = 140# hammer falling 30". Blows are per 6" taken with an 18" long x 1.5" I.D. split spoon sampler in accordance with ASTM D 1586, unless otherwise noted.

REMARKS: The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Water level readings have been made in the test borings at times and under conditions stated on the test boring logs. Fluctuations in the level of the groundwater may occur due to other factors than those present at the time measurements were made.

Notes: Encountered Ground Water at 15 Feet

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CTC

TEST BORING LOG

Boring No. B - 5

Page 1 of 1

Project	Airex Filter Corp	CTC Project No.	222101	Elevation	
Location	Hudson, NH	Project Mgr.		Datum	
Client	Schroeder CM	Inspector	S Fassi	Date Started	2/15/2022
Contractor	New England Borings Contractor	Checked By	R. Bushnell, P.E.	Date Finished	2/15/2022
Driller	Ken Smith	Rig Make & Model	Failin F-15		

Item:	Auger	Casing	Sampler	Core Barrel	x	Truck		Skid		Hammer Type:	
Type	HSA		Split Spoon			Track		ATV	X	Safety Hammer	
Inside Diameter (in).	2.25					Bomb		Geoprobe		Doughnut	
Hammer Weight (lb)	140					Tripod		Other	X	Automatic	
Hammer Fall (in.)	30					Winch		Cat Head		Roller Bit	Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data No.	Depth (ft)	Rec (in.)	SPT (Blows/ 6-in.)	Rock RQD (%)	PID Rdg. (ppm)	SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)
0								Surface – 2" Asphalt
1								
2								
3								
4		S-1	4-6	11	7-10			S1: Brown medium dense, c-f Sand, some Gravel, trace Silt
5					8-7			
6								
7								
8								
9		S-2	9-11	20	5-6			S2: Brown medium dense, m-f Sand, trace Silt
10					6-6			
11								
12								
13								
14		S-3	14-16	15	6-9			S3: Brown medium dense, f-m Sand, trace Silt
15					7-8			
16								
17								
18								
19		S-4	19-21	5	5-25			S4: S3: Brown very dense, f-m Sand, trace Silt
20					75-6			
21								Terminated Boring at 21'
22								
23								
24								
25								
26								
27								
28								
29								
30								

Water Level Data				
Date	Time	Depth (ft) to: Bott. of Casing	Bott. of Hole	Water
				14'

Sample Identification
O = Open Ended
U = Undisturbed
S = Split Spoon
C = Rock Core
G = Geoprobe

Cohesive Soils N-Value	Granular Soils N-Value
0 to 2: Very Soft	0 to 4: Very Loose
2 to 4: Soft	4 to 10: Loose
4 to 8: Medium Stiff	11 to 30: Medium Dense
8 to 15: Stiff	31 to 50: Dense
15 to 30: Very Stiff	Over 50: Very Dense
Over 30: Hard	

Trace (0 to 5%) Little (10 to 20%) Some (20 to 35%) And (35 to 50%)

Standard Penetration Test (SPT) = 140# hammer falling 30", Blows are per 6" taken with an 18" long x 1.5" I.D. split spoon sampler in accordance with ASTM D 1586, unless otherwise noted.

REMARKS: The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Water level readings have been made in the test borings at times and under conditions stated on the test boring logs. Fluctuations in the level of the groundwater may occur due to other factors than those present at the time measurements were made.

Notes: Encountered Ground Water at 14 Feet

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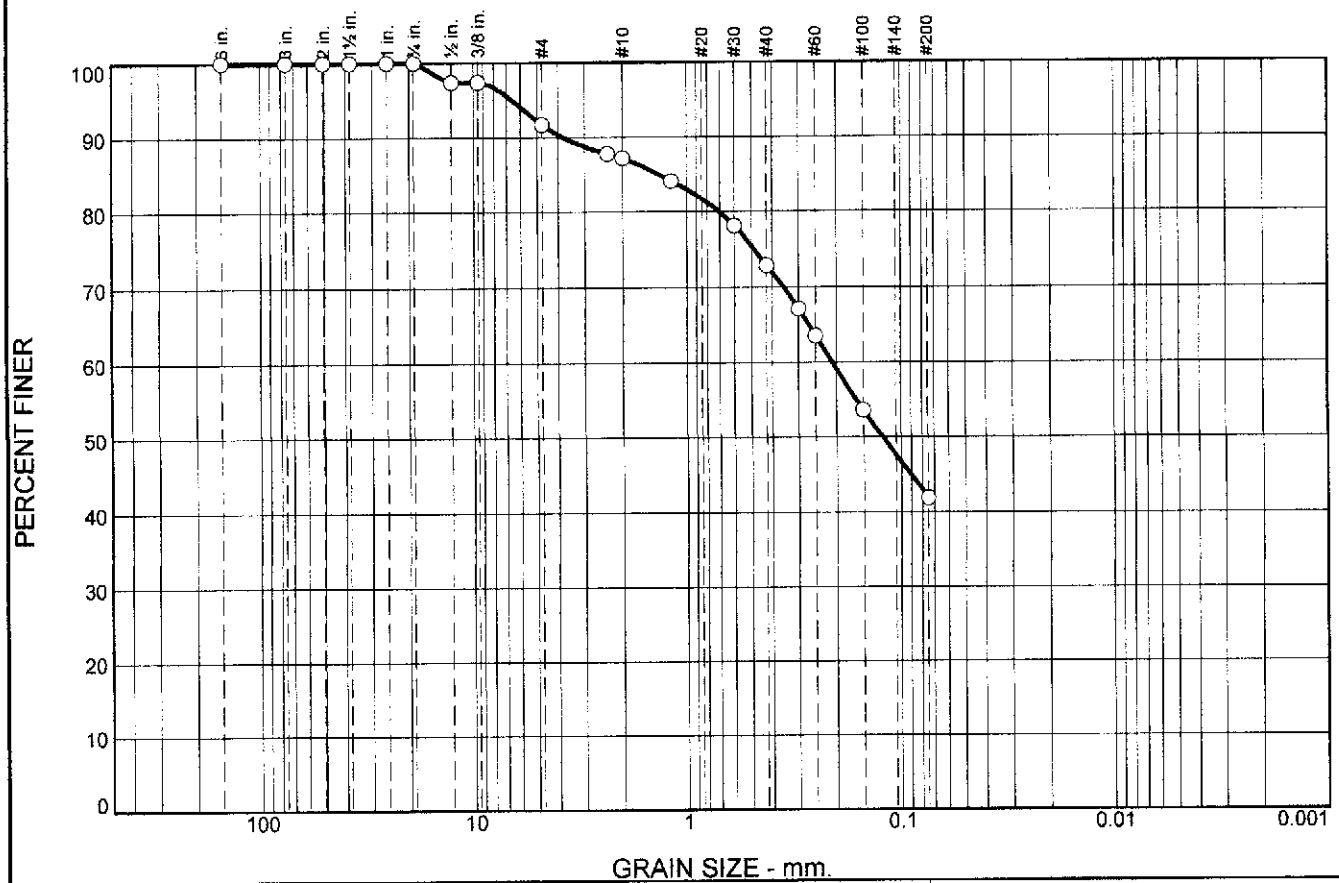
Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	2.6	10.2	9.1	14.6	21.6	41.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
6"	100.0		
3"	100.0		
2"	100.0		
1.5"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	97.4		
3/8"	97.4		
#4	91.7		
#8	87.8		
#10	87.2		
#16	84.1		
#30	78.1		
#40	72.9		
#50	67.1		
#60	63.5		
#100	53.6		
#200	41.9		

* (no specification provided)

Soil Description

coarse to fine Sand, and Silt, little med to fine Gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 3.7977 D_{85}= 1.3485 D_{60}= 0.2094
D_{50}= 0.1226 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

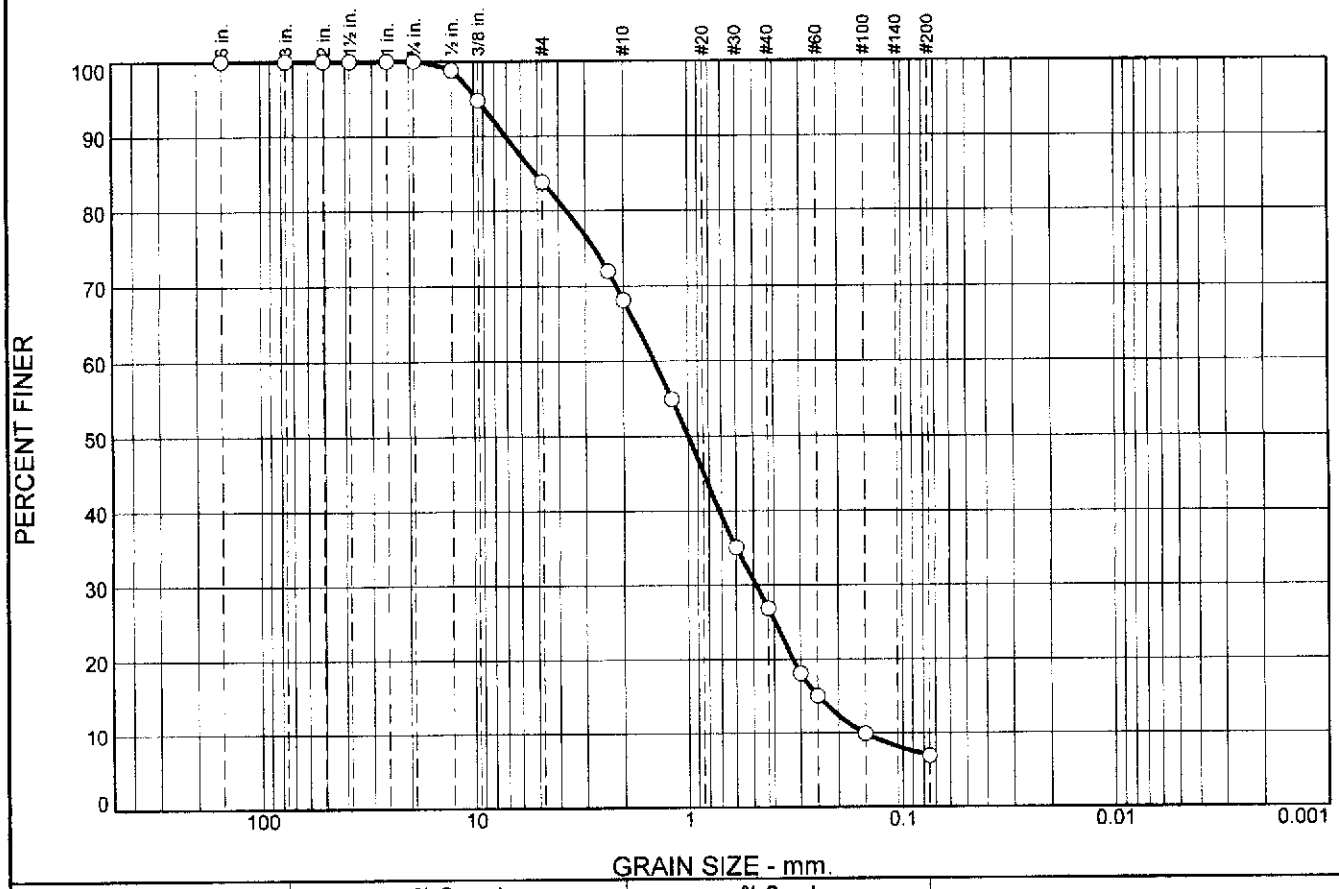
Location: B-4 / S1
Sample Number: L-118-22 **Depth:** 4'-6' **Date:** 2/16/2022

ConTest Consultants, Inc.

Goffstown, New Hampshire

Client: Schroeder Construction Management
Project: Airex Filter Corp. Addition
Hudson, NH
Project No: 222101 **Figure**

Particle Size Distribution Report



% +3"	% Gravel			% Sand			% Fines
	Coarse	Medium	Fine	Coarse	Medium	Fine	
0.0	0.0	5.2	26.7	33.0	20.1	8.1	6.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
6"	100.0		
3"	100.0		
2"	100.0		
1.5"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	98.8		
3/8"	94.8		
#4	83.9		
#8	72.0		
#10	68.1		
#16	54.9		
#30	35.1		
#40	26.9		
#50	18.1		
#60	15.0		
#100	9.9		
#200	6.9		

* (no specification provided)

Soil Description

coarse to fine SAND, some med to fine Gravel, trace Silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 7.0721 D_{85}= 5.1191 D_{60}= 1.4291
D_{50}= 0.9986 D_{30}= 0.4842 D_{15}= 0.2503
D_{10}= 0.1519 C_u= 9.41 C_c= 1.08

Classification

USCS= AASHTO=

Remarks

Location: B-2 / S1
Sample Number: L-117-22 **Depth:** 4'-6' **Date:** 2/16/2022

ConTest Consultants, Inc.

Goffstown, New Hampshire

Client: Schroeder Construction Management
Project: Airex Filter Corp. Addition
Hudson, NH
Project No: 222101 **Figure**

17 Executive Drive

Legend

- Remediation Sites
- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification A GA1
- Groundwater Classification A GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarte Buffer
- Class A - All Features
- All Lakes, with a Quarter Mil Buffer
- Outstanding Resource Wate Watersheds
- Surface Waters with Impairm 2016 with Quarter Mile Buffe
- Watersheds with Chloride Impairments 2016

Parcels

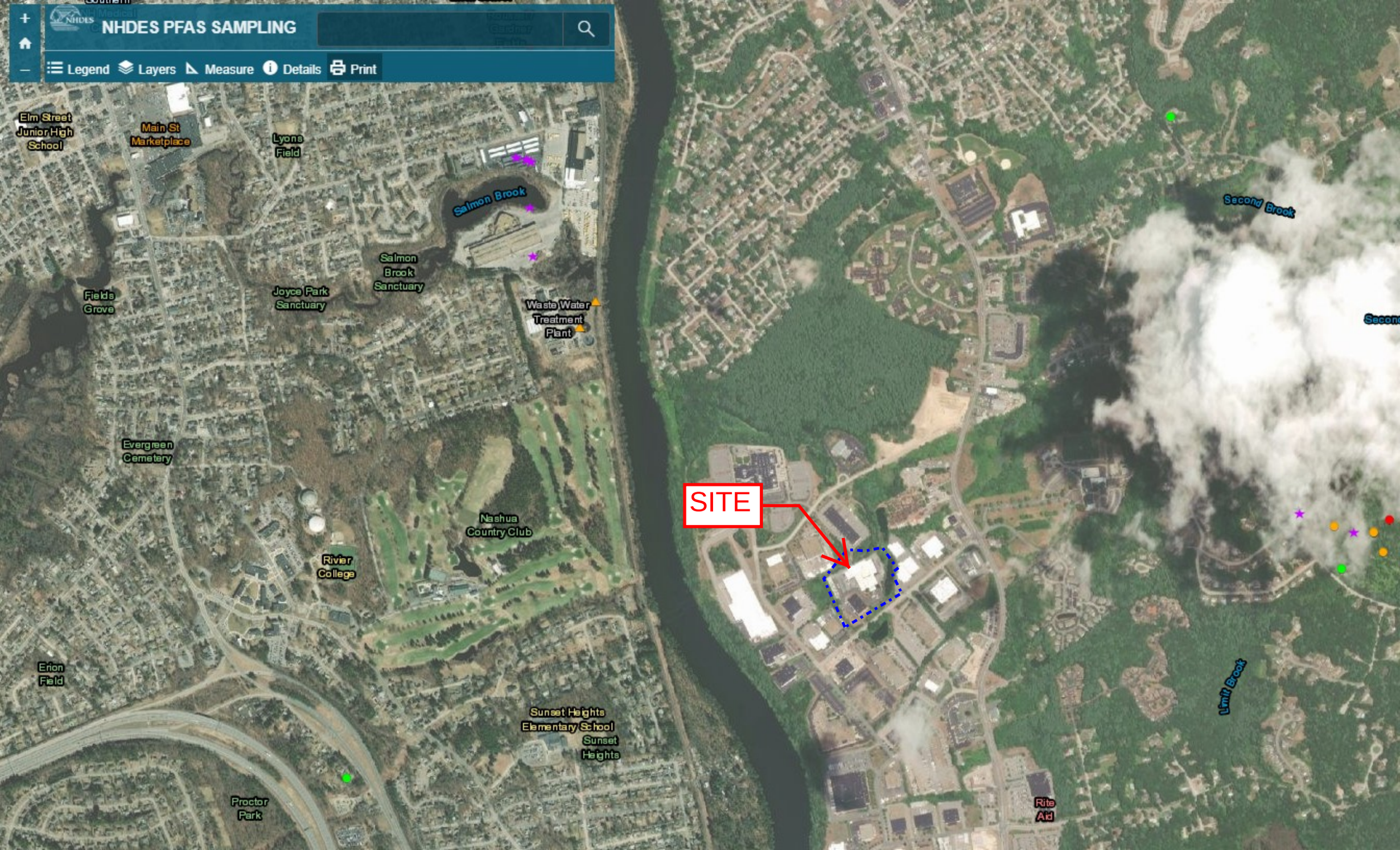
- Parcel Polygons
- Attributes for Additional Lines

Map Scale

1: 6,494

Map Generated: 1/17/2022

Notes


NHDES PFAS SAMPLING
Legend
Layers
Measure
Details
Print
Elm Street Junior High School
Main St Marketplace
Lyons Field
Salmon Brook
Salmon Brook Sanctuary
Joyce Park Sanctuary
Fields Grove
Waste Water Treatment Plant
Evergreen Cemetery
Nashua Country Club
Rivier College
Erion Field
Sunset Heights Elementary School
Sunset Heights
Proctor Park
Rite Aid
Second Brook
Limit Brook
SITE

Control of Invasive Plants

New Hampshire
Department of Agriculture,
Markets & Food
Douglas Cygan
603-271-3488
doug.cygan@agr.nh.gov

This guide lists garden plants and weeds which are already causing significant changes to natural areas in the Mid-Atlantic. **Measures for controlling each species are indicated by number, e.g., (3), in the text with a full explanation at the end of this article.** Click on the word Control: to jump to that section. Then click your "back" button to return to the text. Following each section suggested alternative plants are given. These alternatives are native plants, well adapted and needing little care, attractive to birds and butterflies, and an important part of the food web for our indigenous species.

