TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

LEGAL NOTICE
EXETER PLANNING BOARD
AGENDA

The Exeter Planning Board will meet on Thursday, November 16, 2023 at 7:00 P.M. in **the Meeting Room at the Exeter Public Library located at 4 Chestnut Street**, Exeter, New Hampshire to consider the following:

APPROVAL OF MINUTES: November 2, 2023

The application of Granite State Construction Services LLC for a lot line adjustment between the properties at 12 Little River Road and 12 A Little River Road; and a site plan review for a proposed single-family open space development on the property located at 12 Little River Road (former Calvary Baptist Church). The subject property is located in the R-2, Single Family Residential zoning district, Tax Map Parcels #62-90 and #62-90-1. PB Case #23-15.

The application of Mario A. Ponte for a multi-family site plan review for the proposed construction of an additional retail and residential units within the existing structure located at 85-87 Water Street. The subject property is located in the WC-Waterfront Commercial zoning district. Tax Map Parcel #72-29. PB Case #23-18.

The application of Sheila M. Groonell and Donald G. and Carol J. Murray for a lot line adjustment to the common boundary line between the properties at 78 Kingston Road and 74 Kingston Road. The subject properties are located in the R-1, Low Density Residential zoning district. Tax Map Parcels #97-28 and #97-29. PB Case #23-19.

The application of Singh Realty Group for an amendment to a previously approved site plan and Wetlands Conditional Use Permit (PB Case #22-9 – Glerups, Inc.) for the proposed construction of a warehouse facility, parking and associated site improvements on the property at 19 Continental Drive. The subject property is located in the CT-1, Corporate Technology Park-1 zoning district. Tax Map Parcel #46-7-2. PB Case #23-20.

OTHER BUSINESS

- Master Plan Discussion
- Land Use Regulations Review
- Field Modifications
- Bond and/or Letter of Credit Reductions and Releases

EXETER PLANNING BOARD
Langdon J. Plumer, Chairman

Posted 11/03/23: Exeter Town Office and Town of Exeter website

TOWN OF EXETER
PLANNING BOARD
NOWAK ROOM – TOWN OFFICE BUILDING
10 FRONT STREET
NOVEMBER 2, 2023
DRAFT MINUTES
7:00 PM

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Chair Langdon Plumer, Pete Cameron, Clerk, Gwen English, Jennifer Martel, John Grueter, and Nancy Belanger Select Board Representative

STAFF PRESENT: Town Planner Dave Sharples

II. CALL TO ORDER: Chair Plumer called the meeting to order at 7:00 PM and introduced the members.

III. OLD BUSINESS

APPROVAL OF MINUTES

October 12, 2023

Ms. Belanger, Mr. Grueter, Mr. Cameron and Ms. English recommended edits.

Ms. Belanger motioned to approve the October 12, 2023 meeting minutes, as amended. Mr. Grueter seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

October 26, 2023

Ms. Belanger motioned to approve the October 26, 2023 meeting minutes. Ms. English seconded the motion. A vote was taken. Mr. Grueter, Mr. Cameron and Ms. Martel abstained. The motion passed 3-0-3.

IV. <u>NEW BUSINESS</u>:

1. The application of McFarland Realty Trust for site plan review and Wetland Conditional Use Permit for the proposed construction of a vehicle storage lot and electric charging station
110 Holland Way
C-2, Highway Commercial zoning district
Tax Map Parcel #51-14 and #51-13
Planning Board Case #23-16

Chair Plumer read out loud the Public Hearing Notice and asked if the case is ready to be heard.

Mr. Sharples indicated the case is ready for review purposes.

Mr. Cameron motioned to open Planning Board Case #23-16. Ms. Belanger seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

Mr. Sharples indicated that the applicant is seeking approval of a site plan and Wetlands Conditional Use Permit for the construction of a vehicle storage lot and electric vehicle charging station. The applicant submitted plans and supporting documents dated September 12, 2023. A TRC meeting was held on October 5, 2023. The applicant appeared before the Conservation Commission at its September 12, 2023 meeting. A memo from Kristen Murphy dated October 24, 2023 outlining the Commission's recommendations is provided. The applicant submitted revised plans and supporting documents dated October 25, 2023 addressing staff comments made at the TRC meeting. The applicant is requesting one waiver from the Site Plan Review & Subdivision Regulations to permit grading within five (5') of the property line in their October 25, 2023 waiver request letter.

Chris Lane from McFarland Ford Sales, Inc. presented the application. He explained that in 2022 Ford offered a program to sell electric vehicles with a requirement that in 2024 they provide level 3 chargers at the dealership. He explained that it would take about 40 minutes to charge, for example a F150 Lightning from 10% to 80%. He noted that customers could walk to do their shopping at nearby Hannaford and that they have already seen users of their existing level two chargers make use of them while visiting Exeter Hospital. Customers can charge their vehicles by paying through the Apple Pay app. or with a chipcard and the stations would be open to anyone from the public, even outside open business hours, although not quite 24/7. He noted there would be a benefit to the town by allowing the public to charge their vehicles and a benefit to McFarland in providing an additional service to customers.

Mr. Cameron asked about security issues and signs. Mr. Lane explained that signs on Holland Way are not planned at this time. He indicated they have cameras and motion lights for security now.

Chair Plumer asked about hours of lighting and the lights currently dim at 10 or 11 PM.

Mr. Lane explained that the existing 7-8,000 SF gravel surface has existed for several years and is being changed to 6,200 SF of pavement and pulled back a bit from the wetlands buffer. He They plan to add stormwater treatment. He noted there would be six charging station spaces, two per tower. There would be a full access road and stop signs. He noted an existing use as a

storage inventory lot. There would be approximately 10,000 SF of disturbance. They are bringing three-phase power and there will be conduits from the transformer cabinet.

Mr. ____ (unidentified) stated that Conservation Commission requested a wetland seed mix on the back slope and a wetland stamp on the plan which was submitted digitally.

Ms. English asked if it were necessary to have two places of access which means more pavement. He noted this would be a tight area to dead end and he would not like to see customers having to back into an active drive lane.

Mr. Grueter asked where customers would wait when the charging bays are full. Chair Plumer asked if there would be any indication how long vehicles had left to complete charging. He indicated there could be a penalty or charge if a vehicle were left parked more than a half hour after it was fully charged. Ms. Belanger noted the existing storage lot could become a standing area. Mr. Lane noted it would be a prime place for adding another bay in the future.

Ms. Martel expressed concerns about customers crossing Holland Way, which is a busy highway, to get to Hannaford and wondered if a crosswalk would be feasible. Mr. Sharples noted they could walk to the crosswalk but providing a mid-block crossing would be tough and DPW would need to be consulted to see if it would be a safe area. Ms. English asked how Ford employees cross to Hannaford and Mr. Lane indicated they run across.

Ms. Martel raised concerns with light spillage into the wetland. Mr. Sharples noted most are dark sky compliant but there is one older style existing. Mr. Lane indicated there could be a conversation with Unitil about upgrading that fixture.

Ms. Martel asked if the two landscape islands could have shade trees added.

Chair Plumer opened the hearing to the public for comments and questions at 7:51 PM.

Mr. Grueter asked about curbing and Mr. Lane explained there is curbing at the charging stations and on one edge. Water is directed by grading inward to the treatment areas.

Ms. English asked about snow storage, which is across the street, and it was agreed that a sign could be placed stating not there would be no snow storage.

Chair Plumer closed the hearing to the public at 7:57 PM.

Ms. English asked to show the disturbance and temporary impact. Gove did the flagging and wetland function and values assessment. There would be temporary impact to remove the

existing gravel and install the treatment swale. Temporary impacts would be revegetated. The largest permanent impact would be the pavement.

Mr. Lane noted one waiver was being requested for grading within 5' but noted McFarland owns both properties and this would be to remove the gravel and to divert stormwater before it goes into the treatment swale.

Mr. Cameron motioned after reviewing the criteria for granting waivers that the request of McFarland Realty Trust, Planning Board Case #23-16 for a waiver from Section 9.3.6.4 of the Site Plan Review and Subdivision Regulations for grading within 5' of the property line be approved. Ms. Belanger seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

Mr. Lane reviewed the criteria, from Section 9.1.6.4 for the Wetland Conditional Use Permit. He noted this was an allowed use in the C2 Highway zone. He noted, regarding alternate designs, that the paved area was reduced, from the existing gravel to a small footprint, to the best extent practical. A wetland scientist prepared the functions and values assessment and found it was not detrimental to the function and values and was reviewed by the Conservation Commission. He noted a minimal impact with construction and maintenance and erosion control in the natural perimeter and submission of maintenance manual procedures. He noted no loss to groundwater or impact to public health, safety and welfare in the already disturbed area which will have additional stormwater treatment where there was none before and curbing that directs runoff to the treatment swale and pavement located further from the wetlands than the existing area. He noted Conservation Easements provide protection on Lots 17 and 13. He discussed the restoration proposal for all disturbed areas, loam and seeding and working with the Conservation Commission to use a wetland seed mix. He noted there would only be local permits.

Ms. Belanger motioned, after reviewing the criteria for granting a Wetland Conditional Use Permit that the request of McFarland Realty Trust, Planning Board Case #23-16 be approved. Mr. Grueter seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

Mr. Sharples read out loud the conditions for approval of the site plan:

1. This approval considers this expansion as if it were part of the prior Planning Board approval for the parking area that was approved at the March 25, 2021 Planning Board meeting and all conditions of that approval as set forth in the PB decision letter dated March 26, 2021 shall be extended to include this expansion.

2. The applicant shall have a discussion with Unitil regarding updating the existing overhead lighting to a dark-sky compliant fixture and inform the Town Planner of the result prior to signing the final plans, that reduces lighting of the adjacent wetland area.
3. Two deciduous trees with a minimum of 3" caliper shall be added to the final plans, one in the eastern landscaped island and one in the western landscaped island.
4. No snow storage signage shall be shown on the final plans along the eastern edge of the vehicle storage area.

Ms. Belanger motioned that the request of McFarland Realty Trust, Planning Board Case #23-16, for site plan approval, be approved with the conditions as read by the Town Planner Dave Sharples. Ms. English seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

VI. OTHER BUSINESS

- Master Plan Discussion

  Mr. Sharples reported the Master Plan Oversight Committee met this morning about finalizing the Bike and Pedestrian Master Plan, and discussed enforcement, encouragement and education components.

- Field Modifications

- Bond and/or Letter of Credit Reductions and Release

  Mr. Sharples thanked Barbara McEvoy for the time she has spent on the closed out projects that people have not reached out to request funds be returned. She has been working with UEI on this also.

- Caselaw – Wetlands

  Mr. Sharples reported that he reached out to the Mitchell Group concerning the status of the wetland's ruling.

- Next Meeting

  Ms. Belanger noted that the next Planning Board meeting would take place at the Library.

VII. TOWN PLANNER'S ITEMS

VIII. CHAIRPERSON'S ITEMS

IX. PB REPRESENTATIVE'S REPORT ON "OTHER COMMITTEE ACTIVITY"

X. ADJOURN

Mr. Cameron motioned to adjourn the meeting at 8:30 PM. Mr. Grueter seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

Respectfully submitted.

Daniel Hoijer,
Recording Secretary
Via Exeter TV

TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709

www.exeternh.gov

Date: **November 6, 2023**

To: **Planning Board**

From: **Dave Sharples, Town Planner**

Re: **Granite State Construction Services LLC** **PB Case #23-15**

The Applicant is seeking a lot line adjustment of the common boundary line between their property located at 12 Little River Road and the abutting property located at 12 A Little River Road owned by Tyler Peters and Olivia Michaud. The proposed lot line adjustment will allow for the conveyance of 26,906 square feet (.62-acre) of lot area from the abutting property at 12 A Little River Road (TM #62-90-1) to the Applicant's property at 12 Little River Road (TM #62-90) for the purpose of redevelopment.

The Applicant is also seeking site plan approval for the redevelopment of the property located at 12 Little River Road. The Applicant is proposing to demolish the existing church and parking area on the property and construct a 5-unit, detached single family condominium development on the 5.01+/- acre parcel (lot area increased as a result of the proposed lot line adjustment) along with associated site improvements. The subject properties are located in the R-2, Single Family Residential zoning district and are identified as Tax Map Parcel # #62-90 and #62-90-1.

The Applicant had originally submitted application(s), plans and supporting documents, dated August 29. 2023. A Technical Review Committee (TRC) meeting was held on September 21st, 2023, where numerous issues were discussed, which resulted in a second TRC meeting being scheduled for October 5th, 2023, however, it was postponed at the Applicant's request. TRC comments from Town departments were so noted by the Applicant at the first TRC meeting and it was agreed that a comment letter would be provided after the second TRC meeting. A copy of the Underwood Engineering, Inc. (UEI) comment letter, dated September 22, 2023 is enclosed for your review.

Staff had anticipated the Applicant would be prepared to move forward for the October 26th, 2023 Planning Board meeting, but the Applicant was unable to meet the deadline for submission of updated materials. Subsequently, the application was continued to the November 16th, 2023 Planning Board meeting to provide adequate time for a second TRC meeting to take place.

The Applicant submitted revised plans and supporting documents, dated October 20th, 2023 which are enclosed for your review. The TRC meeting was conducted on November 1st, 2023. The TRC comments from Town Departments were so noted by the Applicant at the meeting. A copy of the UEI comment letter, dated November 6th, 2023, is enclosed for your review.

The Applicant met with the Heritage Commission's Demolition Review Committee (DRC) on September 14, 2023 to discuss the proposed demolition of the existing church building. The DRC had no opposition to the proposed demolition of the structure; a copy of the public notice and their decision letter are also enclosed.

The Applicant had previously been granted a variance by the Zoning Board of Adjustment for relief from the minimum frontage requirements for the two existing lots under consideration. Copies of the notice of decision (ZBA Case #21-10) and minutes from the September 21st, 2021 ZBA meeting are enclosed for your review. Subsequently, the Planning Board reviewed and approved the minor subdivision of the church property (which included the parsonage structure) at its October 14th, 2021 meeting; the PB approval letter and meeting minutes are enclosed.

The Applicant is requesting two (2) waivers from the Board's Site Plan Review and Subdivision regulations, as outlined in the enclosed waiver request letters from Beals Associates, PLLC, dated August 28, 2023.

Waiver Motions:

Perimeter Buffer Strip waiver motion: After reviewing the criteria for granting waivers, I move that the request of Granite State Construction Services LLC for a waiver from Section 11.2.8 of the Site Plan Review and Subdivision Regulations regarding vegetated buffer strip requirements for Open Space development be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Stormwater Management for Redevelopment Standards waiver motion: After reviewing the criteria for granting waivers, I move that the request of Granite State Construction Services LLC (PB Case #23-15) for a waiver from Section 9.3.2 of the Site Plan Review and Subdivision Regulations regarding stormwater management requirements for redevelopment be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Planning Board Motions:

Lot Line Adjustment Motion: I move that the request of Granite State Construction Services LLC (PB Case #23-15) for Lot Line Adjustment approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Small-Scale Open Space Development Motion: I move that the request of Granite State Construction Services LLC (PB Case #23-15) for Site Plan approval for the proposed small scale open space development be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

BEALS ASSOCIATES, PLLC
Land Planning • Civil Engineering
Landscape Architecture • Septic Design & Evaluation
Stratham, NH

August 28, 2023

Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Letter of Explanation
Granite State Construction Services, LLC
Proposed Lot Line adjustment and open-space development site plan
Tax Map 0062 Lots #: 0090 and 0090-1

Dear Members of the Board:

The applicant is proposing to conduct a lot line adjustment with map 62, lot 90-1, and create a 5-unit single-family detached residential open-space development on an existing private common driveway under an existing access easement. The proposed drive will be 22’ in width, and the existing church and parking lot will be razed. Lots are served by overhead power and underground utilities, including municipal water & sewer services. Waivers are requested for; stormwater analysis (Exeter Site Plan and Subdivision Regulations Section 9.3) as the impervious area on the parcels is reduced in the proposed condition, and the 50’ perimeter buffer strip (Section 11.2.8) for 2-of the proposed buildings.

Thank you for your consideration.

Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith P.E.
Principal

Town of Exeter

Planning Board Application for

- **Minor Site Plan Review**
- **Minor Subdivision**
- **Lot Line Adjustment**

January 2019

TOWN OF EXETER, NH
APPLICATION FOR MINOR SITE PLAN REVIEW, MINOR SUBDIVISION and/or LOT LINE ADJUSTMENT

A completed application shall contain the following items, although please note that some items may not apply such as waivers or conditional use permit:

1. Application for Hearing (✓)
2. Abutter's List Keyed to the Tax Map (including name and business address of all professionals responsible for the submission (engineer, landscape architect, wetland scientist, etc.) (✓)
3. Checklist for plan requirements (✓)
4. Letter of Explanation (✓)
5. Written request and justification for waiver(s) from Site Plan/Sub Regulations ✓
6. Application to Connect and/or Discharge to Town of Exeter Sewer, Water, or Storm Water Drainage System(s) - if applicable (✓)
7. Application Fees (✓)
8. Seven (7) copies of 24'x36' plan set (✓)
9. Fifteen (15) 11"x 17" copies of the plan set (✓)
10. Three (3) pre-printed 1"x 2 5/8" labels for each abutter, the applicant and all consultants. (✓)

NOTES: All required submittals must be presented to the Planning Department Office for distribution to other Town departments. Any material submitted directly to other departments will not be considered.

TOWN OF EXETER
MINOR SUBDIVISION, MINOR SITE PLAN, AND/OR LOT LINE ADJUSTMENT APPLICATION

OFFICE USE ONLY

_____	**APPLICATION**
_____	**DATE RECEIVED**
_____	**APPLICATION FEE**
_____	**PLAN REVIEW FEE**
_____	**ABUTTER FEE**
_____	**LEGAL NOTICE FEE**
_____	**INSPECTION FEE**
_____	**TOTAL FEES**
_____	**AMOUNT REFUNDED**

THIS IS AN APPLICATION FOR:

(✓) **MINOR SITE PLAN**
( ) **MINOR (3lots or less) SUBDIVISION** ( ) **LOTS**

(✓) **LOT LINE ADJUSTMENT**

1. **NAME OF LEGAL OWNER OF RECORD:** Granite State Construction Services, LLC

ADDRESS: 34 Auburn Street

EXETER, NH 03833 **TELEPHONE:** (603) 770-1943

2. **NAME OF APPLICANT:** Granite State Construction Services, LLC

ADDRESS: 34 Auburn Street

Exeter, NH 03833 **TELEPHONE:** (603)770-1943

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:** _____

N/A

(Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:**

ADDRESS: 12 Little River Road, Exeter, NH 03833

TAX MAP: 62 **PARCEL #:** 90 & 90-1 **ZONING DISTRICT:** R2

AREA OF ENTIRE TRACT: 6.59-Ac.+/- **PORTION BEING DEVELOPED:** < 1-acre

5. **EXPLANATION OF PROPOSAL:** To conduct a lot line adjustment between lots 90 & 90-1 resulting in a 5.01+/- acre lot for lot 90. Lot 90 is then proposed for a 5-unit single family detached resdiential site plan. all units are served by municipal water and sewer, removal of the church and parking lot to facilitate this. The proposal includes extension of a proposed 22' wide private common drive for access.

6. **ARE MUNICIPAL SERVICES AVAILABLE?** (YES/NO) Yes, they are existing.
IF YES, WATER AND SEWER SUPERINTENDENT MUST GRANT WRITTEN APPROVAL FOR CONNECTION. IF NO, SEPTIC SYSTEM MUST COMPLY WITH W.S.P.C.C. REQUIREMENTS.

7. **LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:**

	ITEM:	NUMBER OF COPIES
A.	Full scale plan sets	7
B.	11x17 plan sets	15
C.	Signed Application form	15
D.	Abutters list with mailing labels in triplicate	1
E.	Letter of explanation	15
F.	Owners Letters of Authorization	15
	Check for Application fee	1
	Copy of Easement Deeds	1
	2-Waiver requests	15
	Application to connect (water & Sewer)	15

8. **ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED** (YES/NO) Yes IF YES, ATTACH COPY.

9. **NAME AND PROFESSION OF PERSON DESIGNING PLAN:**

NAME: Christian O. Smith, PE of Beals Associates, PLLC
ADDRESS: 70 Portsmouth Ave., Stratham, NH 03885
PROFESSION: Professional Engineer **TELEPHONE:** (603) 583-4860

10. **LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED:** Sewer and water main extensions to serve the new houses of the proposed 22' wide common drive. Revegetating former paved areas that will be removed, etc.

11. **HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARDOF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?**

(Please check with the Planning Department Office to verify) (YES/NO) Yes IF YES, LIST BELOW AND NOTE ON PLAN.

On Sept. 21, 2021 the Exeter ZBA voted to grant a variance to Article 4, Section 4.3 Schedule II to allow Map 62 Lot 90 to have 45.15' of frontage, and Map 62, Lot 90-1 to have 20.5' of frontage.

NOTICE:

I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE TOWN REGULATIONS, INCLUDING BUT NOT LIMITED TO THE "SITE PLAN REVIEW AND SUBDIVISION REGULATION" AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE "SITE PLAN REVIEW AND SUBDIVISION REGULATIONS", I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE 8-28-23 APPLICANT'S SIGNATURE _____

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO EITHER APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.

LETTER OF AUTHORIZATION

I, _Sam Mukarkar_ owner of property located at 12 Little River Road, Exeter, NH, (Tax Map 62, Lot 90), do hereby authorize Beals Associates, PLLC, of 70 Portsmouth Avenue, Stratham, NH, to act on my behalf in all matters to be discussed at the Exeter Planning Board hearings, other Land Use Board approval hearings, or State Permitting Agencies concerning the property previously mentioned.

I hereby appoint Beals Associates, PLLC to act on my behalf in the permitting process.

Witness

Owner 8/29/23
Date

LETTER OF AUTHORIZATION

We, _Tyler Peters and Olivia Michaud owners of property located at 12A Little River Road, Exeter, NH, (Tax Map 62, Lot 90-1), do hereby authorize Beals Associates, PLLC, of 70 Portsmouth Avenue, Stratham, NH, to act on our behalf in all matters to be discussed at the Exeter Planning Board hearings, other Land Use Board approval hearings, or State Permitting Agencies concerning the property previously mentioned.

I hereby appoint Beals Associates, PLLC to act on my behalf in the permitting process.

Witness

Owner — Date: 8-28-23

Owner — Date: 8/28/23

CHECK LIST FOR MINOR SITE PLAN REVIEW, MINOR SUBDIVISON AND LOT LINE ADJUSTMENT

APPLICANT	TRC	REQUIRED EXHIBITS, SEE REGULATION 6.6.2.4
☑	☐	a) The name and address of the property owner, authorized agent, the person or firm preparing the plan, and the person or firm preparing any other data to be included in the plan.
☑	☐	b) Title of the site plan, subdivision or lot line adjustment, including Planning Board Case Number.
☑	☐	c) Scale, north arrow, and date prepared.
☑	☐	d) Location of the land/site under consideration together with the names and address of all owners of record of abutting properties and their existing use.
☑	☐	e) Tax map reference for the land/site under consideration, together with those of abutting properties.
☑	☐	f) Zoning (including overlay) district references.
☑	☐	g) A vicinity sketch showing the location of the land/site in relation to the surrounding public street system and other pertinent location features within a distance of 1,000-feet.
☑	☐	h) For minor site plan review only, a description of the existing site and proposed changes thereto, including, but not limited to, buildings and accessory structures, parking and loading areas, signage, lighting, landscaping, and the amount of land to be disturbed.
☑	☐	i) If deemed necessary by the Town Planner, natural features including watercourses and water bodies, tree lines, and other significant vegetative cover, topographic features and any other environmental features which are significant to the site plan review or subdivision design process.
☑	☐	j) If deemed necessary by the Town Planner, existing contours at intervals not to exceed 2-feet with spot elevations provided when the grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
N/A	☐	k) If deemed necessary by the Town Planner for proposed lots not served by municipal water and sewer utilities, a High Intensity Soil Survey (HISS) of the entire site, or portion thereof. Such soil surveys shall be prepared and stamped by a certified soil scientist in accordance with the standards established by the Rockingham County Conservation District. Any cover letters or explanatory data provided by the certified soil scientist shall also be submitted.
☑	☐	l) State and federal jurisdictional wetlands, including delineation of required setbacks.
☑	☐	m) A note as follows: "The landowner is responsible for complying with all applicable local, State, and Federal wetlands regulations, including any permitting and setback requirements required under these regulations."
☑	☐	n) Surveyed exterior property lines including angles and bearings, distances, monument locations, and size of the entire parcel. A professional land surveyor licensed in New Hampshire must attest to said plan.

☑	☐	o) For minor site plans only, plans are not required to be prepared by a professional engineer or licensed surveyor unless deemed essential by the Town Planner or the TRC.
☑	☐	p) For minor subdivisions and lot line adjustments only, the locations, dimensions, and areas of all existing and proposed lots.
☑	☐	q) The lines of existing abutting streets and driveways locations within 100-feet of the site.
☑	☐	r) The location, elevation, and layout of existing catch basins and other surface drainage features.
☑	☐	s) The footprint location of all existing structures on the site and approximate location of structures within 100-feet of the site.
☑	☐	t) The size and location of all existing public and private utilities.
☑	☐	u) The location of all existing and proposed easements and other encumbrances.
☑	☐	v) All floodplain information, including contours of the 100-year flood elevation, based upon the Flood Insurance Rate Map for Exeter, as prepared by the Federal Emergency Management Agency, dated May 17, 1982.
N/A	☐	w) The location of all test pits and the 4,000-square-foot septic reserve areas for each newly created lot, if applicable.
N/A	☐	x) The location and dimensions of all property proposed to be set aside for green space, parks, playgrounds, or other public or private reservations. The plan shall describe the purpose of the dedications or reservations, and the accompanying conditions thereof (if any).
☑	☐	y) A notation shall be included which explains the intended purpose of the subdivision. Include the identification and location of all parcels of land proposed to be dedicated to public use and the conditions of such dedications, and a copy of such private deed restriction as are intended to cover part of all of the tract.
☑	☐	z) Newly created lots shall be consecutively numbered or lettered in alphabetical order. Street address numbers shall be assigned in accordance with Section 9.17 Streets of these regulations.
☑ ☑	☐ ☐	aa) The following notations shall also be shown: • Explanation of proposed drainage easements, if any • Explanation of proposed utility easement, if any • Explanation of proposed site easement, if any • Explanation of proposed reservations, if any • Signature block for Board approval as follows: Town of Exeter Planning Board _____ _____ Chairman Date

BA BEALS ASSOCIATES, PLLC
Land Planning · Civil Engineering
Landscape Architecture · Septic Design & Evaluation
Stratham, NH

August 28, 2023
Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Proposed Open Space Condominium Development at 12 Little River Road
Tax Map 0062 Lot #: 90

Dear Members of the Board:
This is written to formalize a request for waivers specific to the design for the referenced subdivision application.

Your petitioner seeks the following relief:

1. We respectfully request a waiver to Subdivision Regulations Section 11.2.8 which requires a 50-foot vegetated buffer strip from the perimeter of the parent tract with the first 25' to remain in its natural state. The submitted design proposes 25' of vegetated buffer with enhanced plantings (none currently exist) to screen the proposed homes from the abutting residents on Penn Lane. We feel the waiver is justified as:

13.7.1 The proposal will serve to reduce the visual impact to the abutting parcels on Penn Lane by infilling/planting the 25' vegetated buffer to enhance screening, therefore granting of the waiver will not be detrimental to public health, safety or welfare, nor could it be deemed injurious to other property.

13.7.2 The conditions upon which this request is made are largely due to the fact that in prior development of the parcel for the church, the 50' buffer was nearly entirely disturbed and cleared. The proposal will serve to improve screening to the abutting parcels where virtually no treed buffer exists. This is unique to the parcel and no generally applicable to other properties. The resultant houses will result in development that is consistent with the abutting neighborhood.

13.7.3 Due to the physical topography & surroundings and associate wetland setback/buffers, and the fact that the perimeter buffer was previously disturbed, it would appear that more impacts to features such as wetland buffers would be realized to hold the 50' buffer along the referenced parent parcel property line. This would result in a hardship if the strict letter of the regulations is carried out, e.g., it is not a matter if mere convenience.

13.7.4 The waiver would not be contrary to the spirit and intent of the regulations as it is expressly allowed in the cited section of the regulations. The perimeter buffer was adopted for the purpose of preserving green space, buffering incompatible uses, and lessening the impact of development. It seems clear the intent was not to adopt this regulation to reduce density, which would be expressly contrary to the regulations.

13.7.5 The proposed waiver does not propose to vary the provisions of the Zoning Ordinance or Master Plan. This is demonstrated by the facts cited above, particularly the fact that more vegetative screening will be provided to the existing abutting parcels than exists currently.

Thank you for your consideration.
Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O Smith

Christian O. Smith, PE
Principal

BA BEALS ASSOCIATES, PLLC
Land Planning · Civil Engineering
Landscape Architecture · Septic Design & Evaluation
Stratham, NH

August 28, 2023
Chairman
Town of Exeter Planning Board
10 Front Street
Exeter, NH 03833

RE: Proposed Open Space Condominium Development at 12 Little River Road
Tax Map 0062 Lot #: 90

Dear Members of the Board:
This is written to formalize a request for waivers specific to the design for the referenced subdivision application.

Your petitioner seeks the following relief:

1. We respectfully request a waiver to Subdivision Regulations Section 9.3.2. which requires a stormwater management evaluation and report be submitted as part of the development application. The submitted design results in a reduction of 11,1410 s.f. of impervious surface on the parcel, and the entire parcel drains away from Penn Lane due to existing topography and toward wetland systems and the Little River. We feel the waiver is justified as:

13.7.1 The proposal will reduce overall stormwater flow from the parcel under any given storm due to the reduction of impervious area (32,429 s.f. existing & 21,280 s.f. proposed), therefore granting of the waiver will not be detrimental to public health, safety or welfare, nor could it be deemed injurious to other property.

13.7.2 The conditions upon which this request is made expressly due to the fact that the proposed development will result in a reduction of stormwater leaving the property during any analyzed storm event. This is unique to the parcel/proposal and no generally applicable to other properties.

13.7.3 Due to the physical topography & surroundings, and the fact that stormwater peak flows and volumes will be reduced based on the 34% reduction in impervious surface, a drainage analysis is quite simply not warranted. This would result in a hardship if the strict letter of the regulations is carried out as no new information would result from such an analysis, e.g., it is not a matter if mere convenience.

13.7.4 The waiver would not be contrary to the spirit and intent of the regulations as it is clear the proposed development will result in a reduction of impervious surface area and add vegetation (including trees in the 25’ perimeter buffer). The Stormwater Management Standards for Post Construction regulation was adopted for the purpose of protecting local natural resources from degradation and prevent adverse impacts to adjacent and downstream land, property, facilities and infrastructure. It seems clear that the reduction in impervious and stormwater flows/volume upholds this intent.

13.7.5 The proposed waiver does not propose to vary the provisions of the Zoning Ordinance or Master Plan. This is demonstrated by the facts cited above, particularly the fact that more vegetative planting and reduced impervious area will be provided as part of this proposed development.

Thank you for your consideration.
Very truly yours,
BEALS ASSOCIATES, PLLC

Christian O Smith

Christian O. Smith, PE
Principal

ABUTTERS LIST
FOR
NH-1364 12 LITTLE RIVER RD–MUKARKAR EXETER, NH
DATE August 29, 2023

SUBJECT PARCEL

TAX MAP/LOT	OWNER OF RECORD
62-90	CALVARY BAPTIST 12 LITTLE RIVER RD EXETER, NH 03833
62-90-1	TYLER J. PETERS OLIVIA MICHAUD 12A LITTLE RIVER RD. EXETER, NH 03833

ABUTTERS

TAX MAP/LOT	OWNER OF RECORD
62-69	JANE CADWELL 20 MAIN ST EXETER, NH 03833
62-68	ROBERT & CATHY FOLSTER 5 MILLSTREAM DR. EXETER, NH 03833
62-67	ROBERT MIKE-MAYER 7 MILLSTREAM DR. EXETER, NH 03833
62-84	KENNETH CRUZ 39 BRENTWOOD RD. EXETER, NH 03833
62-85	MARILYN & VINCENT FREDETTE 37 BRENTWOOD RD. EXETER, NH 03833
62-89	GEOFFREY LAKE 8 LITTLE RIVER RD. EXETER, NH 03833
62-99	JAMES & KATHLEEN TAYLOR 8 PENN LN. EXETER, NH 03833

ABUTTERS LIST
FOR
NH-1364 12 LITTLE RIVER RD–MUKARKAR EXETER, NH
DATE August 29, 2023

62-91	KRIS & KAREN WEEKS 7 PENN LN. EXETER, NH 03833
62-92	TIFFANY & BLAGOJCHO MITEVSKI 5 PENN LN. EXETER, NH 03833
62-93	JULIE & JAMES OSBURN 3 PENN LN. EXETER, NH 03833
62-94	JILLIAN BURNS 1 PENN LN. EXETER, NH 03833
62-95	BARBARA SEYMOUR 5 WALLACE RD. EXETER, NH 03833
62-107	HERBERT SMITH & MARIAN GOODING-SMITH 17 BRENTWOOD RD. EXETER, NH 03833
62-111	PATRICIA WASHBURNE REV. TRUST PATRICIA WASHBURNE TRUSTEE 39 BOWVIEW DR. STRAFFORD, NH 03884
55-3 UNIT 1	SEACOAST EARLY LEARNING CENTER REAL ESTATE DEV. LLC. 5 MCKAY DR. EXETER, NH 03833
55-3 UNIT 2	INTEGRITY VENTURES INC. 21 RED FOX LN BARRINGTON, NH 03825
55-3 UNIT 3	COLCORD POND ASSOCIATES LLC 80 NASHUA RD. SUITE 24 LONDONDERRY, NH 03053

ABUTTERS LIST
FOR
NH-1364 12 LITTLE RIVER RD–MUKARKAR EXETER, NH
DATE August 29, 2023

PROFESSIONALS

ENGINEERING FIRM	BEALS ASSOCIATES, PLLC. 70 PORTSMOUTH AVE. 3RD FLOOR STRATHAM, NH 03885
SOIL SCIENTIST	GOVE ENVIRONMENTAL 8 CONTINENTAL DR. BLDG. 2 UNIT H EXETER, NH 03833
SURVEYOR	MCENEANEY SURVEY ASSOCIATES 24 CHESTNUT ST, DOVER, NH 03820
APPLICANT	GRANITE STATE CONSTRUCTION SERVICES LLC. ATTN: SAM MUKARAKAR 34 AUBURN ST. EXETER, NH 03833

TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

DATE: February 13, 2018

TO: Applicants

FROM: Planning & Building Department

RE: Preliminary Application to Connect and/or Discharge to Town of Exeter Sewer, Water and/or Storm Drainage System(s)

Attached is the "Preliminary Application to Connect and/or Discharge to Town of Exeter Sewer, Water or Storm Water Drainage System(s)". This Application form must be completed by the applicant or the applicant's authorized agent for projects that are subject to Planning Board approval or for a change of use. It is a prerequisite for submission of the "Applications for Sewer Service, Water Service and Storm Drainage Work." All of the application forms referenced above must be completed and approved prior to the issuance of a building permit. This application is intended to address a number of different scenarios and therefore, all sections may not be applicable to your particular situation. Please read the application carefully and fill out as completely as possible. If there are any questions, please feel free to contact the Planning and Building Department Offices. All forms must be submitted to the Planning and Building Department Office for review and distribution.

Please Note: Any approval(s) granted in conjunction with this application will be valid for a period of one (1) year from the date of such approvals(s).

TOWN OF EXETER - DEPARTMENT OF PUBLIC WORKS

PRELIMINARY APPLICATION TO CONNECT AND/OR DISCHARGE TO TOWN OF EXETER SEWER, WATER, AND/OR STORMWATER DRAINAGE SYSTEM(S)

Project Name	Colcord Meadow (5-single family detached residential units)
Project Location	12 Little River Road
Applicant/Owner Name	Granite State Construction, LLC
Mailing Address	34 Auburn Street Exeter, NH
Phone Number	6030770-1943 email sam@granitestateconstruction.com
Project Engineer	Beals Associates, PLLC – Christain Smith, PE
Mailing Address	70 Portsmotuh Ave, Stratham, NH 03885
Phone Number	603=583-4860 email csmith@bealsassociates.com

Type of Discharge/Connection ☒ Sewer ☒ Water ☐ Stormwater

Application completed by

Name Christian Smith, PE

Signature _____ Date _____

Reviewed and verified by Planning & Building Department _____

DESIGN FLOWS

The water and sewer design flow shall be based upon the New Hampshire Code of Administrative Rules, Env-Wq 1000 Subdivisions; Individual Sewage Disposal Systems, Table 1008-1 Unit Design Flow Figures (current version) or other methodology which may be deemed acceptable by the Town of Exeter. The minimum fee for a single-family residential unit is based on the design flow for two (2) bedrooms. Existing water and sewer flows may be based on meter readings for the current use.

If the proposed discharge is non-residential or is residential but exceeds 5,000 gallons per day (gpd), Section C must be completed. Certain water and sewer discharges must be approved by the State of New Hampshire Department of Environmental Services by way of permit and plan submittals. It is the responsibility of the applicant to ensure submittals are made to the state through the town is necessary. Final town approval cannot be made without the state's approval if required.

Stormwater design flows are based on the drainage analysis prepared by the applicant using the most current published precipitation data available.

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION A: PROPOSED NEW CONNECTIONS OR MODIFICATION OF EXISTING CONNECTIONS

SANITARY SEWER

Description of work: Removal of existing service to the church and eplace with 464' of 6"SDR 35

Title of plan: Colcord Meadow Resiential Site Plan

Total design flow (gpd): 2,250 gpd

**For any non-residential discharge or residential discharge exceeding 5,000 GPS, or for a change of use, complete Section C of this form.*

Approved _____ Date _____

Water & Sewer Managing Engineer

WATER

Description of work: Remove existing water servie to the church & replace with 432' of 6" DI water main.

Title of plan: Colcord Meadow Resiential Site Plan

Total design flow (gpd): 2,250 gpd

Approved _____ Date _____

Water & Sewer Managing Engineer

STORMWATER

Description of work: N/A waiver requested (reduction of 11,141 s.f. of impervious area proposed).

Title of plan: .

Total design flow (10-year storm, CFS): .

Approved _____ Date _____

Highway Superintendent

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION B: IMPACT FEES

Provide the following information to determine if a water and/or sewer impact fee will be required for a new development or a change or increase in use.

Current/prior Use(s)

Describe current use(s) _____

Use	Unit Flow (gpd)	Total Existing Flow
Church	3 gpd/seat x 310	930
Classroom & nursery	3gpd/seat x 41	123
	Total existing flow	1,053

Proposed Use(s)

Describe proposed use(s) _____

Use	Unit Design Flow (gpd)	Total Design Flow
Residential 3-BR homes	450 gpd x 5 homes	2,250 gpd
	Total proposed flow	2,250 gpd

Impact Fees (80% of the design flow)

Change in flow rate (gpd) 1,197 x 0.8 = Impact Fee flow rate (gpd) 957

If there is a decrease in flow rates, no water or sewer impact fee will be charged. If there is an increase in flow rates, a water and/or sewer impact fee will be charged using the following formula:

Sewer Impact Fee: Flow increase (gpd) 957 x $4.85 = $4,641

Water Impact Fee: Flow increase (gpd) 972 X $2.00 = $1,914

Approved by Town of Exeter

Town Planner _____ Date _____

Water & Sewer Managing Engineer _____ Date _____

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

SECTION C: SANITARY SEWER CLASSIFICATION AND BASELINE MONITORING

(NON-RESIDENTIAL DISCHARGES OR RESIDENTIAL DISCHARGE OVER 5,000 GPD)

In accordance with Title 40 of the Code of Federal Regulations, Part 403 Section 403.14, information provided herein shall be available to the public without restriction except as specified in 40 CFR Part 2. A discharge permit will be issued on the basis of the information provided in this section.

In accordance with all terms and conditions of the Town of Exeter, New Hampshire Ordinances Chapter 15, all persons discharging wastewater into the town's facilities shall comply with all applicable federal, state, and local Industrial Pre-treatment rules.

PART I - USER INFORMATION

Property Owner Name _____

Owner's Representative _____

Address _____

Phone _____ email _____

Tenant Name _____

Address _____

Phone _____ email _____

PART II - PRODUCT OR SERVICE INFORMATION

Products Manufactured _____

Services Provided _____

SIC Code(s) _____ Building Area (SF) _____

Number of Employees _____ Days/week of operation _____ Shifts per day _____

PART III - CATEGORY OF SEWER DISCHARGE

Type of Discharge ☐ Septic ☐ Proposed ☐ Existing ☐ Change of Use

Water Use (gpd) _____ (from Section A)

Check all that apply:

☐ Domestic waste only (toilets & sinks)

☐ Domestic waste plus some process wastewater

☐ Federal pre-treatment standards (40 CFR) applies

PART IV - CLASSIFICATION DETERMINATION *(to be completed by Town staff)*

CLASS 1 - SIGNIFICANT OR CATEGORICAL INDUSTRIAL USER _____

CLASS 2 - MINOR INDUSTRIAL OR COMMERCIAL USER _____

CLASS 3 - INSIGNIFICANT INDUSTRIAL OR COMMERCIAL USER _____

CLASS 4 - NON-SYSTEM USER, OR DISCONTINUED SERVICE _____

See attached sheet for the basis of the determination.

Determined by _____ Title _____ Date _____

Approved _____ Date _____

Water & Sewer Managing Engineer

PART V - CERTIFICATION

I have personally examined and am familiar with the information submitted in this section for the above name use. The information provided is true, accurate and complete. I am aware that there are significant penalties from federal, state and/or town regulatory agencies for submitting false information, including the possibility of fine and/or imprisonment.

I acknowledge and agree to pay all charges incurred for monitoring, testing and subsequent analysis performed on the Town of Exeter sewer, water and/or stormwater drainage system(s), in the course of determining the town's ability to serve the project. Further, I acknowledge and agree that failure to accurately declare said flow requirements shall be sufficient cause to deny access to the Town of Exeter sewer, water and/or stormwater drainage system(s).

Signature of Applicant _____ Date 8-29-23

Name of Property Owner Granite State Construction, LLC

APPROVALS ARE VALID FOR PERIOD OF ONE (1) YEAR FROM DATE OF APPROVAL

E # 23025414 08/25/2023 12:00:17 PM
Book 6502 Page 2920 Page 1 of 2
Register of Deeds, Rockingham County

LCHIP	ROA657821	25.00
TRANSFER TAX	RO124855	6,900.00
RECORDING		14.00
SURCHARGE		2.00

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS that **Calvary Baptist Church of Exeter, Incorporated**, a New Hampshire non-profit corporation, of 12 Little River Road, Exeter, New Hampshire 03833, for consideration paid in the amount of $460,000.00, grants to **Granite State Construction Services LLC,** a New Hampshire limited liability company, with a mailing address of 34 Auburn Street, Exeter, New Hampshire 03833, with warranty covenants, the following:

A certain tract or parcel of land situated in Exeter, Rockingham County, New Hampshire and shown as Lot 90-0 on a plan entitled "Subdivision Plan Prepared for Granite State Construction Services LLC of Property in the Name of Calvary Baptist Church of Exeter, Inc. Shown as Tax Map 62/Lot 90 Located at 12 Little River Road, County of Rockingham, Exeter, NH, Scale: 1" = 40' dated August 5, 2021," Last Revised 12/07/21, prepared by David W. Vincent, LLC, Land Surveying Services and recorded in the Rockingham County Registry of Deeds as Plan #D-43143, to which plan reference is made for a more detailed description of the parcel. Said parcel contains 4.39 acres according to said plan.

Said parcel is conveyed subject to and with the benefit of a Declaration of Shared Private Right of Way Agreement dated January 13, 2022 and recorded in the Rockingham County Registry of Deeds at Book 6378, Page 2240.

Said parcel is also conveyed subject to and with the benefit of the use easement as set forth in the Deed of Easement recorded at Book 2792, Page 597.

Together with and subject to the right in common with others entitled thereto to use the Shared Private Right of Way as shown on said Plan.

Subject to all rights, restrictions and easements as shown on said plan and of record.

This is not homestead property of Grantor.

Meaning and intending to describe a portion of the same premises conveyed to Grantor by deed dated April 26, 1989 and recorded at the Rockingham County Registry of Deeds in Book 2792, Page 0592.

DSM

Executed this 25th day of August, 2023.

Calvary Baptist Church of Exeter, Incorporated

Witness-Robert D Harb

By: D. Scott Meadows, Pastor & Trustee
By D. Scott Meadows, Pastor and Trustee

Witness-Robert D Harb

By: , DEACON & TRUSTEE
By Robert A. Burwell, Deacon and Trustee

COMMONWEALTH OF MASSACHUSETTS
ESSEX, SS.