INVASIVE TREES

NORWAY MAPLE (*Acer platanoides*) has large leaves similar to sugar maple. To easily confirm that the plant is Norway maple, break off a leaf and if it's truly Norway maple it will exude milky white sap. Fall foliage is yellow. (Exception: cultivars such as 'Crimson King,' which have red leaves in spring or summer, may have red autumn leaves.) The leaves turn color late, usually in late October after native trees have dropped their foliage. This tree suppresses growth of grass, garden plants, and forest understory beneath it, at least as far as the drip-line. Its wind-borne seeds can germinate and grow in deep shade. The presence of young Norway maples in our woodlands is increasing.
Control: (1); (7), (8), (9), or (10); (11) in mid-October to early November, before the leaves turn color.

TREE OF HEAVEN (*Ailanthus altissima*), is incredibly tough and can grow in the poorest conditions. It produces huge quantities of wind-borne seeds, grows rapidly, and secretes a toxin that kills other plants. Its long compound leaves, with 11-25 lance-shaped leaflets, smell like peanut butter or burnt coffee when crushed. Once established, this tree cannot be removed by mechanical means alone.
Control: (1) - seedlings only. Herbicide - use Garlon 3a (9) with no more than a 1" gap between cuts, or (10); plus (11) on re-growth. Or paint bottom 12" of bark with Garlon 4 Ultra (in February or March to protect surrounding plants). USE MAXIMUM STRENGTH SPECIFIED ON LABEL for all herbicide applications on Ailanthus. Glyphosate is not effective against Ailanthus.

INVASIVE SHRUBS

AUTUMN OLIVE (*Eleagnus umbellata*): Formerly recommended for erosion control and wildlife value, these have proved highly invasive and diminish the overall quality of wildlife habitat.
Control: (1) - up to 4" diameter trunks; (7) or (10) or bury stump. Do not mow.
MULTIFLORA ROSE (*Rosa multiflora*), formerly recommended for erosion control, hedges, and wildlife habitat, becomes a huge shrub that chokes out all other vegetation and is too dense for many species of birds to nest in, though a few favor it. In shade, it grows up trees like a vine. It is covered with white flowers in June. (Our native roses have fewer flowers, mostly pink.) Distinguish multiflora by its size, and by the presence of very hard, curved thorns, and a fringed edge to the leaf stalk.
Control: (1) - pull seedlings, dig out larger plants at least 6" from the crown and 6" down; (4) on extensive infestations; (10) or (11). It may remain green in winter, so herbicide may *applied when other plants are dormant. For foliar application, mix Rodeo with extra sticker-spreader, or use Roundup Sure Shot Foam on small plants.*

BUSH HONEYSUCKLES (*Lonicera spp.*), including Belle, Amur, Morrow's, and Tatarian honeysuckle. (In our region, assume that any honeysuckle is exotic unless it is a scarlet-flowered vine). Bush honeysuckles create denser shade than native shrubs, reducing plant diversity and eliminating nest sites for many forest interior species.
Control: (2) on ornamentals; (1); on shady sites only, brush cut in early spring and again in early fall (3); (4) during the growing season; (7); or (10) late in the growing season.

BLUNT-LEAVED PRIVET (*Ligustrum* obtusifolium). *Control*: (1); (7) or (10); or trim off all flowers. Do not cut back or mow.

BURNING BUSH, WINGED EUONYMUS (*Euonymus alatus*), identified by wide, corky wings on the branches.
Control: (1); (7) or (10); or trim off all flowers.

JAPANESE BARBERRY (*Berberis thunbergii*), and all cultivars and varieties.
Control: (1); (7) or (10); or trim off all flowers.

INVASIVE WOODY VINES

All of these vines shade out the shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle. DO NOT PLANT NEXT TO OPEN SPACE.

JAPANESE HONEYSUCKLE (*Lonicera japonica*), including Hall's honeysuckle, has gold-and-white flowers with a heavenly scent and sweet nectar in June. This is probably the familiar honeysuckle of your childhood. It is a rampant grower that spirals around trees, often strangling them.
Control: (1); (3); (10); (11) in fall or early spring when native vegetation is dormant. Plan to re-treat repeatedly.

ORIENTAL BITTERSWEET (*Celastrus orbiculatus*) has almost completely displaced American bittersweet (*C. scandens*). The Asian plant has its flowers and bright orange seed capsules in clusters all along the stem, while the native species bears them only at the branch tips.
Control: (1); keep ornamental plants cut back, remove all fruits as soon as they open, and bag or burn fruits; to eradicate use Garlon 3a (10).

JAPANESE KNOTWEED, MEXICAN BAMBOO (*Polygonum cuspidatum*) can grow in shade. The stems have knotty joints, reminiscent of bamboo. It grows 6-10' tall and has large pointed oval or triangular leaves.
Control: Cut at least 3 times each growing season and/or treat with Rodeo (10) or (11). In gardens, heavy mulch or dense shade may kill it.

INVASIVE HERBACEOUS PLANTS

GARLIC MUSTARD (*Alliaria petiolata*, *A. officinalis*), a white-flowered biennial with rough, scalloped leaves (kidney-, heart- or arrow-shaped), recognizable by the smell of garlic and taste of mustard when its leaves are crushed. (The odor fades by fall.)
Control: Pull before it flowers in spring (1), removing crown and roots. Tamp down soil afterwards. Once it has flowered, cut (2), being careful not to scatter seed, then bag and burn or send to the landfill. (11) may be appropriate in some settings.

JAPANESE STILT GRASS (*Microstegium vimineum*) can be identified by its lime-green color and a line of silvery hairs down the middle of the 2-3" long blade. It tolerates sun or dense shade and quickly invades areas left bare or disturbed by tilling or flooding. An annual grass, it builds up a large seed bank in the soil.

Control: Easily pulled in early to mid-summer (1) - be sure to pull before it goes to seed. If seeds have formed, bag and burn or send to landfill. Mowing weekly or when it has just begun to flower may prevent it from setting seed (3). Use glyphosate (11) or herbicidal soap (less effective) on large infestations. Follow up with (5) in spring.

MILE-A-MINUTE VINE, DEVIL'S TAIL TEARTHUMB (*Polygonum perfoliatum*), a rapidly growing annual vine with triangular leaves, barbed stems, and turquoise berries in August which are spread by birds. It quickly covers and shades out herbaceous plants.
Control: same as for stilt grass.

SPOTTED KNAPWEED (*Centaurea maculosa*), a biennial with thistle-like flowers.
Control: Do NOT pull (1) unless the plant is young and the ground is very soft - the tap root will break off and produce several new plants. Wear sturdy gloves. (2); (6); (10) or (11).

CONTROL MEASURES

(1) PULL seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs.
(2) DEADHEAD to prevent spread of seeds of invasive plants. Cut off seeds or fruits before they ripen. Bag, and burn or send to a landfill.
(3) MOW or CUTTING at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year.
(4) CONTROLLED BURNING during the spring, repeated over several years, allows native vegetation to compete more effectively with the invasive species. This requires a permit. Spot treatment with glyphosate in late fall can be used to make this method more effective.
(5) Use a CORN-BASED PRE-EMERGENCE HERBICIDE on annual weeds. This product is also an organic fertilizer, i.e., it can stimulate growth of existing plants, including weeds, so it is appropriate for lawns and gardens but may not be appropriate in woodlands.
(6) In lawns, SPOT TREAT with BROAD-LEAF WEEDKILLER. Good lawn-care practices (test soil; use lime and fertilizer only when soil test shows a need; mow high and frequently; leave clippings on lawn) reduce weed infestations.
(7) CUT DOWN the tree. Grind out the stump, or clip off re-growth.
(8) GIRDLE tree: cut through the bark and growing layer (cambium) all around the trunk, about 6" above the ground. Girdling is most effective in spring when the sap is rising, and from middle to late summer when the tree is sending down food to the roots. Clip off sucker sprouts.
(9) FRILL: Using a machete, hatchet or similar device, hack scars (several holes in larger trees) downward into the cambium layer, and squirt in glyphosate (or triclopyr if recommended in text above). Follow label directions for Injection and Frill Applications. This is most effective from middle to late summer. Clip off any sucker sprouts or treat with glyphosate.
(10) CUT STEM / CUT STUMP WITH GLYPHOSATE (or triclopyr if specified above). Follow label directions for Cut Stump Application. Clip off sucker sprouts or paint with glyphosate. See Note on Herbicides.
(11) FOLIAR SPRAY WITH GLYPHOSATE herbicide (see Note on Herbicides). Use a backpack or garden sprayer or mist blower, following label directions. Avoid overspray and/or dripping onto non-target plants, because glyphosate kills most plants except moss. If it rolls off waxy or grass-like foliage, use additional sticker-spreader. Deciduous trees, shrubs, and perennials move nutrients down to the roots in late summer. Glyphosate is particularly effective at this time and when plants have just gone out of flowering. Several invasive species retain their foliage after native plants have lost theirs, and resume growth earlier in spring than most natives. This allows you to treat them without harming the natives. However, the plant must be actively growing for the herbicide to work. Retreatments may be necessary the following year if suckering occurs or the plant hasn't been entirely killed.

NOTE ON HERBICIDES: It is highly recommended that small populations try to be controlled using non-chemical methods wherever feasible. However, for large infestations, and for a few plants specified above, herbicide use is essential. Apply herbicides carefully to avoid non-target plants, glyphosate is the least environmentally damaging herbicide in most cases. Add food coloring for visibility, and a soap-based sticker such as Cide-Kick. Glyphosate is ineffective on some plants; for these, triclopyr (Garlon) may be indicated. When using herbicides, read the entire label and observe all precautions listed, including proper disposal. If in doubt, call your local Cooperative Extension Service.

DRAFT

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

DRAFT STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Proposed Building Addition

17 Executive Drive
Hudson, New Hampshire

May 6, 2022

PREPARED FOR:

Schroeder Construction Management, Inc.
2 Townsend West, Unit #3
Nashua, NH 03063

PREPARED BY:

HSI Hayner/Swanson, Inc.

Civil Engineers/Land Surveyors

3 Congress Street
Nashua, New Hampshire 03062
(603) 883-2057

131 Middlesex Turnpike
Burlington, Massachusetts 01803
(781) 203-1501

www.hayner-swanson.com

CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: James N. Petropulos, P.E. Title: President/Principal Engineer

Signature: _____ Date: _____

FOR STONEHILL REALTY, LLC :
I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) Permit that authorizes the storm water discharge associated with activity from the construction site identified as part of this certification.

Name: _____ Title: _____

Signature: _____ Date: _____

FOR SELECTED SITE CONTRACTOR:
I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) Permit that authorizes the storm water discharge associated with activity from the construction site identified as part of this certification.

Name: _____ Title: _____

Signature: _____ Date: _____

May 6, 2022
Job No. 5843

Mr. Russ Carroll
Stonehill Realty, LLC
17 Executive Drive
Hudson, NH 03051

RE: STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
PROPOSED BUILDING ADDITION
AIREX FILTERS CORPORATION
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

Dear Mr. Carroll:

Pursuant to the above referenced project, please find attached a Stormwater Pollution Prevention Plan (SWPPP) as required by the 2022 EPA NPDES Construction General Permit (CGP). The SWPPP has been prepared for use by your office and by the Site Contractor during the construction of this project. Amendments to the SWPPP are possible as the project progresses or if site conditions change.

Please feel free to contact me if you have any questions regarding this project.

Sincerely,

Earle D. Blatchford
Senior Project Manager
Hayner/Swanson, Inc.

SWPPP Amendment Log

Project Name: **Proposed Building Addition**
Project Location: **17 Executive Drive Hudson, NH**
SWPPP Contact: **Russ Carroll, Stonehill Realty, LLC, 17 Executive Drive Hudson, NH**

Number	Date	Description of the Amendment	Authorized Representative Signature

DRAFT

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

PROPOSED BUILDING ADDITION
AIREX FILTERS CORPORATION
TAX MAP 209, LOT 8
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE 03051

MAY 6, 2022

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3
NASHUA, NH 03063

PREPARED BY:

HAYNER/SWANSON, INC.
3 CONGRESS STREET
NASHUA, NEW HAMPSHIRE 03062

TABLE OF CONTENTS

SECTION 1: INTRODUCTION

1.1 Background

Federal law (40 CFR Part 122) requires that all construction sites with disturbed areas over one-acre comply with notification and other requirements of the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit. The law requires the "Operator" of the site to prepare a Stormwater Pollution Prevention Plan (SWPPP) and submit a Notice of Intent for Stormwater Discharges Associated with Construction Activity (NOI) form to the EPA at least fourteen (14) days prior to commencement of construction activity. The SWPPP needs to be maintained and retained at the construction site. The Contractor shall assume or delegate the duties of the "Operator" of the SWPPP, which shall include signing and forwarding a copy of the NOI to the EPA and performing the duties of the "Operator" during construction activities and provide to the EPA a Notice of Termination (NOT) form at the completion of the work.

1.2 Purpose of SWPPP

The goal of the SWPPP is to protect and improve the quality of the surface waters of the United States by reducing the amount of pollutants potentially contained in strormwater runoff through implementation, inspection and maintenance of the SWPPP. The purpose of the SWPPP is to identify potential sources of pollution and implement best management practices to reduce/prevent pollution caused by stormwater runoff.

SECTION 2: PROJECT OPERATORS, CONTACTS & PERMIT INFORMATION

2.1 Project Operators

1) Stonehill Realty, LLC, Hudson, NH

2.2 Stormwater Team

Owner/ Applicant:
Stonehill Realty, LLC
17 Executive Drive
Hudson, NH 03051
Attn: Rus Carroll
(800) 660-2298
rcarroll@airexco.com

Site Contractor: (To be selected at a later date)

Engineer/SWPPP Preparer:
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062
Attn: James, N. Petropulos, P.E.
(603) 882-2057
jpetropulos@hayner-swanson.com

Persons Conducting Inspections:
Hayner/Swanson, Inc.
3 Congress Street
Nashua, NH 03062
Attn: James, N. Petropulos, P.E.
(603) 882-2057
jpetropulos@hayner-swanson.com

Verification should be included with the SWPPP that the stormwater team has received the training required in Part 6.2 of the CGP. Documentation should be included that demonstrate that the persons performing inspections have received the training required by Part 6.3 such as a certificate showing that the personnel have completed the training and passed the exam pursuant to Part 6.3b.

2.3 Location of SWPPP

The SWPPP shall be available in the Contractor's construction trailer on the site. In the event that the project is inactive, or the SWPPP is otherwise inaccessible, the SWPPP may be viewed at the office of Site Contractor.

2.4 Posting of Permit

Per Section 1.5 of the 2022 Construction General Permit, the Contractor shall post a sign or other notice of the permit coverage at a safe, publicly accessible location in close proximity to the construction site. The notice must be located to that it is visible

from the public road that is nearest to the active part of the construction site, and it must use a font large enough to be readily viewed from a public right-of-way. At a minimum, the notice must include the following the NPDES ID, a contact name and phone number for obtaining additional construction site information, and the following statements:

- "If you would like to obtain a copy of the Stormwater Pollution Prevention Plan (SWPPP) for this site, contact the EPA Region 1 Office at (617) 918-1014.
- "If you observe indicators of stormwater pollutants in the discharge or in the receiving waterbody, contact the EPA through the following website: https://www.epa.gov/enforcement/report-environmental-violations."

SECTION 3: PROJECT SITE/INFORMATION:

3.1 Project Location and Description:

The project area under consideration for this application is located at 17 Executive Drive, Hudson, NH (see Figure 1). The site is known to the Hudson Assessors Department as Map 209, Lot 8. The parcel measures 7.368 acres and is located in the I - Industrial zoning district in the Sagamore Industrial Park. The site is abutted by Executive Drive to the south; and commercial/industrial properties to the west, north, east, and across Executive Drive.

Latitude: 42° 44' 21" N Longitude: 71° 25' 51" W (per Google Earth)

3.2 Existing Conditions:

The lot currently contains a 1-story, 78,700 square foot office, manufacturing and warehouse building along with associated parking and loading areas. Primary access to the site is provided via a curb cut on Executive Drive. Secondary access to the site is through an access easement on 19 Executive Drive. The site is currently serviced by municipal sewer and water, natural gas, and overhead telecommunications and electric utilities. Existing stormwater management practices consist of a series of catch basins, underground drain pipes, and vegetated swales. This collection system discharges to a series of manmade wetland swales, which in-turn discharge to the drainage pond, known as Telegraph Pond, along the easterly site boundary.

NRCS soil mapping shows that this site contains mostly Windsor loamy sands and a small amount of Pipestone loamy sands. The proposed building addition improvements are entirely in the area of Windsor soils. The project's certified wetland scientist flagged the limit of wetlands associated with the drainage swales and drainage pond along the southern and eastern boundaries of the property. Telegraph Pond discharges in a northerly direction through an unnamed drainage pond to Third Brook; which flows in a northerly and westerly direction, and eventually empties into the Merrimack River approximately 1.0 mile from the site (via the water courses). The site is located 0.3+/- miles from the Merrimack River "as the crow flies". No portion of the subject site is located within the 100-year Flood Hazard Area.

3.3 Project Description:

Airex Filters Corporation manufactures and distributes air and water filters, and specialty filtration products for residential, commercial, and industrial applications. It is being proposed to construct a 1-story, 26,120 square foot warehouse addition on the westerly side of the existing building. The addition will have one loading dock, and one overhead door ramp access to the addition. The site currently has several storage containers located around the site for supplemental storage space. The warehouse addition will eliminate the need for these storage containers, which will be removed from the site when the warehouse addition is completed. Airex isn't adding any additional employees as part of this proposal. Associated site improvements include new parking and loading area, stormwater management systems, a new electric utility extension, landscaping, and site lighting. No sanitary sewer is required for the addition; and water for fire protection, natural gas, and communications will be extended internally from the existing building. To the best of our knowledge the sewer, water, gas, telecommunication, and electric utilities present in the adjacent roadway have adequate capacity to service this intended use.

Upon project completion, the site will contain approximately 35.2% open space, where 35% is the minimum required by zoning. There are no wetland impacts proposed. The layout for the building addition and associated site improvements has been developed to integrate with the existing manufacturing operation and minimize environmental issues. The site development associated with the overall construction of this project disturbs approximately 91,000 square feet of contiguous area and therefore a NHDES Alteration of Terrain permit is not required. Construction is expected to begin in the summer of 2022 and will be completed in the summer of 2023.

The project scope will include, but is not limited to, the following activites:

- Erosion and sediment control.
- Earthwork including excavation, borrow and disposal of excess materials if necessary.
- Dust control.
- Demolition of site items
- Construction of new site driveways, parking and loading areas.
- Construction of building pad.
- Construction of on-site, drainage and stormwater management area.
- Construction of site lighting.
- Construction of utility main extensions/services
- Loam, seed and landscaping improvements.
- All other work incidental to these items as shown on the drawings and specified herein.

3.4 Stormwater Management Description/Intent:

With regard to stormwater management, it is the intent of this design to address both qualitative and quantitative aspects of the runoff produced by the proposed improvements. The design shall address the requirements of the Town of Hudson Stormwater Management Regulations (Chapter 290) and NHDES stormwater design requirements by using, to the maximum practical extent, Low Impact Development (LID) strategies to promote recharge and reduce site disturbances. Furthermore, the design shall seek to maintain existing drainage patterns, provide permanent methods for protecting water quality and minimize impacts to downstream drainage facilities.

To meet these goals, the proposed project will include a combination of stormwater management practices that include offline deep-sump catch basins fitted with gas hoods for stormwater pretreatment, and a detention/infiltration basin for stormwater treatment. The catch basins are design to capture pavement areas less than 0.25 acres in size to meet NHDES requirements for pretreatment practices. The infiltration basin will have an engineered filter media in the base. These measures are permanent methods for protecting water quality by providing pollutant removal through the use of vertical filtration through the filter media and native soils. Through settling, storage and recharge, infiltration practices can achieve high rates of removal for a number of urban pollutants (sediment, trace metals, hydrocarbons, BOD, nutrients, pesticides, etc.) and provide removal of total suspended solids, total nitrogen, and total phosphorous (New Hampshire Stormwater Manual). In addition to water quality benefits, the stormwater management area will provide flood control during large storm events by reducing the peak rates of runoff leaving this site.

3.5 Project Area and Runoff Information:

The site development associated with the overall construction of this project disturbs approximately 91,000 square feet of contiguous area and adds approximately 0.24 +/- acres of new impervious area.
The proposed design provides qualitative treatment of stormwater and the removal of pollutants through the use of the above-referenced practices. The proposed stormwater management areas provide sufficient storage volumes so that the post-development peak flows leaving the project area are less than or equal to the pre-development peak flows for the 2, 10, 25 and 50-year storm events.

3.6 Receiving Waters:

Existing stormwater management practices consist of a series of catch basins, underground drain pipes, and vegetated swales. This collection system discharges to a series of manmade wetland swales, which in-turn discharge to the drainage pond, known as Telegraph Pond, along the easterly site boundary. Telegraph Pond discharges in a northerly direction through an unnamed drainage pond to Third Brook; which flows in a northerly and westerly direction, and eventually empties into the Merrimack

River approximately 1.0 mile from the site (via the water courses). The site is located 0.3+/- miles from the Merrimack River "as the crow flies".

3.7 Site Features and Sensitive Areas to be Protected:

The overall project layout for the Proposed Building Addition including the layout of the access driveways, parking, loading and, building pad areas has been developed to minimize land disturbance in order to protect the natural resources of the site. There are no proposed wetland impacts associated with the proposed development.

3.8 Potential Sources of Pollution:

Potential sources of pollution for this project include the following:

- Petroleum products associated with fueling/servicing of construction vehicles including clean and used motor oil, transmission fluid, anti-freeze, and hydraulic fluid.
- Leakage of petroleum fluids from construction equipment.
- Eroded soil/turbidity transported by stormwater.
- Dust.
- Solid waste/debris from construction activity.
- Waste asphalt/concrete.
- Earthwork operations.
- Landscaping operations.

3.9 Allowable Sources of Non-Stormwater Discharges:

The following non-stormwater discharges may occur during the construction activity:

- Uncontaminated groundwater from dewatering.
- Irrigation water.
- Pavement wash-waters.
- Water from dust control.
- Fire hydrant flushing and uncontaminated water line flushing.
- Water used to wash vehicles where detergents are not used.
- Emergency fire-fighting activities.

Dewatering Requirements: Any construction dewatering must comply with the requirements in sections 2.4 and 3 of the CGP. In general, dewatering water should be routed through a sediment control such as a sediment trap, basin or dewatering bag. Sediment laden waters or water with visible floating solids, foam, sheen or oil deposits should not be discharged from the site. To prevent dewatering related erosion, water should only be discharged to stable, erosion resistant surfaces where velocity dissipation requirements can be met. For sites discharging to sensitive waters, consult CGP section 3.3 for additional turbidity monitoring requirements.

3.10 Endangered Species:

There is no federally-designated Critical Habitat in New Hampshire. The only federally-listed endangered and threatened species listed for the subject site is the Northern Long-eared Bat, which is threatened statewide (see Appendix E). **It is recommended that tree clearing minimized from June 1 to July 31 in order to mitigate potential impacts to bat habitats.**

3.11 Historic Preservation:

The property is currently developed as an existing manufacturing building which disturbed the majority of the site. The prior disturbances likely preclude the possibility that historical resources exist on the site.

3.12 References:

This SWPPP is subject to other documentation and reports that have been prepared for this project. These materials include the following:

- National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit (CGP) authorized February 17, 2022.
- New Hampshire Stormwater Manual, Volume 3, December 2008, prepared by NHDES.
- Best Management Practices for Roadside Invasive Plants, 2008, prepared by NHDOT.
- Site Plan (13 Sheets), Proposed Building Addition, 17 Executive Drive Hudson, NH, prepared for Schroeder Construction Management, Inc., dated 29 March, 2022 and prepared by Hayner/Swanson, Inc., Nashua, NH.
- Stormwater Management Report, Proposed Building Addition, 17 Executive Drive Hudson, NH, prepared for Schroeder Construction Management, Inc., dated May 4, 2022 and prepared by Hayner/Swanson, Inc., Nashua, NH.

SECTION 4: EROSION & SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S)

The following is a summary of temporary soil erosion and sediment control measures that are proposed for the project construction.

4.1 Minimize Disturbed Area and Protect Natural Features and Soil

The contractor shall minimize the area disturbed at any one-time during construction to minimize the potential for erosion from the construction site.

4.2 Control Storm Water Flow onto and through Project Site

The use of diversion berms/trenches shall be utilized where needed to divert and off-site stormwater from flowing through the construction site. Any diversion trench shall be stabilized prior to allowing stormwater to flow directly through the swale.

4.3 Street Cleaning and Construction Vehicle Tracking

Stabilized Construction Entrance/Exits:
Anti-tracking pads consisting of stone will be installed at the exit to the construction area to prevent the off-site transport of sediment by construction vehicles. The pad will be a minimum of 75 feet in length.

Street Cleaning:
If sediment is accidentally transported onto the adjacent streets accessing the construction site it will be removed from the street surface on a daily basis. Sediment will be swept or shoveled from the street and disposed of in a manner which prevents contamination with stormwater or surface water.

4.4 Establish Perimeter Controls and Sediment Barriers

Silt Socks:
Silt socks shall be installed as indicated and detailed on the plans and directed in the field along fill slopes and areas with erosion potential. The barrier should be maintained to remove sediment build-up and protect abutting areas. Install parallel to contour across the direction of expected flow and prevent by-pass by sweeping the ends in an up-gradient direction.

Temporary Stone Check Dams:
Temporary stone check dams shall be installed as indicated and detailed on the plans and directed in the field at the stormwater outfalls and other areas of concentrated flow as needed. The stone check dams should be maintained to remove sediment build-up and reduce velocities and provide protection to existing sediment/detention basins. Install across the direction of expected flow and extend upslope to prevent by-passing of the check dam.

4.5 Stabilize Soils

Temporary Stabilization of Soils:
Portions of the site where construction activities will temporarily cease for more than 14 days shall be temporarily stabilized with mulch. Winter stabilization will occur between October 15th and March 15th.

Permanent Stabilization of Soils:
Permanent stabilization will be done immediately after the final design grades are achieved but no later than 14 days after construction ceases within the area.

Dust Control:
Dust from the site will be controlled by using a water distribution truck to apply potable water to disturbed areas during windy days and dry conditions. In difficult areas/conditions, the contractor may choose to use an alternate product with soil

bonding properties to control dust. The water truck will apply water at a rate which keeps the dust controlled but minimized as to prevent runoff and ponding. Dust control will be implemented as needed once construction activities start.

Stockpile Areas:
All temporary stockpiles will be mulched and seeded prior to the onset of wet weather. Long term stockpiles will be compacted, hydroseeded and silt socks installed around the perimeter.

4.6 Protect Slopes

Erosion Control Blankets:
Erosion control blankets will be used to provide stabilization for slopes greater than 3:1 or in difficult areas of the project.

4.7 Protect Drain Inlets

Inlet Protection:
Storm drain inlets existing within the vicinity of the construction activities and those to be installed as part of this project will be properly protected and maintained using approved inlet protection devices as shown of the plans. A NHDES approved BMP should be used at all catch basins which include the use of SiltSaks and block and gravel inlet filters.

4.8 Protect Downstream Waterbodies

Construction Dewatering:
Proper construction dewatering practices must be used in order to prevent discharged water from eroding soil on site and the sedimentation of downstream water resources. There are a number of methods for settling or filtering sediment from dewatering, including temporary basins or sediment traps, and manufactured fabric bags designed for filtering pumped discharges. During active dewatering process, inspection of the dewatering facility should be reviewed daily, with more frequent or continuous supervision warranted by site conditions.

SECTION 5: MATERIAL MANAGEMENT AND SPILL PREVENTION

The operator shall employ measures and practices to reduce the risk of spills or other accidental exposure of materials to stormwater runoff. The operator shall pay special attention to the handling, use and disposal of materials such as petroleum products, fertilizers and paints to ensure that the risk associated with the use of these products is minimized. The following "Good Housekeeping" practices shall be followed during construction of the project:

- An effort shall be made to store only enough product required to do the job.
- All materials stored on-site shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.

- Products shall be kept in their original containers with their manufacturers' label.
- Whenever possible, all of a product shall be used before disposing of the container.
- Manufacturers' recommendations for proper use and disposal shall be followed.
- The operator shall inspect daily to ensure proper use and disposal of materials.

5.1 Potential Sources of Non-Sediment Pollutants

All potential pollutants other than sediment shall be handled and disposed of in a manner that does not cause contamination of stormwater. Non-sediment pollutants that may be present during construction of this project include:

- Petroleum products including fuel, lubricants, hydraulic fluids and form oils
- Water treatment chemicals (coagulant, acid, chlorine, sodium bicarbonate)
- Concrete
- Paints
- Fertilizers

These materials and other materials used during construction with the potential to impact strormwater shall be stored, managed, used and disposed of in a manner that minimizes the potential for release to the environment and stormwater.

5.2 Waste Management

The operator shall provide dumpsters within the materials storage area. Dumpsters shall have a water tight lid, be positioned away from stormwater conveyances and drains. Only trash and construction debris form the site shall be disposed of in the dumpsters.

5.3 Hazardous Materials

These practices are used to reduce the risk associated with hazardous materials:

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data will be retained; they contain important product information
- If surplus product must be disposed of, manufacturers'' or local and State recommended methods for proper disposal will be followed

5.4 Product Specific Practices

The following product specific practices will be followed onsite:

Petroleum Products:
All onsite vehicles will be monitored daily for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturers' recommendations. Vehicles should be fueled in the parking and storage areas to help contain any spills that may occur. Designated areas shall be flat and not within 75 feet of surface water or wetlands.

Fertilizers:
Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to stormwater. Fertilizers shall be stored in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

Paints:
All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system, but will be properly disposed of according to the manufacturers' recommendations.

Concrete:
Concrete washout areas shall be provided for and shown on the site map. Washout areas shall be clearly marked on the site. All concrete trucks shall utilize the designated washout areas.

5.5 Spill Control Practices

In addition to the previous measures discussed for good housekeeping and material handling practices, the following practices will be followed for spill prevention and cleanup:

- Material Safety Data Sheets (MSDS) shall be kept onsite for reference to the Manufacturer's recommended methods of cleanup
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury form contact with hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate State and local government agency, regardless of size.
- The spill control measures shall be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The site superintendent will be responsible for day to day operations and will be the spill prevention and cleanup coordinator.

5.6 Requirements for Reporting Spills

Spill of toxic or hazardous materials or of a material of an amount that exceeds the reportable quantity (RQ) as defined in 40CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, then the SWPPP coordinator shall do the following:

- Call the National Response Center to report the spill at (800)424-8802 or (202)267-2675
- Call NHDES to report a spill between 8 am and 4 pm at (603) 271-3899 or contact NH State Police at (603) 271-3636.
- Quantities of oil requiring reporting: 1) discharge of any oil into surface water or groundwater of the state; 2) A discharge of 25 gallons or more of oil to land; 3) A discharge oil that results in the presence of vapors that pose an imminent threat to human health; 4) A discharge of oil resulting in a violation of the groundwater quality criteria of ENV-OR 603.01 in a sample collected from a water supply well.
- Within 14 days, modify SWPPP to include a description of spill details and file a spill report.

SECTION 6: EROSION AND SEDIMENT INSPECTION AND MAINTENANCE

Inspection requirements are outlined in section 4 of the CGP. The requirements below are the general requirements for inspecting and maintaining sites. Sites with environmentally sensitive areas or are discharging to impaired waterbodies and require dewatering inspections require an increase in inspection frequency.

In general, these are the inspection and maintenance practices that will be used to maintain erosion and sediment controls for the project:

- All BMP's will be inspected at least once every seven (7) calendar days or;
- Once every 14 calendar days and within 24 hours following any storm event of 0.25 inches or more within a 24-hour period.
- All measures shall be maintained in good working order; repairs, if necessary, shall be initiated within 24 hours of the inspection report depicting the deficiency.
- Sediments will be removed from silt socks when it has reached one-third the height of the barrier
- Silt socks will be inspected for depth of sediment, tears, to see if the barrier is properly attached to posts and is adequately anchored in the ground.
- Sediment basins will be inspected for depth of sediment. Sediment build up will be removed when it reaches 10 percent of the design capacity or at the end of the job.
- Temporary stone check dams will be inspected after each rainfall and daily during extended storm periods. Damaged check dams, undermining, and end-run erosion shall be repaired promptly. Sediment shall be removed once it reaches a depth of one-half the check dam height.

- Storm Drain Inlet Protections shall be inspected daily during extended storm periods. Remove collected sediments weekly, or more frequently during extended storm periods.
- Temporary and permanent seeding and landscape areas shall be inspected for rills, bare spots, washouts, and healthy growth and repaired as needed.
- A maintenance inspection report will be made after each inspection. A copy of the report form to be completed by the inspector is attached.
- The owner and/or site contractor will select individuals who will be responsible for inspections, maintenance and repair activities.

Training requirements for Persons Conducting Inspections can be found in section 6.3 of the CGP: Starting February 17, 2023, persons conducting inspections must have at a minimum:

- Completed the EPA construction inspection course developed for this permit and have passed the exam; or
- Hold a current valid construction inspection certification or license from a program that, at a minimum, covers the following:
  - Principles and practices of erosion and sediment control and pollution prevention practices at construction sites;
  - Proper installation and maintenance of erosion and sediment controls and pollution prevention practices used at construction sites; and
  - Performance of inspections, including the proper completion of required reports and documentation, consistent with the requirement of Part 4

For persons conducting inspections under this permit prior to February 17, 2023, at a minimum must be knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention and possess the appropriate skills and training to assess the conditions and effectiveness of stormwater controls installed to meet the requirement of this permit.