On this 25TH day of August, 2023, before me, the undersigned notary public, personally appeared **D. Scott Meadows and Robert A. Burwell in their capacities as Pastor, Deacan and Trustees of the Calvary Baptist Church of Exeter, Incorporated**, proved to me through satisfactory evidence of identification, which was their driver's licenses, to be the persons whose names are signed on the preceding or attached document, and acknowledged to me that they signed it voluntarily for its stated purpose as Pastor, Deacon and Trustees of the Calvary Baptist Church of Exeter, Incorporated as the voluntary act of said Calvary Baptist Church of Exeter, Incorporated.

Notary Public- Robert D Harb
My Commission Expires:10/21/27

Robert D. Harb
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
October 21, 2027

#2023-364-B

1378 221

Orl. J.W. Durgin

U.S. Rev. Stamps $1.65

RIGHT OF WAY AGREEMENT

Know All Men By These Presents: That the undersigned Frederick R. Jefferis and Jessie Jefferis, brother and sister, both unmarried

of Exeter, Rockingham County, State of New Hampshire (hereinafter called GRANTOR, whether one or more), for and in consideration of One Dollars in hand paid, receipt of which is hereby acknowledged, does hereby give, grant, bargain, sell and confirm unto ALLIED-NEW HAMPSHIRE GAS COMPANY, a New Hampshire Corporation duly organized by law with a usual place of business in Portsmouth, in the County of Rockingham and The State of New Hampshire (hereinafter called GRANTEE), and its successors and assigns, the right, privilege and authority to lay, relay, construct, maintain, operate, alter, repair, remove, relocate, change the size of and replace pipe lines (with fittings, appliances, and appurtenances, including cathodic protection equipment) for the transportation of oil, gas, petroleum products or any other liquids, gases or substances which can be transported through pipe lines by a route or routes which the Grantee shall have the right to select, change and alter under, upon, over and through lands which the Grantor owns or in which the Grantor has an interest, situated in the Town/City of Exeter County of Rockingham and The State of New Hampshire, bounded and described as follows: A certain tract of field and wood land situate in said Exeter, on the Northerly side of the road leading from Ryme's house to Brentwood, containing thirteen acres, more or less, bounded Southerly by said road; Westerly by land now or formerly of Benjamin R. Perkins; Northerly by land formerly of Abner Merrill and Easterly by land formerly of Captain Nathan Jewett; being the same premises, however otherwise bounded or described, except a certain tract conveyed out to Albert P. Cote by deed dated July 13, 1955 and recorded in Rockingham Records, Book 1362, Page 371

Being the same lands described in instrument(s) dated Sept. 30, 1949, recorded in the Registry of Deeds for said County of Rockingham in Book 1142, Page 346, and conveyed to Frederick R. Jefferis by deed dated March 10, 1919 by Daniel Kelleher, and joint tenancy deed creating joint tenancy between brother and sister dated Sept. 30, 1949, recorded 1142/346.

It is agreed that the Grantee, its successors and assigns shall have an easement for all the purposes herein described under, upon, over and through a strip of land 35 feet in width and said strip of land shall extend 25 feet Easterly and 25 feet Westerly and along the entire length of a survey line as shown on a Plan of Pipe Line of Allied New Hampshire Gas Company, Plaistow, New Hampshire, to Exeter, New Hampshire to Portsmouth, New Hampshire, prepared by John W. Durgin, Civil Engineers, dated August 1955, Sheet No. 9, and recorded in Rockingham Records, Plat 75, Page 11.

The phrase "survey line" as hereinabove referred to and as shown on the aforesaid Plan does not necessarily mean the location of the pipe line in the easement and it is understood that the pipe line or pipe lines may be located or relocated anywhere within the aforesaid 35 foot easement.

The Grantee shall have all other rights and benefits necessary or convenient for the full enjoyment or use of the rights herein granted, including the free right of ingress and egress to and from said pipe lines.

TO HAVE AND TO HOLD the said easement, rights, privileges and authority, unto the Grantee, its successors and assigns, until the first pipe line is constructed and so long thereafter as a pipe line is maintained thereon.

The Grantor reserves, subject to the rights, privileges and authority herein granted and confirmed, the right to use the said premises for planting and cultivation of crops, as a means of access, ingress and egress to and from the land adjoining, to build cross fences, to maintain and use roads, driveways, sewers, drains, waterlines, gas lines, telephone and telegraph lines and electric light and power lines across said easement, subject, however, to the conditions that no building or other structure shall be erected on said easement by the Grantor, and further provided that the rights reserved to the Grantor shall not be used or exercised in any manner which will interfere with the rights, privileges and authority herein granted and confirmed to the Grantee and further provided, however, that the Grantee shall have the right from time to time to cut and remove and keep removed by such means as the Grantee may select all trees, undergrowth and all other obstructions that may injure, endanger or interfere with the laying, relaying, constructing, maintaining, operating, altering, repairing, removing, relocating, changing the size of and replacing said pipe lines or fittings and appliances appurtenant to said lines.

The Grantee agrees to pay for any damage to crops, timber and existing improvements which may be caused the Grantor by the Grantee laying, relaying, constructing, maintaining, operating, altering, repairing, removing, relocating, changing the size of and replacing said pipe lines. Said damage, if not mutually agreed upon, to be ascertained and determined by three disinterested persons; one to be appointed by the undersigned Grantor, his successors, heirs or assigns in title to said lands; one by the Grantee, its successors or assigns, or in the case of more than one ownership of said right of way and easement, such appointment shall be made by the Grantee, its successors or assigns, against whom damages are claimed; and the third by the two persons aforesaid, and the award of such three persons shall be final and conclusive.

It is agreed that this agreement as written covers all the agreements between the parties and that no representations or statements, verbal or written, have been made, modifying, adding to, or changing the terms of this agreement.

The word "Grantor" as herein used shall refer to and mean the Grantor, his, her or their heirs, executors, administrators or assigns, and the word "Grantee" shall refer to and mean the Grantee its successors or assigns.

~~The~~ aforesaid ~~to~~

And we and each of us do hereby release all rights of homestead secured to us or either of us by Chapter 260 of the Revised Laws of New Hampshire or by any other Statute of said State.

Witness our hands and seals to this conveyance this Eleventh day of October, 19 55.

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

Edmund P. Richards
to both

Frederick Roland Jefferis

Jessie Jefferis

1378 222

ACKNOWLEDGMENT

THE STATE OF NEW HAMPSHIRE } ss.:
County of Rockingham }

On this the 11th day of October, 1955, before me _____, the undersigned officer, personally appeared Frederick R. Jefferis and Jessie Jefferis known to me or satisfactorily proven to be the persons (s) whose name(s) _____ (are) subscribed to the within instrument and acknowledged that He (they) voluntarily executed the same for the purposes therein contained.

IN WITNESS WHEREOF I hereunto set my hand and seal.

Edmund P. Richards
Justice of the Peace
~~Notary Public~~

CORPORATE ACKNOWLEDGMENT

THE STATE OF NEW HAMPSHIRE } ss.:
County of _____ }

On this the _____ day of _____ 19___, before me _____, the undersigned officer, personally appeared _____ who acknowledged himself to be the, _____ of _____, a corporation; that he as such _____, being authorized so to do, voluntarily executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as _____

IN WITNESS WHEREOF I hereunto set my hand and seal.

_____
Justice of the Peace
Notary Public

DAMAGE RELEASE

I, We, FREDERICK R + JESSIE JEFFERIS for the aforesaid consideration as set forth in the first paragraph of this Right of Way Agreement do hereby acknowledge and agree that said payment is in full settlement with said Grantee for any damage to crops, timber and existing improvements which may be caused me us by said Grantee in laying and constructing said pipe line within the Easement granted.

17 day of Nov 1955

Signed, sealed and delivered in the presence of

John W Murphy Jr.

Frederick R Jefferis

Jessie Jefferis

Received and recorded Dec. 1, 9:30 A.M., 1955.

BK2792 P0597

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

MAY 12 2 19 PM '89

DEED OF EASEMENT

KNOW ALL MEN BY THESE PRESENTS, That Calvary Baptist Church of Exeter, Inc., a voluntary organization, duly organized under the laws of the State of New Hampshire, with its principal place of business at 12 Little River Road, Exeter, County of Rockingham and State of New Hampshire,

for consideration paid, grants to Peter B. Lewis and Mary E. Lewis of Pen Lane, Exeter, County of Rockingham and State of New Hampshire,

an easement over the following described parcel of land:

A parcel of land located in Exeter, County of Rockingham and State of New Hampshire, off of the Northerly side of Pen Lane, so-called, and adjacent to other land of Peter B. Lewis and Mary E. Lewis with an area of Two Thousand One Hundred Ninety (2,190) square feet, more or less, and further described as follows:

Beginning at a point at an iron rod on the Northwesterly corner of land of Peter B. Lewis and Mary E. Lewis, which land is identified as Lot #20 on "Plan of Land for Calvary Baptist Church, Little River Road, Exeter, N.H., K.E. Moore & B.G. Staples, Land Surveyors, Scale 1" = 50' dated June, 1982" as recorded in Rockingham County Registry of Deeds as Plan No. D-10865; thence turning and running N 77° 00' 24" W for a distance of Fourteen and Fifty-four Hundredths (14.54) feet to a point identified by an iron rod; thence turning and running S 58° 41' 42" W for a distance of Twenty and Sixty-one Hundredths (20.61) feet to a point identified by an iron rod; thence turning and running S 14° 53' 12" W for a distance of Fifty-eight and Sixteen Hundredths (58.16) feet to a point identified by an iron rod; thence continuing along a course S 12° 10' 02" W for a distance of Fifty and Seven Hundredths (50.07) feet to a point identified by an iron rod; thence turning and running S 78° 37' 46" E for a distance of Seven and Twenty-four Hundredths (7.24) feet to a point identified by an iron rod. The last five courses are along land of Calvary Baptist Church of Exeter, Inc. Thence turning and running N 23° 45' 14" E for a distance of One Hundred Twenty-four and Fifty-seven Hundredths (124.57) feet to the point of beginning.

This easement is conveyed only and exclusively for purposes of passive uses which shall include maintaining the shrubs and greenery, gardening and other similar open space uses. No building or structure shall be placed or erected on said easement, nor shall excavation be performed except in conjunction with an

STATE OF NEW HAMPSHIRE
TAX ON TRANSFER OF REAL PROPERTY
STATE TAX COMMISSION
MAY 12 '89
28.00

allowed use. This easement shall be for the benefit of Peter B. Lewis and Mary E. Lewis and their heirs and assigns.

Signed this 26 day of April, 1989.

CALVARY BAPTIST CHURCH OF EXETER, INC.

By: Philip R. Caton
Philip R. Caton, Chairman,
Board of Trustees

By: Richard A. Belcher
Richard Belcher, Chairman,
Bethel Christian School Board

By: Robert Gauthier
Robert Gauthier, Pastor

THE STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS

April 26, 1989

Personally appeared Philip R. Caton, duly authorized, and acknowledged the foregoing to be the voluntary act and deed of Calvary Baptist Church of Exeter, Inc.

Before me:

Marian V. Burwell
Notary Public/~~Justice of the Peace~~

THE STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS

April 26, 1989

Personally appeared Richard Belcher, duly authorized, and acknowledged the foregoing to be the voluntary act and deed of Calvary Baptist Church of Exeter, Inc.

Before me:

Marian V. Burwell
Notary Public/~~Justice of the Peace~~

THE STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS

April 26, 1989

Personally appeared Robert Gauthier, duly authorized, and acknowledged the foregoing to be the voluntary act and deed of Calvary Baptist Church of Exeter, Inc.

Before me:

Marian V. Burwell
Notary Public/~~Justice of the Peace~~
Com. expires 10/29/91

Art Form Architecture, LLC

HARPER
872.124.v7 GR

Reverse plan available.

—

In addition to our Terms and Conditions (the "Terms"), please be aware of the following:

Art Form Architecture, LLC ("Artform") requires that our Drawings be built substantially as designed. Artform will not be obligated by or liable for use of this design with markups as part of any builder agreement. While we attempt to accommodate where possible and reasonable, and where the changes do not denigrate our design, any and all changes to Drawings must be approved in writing by Artform. It is recommended that you have your Drawing updated by Artform prior to attaching any Drawing to any builder agreement. Artform shall not be responsible for the misuse of or unauthorized alterations to any of its Drawings.

Width 43.00 FT | **Depth** 36.00 FT | **Height** 31.33 FT

LIVING AREA	2601 FT	**BEDROOMS**	4	**BATHROOMS**	2.5
Main	2601 FT	Main	4	Main	2.5
Future	0 FT	Future	0	Future	0
2nd Unit	0 FT	2nd Unit	0	2nd Unit	0

Art Form Architecture, LLC

HARPER - REAR RENDER

872.124.v7 GR

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Art Form Architecture, LLC

HARPER - 1ST FLOOR

872.124.v7 GR

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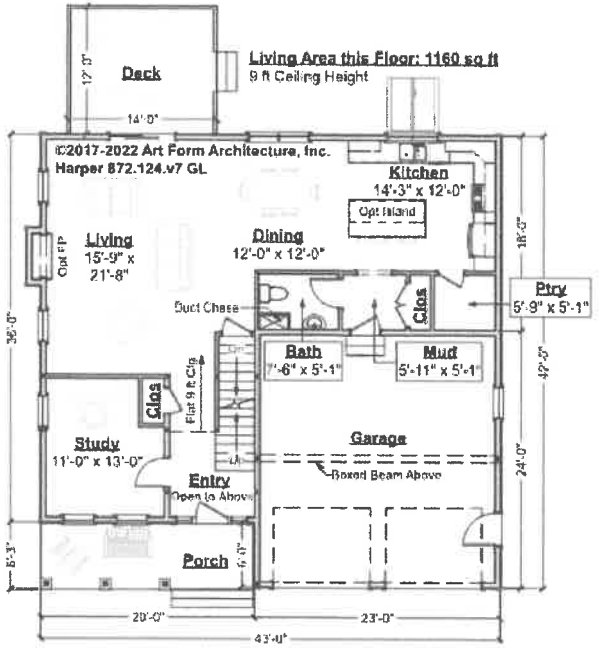

CLG HT SHOWN 9'-0" **CLG HT POSSIBLE** 8'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	1160 FT	**F1 BEDROOMS**	0	**F1 BATHROOMS**	0.5
Main	1160.00 FT	Main		Main	0.50
Future	FT	Future		Future	
2nd Unit	FT	2nd Unit		2nd Unit	

Art Form Architecture, LLC

HARPER - 2ND FLOOR

872.124.v7 GR

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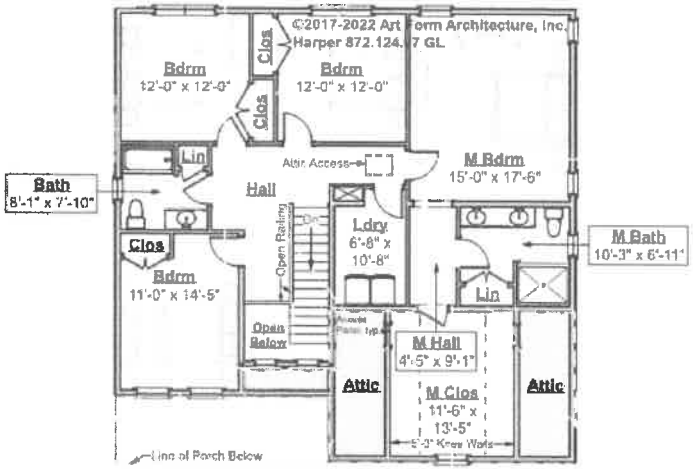
Living Area this Floor: 1441 sq ft
8 ft Ceiling Height



CLG HT SHOWN 8'-0" **CLG HT POSSIBLE** 8'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	1441 FT	**F1 BEDROOMS**	4	**F1 BATHROOMS**	2
Main	1441.00 FT	Main	4.00	Main	2.00
Future	FT	Future		Future	
2nd Unit	FT	2nd Unit		2nd Unit	

Art Form Architecture, LLC

HARPER - BASEMENT
872.124.v7 GR

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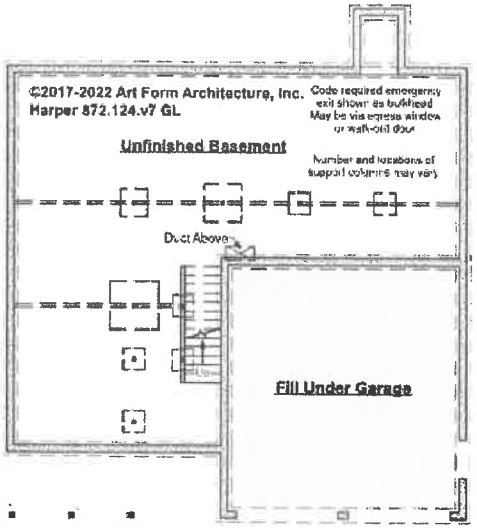

CLG HT SHOWN 7'-8" **CLG HT POSSIBLE** 9'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	0 FT	**F1 BEDROOMS**	0	**F1 BATHROOMS**	0
Main	FT	Main		Main	
Future	FT	Future		Future	
2nd Unit	FT	2nd Unit		2nd Unit	

Art Form Architecture, LLC

HARPER - FRONT ELEVATION
872.124.v7 GR

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Art Form Architecture, LLC

HARPER - RIGHT ELEVATION

872.124.v7 GR

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Art Form Architecture, LLC

HARPER - REAR ELEVATION

872.124.v7 GR

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Art Form Architecture, LLC

HARPER - LEFT ELEVATION
872.124.v7 GR

—

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Art Form Architecture, LLC

SHERLOCK
387.124.v11 GL

—

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Art Form Architecture, LLC ("Artform") requires that our Drawings be built substantially as designed. Artform will not be obligated by or liable for use of this design with markups as part of any builder agreement. While we attempt to accommodate where possible and reasonable, and where the changes do not denigrate our design, any and all changes to Drawings must be approved in writing by Artform. It is recommended that you have your Drawing updated by Artform prior to attaching any Drawing to any builder agreement. Artform shall not be responsible for the misuse of or unauthorized alterations to any of its Drawings.

Width 50.00 FT **Depth** 36.00 FT **Height** 33.33 FT

LIVING AREA	2544 FT	**BEDROOMS**	5	**BATHROOMS**	2.5
Main	2544 FT	Main	4	Main	2.5
Future	0 FT	Future	1	Future	0
2nd Unit	0 FT	2nd Unit	0	2nd Unit	0

Art Form Architecture, LLC

SHERLOCK - 1ST FLOOR

387.124.v11 GL

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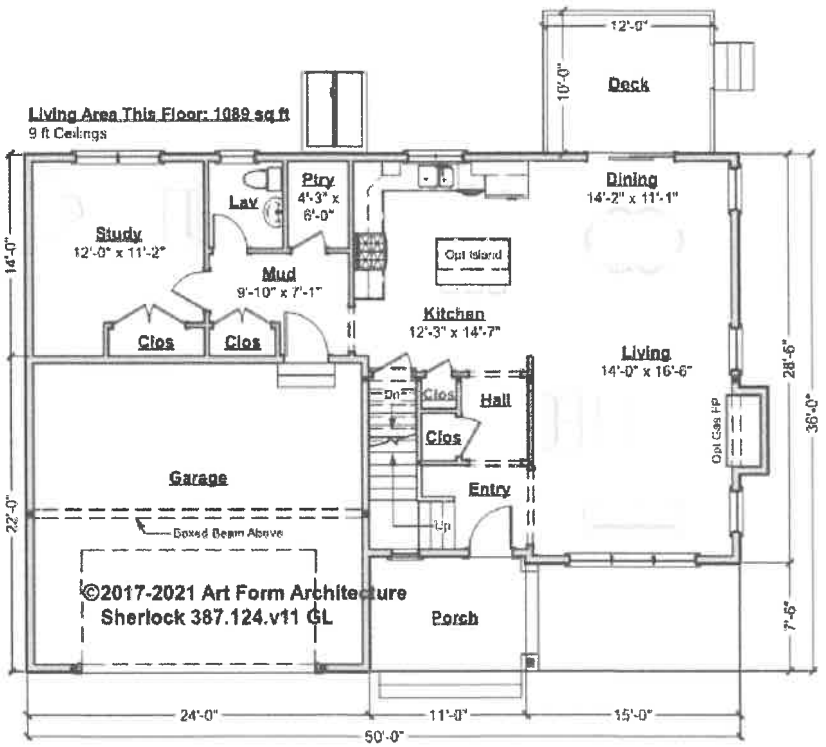

CLG HT SHOWN 9'-0" **CLG HT POSSIBLE** 8'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	1089 FT	**F1 BEDROOMS**	1	**F1 BATHROOMS**	0.5
Main	1089.00 FT	Main	0.00	Main	0.50
Future	0.00 FT	Future	1.00	Future	0.00
2nd Unit	0.00 FT	2nd Unit	0.00	2nd Unit	0.00

Art Form Architecture, LLC

SHERLOCK - 2ND FLOOR

387.124.v11 GL

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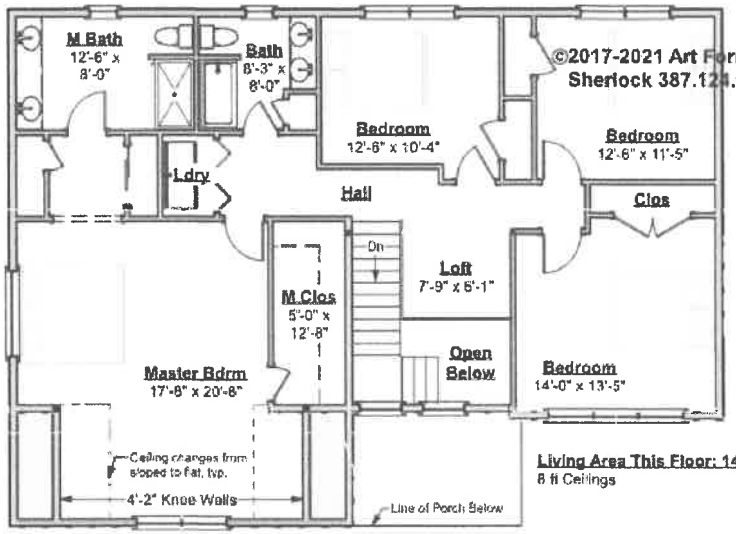

CLG HT SHOWN 8'-0" **CLG HT POSSIBLE** 9'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	1455 FT	**F1 BEDROOMS**	4	**F1 BATHROOMS**	2
Main	1455.00 FT	Main	4.00	Main	2.00
Future	0.00 FT	Future	0.00	Future	0.00
2nd Unit	0.00 FT	2nd Unit	0.00	2nd Unit	0.00

Art Form Architecture, LLC

SHERLOCK - BASEMENT

387.124.v11 GL

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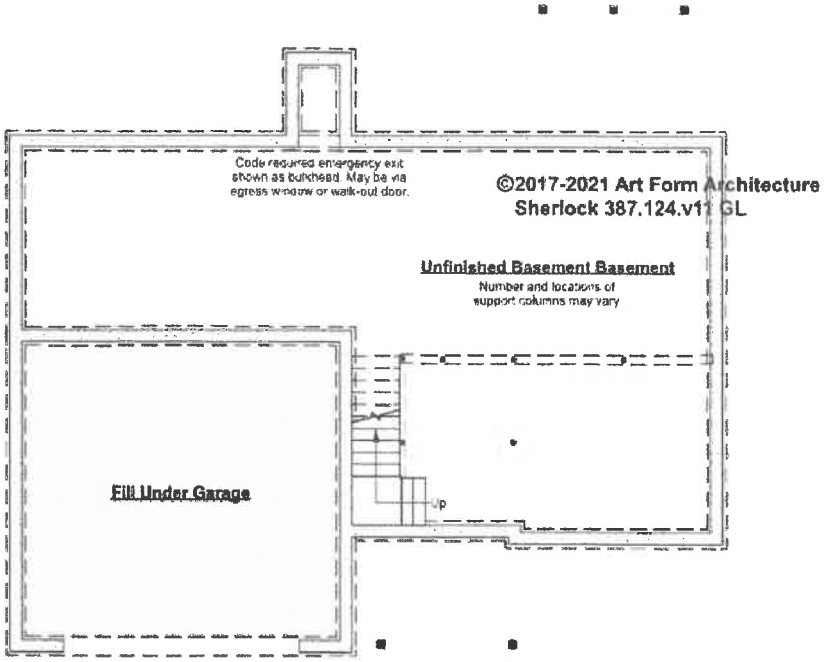

CLG HT SHOWN 7'-8" **CLG HT POSSIBLE** 9'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	0 FT	**F1 BEDROOMS**	0	**F1 BATHROOMS**	0
Main	0.00 FT	Main	0.00	Main	0.00
Future	0.00 FT	Future	0.00	Future	0.00
2nd Unit	0.00 FT	2nd Unit	0.00	2nd Unit	0.00

Art Form Architecture, LLC

SHERLOCK - FRONT ELEVATION

387.124.v11 GL

—

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Art Form Architecture, LLC

SHERLOCK - RIGHT ELEVATION

387.124.v11 GL

—

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Art Form Architecture, LLC

SHERLOCK - REAR ELEVATION
387.124.v11 GL

—

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Art Form Architecture, LLC

SHERLOCK - LEFT ELEVATION

387.124.v11 GL

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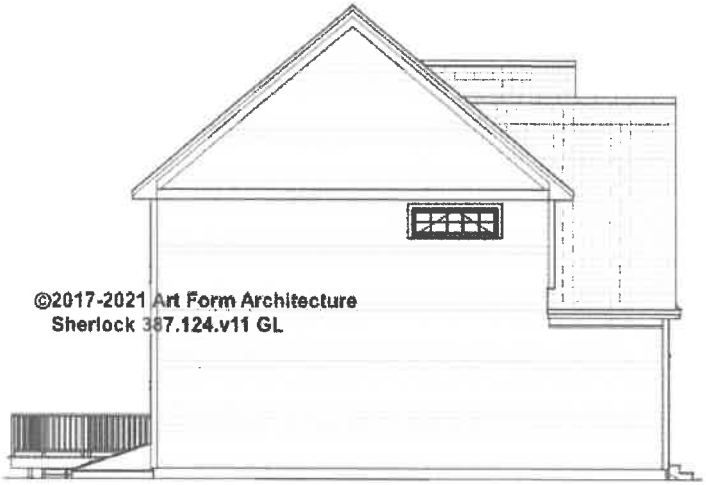

Art Form Architecture, LLC

SHELLEY WITH SUN

874.125.v2 GR

Reverse plan available.

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Width 40.00 FT **Depth** 52.00 FT **Height** 33.08 FT

LIVING AREA	2636 FT	**BEDROOMS**	5	**BATHROOMS**	3.5
Main	2636 FT	Main	4	Main	3.5
Future	0 FT	Future	1	Future	0
2nd Unit	0 FT	2nd Unit	0	2nd Unit	0

Art Form Architecture, LLC

SHELLEY WITH SUN -

874.125.v2 GR

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Art Form Architecture, LLC

SHELLEY WITH SUN - 1ST FLOOR

874.125.v2 GR

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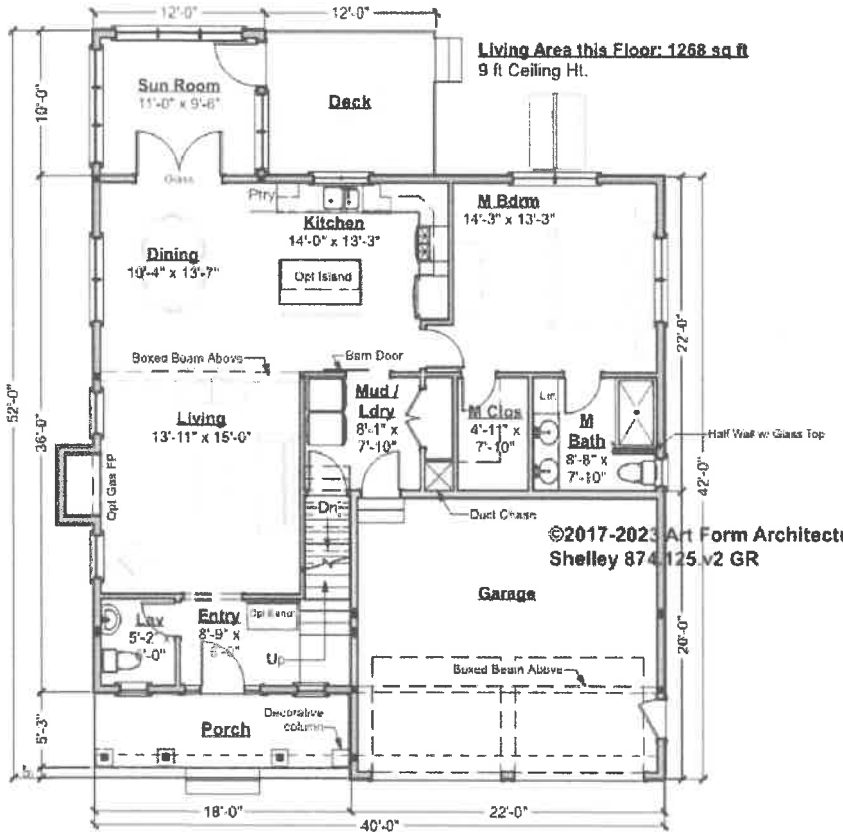

CLG HT SHOWN 9'-0" **CLG HT POSSIBLE** 8'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	1268 FT	**F1 BEDROOMS**	1	**F1 BATHROOMS**	1.5
Main	1268.00 FT	Main	1.00	Main	1.50
Future	FT	Future		Future	
2nd Unit	FT	2nd Unit		2nd Unit	

Art Form Architecture, LLC

SHELLEY WITH SUN - 2ND FLOOR

874.125.v2 GR

—

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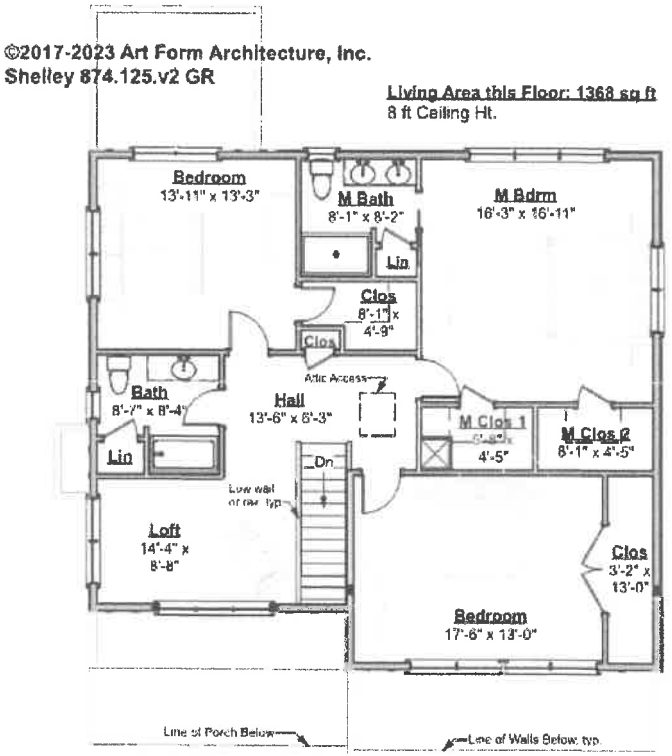
Shelley 874.125.v2 GR



CLG HT SHOWN 8'-0" **CLG HT POSSIBLE** 9'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	1368 FT	**F1 BEDROOMS**	4	**F1 BATHROOMS**	2
Main	1368.00 FT	Main	3.00	Main	2.00
Future	FT	Future	1.00	Future	
2nd Unit	FT	2nd Unit		2nd Unit	

Art Form Architecture, LLC

SHELLEY WITH SUN - BASEMENT

874.125.v2 GR

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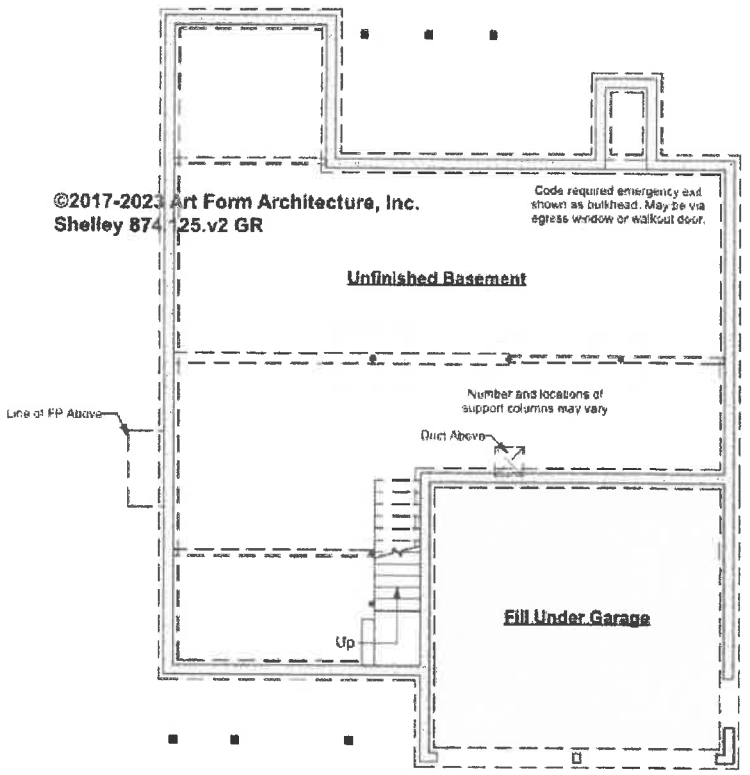

CLG HT SHOWN 7'-8" **CLG HT POSSIBLE** 9'-0"

** Major Change Fee, see website plan page for cost*

F1 LIVING AREA	0 FT	**F1 BEDROOMS**	0	**F1 BATHROOMS**	0
Main	FT	Main		Main	
Future	FT	Future		Future	
2nd Unit	FT	2nd Unit		2nd Unit	

Art Form Architecture, LLC

SHELLEY WITH SUN - FRONT ELEVATION

874.125.v2 GR

—

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Art Form Architecture, LLC

SHELLEY WITH SUN - RIGHT ELEVATION

874.125.v2 GR

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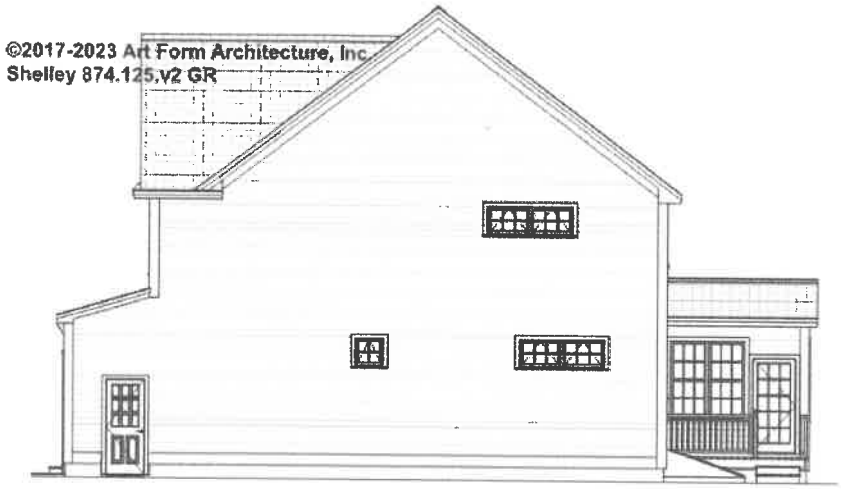

Art Form Architecture, LLC

SHELLEY WITH SUN - REAR ELEVATION

874.125.v2 GR

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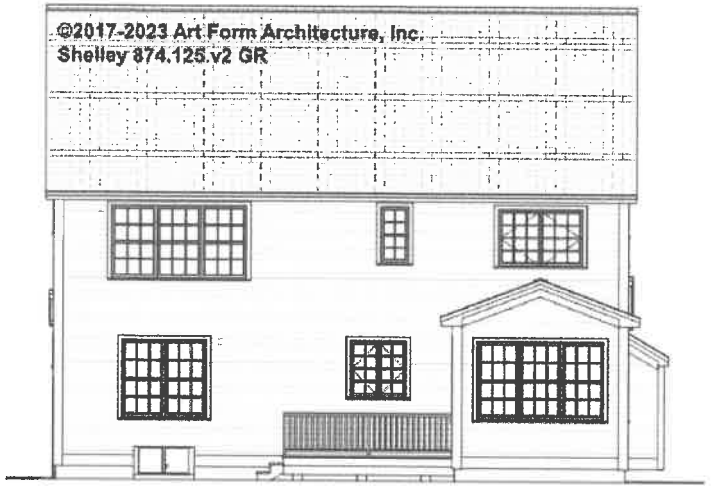

Art Form Architecture, LLC

SHELLEY WITH SUN - LEFT ELEVATION

874.125.v2 GR

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civil &
environmental
engineering

UNDERWOOD
engineers

2992.00

September 22, 2023

Mr. David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: ***12 Little River Road Residential Development***
Design Review Engineering Services
Exeter, New Hampshire

Site Information:

Review No. 1

Tax Map/Lot#:	90 / 0
Address:	12 Little River Road
Lot Area:	5.01 Acres
Proposed Use:	Residential
Water:	Town
Sewer:	Town
Zoning District:	R-2
Applicant:	Granite State Construction Services
Design Engineer:	Beals Associates

Application Materials Received:

- Site plan set entitled "Colcord Meadow Residential Site Plan" dated June 2023 prepared by Beals Associates
- Site plan application materials prepared by Beals Associates

Dear Mr. Sharples:

Based on our review of the above information, in addition to comments provided by the Town, we offer the following comments in accordance with the Town of Exeter Regulations and standard engineering practice.

General

1. The field survey and wetlands delineation were performed over two years ago. Confirm that the delineation remains accurate and that the site was evaluated for vernal pools.
2. A wetlands scientist stamp should be added to the final plan set.
3. We note the letter of explanation refers to the access as a "private common driveway". Per Town of Exeter subdivision regulation 9.17.10.B, it will be a private road.

ph 603.230.9898
fx 603.230.9899
99 North State Street
Concord, NH 03301
underwoodengineers.com

4. Several sheets refer to a "Use Easement for Map 62 Lot 101 see Note 5(c)" however Note 5(c) indicates the easement is for Lot 91, which appears to be correct. Confirm and revise as appropriate.

5. The applicant may wish to seek direction from insurance carriers as to the insurability of this easement within the limits of the condominium as proposed.

6. A couple of sheets reference RCRD Plan D-18065, however the plan is D-10865. Correct the reference where possible.

7. Shoreland and Wetland Buffers are not shown and/or labeled on a number of sheets. Add them to all applicable sheets, including the Yield Plan.

Cover Sheet

8. A plan set date should be added.

9. The list of permits should also include EPA CGP.

Existing Conditions Plan

10. The existing conditions plan should be updated to reflect current conditions, including the parcel boundaries as they are currently.

11. Add the date of the wetland delineation.

12. Add all existing water and sewer services and mains including the size, materials and inverts, if known.

13. The electrical service to the church is indicated as underground, whereas it is indicated as overhead on other plans. Coordination is needed.

Lot Line Adjustment Plan

14. All building setback lines for both Lots 90-0 and 90-1 should be shown. Setback lines for 90-0 should reflect the single-family open space standards.

15. The water service for the existing house on Lot 90-1 is not shown (on any plans). It is unclear how/if this project affects it.

16. The proposed sewer line to 90-0 crosses the proposed property line onto 90-1, so a sewer easement line should be added.

Yield Plan

17. Parcel 90-1, being under separate ownership, cannot be incorporated into the yield plan unless the lots will be consolidated or the application is combined to include the appropriate information and signatures.

18. The dimensions of the cul-de-sac and ROW limits, as well as the horizonal curve radii should be labeled.

19. The ROW does not contain 50' in width near its intersection with Little River and Pen Lane.

20. The easement servicing Lot 91 encroaches into the depicted ROW. Please confirm the intent of the easement can be preserved as shown without disturbance if the road were to be built as shown.

21. The proposed road should be centered in the ROW with the edge of pavement running parallel with the ROW lines.

22. Add a frontage table or label the proposed frontages.

23. It appears that a significant portion of the useable area of Lots 1-4 are encumbered by the utility easement crossing the parcel. Please depict the actual buildable area with hatching or other means.

Demolition Plan

24. Show the existing water services. Note water services to be abandoned must be discontinued at the main per Town of Exeter regulations.

25. The silt fence should be adjusted around the corner of the pavement and fence to be removed within the wetland buffer.

26. Indicate removal of the shed, if applicable.

27. Slow the proposed tree line and list the area of disturbance.

Site Plan

28. Label the proposed entrance radius from Pen Lane.

29. Add the proposed area of disturbance to Note 7.

30. Label the geometry of the proposed roadway.

31. Radii should be shown at the driveways.

32. If a mail kiosk is required, show the location and add a pull-over area.

33. Indicate the location of the proposed road name sign.

34. If any of the units will have decks or patios outside of the general footprint shown, they should be added to the plan.

35. Trash collection was discussed at the TRC meeting on 9/21/23, and it was indicated there will be individual private trash collection in lieu of a common dumpster.

36. While we realize there will be little traffic on this private road and at low speed, we are concerned about the sight distance at driveway #2, especially in winter with plow piles lining the road. Please confirm adequate sight distance.

37. It appears as though a car backing out of the driveway at #5 would need to utilize the driveway to #3 to turn around. Please confirm adequate turning area is provided. Pervious pavers or similar was discussed as a turnaround solution at the TRC meeting.

Grading and Drainage Plan

38. The project proposes work inside the shoreland protection zone requiring a Shoreland Permit as well as the possibility of Alteration of Terrain if the disturbance area exceeds 50,000 SF. Confirm the limits of work and permitting obligations.

39. Finished floor elevations and grading around houses should be added.

40. One-foot contours and/or spot grades may be necessary due to the flat nature of the site.

41. The grade drops off steeply at the end of the road, over 8% sloping towards Unit #5. Confirm the intent.

42. The proposed roadway profile appears to be sloping back to Pen Lane. In winter, when snow curb is present, drainage will be trapped and will follow the slope to the Town's ROW. Please address.

Profile and Utility Plan

43. It appears that the profile provided is intended to be the road profile with the sewer profile imposed on it, despite the alignments not being co-parallel. Please note the NHDES requires a separate sewer profile for the Sewer Connection Permit.

44. The SMH rim elevations are shown at the same finished grade elevation as the centerline of the road. Please adjust.

45. Related to comments immediately above, the rim elevation of SMH A appears to be approximately 71' per the proposed grading. Cover over much of the sewer main length appears to be below DES requirements. At the tie-in to the existing sewer manhole, less than 3' of cover is achieved, and there may be less at SMH A. The minimum pipe slope for 8" sewer is 0.004.

46. Per comment #41 above, it appears the sewer service to Unit 5 may need to be a pressure service. Please clarify. UE notes that all of the proposed units may be better served with pressure sewer.

47. Comments regarding location and method of connection to the existing water main are being deferred to the Town of Exeter Public Works Department.

48. Typically, the Fire Department prefers that hydrant(s) not be at the end of the run, or as close to the buildings, as is proposed. Consider relocating the water main terminus and hydrant off the pull-out north of SMH A and running dedicated service lines for the units. Further comment regarding hydrant location is deferred to the Fire Department.

Detail Sheets

49. The following details should be added at a minimum:

- Lined concrete washout pit
- Slope stabilization
- Concrete dumpster pad, if applicable

Stormwater Design and Modeling

50. PTAP Database: This project requires registration with the PTAP Database. The Applicant is requested to enter project related stormwater tracking information contained in the site plan application documents using the Great Bay Pollution Tracking and Accounting Program (PTAP) database (www.unh.edu/unhsc/ptapp) and submit the information with the resubmitted response to comments.

A written response is required to facilitate future reviews. Please contact us if you have any questions.

Very truly yours,

UNDERWOOD ENGINEERS, INC.

Allison M. Rees, P.E.
Project Manager

Robert J. Saunders, P.E.
Senior Project Engineer

AMR:scc

N:\PROJECTS\EXETER, NH\REALNUM\2992 12 Little River Rd Res Development\Correspondence\Little River Rd Review 1.docx

BA BEALS ASSOCIATES, PLLC
Land Planning • Civil Engineering
Landscape Architecture • Septic Design & Evaluation
Stratham, NH

Exeter Planning Board, October 16, 2023
David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Ref: 12 Little River Road Residential Development

Dear Mr., Chairman & Members of the Board:

We are in receipt of a review letter from Underwood Engineers, dated Sept. 22, 2023 and we offer the following responses to the noted comments. Each comment is followed by our response in **bold**.