SECTION 7: RECORD KEEPING

7.1 Recordkeeping

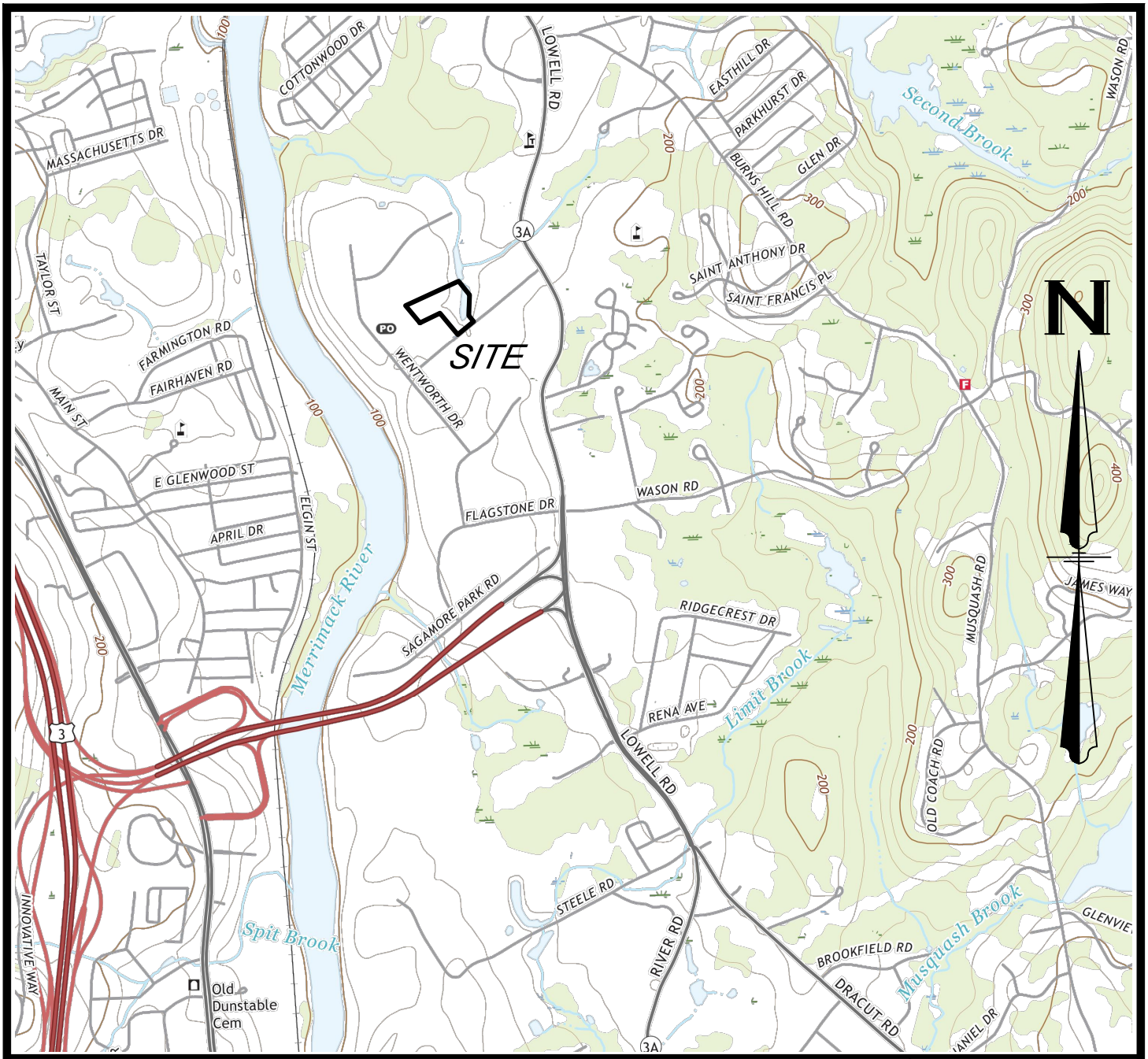
The General Permit requires that copies of the SWPPP and all documentation required by the permit, including records of all data used to complete the NOI to be cover by the permit, must be retained for a least three years from the date the permit coverage expires or is terminated. This period may be extended by the request of the EPA at any time.

7.2 Amendments to SWPPP

The operator shall update the SWPPP as necessary to reflect the project conditions. A SWPPP Amendment Log shall be kept up to date and can be found at the front of this report.

Appendix A:

Site Locus Map



1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

NASHUA SOUTH, NH, MA
QUAD MAP (2021)

FIG. 1

VICINITY PLAN

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

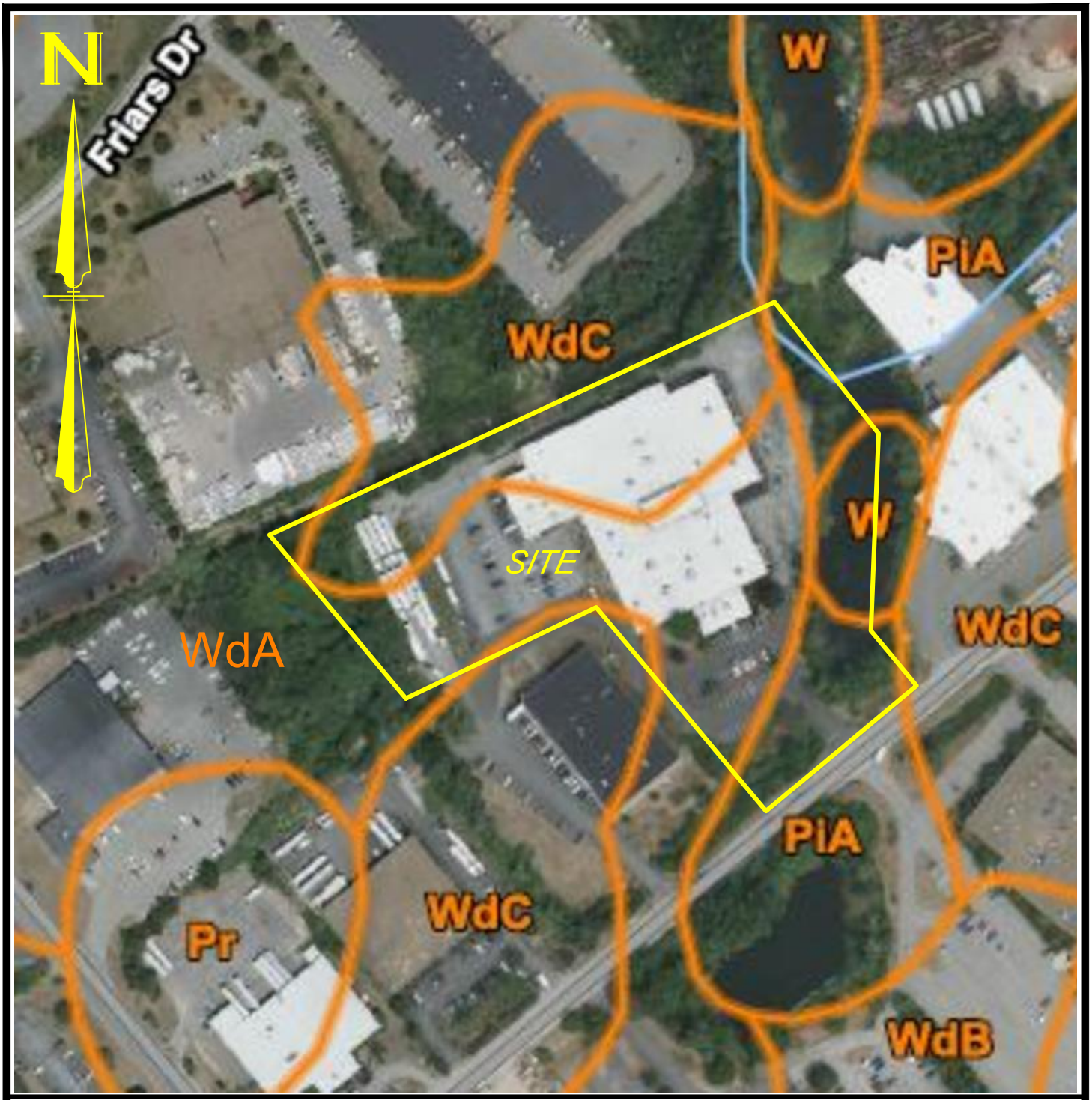
MARCH 2022

HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

Location: J:\5000\5843\DWG

5843
File Number



0 200 400 600 FEET

SOIL SURVEY STAFF, NATURAL RESOURCES CONSERVATION SERVICE, UNITED STATES DEPT. OF AGRICULTURE. WEB SOIL SURVEY. AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/ ACCESSED MARCH 1, 2022.

NRCS SOILS MAP

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

FIG. 2

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

MARCH 2022

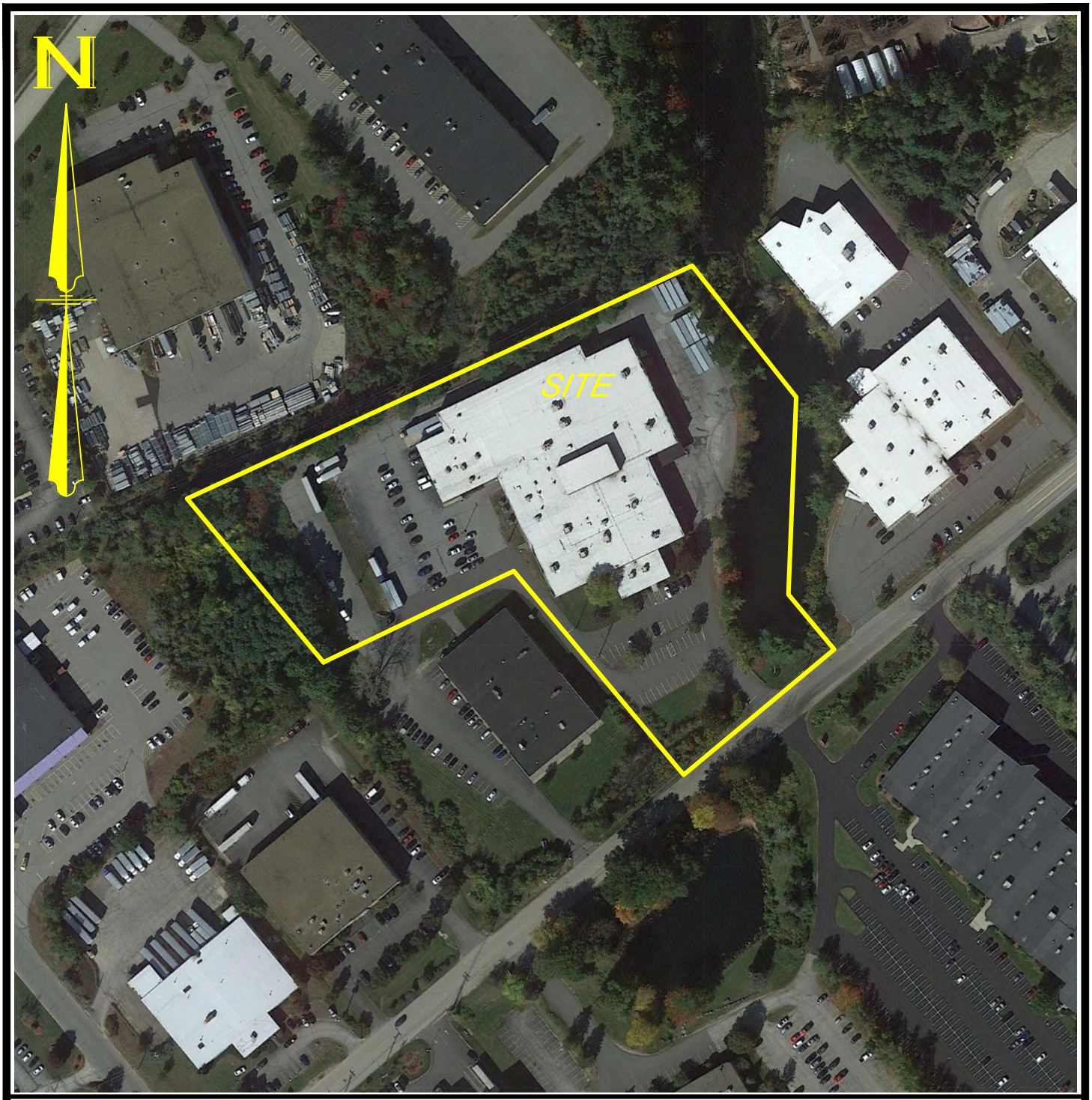
HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

Location: J:\5000\5843\DWG

5843

File Number



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AERIAL DISPLAY PLAN

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

FIG. 3

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

MARCH 2022

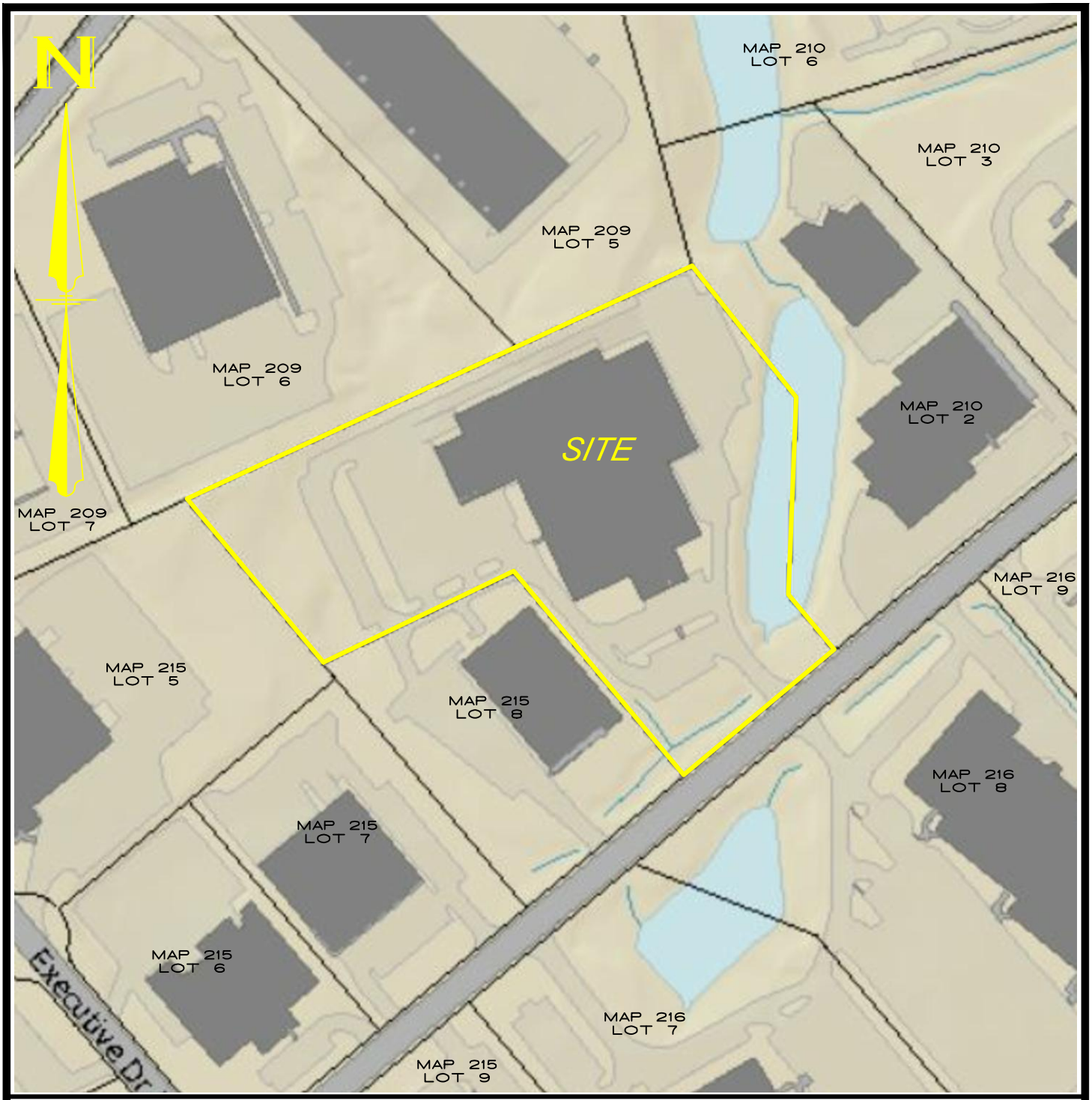
HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

Location: J:\5000\5843\DWG

5843

File Number



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TAX MAP

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

FIG. 4

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

MARCH 2022

HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

Location: J:\5000\5843\DWG

5843

File Number

Appendix B:

EPA Construction General Permit

Appendix C:

Notice of Intent & EPA Acknowledgement Letter

Appendix D:

Notice of Termination

(To be inserted by the contractor)

Appendix E:

Endangered Species Documentation

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Brookfield, Eaton, Effingham, Madison, Ossipee, Wakefield and Wolfeboro
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzey, Keene and Surry
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Manchester, Weare
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Bow, Danbury, Epsom, Loudon, Warner and Allenstown
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Red knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal towns
	Small whorled Pogonia	Threatened	Forests	Deerfield, Northwood, Nottingham, and Epping
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.

-Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.-There is no federally-designated Critical Habitat in New Hampshire

Updated 02/05/2016

Appendix F:

Inspection Forms/ Reports/Corrective Action Logs

Stormwater Construction Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		**Location**	
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications	Insert qualifications or add reference to the SWPPP. (See Section 5 of the SWPPP Template)		
Describe present phase of construction			

Type of Inspection:
❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event

Weather Information

Has there been a storm event since the last inspection? ❑Yes ❑No
If yes, provide:
Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):

Weather at time of this inspection?
❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds
❑ Other: Temperature:

Have any discharges occurred since the last inspection? ❑Yes ❑No
If yes, describe:

Are there any discharges at the time of inspection? ❑Yes ❑No
If yes, describe:

Site-specific BMPs

- *Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		❑Yes ❑No	❑Yes ❑No	
2		❑Yes ❑No	❑Yes ❑No	
3		❑Yes ❑No	❑Yes ❑No	
4		❑Yes ❑No	❑Yes ❑No	
5		❑Yes ❑No	❑Yes ❑No	
6		❑Yes ❑No	❑Yes ❑No	
7		❑Yes ❑No	❑Yes ❑No	
8		❑Yes ❑No	❑Yes ❑No	
9		❑Yes ❑No	❑Yes ❑No	
10		❑Yes ❑No	❑Yes ❑No	
11		❑Yes ❑No	❑Yes ❑No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
12		❑Yes ❑No	❑Yes ❑No	
13		❑Yes ❑No	❑Yes ❑No	
14		❑Yes ❑No	❑Yes ❑No	
15		❑Yes ❑No	❑Yes ❑No	
16		❑Yes ❑No	❑Yes ❑No	
17		❑Yes ❑No	❑Yes ❑No	
18		❑Yes ❑No	❑Yes ❑No	
19		❑Yes ❑No	❑Yes ❑No	
20		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No	
4	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No	❑Yes ❑No	
5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
6	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No	❑Yes ❑No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No	
12	(Other)	❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature:_____ **Date:**_____

Corrective Action Log

Project Name: **Proposed Building Addition**
Project Location: **17 Executive Drive Hudson, NH**
SWPPP Contact: **Russ Carroll, Stonehill Realty, LLC, 17 Executive Drive Hudson, NH**

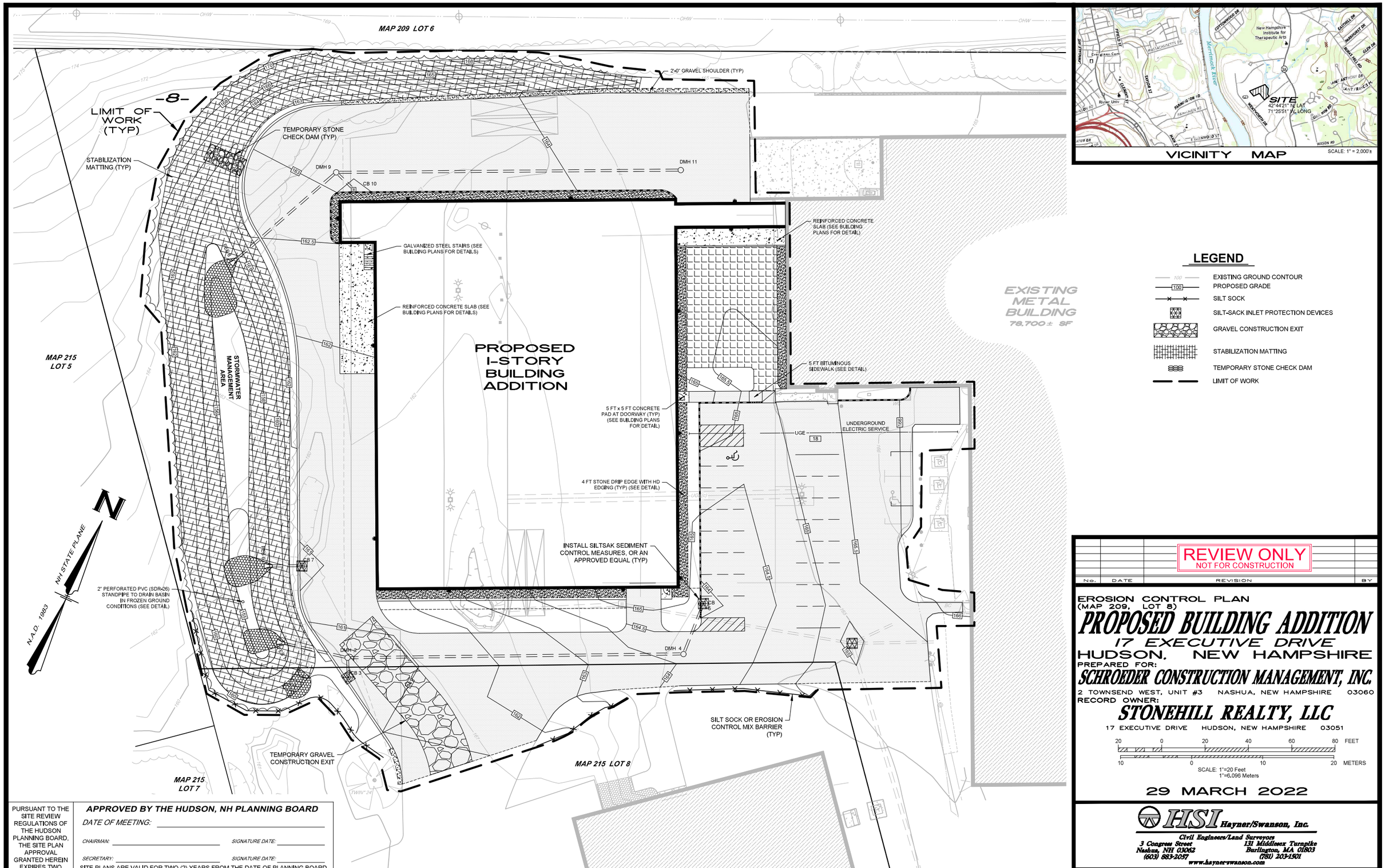
Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

Appendix G:

Site-Related Permit Approvals

Appendix H:

Erosion & Sediment Control Maps



LEGEND

- EXISTING GROUND CONTOUR
- PROPOSED GRADE
- SILT SOCK
- SILT-SACK INLET PROTECTION DEVICES
- GRAVEL CONSTRUCTION EXIT
- STABILIZATION MATTING
- TEMPORARY STONE CHECK DAM
- LIMIT OF WORK

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ SIGNATURE DATE: _____

SECRETARY: _____ SIGNATURE DATE: _____

SITE PLANS ARE VALID FOR TWO (2) YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECIEVES FINAL APPROVAL.

REVIEW ONLY
NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY

EROSION CONTROL PLAN
(MAP 209, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

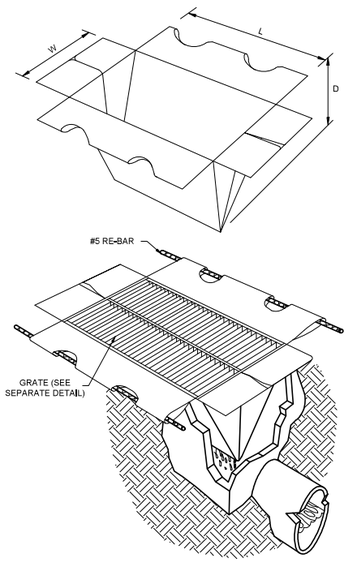
RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

20 0 20 40 60 80 FEET
10 0 10 20 METERS
SCALE: 1"=20 Feet
1"=6.096 Meters

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
www.hayner-swanson.com

FIELD BOOK: 1264	DRAWING NAME: 5843SITE-ER21	5843 SITE	9 OF 13
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet



SILTSAK® NOTES:

1.0 THE SILTSAK® SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE AND SEWN BY A DOUBLE NEEDLE MACHINE, USING A HIGH STRENGTH NYLON THREAD.

2.0 THE SILTSAK® SEAMS SHALL HAVE A CERTIFIED AVERAGE WIDE WIDTH STRENGTH PER ASTM D-4884 STANDARDS AS FOLLOWS:

SILTSAK® STYLE	*TEST METHOD*	*TEST METHOD*
REGULAR FLOW	ASTM D-4884	165.0 LBS/IN
HI-FLOW	ASTM D-4884	114.6 LBS/IN

3.0 THE SILTSAK® WILL BE MANUFACTURED TO FIT THE OPENING OF THE CATCH BASIN OR DROP INLET. THE SILTSAK® WILL HAVE THE FOLLOWING FEATURES: TWO DUMP STRAPS ATTACHED AT THE BOTTOM TO FACILITATE THE EMPTYING OF THE SILTSAK®; THE SILTSAK® SHALL HAVE LIFTING LOOPS AS AN INTEGRAL PART OF THE SYSTEM TO BE USED TO LIFT THE SILTSAK® FROM THE BASIN; THE SILTSAK® SHALL HAVE A RESTRAINT CORD APPROXIMATELY HALFWAY UP THE SACK TO KEEP THE SIDES AWAY FROM THE CATCH BASIN WALLS. THIS YELLOW CORD IS ALSO A VISIBLE MEANS OF INDICATING WHEN THE SACK SHOULD BE EMPTIED, CLEANED, AND PLACED BACK INTO THE BASIN.

4.0 THE GEOTEXTILE FABRIC SHALL BE WOVEN POLYPROPYLENE FABRIC WITH THE FOLLOWING PROPERTIES:

SILTSAK® REGULAR FLOW

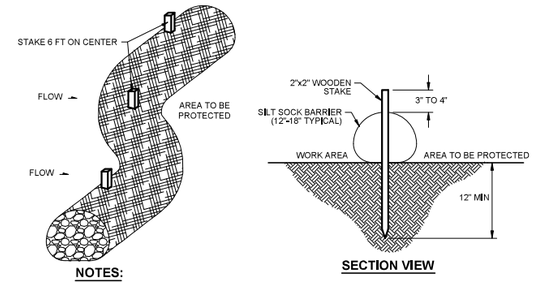
PROPERTY	*TEST METHOD*	*TEST RESULT*
GRAB TENSILE	ASTM D-4632	300 LBS
GRAB ELONGATION	ASTM D-4631	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	600 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	0.55 SEC

OR **SILTSAK® HI-FLOW**

PROPERTY	*TEST METHOD*	*TEST RESULT*
GRAB TENSILE	ASTM D-4632	265 LBS
GRAB ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/FT2
PERMITTIVITY	ASTM D-4491	1.5 SEC

SILTSAK® DETAIL

NOT TO SCALE



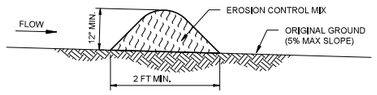
SECTION VIEW

NOTES:

1. SILT SOCK BARRIER SHALL BE FILTREXX SILTSOXX NATURAL PLUS (OR APPROVED EQUAL) AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT SOCK BARRIER SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
3. IF THE SILT SOCK SHOULD DECOMPOSE OR BECOME INEFFECTIVE, THE BARRIER SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
5. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.
6. COMPOST TO BE REMOVED OR DISPOSED ON-SITE AS DETERMINED BY THE ENGINEER.

SILT SOCK DETAIL

NOT TO SCALE



NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
2. EROSION CONTROL MIX SHOULD CONTAIN A WELL- GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:
   - THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25 AND 65 %, DRY WEIGHT BASIS
   - PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-INCH SCREEN, 70%-100% PASSING A 0.75-INCH SCREEN, AND A MAXIMUM OF 30% TO 75%, PASSING A 0.25-INCH SCREEN.
   - THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   - THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
   - SOLUBLE SALTS CONTENT SHOULD BE <4.0 MMHOS/CM
   - THE PH SHOULD BE BETWEEN 5.0 AND 8.0.
3. FILTER BERMS SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF BREACHING OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THEN THEY SHOULD BE REPLACED WITH OTHER MEASURES TO INTERCEPT AND TRAP SEDIMENT.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD OF THE HEIGHT OF THE BARRIER.
5. FILTER BERMS SHOULD BE RESHAPED OR REAPPLIED AS NEEDED.
6. EROSION CONTROL MIX TO BE REMOVED OR SPREAD OUT AS COMPOST UPON PROJECT COMPLETION.

EROSION CONTROL MIX BERM

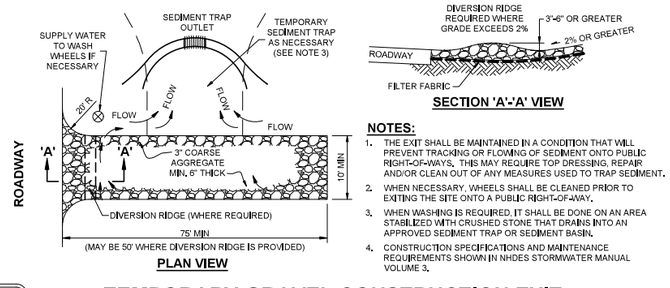
NOT TO SCALE

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.
4. 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT. PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURE RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

STABILIZATION MATTING DETAIL

NOT TO SCALE



PLAN VIEW

SECTION 'A'-'A' VIEW

NOTES:

1. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO EXITING THE SITE ONTO A PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS SHOWN IN NHDES STORMWATER MANUAL VOLUME 3.

TEMPORARY GRAVEL CONSTRUCTION EXIT

NOT TO SCALE

GENERAL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES STORMWATER MANUALS, VOLUME 1-3, LATEST EDITION.
2. THE WORK AREA SHALL BE GRADED, SHAPED, AND OTHERWISE DRAINED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE THE LIMITS OF THE WORK AREA. SILT FENCES, STRAW BALES AND/OR DETENTION BASINS WILL BE NECESSARY TO ACCOMPLISH THIS END.
3. STRIPPED TOPSOIL SHALL BE STOCKPILED, WITHOUT COMPACTION, AND STABILIZED AGAINST EROSION IN ACCORDANCE WITH "TEMPORARY STABILIZATION OF DISTURBED AREAS", AS OUTLINED IN NOTE No. 4.
4. TEMPORARY STABILIZATION OF DISTURBED AREAS:
   SEED BED PREPARATION: 10-10-10 FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS PER 1,000 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1,000 SF AND INCORPORATED INTO THE SOIL. THE SOIL FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.
   A. SEED MIXTURE: USE ANY OF THE FOLLOWING:

SPECIES	RATE PER 1,000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1"	08/15 TO 09/15
OATS	2.5 LBS	1"	04/15 TO 10/15
ANNUAL RYE GRASS	1.0 LBS	0.25"	08/15 TO 09/15

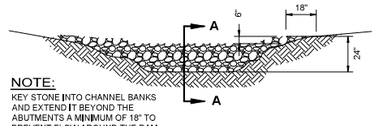
   B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODABLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:

TYPE	RATE PER 1,000 SF	USE & COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE. USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE.
CRUSHED STONE ¼" TO 1 ½" DIA	SPREAD TO GREATER THAN ½" THICKNESS	USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NEEDED.

5. PERMANENT STABILIZATION OF DISTURBED AREAS
   A. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
   B. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
7. AN AREA SHALL BE CONSIDERED STABILIZED IF 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 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
   D. OR EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED
8. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
9. SITE LOCATION:
   42° 44' 21" N LATITUDE, 71° 25' 51" W LONGITUDE (PER GOOGLE EARTH)
10. TOTAL AREA OF DISTURBED SOILS: 91,000± SF
11. REFERENCE IS MADE TO THE LATEST EDITION OF THE FEDERAL REGISTER (63 FR 7857), ENVIRONMENTAL PROTECTION AGENCY NPDES GENERAL PERMITS FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. FOR ADDITIONAL INFORMATION CONTACT (202) 564-9545 OR www.epa.gov/npdes/stormwater.
12. THE ENTIRE CONTENTS OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE RETAINED ON-SITE FOR THE DURATION OF THE CONTRACT AND BE MADE AVAILABLE TO LOCAL, STATE AND FEDERAL CODE ENFORCEMENT PERSONNEL.
13. THIS PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES; AND FUGITIVE DUST IS CONTROLLED IN ACCORDANCE WITH ENV-A 1000.

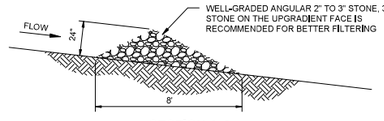
WINTER CONDITION NOTES

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOR OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

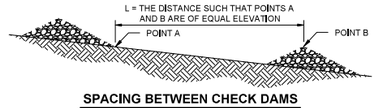


NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

VIEW LOOKING UPSTREAM



SECTION A-A



SPACING BETWEEN CHECK DAMS

TEMPORARY STONE CHECK DAM TYPICAL SECTION

NOT TO SCALE

SITE MAINTENANCE/INSPECTION PROGRAM

THE FOLLOWING PROVIDES AN ITEMIZATION OF SPECIFIC SITE MAINTENANCE PRACTICES THAT WILL BE EMPLOYED ON THE SITE TO MINIMIZE POLLUTANT GENERATION AND TRANSPORT FROM THE SITE. THE SITE MAINTENANCE PROGRAM INCLUDES ROUTINE INSPECTIONS, PREVENTATIVE MAINTENANCE AND "GOOD HOUSEKEEPING" PRACTICES.

ROUTINE INSPECTIONS

THE CONTRACTOR SHALL INSPECT ALL CONTROL MEASURES AT LEAST ONCE A WEEK AND WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A STORM WITH RAINFALL AMOUNT GREATER THAN 0.5 INCHES. THE INSPECTIONS WILL VERIFY THAT THE STRUCTURAL BMPS DESCRIBED IN THE PLANS ARE IN GOOD CONDITION AND ARE MINIMIZING EROSION. A MAINTENANCE INSPECTION REPORT WILL BE MADE WITH EACH INSPECTION. COMPLETED INSPECTION FORMS SHALL BE KEPT ON-SITE FOR THE DURATION OF THE PROJECT. FOLLOWING CONSTRUCTION, THE COMPLETED FORMS SHALL BE RETAINED AT THE CONTRACTOR'S OFFICE FOR A MINIMUM OF ONE YEAR.

PREVENTATIVE MAINTENANCE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY AND PERMANENT CONTROLS THROUGHOUT THE DURATION OF THIS CONTRACT. MAINTENANCE PRACTICES SHALL INCLUDE, BUT ARE NOT LIMITED TO:

1. CLEANING OF CATCH BASINS TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY QUARTERLY INSPECTIONS.
2. CLEANING OF SEDIMENT AND DEBRIS FROM STORMWATER MANAGEMENT AREA FOREBAY TWICE PER YEAR OR MORE FREQUENTLY AS DICTATED BY MONTHLY INSPECTIONS.
3. IMPLEMENTATION OF OTHER MAINTENANCE OR REPAIR ACTIVITIES AS DEEMED NECESSARY BASED UPON WEEKLY INSPECTIONS.
4. REMOVAL OF BUILT UP SEDIMENT ALONG SILT FENCES AND/OR HAY BALE BARRIERS.
5. REMOVAL OF BUILT UP SEDIMENT IN BOTH TEMPORARY AND PERMANENT CONTROLS SUCH AS GRASS SWALES, SEDIMENT FOREBAYS AND RECHARGE/DETENTION BASINS.
6. RECONSTRUCTING THE TEMPORARY GRAVEL CONSTRUCTION EXIT IF NOT WORKING PROPERLY.
7. TREATMENT OF NON-STORM WATER DISCHARGES SUCH AS WATER FROM WATER LINE FLUSHINGS OR GROUNDWATER FROM DEWATERING EXCAVATIONS. SUCH FLOWS SHOULD BE DIRECTED TO A TEMPORARY SEDIMENTATION BASIN OR STORMWATER MANAGEMENT AREA.
8. SWEEP PARKING LOTS AND DRIVES REGULARLY TO MINIMIZE SEDIMENT ACCUMULATION. FREQUENCY WILL VARY SEASONALLY ACCORDING TO SEDIMENT ACCUMULATION ON PAVE SURFACES (E.G., MORE FREQUENT SWEEPING DURING THE WINTER AND SPRING).