General

1. The field survey and wetlands delineation were performed over two years ago. Confirm that the delineation remains accurate and that the site was evaluated for vernal pools.
   Response: Gove Environmental Services, Inc. were onsite 8-1-23 & confirmed or slightly modified the wetland delineation at that time.
2. A wetlands scientist stamp should be added to the final plan set.
   Response: The stamp will be provided.
3. We note the letter of explanation refers to the access as a "private common driveway". Per Town of Exeter subdivision regulation 9. 17.10.B, it will be a private road.
   Response: Noted.
4. Several sheets refer to a '·Use Easement for Map 62 Lot 101 see Note 5(e)" however Note 5(c) indicates the easement is for Lot 91, which appears to be correct. Confirm and revise as appropriate.
   Response: Notation has been revised.
5. The applicant may wish to seek direction from insurance carriers as to the insurability of this easement within the limits of the condominium as proposed.
   Response: The developer will review this with their carrier.
6. A couple of sheets reference RCRD Plan D-18065, however the plan is D-10865. Correct the reference where possible.
   Response: Notation has been revised.
7. Shoreland and Wetland Buffers are not shown and/or labeled on a number of sheets. Add them to all applicable sheets, including the Yield Plan.
   Response: The setbacks have been provided and labeled.

Cover Sheet

8. A plan set date should be added.
   Response: Date added
9. The list of permits should also include EPA COP.
   Response: This has been added.

Existing Conditions Plan

10. The existing conditions plan should be updated to reflect current conditions, including the parcel

boundaries as they are currently.
Response: Please see revised plan sheets from McEneaney Survey with corrected information.

11. Add the date of the wetland delineation.
Response: This has been added to the plan.
12. Add all existing water and sewer services and mains including the size, materials, and inverts. if known.
Response: Service locations were not able to be provided by Exeter DPW (though water valves, etc. are depicted where visible on the ground).
13. The electrical service to the church is indicated as underground, whereas it is indicated as overhead on other plans. Coordination is needed.
Response: The service has been corrected to UGE where applicable.

Lot Lin e Adjustment Plan

14. All building setback lines for both Lots 90-0 and 90-1 should be shown. Setback lines for 90-0 should reflect the single-family open space standards.
Response: Setbacks are shown as requested.
15. The water service for the existing house on Lot 90-1 is not shown (on any plans). lt is unclear how/if this project affects it.
Response: Again, definitive locations of services were not found by Exeter DPW. Based on the water shut-off location, it appears it will not affect the proposed development.
16. The proposed sewer line to 90-0 crosses the proposed property line onto 90- 1, so a sewer easement line should be added.
Response: The main has been edited to eliminate the former encroachment.

Yield Plan

17. Parcel 90-1, being under separate ownership, cannot be incorporated into the yield plan unless the lots will be consolidated or the application is combined to include the appropriate information and signatures.
Response: The plans have been revised to remove the other lot (90-1) from the yield per the Planning Dept.
18. The dimensions of the cul-de-sac and ROW limits, as well as the horizontal curve radii should be labeled.
Response: The design is for yield plan purposes only; the suggested dimensioning has been added.
19. The ROW does not contain 50' in width near its intersection with Little River and Pen Lane.
Response: The perimeter boundary is existing & a variance was approved for frontage for the two parcels in '2021.
20. The easement servicing Lot 91 encroaches into the depicted ROW. Please confirm the intent of the easement can be preserved as shown without disturbance if the road were to be built as shown.
Response: There would be no change to the existing drive except to reduce the pavement width near the northerly end of the easement. No change in topography would be necessary.
21. The proposed road should be centered in the ROW with the edge of pavement running parallel with the ROW lines.
Response: The intent is to use the existing Drive which is already established. Centering the pavement within the ROW is not a requirement.
22. Add a frontage table or label the proposed frontages.
Response: A table has been added.
23. It appears that a significant portion of the useable area of Lots 1-4 are encumbered by the utility

easement crossing the parcel. Please depict the actual buildable area with hatching or other means.
Response: A possible building has been added per planning comments.

Demolition Plan

24. Show the existing water services. Note water services to be abandoned must be discontinued at the main per Town of Exeter regulations.
Response: See prior responses regarding water services. The note appears a s#15 on the sheet.
25. The silt fence should be adjusted around the comer of the pavement and fence to be removed within the wetland buffer.
Response: The silt fence has been revised. Per the TRC hearing, disturbance can encroach up to 25' into the wetland buffer with no requirement for a CUP.
26. Indicate removal of the shed, if applicable.
Response: Noted.
27. Slow the proposed tree line and list the area of disturbance.
Response: The proposed tree line is shown and amount of disturbance added.

Site Plan

28. Label the proposed entrance radius from Pen Lane.
Response: The entrance is existing and to remain.
29. Add the proposed area of disturbance to Note 7.
Response: The note has been revised.
30. Label the geometry of the proposed roadway.
Response: Roadway math has been added.
31. Radii should be shown at the driveways.
Response: A curve has been added to the driveways.
32. If a mail kiosk is required, show the location, and add a pull-over area.
Response: A kiosk and apron has been added as requested.
33. Indicate the location of the proposed road name sign.
Response: Added to profile sheet.
34. If any of the units will have decks or patios outside of the general footprint shown, they should be added to the plan.
Response: It is our understanding the developer reserves to have patios set at finish grade and decks are not proposed.
35. Trash collection was discussed at the TRC meeting on 9/21123, and it was indicated there will be individual private trash collection in lieu of a common dumpster.
Response: Noted.
36. While we realize there will be little traffic on this private road and at low speed, we are concerned about the sight distance at driveway #2, especially in winter with plow piles lining the road. Please confirm adequate sight distance.
Response: The driveway location has been revised as discussed at the TRC hearing.
37. It appears as though a car backing out of the driveway at #5 would need to utilize the driveway to #3 to tum around. Please confirm adequate turning area is provided. Pervious pavers or similar was discussed as a turnaround solution at the TRC meeting.
Response: A turn out has been added as discussed.

Grading and Drainage Plan

38. The project proposes work inside the shoreland protection zone requiring a Shoreland Permit as

well as the possibility of Alteration of Terrain if the disturbance area exceeds 50,000 SF. Confirm the limits of work and permitting obligations.
Response: No work is proposed within the 250' SPZ & the area of disturbance proposed is 48,920 sf.

39. Finished floor elevations and grading around houses should be added.
Response: Sill elevations and additional grading has been added to the profile sheet.
40. One-foot contours and/or spot grades may be necessary due to the flat nature of the site.
Response: With the additional grading and unknit sill elevations depicted, we feel the design intent has been clarified.
41. The grade drops off steeply at the end of the road, over 8% sloping towards Unit #5. Confirm the intent.
Response: The grading of the driveway for unit 5 blends into the roadway. There is no steep grade proposed between them.
42. The proposed roadway profile appears to be sloping back to Pen Lane. In winter, when snow curb is present, drainage will be trapped and will follow the slope to the Town's ROW. Please address.
Response: This is case in the existing condition as well and a reduction in overall impervious area to the ROW of approximately 300 s.f. is proposed.

Profile and Utility Plan

43. It appears that the profile provided is intended to be the road profile with the sewer profile imposed on it, despite the alignments not being co-parallel. Please note the NHDES requires a separate sewer profile for the Sewer Connection Permit.
Response: The sewer has been revised and profile is used for both.
44. The SMH rim elevations are shown at the same finished grade elevation as the centerline of the road. Please adjust.
Response: See previous response.
45. Related to comments immediately above, the rim elevation of SMH A appears to be approximately 71' per the proposed grading. Cover over much of the sewer main length appears to be below DES requirements. At the tie-in to the existing sewer manhole, less than 3' of cover is achieved, and there may be less at SMH A. The minimum pipe slope for 8" sewer is 0.004.
Response: The proposed sewer lines are in place of the old services. Rigid insulation is specified for the limited cover. The proposed slope for the 6" lines is proposed at 0.006'/' as required.
46. Per comment #41 above, it appears the sewer service to Unit 5 may need to be a pressure service. Please clarify. UE notes that all the proposed units may be better served with pressure sewer.
Response: See previous response & response to #41. A gravity service will work as proposed.
47. Comments regarding location and method of connection to the existing water main are being deferred to the Town of Exeter Public Works Department.
Response: Noted.
48. Typically, the Fire Department prefers that hydrant(s) not be at the end of the run, or as close to the buildings, as is proposed. Consider relocating the water main terminus and hydrant off the pull-out north of SMH A and running dedicated service lines for the units. Further comment regarding hydrant location is deferred to the Fire Department.
Response: The hydrant has been revised per coordination with Exeter Fire.

Detail Sheets

49. The following details should be added at a minimum:
    - Lined concrete washout pit

Response: A detail has been added.

- Slope stabilization

Response: None proposed.

- Concrete dumpster pad, if applicable

Response: None proposed.

Storm water Design and Modeling

50. PTAP Database: This project requires registration with the PTAP Database. The Applicant is requested to enter project related stormwater tracking information contained in the site plan application documents using the Great Bay Pollution Tracking and Accounting Program (PTAP) database (www.unh.edu/unhsc/ptapp) and submit the information with the resubmitted response to comments.
Response: Submitted herewith.

Thank you for your timely and professional review of the submitted plans. We hope the information provided address your concerns. Please feel free to contact our office if you have any additional question and/or comments.

Very Truly Yours,

BEALS ASSOCIATES, PLLC

Christian O. Smith

Christian O. Smith, PE
Principal

View (/ptapp_submission/392) Edit (/ptapp_submission/392/edit) Delete (/ptapp_submission/392/delete)

PDF (/ptapp_submission/392/pdf)

Colcord meadow residential site plan

Submission ID:	392
Approval Status:	New Submission
Map No.:	62
Lot No.:	90
Property Owner:	Granite State Construction Service
Project Street Address:	12 little river road
This project is for a municipality:	No
This project is inside MS-4 Permit Area:	Yes
Project is within the 200 meter coastal zone or stream buffer zone:	No
Discharges to an impaired waterbody:	No
Offsite mitigation:	No
By submitting this form, I certify all information is true and correct to the best of my knowledge and professional judgement.:	Yes
Town:	Exeter
Land Use Type:	Medium-Density Residential
Hydrologic Unit Code (HUC)-10:	0106000308 – Exeter Squamscott River
Last Updated By:	smitty0615
Report Submitted By:	✉ smitty0615 (mailto:csmith@bealsassociates.com)
Last Updated On:	Mon, 10/16/2023 - 15:04
Report Submitted:	Mon, 10/16/2023 - 15:00

Impervious Surface Management Table - Structural BMPs

Structural BMP	Impervious Surface Managed (ac)	Runoff Volume Storage at Design Capacity (ft^3)	Design Storm Depth (")	Infiltration Rate (In/hr)
Infiltration Trench	1899.00	1440.00	3.3	2.41
Infiltration Trench	1899.00	1440.00	3.3	2.41
Infiltration Trench	1899.00	1440.00	3.3	2.41
Infiltration Trench	1899.00	1440.00	3.3	2.41

Structural BMP	Impervious Surface Managed (ac)	Runoff Volume Storage at Design Capacity (ft^3)	Design Storm Depth (")	Infiltration Rate (in/hr)
Infiltration Trench	2968.00	1920.00	3.3	2.41
Total Impervious Cover (acres)	**0.49**			
Total Management (acres)	**10,564.00**			
Effective Impervious Cover (acres)	**-10,563.51**			

Land Use Conversion Table

Soils		Existing Conditions			Future Conditions		
Hydrologic Group	**Acres**	**Land Use Type**	**Acres**	**Impervious and/or Paved Surfaces Acres**	**Land Use Type**	**Acres**	**Impervious and/or Paved Surfaces Acres**
C	5.00	Commercial/Institutional	5.00	0.74	Residential	5.00	0.49
Totals	**5**		**5**	**0.74**		**5**	**0.49**

Wastewater Management Table

Existing Conditions			Future Conditions		
Management Option	**Discharge (GPD)**	**Description**	**Management Option**	**Discharge (GDP)**	**Description**
Sewered	1053.00	church	Sewered	2250.00	5-residential dwellings
Totals	**1053**			**2250**	

GOVE ENVIRONMENTAL SERVICES, INC.

October 11, 2023

To: Christian Smith
Beals Engineering

Subject: 12 Little River Road
Exeter, NH

Re: Site Review and Shoreland Documentation Review

Christian,

This letter is to provide updated documentation related to the wetland delineation of the subject property located on 12 Little River Rd, in Exeter NH as well as confirmation of the previously submitted Shoreland District boundary interpretation. The site was initially reviewed on April 27, 2021 at which time the entire property was delineated for the limits of jurisdictional wetlands (see attached wetland delineation letter dated: December 9, 2021). An additional site review was conducted on August 1, 2023 at the request of the land owner. The result of the delineation review conducted by James Gove NH CWS & CSS resulted in the removal of two wetland flags that included an area where the soils identified did not meet the required soil characteristics to be determined as hydric. The adjusted wetland mapping is attached.

The additional documentation reviewed associated with this subject property included a letter dated December 15, 2021 that references the interpretation by Brenden Walden NH CWS utilizing a review of the zoning ordinance and additional field observations to provide evidence of natural discontinuities that exist between the Little River and the contiguous freshwater wetland. After a review of the documentation the interpretation was determined to still be accurate per the current zoning criteria.

This concludes the review of the Exeter Shoreland Protection District documentation and documentation of the current wetland delineation. If there are any other questions or if you feel I can be of assistance in clarifying any of the provided information please feel free to contact me via email at bwalden@gesinc.biz.

Brenden Walden
Business Manager & Wetland Scientist #297
Gove Environmental Services

Attachments:
Wetland Delineation Letter
Wetland A Revision
Shoreland District Letter

GOVE ENVIRONMENTAL SERVICES, INC.

WETLAND DELINEATION LETTER

GOVE ENVIRONMENTAL SERVICES, INC.

December 9, 2021

Subject: Wetland Delineation Report
12 Little River Road, Exeter, NH

Dear Christian Smith,

Per your request, this letter is to verify that Gove Environmental Services, Inc., performed a site inspection to identify wetlands on the subject properties located on Tax Map 62 Lots 90 on 12 Little River Road, in Exeter, NH. Wetlands were evaluated utilizing the following standards:

1. *US Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, Technical Report ERDC/EL TR-12-1 (January 2012).
2. *Field Indicators for Identifying Hydric Soils in New England – Version 4, June 2020*. New England Hydric Soils Technical Committee.
3. *US Army Corps of Engineers National Wetland Plant List, 2018.*
4. *Classification of Wetlands and Deepwater Habitats of the United States.* USFW Manual FWS/OBS–79/31 (1979).

Brenden Walden performed the site inspection on 4/27/2021. During the site inspection there were four areas of wetland identified and delineated. These areas were demarked with pink "Wetland Delineation" flagging with the observed high-water mark along the boundary of the little river delineated by blue flagging. The four wetland areas on the subject property are all isolated from one another as there are significant topographical breaks between them. Wetland are identified on the sketch as well as the survey plan attached as Wetland A, B, C, & D.
Wetland A is a large forested/scrubshrub wetland that extends off site to the north east. This area contained poorly drained soils along the wetland boundary as well as advantageous root systems from the restive soil clay soils. Wetland B which is an isolated depression adjacent to wetland A with poorly drained soils and water-stained leaves with minimal vegetation. Wetland C along the northern property boundary exists with a portion of the utility right of way for the gas line. This area is primarily forested along the boundary with emergent vegetation within the maintained right of way. This wetland area does extend slightly off property to the north but does not have any connection to the little river to the west. Wetland D consists of both the little river and the scrubshrub wetland system that extends to the east and drains into the little river. This area is extremely rocky and has extensive wetland vegetation including red oak, winterberry, highbush blueberry, royal fern and cinnamon fern.

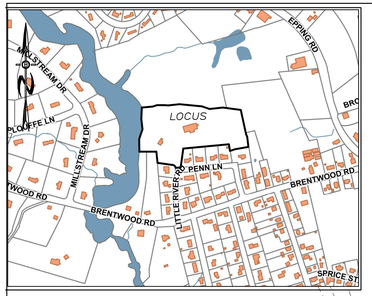
This concludes the wetland delineation report. If I can be of further assistance, please feel free to contact me at (603) 778-0644.

Sincerely,

Brenden Walden
Business Manager & Wetland Scientist
Gove Environmental Services, Inc.

Enc. Wetland Sketch
Surveyed Existing Conditions Plan


C
A
D
B



LOCATION MAP
1"=500'

UNDERGROUND FACILITIES, UTILITIES.
1-888-DIG-SAFE (1-888-344-7233).
AND EXETER DPW (603) 773-6157

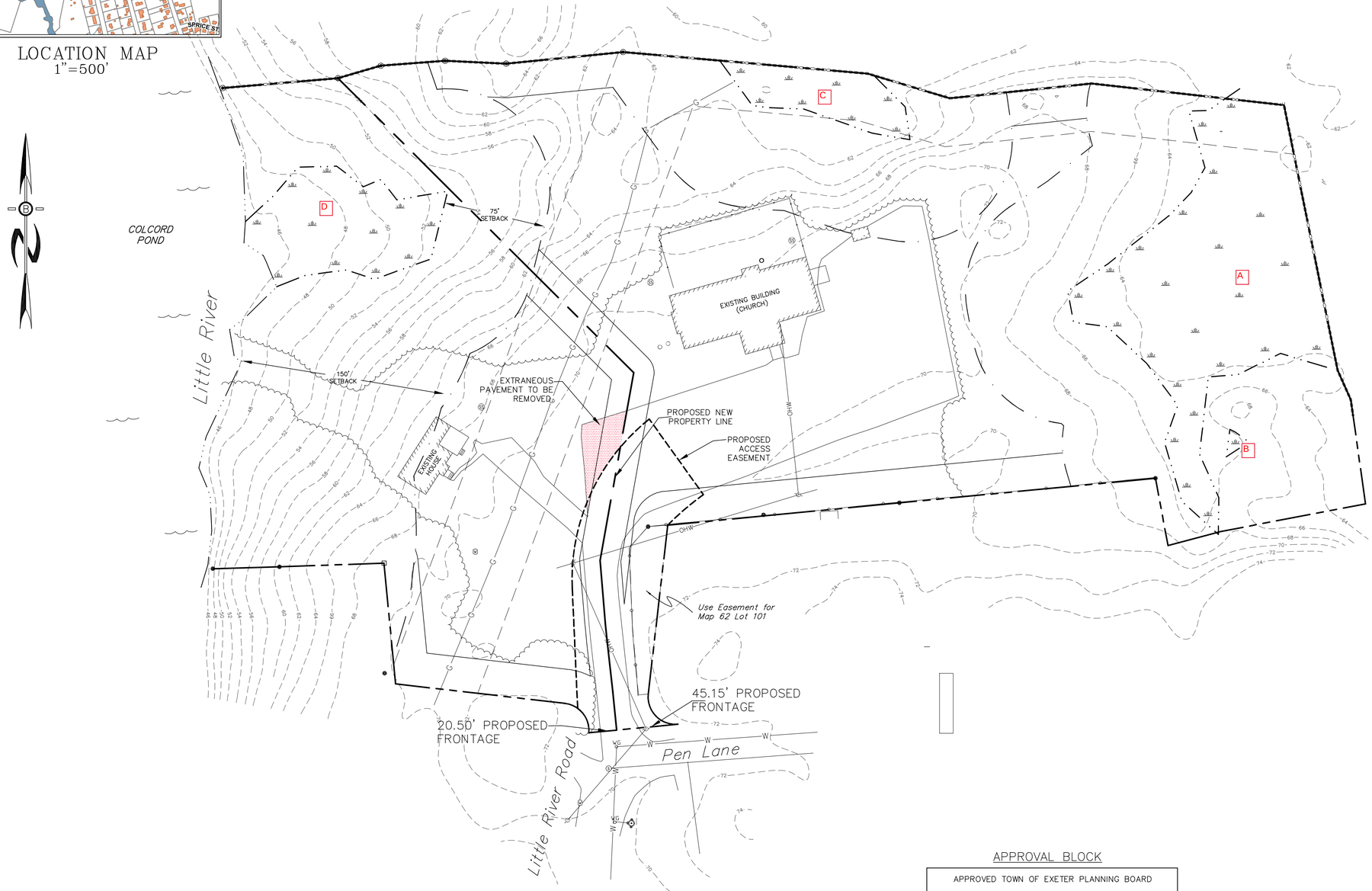
ZONING REQUIREMENTS:
ZONING DISTRICT – RES.2 (R2)
MINIMUM LOT SIZE – 15,000 S.F.
MINIMUM LOT WIDTH – 100 FT.
MINIMUM LOT DEPTH – 100 FT.
MINIMUM FRONTAGE – 100'

BUILDING SETBACKS
FRONT=25 FT.
SIDE=15 FT.
REAR=25 FT.
BUILDING HEIGHT=35 FT.
MAXIMUM BUILDING COVERAGE = 25%

WETLAND SETBACKS
NO-DISTURBANCE – 40'
PARKING SETBACK – 50'
BUILDING SETBACK – 75'

PREPARED FOR:
GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

BEALS • ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



NOTES

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE, AND TOWN OF EXETER DPW.
2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
4. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
5. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
6. ALL WATER, SEWER, ROAD, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION AND SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
7. DISTURBANCE UNDER 100,000 SQ. FT. (0 S.F.+/- PROPOSED DISTURBANCE) NHDES ALTERATION OF TERRAIN PERMIT NOT REQUIRED.
8. WETLAND BUFFER PLACARDS (4" ROUND) SHALL BE NAILED TO TREES AS AVAILABLE OR SET ON STAKES ALONG WETLAND BUFFER LIMITS AT AN INTERVAL OF APPROXIMATELY 50 FEET. HOUSES WILL BE BUILT OUTSIDE OF THE WETLAND BUFFER.

TOWN NOTES

ALL SNOW SHALL BE STORED OFF OF PAVEMENT ACCESS WAYS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.

ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY CURBSIDE PICK-UP.

0 40 80 120

APPROVAL BLOCK

APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON DATE

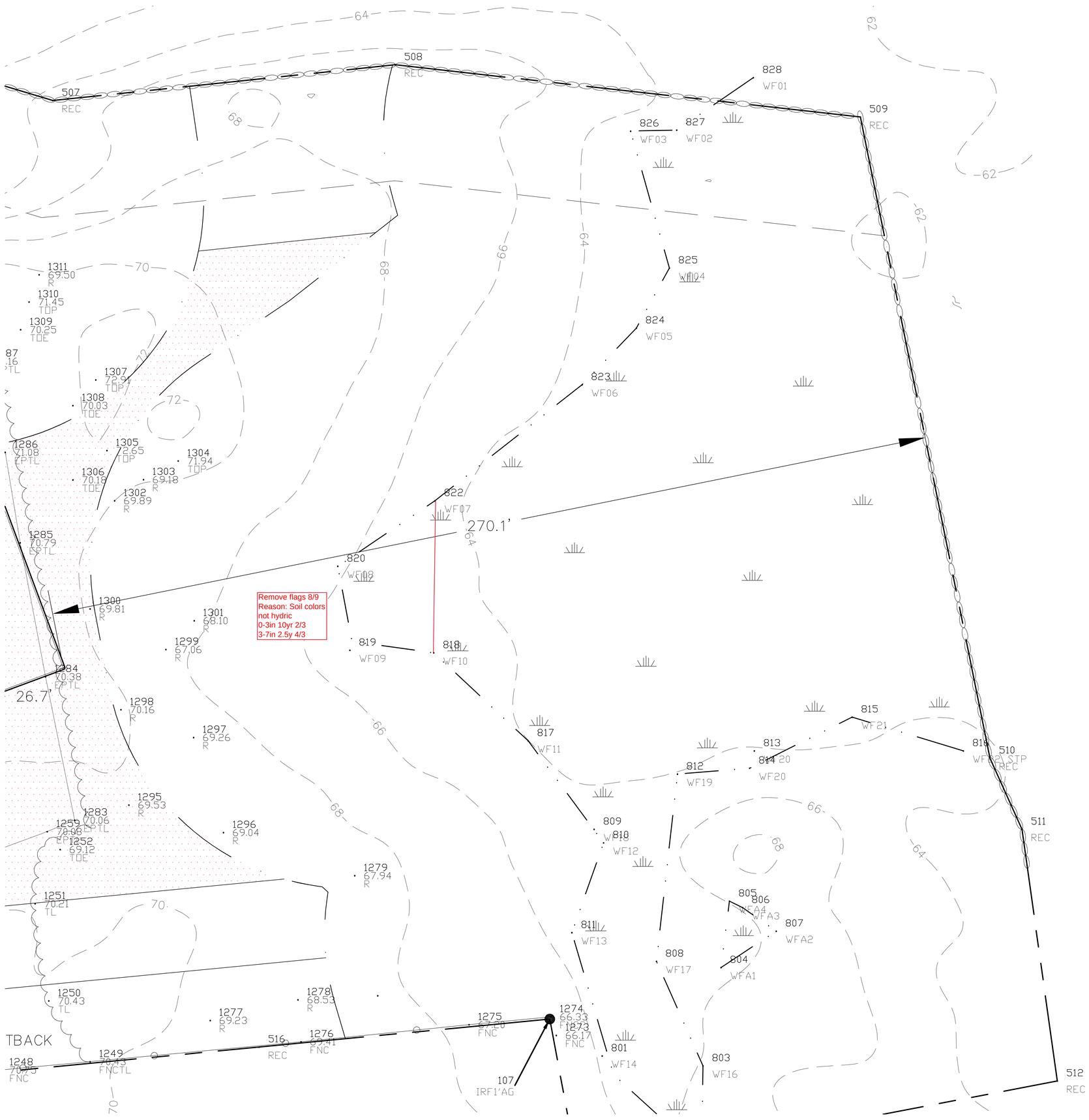
REVISIONS:	DATE:
REVISED PER PLANNING BOARD NOD.	11-4-21
REVISED PER PLANNING REVIEW & ZBA DECISION	9-28-21

SUBDIVISION SITE PLAN

PLAN FOR:
CALVARY BAPTIST CHURCH
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUGUST, 2021	SCALE: 1"=40'
PROJ. N0: NH-1364	SHEET NO. 1 OF 1

GOVE ENVIRONMENTAL SERVICES, INC.
WETLAND A REVISION


64
508
REC
507
REC
68
828
WF01
509
REC
826
WF03
827
WF02
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62
62
64
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WF04
824
WF05
823
WF06
70
1311
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R
1310
71.45
TOP
1309
70.25
TOE
68
66
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1307
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TOP
72
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71.08
EPTL
1305
72.65
TOP
1304
71.94
TOP
1306
70.18
TOE
1303
69.18
R
1302
69.89
R
822
WF07
270.1'
64
820
WF08
Remove flags 8/9
Reason: Soil colors
not hydric
0-3in 10yr 2/3
3-7in 2.5y 4/3
1300
69.81
R
1301
68.10
R
1299
67.06
R
819
WF09
818
WF10
1285
70.79
EPTL
1284
70.38
EPTL
26.7'
1298
70.16
R
1297
69.26
R
66
817
WF11
815
WF21
813
WF20
812
WF19
816
510
WF22 STP
REC
1295
69.53
R
1283
70.06
EPTL
1259
70.08
EPTL
1296
69.04
R
1252
69.12
TOE
68
809
WF18
810
WF12
66
64
511
REC
1279
67.94
R
1251
70.21
TL
70
805
WFA4
806
WFA3
807
WFA2
811
WF13
808
WF17
804
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66.17
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REC
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801
WF14
803
WF16
1248
70.25
FNC
1249
70.43
FNCTL
107
IRF1'AG
512
REC
70

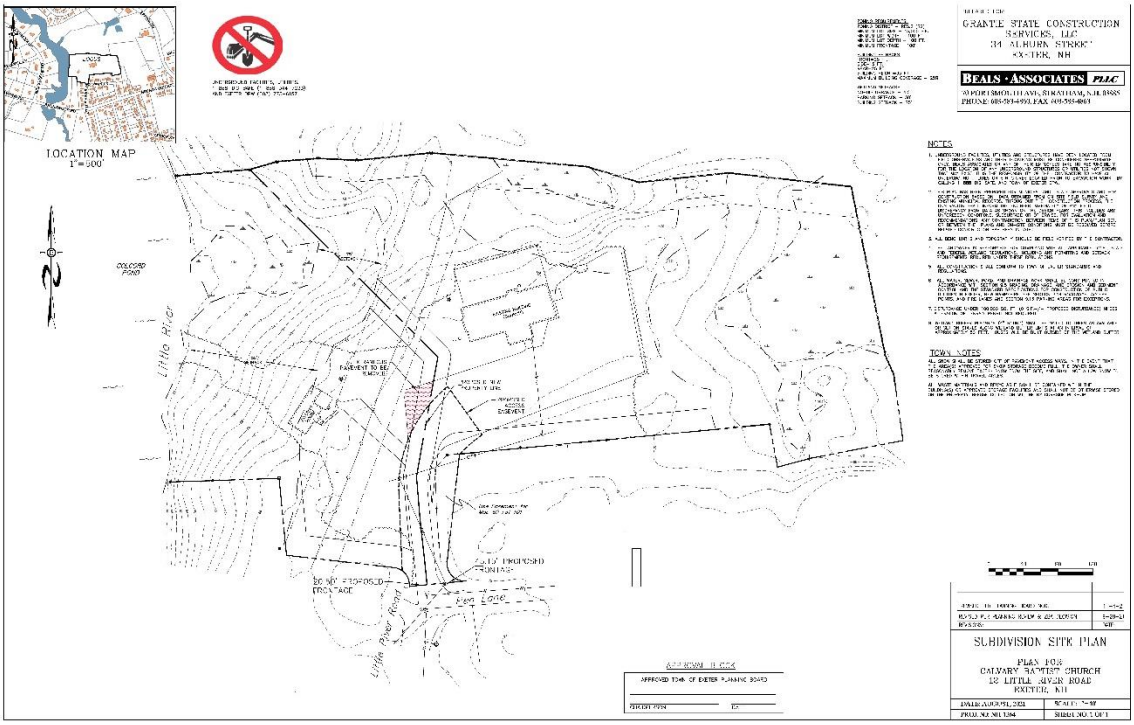
GOVE ENVIRONMENTAL SERVICES, INC.
SHORELAND DISTRICT LETTER

GOVE ENVIRONMENTAL SERVICES, INC.

GES Project Number: 2021103

12 Little River Road, Tax Map 62 Lot 90

ESTABLISHMENT OF THE EXETER SHORELAND PROTECTION DISTRICT PER SECTION 9.3 OF THE EXETER ZONING ORDINANCE



The Town of Exeter adopted the Shoreland Protection District to protect, maintain, and enhance the water of the Exeter River, its tributaries, and the Water Works Pond in the Town of Exeter. The subject property boarders the Little River along the entire western limit of the subject property. Per Section 9.3.3 A. 2. the district boundary "In addition, the area of land within 150 feet horizontal distance of the seasonal high-water level of all perennial brooks and streams within the Exeter River Watershed and all other perennial brooks and streams" which would include the Little River.

Precise locations of the district boundaries are defined in Section 9.3.2 B *Contiguous Wetland*: "A wetland which extends landward from its adjacent waterbody to a point where a natural or manmade discontinuity exists. Contiguous wetlands include bordering wetlands as well as wetlands that are situated immediately above the ordinary highwater mark and above the normal hydrologic influence of their adjacent waterbody. The lateral extent of a contiguous wetland

depends upon the existence of a discontinuity. Man-made discontinuities include dikes and barriers such as roads, etc. Natural discontinuities may be river berms, beach dunes, abrupt slope changes or abrupt changes in the soil material."

Based upon the above definitions, Brenden Walden, of GES, Inc. preformed a wetland delineation on April 27th, 2021, evaluating the entire subject property. A second field assessment was done on December 7th, 2021, to gather additional notes to accurately review of the wetlands previously identified on the subject property to determine the lateral extent of the contiguous wetlands.

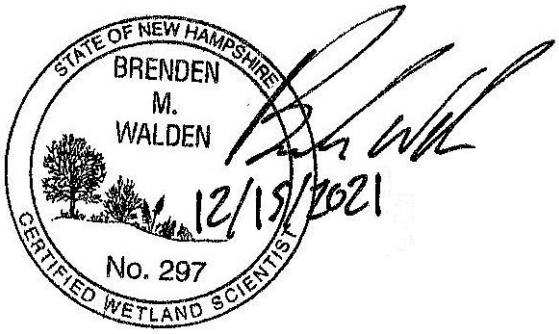
The observed high-water mark of the Little River was identified and delineated along the western property boundary. A contiguous freshwater wetland does extend to the east of this boundary however there is a natural slope change between these two areas that establishes the natural discontinuity between the freshwater wetland and the adjacent waterbody. This is evident by the displayed topographic change depicted on the existing conditions plan.

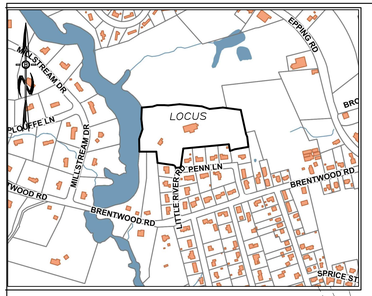
Moving west to east (left to right) on the supplied survey plan, a wetland was identified along the northern property boundary that extends off site. This delineated area was reviewed during the second site visit to determine connectivity to adjacent wetlands that may be contiguous to the Little River. During the site visit it was determined that this area has natural discontinuities both in soil profiles, poorly drained soil within the freshwater wetland to surrounding upland soils as well as steep topographical changes prevent this area from being contiguous with the Little River. Moving to the east there is a larger wetland that does extend off site and a small isolated depression adjacent to it. This large wetland system has significant distance between it and the Little River with steep topographical and soil profile changes between wetland and upland.

The Shoreland Protection District shown on the Existing Conditions plan was derived by the documentation above describing the natural discontinuities present between the wetlands delineated onsite and the delineated high-water mark associated with the Little River.

This concludes the review of the Exeter Shoreland Protection District. If there are any other questions or if you feel I can be of assistance in clarifying any of the provided information please feel free to contact me via email at bwalden@gesinc.biz.

Brenden Walden
Business Manager & Wetland Scientist
Gove Environmental Services





LOCATION MAP
1"=500'

UNDERGROUND FACILITIES, UTILITIES.
1-888-DIG-SAFE (1-888-344-7233).
AND EXETER DPW (603) 773-6157

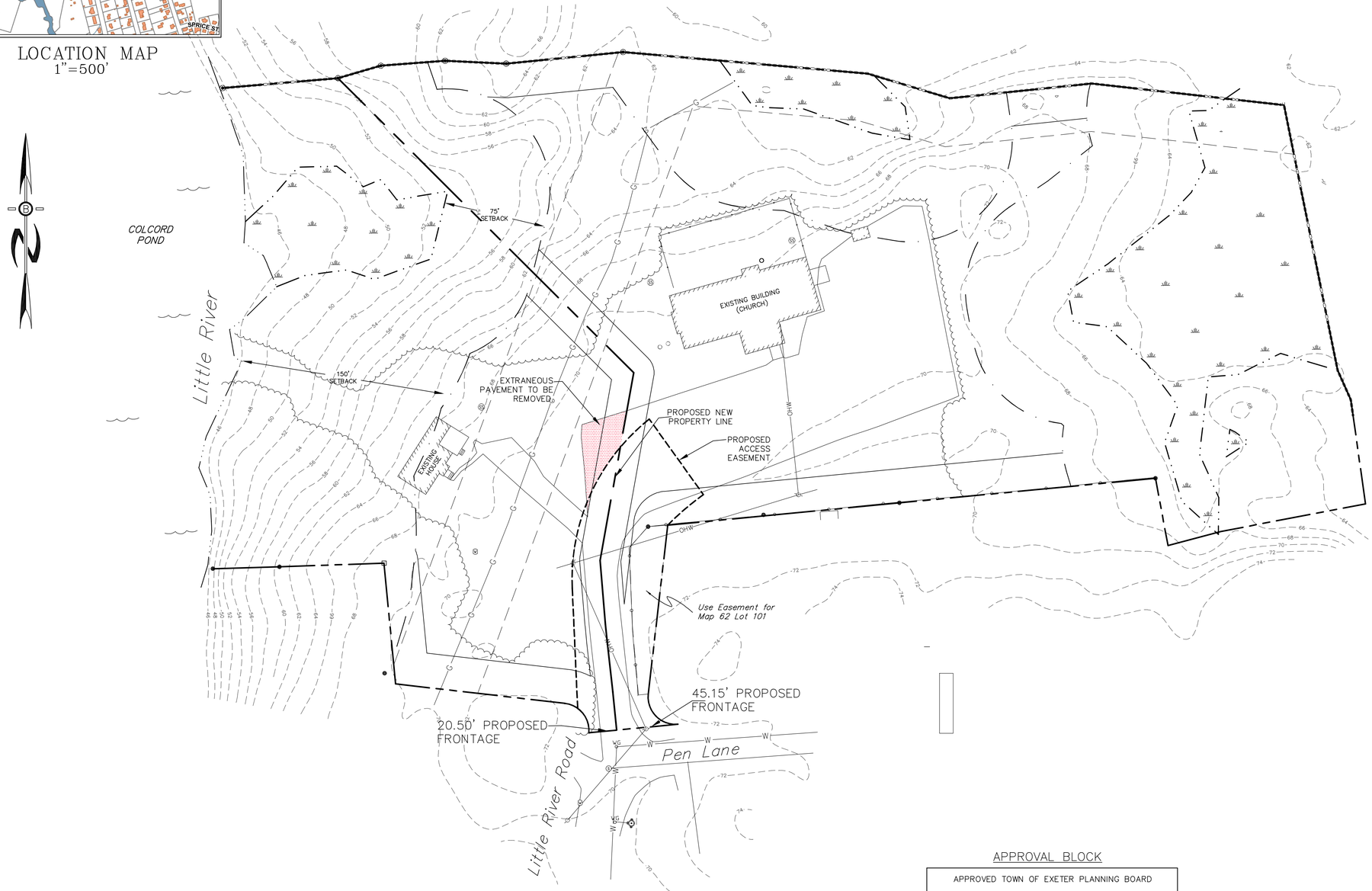
ZONING REQUIREMENTS:
ZONING DISTRICT – RES.2 (R2)
MINIMUM LOT SIZE – 15,000 S.F.
MINIMUM LOT WIDTH – 100 FT.
MINIMUM LOT DEPTH – 100 FT.
MINIMUM FRONTAGE – 100'

BUILDING SETBACKS
FRONT=25 FT.
SIDE=15 FT.
REAR=25 FT.
BUILDING HEIGHT=35 FT.
MAXIMUM BUILDING COVERAGE = 25%

WETLAND SETBACKS
NO-DISTURBANCE – 40'
PARKING SETBACK – 50'
BUILDING SETBACK – 75'

PREPARED FOR:
GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

BEALS • ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



NOTES

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE, AND TOWN OF EXETER DPW.
2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
4. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
5. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
6. ALL WATER, SEWER, ROAD, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION AND SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
7. DISTURBANCE UNDER 100,000 SQ. FT. (0 S.F.+/- PROPOSED DISTURBANCE) NHDES ALTERATION OF TERRAIN PERMIT NOT REQUIRED.
8. WETLAND BUFFER PLACARDS (4" ROUND) SHALL BE NAILED TO TREES AS AVAILABLE OR SET ON STAKES ALONG WETLAND BUFFER LIMITS AT AN INTERVAL OF APPROXIMATELY 50 FEET. HOUSES WILL BE BUILT OUTSIDE OF THE WETLAND BUFFER.

TOWN NOTES

ALL SNOW SHALL BE STORED OFF OF PAVEMENT ACCESS WAYS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.

ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY CURBSIDE PICK-UP.

0 40 80 120

APPROVAL BLOCK

APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON DATE

REVISIONS:	DATE:
REVISED PER PLANNING BOARD NOD.	11-4-21
REVISED PER PLANNING REVIEW & ZBA DECISION	9-28-21

SUBDIVISION SITE PLAN

PLAN FOR:
CALVARY BAPTIST CHURCH
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUGUST, 2021	SCALE: 1"=40'
PROJ. N0: NH-1364	SHEET NO. 1 OF 1

civil &
environmental
engineering

UNDERWOOD
engineers

2992.00

November 6, 2023

Mr. David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: ***12 Little River Road Residential Development***
Design Review Engineering Services
Exeter, New Hampshire

Site Information:

Review No. 2

Tax Map/Lot#:	90 / 0
Address:	12 Little River Road
Lot Area:	5.01 Acres
Proposed Use:	Residential
Water:	Town
Sewer:	Town
Zoning District:	R-2
Applicant:	Granite State Construction Services
Design Engineer:	Beals Associates

Application Materials Received:

- Site plan set entitled "Colcord Meadow Residential Site Plan" revised October 10, 2023 prepared by Beals Associates
- Response letter dated 10/16/23 prepared by Beals Associates

Dear Mr. Sharples:
Based on our review of the above information, in addition to comments provided by the Town, we offer the following comments in accordance with the Town of Exeter Regulations and standard engineering practice.
Please note that comments from Review #1 that have been addressed satisfactorily have been removed and only outstanding or new comments are presented below.

Lot Line Adjustment Plan

16. The proposed sewer line crosses the proposed property line between 90-0 and 90-1, a sewer easement will be required.

ph 603.230.9898
fx 603.230.9899
99 North State Street
Concord, NH 03301
underwoodengineers.com

Initial Response: The main has been edited to eliminate the former encroachment.

Follow-up: The sewer main still crosses onto Parcel 90-1 at approximately station 1+00, so a sewer easement is still necessary.

Yield Plan

17. Original Comment: Parcel 90-1, being under separate ownership, cannot be incorporated into the yield plan unless the lots will be consolidated or the application is combined to include the appropriate information and signatures.

Initial Response: The plans have been revised to remove the other lot (90-1) from the yield per the Planning Dept.

Follow-up: The proposed ROW is still taking a portion of Parcel 90-1. UE acknowledges that the portion being taken is captured within an established "Shared ROW" however the ROW is not defined in terms of limits or restrictions nor is there any clear right or obligation on either party to upgrade, change the use or maintain it. For example, the proposed mail kiosk is on Lot 90-1. The validity of the Yield Plan relies on the concurrence of Lot 90-1 to yield the land within the ROW to the Town for the proposed (Yield Plan) road. Further comment is deferred to the Planning Board.

20. Original Comment: The easement servicing Lot 91 encroaches into the depicted ROW. Please confirm the intent of the easement can be preserved as shown without disturbance if the road were to be built as shown.

Initial Response: There would be no change to the existing drive except to reduce the pavement width near the northerly end of the easement. No change in topography would be necessary.

Follow-Up: The response does not appear to address the comment. The intent of a Yield Plan to portray a conventional sub-division layout that could be permitted in order to establish the base level of potential units. The Applicant is relying on land that is not within their control to establish a conceptual ROW. It appears unlikely that the Town of Exeter would be inclined to accept the easement within their ROW if this roadway were proposed conventionally, bringing the Yield Plan's validity into question. We defer further comment to the Planning Board.

21. Original Comment: The proposed road should be centered in the ROW with the edge of pavement running parallel with the ROW lines.

Initial Response: The intent is to use the existing Drive which is already established. Centering the pavement within the ROW is not a requirement.

Follow-Up: The intent of the project is clear, however the shift in the roadway is directly related to the easement per comment 20 above.

Grading and Drainage Plan

42. Original Comment: The proposed roadway profile appears to be sloping back to Pen Lane. In winter, when snow curb is present, drainage will be trapped and will follow the slope to the Town's ROW. Please address.

Initial Response: This is case in the existing condition as well and a reduction in overall impervious area to the ROW of approximately 300 s.f. is proposed.

Follow-Up: Response Noted. Deferring to the existing condition, while also proposing an increase in paved area to accommodate the mail kiosk, is contrary to addressing the potential for stormwater and ice on the proposed roadway is not an appropriate proposal. The final project should include a new driveway to the existing street, with suitable stormwater run-off measures, to provide a suitable starting point for Lot 90-1 and the new condominium residents to begin their new relationship, rather than passing existing problems along to the new residents.

Profile and Utility Plan

45. Original Comment: Related to comments immediately above, the rim elevation of SMH A appears to be approximately 71' per the proposed grading. Cover over much of the sewer main length appears to be below DES requirements. At the tie-in to the existing sewer manhole, less than 3' of cover is achieved, and there may be less at SMH A. The minimum pipe slope for 8" sewer is 0.004.

Initial Response: The proposed sewer lines are in place of the old services. Rigid insulation is specified for the limited cover. The proposed slope for the 6" lines is proposed at 0.006'/' as required.

Follow-Up: The proposed sewer run is shown with only 2.5'of cover throughout most of the run. Even with extra insulation, this is risky. The Town's DPW has indicated they will not accept a sewer with the limited cover shown. It appears to UE there are two options. A pressure sewer could be proposed, or the elevation of the roadway and homes can be raised.

Stormwater Design and Modeling

48. PTAP Database: This project requires registration with the PTAP Database. The draft PTAP submission has been reviewed and satisfies stormwater treatment requirements.

NEW COMMENTS

Existing Conditions Plan

51. Note 5. D) identifies the Shared Private Right of Way as shown on Reference Plan 2, however the correct reference is Reference #1 D-43143.

52. The intent or limitations of the Shared Private Right of Way is not defined on Plan D-43143 and it is unclear to UE if the Applicant has the authority/right to propose an expanded use or propose improvements or modifications within the contexts of comments 17, 20, and 21 concerning the Yield Plan above. Moving forward, the rights, limitations and responsibilities of the Shared ROW must be defined adequately as there will be disproportional use between the respective owners once the Condominium is constructed.