GOOD HOUSEKEEPING PRACTICES

THE CONTRACTOR SHALL EMPLOY MEASURES AND PRACTICES TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS TO STORM AND WATER RUNOFF. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE HANDLING, USE AND DISPOSAL OF MATERIALS SUCH AS PETROLEUM PRODUCTS, FERTILIZERS AND PAINTS TO ENSURE THAT THE RISK ASSOCIATED WITH THE USE OF THESE PRODUCTS IS MINIMIZED. THE FOLLOWING "GOOD HOUSEKEEPING" PRACTICES SHALL BE FOLLOWED DURING CONSTRUCTION OF THE PROJECT:

A. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
B. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
C. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THEIR MANUFACTURERS' LABELS.
D. WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.
E. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
F. THE CONTRACTOR SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

SPILL PREVENTION AND CLEANUP PRACTICES

A. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE. EQUIPMENT AND MATERIAL WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
C. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

NOTE
SEE SHEET 2 OF 13 FOR CONSTRUCTION SEQUENCE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING: _____

CHAIRMAN: _____ *SIGNATURE DATE:* _____

SECRETARY: _____ *SIGNATURE DATE:* _____

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EPA

THE CONTRACTOR SHALL FILE THE EPA NOTICE OF INTENT (NOI) FORM AT LEAST 14 DAYS PRIOR TO CONSTRUCTION

No.	DATE	REVISION	BY
		REVIEW ONLY NOT FOR CONSTRUCTION	

DETAIL SHEET - EROSION CONTROL
(MAP 209, LOT 8)

PROPOSED BUILDING ADDITION
17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

SCALE AS SHOWN

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street, Nashua, NH 03062, (603) 883-2057
131 Middlesex Turnpike, Burlington, MA 01803, (781) 203-1501
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FIELD BOOK: 1264	DRAWING NAME: 5843SITE-DET1	5843 SITE	10 OF 13
DRAWING LOC: J:\5000\5843\DWG\5843 SITE		File Number	Sheet

Welcome to New Hampshire's Watershed Report Cards built from the 2018, 305(b)/303(d)

Each Watershed Report Card covers a single 12 digit Hydrologic Unit Code (HUC12), on average a 34 square mile area. Each Watershed Report Card has three components;

1. REPORT CARD - A one page card that summarizes the overall use support for Aquatic Life Integrity, Primary Contact (i.e. Swimming), and Secondary Contact (i.e. Boating) Designated Uses on every Assessment Unit ID (AUID) within the HUC12.
2. HUC 12 MAP - A map of the watershed with abbreviated labels for each AUID within the HUC12.
3. ASSESSMENT DETAILS - Anywhere from one to forty pages with the detailed assessment information for each and every AUID in the Report Card and Map.

How are the Surface Water Quality Assessment determinations made?

All readily available data with reliable Quality Assurance/Quality Control is used in the biennial surface water quality assessments. For a full understanding of how the Surface Water Quality Standards (Env-Wq 1700) are translated into surface water quality assessments we urge the reader to review the 2018 Consolidated Assessment and Listing Methodology (CALM) at https://www.des.nh.gov/organization/divisions/water/wmb/swqa/2018/documents/r-wd-19-04.pdf.

Where can I find more advanced mapping resources?

GIS files are available by assessment cycle at ftp://pubftp.nh.gov/DES/wmb/WaterQuality/SWQA/2018/GIS

I'd like to see the more raw water quality data?

The web mapping tool allows you to download the data used in the assessment of the primary contact and aquatic life designated uses by clicking on the "Data Access Waterbody Data (Aquatic Life and Swimming Uses)" link for any assessment unit. (https://www.des.nh.gov/organization/divisions/water/wmb/swqa/assessment-viewers.htm)

How are assessments coded in the report card?

Assessment outcomes are displayed on a color scale as well as an alpha numeric scale that provides additional distinctions for the designated use and parameter level assessments as outlined in the table below.

		Severe Not Supporting, Severe	**Poor** Not Supporting, Marginal	**Likely Bad** Insufficient Information – Potentially Not Supporting	**No Data** No Data	**Likely Good** Insufficient Information – Potentially Full Supporting	**Marginal** Full Support, Marginal	**Good** Full Support, Good
CATEGORY	**Description**							
Category 2	Meets standards						2-M or 2-OBS	2-G
Category 3	Insufficient Information			3-PNS	3-ND	3-PAS		
Category 4	Does not Meet Standards;							
4A	TMDL* Completed	4A-P	4A-M or 4A-T					
4B	Other enforceable measure will correct the issue.	4B-P	4B-M or 4B-T					
4C	Non-pollutant (i.e. exotic weeds)	4C-P	4C-M					
Category 5	TMDL^ Needed	5-P	5-M or 5-T					

* TMDL stands for Total Maximum Daily Load studies (http://des.nh.gov/organization/divisions/water/wmb/tmdl/index.htm)

WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700061206

HUC 12 NAME MERRIMACK MAINSTEM-NASHUA RIVER TO CONCORD RIVER

(Locator map on next page only applies to this HUC12)

Assessment Cycle 2018

Good		Full Support Good
Marginal		Full Support Marginal
Likely Good		Insufficient Information – Potentially Full Support
No Data		No Data
Likely Bad		Insufficient Information – Potentially Not Support
Poor		Not Support Marginal
Severe		Not Support Severe

ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHIMP700061206-01	I*01	MERRILL BROOK - ICE POND DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-03	I*03	FIRST BROOK - FARM POND	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-04	I*04	FIRST BROOK - MELENDY POND	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-05	I*05	FIRE POND DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-06	I*06	SPIT BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-07	I*07	SPIT BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-08	I*08	SPIT BROOK	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-09	I*09	VILLAGE AT BARRETTS HILL UPPER POND	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-10	I*10	VILLAGE AT BARRETTS HILL LOWER POND	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-11	I*11	UNNAMED BROOK - GOLF COURSE POND DAM	3-ND	3-ND	3-ND	4A-M
NHIMP700061206-12	I*12	MERRIL BROOK DAM	3-ND	3-ND	3-ND	4A-M
NHLAK700061206-01	L*01	AYERS POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061206-02	L*02	OTTERNICK POND	5-P	5-P	3-ND	4A-M
NHLAK700061206-03	L*03	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061206-04	L*04	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061206-05	L*05	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061206-06	L*06	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHLAK700061206-07	L*07	UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-01	R*01	GLOVER BROOK	5-M	3-ND	3-ND	4A-M
NHRIV700061206-02	R*02	MERRILL BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-03	R*03	MERRILL BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-04	R*04	MERRILL BROOK - UNNAMED BROOK	5-P	3-ND	3-ND	4A-M
NHRIV700061206-05	R*05	FIRST BROOK	5-M	3-ND	3-ND	4A-M
NHRIV700061206-06	R*06	FIRST BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-07	R*07	FIRST BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-08	R*08	SECOND BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-09	R*09	SECOND BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-10	R*10	SECOND BROOK	5-M	3-ND	3-ND	4A-M

WATERSHED 305(b) ASSESSMENT SUMMARY REPORT:

HUC 12 010700061206

HUC 12 NAME MERRIMACK MAINSTEM-NASHUA RIVER TO CONCORD RIVER

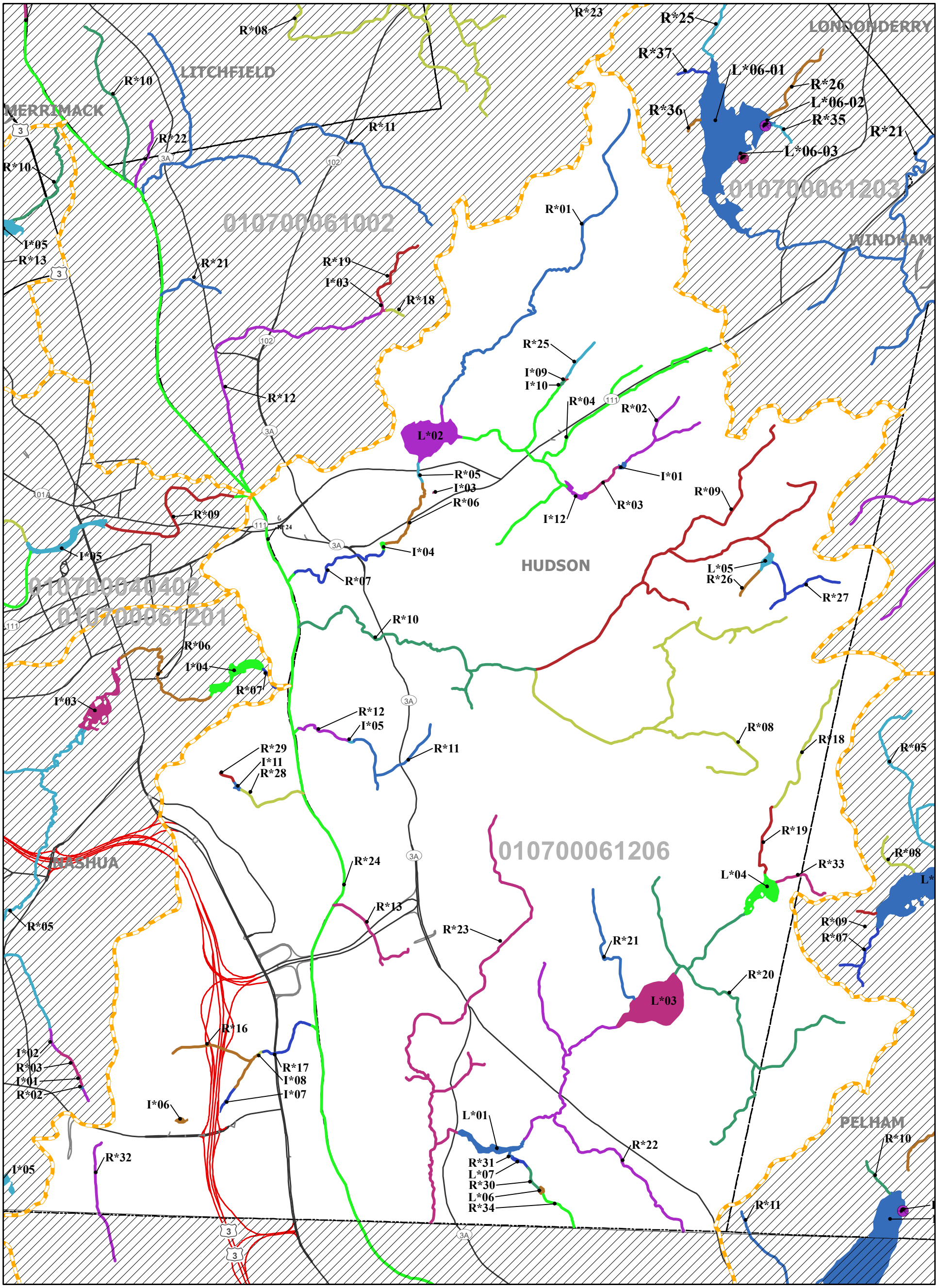
(Locator map on next page only applies to this HUC12)

Assessment Cycle 2018

Good		Full Support Good
Marginal		Full Support Marginal
Likely Good		Insufficient Information – Potentially Full Support
No Data		No Data
Likely Bad		Insufficient Information – Potentially Not Support
Poor		Not Support Marginal
Severe		Not Support Severe

ASSESSMENT UNIT ID	MAP LABEL	ASSESSMENT UNIT NAME	AQUATIC LIFE	SWIMMING	BOATING	FISH CONSUMP.
NHRIV700061206-11	R*11	UNNAMED BROOK - TO FIRE POND	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-12	R*12	UNNAMED BROOK - FROM FIRE POND TO MERRIMACK RIVER	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-13	R*13	UNNAMED BROOK - TO MERRIMACK RIVER	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-16	R*16	SPIT BROOK - UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-17	R*17	SPIT BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-18	R*18	MUSQUASH BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-19	R*19	MUSQUASH BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-20	R*20	MUSQUASH BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-21	R*21	UNNAMED BROOK - TO UNNAMED POND	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-22	R*22	MUSQUASH BROOK - LAWRENCE BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-23	R*23	MUSQUASH BROOK - LIMIT BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-24	R*24	MERRIMACK RIVER	5-M	5-M	4A-M	4A-M
NHRIV700061206-25	R*25	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-26	R*26	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-27	R*27	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-28	R*28	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-29	R*29	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-30	R*30	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-31	R*31	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-32	R*32	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-33	R*33	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M
NHRIV700061206-34	R*34	UNNAMED BROOK	3-ND	3-ND	3-ND	4A-M

AUIDs For HUC12: 010700061206 - Merrimack mainstem-Nashua River to Concord River



HUC12 Boundaries
Town Boundaries
Major Roads
Interstate Highway
US Highway
State Highway

Assessment Unit Coloring
AUs Ending with:
0 =
1 =
2 =
3 =
4 =
5 =
6 =
7 =
8 =
9 =

N
W E
S

Abbrv. Label	HUC 12
L* 03	010 700060201

AUID = NH L AK 700060201 - 03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes.
Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03"
In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.

0 0.35 0.7 1.05 1.4 Miles

Scale:1:37,190

S:\WD-Watershed\WQ_Planning\305b_303d\2018\AUIDs\HUC12Maps

Assessment Unit ID NHRIV700061206-24
Assessment Unit Name MERRIMACK RIVER
Primary Town NASHUA

Size 5.1510 MILES
Beach N
Assessment Unit Category*~ 5-M

2018, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit

Designated Use Description	*Desig. Use Category	Parameter Name	Parameter Threatened (Y/N)	Last Sample	Last Exceed	Parameter Category*	TMDL Priority
Aquatic Life Integrity	5-M	ALKALINITY, CARBONATE AS CACO3	N	2012	2012	3-PNS	
		AMMONIA (TOTAL)	N	2012	N/A	3-PAS	
		ARSENIC	N	1995	N/A	3-ND	
		Aluminum	N	2017	2014	5-M	LOW
		CADMIUM	N	2005	2005	3-ND	
		CHLORIDE	N	2018	N/A	3-PAS	
		COPPER	N	2016	2004	3-PAS	
		DISSOLVED OXYGEN SATURATION	N	2018	N/A	3-PAS	
		IRON	N	1995	N/A	3-ND	
		LEAD	N	2005	2005	3-ND	
		NICKEL	N	2005	2005	3-ND	
		Nonnative Fish, Shellfish, or Zooplankton	N			3-PNS	
		OXYGEN, DISSOLVED	N	2018	N/A	2-G	
		PHOSPHORUS (TOTAL)	N	2017	NLV	3-PAS	
		SELENIUM	N	1995	N/A	3-ND	
		TURBIDITY	N	2017	2012	3-PAS	
		ZINC	N	2004	2004	3-ND	
		pH	N	2018	2017	5-M	LOW
Fish Consumption	4A-M	ARSENIC	N	1995	N/A	3-ND	
		COPPER	N	2016	N/A	3-PNS	
		MANGANESE	N	1994	N/A	3-ND	
		Mercury	N			4A-M	
		NICKEL	N	2005	N/A	3-ND	
		SELENIUM	N	1995	N/A	3-ND	
		ZINC	N	2004	N/A	3-ND	
Potential Drinking Water Supply	2-G	ARSENIC	N	1995	N/A	3-ND	
		COPPER	N	2016	N/A	3-PAS	
		ESCHERICHIA COLI	N	2017	2017	3-PNS	
		FECAL COLIFORM	N	2004	2004	3-ND	

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Full Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm)

Assessment Unit ID NHRIV700061206-24
Assessment Unit Name MERRIMACK RIVER
Primary Town NASHUA

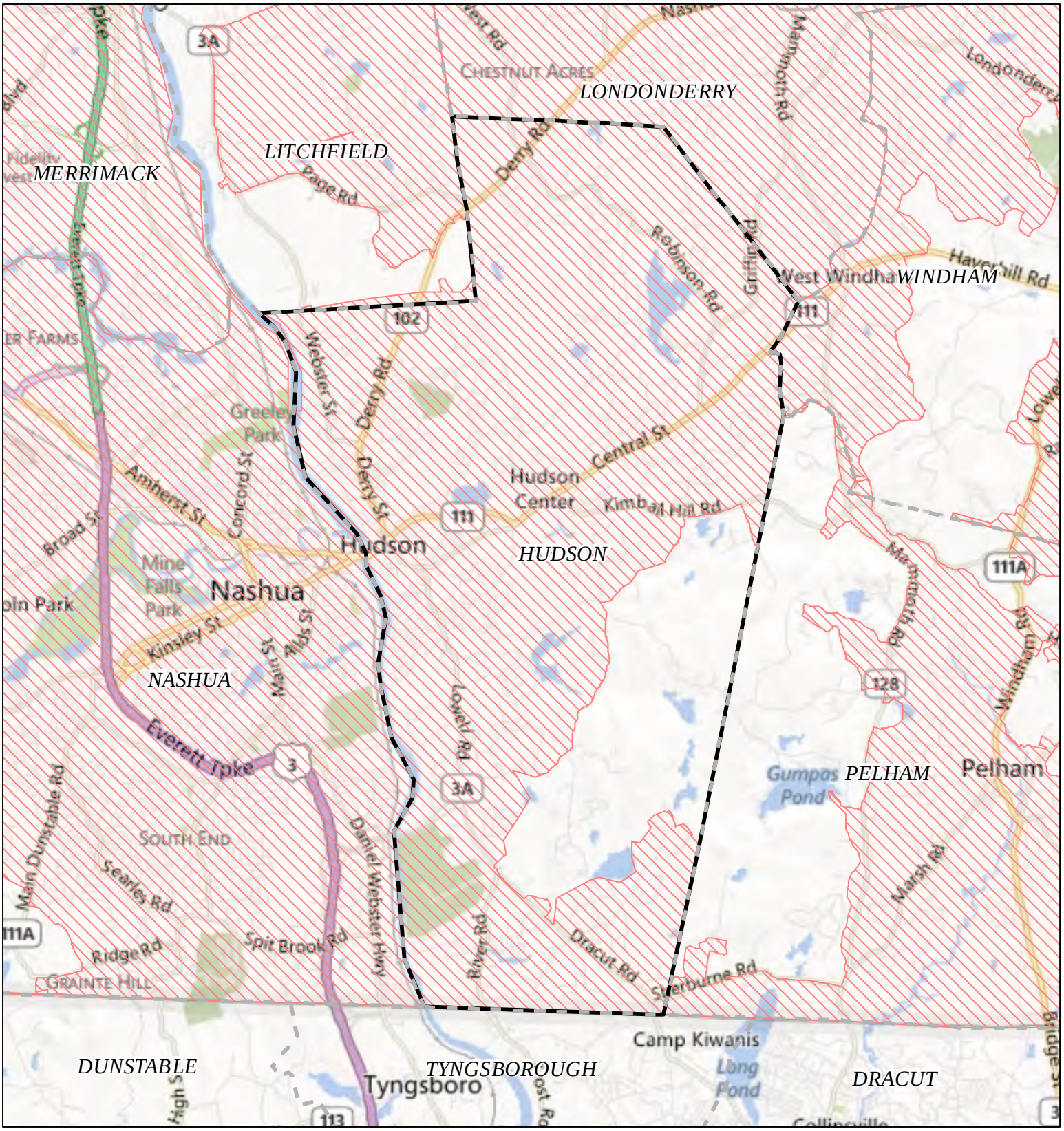
Size 5.1510 MILES
Beach N
Assessment Unit Category*~ 5-M

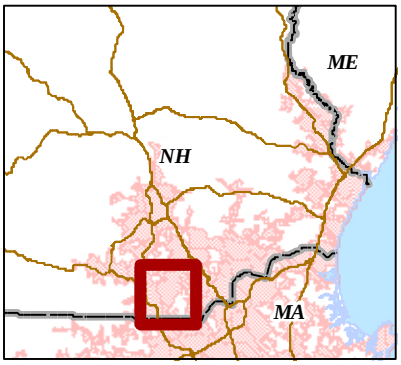
2018, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit

Designated Use Description	*Desig. Use Category	Parameter Name	Parameter Threatened (Y/N)	Last Sample	Last Exceed	Parameter Category*	TMDL Priority
Potential Drinking Water Supply	2-G	IRON	N	1995	1995	3-ND	
		MANGANESE	N	1994	1994	3-ND	
		NICKEL	N	2005	N/A	3-ND	
		SELENIUM	N	1995	N/A	3-ND	
		SULFATES	N	2016	N/A	3-PAS	
		ZINC	N	2004	N/A	3-ND	
Primary Contact Recreation	5-M	Chlorophyll-a	N	2017	2011	5-M	LOW
		Escherichia coli	N	2017	2015	4A-M	
Secondary Contact Recreation	4A-M	Escherichia coli	N	2017	2015	4A-M	
Wildlife	3-ND						

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Full Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure will rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginal Impairment, P=Severe Impairment, T=Threatened (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm)





NPDES Phase II Stormwater Program
Automatically Designated MS4 Areas

Hudson NH

Regulated Area (2000 + 2010 Urbanized Area)

0 1 2 3 4 5 Kilometers

0 1 2 3 4 5 Miles

Town Population: 24351

Regulated Population: 23373

(Populations estimated from 2010 Census)

Urbanized Areas, Town Boundaries:
US Census (2000, 2010)
Base map © 2010 Microsoft Corporation
and its data suppliers

US EPA Region 1 GIS Center Map #8824, 11/19/2012

New Hampshire

NPDES Phase II Stormwater Program
Automatically Designated MS4 Areas

Regulated Area:

UA Based on 2000 Census

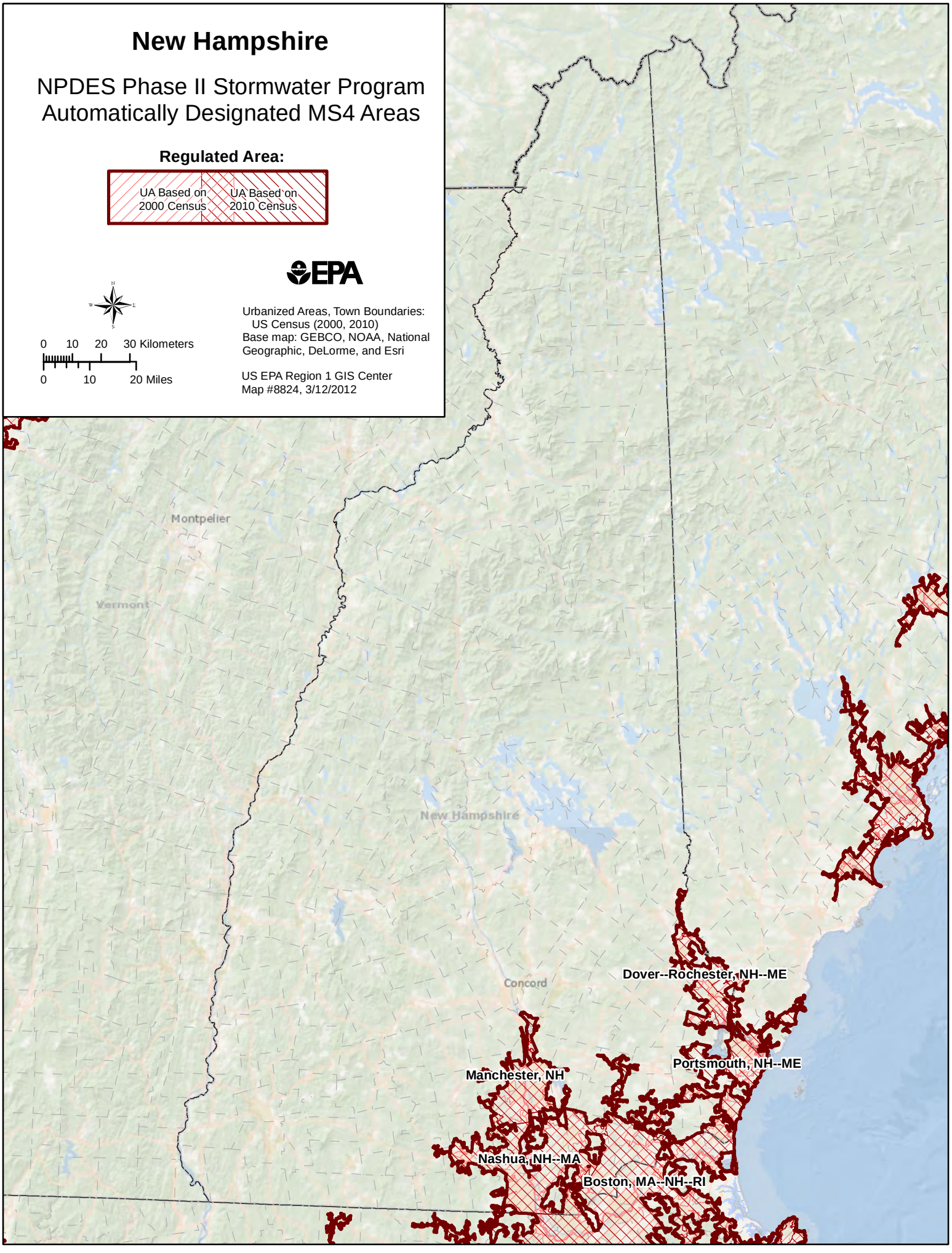
UA Based on 2010 Census

0 10 20 30 Kilometers

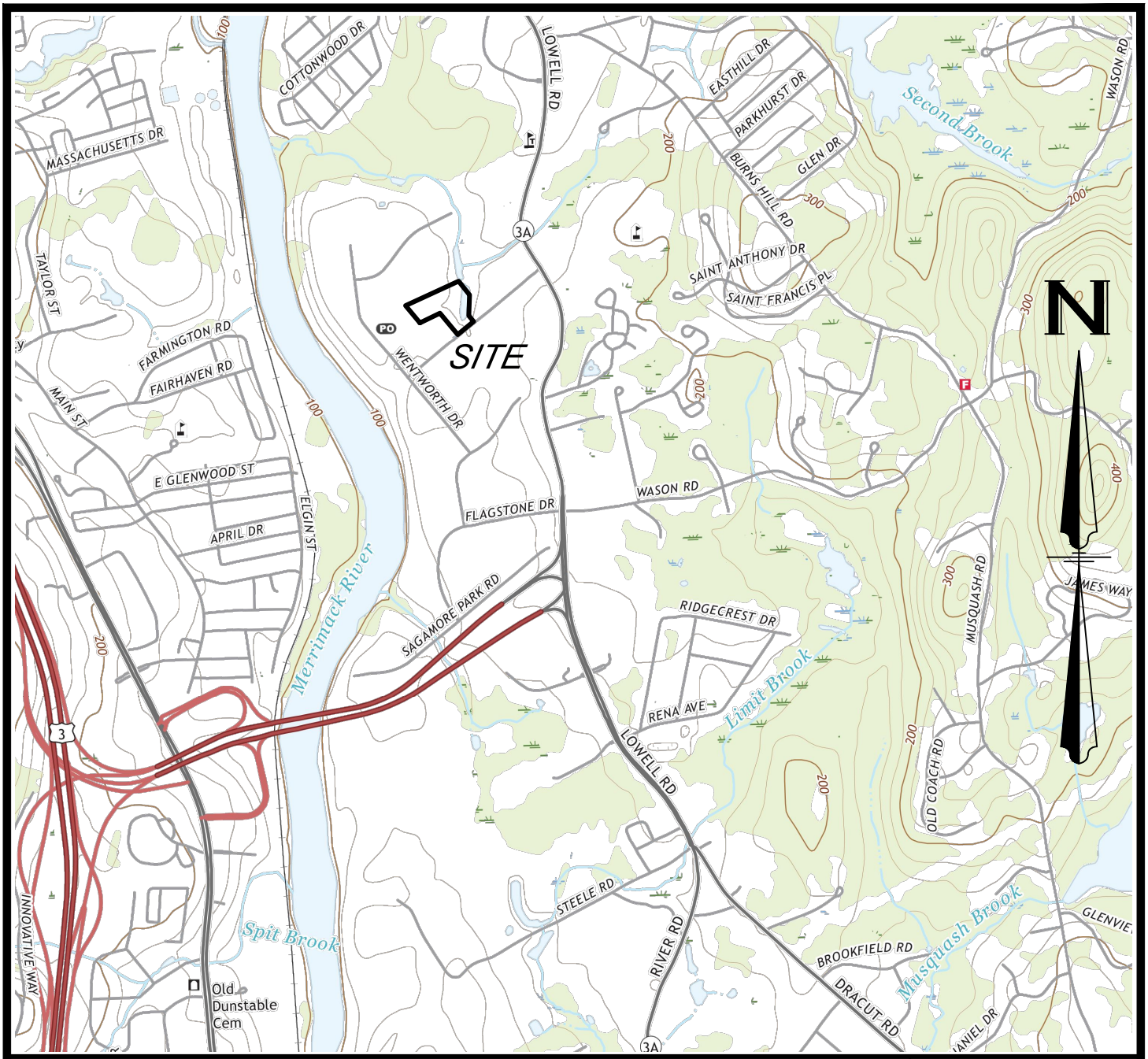
0 10 20 Miles

Urbanized Areas, Town Boundaries: US Census (2000, 2010)
Base map: GEBCO, NOAA, National Geographic, DeLorme, and Esri

US EPA Region 1 GIS Center
Map #8824, 3/12/2012



EXHIBITS



1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

NASHUA SOUTH, NH, MA
QUAD MAP (2021)

FIG. 1

VICINITY PLAN

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

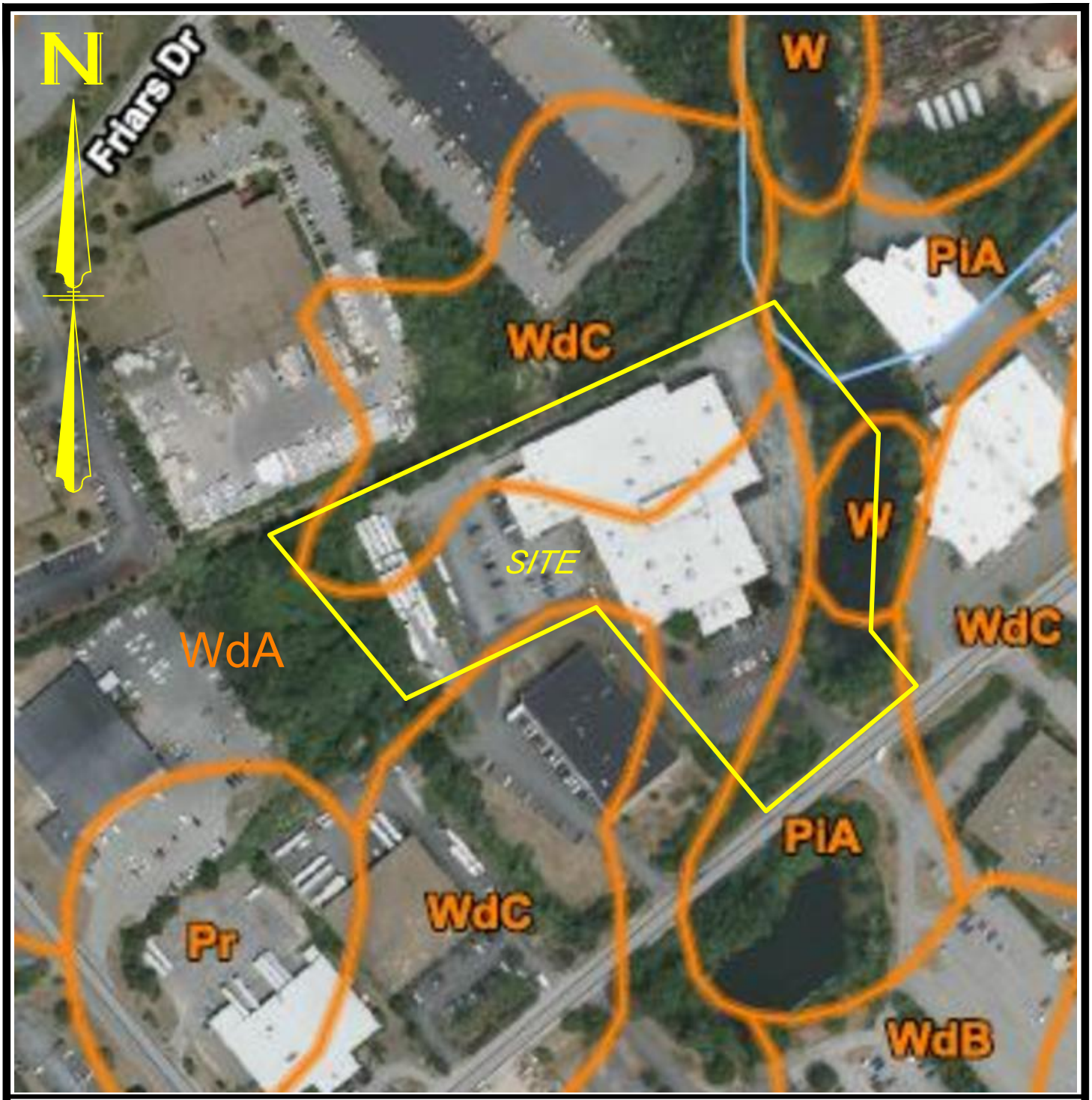
MARCH 2022

HSI Hayner/Swanson, Inc.
3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

Location: J:\5000\5843\DWG

5843
File Number



0 200 400 600 FEET

SOIL SURVEY STAFF, NATURAL RESOURCES CONSERVATION SERVICE, UNITED STATES DEPT. OF AGRICULTURE. WEB SOIL SURVEY. AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/ ACCESSED MARCH 1, 2022.