Site Plan

53. The project proposes work on Parcel 90-1 outside of the Private Right of Way, approximately Sta 1+60 Left.

A written response is required to facilitate future reviews. Please contact us if you have any questions.

Very truly yours,

UNDERWOOD ENGINEERS, INC.

Allison M. Rees, P.E.
Project Manager

Robert J. Saunders, P.E.
Senior Project Engineer

AMR:scc

BMP Type	BMP [1,2,3,4,5,6,7]	Notes	Lit. Ref.	Values accepted for Loading Analyses		
				TSS	TN	TP
Stormwater Ponds	Wet Pond		B,F	70%	35%	45%
	Wet Extended Detention Pond		A,B	80%	55%	68%
	Micropool Extended Detention Pond	TBA				
	Multiple Pond System	TBA				
	Pocket Pond	TBA				
Stormwater Wetlands	Shallow Wetland		A,B,F,I	80%	55%	45%
	Extended Detention Wetland		A,B,F,I	80%	55%	45%
	Pond/Wetland System	TBA				
	Gravel Wetland		H	95%	85%	64%
Infiltration Practices	Infiltration Trench (≥75 ft from surface water)		B,D,I	90%	55%	60%
	Infiltration Trench (<75 ft from surface water)		B,D,I	90%	10%	60%
	Infiltration Basin (≥75 ft from surface water)		A,F,B,D,I	90%	60%	65%
	Infiltration Basin (<75 ft from surface water)		A,F,B,D,I	90%	10%	65%
	Dry Wells			90%	55%	60%
	Drip Edges			90%	55%	60%
Filtering Practices	Aboveground or Underground Sand Filter that infiltrates WQV (≥75 ft from surface water)		A,F,B,D,I	90%	60%	65%
	Aboveground or Underground Sand Filter that infiltrates WQV (<75 ft from surface water)		A,F,B,D,I	90%	10%	65%
	Aboveground or Underground Sand Filter with underdrain		A,I,F,G,H	85%	10%	45%
	Tree Box Filter	TBA				
	Bioretention System		I,G,H	90%	65%	65%
	Permeable Pavement that infiltrates WQV (≥75 ft from surface water)		A,F,B,D,I	90%	60%	65%
	Permeable Pavement that infiltrates WQV (<75 ft from surface water)		A,F,B,D,I	90%	10%	65%
	Permeable Pavement with underdrain		Use TN and TP values for sand filter w/ underdrain and outlet pipe	90%	10%	45%
Treatment Swales	Flow Through Treatment Swale	TBA				
Vegetated Buffers	Vegetated Buffers		A,B,I	73%	40%	45%
Pre-Treatment Practices	Sediment Forebay	TBA				
	Vegetated Filter Strip[8]		A,B,I	73%	40%	45%
	Vegetated Swale		A,B,C,F,H,I	65%	20%	25%
	Flow-Through Device - Hydrodynamic Separator		A,B,G,H	35%	10%	5%
	Flow-Through device - ADS Underground Multichamber Water Quality Unit (WQU)		G,H	72%	10%	9%
	Other Flow-Through Devices	TBA				
	Off-line Deep Sump Catch Basin		J,K,L,M	15%	5%	5%

COLCORD MEADOW
RESIDENTIAL SITE PLAN
12 LITTLE RIVER ROAD
EXETER, NH
TAX MAP 62, LOT 90

NOT FOR CONSTRUCTION

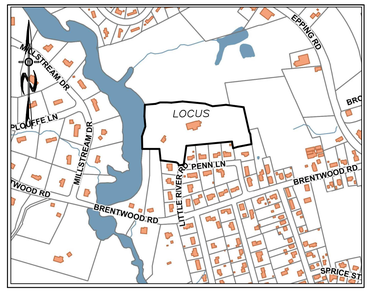
CIVIL ENGINEERS:

BA BEALS ASSOCIATES, PLLC

70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX. 603-583-4863

STATE OF NEW HAMPSHIRE — CHRISTIAN O. SMITH No. 9900 — PROFESSIONAL ENGINEER

LOCATION MAP



SCALE: 1"=500'

INDEX

LAND SURVEYORS:

661
KEVIN
M.
McENEANEY

McEneaney Survey Associates of NEW ENGLAND

P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

WETLAND / SOIL CONSULTANT:

GOVE ENVIRONMENTAL SERVICES INC.
8 CONTINENTAL DRIVE,
BLDG 2 UNIT H
EXETER, NH 03833
1-603-778-0644

STATE OF NEW HAMPSHIRE — BRENDEN M. WALDEN — 10/16/2023 — No. 297 — CERTIFIED WETLAND SCIENTIST

The Exeter Zoning Board of Adjustment, at its September 21st, 2021 meeting, voted to grant the above-captioned application for a variance from Article 4, Section 4.3 Schedule II: Density & Dimensional Regulations-Residential to permit a proposed minor subdivision of the property located at 12 Little River Road with less than the required minimum lot width/frontage requirements, as presented.

PLAN SET LEGEND

5/8" REBAR	●	OVERHEAD ELEC. LINE	
DRILL HOLE	◉	FENCING	x
CONC. BOUND	▫	DRAINAGE LINE	D
UTILITY POLE		SEWER LINE	S
DRAIN MANHOLE	Ⓓ	GAS LINE	G
SEWER MANHOLE	Ⓢ	WATER LINE	W
EXISTING LIGHT POLE	☆	STONE WALL	
EXISTING CATCH BASIN	□	TREE LINE	
PROPOSED CATCH BASIN	⊞	ABUT. PROPERTY LINES	
WATER GATE	⋈	EXIST. PROPERTY LINES	
WATER SHUT OFF		BUILDING SETBACK LINES	
HYDRANT		EXIST. CONTOUR	100
PINES, ETC.		PROP. CONTOUR	100
MAPLES, ETC.		SOIL LINES	
EXIST. SPOT GRADE	96x69		
PROP. SPOT GRADE	96x69		
DOUBLE POST SIGN			
SINGLE POST SIGN			

OWNER/APPLICANT:

GRANTIE STATE CONSTRUCTION
SERVICES, LLC
34 AUBURN STREET
EXETER, NH

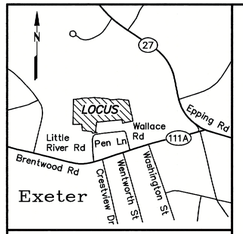
REQUIRED STATE AND FEDERAL PERMITS

NHDES SEWER EXT. #2023....
NHDES WATER EXT. #2023....
EPA CGP#.

PB CASE #	
CHAIRMAN SIGNATURE:	

	REVISIONS:	DATE:
1	ISSUED 8-29-23	
2	REVISED PER TRC REVIEW	10/10/23
3	REVISED PER TRC REVIEW	11/8/23
4		
5		

NH-1364 PROPOSED SITE PLAN

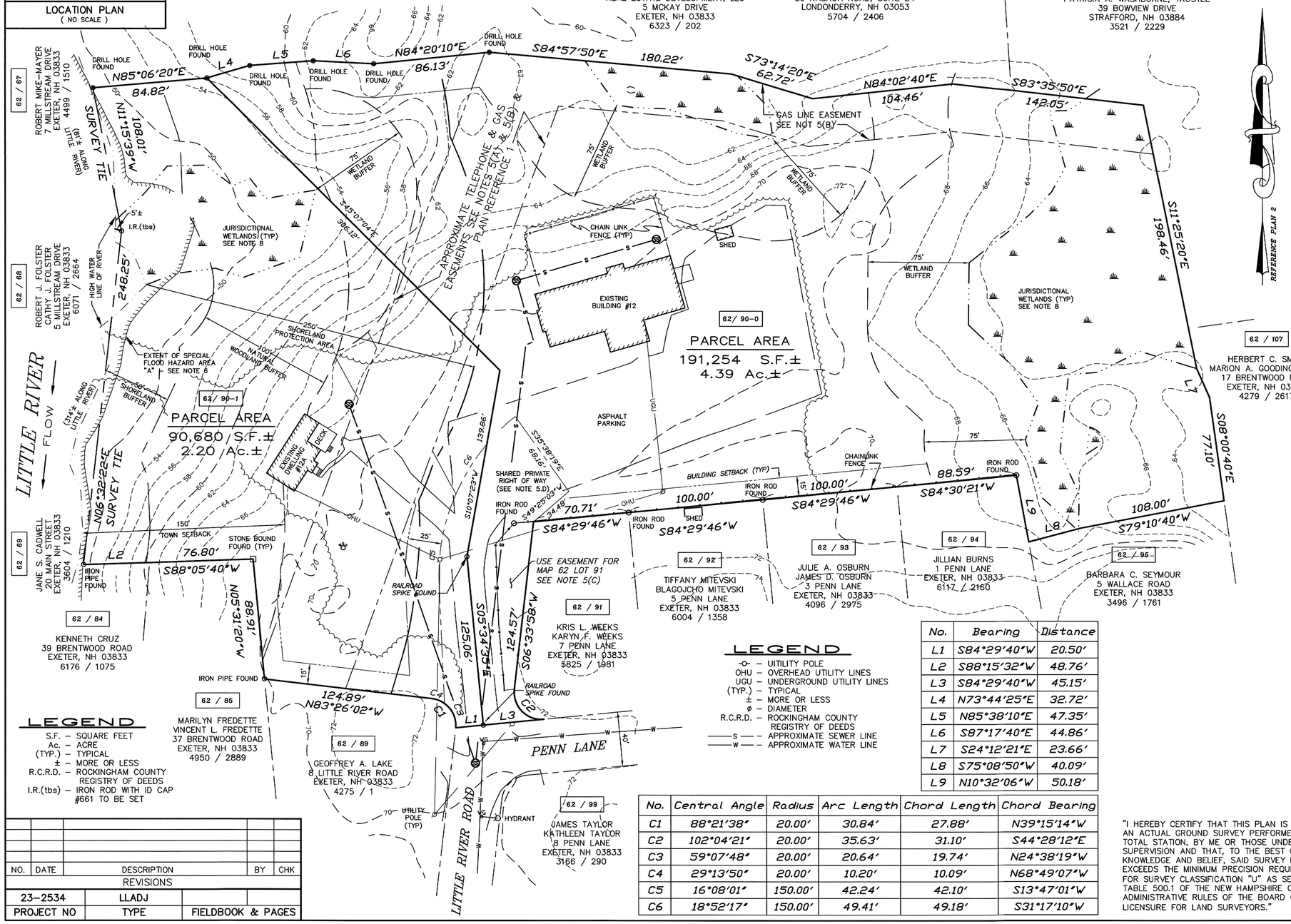


LOCATION PLAN
(NO SCALE)

REFERENCE PLANS:

1.) SUBDIVISION PLAN PREPARED FOR GRANITE STATE CONSTRUCTION SERVICES, LLC, OF PROPERTY IN THE NAME OF CALVARY BAPTIST CHURCH OF EXETER, INC., SHOWN AS TAX MAP 62 / LOT 90 LOCATED AT 12 LITTLE RIVER ROAD, COUNTY OF ROCKINGHAM, EXETER, NH; SCALE: 1" = 40'; DATED: AUGUST 5, 2021, REVISED THROUGH 12/7/21; BY: DAVID W. VINCENT, LLS, LAND SURVEYING SERVICES; RECORDED R.C.R.D. PLAN D-43143.

2.) PLAN OF LAND FOR CALVARY BAPTIST CHURCH, LITTLE RIVER ROAD, EXETER, NH; DATED: JUNE 1982; BY: K. E. MOORE & B. G. STAPLES, REVISED BY PARKER SURVEY ASSOC., INC.; RECORDED R.C.R.D. PLAN D-10865.



NOTES:

1.) OWNERS OF RECORD:

62/ 19-0 — GRANITE STATE CONSTRUCTION SERVICES LLC
34 AUBURN STREET
EXETER, NEW HAMPSHIRE 03833
R.C.R.D. VOLUME 6502, PAGE 2920

62/ 19-1 — TYLER J. PETERS
OLIVIA MICHAUD
12A LITTLE RIVER ROAD
EXETER, NEW HAMPSHIRE 03833
R.C.R.D. VOLUME 6414, PAGE 567

2.) 62/ 19-0 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) THE INTENT OF THIS PLAN DEPICT THE EXISTING CONDITIONS OF THE SUBJECT PARCELS AS OF THE DATE OF THIS PLAN.

LOT	ORIGINAL AREA	NEW AREA
62/90-0	191,254 S.F. (4.39 Ac.)	218,160 S.F. (5.01 Ac.)
62/90-1	90,680 S.F (2.20 Ac.)	63,775 S.F. (1.46 Ac.)

4.) ZONING DISTRICT: R-2 SINGLE FAMILY

DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 15,000 S.F. / UNIT
MINIMUM FRONTAGE	= 100 FEET
MINIMUM WIDTH	= 100 FEET
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 25 FEET
SIDE SETBACK	= 15 FEET
REAR SETBACK	= 25 FEET
MAXIMUM BUILDING HEIGHT	= 35 FEET (3 STORIES)
WETLAND SETBACKS:	
NO-DISURBANCE	= 40 FEET
PARKING	= 50 FEET
BUILDING	= 75 FEET

THE EXETER ZONING BOARD OF ADJUSTMENT (CASE #21-10), AT ITS SEPTEMBER 21, 2021 MEETING, VOTED TO GRANT A VARIANCE FROM ARTICLE 4, SECTION 4.3 SCHEDULE II: DENSITY & DIMENSIONAL REGULATIONS-RESIDENTIAL TO PERMIT A PROPOSED MINOR SUBDIVISION OF THE PROPERTY LOCATED AT 12 LITTLE RIVER ROAD WITH LESS THAN THE REQUIRED MINIMUM LOT WIDTH/FRONTAGE REQUIREMENTS.

5.) THE PARCELS ARE SUBJECT TO THE FOLLOWING EASEMENTS

A.) PARCELS ARE SUBJECT TO AN EASEMENT TO NEW ENGLAND TELEPHONE & TELEGRAPH CO. AS DESCRIBED IN RCRD BK 992, PG 157.
B.) PARCELS ARE SUBJECT TO AN EASEMENT TO ALLIED-NEW HAMPSHIRE GAS CO. AS DESCRIBED IN RCRD BK 1378, PG 221.
C.) PARCEL 62/90-0 IS SUBJECT TO A USE EASEMENT TO BENEFIT MAP 62 LOT 91 AS DESCRIBED IN RCRD BK 2792, PG 597.
D.) PARCELS HAVE A SHARED PRIVATE RIGHT OF WAY AS SHOWN ON REFERENCE PLAN 2.

6.) A PORTION OF THE PARCEL IS LOCATED IN A FLOOD HAZARD ZONE A AS DEPICTED ON FLOOD INSURANCE RATE MAP, NO. 33015C0401E, ROCKINGHAM COUNTY, NH, (ALL JURISDICTIONS), EFFECTIVE DATE: MAY 17, 2005

7.) BASIS OF BEARING IS REFERENCE PLAN 2.

8.) THE WETLAND AREAS SHOWN HEREON WERE FIELD DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., OF 8 CONTINENTAL DRIVE, BUILDING #2, UNIT H, EXETER, NH. in 2021, AND RE-EVALUATED AND UPDATED ON AUGUST 1, 2023, AND PROVIDED BY BEALS ASSOCIATES, PLLC.

9.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM REFERENCE PLAN 2.

10.) PARCELS ARE SUBJECT TO THE STATE OF NEW HAMPSHIRE SHORELINE WATER QUALITY PROTECTION ACT (SWQPA). THOSE AREAS WITHIN 250 FEET OF THE LITTLE RIVER REFERENCE LINE.

LEGEND

S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
R.C.R.D. – ROCKINGHAM COUNTY REGISTRY OF DEEDS
I.R.(tbs) – IRON ROD WITH ID CAP #661 TO BE SET

LEGEND

-o- – UTILITY POLE
OHU – OVERHEAD UTILITY LINES
UGU – UNDERGROUND UTILITY LINES
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
R.C.R.D. – ROCKINGHAM COUNTY REGISTRY OF DEEDS
——S—— – APPROXIMATE SEWER LINE
——W—— – APPROXIMATE WATER LINE

No.	Bearing	Distance
L1	S84°29'40"W	20.50'
L2	S88°15'32"W	48.76'
L3	S84°29'40"W	45.15'
L4	N73°44'25"E	32.72'
L5	N85°38'10"E	47.35'
L6	S87°17'40"E	44.86'
L7	S24°12'21"E	23.66'
L8	S75°08'50"W	40.09'
L9	N10°32'06"W	50.18'

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	88°21'38"	20.00'	30.84'	27.88'	N39°15'14"W
C2	102°04'21"	20.00'	35.63'	31.10'	S44°28'12"E
C3	59°07'48"	20.00'	20.64'	19.74'	N24°38'19"W
C4	29°13'50"	20.00'	10.20'	10.09'	N68°49'07"W
C5	16°08'01"	150.00'	42.24'	42.10'	S13°47'01"W
C6	18°52'17"	150.00'	49.41'	49.18'	S31°17'10"W

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

23-2534	LLADJ	
PROJECT NO	TYPE	FIELDBOOK & PAGES

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

EXISTING CONDITIONS PLAN
PREPARED FOR
TYLER J. PETERS & OLIVIA MICHAUD
AND
GRANITE STATE CONSTRUCTION SERVICES LLC
TAX MAP 62, LOT Nos. 90-0 & 90-1
12A & 12 LITTLE RIVER ROAD
TOWN of EXETER
COUNTY of ROCKINGHAM
STATE of NEW HAMPSHIRE

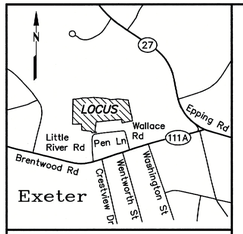
DRAWN BY: KJF	FILE: MSA\2534\D\23-2534
SCALE: 1" = 40'	DATE: OCTOBER 16, 2023

40 20 0 20 40 80 120 160

STATE OF NEW HAMPSHIRE — No. 661 — KEVIN M. McENEANEY — LICENSED LAND SURVEYOR — SIGNATURE

McEneaney Survey Associates
of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING – PLANNING – CONSULTING



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55 / 3
BOULDERS REALTY CORP.
PO BOX 190
EXETER, NH 03833
5704 / 2344

55 / 3-2
INTEGRITY VENTURES, INC.
21 RED FOX LANE
BARRINGTON, NH 03825
5983 / 1221

55 / 3-1
SEACOAST EARLY LEARNING CENTER
REAL ESTATE DEVELOPMENT, LLC
5 MCKAY DRIVE
EXETER, NH 03833
6323 / 202

55 / 3-3
COLCORD POND ASSOCIATES, LLC
80 NASHUA ROAD, SUITE 24
LONDONDERRY, NH 03053
5704 / 2406

62 / 111
PATRICIA A. WASHBURNE REVOCABLE TRUST 2004
PATRICIA A. WASHBURNE, TRUSTEE
39 BOWVIEW DRIVE
STRAFFORD, NH 03884
3521 / 2229

62 / 67
ROBERT MIKE-MAYER
7 MILLSTREAM DRIVE
EXETER, NH 03833
4499 / 1510

62 / 68
ROBERT J. FOLSTER
CATHY J. FOLSTER
5 MILLSTREAM DRIVE
EXETER, NH 03833
6071 / 2664

62 / 69
JANE S. CADWELL
20 MAIN STREET
EXETER, NH 03833
3604 / 1210

62 / 84
KENNETH CRUZ
39 BRENTWOOD ROAD
EXETER, NH 03833
6176 / 1075

62 / 85
MARILYN FREDETTE
VINCENT L. FREDETTE
37 BRENTWOOD ROAD
EXETER, NH 03833
4950 / 2889

62 / 89
GEOFFREY A. LAKE
8 LITTLE RIVER ROAD
EXETER, NH 03833
4275 / 1

62 / 90-0
NEW
PARCEL AREA
218,160 S.F.±
5.01 Ac.±

62 / 90-1
NEW
PARCEL AREA
63,775 S.F.±
1.46 Ac.±

62 / 91
KRIS L. WEEKS
KARYN F. WEEKS
7 PENN LANE
EXETER, NH 03833
5825 / 1981

62 / 92
TIFFANY MITEVSKI
BLAGOJCHO MITEVSKI
5 PENN LANE
EXETER, NH 03833
6004 / 1358

62 / 93
JULIE A. OSBURN
JAMES D. OSBURN
3 PENN LANE
EXETER, NH 03833
4096 / 2975

62 / 94
JILLIAN BURNS
1 PENN LANE
EXETER, NH 03833
6117 / 2160

62 / 95
BARBARA C. SEYMOUR
5 WALLACE ROAD
EXETER, NH 03833
3496 / 1761

62 / 99
JAMES TAYLOR
KATHLEEN TAYLOR
8 PENN LANE
EXETER, NH 03833
3166 / 290

62 / 107
HERBERT C. SMITH
MARION A. GOODING-SMITH
17 BRENTWOOD ROAD
EXETER, NH 03833
4279 / 2617

ROBERT MIKE-MAYER 7 MILLSTREAM DRIVE EXETER, NH 03833 4499 / 1510 (81'± ALONG LITTLE RIVER)
DRILL HOLE FOUND
N85°06'20"E 84.82'
L4
L5
L6
N84°20'10"E 86.13'
DRILL HOLE FOUND
S84°57'50"E 180.22'
S73°14'20"E 62.72'
N84°02'40"E 104.46'
S83°35'50"E 142.05'
S11°25'20"E 198.46'
SURVEY TIE
N11°15'39"W 108.01'
5'±
I.R.(tbs)
HIGH WATER LINE OF RIVER
LITTLE RIVER FLOW
(314'± ALONG LITTLE RIVER)
JURISDICTIONAL WETLANDS (TYP) SEE NOTE 8
75' WETLAND BUFFER
LOT LINE TO BE ABANDONED S45°07'04"E 30.12'
APPROXIMATE TELEPHONE & GAS EASEMENTS SEE NOTES 5(A) & 5(B) & PLAN REFERENCE 1
GAS LINE EASEMENT SEE NOT 5(B)
CHAIN LINK FENCE (TYP)
SHED
EXISTING BUILDING #12
NEW LOT LINE
A
286.12' S72°25'52"E
248.25'
I.R.(tbs)
250' SHORELAND PROTECTION AREA
100' NATURAL WOODLAND BUFFER
EXTENT OF SPECIAL FLOOD HAZARD AREA "A" – SEE NOTE 6
50' SHORELAND BUFFER
(314'± ALONG LITTLE RIVER)
N06°32'22"E SURVEY TIE
176.89' S13°07'32"E NEW LOT LINE
139.86' S35°38'19"E 68.16'
C6
S10°07'23"W LOT LINE TO BE ABANDONED
EXISTING DWELLING #12A
DECK
SHARED PRIVATE RIGHT OF WAY (SEE NOTE 5.D)
IRON ROD FOUND
S49°29'03"W 24.46'
70.71' S84°29'46"W
100.00' S84°29'46"W
100.00' S84°30'21"W
88.59' S08°00'40"E 77.10'
108.00' S79°10'40"W
BUILDING SETBACK (TYP)
50.0'
CHAINLINK FENCE
75'
L7
L8
L9
150' TOWN SETBACK
STONE BOUND FOUND (TYP)
L2 76.80' S88°05'40"W
IRON PIPE FOUND
N05°31'20"W 198.81'
IRON PIPE FOUND
124.89' N83°26'02"W
C1
C2
C3
C4
C5
L1
L3
25'
(43.21')
RAILROAD SPIKE FOUND
USE EASEMENT FOR MAP 62 LOT 91 SEE NOTE 5(C)
124.57' S06°33'58"W
125.06' S05°34'35"E
15'
40'
PENN LANE
LITTLE RIVER ROAD
ASPHALT PARKING
UTILITY POLE (TYP)
HYDRANT
REFERENCE PLAN 2

NOTES:

1.) OWNERS OF RECORD:
- 62/ 19-0 — GRANITE STATE CONSTRUCTION SERVICES LLC, 34 AUBURN STREET, EXETER, NEW HAMPSHIRE 03833, R.C.R.D. VOLUME 6502, PAGE 2920
- 62/ 19-1 — TYLER J. PETERS, OLIVIA MICHAUD, 12A LITTLE RIVER ROAD, EXETER, NEW HAMPSHIRE 03833, R.C.R.D. VOLUME 6414, PAGE 567

2.) 62/ 19-0 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) THE INTENT OF THIS PLAN IS TO ADJUST THE LOT LINES OF THE SUBJECT PARCELS AS SHOWN. PARCEL A (26,906 S.F.) IS TO BE ADDED TO LOT 62/90-0:

LOT	ORIGINAL AREA	NEW AREA
62/90-0	191,254 S.F. (4.39 Ac.)	218,160 S.F. (5.01 Ac.)
62/90-1	90,680 S.F (2.20 Ac.)	63,775 S.F. (1.46 Ac.)

4.) ZONING DISTRICT: R-2 SINGLE FAMILY

DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 15,000 S.F. / UNIT
MINIMUM FRONTAGE	= 100 FEET
MINIMUM WIDTH	= 100 FEET
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 25 FEET
SIDE SETBACK	= 15 FEET
REAR SETBACK	= 25 FEET
MAXIMUM BUILDING HEIGHT	= 35 FEET (3 STORIES)
WETLAND SETBACKS:	
NO-DISURBANCE	= 40 FEET
PARKING	= 50 FEET
BUILDING	= 75 FEET

THE EXETER ZONING BOARD OF ADJUSTMENT (CASE #21-10), AT ITS SEPTEMBER 21, 2021 MEETING, VOTED TO GRANT A VARIANCE FROM ARTICLE 4, SECTION 4.3 SCHEDULE II: DENSITY & DIMENSIONAL REGULATIONS-RESIDENTIAL TO PERMIT A PROPOSED MINOR SUBDIVISION OF THE PROPERTY LOCATED AT 12 LITTLE RIVER ROAD WITH LESS THAN THE REQUIRED MINIMUM LOT WIDTH/FRONTAGE REQUIREMENTS.

5.) THE PARCELS ARE SUBJECT TO THE FOLLOWING EASEMENTS

A.) PARCELS ARE SUBJECT TO AN EASEMENT TO NEW ENGLAND TELEPHONE & TELEGRAPH CO. AS DESCRIBED IN RCRD BK 992, PG 157.
B.) PARCELS ARE SUBJECT TO AN EASEMENT TO ALLIED-NEW HAMPSHIRE GAS CO. AS DESCRIBED IN RCRD BK 1378, PG 221.
C.) PARCEL 62/90-0 IS SUBJECT TO A USE EASEMENT TO BENEFIT MAP 62 LOT 91 AS DESCRIBED IN RCRD BK 2792, PG 597.
D.) PARCELS HAVE A SHARED PRIVATE RIGHT OF WAY AS SHOWN ON REFERENCE PLAN 2.

6.) A PORTION OF THE PARCEL IS LOCATED IN A FLOOD HAZARD ZONE A AS DEPICTED ON FLOOD INSURANCE RATE MAP, NO. 33015C0401E, ROCKINGHAM COUNTY, NH, (ALL JURISDICTIONS), EFFECTIVE DATE: MAY 17, 2005

7.) BASIS OF BEARING IS REFERENCE PLAN 2.

8.) THE WETLAND AREAS SHOWN HEREON WERE FIELD DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., OF 8 CONTINENTAL DRIVE, BUILDING #2, UNIT H, EXETER, NH. in 2021, AND RE-EVALUATED AND UPDATED ON AUGUST 1, 2023, AND PROVIDED BY BEALS ASSOCIATES, PLLC.

9.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM REFERENCE PLAN 2.

10.) PARCELS ARE SUBJECT TO THE STATE OF NEW HAMPSHIRE SHORELINE WATER QUALITY PROTECTION ACT (SWQPA). THOSE AREAS WITHIN 250 FEET OF THE LITTLE RIVER REFERENCE LINE.

LEGEND

S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
R.C.R.D. – ROCKINGHAM COUNTY REGISTRY OF DEEDS
I.R.(tbs) – IRON ROD WITH ID CAP #661 TO BE SET

No.	Bearing	Distance
L1	S84°29'40"W	20.50'
L2	S88°15'32"W	48.76'
L3	S84°29'40"W	45.15'
L4	N73°44'25"E	32.72'
L5	N85°38'10"E	47.35'
L6	S87°17'40"E	44.86'
L7	S24°12'21"E	23.66'
L8	S75°08'50"W	40.09'
L9	N10°32'06"W	50.18'

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	88°21'38"	20.00'	30.84'	27.88'	N39°15'14"W
C2	102°04'21"	20.00'	35.63'	31.10'	S44°28'12"E
C3	59°07'48"	20.00'	20.64'	19.74'	N24°38'19"W
C4	29°13'50"	20.00'	10.20'	10.09'	N68°49'07"W
C5	16°08'01"	150.00'	42.24'	42.10'	S13°47'01"W
C6	18°52'17"	150.00'	49.41'	49.18'	S31°17'10"W

APPROVED
APPROVED BY THE TOWN OF EXETER PLANNING BOARD

DATE

CHAIRMAN:

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

NO.	DATE	DESCRIPTION	BY	CHK
1	10/16/23	REV. PER ENGINEERING COMMENTS, CHANGE LOT LINE	KJF	KMM
		REVISIONS		

23-2534	LLADJ		
PROJECT NO	TYPE	FIELDBOOK & PAGES	

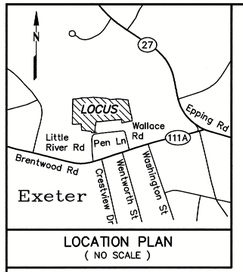
LOT LINE ADJUSTMENT PLAN
PREPARED FOR
TYLER J. PETERS & OLIVIA MICHAUD
AND
GRANITE STATE CONSTRUCTION SERVICES LLC
TAX MAP 62, LOT Nos. 90-0 & 90-1
12A & 12 LITTLE RIVER ROAD
TOWN of EXETER
COUNTY of ROCKINGHAM
STATE of NEW HAMPSHIRE

DRAWN BY: KJF | FILE: MSA\2534\D\23-2534
SCALE: 1" = 40' | DATE: OCTOBER 4, 2023

40 20 0 20 40 80 120 160

STATE OF NEW HAMPSHIRE — No. 661 KEVIN M. MacENEANEY — LICENSED LAND SURVEYOR — SIGNATURE

MacENEANEY SURVEY ASSOCIATES of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911
SURVEYING – PLANNING – CONSULTING



LOCATION PLAN
(NO SCALE)

REFERENCE PLANS:

1.) SUBDIVISION PLAN PREPARED FOR GRANITE STATE CONSTRUCTION SERVICES, LLC, OF PROPERTY IN THE NAME OF CALVARY BAPTIST CHURCH OF EXETER, INC., SHOWN AS TAX MAP 62 / LOT 90 LOCATED AT 12 LITTLE RIVER ROAD, COUNTY OF ROCKINGHAM, EXETER, NH; SCALE: 1" = 40'; DATED: AUGUST 5, 2021, REVISED THROUGH 12/7/21; BY: DAVID W. VINCENT, LLS, LAND SURVEYING SERVICES; RECORDED R.C.R.D. PLAN D-43143.

2.) PLAN OF LAND FOR CALVARY BAPTIST CHURCH, LITTLE RIVER ROAD, EXETER, NH; DATED: JUNE 1982; BY: K. E. MOORE & B. G. STAPLES, REVISED BY PARKER SURVEY ASSOC., INC.; RECORDED R.C.R.D. PLAN D-18065.

3.) LOT LINE ADJUSTMENT PLAN PREPARED FOR TYLER J. PETERS & OLIVIA MICHAUD AND CALVARY BAPTIST CHURCH OF EXETER, TAX MAP 62, LOT Nos. 90-0 & 90-1, 12A & 12 LITTLE RIVER ROAD, TOWN OF EXETER, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE; SCALE: 1" = 40'; DATED: AUGUST 24, 2023; BY: THIS OFFICE; TO BE RECORDED.

55 / 3
BOULDERS REALTY CORP.
PO BOX 190
EXETER, NH 03833
5704 / 2344

55 / 3-2
INTEGRITY VENTURES, INC.
21 RED FOX LANE
BARRINGTON, NH 03825
5983 / 1221

55 / 3-1
SEACOAST EARLY LEARNING CENTER
REAL ESTATE DEVELOPMENT, LLC
5 MCKAY DRIVE
EXETER, NH 03833
EXETER, NH 03833
6323 / 202

55 / 3-3
COLCORD POND ASSOCIATES, LLC
80 NASHUA ROAD, SUITE 24
LONDONDERRY, NH 03053
5704 / 2406

62 / 111
PATRICIA A. WASHBURNE REVOCABLE TRUST 2004
PATRICIA A. WASHBURNE, TRUSTEE
39 BOWVIEW DRIVE
STRAFFORD, NH 03884
3521 / 2229

62 / 67
ROBERT MIKE-MAYER
7 MILLSTREAM DRIVE
EXETER, NH 03833
4499 / 1510

62 / 68
ROBERT J. FOLSTER
CATHY J. FOLSTER
5 MILLSTREAM DRIVE
EXETER, NH 03833
6071 / 2664

62 / 69
JANE S. CADWELL
20 MAIN STREET
EXETER, NH 03833
3604 / 1210

62 / 84
KENNETH CRUZ
39 BRENTWOOD ROAD
EXETER, NH 03833
6176 / 1075

62 / 85
MARILYN FREDETTE
VINCENT L. FREDETTE
37 BRENTWOOD ROAD
EXETER, NH 03833
4950 / 2889

62 / 89
GEOFFREY A. LAKE
8 LITTLE RIVER ROAD
EXETER, NH 03833
4275 / 1

62 / 90-1
TYLER J. PETERS
OLIVIA MICHAUD
12A LITTLE RIVER ROAD
EXETER, NH 03833
6414 / 567

62 / 91
KRIS L. WEEKS
KARYN F. WEEKS
7 PENN LANE
EXETER, NH 03833
5825 / 1981

62 / 92
TIFFANY MITEVSKI
BLAGOJCHO MITEVSKI
5 PENN LANE
EXETER, NH 03833
6004 / 1358

62 / 93
JULIE A. OSBURN
JAMES D. OSBURN
3 PENN LANE
EXETER, NH 03833
4096 / 2975

62 / 94
JILLIAN BURNS
1 PENN LANE
EXETER, NH 03833
6117 / 2160

62 / 95
BARBARA C. SEYMOUR
5 WALLACE ROAD
EXETER, NH 03833
3496 / 1761

62 / 107
HERBERT C. SMITH
MARION A. GOODING-SMITH
17 BRENTWOOD ROAD
EXETER, NH 03833
4279 / 2617

62/ 90-0
PARCEL AREA
218,160 S.F.±
5.01 Ac.±

DRILL HOLE FOUND
N85°06'20"E 84.82'
L2 N73°44'25"E 32.72'
L3 N85°38'10"E 47.35'
L4 S87°17'40"E 44.86'
N84°20'10"E 86.13'
S84°57'50"E 180.22'
S73°14'20"E 62.72'
N84°02'40"E 104.46'
S83°35'50"E 142.05'
S11°25'20"E 198.46'
L5 S24°12'21"E 23.66'
S08°00'40"E 77.10'
L6 S75°08'50"W 40.09'
L7 N10°32'06"W 50.18'
S79°10'40"W 108.00'
S84°30'21"W 88.59'
S84°29'46"W 100.00'
S84°29'46"W 70.71'
S49°25'03"W 34.48'
S35°38'19"E 68.16'
S13°07'32"E 176.89'
S72°25'52"E 226.12'
N11°15'39"W 108.01' (81'± ALONG LITTLE RIVER)
S05°34'35"E 124.57'
S06°33'58"W 125.06'
N02°34'33"W 88.08'
L8 S84°29'40"W 20.50'
L1 S84°29'40"W 45.15'
S84°29'46"W 100.00'
S84°29'46"W
S84°29'46"W
IRON ROD FOUND
IRON PIPE FOUND
RAILROAD SPIKE FOUND
STONE BOUND FOUND (TYP)
SHED
EXISTING DWELLING
PIAZZA
DECK
CHAINLINK FENCE
GAS LINE EASEMENT SEE NOT 5(B)
APPROXIMATE TELEPHONE & GAS EASEMENTS SEE NOTES 6(A) & 6(B) & PLAN REFERENCE 1
USE EASEMENT FOR MAP 62 LOT 101 SEE NOTE 6(C)
SHARED PRIVATE RIGHT OF WAY
BUILDING SETBACK (TYP)
PROPOSED PAVEMENT
PROPOSED SINGLE FAMILY BUILDING
JURISDICTIONAL WETLANDS SEE NOTE 8
75' WETLAND BUFFER
50' PERIMETER BUFFER
50' SHORELAND BUFFER
100' NATURAL WOODLAND BUFFER
250' SHORELAND PROTECTION AREA
EXTENT OF SPECIAL FLOOD HAZARD AREA "A" - SEE NOTE 6
HIGH WATER LINE OF RIVER
I.R.(tbs)
5'±
FHZ A
REFERENCE PLAN 2
LITTLE RIVER
PENN LANE
LITTLE RIVER ROAD
OHU
UTILITY POLE (TYP)
HYDRANT

No.	Bearing	Distance
L1	S84°29'40"W	45.15'
L2	N73°44'25"E	32.72'
L3	N85°38'10"E	47.35'
L4	S87°17'40"E	44.86'
L5	S24°12'21"E	23.66'
L6	S75°08'50"W	40.09'
L7	N10°32'06"W	50.18'
L8	S84°29'40"W	20.50'

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	59°07'48"	20.00'	20.64'	19.74'	N24°38'19"W
C2	18°28'09"	150.00'	48.35'	48.14'	S06°39'32"W
C3	35°36'14"	150.00'	93.21'	91.72'	S33°41'43"W

NOTES:

1.) OWNERS OF RECORD:
GRANITE STATE CONSTRUCTION SERVICES LLC
34 AUBURN STREET
EXETER, NEW HAMPSHIRE 03833
R.C.R.D. VOLUME 6502, PAGE 2920

2.) 62/ 19-0 - DENOTES TAX MAP AND PARCEL NUMBER.

3.) THE INTENT OF THIS PLAN IS TO DEPICT A CONDOMINIUM WITH 5 DETACHED SINGLE FAMILY BUILDINGS. CONSTRUCTION IS NOT YET BEGUN.

4.) ZONING DISTRICT: R-2 SINGLE FAMILY
TO BE DEVELOPED UNDER "SINGLE FAMILY OPEN SPACE DEVELOPMENT"

DIMENSIONAL REQUIREMENTS:

EXTERNAL BOUNDARY SETBACKS:	
FRONT	= 100 FEET FROM PUBLIC WAY
SIDE & REAR BUFFER	= 50 FEET
INTERNAL SETBACKS:	
FROM DRIVEWAY/PARKING LOT	= 25 FEET
MAXIMUM BUILDING HEIGHT	= 35 FEET (3 STORIES)
WETLAND SETBACKS:	
NO-DISURBANCE	= 40 FEET
PARKING	= 50 FEET
BUILDING	= 75 FEET

5.) THE PARCEL IS SUBJECT TO THE FOLLOWING EASEMENTS

A.) PARCEL IS SUBJECT TO AN EASEMENT TO NEW ENGLAND TELEPHONE & TELEGRAPH CO. AS DESCRIBED IN RCRD BK 992, PG 157.
B.) PARCEL IS SUBJECT TO AN EASEMENT TO ALLIED-NEW HAMPSHIRE GAS CO. AS DESCRIBED IN RCRD BK 1378, PG 221.
C.) PARCEL IS SUBJECT TO A USE EASEMENT TO BENEFIT MAP 62 LOT 91 AS DESCRIBED IN RCRD BK 2792, PG 597.
D.) PARCEL HAS A SHARED PRIVATE RIGHT OF WAY WITH PARCEL 62/90-1 AS SHOWN ON REFERENCE PLAN 2.

6.) A PORTION OF THE PARCEL IS LOCATED IN A FLOOD HAZARD ZONE A AS DEPICTED ON FLOOD INSURANCE RATE MAP, NO. 33015C0401E, ROCKINGHAM COUNTY, NH, (ALL JURISDICTIONS), EFFECTIVE DATE: MAY 17, 2005

7.) BASIS OF BEARING IS REFERENCE PLAN 2.

8.) THE WETLAND AREAS SHOWN HEREON WERE FIELD DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., OF 8 CONTINENTAL DRIVE, BUILDING #2, UNIT H, EXETER, NH. in 2021, AND RE-EVALUATED AND UPDATED ON AUGUST 1, 2023, AND PROVIDED BY BEALS ASSOCIATES, PLLC.

9.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM REFERENCE PLAN 3.

10.) PARCEL IS SUBJECT TO THE STATE OF NEW HAMPSHIRE SHORELINE WATER QUALITY PROTECTION ACT (SWQPA). THOSE AREAS WITHIN 250 FEET OF THE LITTLE RIVER REFERENCE LINE.

APPROVED
APPROVED BY THE TOWN OF EXETER PLANNING BOARD

DATE

CHAIRMAN:

CERTIFICATION:
"I HEREBY CERTIFY THAT THIS SITE PLAN ACCURATELY DEPICTS THE PROPOSED SITE AND THAT THE BUILDINGS AS SHOWN ON THIS PLAN ARE NOT YET BEGUN.
THIS PLAN COMPLIES WITH THE PROVISIONS OF RSA 356-B:20 I.

10/18/23
DATE / KEVIN M. McENEANEY L.L.S. 661

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

23-2534	LLADJ	
PROJECT NO	TYPE	FIELDBOOK & PAGES

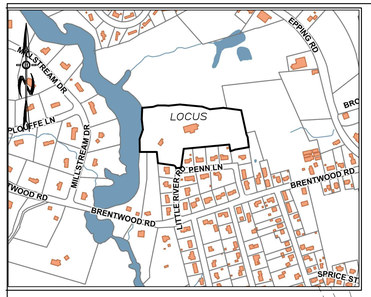
CONDOMINIUM SITE PLAN
PREPARED FOR
GRANITE STATE CONSTRUCTION SERVICES LLC
TAX MAP 62, LOT No. 90-0
12 LITTLE RIVER ROAD
TOWN of EXETER
COUNTY of ROCKINGHAM
STATE of NEW HAMPSHIRE

DRAWN BY: KJF	FILE: MSA\2534\D\23-2534
SCALE: 1" = 40'	DATE: OCTOBER 18, 2023

40 20 0 20 40 80 120 160

McENEANEY SURVEY ASSOCIATES
of NEW ENGLAND
P.O. Box 681 - 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING - PLANNING - CONSULTING



LOCATION MAP
1"=500'

UNDERGROUND FACILITIES, UTILITIES.
1-888-DIG-SAFE (1-888-344-7233).
AND EXETER DPW (603) 773-6157

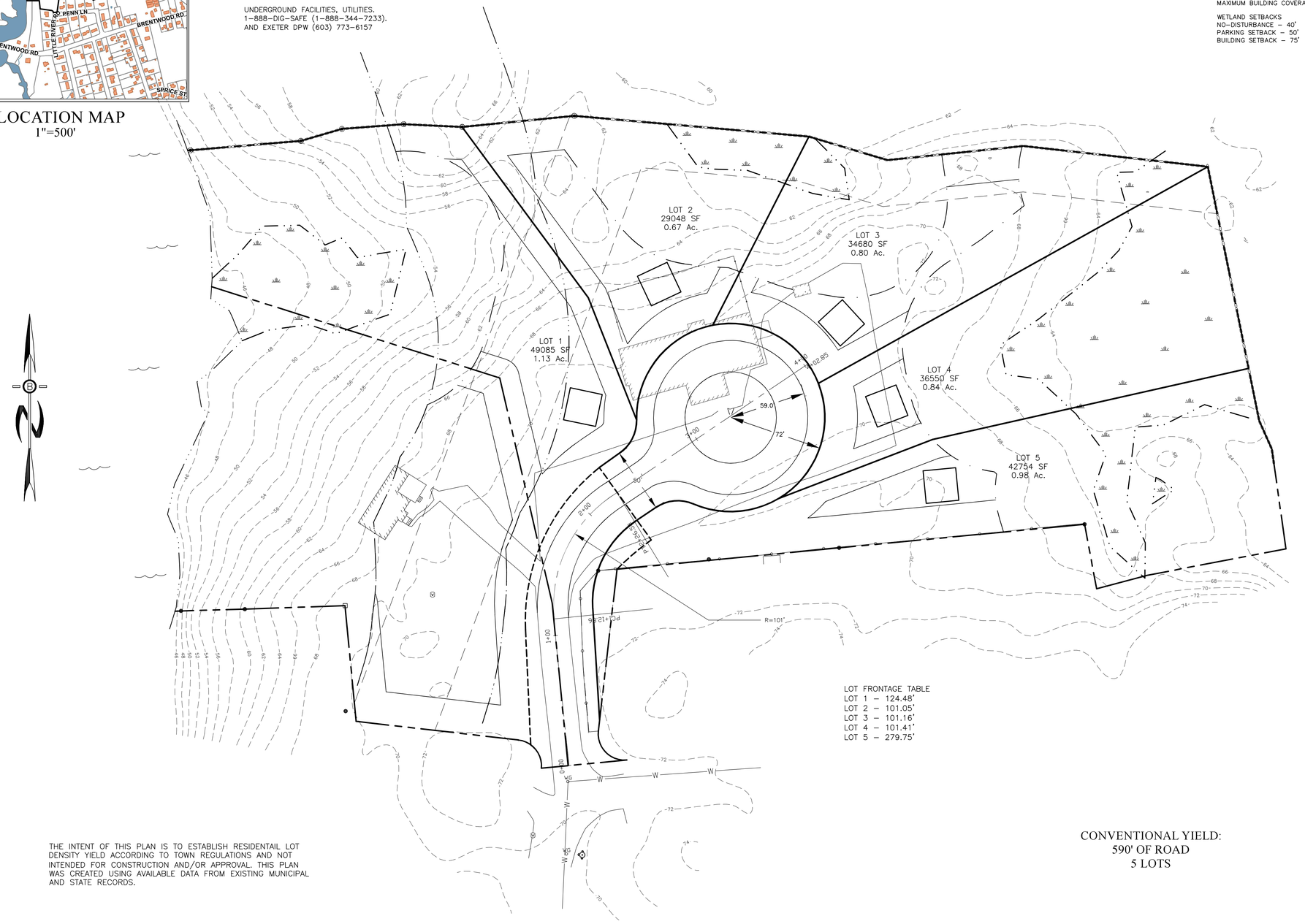
ZONING REQUIREMENTS:
ZONING DISTRICT - RES.2 (R2)
MINIMUM LOT SIZE - 15,000 S.F.
MINIMUM LOT WDTH - 100 FT.
MINIMUM LOT DEPTH - 100 FT.
MINIMUM FRONTAGE - 100'

BUILDING SETBACKS
FRONT=25 FT.
SIDE=15 FT.
REAR=25 FT.
BUILDING HEIGHT=35 FT.
MAXIMUM BUILDING COVERAGE = 25%

WETLAND SETBACKS
NO-DISTURBANCE - 40'
PARKING SETBACK - 50'
BUILDING SETBACK - 75'

PREPARED FOR:
GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860,
FAX. 603-583-4863



LOT FRONTAGE TABLE
LOT 1 - 124.48'
LOT 2 - 101.05'
LOT 3 - 101.16'
LOT 4 - 101.41'
LOT 5 - 279.75'

NOTES

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE, AND TOWN OF EXETER DPW.
2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
4. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
5. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
6. ALL WATER, SEWER, ROAD, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION AND SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
7. DISTURBANCE UNDER 100,000 SQ. FT. (0 S.F.+/- PROPOSED DISTURBANCE) NHDES ALTERATION OF TERRAIN PERMIT NOT REQUIRED.
8. WETLAND BUFFER PLACARDS (4" ROUND) SHALL BE NAILED TO TREES AS AVAILABLE OR SET ON STAKES ALONG WETLAND BUFFER LIMITS AT AN INTERVAL OF APPROXIMATELY 50 FEET. HOUSES WILL BE BUILT OUTSIDE OF THE WETLAND BUFFER.