NRCS SOILS MAP

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

FIG. 2

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

MARCH 2022

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131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

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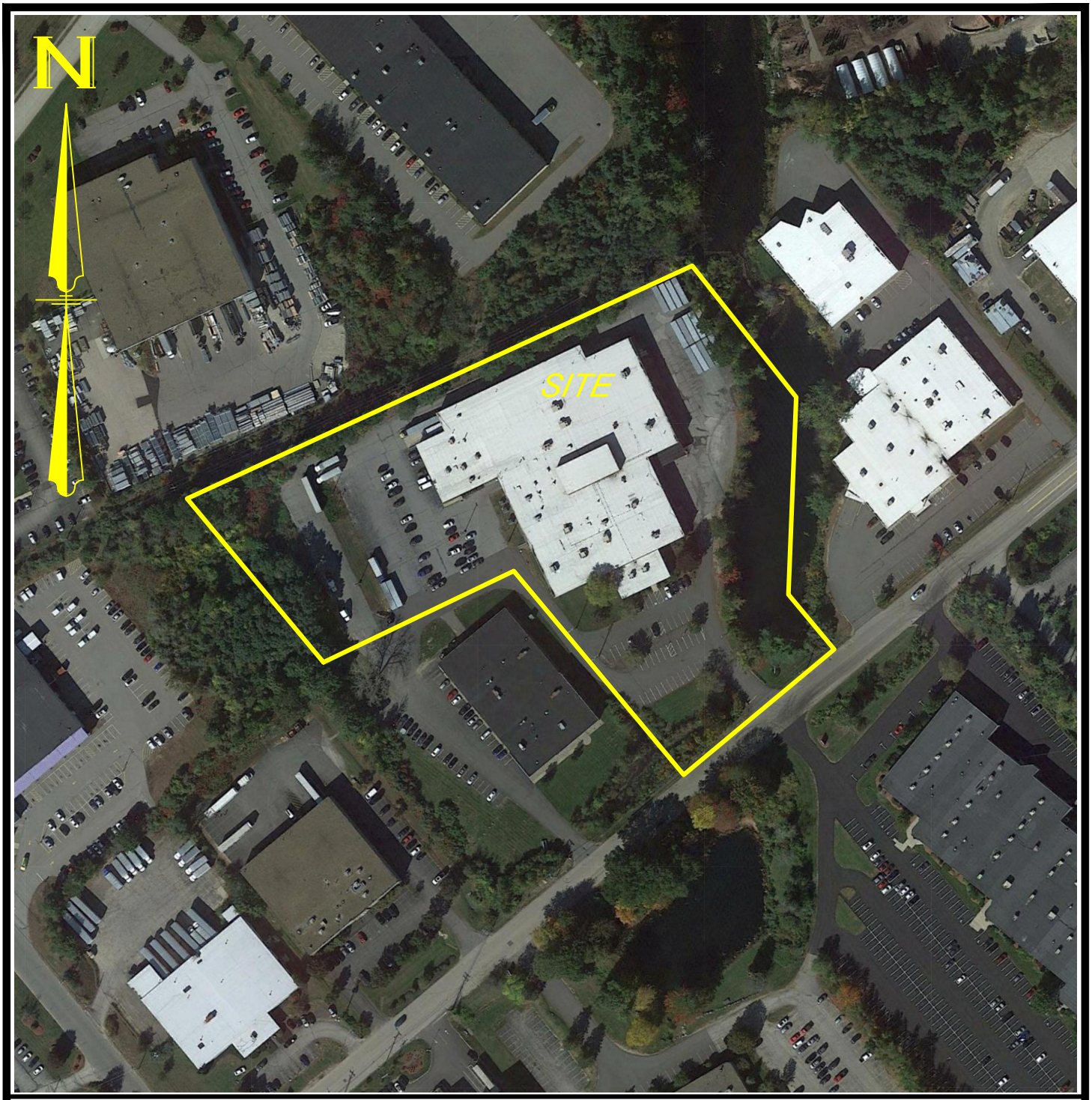

0 200 400 600 FEET

AERIAL DISPLAY PLAN

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

FIG. 3

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

MARCH 2022

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3 Congress Street Nashua, NH 03062 (603) 883-2057
131 Middlesex Turnpike Burlington, MA 01803 (781) 203-1501
www.hayner-swanson.com

Drawing: 5843 USGS

Location: J:\5000\5843\DWG

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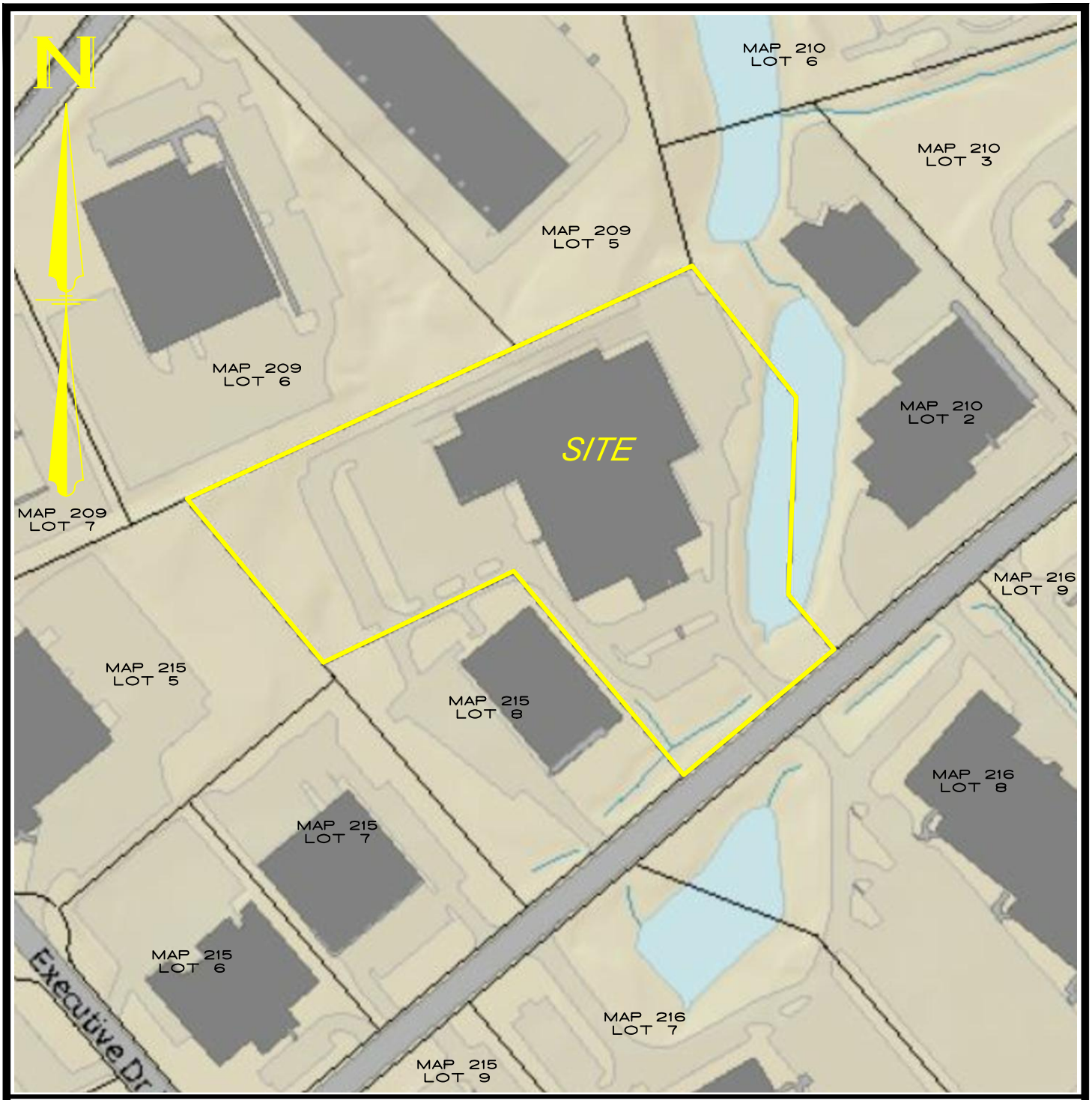

0 200 400 600 FEET

TAX MAP

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE

HUDSON, NH

FIG. 4

PREPARED FOR:

SCHROEDER CONSTRUCTION MANAGEMENT, INC.

2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

MARCH 2022

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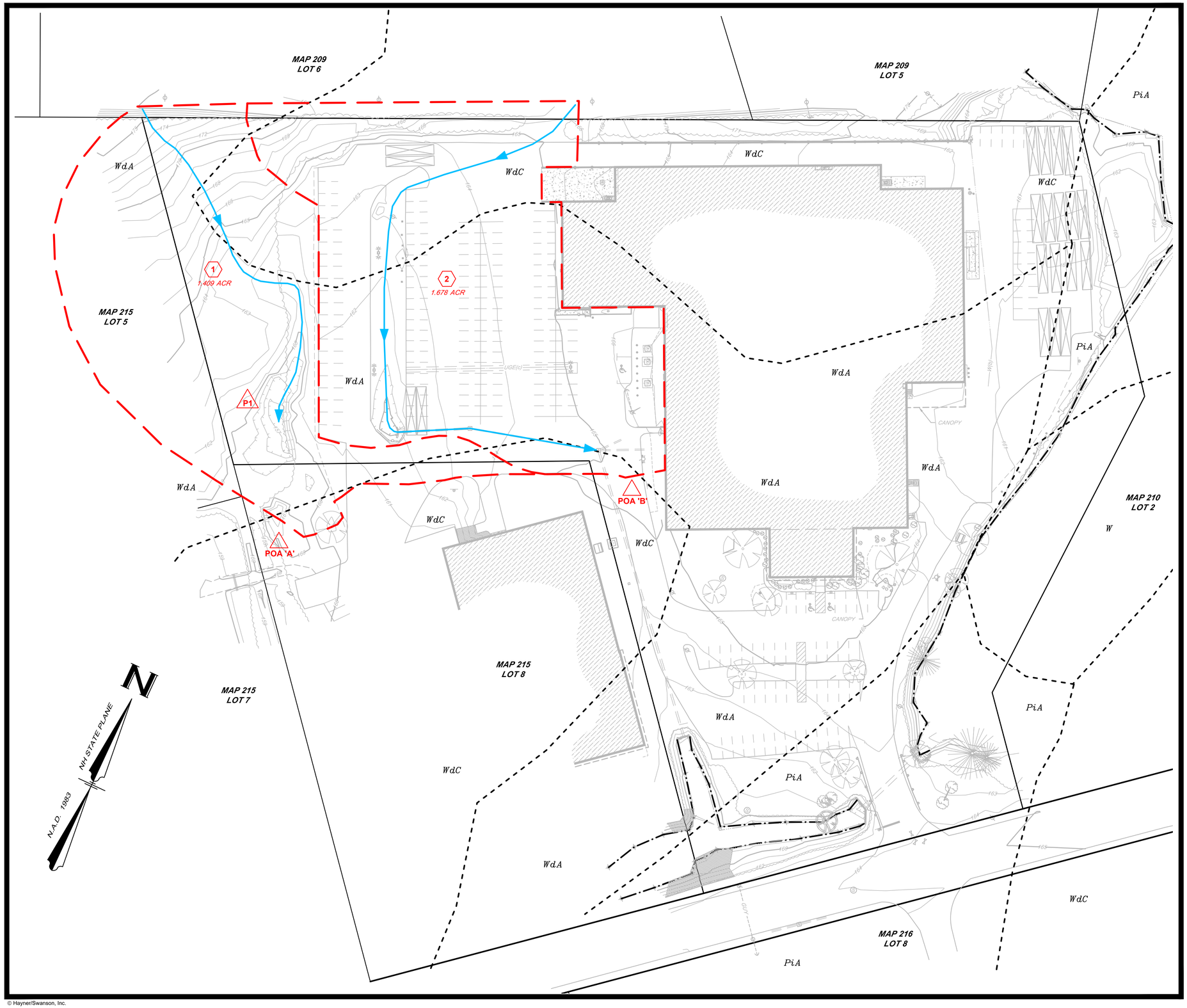
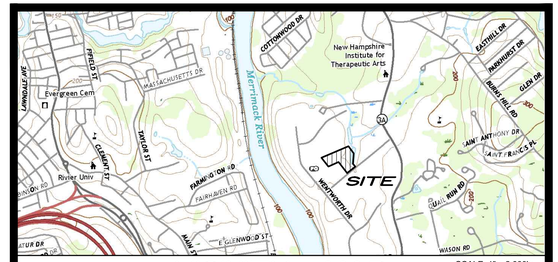
Drawing: 5843 USGS

Location: J:\5000\5843\DWG

5843

File Number





VICINITY MAP SCALE: 1" = 2,000'±

LEGEND

- *tc* — TIME OF CONCENTRATION LINE
- SUBCATCHMENT BOUNDARY
- 11 — SUBCATCHMENT IDENTIFIER
- POA — POINT OF ANALYSIS
- P1 — POND/BASIN
- WETLAND FLAGGING LIMIT
- SOIL TYPE BOUNDARY
- *WdA* — SOIL TYPE

NRCS SIOLS

PiA	PIPESTONE LOAMY SAND, 0 - 3% SLOPES
WdA	WINDSOR LOAMY SAND, 0 - 3% SLOPES
WdC	WINDSOR LOAMY SAND, 8 - 15% SLOPES
W	WATER

No.	DATE	REVISION	BY

DRAINAGE AREA MAP
PRE-CONSTRUCTION
(MAP 209, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

40 0 40 80 120 160 FEET
20 0 20 40 METERS
SCALE: 1"=40 Feet
1"=12.192 Meters

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
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Nashua, NH 03062
(603) 883-2057
131 Middlesex Turnpike
Burlington, MA 01803
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FIELD BOOK: 1264	DRAWING NAME: 5843SITE DA41	5843 SITE	1 OF 1
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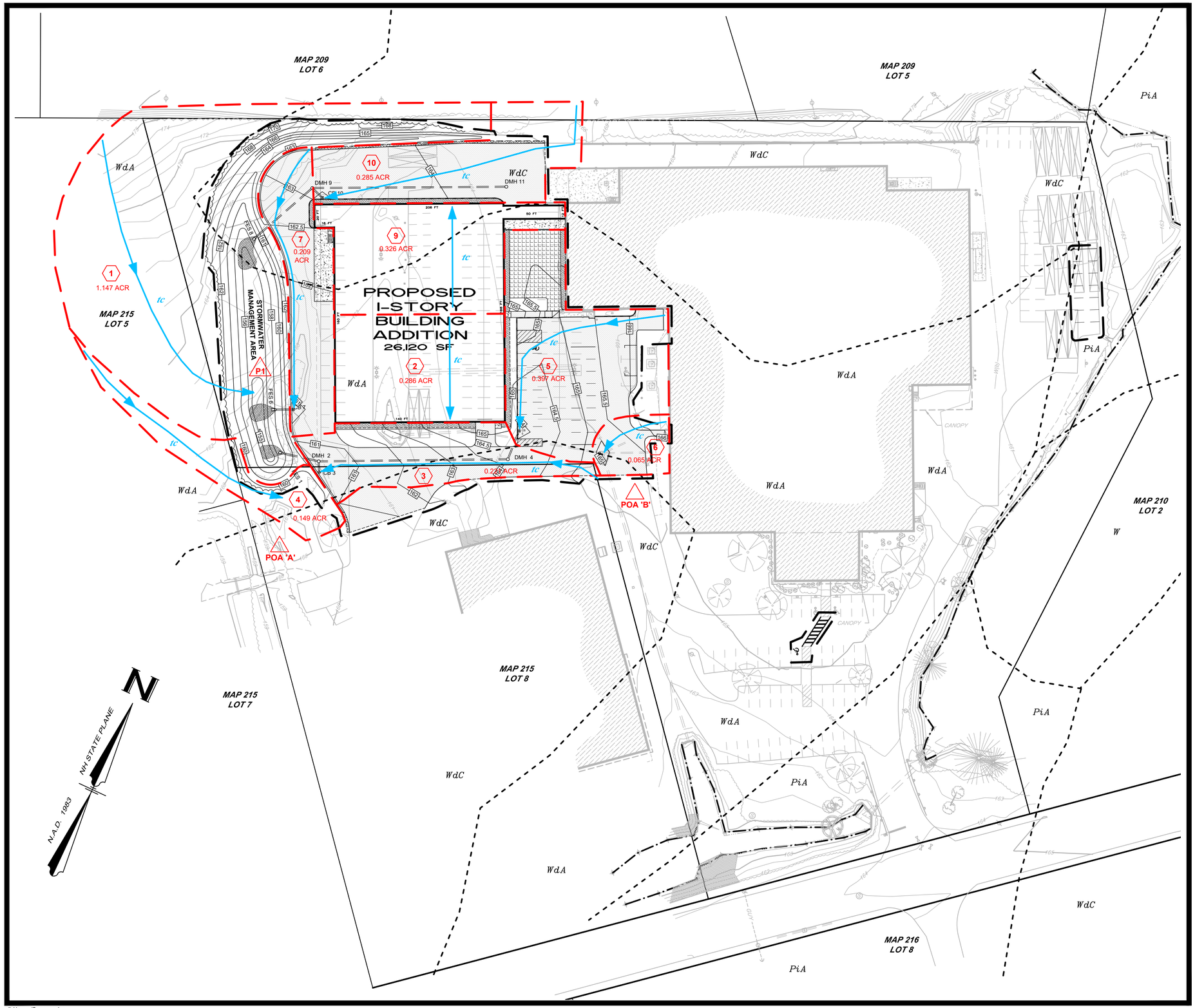

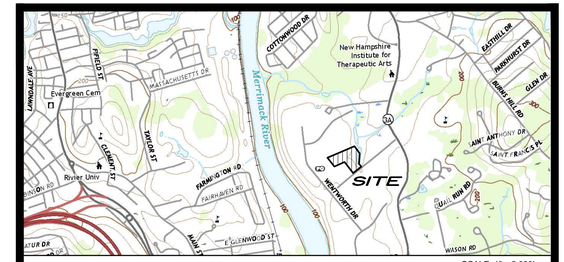

VICINITY MAP SCALE: 1" = 2,000'±

LEGEND

- tc — TIME OF CONCENTRATION LINE
- SUBCATCHMENT BOUNDARY
- 11 — SUBCATCHMENT IDENTIFIER
- POA — POINT OF ANALYSIS
- P1 — POND/BASIN
- WETLAND FLAGGING LIMIT
- SOIL TYPE BOUNDARY
- WdA — SOIL TYPE

NRCS SIOLS

PiA	PIPESTONE LOAMY SAND, 0 - 3% SLOPES
WdA	WINDSOR LOAMY SAND, 0 - 3% SLOPES
WdC	WINDSOR LOAMY SAND, 8 - 15% SLOPES
W	WATER

No.	DATE	REVISION	BY

DRAINAGE AREA MAP
POST-CONSTRUCTION
(MAP 209, LOT 8)

PROPOSED BUILDING ADDITION

17 EXECUTIVE DRIVE
HUDSON, NEW HAMPSHIRE

PREPARED FOR:
SCHROEDER CONSTRUCTION MANAGEMENT, INC.
2 TOWNSEND WEST, UNIT #3 NASHUA, NEW HAMPSHIRE 03060

RECORD OWNER:
STONEHILL REALTY, LLC
17 EXECUTIVE DRIVE HUDSON, NEW HAMPSHIRE 03051

40 0 40 80 120 160 FEET
20 0 20 40 METERS
SCALE: 1"=40 Feet
1"=12.192 Meters

29 MARCH 2022

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
3 Congress Street
Nashua, NH 03062
(603) 883-2057
131 Middlesex Turnpike
Burlington, MA 01803
(781) 203-1501
www.hayner-swanson.com

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