THE INTENT OF THIS PLAN IS TO ESTABLISH RESIDENTAIL LOT DENSITY YIELD ACCORDING TO TOWN REGULATIONS AND NOT INTENDED FOR CONSTRUCTION AND/OR APPROVAL. THIS PLAN WAS CREATED USING AVAILABLE DATA FROM EXISTING MUNICIPAL AND STATE RECORDS.

CONVENTIONAL YIELD:
590' OF ROAD
5 LOTS

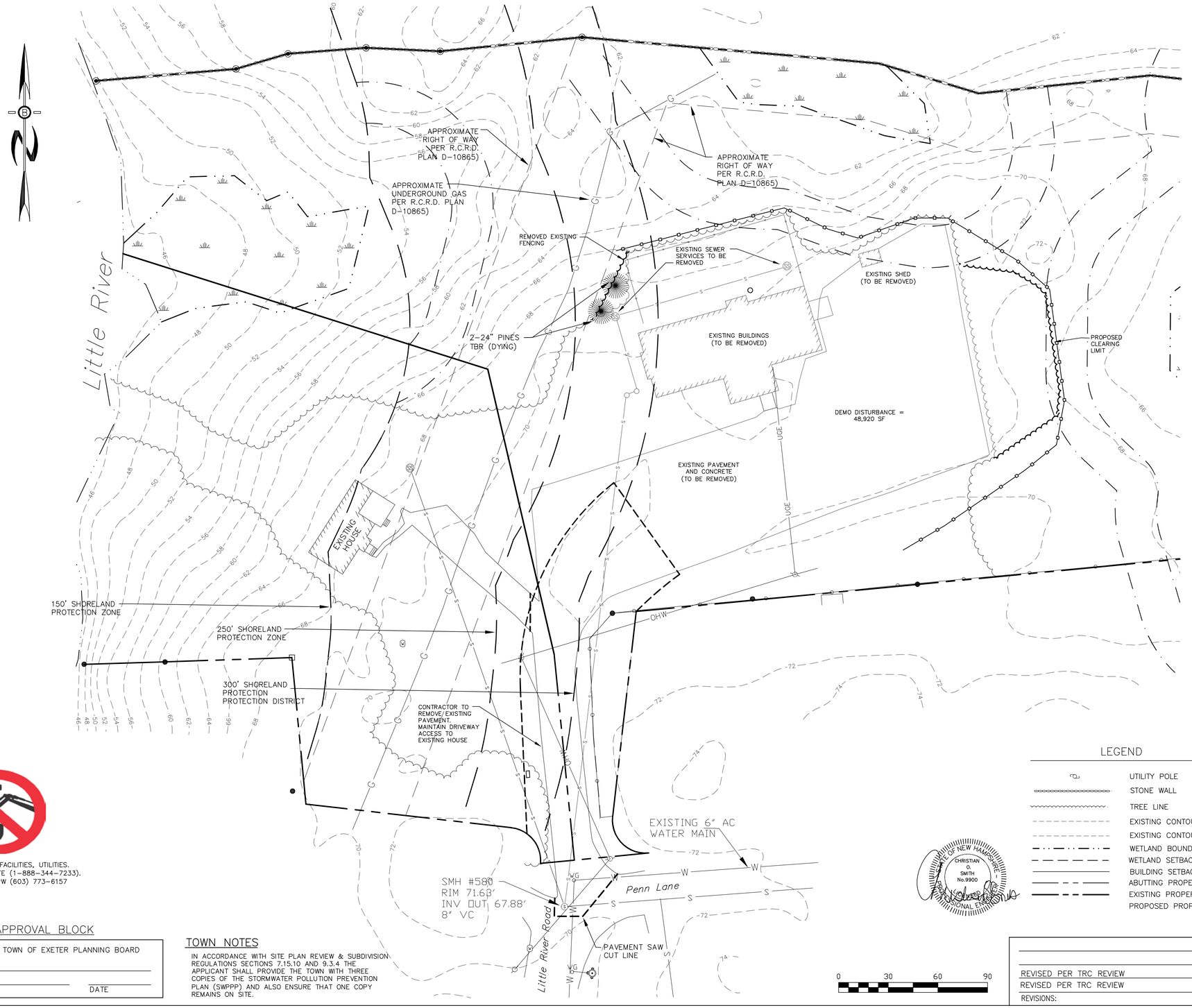
0 40 80 120

REVISED PER TRC REVIEW	10/10/23
REVISIONS:	DATE:

EXHIBIT YIELD PLAN

PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUG, 2023	SCALE: 1"=40'
PROJ. N0: NH-1364	SHEET NO. 4



UNDERGROUND FACILITIES, UTILITIES.
1-888-DIG-SAFE (1-888-344-7233).
AND EXETER DPW (603) 773-6157

APPROVAL BLOCK

APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON DATE

TOWN NOTES

IN ACCORDANCE WITH SITE PLAN REVIEW & SUBDIVISION REGULATIONS SECTIONS 7.15.10 AND 9.3.4 THE APPLICANT SHALL PROVIDE THE TOWN WITH THREE COPIES OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALSO ENSURE THAT ONE COPY REMAINS ON SITE.

LEGEND

- UTILITY POLE
- STONE WALL
- TREE LINE
- EXISTING CONTOUR – 10'
- EXISTING CONTOUR – 2'
- WETLAND BOUNDARY
- WETLAND SETBACK LINE
- BUILDING SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
PROFESSIONAL ENGINEER

PREPARED FOR:

GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
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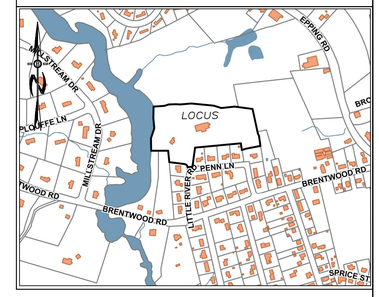

LOCATION MAP
1"=500'

NOTES

1. ALL EXISTING STRUCTURES IN THE CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS, UNLESS NOTED TO REMAIN ON THE SITE PLANS. ANY BURNING ON-SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
2. ALL EXISTING UTILITIES SHALL BE TERMINATED AT THE PROPERTY LINE, OR AS SHOWN ON THE DESIGN PLANS, IN CONFORMANCE WITH LOCAL, STATE AND UTILITY COMPANY STANDARDS, SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK.
3. EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES.
4. A TREE CLEARING PERMIT FROM LOCAL AND STATE AUTHORITIES MAY BE REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE.
5. THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES.
6. EXISTING SEWER SERVICE AND APPURTENANCES TO BE REMOVED AND DISPOSED OF PER TOWN AND STATE REQUIREMENTS. NEW SERVICES FOR EACH UNIT TO BE INSTALLED & CONNECTED PER TOWN SPECIFICATIONS. SEQUENCING AND SCHEDULING: (SEE DETAIL SHEETS FOR COMPLETE CONSTRUCTION SEQUENCE AND EROSION CONTROL SPECIFICATION.)
7. DEMOLITION REQUIREMENTS: CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH THE ADJACENT AND OCCUPIED BUILDING AREAS, IN COMPLIANCE WITH THE GOVERNING LAWS. PRIME CONSIDERATION SHALL BE GIVEN TO THE SAFETY, PROTECTION AND CONVENIENCE OF THE PUBLIC AND OWNER'S PERSONNEL. 2.1: EMPLOY TARPAULINS ON TRUCKS CARRYING DEBRIS TO PREVENT SPREADING DUST OR DEBRIS. CLEAN UP LOOSE DEBRIS DAILY TO PREVENT THE WIND SPREADING DEBRIS.
8. LEAVE SITE IN CLEAN CONDITION.
9. STUMP DISPOSAL TO BE OUTSIDE LIMITS OF PAVEMENT, DRAINAGE STRUCTURES, ETC.
10. TEMPORARY EARTH MATERIAL STOCKPILES TO BE IN UPLAND AREAS AND COMPLETELY IMPOUNDED BY SILT FENCE/HAYBALE EROSION CONTROLS.
11. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
12. WETLAND AREA SHOWN WAS FIELD DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. OF EXETER, NH.
13. ALL WATER, SEWER, ROAD (INCLUDING DRIVEWAY), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER MANAGEMENT STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE", SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
14. THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLER'S LICENSE AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON ANY WATER, SEWER, OR DRAINAGE PIPES THAT ARE IN A TOWN STREET OR RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER, OR DRAINAGE SYSTEM. A LICENSED SUPERVISOR OR FOREMAN MUST BE PRESENT AT THE JOB SITE AT ALL TIMES DURING CONSTRUCTION OF THESE UTILITIES.
15. EXISTING WATER SERVICE TO THE CHURCH TO BE DISCONTINUED AT THE MAIN PER EXETER REGULATIONS.

REVISIONS:	DATE:
REVISED PER TRC REVIEW	11/8/23
REVISED PER TRC REVIEW	10/10/23

DEMOLITION PLAN

PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

DATE: JUNE, 2023	SCALE: 1"=30'
PROJ. N0: NH-1364	SHEET NO. 5

ZONING REQUIREMENTS:
ZONING DISTRICT – RES.2 (R2)
MINIMUM LOT SIZE – 15,000 S.F.
MINIMUM LOT WIDTH – 100 FT.
MINIMUM LOT DEPTH – 100 FT.
MINIMUM FRONTAGE – 100'

BUILDING SETBACKS
FRONT=25 FT.
SIDE=15 FT.
REAR=25 FT.
BUILDING HEIGHT=35 FT.
MAX. BLDG. COVERAGE = 25%

WETLAND SETBACKS
NO-DISTURBANCE – 40'
PARKING SETBACK – 50'
BUILDING SETBACK – 75'

Little River

#1
#2
#3
#4
#5

POSSIBLE CONCRETE WASH-OUT AREA (TYP.).

"NO PARKING" SIGN

PROPOSED DRIVE (22' WIDE)

R=25'

DEVELOPER TO PROVIDE NO-CUT WETLAND BUFFER PLACARDS EVERY 50' BEHIND HOMES.

50' NO-CUT SETBACK

75' WETLAND SETBACK

25' BLDG SETBACK (WAIVER REQUEST)

EXISTING HOUSE

ALTERNATE WHITE, NORWAY & MEYER SPRUCE (6-8' HT.) 15' OC.

EASTERN WHITE PINE (8'-10' HT.) 15' OC.

EXISTING ACCESS EASEMENT

Use Easement for Map 62 Lot 101

EXISTING 6" AC WATER MAIN

SMH #580
RIM 71.68'
INV OUT 67.88'
8" VC

Penn Lane

Little River Road

UNDERGROUND FACILITIES, UTILITIES.
1-888-DIG-SAFE (1-888-344-7233).
AND EXETER DPW (603) 773-6157

APPROVAL BLOCK

APPROVED TOWN OF EXETER PLANNING BOARD

CHAIRPERSON DATE

RUBBER HOSE AROUND WIRE AT TREE

LOCATE ANCHOR STAKE 450mm(18") AWAY FROM TREE TRUNK ON SIDE OF PREVAILING WIND. T-RAIL IRON STAKE OR ACCEPTABLE WOODEN SUBSTITUTE. ANCHOR FIRMLY. INSTALL TWO ADDITIONAL STAKES AT 120° TO THE STAKE POSITIONED TOWARD PREVAILING WIND

CROWN OF ROOT BALL SHALL BEAR SAME RELATION (OR SLIGHTLY ABOVE) TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE. PLACE ON SUBGRADE PEDESTAL.

PINE BARK MULCH 75mm (3") MIN.

CREATE SOIL SAUCER WITH TOPSOIL 150mm (6") MIN.

FOLD DOWN OR CUT AND REMOVE TOP 1/3 OF BURLAP IF NON-BIODEGRADABLE WRAP IS USED. REMOVE TOTALLY.

TOPSOIL MIX OR CLEAN SUBSOIL BACKFILL

PREPARED SUBSOIL PEDESTAL

8" MIN.

12" MIN.

CONIFEROUS TREE PLANTING
NOT TO SCALE

GRAVEL BACK-UP 12"

1" HOT BITUMINOUS COURSE (TYPE F)

4" MIN. LOAM & SEED

3" HOT BIT BASE COURSE (TYPE B)

6" CRUSHED GRAVEL

12" BANK RUN GRAVEL MIN. OR AS REQUIRED TO STABILIZE

COMPACTED SUBGRADE OR ROCK FILL

1. THE DEVELOPER SHALL INSPECT THE CROSS-SECTION OF THE CURRENT DRIVEWAY FOR CONFORMANCE TO THE MUNICIPAL REQUIREMENTS. IF ADDITIONAL SELECT GRAVELS, ETC. ARE NEEDED, THE DRIVE SHALL BE BUILT TO TOWN SPECIFICATIONS.
2. IF ADDITIONAL CRUSHED OR BANK RUN GRAVEL IS NEEDED, THE DEVELOPER RESERVES THE RIGHT TO UTILIZED RECLAIMED GRAVEL PROCESSED FROM ON SITE MATERIALS.

NOTE: IN AREAS OF BEDROCK, MINIMUM 24" SEPARATION FROM BANK RUN GRAVEL

TYPICAL COMMON DRIVE PAVEMENT SECTION
NEW ASPHALT – NTS

LEGEND

- UTILITY POLE
- STONE WALL
- TREE LINE
- EXISTING CONTOUR – 10'
- EXISTING CONTOUR – 2'
- WETLAND BOUNDARY
- WETLAND SETBACK LINE
- BUILDING SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE

0 30 60 90

CHRISTIAN O. SMITH No.9900 STATE OF NEW HAMPSHIRE PROFESSIONAL ENGINEER

PREPARED FOR:

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34 AUBURN STREET
EXETER, NH

BEALS ASSOCIATES, PLLC
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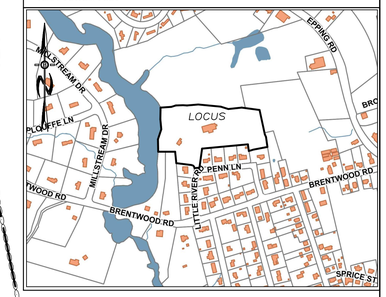

LOCATION MAP
1"=500'

NOTES

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE, AND TOWN OF EXETER DPW.
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3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
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5. ALL CONSTRUCTION SHALL CONFORM TO TOWN OF EXETER STANDARDS AND REGULATIONS.
6. ALL WATER, SEWER, ROAD, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.5 GRADING, DRAINAGE, AND EROSION AND SEDIMENT CONTROL AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE. SEE SECTION 9.14 ROADWAYS, ACCESS POINTS, AND FIRE LANES AND SECTION 9.13 PARKING AREAS FOR EXCEPTIONS.
7. DISTURBANCE UNDER 100,000 SQ. FT. (43,580 sf) NHDES ALTERATION OF TERRAIN PERMIT NOT REQUIRED.

TOWN NOTES

ALL SNOW SHALL BE STORED OFF OF PAVEMENT ACCESS WAYS. IN THE EVENT THAT THE AREA(S) APPROVED FOR SNOW STORAGE BECOME FULL, THE OWNER SHALL REASONABLY REMOVE EXCESS SNOW FROM THE SITE, AND SHALL NOT ALLOW SNOW TO BE STORED WITHIN TRAVEL AISLES.

ALL WASTE MATERIALS AND RECYCLABLE SHALL BE CONTAINED WITHIN THE BUILDING(S) OR APPROVED STORAGE FACILITIES AND SHALL NOT BE OTHERWISE STORED ON THE PROPERTY. REFUSE COLLECTION WILL BE BY CURBSIDE PICK-UP.

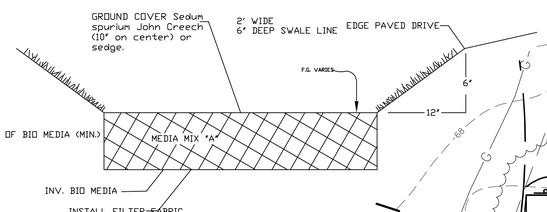
REVISED PER TRC REVIEW	11/8/23
REVISED PER TRC REVIEW	10/10/23
REVISIONS:	DATE:

SITE PLAN

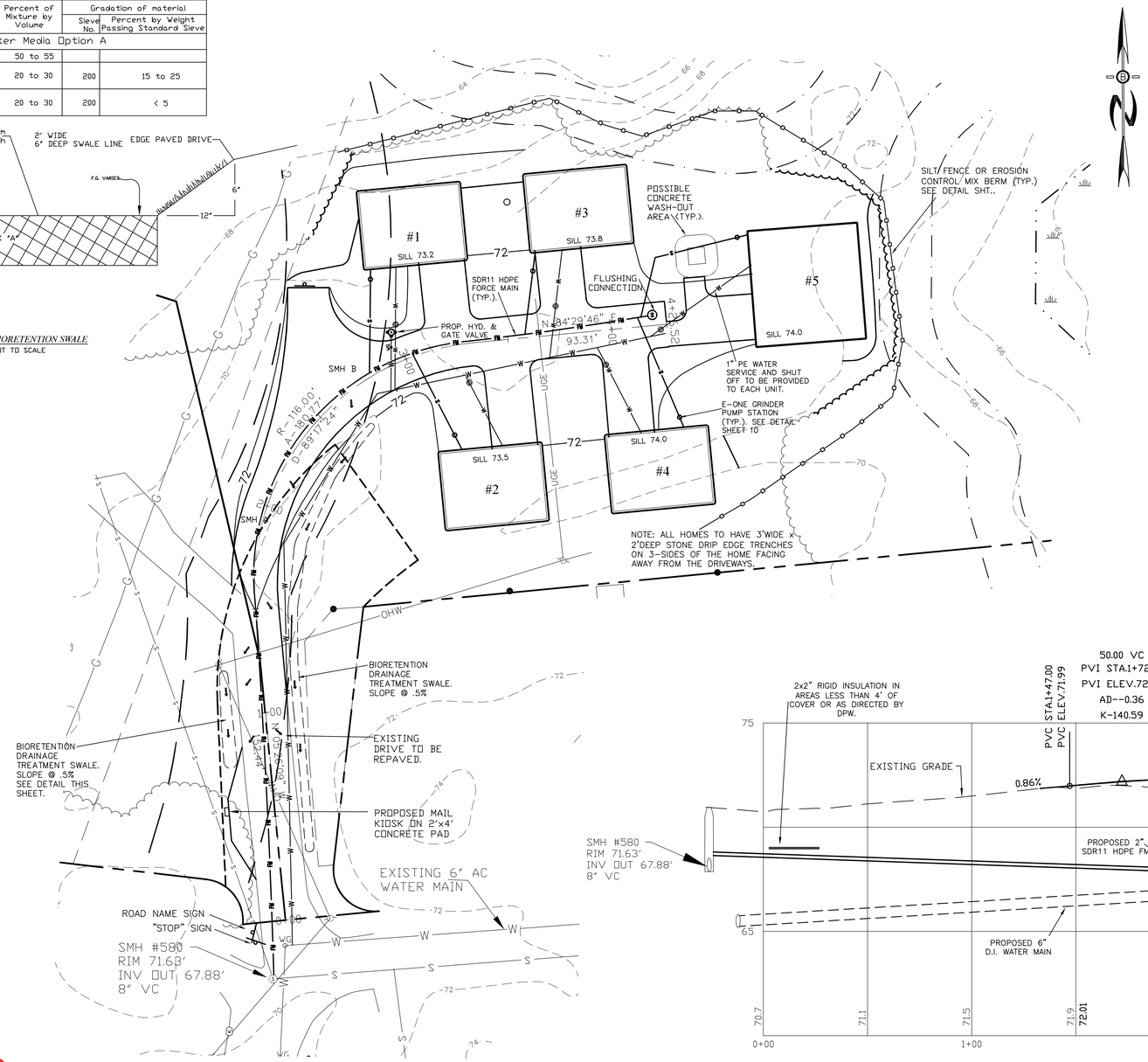
PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

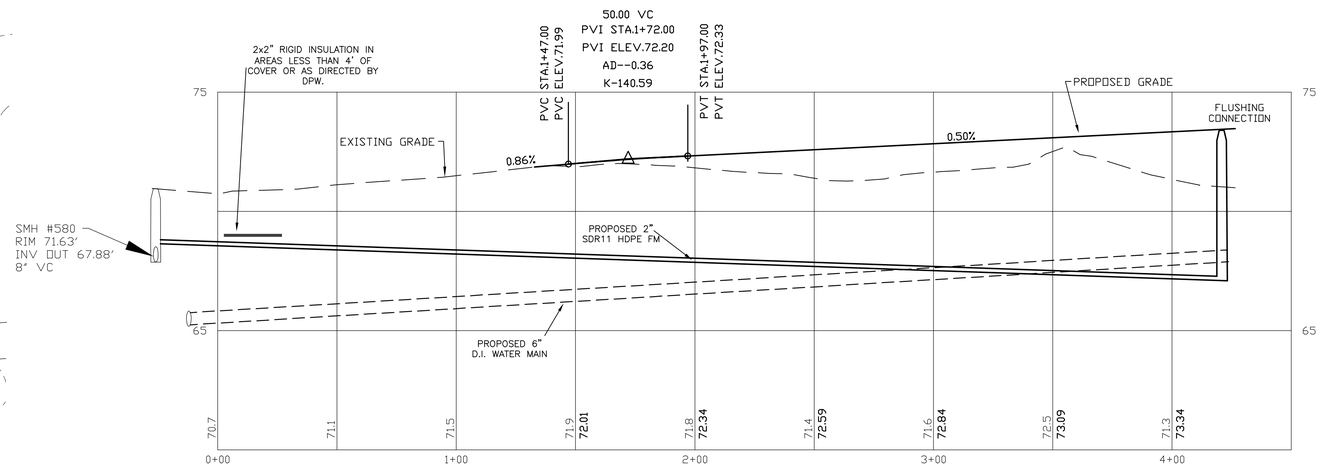
DATE: JUNE, 2023	SCALE: 1"=30'
PROJ. N0: NH-1364	SHEET NO. 6

FILTER MEDIA MIXTURE			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5



BIORETENTION SWALE
NOT TO SCALE





UNDERGROUND FACILITIES, UTILITIES.
1-888-DIG-SAFE (1-888-344-7233).
AND EXETER DPW (603) 773-6157

UTILITY NOTES:

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
2. THE CONTRACTOR SHALL PROVIDE NOTICE TO ALL COMPANIES AND LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
3. THE SPECIFICATIONS FOR PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY CO. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR PROPER UTILITY CROSSING REQUIREMENTS
4. PRIOR TO THE PRE-CONSTRUCTION MEETING UGE&T PLANS FROM THE UTILITY COMPANIES NEED TO BE REDRAWN ON THIS SHEET. ADDITIONALLY THE CONTRACTOR NEEDS TO HAVE A COMPLETED SWPPP. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
5. ALL CONSTRUCTION SHALL CONFORM TO EXETER STANDARDS AND REGULATIONS, UNLESS OTHERWISE SPECIFIED. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR (OSHA) RULES AND REGULATIONS. BUILDINGS ARE TO BE SERVICED BY UNDERGROUND UTILITIES.
6. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS (IF REQUIRED) IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS.
7. SEWER AND WATER INFRASTRUCTURE ON PRIVATE PROPERTY SHALL REMAIN PRIVATE, HOWEVER, THE TOWN RESERVES THE RIGHT TO ENTER THE PROPERTY IN ORDER TO INSPECT, REPAIR AND/OR TERMINATE INDIVIDUAL SEWER OR WATER SERVICES (AT OWNER'S EXPENSE). THIS RIGHT IS TO BE CONVEYED TO THE TOWN IN THE SITE'S DECLARATION OF CONDOMINIUM DOCUMENTS, AND IN ALL INDIVIDUAL DEEDS.
8. AN AS-BUILT PLAN IS TO BE PREPARED AND SUBMITTED TO DEPARTMENT OF PUBLIC WORKS IN DIGITAL AND MYLAR FORMATS.
9. THE CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL CONNECTION FEES.
10. SANITARY SEWER FLOW CALCULATIONS:
    5 UNITS AT 4 BEDROOMS EACH= 20 BEDROOMS
    ESTIMATED FLOW AT 150 GPD/BEDROOM= 3,000.
11. FOR WATER MAIN AND SEWER LINE CROSSINGS REFER TO THE DETAIL ON SHEET 5 FOR MINIMUM VERTICAL AND HORIZONTAL SEPARATION.
12. ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY CAP AND WITNESS AT END.
13. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES AND MECHANICAL JOINTS.
14. CONTRACTOR SHALL MINIMIZE DISRUPTIONS TO EXISTING WATER SERVICES AND ALL REQUIREMENTS OF EXETER WATER DEPARTMENT SHALL BE FOLLOWED REGARDING NOTIFICATION OF INTERRUPTION OF SERVICE (MIN 48 HOURS). TEE INSTALLATION MAY NEED TO BE CONDUCTED AT NIGHT AS DIRECTED BY EXETER WATER DEPT.
15. WATER VALVES ARE TO BE OPERATED ONLY BY MUNICIPAL STAFF.
16. THE INSTALLATION OF SMOKE, HEAT, FIRE , OR CARBON MONOXIDE ALARMS OR SYSTEMS SHALL COMPLY WITH NFPA 72 REQUIREMENTS.
17. ALL SEWER SERVICE BENDS SHALL HAVE CLEANOUTS INSTALLED (SEE DETAIL SHEET FOR DETAILS).
18. EACH UNIT TO BE PROVIDED WITH AN INDIVIDUAL WATER SHUT-OFF.
19. THE CONTRACTOR MUST OBTAIN A VALID UTILITY PIPE INSTALLER'S LICENSE AND THE JOB SUPERVISOR OR FOREMAN MUST BE CERTIFIED BY THE TOWN PRIOR TO WORKING ON ANY WATER, SEWER, OR DRAINAGE PIPES THAT ARE IN A TOWN STREET OR RIGHT OF WAY, OR THAT WILL CONNECT OR MAY BE CONNECTED TO A TOWN WATER, SEWER, OR DRAINAGE SYSTEM. A LICENSED SUPERVISOR OR FOREMAN MUST BE PRESENT AT THE JOB SITE AT ALL TIMES DURING CONSTRUCTION OF THESE UTILITIES.

PREPARED FOR:
GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

BA BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860
FAX. 603-583-4863

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
PROFESSIONAL ENGINEER

REVISIONS:	DATE:
REVISED PER TRC REVIEW	11/8/23
REVISED PER TRC REVIEW	10/10/23

PROFILE & UTILITY PLAN

PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUG, 2023	SCALE: 1" = 30'
PROJ. NO: NH-1364	SHT NO. 7

PREPARED FOR:
GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

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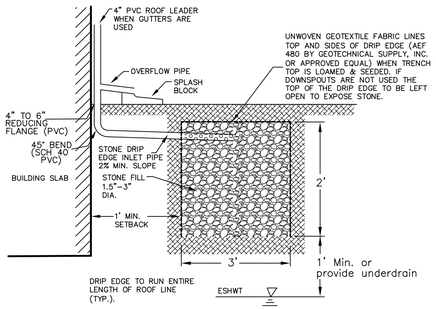
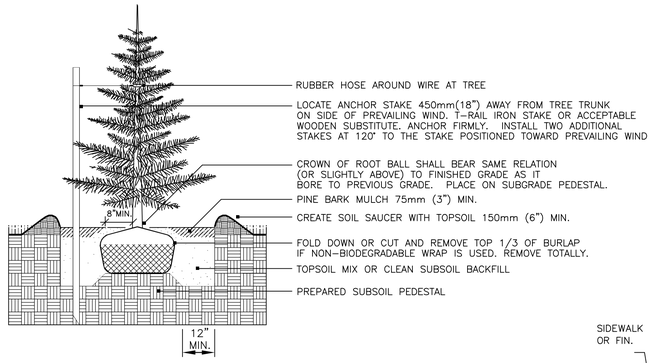
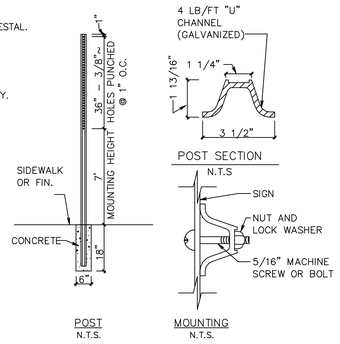


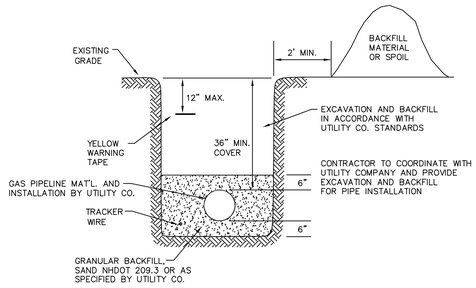
STONE DRIP EDGE SECTION



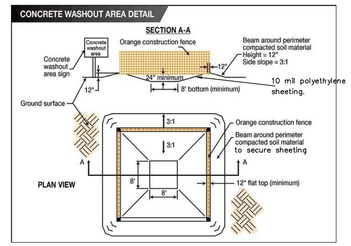
CONIFEROUS TREE PLANTING
NOT TO SCALE



STREET SIGN DETAIL

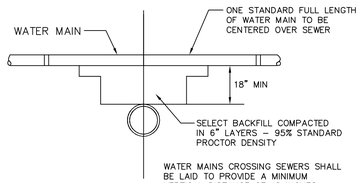


GAS TRENCH DETAIL



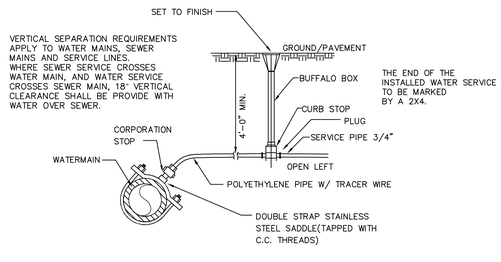
SEPARATION NOTES:

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES (460 MM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.

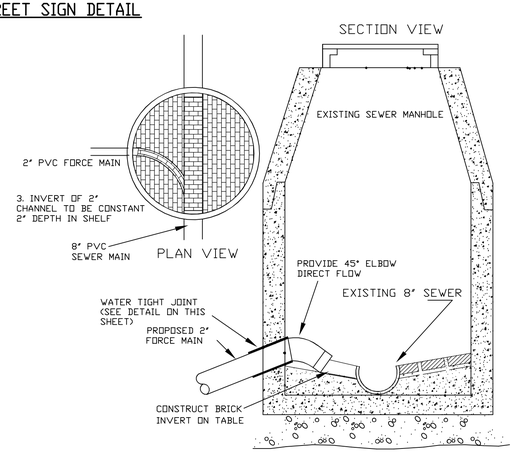


WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN PIPES. WATER MAIN JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER JOINTS

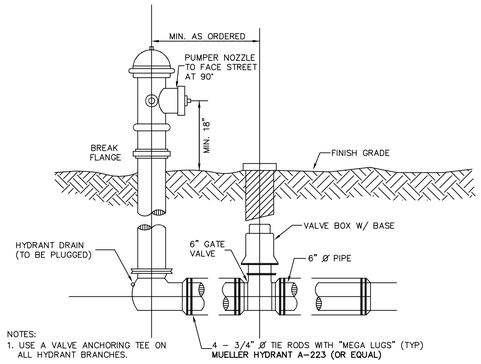
WATER/SEWER MAIN CROSSING



TYPICAL WATER SERVICE CONNECTION



SEWER MANHOLE DETAIL
FOR CONSTRUCTION OF FORCE MAIN INTO AN EXISTING MANHOLE

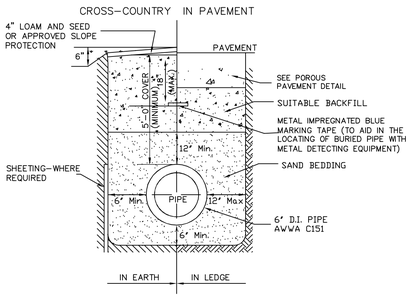


NOTES:
1. USE A VALVE ANCHORING TEE ON ALL HYDRANT BRANCHES.
2. ALL FITTINGS SHALL BE MEGALUG OR APPROVED EQUAL.

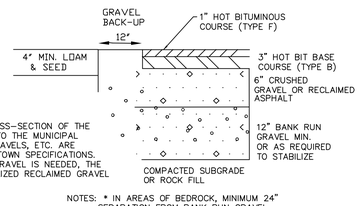
OPEN LEFT EXETER WATER COMMISSION SPECS.

ALL PIPE FITTINGS TO BE D.I. CLASS 350

HYDRANT INSTALLATION DETAIL



TYPICAL TRENCH DETAIL FOR WATER SYSTEM

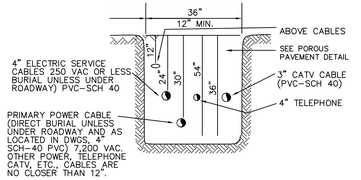


1. THE DEVELOPER SHALL INSPECT THE CROSS-SECTION OF THE CURRENT DRIVEWAY FOR CONFORMANCE TO THE MUNICIPAL REQUIREMENTS. IF ADDITIONAL SELECT GRAVELS, ETC. ARE NEEDED, THE DRIVE SHALL BE BUILT TO TOWN SPECIFICATIONS.
2. IF ADDITIONAL CRUSHED OR BANK RUN GRAVEL IS NEEDED, THE DEVELOPER RESERVES THE RIGHT TO UTILIZED RECLAIMED GRAVEL PROCESSED FROM ON SITE MATERIALS.

NOTES: * IN AREAS OF BEDROCK, MINIMUM 24" SEPARATION FROM BANK RUN GRAVEL
* PAVEMENT TRENCH PATCH SHALL MATCH EXISTING PAVEMENT DEPTHS.

TYPICAL PAVEMENT SECTION
NEW ASPHALT

NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY. SERVICE BOX CONNECTIONS SHALL BE "FLUSH MOUNT" TO GREATEST EXTENT POSSIBLE AND LOCATED AT PROPERTY LINE CORNERS.



UTILITY TRENCH DETAIL

REVISED PER TRC REVIEW	10/10/23
REVISIONS:	DATE:

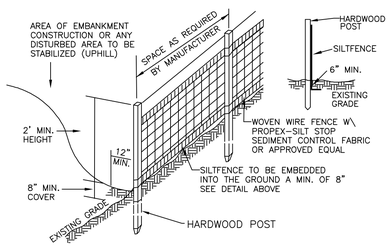
CONSTRUCTION DETAILS

PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUG, 2023	SCALE: NTS
PROJ. N0: NH-1364	SHEET NO. 8

CONSTRUCTION SEQUENCE

1. CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
2. CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
3. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS.
4. EXCAVATE AND STOCKPILE TOPSOIL /LOAM. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
5. CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
6. CONSTRUCT THE ROADWAY AND ITS ASSOCIATED DRAINAGE STRUCTURES.
7. INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
8. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED.
9. DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS OR PROPERTY.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING
12. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
13. ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
14. FINISH PAVING ALL DRIVEWAYS



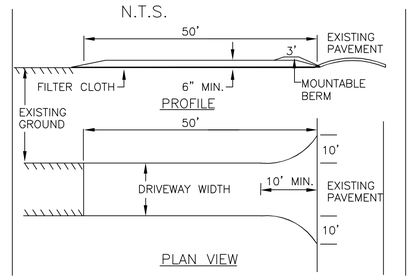
SILT FENCE CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A
2. MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER,
3. THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BYPASSING MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT
4. REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE
5. FOR SEDIMENT STORAGE SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND
6. THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED

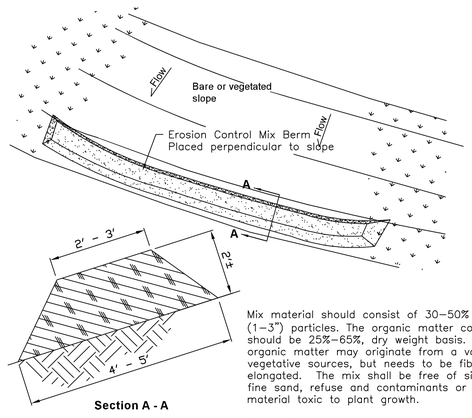
SILT FENCE MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME
2. INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT.
3. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE
4. FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

STABILIZED CONSTRUCTION ENTRANCE



1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET,
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.



Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25%-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth.

Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditchs, streams, etc.

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

TEMPORARY EROSION CONTROL MEASURES

1. NO MORE THAN 1.58 ACRES OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
3. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
4. SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.5" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.

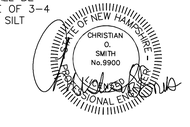
WINTER MAINTENANCE

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.

2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.

3. PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.

4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.



SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   A. SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

      AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT..

      NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.

      PHOSPHATE(P205), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

      POTASH(K20), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

      (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)

Erosion Control Mix Berm

   B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   C. REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
   D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
4. MULCH
   A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
5. MAINTENANCE TO ESTABLISH A STAND
   A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

SEEDING GUIDE

USE	SEEDING MIXTURE*	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	GOOD	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	**
	G	FAIR	EXCELLENT	EXCELLENT	**

RECOMMENDED

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

* REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
** POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAY AREAS OR ATHLETIC FIELDS.

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.

PREPARED FOR:

GRANTIE STATE CONSTRUCTION SERVICES, LLC
34 AUBURN STREET
EXETER, NH

BEALS ASSOCIATES, PLLC
70 PORTSMOUTH AVE,
THIRD FLOOR, SUITE 2
STRATHAM, N.H. 03885
PHONE: 603-583-4860
FAX. 603-583-4863

REVISIONS:	DATE:

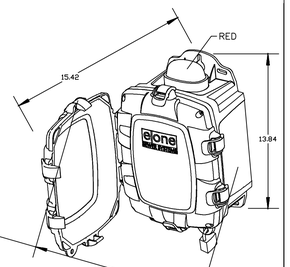
EROSION & SEDIMENT CONTROL DETAILS

PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUG, 2023	SCALE: NTS'
PROJ. NO: NH-1364	SHEET NO. 9

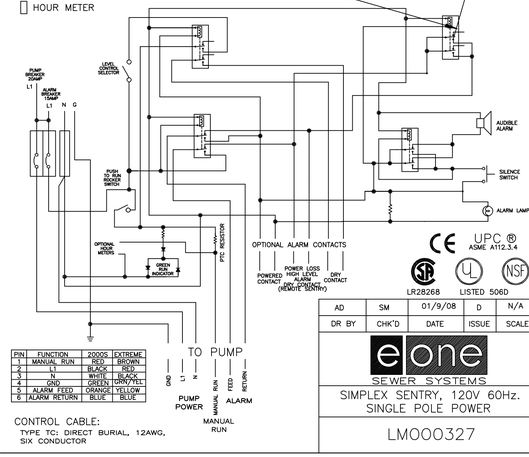
SIMPLEX SENTRY

REDUNDANT RUN (HIGH LEVEL)
EXTERNAL VISUAL & AUDIBLE ALARM
EXTERNAL LATCHING MANUAL SILENCE
MANUAL RUN
PUMP RUN INDICATOR
CONFORMAL COATED CIRCUIT BOARD
PADLOCK
NEMA 4X ENCLOSURE ASSEMBLY
CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



OPTIONS:

- [ ] ALARM CONTACTS
- [ ] EMERGENCY GENERATOR TRANSFER SWITCH
- [ ] HOUR METER



UPC ® ASME A112.3.4
LR28268 LISTED 506D

PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	N	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

CONTROL CABLE:
TYPE TC: DIRECT BURIAL, 12AWG, SIX CONDUCTOR

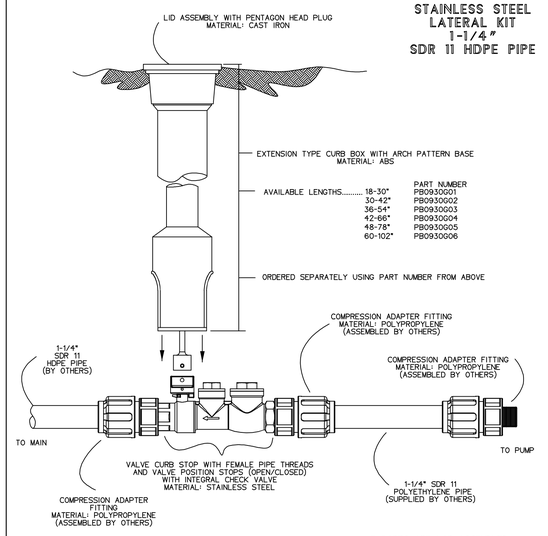
AD	SM	01/9/08	D	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

SIMPLEX SENTRY, 120V 60Hz. SINGLE POLE POWER

LM000327

STAINLESS STEEL LATERAL KIT 1-1/4" SDR 11 HDPE PIPE



NOTES:

1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
   *FOR SS FITTING INTO SS THREAD, USE PIPE DOPE OR TEFLON TAPE, NOT BOTH
3. ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
5. TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G01
6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

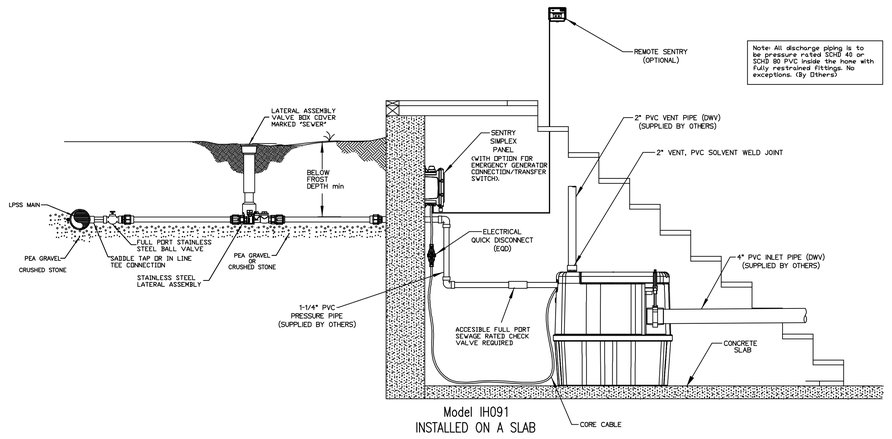
KIT PARTS ARE NOT ASSEMBLED

SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

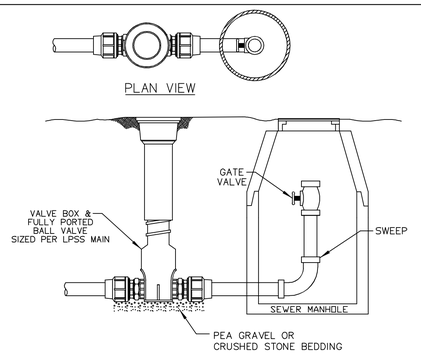
SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT 1-1/4" SDR 11 HDPE PIPE

NA0330P02



Model IH091
INSTALLED ON A SLAB



TYPICAL TERMINAL FLUSHING CONNECTION

SGS		05-13-10	1	1/32
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

TYPICAL TERMINAL FLUSHING CONNECTION

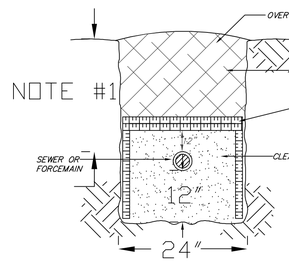
ESD 10-0094

Zone Number	Connects to Zone	Number of Pumps in Zone	Accum Pumps in Zone	Daily/day per Pump	Max Flow Per Pump (gpm)	Max Run Ops	Max Flow (GPM)	Pipe Size (inches)	Max Velocity (FPS)	Length of Main this Zone	Friction Loss Factor (ft/100 ft)	Friction Loss This Zone	Accum Fric Loss (feet)	Max Main Elevation	Maximum Pump Elevation	Static Head (feet)	TDH Dynamic Head (ft)
This spreadsheet was calculated using pipe diameters for: SDR11 HDPE										Friction loss calculations were based on a Constant for inside roughness "C" of:							150
1.00	1.00	5	5	450	11.00	3	33.00	2.00	3.57	430.00	2.52	10.83	10.83	72.00	67.00	5.00	15.83

Zone Number	Connects to Zone	Accumulated Total of Pumps this Zone	Pipe Size (inches)	Gallons per 100 lineal feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Flood Changes per Day	Average Retention Time (Hr)	Accumulated Retention Time (Hr)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE								Gals per Day per Dwelling		300
1.00	1.00	5	2.00	15.40	430.00	66.23	2,250	33.97	0.71	0.71

PUMP SCHEDULE

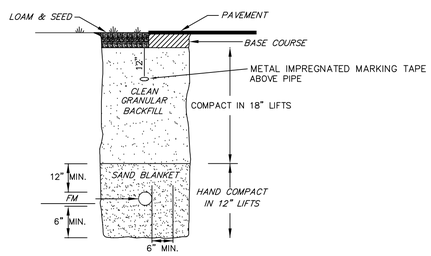
1 HP - 1725 RPM



NOTES:

1. INSULATE SEWER OR FORCEMAIN WHERE PIPE WILL BE LESS THAN 6' BELOW PLOWED AREAS OR LESS THAN 4' BELOW AREAS RUNNING CROSS COUNTRY
2. GAPS BETWEEN SECTIONS OF INSULATION TO BE COVERED WITH 2' X 2' X 2" PIECE OF INSULATION CENTERED OVER GAP.

PIPE INSULATION DETAIL
NTS

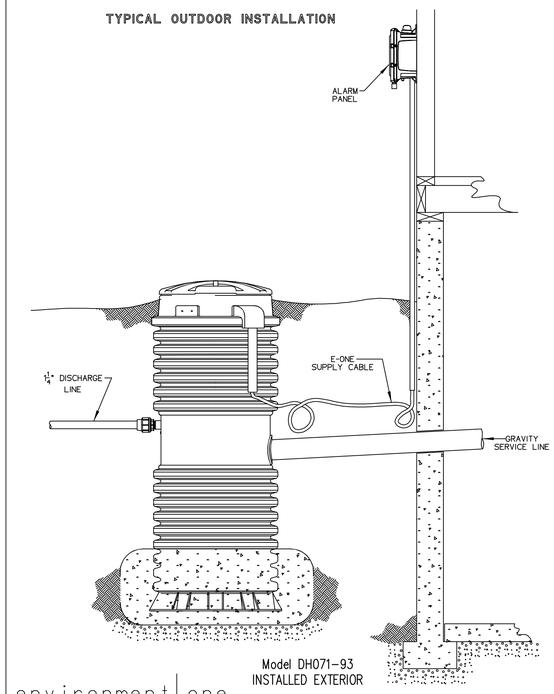


NOTES:

1. MINIMUM COVER SHALL BE 6'+ FOR PLOWED AREAS, 4'+ FOR CROSS COUNTRY
2. MULTIPLE PIPES IN THE SAME TRENCH SHALL BE SEPARATED BY 12"+

STANDARD TRENCH DETAIL
N.T.S.

TYPICAL OUTDOOR INSTALLATION



Model DH071-93
INSTALLED EXTERIOR

environment | one CORPORATION

ADD TO PLAN SET	11-8-23
REVISIONS:	DATE:

EFFLUENT DISPOSAL DETAILS

PLAN FOR:
COLCORD MEADOW
12 LITTLE RIVER ROAD
EXETER, NH

DATE: AUG, 2023	SCALE: NTSNTS
PROJ. NO: NH-1364	SHEET NO. 10

TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

October 21, 2021

Christian O. Smith, P.E., Principal
Beals Associates PLLC
70 Portsmouth Avenue, 3rd Floor
Stratham, New Hampshire 03885

Re: PB Case #21-8 – Granite State Construction Services LLC
Minor Subdivision
12 Little River Road, Exeter, N.H.
Tax Map Parcel #62-90

Dear Mr. Smith:

Please be advised that at the meeting of October 14th, 2021, the Exeter Planning Board voted to **APPROVE** the above-captioned application for a minor subdivision of the existing 6.59+/- acre parcel at 12 Little River Road into two lots, as presented. This approval was granted subject to the following conditions:

1. A dwg file of the plan shall be provided to the Town Planner showing all property lines and monumentation prior to signing the final plan. This plan must be in NAD 1983 State Plane New Hampshire FIPS 2800 Feet coordinates;

2. All monumentation shall be set in accordance with Section 9.25 of the Site Plan Review and Subdivision Regulations prior to the issuance of a Certificate of Occupancy for any building or unit;

3. The Applicant will confirm the status of the contiguity of the wetlands to the north of the house, and should it be determined it is contiguous to the Little River, the Applicant will provide a revised plan indicating the corrected Shoreland district boundary;

4. The Applicant will add a note to the plan indicating the unnecessary pavement section of the house lot will be removed; and

5. A copy of the executed joint road maintenance agreement will be provided to the Town Planner prior to the issuance of a certificate of occupancy.

Please feel free to contact the Planning Department at 773-6114 with any questions.

Sincerely,

Dave Sharples
Town Planner
(on behalf of the Planning Board Chairman)

cc: Sam Mukarkar, Granite State Construction Services, LLC
Calvary Baptist Church, property owner
Douglas Eastman, Building Inspector/Code Enforcement Officer
Janet Whitten, Deputy Assessor

DS:bsm

f:\town planner\planning\decision letters\pb #21-8 granite state construction services llc 12 little river road m-sd coa letter.docx

TOWN OF EXETER
PLANNING BOARD
NOWAK MEETING ROOM
OCTOBER 14, 2021
APPROVED MINUTES

I. PRELIMINARIES:

BOARD MEMBERS PRESENT BY ROLL CALL: Vice-Chair Aaron Brown, Pete Cameron, Clerk, Gwen English, Jennifer Martel, Molly Cowan, Select Board representative, and Nancy Belanger, Alternate.

STAFF PRESENT: Natural Resource Planner Kristen Murphy

II. CALL TO ORDER: Vice-Chair Brown called the meeting to order at 7:00 PM. The members introduced themselves and Vice-Chair Brown noted that all the members present would be voting tonight. Kristen Murphy the Natural Resource Planner would be providing the information from Town Planner Dave Sharples.

III. OLD BUSINESS

APPROVAL OF MINUTES

September 23, 2021

Edits were suggested by Ms. English and Mr. Cameron.

Ms. Belanger motioned to approve the September 23, 2021 Meeting Minutes as amended. Mr. Cameron seconded the motion. A vote was taken, all were in favor, the motion passed 6-0-0.

IV. NEW BUSINESS

Vice-Chair Brown asked if the Board or Public had any objection to the Planning Board hearing the request of Exeter Rose Farm for an extension of approval first and no one indicated any objection.

Exeter Rose Farm, LLC, PB Case #17-27, Request for Extension of Approval (expires 10/26/21)

Attorney Kevin Baum, with Hoefle, Phoenix, Gormley & Roberts, PLLC presented the request for an extension for the approval granted in 2019 which expires on 10/26/21. The request letter from TF Moran dated September 29, 2021 (provided) indicated the request was primarily due to two pending State permits submitted to the State, currently under review. The approval was

appealed which caused further delays. NH Supreme Court order dated October 26, 2020 was referenced. Ms. Belanger asked when the extension would be to. Ms. Murphy indicated they are seeking an extension for one year which is until 10/26/2022.

Ms. Murphy noted the applicant appeared before the Conservation Commission at its meeting Tuesday and was tabled to further evaluate the Planning Board's discussion concerning the proposed alternate route. AoT approval is pending with the AoT Bureau also.

Vice-Chair Brown noted there have been no significant regulation changes the applicant is not adhering to. Mr. Cameron noted he appreciated the applicant appearing to present the request.

Ms. Belanger motioned to approve the request of the applicant Exeter Rose Farm, LLC, Planning Board Case #17-27 be granted until October 26, 2022. Mr. Cameron seconded the motion. A roll call vote was taken Belanger – aye, Cowan – aye, Brown – aye, Cameron – aye, English – aye, Martel – aye. The motion passed 6-0-0.

PUBLIC HEARINGS

1. The application of Granite State Construction Services, LLC for a minor subdivision of the existing 6.59+/- acre parcel at 12 Little River Road into two lots.
R-2 Single Family Residential zoning district
Tax Map Parcel #62-90
Planning Board #21-8

Vice-Chair Brown read out loud the Public Hearing Notice and asked Ms. Murphy if the application was ready for review purposes and she indicated in the affirmative.

Vice-Chair Brown opened Planning Board Case #21-8.

Ms. Murphy summarized Town Planner Sharples October 1, 2021 memo. The applicant is seeking a minor subdivision of an existing 6.59+/- acre parcel located at 12 Little River Road to create one additional lot. The applicant submitted a minor subdivision plan and supporting documents dated August 5, 2021 (provided). After staff review it was determined that the initial proposal would require a variance for street frontage from the ZBA. The variance was approved on 9/21/21. A copy of the decision and meeting minutes were provided. The applicant submitted revised plans dated 10/1/21 (provided). There are no waivers being requested and no new comments other than the Town staff review comments which include:

- Provide parking calculations for the church parcel to show adequate parking for the church on the new lot
- Easement/Parking/Lot line adjustment so all church parking is located on the church parcel

- Roadway maintenance agreement be provided

Christian Smith from Beals Associates, PLLC presented the application on behalf of the applicant Sam Mukarakar of Granite State Construction Services, LLC. Mr. Smith provided handouts to the Board.

Mr. Smith addressed the staff comments presented by Ms. Murphy. He noted the ROW was private property. Frontage was split between the two parcels with the variance, and each owner has half. There is a common access easement and joint road maintenance agreement which is boiler plate (provided) and will be ironed out with the church's attorney.

Mr. Smith noted the parking lot is not striped and he can get the required number of stalls for the existing pavement without any spill into Granite's property and have a 22' travel aisle. The applicant will renovate and rent the home while the church will exist on the existing lot. The church can accommodate seating for 200 visitors and currently has approximately 35 parishioners.

Vice-Chair Brown opened the hearing for public comment and being none entered deliberations.

Vice-Chair Brown noted a site walk was not done. Mr. Smith noted the easement is to provide landscaping and remains the church's parcel 15' setback in. Vice-Chair Brown asked if the easement shown was for access and Mr. Smith noted he did not believe that was part of it as the easement does not touch the pavement.

Vice-Chair Brown noted the extra pavement on the new lot will not have much if any function. Mr. Smith noted it could be removed as it is not needed. Mr. Smith will add a note to the plan eliminating the unnecessary pavement on the new lot.

Ms. Martel asked about conditions of approval.

Vice-Chair Brown noted the variance for road frontage is significant.

Ms. English asked about the jurisdictional wetland northwest and if it is disconnected from Little River. Mr. Smith will confirm this with a wetland scientist. Ms. Murphy noted the discontinuity in the change of elevation. Ms. English agreed the bank is significant. She also noted that there is a natural break in the pavement where the pavement would or could be removed on the new lot.

Mr. Smith noted there are 58 spaces and parking capacity for seating of the church at capacity which will not go away.

Ms. English asked about the owner to the north. Vice-Chair Brown referenced a 94-unit condominium. Mr. Smith noted there were two units to the north Boulders Realty Unit 2 Integrity Ventures Inc. and Unit 3 Colcord Pond Associates LLC.

Ms. Murphy read out loud the proposed conditions of approval:

1. A dwg file of the plan shall be provided to the Town Planner showing all property lines and monumentation prior to signing the final plan. This plan must be in NAD 1983 State Plane New Hampshire FIPS 2800 Feet coordinates;

2. All monumentation shall be set in accordance with Section 9.25 of the Site Plan Review and Subdivision Regulations prior to the issuance of a Certificate of Occupancy for any building or unit.

3. The Applicant will confirm the status of the contiguity of the wetlands to the north of the house, and should it be determined it is contiguous to the Little River, the Applicant will provide a revised plan indicating the corrected Shoreland district boundary;

4. The Applicant will add a note to the plan indicating the unnecessary pavement section of the house lot will be removed; and

Vice-Chair Brown questioned how the Board felt about the condition that there be no further subdivision as the lots post variance were both non-conforming. Mr. Mukarakar explained why he would not agree to the condition of no further subdivision which explanation satisfied the Board.

Vice-Chair Brown questioned how the Board felt about asking the applicant to submit a joint road agreement.

Ms. Murphy read out loud the *proposed condition* that:

5. A copy of the executed joint road maintenance agreement will be provided to the Town Planner prior to the issuance of a certificate of occupancy.

Ms. English asked about the need to include plowing in the maintenance agreement and Mr. Smith indicated plowing is all encompassed in "maintenance."

Ms. Belanger motioned that the request of Granite State Construction Services, LLC (Planning Board Case #21-8) for a minor subdivision approval be approved with the conditions read by the Natural Resource Planner Kristen Murphy. Ms. Martel seconded the motion.

Mr. Cameron asked Ms. Murphy to re-read condition number five, which she did.

A vote was taken, all were in favor, the motion passed 6-0-0.

2. The application of ZV Investments LLC for a multi-family site plan review of the proposed conversion of the structures located at 50 Newfields Road into four (4) residential condominium units.
RU-Rural Residential zoning district
Tax Map Parcel #35-9
Planning Board Case #21-10

Vice-Chair Brown read out loud the Public Hearing Notice and asked Ms. Murphy if the application was ready for review purposes which she confirmed and Vice-Chair Brown opened Planning Board Case #35-9.

Barry Geier of Jones and Beach presented the application to convert the existing house with an existing accessory structure to four condominium units. Each would have two parking spaces and Unit one would have garage space while Units two through 4 would have interior and two exterior. All would have four guest spaces. There would be minimal site work as far as paving. The existing septic system was upgraded recently and will be utilized.

Ms. Murphy noted the applicant received a Special Exception from the ZBA on 8/17/21 to convert the condominium units under Article 5.4 and 4.21. The approval was granted with the condition that the condominium documents specify that one unit must be owner occupied and the NH DOT driveway permit be adequate. The applicant was sent to staff and there were no comments other than from Jen Mates at the DPW below. There are no waivers requested.

Ms. Murphy summarized Ms. Mates comments:

- Concerns with area behind parking stalls 22' perpendicular
- Recycling
- Phase 1A study for former dry cleaner
- Existing Septic condition (referencing 2004/1989 subsurface approval – upgraded 2004?) Could be at the end of useful life. Requires 1275/gal per day and has 825/gal per day for 4 bedroom and 1 ADU.
- Piping to leach field
- Water Service size/location of well control be addressed in HOA documents
- Pump test capacity, water quality for additional residences, well casing, alternate well location
- Wetland/groundwater

Mr. Geier responded to DPW's comments:

The existing septic behind Unit 4 failed over the winter and was replaced and will be used. A second hasn't been designed yet. Fire Department reviewed site during ZBA. Fence will be added to plan. He will look into the Phase 1A study and whether it was done. Believe there is sufficient parking as the parcel was formerly a church, drycleaner and daycare in the past. Mr. Sharples reference to 11.3 should possibly be 11.4 instead. A fence will be installed to block visual impact to the neighbors.

Ms. Martel asked about the dashed line on the plan at the back edge of the parking lot and Mr. Geier noted it is an existing gravel area which will remain.

Vice-Chair Brown opened the hearing to the public for comments and questions at 8:06 PM. Ms. Murphy noted there was correspondence received from Tim Harrington of 45 Newfields Road which she read out loud. He lives across the street. He had no issue with proposing condominium units but had

difficulties with water flowing to the catch basin and flooding his property when the horse paddock went in. He expressed concerns that the proposal not put additional water onto his property. Mr. Geier noted the applicant proposes no additional clearing. The site is complete except for the septic system.

Vice-Chair Brown asked about walking the property and how the requirement that one unit be owner occupied would be enforced. Mr. Geier noted it is a requirement of the ZBA and agreed that each unit could be sold so one cannot control the whole condominium development. Vice-Chair Brown agreed the condition seemed impractical but it was the ZBA;s and was not requested to be waived by the Planning Board. He wondered if the Planning Board should add this to their list of items to review when ordinances and regulations are reviewed annually. The requirement predates ADUs. Ms. English noted the owner was most likely aware of the requirement before development.

Vice-Chair Brown asked if a site walk would be helpful, and Ms. Belanger and Ms. Martel agreed it would. Vice-Chair Brown scheduled the site walk for October 26th at 8 AM and noted it would be open to the public and would like to see Mr. Harrington attend and Mr. Sharples be aware even if he is able to be there a few minutes late.

Ms. Martel would like to get more information about Jen Mates comments from DPW about the parking aisles. Mr. Geier will look at that and noted each unit has an interior garage and two exterior spaces, but he may be able to angle them for more space. The units are staying in the existing footprint but adding a story. There is also a common back yard and Ms. Martel asked how that would be handled in the documents. Some owners may want the area paved to have a grill and should know if it is allowed or not allowed. She asked about common utilities and Mr. Geier described the well radius. Ms. Martel asked about the heating and HVAC and why TRC was not meeting. Ms. Murphy noted complexity of the project triggers TRC. Vice-Chair Brown noted the project is in its existing footprint.

Ms. English recommended an Advance Septic System if the septic needs further upgrading but while septic upgrade may be required use of Advance Septic design is not. It is more expensive but would provide benefit to nitrogen removal. She opined that having more pervious surface would not be great with Unit 4 within the 75' wetlands setback. Mr. Geier will explore that with the applicant.

Mr. Cameron motioned to table the hearing to October 28th at 7:00 PM. Ms. Belanger seconded the motion. A vote was taken and passed unanimously.

V. OTHER BUSINESS

Master Plan Discussion

- Housing Committee

Ms. Belanger noted a map is in preliminary stages which is an outline tool that can be used by the Committee to exploratory purposes. Mr. Cameron noted it would show where water and sewer were.

Field Modifications

Bond and/or Letter of Credit Reductions and Releases

Public Comment

Jennifer LaGere of 6 Forest Street expressed concerns that she appeared to hear the Exeter Rose Farm extension request and was told it was moved forward on the agenda. The Exeter Conservancy always attends these meetings. Vice-Chair Brown noted the applicant requested to move the item forward on the agenda and that request was granted. The extension for one year was granted until 10/26/22.

Ms. English noted Hazardous Materials Day is on Saturday.

VI. TOWN PLANNER'S ITEMS

VII. CHAIRPERSON'S ITEMS

VIII. PB REPRESENTATIVE'S REPORT ON "OTHER COMMITTEE ACTIVITY"

IX. ADJOURN.

Ms. Belanger motioned to adjourn the meeting at 8:56 PM. Vice-Chair Brown seconded the motion. A vote was taken all were in favor, the motion passed 6-0-0.

Respectfully submitted,

Daniel Hoijer,
Recording Secretary

TOWN OF EXETER, NEW HAMPSHIRE
10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

September 23, 2021

Christian O. Smith, P. E., Principal
Beals Associates PLLC
70 Portsmouth Avenue – 3rd Floor
Stratham, New Hampshire 03885

Re: Zoning Board of Adjustment Case #21-10
Variance Request for Granite State Construction Services, LLC
12 Little River Road, Exeter, N.H. Tax Map Parcel #62-90

Dear Mr. Smith:

This letter will serve as official confirmation that the Zoning Board of Adjustment, at its September 21st, 2021 meeting, voted to grant the above-captioned application for a variance from Article 4, Section 4.3 Schedule II: Density & Dimensional Regulations-Residential to permit a proposed minor subdivision of the property located at 12 Little River Road with less than the required minimum lot width/frontage requirements, as presented.

Please be advised that in accordance with Article 12, Section 12.4 of the Town of Exeter Zoning Ordinance entitled "Limits of Approval" that all approvals granted by the Board of Adjustment shall only be valid for a period of three (3) years from the date such approval was granted; therefore, should substantial completion of the improvements, modifications, alterations or changes in the property not occur in this period of time, this approval will expire.

If you should have any questions, please do not hesitate to contact the Building Department office at (603) 773-6112.

Sincerely,

Kevin M. Baum
Chairman
Exeter Zoning Board of Adjustment

cc: Sam Mukarakar, Granite State Construction Services, LLC
Douglas Eastman, Building Inspector/Code Enforcement Officer
Janet Whitten, Deputy Assessor

KMB:bsm

f:\docs\plan'g & build'g dept\zba cases\zba-21-10 let.docx

Town of Exeter
Zoning Board of Adjustment
September 21, 2021, 7 PM
Town Offices Nowak Room
Draft Minutes

I. Preliminaries

Members Present: Chair Kevin Baum, Vice-Chair Robert Prior, Clerk Esther Olson-Murphy, Rick Thielbar, Christopher Merrill - Alternate, Anne Surman - Alternate

Members Absent: Laura Davies, Martha Pennell

Call to Order: Chair Kevin Baum called the meeting to order at 7 PM.

I. New Business

A. The application of Granite State Construction Services, LLC for a variance from Article 4, Section 4.3 Schedule II: Density & Dimensional Regulations-Residential to permit a proposed minor subdivision of the property located at 12 Little River Road with less than the required minimum lot width/frontage requirements. The subject property is located in the R-2, Single Family Residential zoning district. Tax Map Parcel #62-90. ZBA Case #21-10.

Christian Smith P.E. from Beals Associates presented to the Board, on behalf of the Applicant Sam Mukarkar (Granite State Construction). Mr. Smith said this project has 65.65 feet of frontage, and they are looking to divide it reasonably. The existing drive is half on one side and half on the other, resulting in 20.5 feet of frontage for the existing house and 45.15 feet for the existing church. The existing house will be renovated and rented.

Mr. Prior asked if they were allowed to use the private right of way as frontage, they would have enough? Mr. Smith said yes, they would have enough frontage for both lots.

Mr. Baum asked if this will be a shared driveway. Mr. Smith said yes, the driveway will serve both. Mr. Baum said regarding the subdivision regulations relating to shared driveways, will this project need a waiver? Mr. Smith said the town Planning staff didn't say a waiver would be required. Mr. Baum said according to the existing conditions plan, they will use an easement that affects this area, is that correct? Mr. Smith said yes, this area is still owned by the church, but the church granted an easement for the abutter to use it as a lawn area.

Mr. Thielbar asked if this variance is about the lack of 100 feet for the two properties, and Mr. Smith said yes..

Mr. Baum observed that there were no abutters present. Mr. Prior asked if there are no more Zoom meetings, and Mr. Eastman said that's correct. It was an IT decision.

For the Board alternates, Mr. Merrill will vote on this issue, and Ms. Surman will vote on the re-hearing.

Mr. Prior moved to close the public session and enter into deliberative session. Mr. Thielbar seconded. Mr. Baum, Mr. Prior, Mr. Thielbar, Ms. Olson-Murphy, and Mr. Merrill voted aye, and the motion passed 5-0.

Mr. Prior said this seems straightforward and a good use of the variance. Mr. Baum said these are large lots with more than enough area to support the church and residence. It would be difficult to access it any other way given the wetlands and Little River.

Mr. Prior said the project does meet all of the criteria for a variance. Clearly there is hardship here.

Mr. Prior made a motion to approve the application for a variance from Article 4, Section 4.3 Schedule II: to permit a proposed minor subdivision of the property located at 12 Little River Road. Mr. Thielbar seconded. Mr. Baum, Mr. Prior, Mr. Thielbar, Ms. Olson-Murphy, and Mr. Merrill voted aye, and the motion passed 5-0.

II. Other Business

A. Ben and Sarah Anderson - Case #21-8 - Request for Rehearing 66 Newfields Road, Tax Map Parcel #24-29.

Mr. Baum said this is a request for rehearing for the variance application. There is no one from the public present, and it's not a public hearing. The question is whether the Board misinterpreted the law, overlooked facts, or made an error. If the Board doesn't believe they made an error, they would vote to deny.

Mr. Prior said the Counsel for the applicant has completely missed what the Board was talking about regarding hardship. The hardship, which the Board feels is self-imposed, has to do with use, not the physical conditions of the property. The Andersons have already been approved for a non-residential use on that property, so they have fallen afoul of the definition of a bed & breakfast, which "shall not be used for any other business use." Attorney Pasay has analyzed many prongs of the criteria, but the issue is the use that exists on the property. It can't be both a bed & breakfast and the Word Barn. The hardship was imposed by the combination of uses that the applicant wishes to have on the property.

Mr. Thielbar said they're not applying for a rehearing on special exception for the bed & breakfast issue, but they discuss that issue at length in the application. Mr. Baum said what they have argued is that the bed & breakfast use is reasonable because it's permitted in the RU zone by special exception. Short term uses, such as hotel/motel, are not permitted. Mr. Prior asked where "short term rental" is in the code.

Andy Swanson of EXTV said that there is no Zoom, but abutters are trying to call in. Mr. Baum said as it relates to this request for rehearing, there's no public comment, so he's not that concerned.

Mr. Thielbar said they couldn't rent the space long-term because the noise made by their first variance [The Word Barn] made it unrentable long-term. Mr. Prior asked how they are renting it short-term in that case. Mr. Baum said in the short-term those who stay there might consider the Word Barn use fun. The Andersons' attorney has

suggested in this motion that they were not arguing that was a hardship, and that the information was just provided to give context, but he [Mr. Baum] does think they presented it as a hardship. The Andersons have the right to have a long-term rental there with the appropriate approvals. Mr. Prior said that's not a consideration that the Board needs to take, it's a business decision.

Mr. Baum said it's self-created hardship. He doesn't see any error in their decision. They considered it carefully. There's nothing in the motion for rehearing that changes the analysis that the Board took. He disagrees with the description of how the Board considered self-created hardship. The application stated that they read the wrong purpose into the RU zone, but he disagrees. There is no clear purpose for why short-term or transient rental use is prohibited in the RU zone, but the Board's reading and interpretation of the ordinance was a reasonable one.

Mr. Prior made a motion to deny the request for a rehearing of Case 21-8. Mr. Thielbar seconded. Mr. Baum, Mr. Prior, Mr. Thielbar, Ms. Olson-Murphy, and Ms. Surman voted aye, and the motion passed 5-0.

B. Approval of Minutes: August 17, 2021

Corrections: Ms. Surman said line 27, "the proposal is for four units, with a limited common", should be "common area." Line 48, "Mr. Prior said asked," should be "Mr. Prior asked." Ms. Olson-Murphy said line 115, "a previous case where they couldn't say the owners couldn't rent," should be "they said the owners couldn't rent."

Mr. Prior made a motion to approve the minutes as amended. Ms. Surman seconded. Mr. Baum and Mr. Thielbar abstained as they were not present at the Aug 17 meeting. Mr. Prior, Ms. Olson-Murphy, Mr. Merrill, and Ms. Surman voted aye, and the motion passed 4-0-2.

III. Adjournment

Mr. Prior moved to adjourn. Ms. Surman seconded. All were in favor and the meeting was adjourned at 7:30 PM.

Respectfully Submitted,
Joanna Bartell
Recording Secretary

TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

Public
Meeting Notice

Exeter Heritage Commission / Demolition Review Committee

The Exeter Heritage Commission / Demolition Review Committee will be meeting at 12 Little River Road, Exeter, NH at 10:00 A.M. on Thursday, September 14, 2023 to consider a request for demolition of the existing Calvary Baptist Church (and parking area) for proposed redevelopment. Tax Map Parcel #62-90.

The public is welcome to attend.

EXETER HERITAGE COMMISSION/DEMOLITION REVIEW COMMITTEE
John Merkle, Vice Chairman

Posted 09/08/23: Exeter Town Office and Town of Exeter website

Exeter NH 03833

September 14, 20023

To Whom It May Concern:

A quorum of members of the Heritage Commission met this morning at the Calvary Baptist Church on Little River Road. We see no problem in going ahead with its demolition.

Pamela Gjettum

Pamela Gjettum

RECEIVED

SEP 14 2023

EXETER PLANNING OFFICE

Town of Exeter

Barbara Mcevoy <bmcevoy@exeternh.gov>

Little River Rd Development Concerns

1 message

Steve Blaisdell <cbsblais@comcast.net> Mon, Oct 16, 2023 at 12:34 PM
To: bmcevoy@exeternh.gov
Cc: Steve Blaisdell <cbsblais@comcast.net>

Barbara Please forward this note to the Planning Board

Thank You

Steve Blaisdell

The application of Granite State Construction Services LLC for a site plan review for the open space development on Little River Rd:

I am not an abutter. I live at 6 Little River Rd near the end of the driveway to the new development.

My concern is traffic and speed control on Little River Rd and Penn Lane. We have no sidewalks and relatively narrow streets, especially in the winter. The details of the Granite State plans are not on line so this may already be addressed.

I assume that the development will include repaving the driveway at the intersection with Little River Rd and Penn Lane. When the planning board approved a preschool at the Calvary Baptist Church 25 years ago (?), they required a speed bump at the end of the driveway.

Hopefully, the Planning Board will require some kind of traffic/speed control for the development. A significant speed bump addresses speed issues for both arriving and departing vehicles.

Thank You

Steve and Judy Blaisdell

6 Little River Rd

60-772-6262

TOWN OF EXETER

Planning and Building Department

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709

www.exeternh.gov

Date: **November 8, 2023**

To: **Planning Board**

From: **Dave Sharples, Town Planner**

Re: **Mario Ponte** **PB Case #23-18**

The Applicant is seeking site plan approval for the proposed renovation of the existing structure at 85-87 Water Street to accommodate two (2) retail and eight (8) residential units. The subject property is located in the WC-Waterfront Commercial zoning district and is identified as Tax Map Parcel #72-29.

The Applicant has submitted a minor site plan review application, plans and supporting documents, dated October 10th, 2023, which were provided in the board meeting packet for the October 26th, 2023 meeting. However, it was determined that the proposal, as presented, for the addition to the existing building would require a variance from the Zoning Board of Adjustment for relief from the minimum rear yard setbacks requirement and a Wetlands Conditional Use Permit. The Applicant's representatives have been advised to review the proposal with their client to determine whether going forward with the proposed addition to the rear would be feasible, and if so, to proceed with a submission of the appropriate applications for review. The Applicant does have the option to move forward with this application for the proposed multi-family and retail renovations within the existing building.

There was no Technical Review Committee (TRC) meeting given the minor scope of the application. There are no changes being proposed to the site itself. Per Section 4.3.3 of the Board's regulations, Planning Board jurisdiction is warranted given the new multi-family units being proposed, although in conjunction with commercial/retail uses which would not otherwise require site plan review approval.

The Applicant appeared before the Zoning Board of Adjustment, at their October 17th, 2023 meeting, seeking relief from the minimum parking requirements; the variance application was granted. A copy of the decision letter and the draft minutes of the ZBA meeting are enclosed for your review.

The Applicant will also be requesting a waiver from Section 9.13.1 of the Board's regulations which requires parking to be provided in conformance with the Off-Street Parking Schedule as set forth in Article 5.6.6 of the Zoning Ordinance.

I will be prepared with conditions of approval at the meeting should the Board decide to act on the application.

Waiver Motions:

Parking space (number required) waiver motion: After reviewing the criteria for granting waivers, I move that the request of Mario Ponte (PB Case #23-18) for a waiver from Section 9.13.1. to permit less off-street parking than required in accordance with Section 5.6.6 of the Zoning Ordinance be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Planning Board Motions:

Minor Site Plan Motion: I move that the request of Mario Ponte (PB Case #23-18) for Minor Site Plan approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

RECEIVED

OCT 10 2023

EXETER PLANNING OFFICE

TOWN OF EXETER
MINOR SUBDIVISION, MINOR SITE PLAN, AND/OR LOT LINE ADJUSTMENT APPLICATION

THIS IS AN APPLICATION FOR:

(✓) **MINOR SITE PLAN**
( ) **MINOR (3lots or less) SUBDIVISION** ( ) **LOTS**

( ) **LOT LINE ADJUSTMENT**

OFFICE USE ONLY

PB#23-18	**APPLICATION**
10/10/23	**DATE RECEIVED**
$100.00	**APPLICATION FEE**
	PLAN REVIEW FEE
$70.00	**ABUTTER FEE**
$ 50.00	**LEGAL NOTICE FEE**
	INSPECTION FEE
$220.00	**TOTAL FEES**
	AMOUNT REFUNDED

1. **NAME OF LEGAL OWNER OF RECORD:** Mario Ponte

ADDRESS: 101 Water St, Exeter, NH 03833

TELEPHONE: (603-401-7261

2. **NAME OF APPLICANT:** Same

ADDRESS:

TELEPHONE: ( )

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:**

N/A

(Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:**

ADDRESS: 85-87 Water St Exeter, NH 03833

TAX MAP: 72-29 **PARCEL #:** **ZONING DISTRICT:** WC

AREA OF ENTIRE TRACT: 0.15A **PORTION BEING DEVELOPED:**

5. **EXPLANATION OF PROPOSAL:** Renovation of existing structure to accomodate 8 apartments plus 2 retail spaces.

6. **ARE MUNICIPAL SERVICES AVAILABLE?** (YES/NO) Existing
IF YES, WATER AND SEWER SUPERINTENDENT MUST GRANT WRITTEN APPROVAL FOR CONNECTION. IF NO, SEPTIC SYSTEM MUST COMPLY WITH W.S.P.C.C. REQUIREMENTS.

7. **LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:**

ITEM:	NUMBER OF COPIES
A. Architectural Plans	18pp
B.	
C.	
D.	
E.	
F.	

8. **ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED** (YES/NO) NO IF YES, ATTACH COPY.

9. **NAME AND PROFESSION OF PERSON DESIGNING PLAN:**

NAME: THA Architects, LLC
ADDRESS: P.O. Box 88, Stratham, NH 03885
PROFESSION: RA **TELEPHONE:** 603 770 2491

10. **LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED:** Conversion to 8 apartments plus 2 retail spaces. Connect to water main for sprinkler fire protection.

11. **HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARDOF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?**

(Please check with the Planning Department Office to verify) (YES/NO) NO IF YES, LIST BELOW AND NOTE ON PLAN.

* Scheduled to present variance application to ZBA at their 10/17/23 meeting for parking relief.

NOTICE:

I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE TOWN REGULATIONS, INCLUDING BUT NOT LIMITED TO THE "SITE PLAN REVIEW AND SUBDIVISION REGULATION" AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE "SITE PLAN REVIEW AND SUBDIVISION REGULATIONS", I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE 10/10/23 APPLICANT'S SIGNATURE

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO EITHER APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.

Town of EXETER
Building Department.

I Mario Ponte authorize John DeStefano to speak on my behalf due to the fact that I will be out of the county.

Mario Ponte

ABUTTERS: PLEASE LIST ALL PERSONS WHOSE PROPERTY IS LOCATED IN NEW HAMPSHIRE AND ADJOINS OR IS DIRECTLY ACROSS THE STREET OR STREAM FROM THE LAND UNDER CONSIDERATION BY THE BOARD. THIS LIST SHALL BE COMPILED FROM THE EXETER TAX ASSESSOR'S RECORDS.

TAX MAP 64-51
NAME Exeter Mills LLC
ADDRESS 3 Fenstark Way
Newmarket NH. 03857

TAX MAP 72-1
NAME Town of Exeter
ADDRESS 10 Front Street
Exeter NH. 03833

TAX MAP 72-15
NAME 64 Water Street LLC
ADDRESS 181 High Street
Exeter NH. 03833

TAX MAP 72-16
NAME Inn By the Bandstand, LLC
ADDRESS 6 Front Street
Exeter, NH. 03833

TAX MAP 72-28
NAME Tsui and Yap Limited
ADDRESS 141 A Court Street
Exeter NH. 03833

TAX MAP 72-30
NAME Peg Shaw / Ronnie A. Nadile
ADDRESS Aaron & Judith Katz
2147 O St. NW, Apt. 3B6
Washington DC 20037

TAX MAP 72-31
NAME Kimball Island, LLC
ADDRESS 4 String Bridge
Exeter, NH. 03833

TAX MAP
NAME
ADDRESS

TAX MAP Architect
NAME THA Architects, LLC
ADDRESS PO Box 88
Strafford NH 03885

TAX MAP
NAME John DeStefano
ADDRESS DeStefano & Assoc. Inc.
2456 Lafayette Road
Portsmouth, NH. 03801

TAX MAP
NAME
ADDRESS

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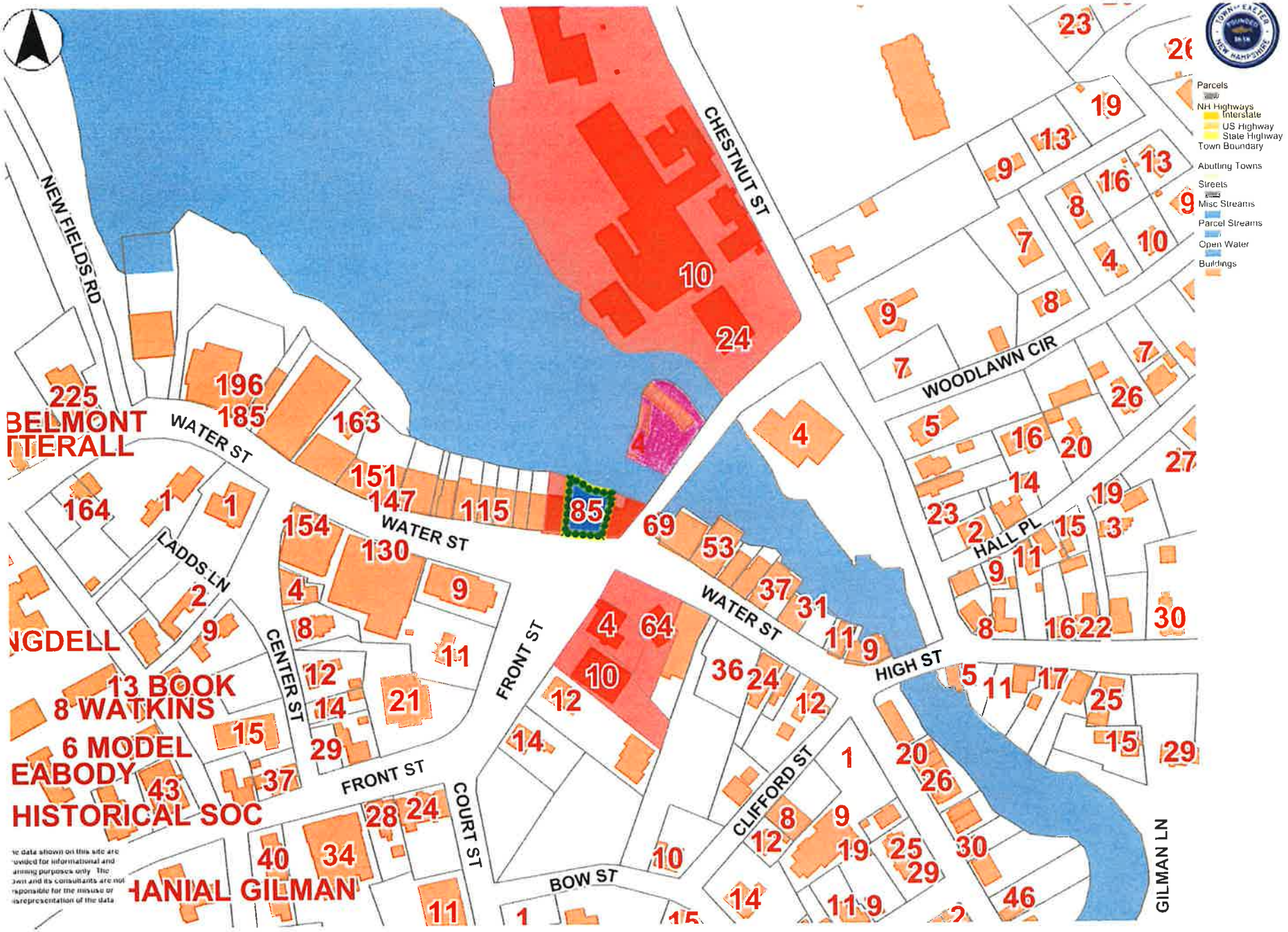
Please attach additional sheets if needed



Printed on 10/02/2023 at 12:10 PM

Abutter Map - 85-87 Water Street, Exeter

OWNER
Mario Ponte
101 Water Street
Exeter, New Hampshire
Tel: (603) 401-7261
Fax:

CONSTRUCTION MANAGER
DeStefano & Associates, Inc.
2456 Lafayette Road
Portsmouth, New Hampsire 03801
Tel: (603) 430-0339
Fax:(603) 430-0346

ARCHITECT
THA Architects, LLC
P.O. Box 88
Stratham, New Hampshire 03885
Tel: (603) 770-2491
Fax:

STRUCTURAL ENGINEER
Emanuel Engineering
118 Portsmouth Avenue, A202
Stratham, New Hampshire 03885
Tel: (603) 772-4400
Fax:

Janvrin's Block
85 Water Street
Exeter, New Hampshire

DRAWING LIST

ARCHITECTURAL

SHEET NO.	SCALE	TITLE	LATEST ISSUE DATE
A-0.1	---	Life Safety Building Code Analysis	09-06-23
A-0.2	---	Life Safety Building Code Analysis	09-06-23
A-0.3	---	Outline Specifications	09-06-23
A-1.B	1/8"=1/-0"	Basement Floor Plan	09-06-23
A-1BRCP	1/8"=1/-0"	Basement Floor Reflected Ceiling Plan	09-06-23
A-1.1	1/8"=1'-0"	First Floor Plan	09-06-23
A-1.1RCP	1/8"=1'-0"	First Floor Reflected Ceiling Plan	09-06-23
A-1.2	1/8"=1'-0"	Second Floor Plan	09-06-23
A-1.2RCP	1/8"=1'-0"	Second Floor Reflected Ceiling Plan	09-06-23
A-1.3	1/8"=1'-0	Third Floor Plan	09-06-23
A-1.3RCP	1/8"=1'-0"	Third Floor Reflected Ceilig Plan	09-06-23
A-1.R	1/8"=1'-0"	Roof Plan	09-06-23
A-2.1	1/8"=1'-0"	Exterior Elevations	09-06-23
A-3.1	1/4"=1'-0"	Building Sections	09-06-23
A-3.2	Varies	Elevator/Stair Sections and Details	09-06-23
A-4.1	Varies	Details	09-06-23
A-5.1	---	Wall/Floor & Roof Ceiling Assemblies	09-06-23
A-6.1	Varies	Door Schedule/Door & Frame Types	09-06-23
		Room Finish Schedule	
		Window Types/Details	

Structural

SHEET NO.	SCALE	TITLE	LATEST ISSUE DATE
S0.0	---	General Notes	xx-xx-xx

Progress Set
September 6, 2023

Life Safety & Building Code Analysis

Janvrin's Block
85 Water Street
Exeter, NH
A Mixed-Use Building

1) Applicable codes:

a. International Building Code - 2015 (IBC)
b. International Existing Building Code - 2015 (IEBC)
b. International Energy Conservation Code - 2015 (IECC)
c. ICC/ANSI A117.1-2003, Accessible and Usable Buildings and Facilities
d. Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities. (ADA-AG) - 2010
e. NFPA 10, Fire Extinguisher - 2015
f. NFPA 13 Sprinkler Systems - 2015,
g. NFPA 101, Life Safety Code - 2015

2) Use Group Classification:

Area	IBC (Chapter 3)	NFPA 101 (Chapter 6)
Basement	Residential (R-2)	New Residential
Basement	Storage (S2)	New Storage
First Floor	Mercantile(M)	Existing Mercantile
2nd Floor	Residential (R-2)	Existing Residential
3rd Floor	Residential (R2)	New Residential

3) Building Area

Level	Area
Basement (Garage)	391 sf
Basement (Residential)	1,470 sf
First Floor	2,974 sf
Second Floor	3,031 sf
Third Floor	2,648 sf
Total	10,514 sf

4) Minimum Occupancy Separation: (IBC Table 508.4)

Area	IBC 508.4	Provided
M to S-2	1 Hr	1 Hr
S-2 to R-2	1 Hr.	1 Hr.
R-2 to M	1 Hr.	1 Hr.

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

5) Construction Type: (IBC Chapter 6)

Area	Use Group	Construction Type
Basement Floor	Storage (S-2)	V-B (Combustible – Protected)
Basement Floor	Residential (R-2)	V-B (Combustible – Protected)
1st Floor	Mercantile (M)	V-B (Combustible – Protected)
2nd-3rd Floor	Residential (R-2)	V-B (Combustible – Protected)

6) Unadjusted Allowable Area per floor: (IBC Table 506.2)

Area	Use Group	Construction Type	Tabular Area
Basement Floor	Storage (S-2)	V-B (Combustible)	54,000 sf/floor
Basement Floor	Residential (R-2)	V-B (Combustible)	21,000 sf/floor
1st Floor	Mercantile (M)	V-B (Combustible)	36,000sf/floor
2nd – 3rd Floor	Residential (R-2)	V-B (Combustible)	21,000 sf/floor

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

7) Unadjusted Allowable Height (IBC Table 504.3, Table 504.4)

Area	Use Group	Construction Type	Tabular Height**
Basement Floor*	Storage (S-2)	V-B (Combustible)	3 Stories
Basement Floor*	Residential (R-2)	V-B (Combustible)	3 Stories
1st Floor	Mercantile (M)	V-B (Combustible)	2 Stories
2nd – 3rd Floor	Residential (R-2)	V-B (Combustible)	3 Stories

*Note: Basement floor is 50% below grade and therefore not considered a storey.

**Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

8) Actual Building Height:

Area	Use Group	Construction Type	Actual Height**
Basement -3rd Floor*	Storage (S-2) Residential (R-2) Mercantile (M) Residential (R-2)	V-B (Combustible)	3 Stories***

*Note: Basement floor is 50% below grade and therefore not considered a storey.

**Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

***Note: Height of building is determined from average mean grade to ridge, therefore the existing building is considered 3 stories with the existing attic space renovated to a habitable space.

9) Fireresistance Ratings of Structural Elements (Hours): (IBC Table 601)

Building Element	V-B Construction Type
Structural Frame	0
Bearing Walls	
Exterior Walls	0
Interior Walls	0
Nonbearing walls and partitions	
Exterior Walls	0
Interior walls	0
Floor Construction	0
Roof Construction	0

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

10) Maximum length of exit access travel (IBC 1017)

Area	Occupancy	IBC Table 1017.2	NFPA 101
Basement Floor	Storage (S-2)	400 feet	400 feet (42.8.3.6.1)
Basement Floor	Residential (R-2)	250 feet	200 feet (Table A.31.1)
1st Floor	Mercantile (M)	250 feet	250 feet (37.2.6.1)
2nd-3rd Floor	Residential (R-2)	250 feet	200 feet (Table A.31.1)

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

11) Occupant Load (IBC Table 1004.1.2)

Area	Occupancy	Area/Factor Load	Occupant Load
Basement Floor	Storage (S-2)	391 sf /200 sf/occupant	= 1.96/floor
Basement Floor	Residential (R-2)	1,470 sf /200 sf/occupant	= 7.35/floor
1st Floor	Mercantile (M)	2,974 sf /60 sf/occupant	= 49.57/floor
2nd Floor	Residential (R-2)	3,031 sf /200 sf/occupant	= 15.16/floor
3rd Floor	Residential (R-2)	2,648 sf /200 sf/occupant	= 13.24/floor

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

12) Minimum number of exits (IBC Table 1006.3.1, Table 1006.3.2(1), Table 1006.3.2(2))

Every floor area shall be provided with the minimum number of approved independent exits as required by Table 1006.3.1 based on the occupant load.

Area	Occupant Load	Exits Required	Exits Provided
Basement Floor	10	1*	2
1st Floor	50	2	2
2nd Floor	16	1*	1*
3rd Floor	14	1*	1*

* Note: Residential (R-2) occupancy does not exceed 4 dwelling units per floor and therefore one exit o access To one exit for R-2 occupancies is permitted. Occupancy load or the Storage (S-2) is less than 10 occupants therefore one exit is required.

* Note: Per NFPA 31.2.4.6, A31.2.4.6, Exhibit 30/31.5 from the commentary, a single exit is allowed for residential use group.

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

13) Maximum Dead End Corridor Allowable: (IBC 1020.4)

Occupancy	IBC 1020.4	NFPA 101
Storage (S-2)	50 feet	Not Limited (42.2.5)
Residential (R-2)	50 feet	50 Feet (30.2.5.4.2)
Mercantile (M)	50 feet	50 feet (37.2.5.2)

Note: Building is equipped throughout with an automatic sprinkler system and shall be designed and installed in accordance with NFPA 13 (IBC 903.3.1.1)

14) Minimum required width of passageways, aisle passageways, aisles and corridors (IBC 1024.2)

1) 44 inches for occupant load greater than 50 persons
2) 36 inches for occupant load less than 50 persons.

15) Light & Ventilation required: (IBC Chapter 12)

1203.5 Ventilation required: Every room or space intended for human occupancy shall be provided with natural or mechanical ventilation.

1203.5.1 Ventilation Area Required: The minimum openable area to the outdoors shall be 4% of the floor area being ventilated.

1205.1 Light required: Every room or space intended for human occupancy shall be provided with natural or artificial light.

1205.2 Natural Light. The minimum net glazed area shall not be less than 8% of the floor area of the room served.

16) Plumbing Fixtures (IBC Table 2902.1) (ADA-AG)

Use Group	Occupant Load	Water Closets (M)	Lavatories (M)
Mercantile (M)	50	M= 1 per 500 F= 1 per 500	M= 1 per 750 F= 1 per 750

Drinking Fountains	Service Sink
1 per 1000** (2 provided)	1 sink required.

*Note: IBC 2902.1.1, the occupant load of each sex shall be divided in half.

**Note: ADA-AG requires 2 drinking fountains therefore 2 drinking fountains are provided

THA
ARCHITECTS, LLC
ARCHITECTURE • DESIGN • PLANNING • INTERIOR DESIGN
P.O. Box 88
STRATHAM, NEW HAMPSHIRE 03885
Tel: (603) 770-2491
www.thaarc.com

Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Life Safety & Building Code Analysis

Structural Engineer:
Emanuel Engineering

Progress Set
September 6,2023

SCALE:

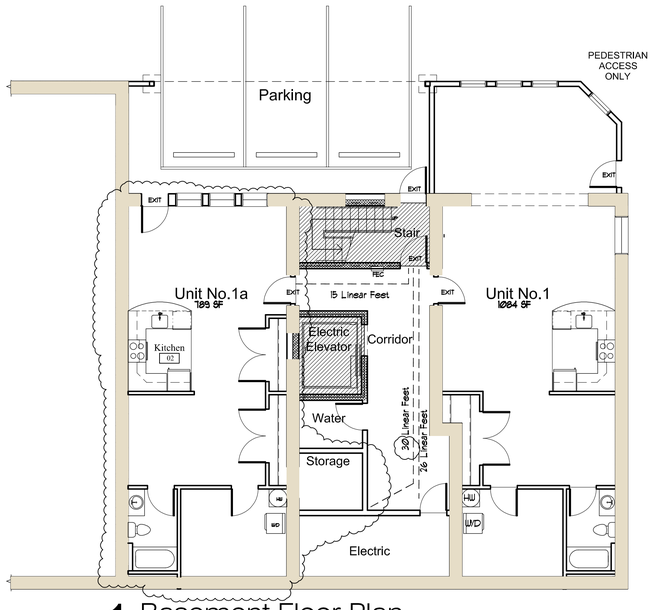
ISSUED / DRAWN BY

© THA Architects, LLC.

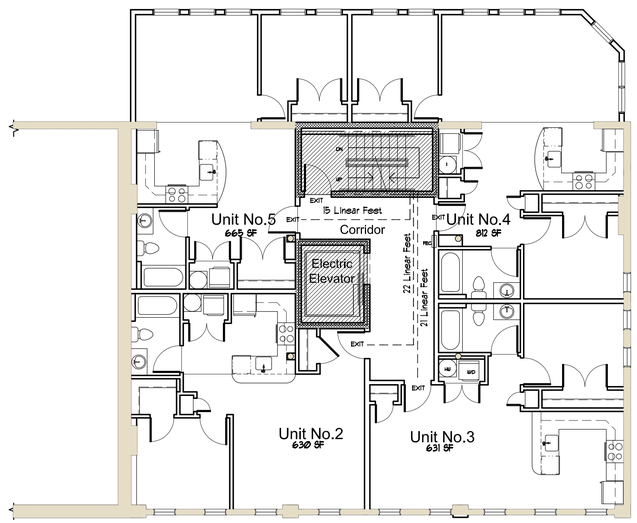
REVISED / REVISED BY

JOB NO: 21006

SHEET NUMBER
A-0.1



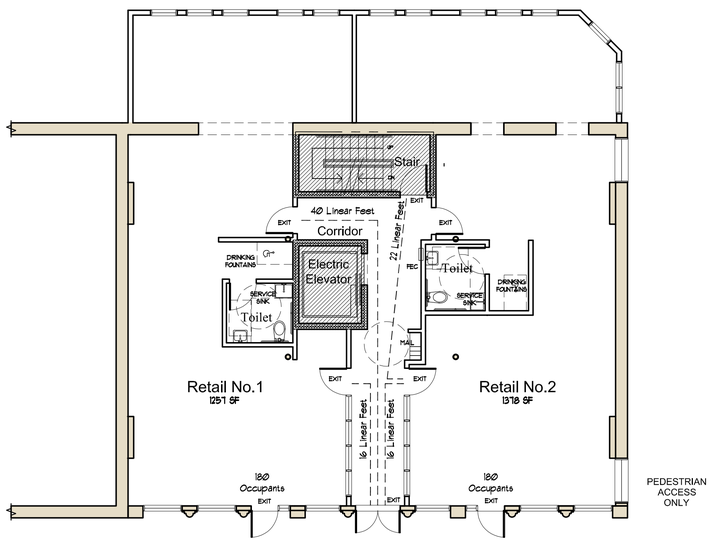
1 Basement Floor Plan
1/8" = 1'-0"



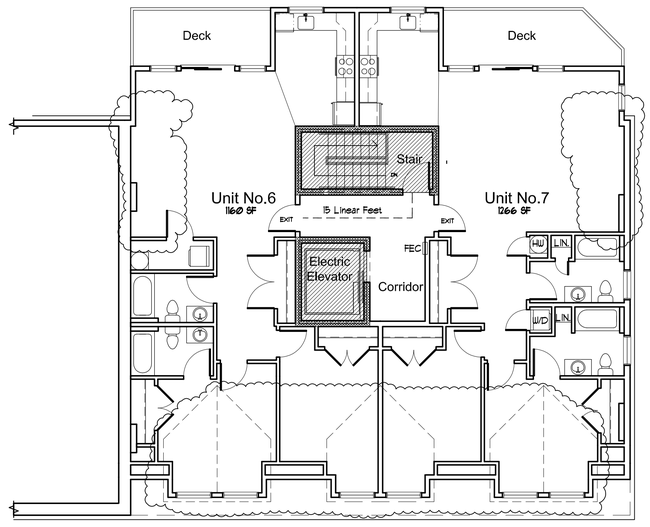
3 Second Floor Plan
1/8" = 1'-0"

ONE HOUR FIRE RATED WALL

TWO HOUR FIRE RATED SHAFT



2 First Floor Plan
1/8" = 1'-0"



4 Third Floor Plan
1/8" = 1'-0"

THA
ARCHITECTS, LLC
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P.O. Box 88
STRATHAM, NEW HAMPSHIRE 03885
Tel: (603) 770-2491
www.thaarc.com

Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Life Safety & Building Code Analysis

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

ISSUED / DRAWN BY

REVISED / REVISED BY

JOB NO: 21006

SHEET NUMBER
A-0.2

Outline Specifications

SECTION 1 – General Requirements

A. General
1. The intent of this specification is to give the tradesperscn enough information to perform a complete job. In each Section the Contractor and/or Subcontractor are responsible for providing all labor, materials, and equipment to perform the full work in a complete and craftsman like manner.
2. This contract is for a complete project. The Contractor and/or Subcontractors shall provide all materials, labor, tools, permits, equipment, staging, temporary and permanent utilities and insurance necessary to complete the construction as shown and as implied by these Contract Documents. All materials shall be new.
3. Contract Documents include the agreement, drawings, specifications and all addenda incorporated prior to execution of the agreement.
4. These documents have been prepared in accordance with the International Building Code, 2015 with New Hampshire Amendments, known as the New Hampshire State Building Code. All work shall be in accordance with governing codes and standards. Clean, safe, working conditions shall be maintained at all times. Safety precautions shall include such measures to insure public safety.
5. The work shall proceed as quickly as possible. Each trade shall layout and coordinate their work to expedite the construction process. All materials shall be good quality. Defective work shall be removed and replaced at no cost to the Owner.
6. Site Visits: The Contractor and Subcontractors must visit the site and become familiar with all existing on site conditions prior to submitting any bid proposals.
7. All dimensions shall be field verified by the Contractor and/or Subcontractor.
8. Should discrepancies be found between the drawings, specifications and code, the following shall be the order of clarification priority: The code shall overrule the specifications, and the specifications shall overrule the drawings, or whichever is most restrictive.
9. At the end of each work day, clean the work area of rubbish and construction debris of any nature. Store materials so that they do not create natural pockets for papers or other combustible materials.
10. A minimum of two (2) fire extinguishers shall be placed throughout the work area. In general, the use of open flame devices is prohibited. In the event that operations are undertaken to which use of an open flame device is essential, the Subcontractor shall consult with the Owner, describing the circumstances necessitating the device. The Owner may require additional precautions as he/she deems necessary.
11. Construction shouldn't begin prior to 7:00 am or extend beyond 5:00 pm, Monday thru Friday, unless the Owner and authority having jurisdiction has approved extended working hours.

B. Schedule:
1. Provide a number of calendar days to complete the project. A flow chart for construction will be provided to the Owner and Architect upon award of the contract. Flow chart will be updated periodically as required by request of the Owner and Architect.

C. Testing.
1. The Contractor and/or Subcontractor shall test all equipment to assure proper installation and operation and shall verify the same to the Owner in writing prior to turn over to the Owner.

D. Guarantees, Warranties, O&M Manual.
1. The Subcontractors shall provide the Owner with all guarantees, warranties, operation and maintenance instructions and other literature provided with all equipment used in the project.

E. Quality Assurance:
1. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship to produce work of specified quality.
2. Comply in full with manufacturers instructions including each step in sequence.
3. Should manufacturers instructions conflict with Contract Documents or deviate from good construction practice, request clarification from Owner and Architect before proceeding.
4. Comply with specified standards as minimum quality for the work, except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
5. Perform work by persons qualified to produce workmanship of specified quality.
6. Secure products in a place with positive anchorage devices designed and sized to withstand stresses and vibration without physical distortion or disfigurement.

F. Submittals.
1. The Subcontractors shall provide all samples and shop submittals to the Owner as required by the owner, drawings, and specifications.
2. Trade names of specific manufacturers specified herein are used as a basis for the design and/or quality desired. Substitutions of products by other manufacturers may be made when approved by the Owner and Architect.

G. Temporary Electricity.
1. Provide portable generators or connect to temporary power service. Power consumption shall not disrupt Owners need for continuous service.
2. Provide power outlets for construction operations with branch wiring and distribution boxes. Provide flexible power cords as required.
3. Permanent convenience receptacles may be utilized during construction.

H. Temporary Heat.
1. Furnish temporary heat devices as required to maintain specified conditions for construction operations. Permanent building heating systems may be used during construction.
2. Prior to operation of permanent facilities for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operations, maintenance and regular replacement of filters and worn or consumed parts.
3. Maintain appropriate minimum temperature as recommended by manufacturer.

I. Temporary Ventilation.
1. Ventilate enclosed areas as required in order to assist curing of materials, to disperse humidity and to prevent accumulations of dust, fumes, vapors or gases.

J. Temporary Sanitary Facilities.
1. Provide and maintain required facilities and enclosures.

K. Barriers.
1. Provide barriers as required to prevent unauthorized entry to construction areas, to allow for Owner's use of site and protect existing facilities and adjacent properties from damage from construction operations.

L. Protection of installed work.
1. Provide special protection where specified in individual specification sections and where work is of a type or in position to be vulnerable to construction process damage.
2. Prohibit traffic or storage on waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
3. Prohibit traffic in landscaped areas.

M. Maintenance and removal of utilities, facilities and controls.
1. Maintain temporary services for construction until permanent services are available.
2. Remove temporary above grade utilities, equipment, facilities and materials prior to substantial completion inspection.
3. Clean and repair damage caused by installation or use of temporary work.
4. Restore permanent facilities used during construction to specified condition.

O. Allowances.
1. Refer to allowance schedule at end of these specifications, if any.

P. Cutting and Patching.
1. Cut existing construction as required in order to accommodate new work.
2. Patch existing construction as required. Match new work, blend old and new work to obtain a seamless appearance.
3. Provide temporary supports, and protection from elements and ongoing construction.
4. Salvage existing construction as directed.

Q. Coordination.
1. Coordinate the Work, including but not limited to, mechanical and electrical work, and the other subcontractors. Anticipate areas where the installation of mechanical and electrical work will be restricted, congested or difficult. The Contractor shall be responsible for coordinating trades, sequences, means and methods and schedules.
2. Coordinate the work of all trades and with work being performed by the Owner or the Owner's consultants and Contractors.
3. The Contractor shall obtain all necessary permits and coordinate required inspections.

SECTION 2 – Site Work

(Refer to Civil drawings and specifications for additional detailed specification criteria).

SECTION 3 – CONCRETE

(Refer to structural drawings and specifications for additional detailed specification criteria. Structural drawings will overrule these specifications.)

A. Concrete:
1. All concrete is to be 4000 psi 28-day compressive strength according to ASTM C 109/C 109M.
2. Portland Cement: ASTM C 150, Type 1, gray, supplement with the following,
   a. Fly ash: ASTM C618, Class F or C.
   b. Ground Granulated Blast-Furnace Slag: ASTM C989, Grade 100 or 120
3. Aggregate: Normal weight
4. Water: ASTM C94/C 94M
5. Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures anf that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
   a. Air entrainment: ASTM C 260
   b. Water reducing admixture: ASTM C 494/C 494M, Type A
   c. High range, water reducing admixture: ASTM C 494/494M, Type F

B. Concrete Slabs:
1. Concrete slab – concrete slabs are to be structural slabs.
2. Install Stego 15 mil polyethylene vapor barrier under all slabs.
3. Cure slabs per ACI 318-93.

C. Concrete Mixing:
1. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
2. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

D. Steel Reinforcement:
1. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.
2. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice.

SECTION 4 – MASONRY

(Refer to structural drawings and specifications for additional detailed specification criteria. Structural drawings will overrule these specifications.)

A. Mortar:
1. Provide mortar for masonry systems as scheduled. Products type and location; N, locations not otherwise specified; M, masonry in contact with earth; O, Interior non load bearing walls.
2. Submittals: Provide product data and samples.

B. Unit Masonry:
1. Exterior: Basis of Design, Face brick veneer to match existing.
2. Provide reinforced concrete masonry unit block walls at exterior walls as indicated on drawings.
3. Lay running bond. Horizontal reinforcing to be galvanized truss type. Special shapes: Boxed beams and other as required by best practice.
4. Submittals: Provide product data and samples for all locations.

SECTION 5 – METALS

(Refer to structural drawings for additional detailed specification criteria. Structural drawings will overrule these specifications.)

A. Structural Steel:
1. Refer to structural drawings for additional information. Structural drawings shall overrule these specifications.
2. Structural beams shall meet ASTM A-36, latest revisions
3. Structural pipe columns shall meet ASTM A53, latest revisions if required.
4. Provide double nuts for all column anchor bolts to allow for adjustment and leveling. Install minimum 1" non-shrink grout under base plate after erection. Anchor bolts lengths are embedment lengths.
5. All steel fabrications, including beams and columns, shall receive a shop applied rust inhibitive primer. All field welds shall be ground smooth and primed with a rust inhibitive coating.

B. Architectural Metals:
1. Ornamental metal fabrications shall be constructed by craftsmen to resemble, as closely as possible, designs indicated in these plans. If no detail design is provided, design selection shall be made by Owner in consultation with craftsmen and Architect.
2. All work shall be done in a professional manner with tight fits, true angles and secure anchorage. All ferrous metal fabrication welds must be ground smooth and coated with a rust inhibitive primer.
3. Exterior Pipe rails: Provide 2" diameter at parking garage openings within exterior wall as shown. Maintain 4" clear maximum between top of precast panel to bottom side of pipe rail. Provide a weathered zinc finished color.
4. Submittals: Provide product data, color chart and samples.

D. Pipe Bollards:
1. Fabricate bollards from schedule 40 steel pipes. Coordinate size with civil drawings. Set bollards plumb in concrete with depth below grade equal to height above grade. Fill bollards with concrete with dome caps. Bollards shall be hot dipped galvanized, shop primed and baked on primer. Color to be selected by owner.

SECTION 6 – WOOD AND PLASTICS

(Refer to structural drawings for additional detailed specification criteria. Structural drawings will overrule these specifications.)

A. Wood framing general:
1. Refer to structural drawings for additional information. Structural documents overrule these specifications.
2. All dimensional framing lumber shall be stress graded, Spruce-Pine-Fir #2 or better, kiln dried 19% maximum moisture content. Lumber shall have a fiber stress in bending "Fb" of not less than 850 psi and a modulus of elasticity "E" of not less than 1,200,000 psi.
3. All wood in contact with concrete or masonry shall be pressure treated.
4. All exposed framing to remain unfinished to be pressure treated unless specifically indicated otherwise.
5. Provide blocking, bracing and stiff backs as required, whether specifically indicated or not. Install solid blocking and framing under all beams and posts extending down through structure, including interstitial floor spaces.

B. Wall Sheathing:
1. All exterior wall sheathing is to consist of a ½" Zip System. Install per manufacturers recommendations. All joints and holes are to be taped for a weather tight system.

C. Gypsum Sheathing:
1. Standard: ASTM C117
2. Basis of Design: Dens-Glass Series Sheathing, G-P Gypsum Corporation. Thickness as shown on drawings.
3. Joint sealant by Tremco, Dymonic 100 with backer rod.

SECTION 7 – THERMAL AND MOISTURE PROTECTION

A. Building Insulation:
1. Refer to drawings for value and location of insulation.
2. Fiberglass thermal insulation.
   a. Install unfaced fiberglass batts full width of stud cavity.
   b. Install 4 mil polyethylene vapor barrier on conditioned space side of all fiberglass batts as required. Vapor barrier to be continuous across surface of insulation with all joints and penetrations taped and sealed.

B. Firestopping:
1. Provide accessories as required; Bio Fireshield products or equal.
2. Provide submittals for product data.

C. Under slab Vapor Retarder:
1. Section includes; vapor retarder, seam tape, mastic, pipe boots, detail strip or installation under slabs.
2. Submit product data including manufacturers installation instruction.
3. Product: Stego Wtap, 15 mil, puncture resistance of 2326 grams minimum, tensile strength of 67 lbf/in. minimum with indefinite life expectancy.

D. Sealants as required:
1. Apply sealants to all joints, seams and intersections, both interior and exterior, and between dissimilar materials.
2. Provide sealant accessories such as backer rods, primers, etc.
3. One part Non-acid Curing Silicone: Joints in concrete, exterior joints at window heads, soffits, ceilings, etc. (Not for use in joints to be field painted).
4. One-part Polysulfide: Horizontal joints in concrete and all horizontal joints in paving subject to foot traffic.
5. One-part Mildew Resistant Silicone: Ceramic tile, all interior joints subject to moisture.
6. Pigmented small joint sealant: For joints on interior side of exterior walls too small to be caulked with gun able sealant.
7. Acrylic Emulsion/Latex joint sealant: General purpose interior sealant for joints to receive painters finish.
8. Acoustical sealant:

E. Dampproofing and Waterproofing
1. Install bituminous dampproofing at all below grade walls. Dampproofing to be asbestos free, Karnak Chemical Company or equal. Install protection board over all dampproofed surfaces prior to back fill.
2. Follow manufacturer's instructions for specific applications. W.R. Grace "Bituthene" line of products or equal.
3. Water stop: Provide a bentonite water stop system at intersections of new concrete foundation walls to existing foundation concrete walls. Extend full length. Install per manufacturers recommendations.

F. Sheet Metal Flashing:
1. Section includes roof edge metal flashing, counter flashing at edge of roof, wall flashing at intersections of wall to roof.
2. Submittals: provide submittals indicating product data, colors and samples.
3. Installer to have a minimum of 3 years experience.
4. Aluminum: ASTM B209, 5005 alloy, temper as required for intended application. Sealant: Two part, non-sag polyurethane.
5. Color to match adjacent materials or unless noted otherwise.

SECTION 8 – DOORS AND WINDOWS

A. Doors:
1. Exterior Doors: Pre-Hung in exterior frames; refer to plans for sizes and types.
2. All exterior doors should be a minimum "U" value as noted on Com Check energy calculation and report submitted with the building permit.
3. Interior Doors: Pre-Hung metal frames as noted, Refer to plans for sizes and types.
4. *Hardware: Selection of door hardware by Architect. Note: Contractor to consult Architect about style and quality of hardware. Contractor to re-key all locks after completion of construction and provide the owner with three sets of keys.*

B. Windows:
1. Refer to plans for sizes and types. All windows are to meet the energy Star criteria.
2. All window glass is to be insulated glass with low-e coating and argon gas with a U value of .036 or better.
3. All glass within 24" of the finished floor is to be tempered.

All changes of glass and door specifications must be updated with a revised energy calculation at the cost to the contractor. Contractor is to notify Architect of any changes that may have occurred in relation to the architectural drawings.

SECTION 9 – FINISHES

A. Gypsum Board: United States Gypsum (USG) or equal complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
1. 5/8" G.W.B. at interior surfaces per drawings, use Type "X" fire rated gypsum wall board. Mud & tape all joints and fasteners. Finish smooth (no texture)
2. Long edges: Tapered
3. Accessories for interior installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047.

B. Suspended Acoustical Ceiling Systems:
1. Refer to Reflected Ceiling Plans for location of acoustical ceiling tiles.: Armstrong Cortega Second Look, 24"x48"x9/16" w/angled Tegular edges and suspension system. Color to be selected by interior designer.

C. Finished flooring: To be provided by Tenant

D. Paint: Level 4 finish. Refer to Owner for extent, make, model and color.

E. Submittals: Provide product data and samples

SECTION 10 – SPECIALTIES

A. Signage:
1. Uniformity of manufacturer: For each sign form and graphic image process indicate furnish products of a single manufacturer.
2. Submittals: Provide product Data and full size samples.
3. Signs shall be made of two-color laminated plastic sheets approximately 1/8" thick. Machine engrave to expose contrasting interior core color. Inner core color shall be white. Covering color to be selected by the owner. Signs shall be ADA compliant
4. Locations, but not limited to: Office, Toilet Room, Sprinkler Room, Utility Room, Storage Room, etc.

B. Fire Extinguishers:
1. Protection: Protect finished surfaces from damage or staining. Provide protective covering for equipment following installation until Date of Completion.
2. Submittals: Provide Product data.
3. Fire Extinguisher: Multipurpose rechargeable dry chemical type locally available as manufactured by nationally recognized manufacturer.
4. Cabinets: Manufactured by Larsens, Inc., Formed sheet steel, 20-gauge, prefinished white with center break glass. Semi-recessed.
5. Locations: Refer to drawings.

C. Toilet Accessories
1. Provide surface toilet tissue dispenser, grab bars and towel dispenser as indicated on drawings. No names or labels are permitted on exposed surfaces. Fabricate with tight seams and joints and piano hinges.
2. Submittals: Provide product data.
3. Toilet tissue dispenser: Surface mounted single roll dispenser. Size to accommodate core tissue to 5" diameter. Spindle less chrome plated zinc alloy construction with tension spring delivery control.
4. Paper towel dispenser: Surface mounted, stainless steel with hinged front equip with tumbler lockset. Provide pierced slots at sides as refill indicator. Not less than either 300 C-Fold or 400 multi-fold paper towels without need for special adaptors.
5. Grab bars: Stainless steel type grab bars with wall thickness not less than 18 (.050") gage and as follows:
   a. Mounting: Exposed, manufacturer's standard nonslip texture.
   b. Clearance: 1 ½" clearance between wall surface and inside face of grab bar.
   c. Gripping surface: Manufacturer's nonslip texture.
   d. Medium duty size: Outside diameter of 1 ¼".

SECTION 11 – Equipment

A. Kitchen Equipment: Refer to kitchen consultant documents for additional information.

B. Provide shop submittals.

SECTION 12 – Furnishings (This section left blank intentionally)

SECTION 13 – Special construction (This section left blank intentionally)

SECTION 14 – Conveying Systems – Electric Elevator

A. Provide one electric elevator. Provide complete turnkey installation.

B. Provide pre-engineered packaged electric elevator unit as listed: manufactured by Kone or equal.
1. Kone – Ecospace 3500 Pound, 150 fpm with in shaft controls, Electric Elevator System (Basis of Design) Center Opening
   capable to receive gurney, Handicapped Accessible with Onboard Diagnostic or Diagnostic Tools.C. Finishes by Owner.

D. Provide shop submittal.

SECTION 15 – MECHANICAL SYSTEMS

(Refer to Mechanical drawings for plumbing, fire protection and Heating Ventilation & Air Conditioning specification criteria.)

SECTION 16-ELECTRICAL

(Refer to Electrical drawings for electrical specification criteria.)

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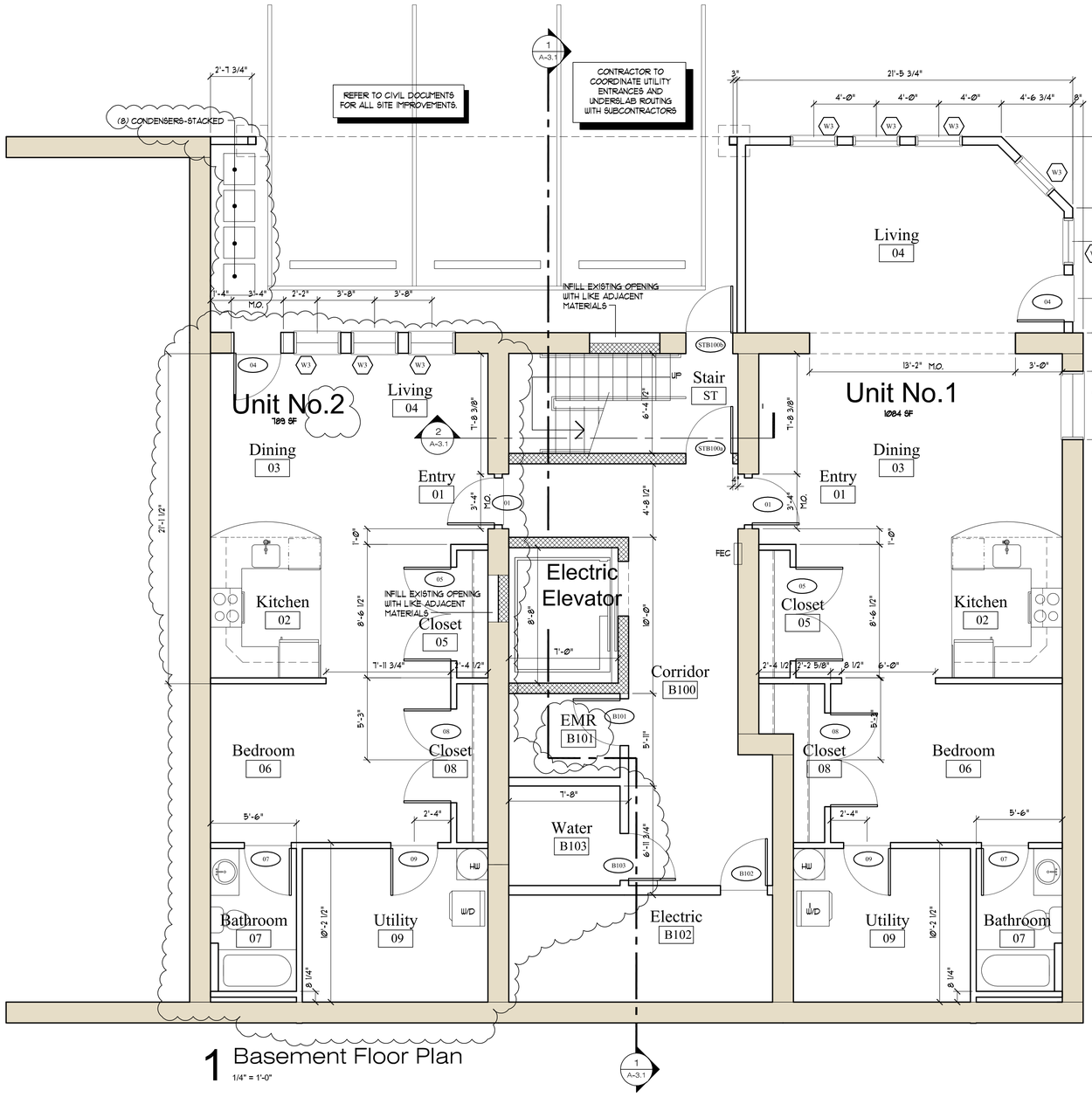

1 Basement Floor Plan
1/4" = 1'-0"

C.O. DET LOCATION

CARBON MONOXIDE ALARMS SHALL BE LOCATED IN EA. BEDROOM OR WITHIN 15 FEET OUTSIDE OF EA. BEDROOM DOOR, AT EVERY FLOOR LEVEL W/ BEDROOMS

NOTE:
COORDINATE AND VERIFY ALL BOTTOM OF FOOTING, TOP OF WALL AND SLAB ELEVATIONS WITH THE CIVIL ENGINEER PRIOR TO EXCAVATION AND LAYING OUT CONCRETE REINFORCING. BOTTOM OF CONCRETE FOOTINGS TO BE MINIMUM 4'-0" BELOW FINISH GRADE. TOP OF CONCRETE WALL TO BE 8" MINIMUM ABOVE FINISH GRADE. REFER TO STRUCTURAL DOCUMENTS FOR ADDITIONAL INFORMATION

NOTE:
CONCRETE FOUNDATINS SHALL NOT BE FOURED IN FREEZING TEMPERATURES AND NOT ON FROZEN GROUND.

GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPENCIES TO THE ARCHITECT BEFORE ORDERING MATERIAL AND PROCEEDING WITH THE WORK.

2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE STATE BUILDING CODE (2015 INTERNATIONAL BUILDING CODE) SHOULD LOCAL CODES AND/OR ORDINANCES DIFFER FROM THESE PLANS, A DETERMINATION SHALL BE MADE BY THE CONTRACTOR AND/OR LOCAL CODE ENFORCEMENT OFFICER AS TO WHICH IS MOST STRINGENT. THE MOST STRINGENT REQUIRMENT SHALL RULE.

3. ALL SECTIONS, DETAILS, NOTES, OR MATERIALS SHOWN AND/OR NOTED ON ANY PLAN, SECTION OR ELEVATION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.

4. TESTING AND INSPECTION AGENCIES SELECTED BY THE OWNER. ALL WORK SHALL REQUIRE ADHERENCE TO THE REQUIREMENTS OF ASTM DESIGNATION E-329 ENTITLED "RECOMMENDED PRACTICE FOR INSPECTION AND TESTING AGENCIES FOR CONCRETE AND STEEL USED IN CONSTRUCTION."

5. FOOTINGS SHALL REST ON FIRM STRUCTURAL FILL. REFER TO STRUCTURAL DOCUMENTS FOR ADDITIONAL INFORMATION.

6. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL SOILS ENGINEER TO VERIFY SOIL BEARING PRESSURE.

7. ALL GRANULAR FILL MATERIAL UNDER SLABS SHALL BE PLACED TO 95% RELATIVE DENSITY.

8. ALL FOOTING EXCAVATIONS TO BE FINISHED BY HAND AND INSPECTED AND APPROVED BY THE TESTING ENGINEER BEFORE ANY CONCRETE IS PLACED.

9. BACKFILL SHALL BE PLACED TO EQUAL ELEVATIONS ON BOTH SIDES OF FOUNDATION WALLS. WHERE BACKFILL IS ON ONE SIDE ONLY, WORK SHALL BE SHORED OR HAVE PERMANENT ADJACENT CONSTRUCTION IN PLACE BEFORE BACKFILLING.

10. THE SIDES OF ALL BEAMS, WALLS, FOOTINGS, ETC. SHALL BE FORMED AND CONCRETE SHALL NOT BE PLACED AGAINST EARTH CUTS.

11. FOOTINGS SHALL NOT BEAR ON FROZEN SOIL AND ALL EXTERIOR FOOTINGS SHALL BE NOT LESS THAN 4'-0" BELOW ADJACENT FINISH GRADE.

12. ALL SLABS ON GRADE SHALL HAVE A 15 MIL. VAPOR BARRIER UNDERNEATH.

13. FRAMING PLANS ARE SCHEMATIC IN NATURE AND SHOULD NOT BE SCALED. INSTALL ALL BLOCKING, BRACING, STIFFBACKS, ETC., AS REQUIRED BY THE BUILDING CODE AND IN ACCORDANCE WITH GOOD FRAMING PRACTICES AND STANDARDS.

14. ALL ROOF RAFTERS SHALL HAVE HURRICANE TIE DOWNS.

15. GARAGE SHALL BE SEPARATED FROM RESIDENTIAL USE GROUP BY FIRE RATED WALLS AND CEILING. REFER TO BASEMENT FLOOR PLAN.

16. RAILINGS AT DECKS, BALCONIES AND RAISED PLATFORMS ARE TO BE A MINIMUM OF 42" ABOVE FINISHED FLOOR. RAILINGS ARE TO SUPPORT A CONCENTRATED LOAD OF 200 LBS. ACTING IN ANY DIRECTION.

17. PROVIDE SMOKE DETECTORS IN SUFFICIENT QUANTITIES AND LOCATIONS TO MEET REQUIREMENTS OF THE BUILDING CODE. PROVIDE NOT LESS THAN ONE SMOKE DETECTOR ON EACH FLOOR, INCLUDING BASEMENT AND ATTICS CAPABLE OF BEING INHABITED.
- PROVIDE ONE SMOKE DETECTOR IN EACH BEDROOM AREA.
- PROVIDE NOT LESS THAN ONE SMOKE DETECTOR FOR EVERY 1200 SF OF FLOOR SPACE.
- PROVIDE PHOTO ELECTRIC SMOKE DETECTOR IF LOCATED LESS THAN 20 FEET FROM EITHER A KITCHEN OR A BATHROOM WITH A TUB OR SHOWER.

18. PROVIDE FIRE ALARMS PER BUILDING CODE.

19. EACH BEDROOM ABOVE THE FIRST FLOOR SHALL BE EQUIPPED WITH AN EMERGENCY EGRESS WINDOW OF NOT LESS THAN A NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM CLEAR OPENING OF THE WINDOW SHALL NOT BE LESS THAN 20 INCHES IN WIDTH AND 24 INCHES IN HEIGHT.

20. TEMPERED GLASS TO BE PROVIDED WHEN THE BOTTOM EDGE OF THE GLASS IS LESS THAN 24" ABOVE FINISHED FLOOR PLAIN.

21. REFER TO OUTLINE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

22. ALL INTERIOR WALLS ARE IW-A UNLESS OTHERWISE NOTED.

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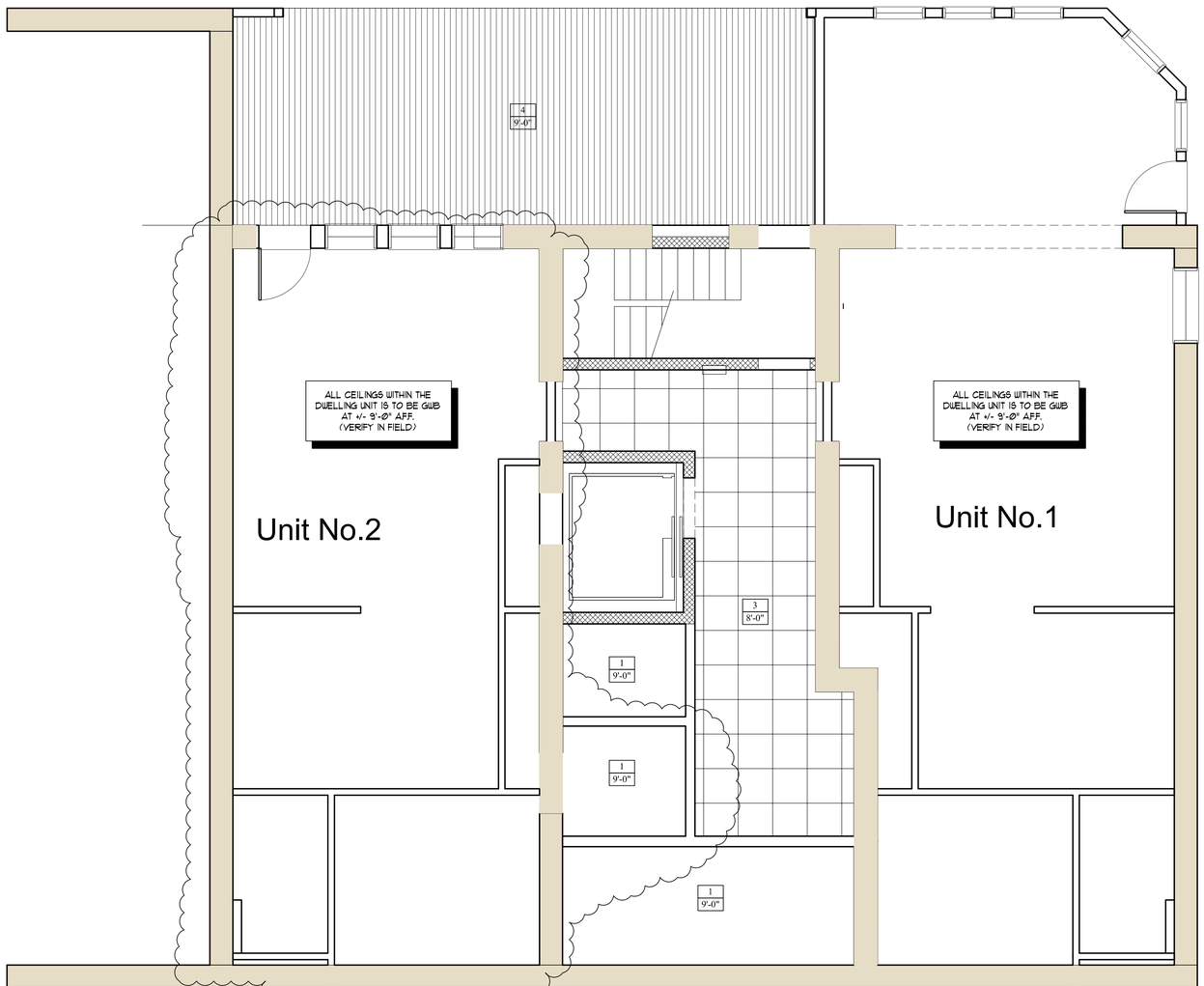

1 Basement Floor Plan
1/4" = 1'-0"

GENERAL NOTES

1. 1 HOUR FIRE RATED FLOOR/CEILING ASSEMBLY TO BE CONTINUOUS AND UNINTERRUPTED BELOW FLOOR TRUSS THROUGHOUT UNLESS PENETRATED BY RATED ASSEMBLY OF EQUAL OR GREATER FIRE RATING (AS APPLICABLE.) LIGHT FIXTURE PENETRATIONS THROUGH RATED ASSEMBLY TO BE BOXED OUT IN TWO LAYERS OF 5/8" TYPE 'X' GWB TO MATCH RATED ASSEMBLY CONSTRUCTION. (REFER TO 3 & 4/A-A)RCP)

2. SPRINKLER HEADS ARE NOT SHOWN. SPRINKLER CONTRACTOR TO SUBMIT LAYOUT FOR REVIEW & COORDINATION WITH OTHER TRADES OF REFELCTED CEILING PLAN.

3. MECHANICAL AND ELECTRICAL EQUIPMENT AND FIXTURES ON REFLECTED CEILING PLANS ARE FOR LOCATION AND COORDINATION ONLY.

4. PLACEMENT & LAYOUT OF EQUIPMENT TO BE AS FOLLOWS.

a. SPRINKLER HEAD IN A.C.T.: CENTERED IN PANEL.
b. SPRINKLER HEAD IN GWB: ALIGN WITH NEARBY LIGHT FIXTURE.
c. CORRIDOR FIXTURES: CENTERED IN TILE PANEL.
d. REGISTERS, DIFFUSERS, EXIT LIGHTS, SMOKE DETECTORS: CENTERED IN TILE PANEL.

5. PROVIDE 30" X 30" FIRE RATED ACCESS PANEL ABOVE CORRIDOR CEILING FOR ATTIC ACCESS.

6. IF CONFLICTS EXIST BETWEEN QUANTITIES OFLIGHTS, SPRINKLERS, RETURNS, DIFFUSERS, ETC CONTRACTOR TO CARRY HIGHEST NUMBER.

7. BATHROOM SHOWER LIGHTS TO BE WATERPROOF TYPE.

LEGEND

1	5/8" TYPE 'X' GWB
2	SLOPED GYPSUM BOARD
3	2'X2' ACOUSTICAL CEILING TILE ARMSTRONG CORTEGA SECOND LOOK II #2767 TEGULAR
4	VINYL SOFFIT OVER 5/8" TYPE 'X' GWB

LIGHT SCHEDULE

- RECESSED DOWNLIGHT
- SURFACE MOUNTED FIXTURE
- 4' SURFACE MOUNTED FLUORESCENT LIGHT
- WALL SCONCE
- DIFFUSER
- RETURN REGISTER
- 2'X2' RECESSED FLUORESCENT LIGHT
- 2'X4' RECESSED FLUORESCENT LIGHT

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Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Basement Reflected Ceiling Plan

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

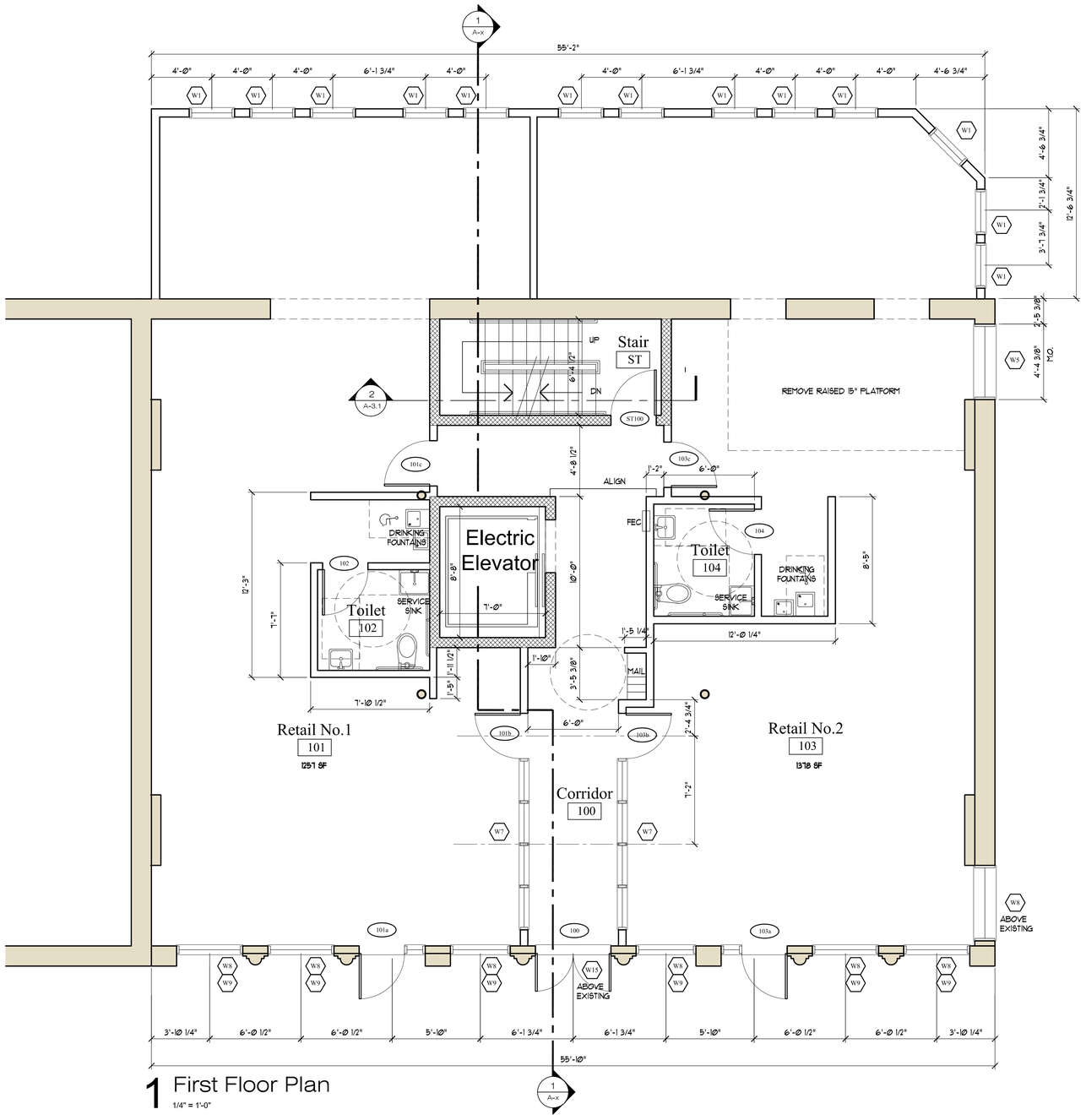
ISSUED / DRAWN BY

REVISED / REVISED BY

JOB NO: 21006

SHEET NUMBER

A-1.BRCP



1 First Floor Plan

1/4" = 1'-0"

C.O. DET LOCATION

CARBON MONOXIDE ALARMS SHALL BE LOCATED IN EA. BEDROOM OR WITHIN 15 FEET OUTSIDE OF EA BEDROOM DOOR, AT EVERY FLOOR LEVEL W/ BEDROOMS

NOTE:
COORDINATE AND VERIFY ALL BOTTOM OF FOOTING, TOP OF WALL AND SLAB ELEVATIONS WITH THE CIVIL ENGINEER PRIOR TO EXCAVATION AND LAYING OUT CONCRETE REINFORCING. BOTTOM OF CONCRETE FOOTINGS TO BE MINIMUM 4'-0" BELOW FINISH GRADE. TOP OF CONCRETE WALL TO BE 8" MINIMUM ABOVE FINISH GRADE. REFER TO STRUCTURAL DOCUMENTS FOR ADDITIONAL INFORMATION

NOTE:
CONCRETE FOUNDATINS SHALL NOT BE POURED IN FREEZING TEMPERATURES AND NOT ON FROZEN GROUND.

GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPENCIES TO THE ARCHITECT BEFORE ORDERING MATERIAL AND PROCEEDING WITH THE WORK.

2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE STATE BUILDING CODE. (2015 INTERNATIONAL BUILDING CODE) SHOULD LOCAL CODES AND/OR ORDINANCES DIFFER FROM THESE PLANS, A DETERMINATION SHALL BE MADE BY THE CONTRACTOR AND/OR LOCAL CODE ENFORCEMENT OFFICER AS TO WHICH IS MOST STRINGENT. THE MOST STRINGENT REQUIRMENT SHALL RULE.

3. ALL SECTIONS, DETAILS, NOTES, OR MATERIALS SHOWN AND/OR NOTED ON ANY PLAN, SECTION OR ELEVATION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS NOTED OTHERWISE.

4. TESTING AND INSPECTION AGENCIES SELECTED BY THE OWNER. ALL WORK SHALL REQUIRE ADHERENCE TO THE REQUIREMENTS OF ASTM DESIGNATION E-329 ENTITLED "RECOMMENDED PRACTICE FOR INSPECTION AND TESTING AGENCIES FOR CONCRETE AND STEEL USED IN CONSTRUCTION."

5. FOOTINGS SHALL REST ON FIRM STRUCTURAL FILL. REFER TO STRUCTURAL DOCUMENTS FOR ADDITIONAL INFORMATION.

6. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL SOILS ENGINEER TO VERIFY SOIL BEARING PRESSURE.

7. ALL GRANULAR FILL MATERIAL UNDER SLABS SHALL BE PLACED TO 95% RELATIVE DENSITY.

8. ALL FOOTING EXCAVATIONS TO BE FINISHED BY HAND AND INSPECTED AND APPROVED BY THE TESTING ENGINEER BEFORE ANY CONCRETE IS PLACED.

9. BACKFILL SHALL BE PLACED TO EQUAL ELEVATIONS ON BOTH SIDES OF FOUNDATION WALLS. WHERE BACKFILL IS ON ONE SIDE ONLY, WORK SHALL BE SHORED OR HAVE PERMANENT ADJACENT CONSTRUCTION IN PLACE BEFORE BACKFILLING.

10. THE SIDES OF ALL BEAMS, WALLS, FOOTINGS, ETC. SHALL BE FORMED AND CONCRETE SHALL NOT BE PLACED AGAINST EARTH CUTS.

11. FOOTINGS SHALL NOT BEAR ON FROZEN SOIL AND ALL EXTERIOR FOOTINGS SHALL BE NOT LESS THAN 4'-0" BELOW ADJACENT FINISH GRADE.

12. ALL SLABS ON GRADE SHALL HAVE A 15 MIL. VAPOR BARRIER UNDERNEATH.

13. FRAMING PLANS ARE SCHEMATIC IN NATURE AND SHOULD NOT BE SCALED. INSTALL ALL BLOCKING, BRACING, STIFFBACKS, ETC., AS REQUIRED BY THE BUILDING CODE AND IN ACCORDANCE WITH GOOD FRAMING PRACTICES AND STANDARDS.

14. ALL ROOF RAFTERS SHALL HAVE HURRICANE TIE DOWNS.

15. GARAGE SHALL BE SEPARATED FROM RESIDENTIAL USE GROUP BY FIRE RATED WALLS AND CEILING. REFER TO BASEMENT FLOOR PLAN.

16. RAILINGS AT DECKS, BALCONIES AND RAISED PLATFORMS ARE TO BE A MINIMUM OF 42" ABOVE FINISHED FLOOR. RAILINGS ARE TO SUPPORT A CONCENTRATED LOAD OF 200 LBS. ACTING IN ANY DIRECTION.

17. PROVIDE SMOKE DETECTORS IN SUFFICIENT QUANTITIES AND LOCATIONS TO MEET REQUIREMENTS OF THE BUILDING CODE. PROVIDE NOT LESS THAN ONE SMOKE DETECTOR ON EACH FLOOR, INCLUDING BASEMENT AND ATTICS CAPABLE OF BEING INHABITED.
- PROVIDE ONE SMOKE DETECTOR IN EACH BEDROOM AREA.
- PROVIDE NOT LESS THAN ONE SMOKE DETECTOR FOR EVERY 1200 SF OF FLOOR SPACE.
- PROVIDE PHOTO ELECTRIC SMOKE DETECTOR IF LOCATED LESS THAN 20 FEET FROM EITHER A KITCHEN OR A BATHROOM WITH A TUB OR SHOWER.

18. PROVIDE FIRE ALARMS PER BUILDING CODE.

19. EACH BEDROOM ABOVE THE FIRST FLOOR SHALL BE EQUIPED WITH AN EMERGENCY EGRESS WINDOW OF NOT LESS THAN A NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM CLEAR OPENING OF THE WINDOW SHALL NOT BE LESS THAN 20 INCHES IN WIDTH AND 24 INCHES IN HEIGHT.

20. TEMPERED GLASS TO BE PROVIDED WHEN THE BOTTOM EDGE OF THE GLASS IS LESS THAN 24" ABOVE FINISHED FLOOR PLAIN.

21. REFER TO OUTLINE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

22. ALL INTERIOR WALLS ARE W-A UNLESS OTHERWISE NOTED.

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First Floor Plan Notes

Structural Engineer:
Emanuel Engineering

Progress Set
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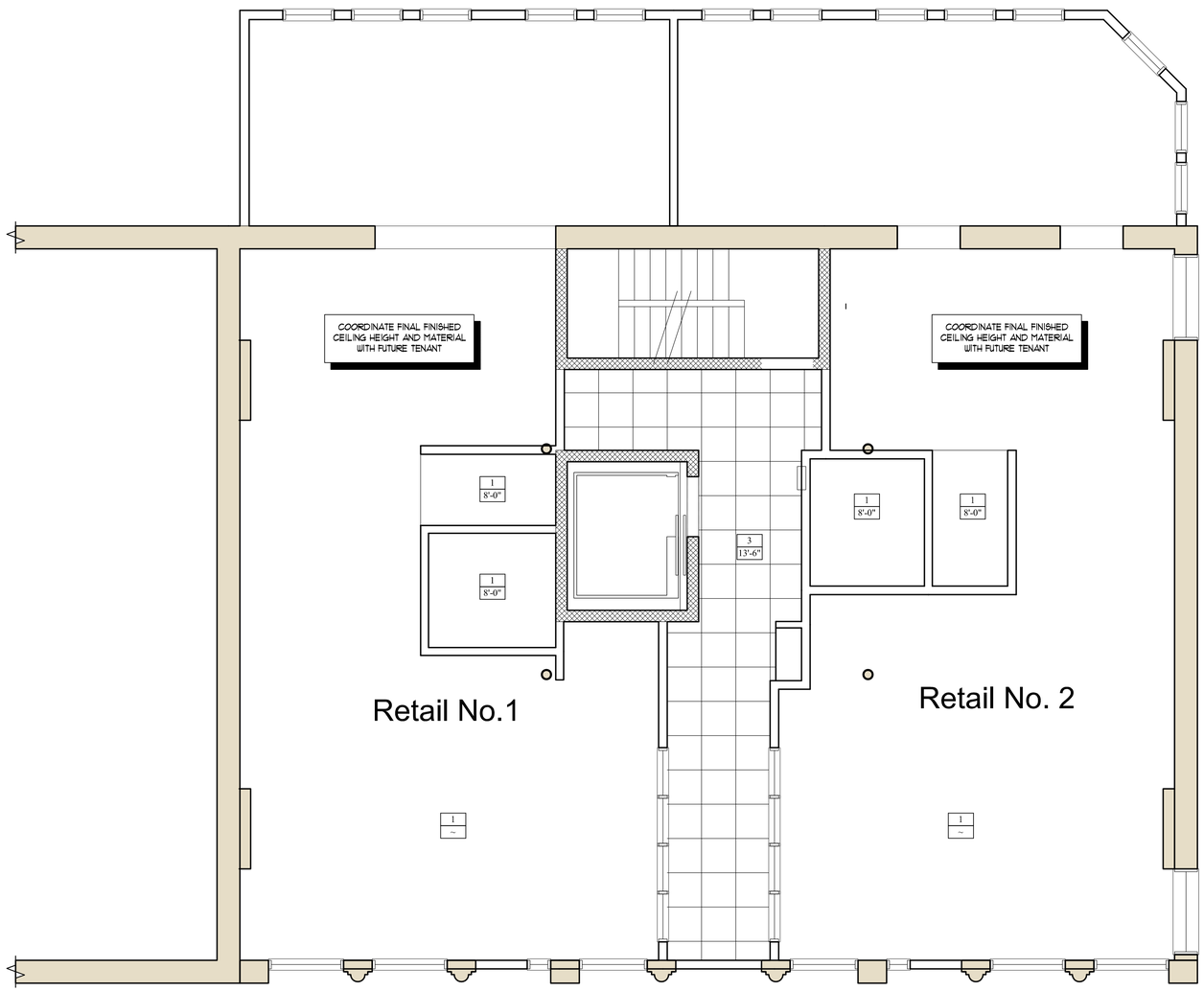


1 First Floor Reflected ceiling Plan
1/4" = 1'-0"

GENERAL NOTES

1. 1 HOUR FIRE RATED FLOOR/CEILING ASSEMBLY TO BE CONTINUOUS AND UNINTERRUPTED BELOW FLOOR TRUSS THROUGHOUT UNLESS PENETRATED BY RATED ASSEMBLY OF EQUAL OR GREATER FIRE RATING (AS APPLICABLE.) LIGHT FIXTURE PENETRATIONS THROUGH RATED ASSEMBLY TO BE BOXED OUT IN TWO LAYERS OF 5/8" TYPE 'X' GWB TO MATCH RATED ASSEMBLY CONSTRUCTION. (REFER TO 3 & 4/A-A)RCP)

2. SPRINKLER HEADS ARE NOT SHOWN. SPRINKLER CONTRACTOR TO SUBMIT LAYOUT FOR REVIEW & COORDINATION WITH OTHER TRADES OF REFELCTED CEILING PLAN.

3. MECHANICAL AND ELECTRICAL EQUIPMENT AND FIXTURES ON REFLECTED CEILING PLANS ARE FOR LOCATION AND COORDINATION ONLY.

4. PLACEMENT & LAYOUT OF EQUIPMENT TO BE AS FOLLOWS.

a. SPRINKLER HEAD IN A.C.T.: CENTERED IN PANEL.
b. SPRINKLER HEAD IN GWB: ALIGN WITH NEARBY LIGHT FIXTURE.
c. CORRIDOR FIXTURES: CENTERED IN TILE PANEL.
d. REGISTERS, DIFFUSERS, EXIT LIGHTS, SMOKE DETECTORS: CENTERED IN TILE PANEL.

5. PROVIDE 30" X 30" FIRE RATED ACCESS PANEL ABOVE CORRIDOR CEILING FOR ATTIC ACCESS.

6. IF CONFLICTS EXIST BETWEEN QUANTITIES OFLIGHTS, SPRINKLERS, RETURNS, DIFFUSERS, ETC CONTRACTOR TO CARRY HIGHEST NUMBER.

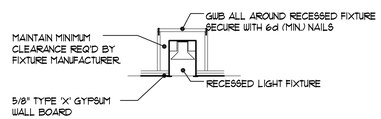
7. BATHROOM SHOWER LIGHTS TO BE WATERPROOF TYPE.

LEGEND

1	5/8" TYPE 'X' GWB
2	SLOPED GYPSUM BOARD
3	2'X2' ACOUSTICAL CEILING TILE ARMSTRONG CORTEGA SECOND LOOK II #2161 TEGULAR
4	VINYL SOFFIT OVER 5/8" TYPE 'X' GWB

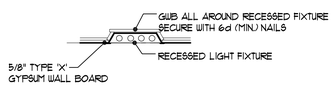
LIGHT SCHEDULE

- RECESSED DOWNLIGHT
- SURFACE MOUNTED FIXTURE
- 4' SURFACE MOUNTED FLUORESCENT LIGHT
- WALL SCONCE
- DIFFUSER
- RETURN REGISTER
- 2'x2' RECESSED FLUORESCENT LIGHT
- 2'X4' RECESSED FLUORESCENT LIGHT



NOTE: PROVIDE FIXTURE PROTECTION AT ALL RECESSED LIGHT FIXTURES THROUGHOUT BUILDING.

2 Typical can light in Fire Rated Assembly
3/4"=1'-0"



3 Typical recessed light in Fire Rated Assembly
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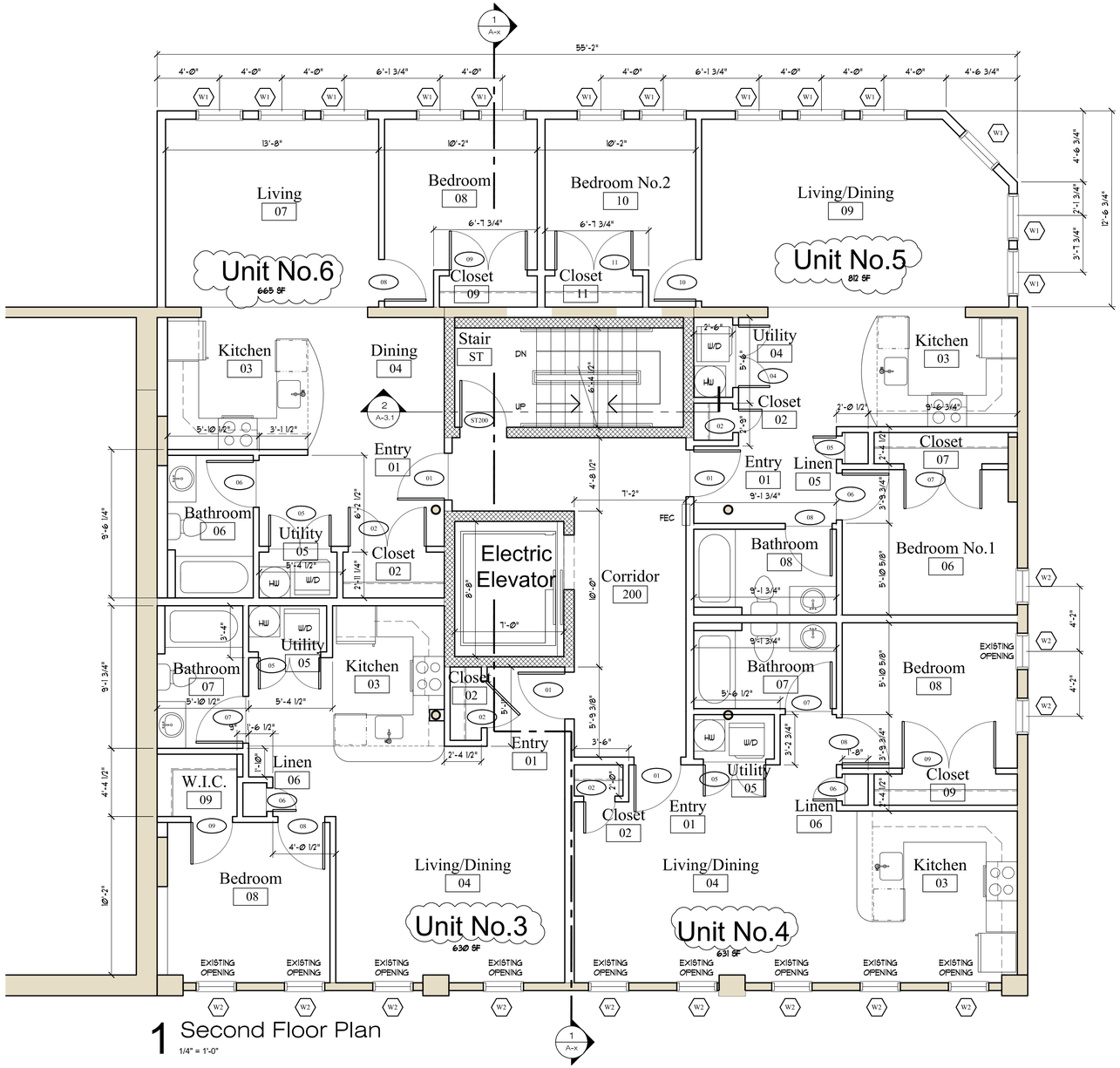

1 Second Floor Plan

1/4" = 1'-0"

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18. PROVIDE FIRE ALARMS PER BUILDING CODE.

19. EACH BEDROOM ABOVE THE FIRST FLOOR SHALL BE EQUIPED WITH AN EMERGENCY EGRESS WINDOW OF NOT LESS THAN A NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM CLEAR OPENING OF THE WINDOW SHALL NOT BE LESS THAN 20 INCHES IN WIDTH AND 24 INCHES IN HEIGHT.

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Second Floor Plan Notes

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

ISSUED / DRAWN BY

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JOB NO: 21006

SHEET NUMBER
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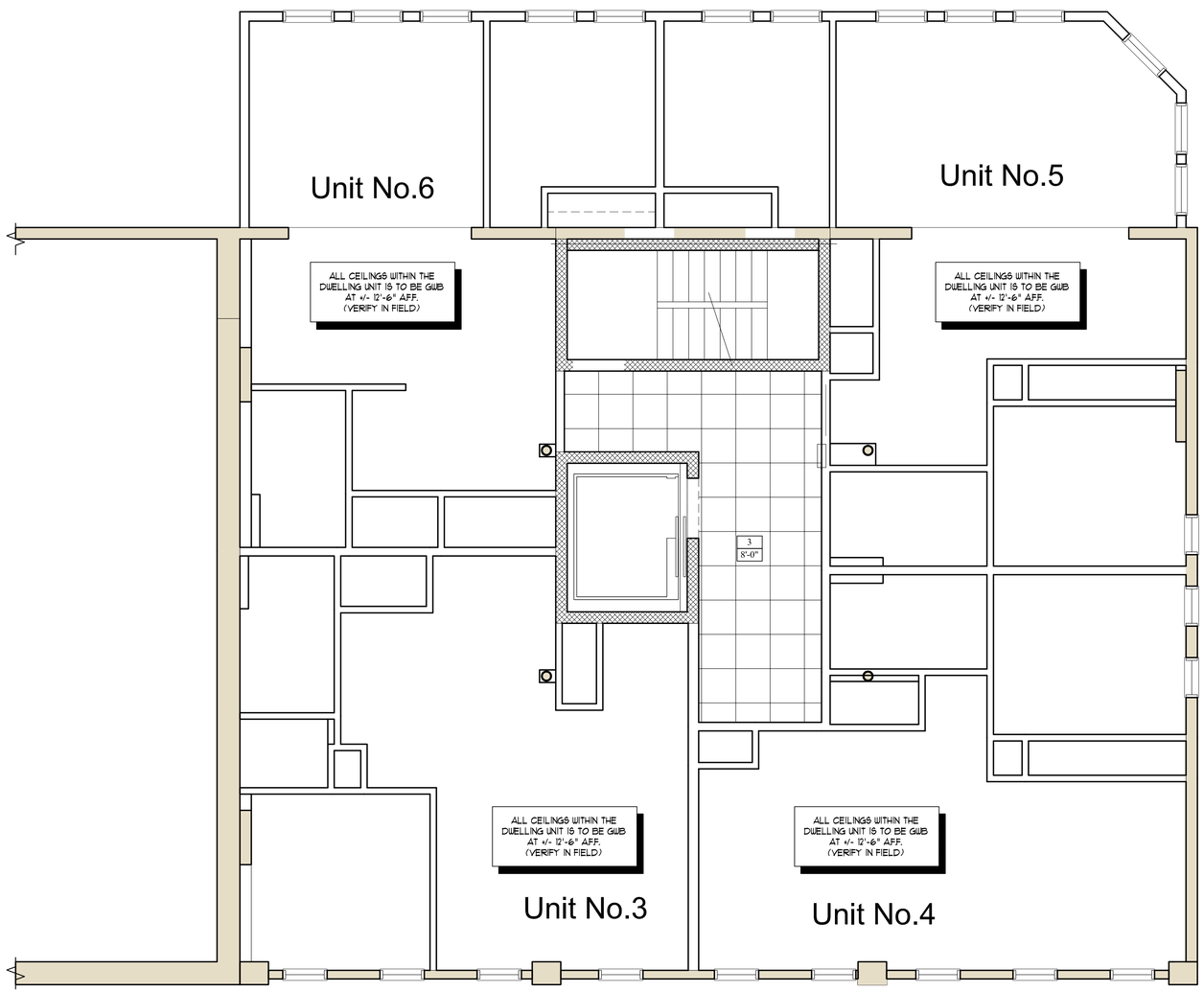

1 Second Floor Reflected Ceiling Plan
1/4" = 1'-0"

GENERAL NOTES

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d. REGISTERS, DIFFUSERS, EXIT LIGHTS, SMOKE DETECTORS: CENTERED IN TILE PANEL.

5. PROVIDE 30" X 30" FIRE RATED ACCESS PANEL ABOVE CORRIDOR CEILING FOR ATTIC ACCESS.

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7. BATHROOM SHOWER LIGHTS TO BE WATERPROOF TYPE.

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LIGHT SCHEDULE

	RECESSED DOWNLIGHT
	SURFACE MOUNTED FIXTURE
	4' SURFACE MOUNTED FLUORESCENT LIGHT
	WALL SCONCE
	DIFFUSER
	RETURN REGISTER
	2'X2' RECESSED FLUORESCENT LIGHT
	2'X4' RECESSED FLUORESCENT LIGHT

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Second Floor
Reflected
Ceiling Plan

Structural Engineer:
Emanuel Engineering

Progress Set
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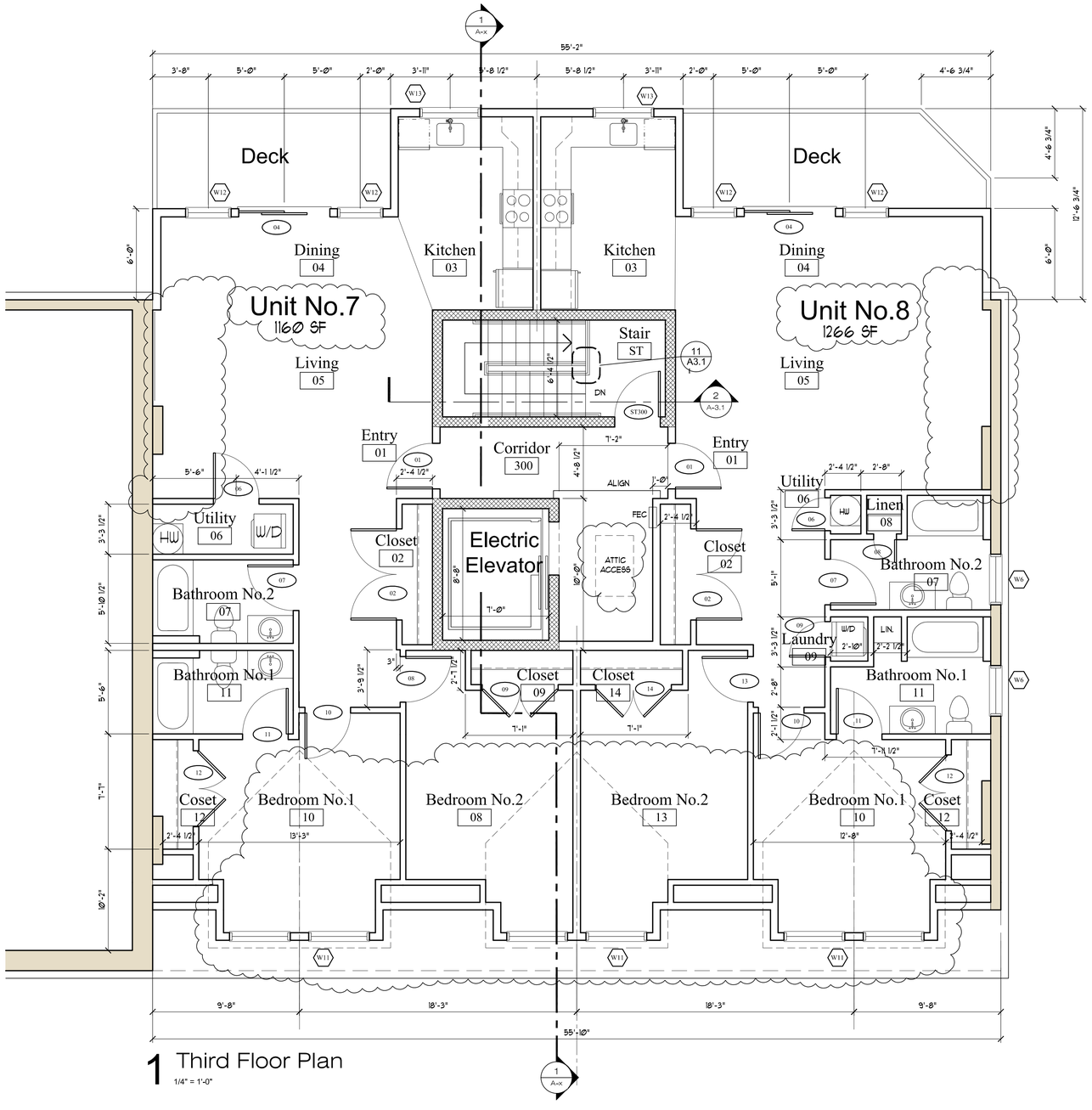

1 Third Floor Plan

1/4" = 1'-0"

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1Ø. THE SIDES OF ALL BEAMS, WALLS, FOOTINGS, ETC. SHALL BE FORMED AND CONCRETE SHALL NOT BE PLACED AGAINST EARTH CUTS.

11. FOOTINGS SHALL NOT BEAR ON FROZEN SOIL AND ALL EXTERIOR FOOTINGS SHALL BE NOT LESS THAN 4'-Ø" BELOW ADJACENT FINISH GRADE.

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16. RAILINGS AT DECKS, BALCONIES AND RAISED PLATFORMS ARE TO BE A MINIMUM OF 42" ABOVE FINISHED FLOOR. RAILINGS ARE TO SUPPORT A CONCENTRATED LOAD OF 2ØØ LBS. ACTING IN ANY DIRECTION.

17. PROVIDE SMOKE DETECTORS IN SUFFICIENT QUANTITIES AND LOCATIONS TO MEET REQUIREMENTS OF THE BUILDING CODE. PROVIDE NOT LESS THAN ONE SMOKE DETECTOR ON EACH FLOOR, INCLUDING BASEMENT AND ATTICS CAPABLE OF BEING INHABITED.
- PROVIDE ONE SMOKE DETECTOR IN EACH BEDROOM AREA.
- PROVIDE NOT LESS THAN ONE SMOKE DETECTOR FOR EVERY 12ØØ SF OF FLOOR SPACE.
- PROVIDE PHOTO ELECTRIC SMOKE DETECTOR IF LOCATED LESS THAN 2Ø FEET FROM EITHER A KITCHEN OR A BATHROOM WITH A TUB OR SHOWER.

18. PROVIDE FIRE ALARMS PER BUILDING CODE.

19. EACH BEDROOM ABOVE THE FIRST FLOOR SHALL BE EQUIPPED WITH AN EMERGENCY EGRESS WINDOW OF NOT LESS THAN A NET CLEAR OPENING OF 5.7 SQ. FT. THE MINIMUM CLEAR OPENING OF THE WINDOW SHALL NOT BE LESS THAN 2Ø INCHES IN WIDTH AND 24 INCHES IN HEIGHT.

2Ø. TEMPERED GLASS TO BE PROVIDED WHEN THE BOTTOM EDGE OF THE GLASS IS LESS THAN 24" ABOVE FINISHED FLOOR PLAIN.

21. REFER TO OUTLINE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

22. ALL INTERIOR WALLS ARE IW-A UNLESS OTHERWISE NOTED.

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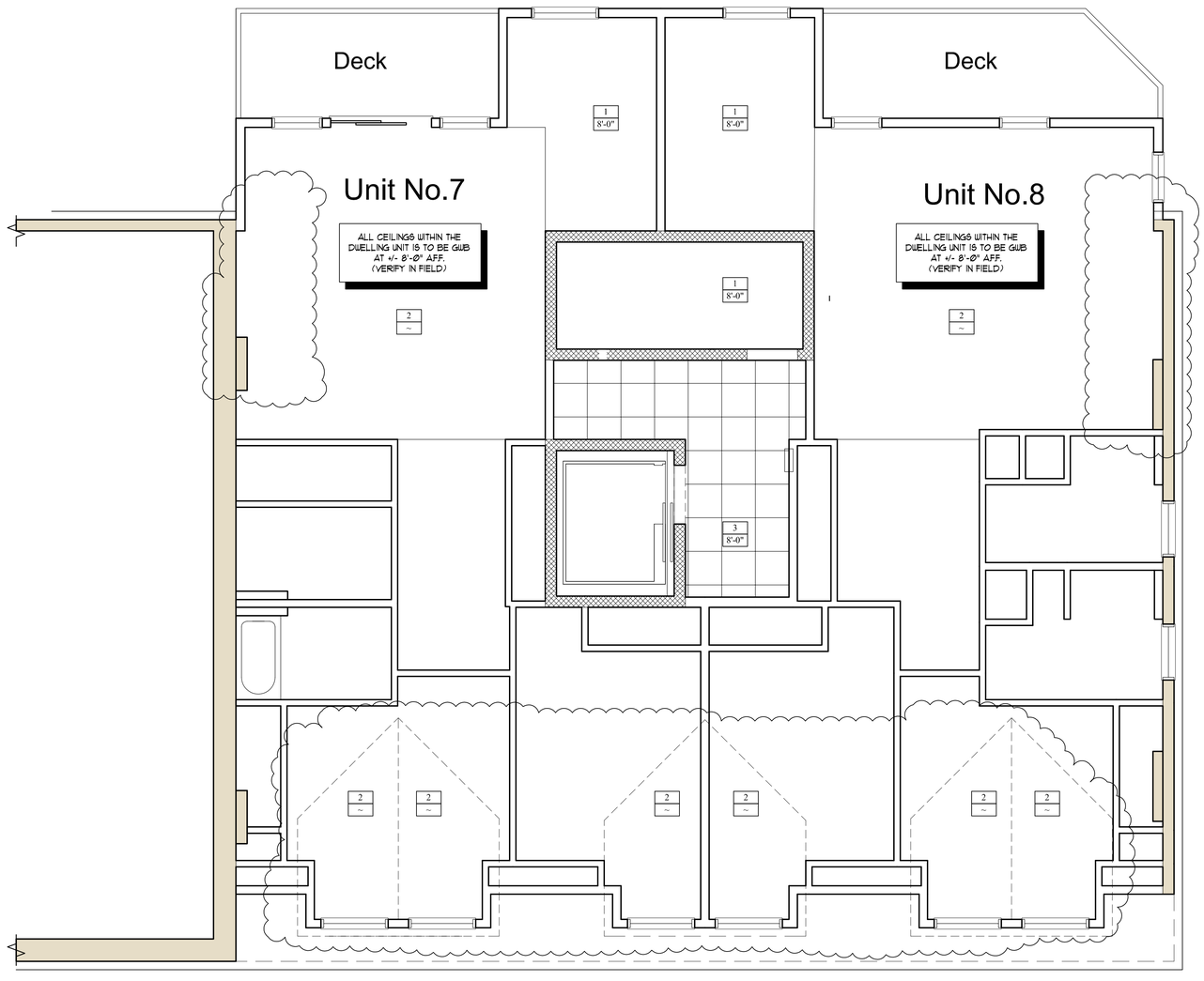

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1/4" = 1'-0"

GENERAL NOTES

1. 1 HOUR FIRE RATED FLOOR/CEILING ASSEMBLY TO BE CONTINUOUS AND UNINTERRUPTED BELOW FLOOR TRUSS THROUGHOUT UNLESS PENETRATED BY RATED ASSEMBLY OF EQUAL OR GREATER FIRE RATING (AS APPLICABLE.) LIGHT FIXTURE PENETRATIONS THROUGH RATED ASSEMBLY TO BE BOXED OUT IN TWO LAYERS OF 5/8" TYPE 'X' GWB TO MATCH RATED ASSEMBLY CONSTRUCTION. (REFER TO 3 & 4/A-A)RCP)

2. SPRINKLER HEADS ARE NOT SHOWN. SPRINKLER CONTRACTOR TO SUBMIT LAYOUT FOR REVIEW & COORDINATION WITH OTHER TRADES OF REFELCTED CEILING PLAN.

3. MECHANICAL AND ELECTRICAL EQUIPMENT AND FIXTURES ON REFLECTED CEILING PLANS ARE FOR LOCATION AND COORDINATION ONLY.

4. PLACEMENT & LAYOUT OF EQUIPMENT TO BE AS FOLLOWS.

a. SPRINKLER HEAD IN A.C.T.: CENTERED IN PANEL.
b. SPRINKLER HEAD IN GWB: ALIGN WITH NEARBY LIGHT FIXTURE.
c. CORRIDOR FIXTURES: CENTERED IN TILE PANEL.
d. REGISTERS, DIFFUSERS, EXIT LIGHTS, SMOKE DETECTORS: CENTERED IN TILE PANEL.

5. PROVIDE 30" X 30" FIRE RATED ACCESS PANEL ABOVE CORRIDOR CEILING FOR ATTIC ACCESS.

6. IF CONFLICTS EXIST BETWEEN QUANTITIES OFLIGHTS, SPRINKLERS, RETURNS, DIFFUSERS, ETC CONTRACTOR TO CARRY HIGHEST NUMBER.

7. BATHROOM SHOWER LIGHTS TO BE WATERPROOF TYPE.

LEGEND

1 ~	5/8" TYPE 'X' GWB
2 ~	SLOPED GYPSUM BOARD
3 ~	2'X2' ACOUSTICAL CEILING TILE ARMSTRONG CORTEGA SECOND LOOK II #2161 TEGULAR
4 ~	VINYL SOFFIT OVER 5/8" TYPE 'X' GWB

LIGHT SCHEDULE

○	RECESSED DOWNLIGHT
⊕	SURFACE MOUNTED FIXTURE
▭	4' SURFACE MOUNTED FLUORESCENT LIGHT
♀	WALL SCONCE
⊠	DIFFUSER
▦	RETURN REGISTER
□	2'x2' RECESSED FLUORESCENT LIGHT
▭	2'X4' RECESSED FLUORESCENT LIGHT

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Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Third Floor Reflected Ceiling Plan

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

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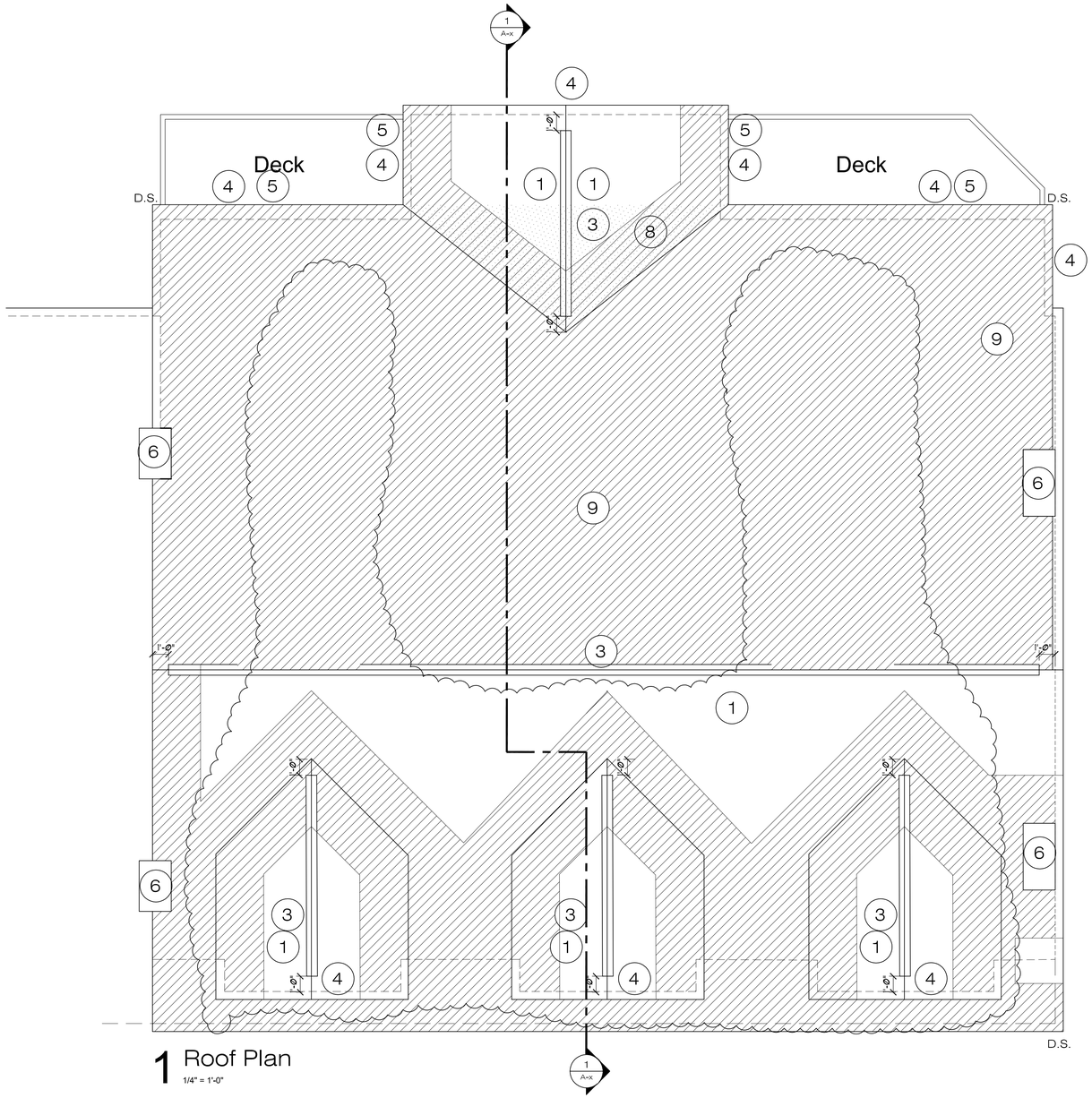
REVISED / REVISED BY

JOB NO: 21006

SHEET NUMBER
A-1.3RCP



1 Roof Plan
1/4" = 1'-0"

LEGEND

1	ARCHITECTURAL GRADE ROOF SHINGLES
2	ICE AND WATER SHIELD
3	CONTINUOUS RIDGE VENT WITH SHINGLE COVER
4	PREFINISHED METAL DRIP EDGE
5	GUTTER SYSTEM
6	EXISTING CHIMNEYS. REPOINT.
7	EPDM ROOFING MEMBRANE
8	SHADED AREA DENOTES ROOF FRAMED OVER RAFTERS BELOW
9	METAL ROOF SYSTEM
D.S.	DENOTES DOWNSPOUT

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Roof Plan Notes

Structural Engineer:
Emanuel Engineering

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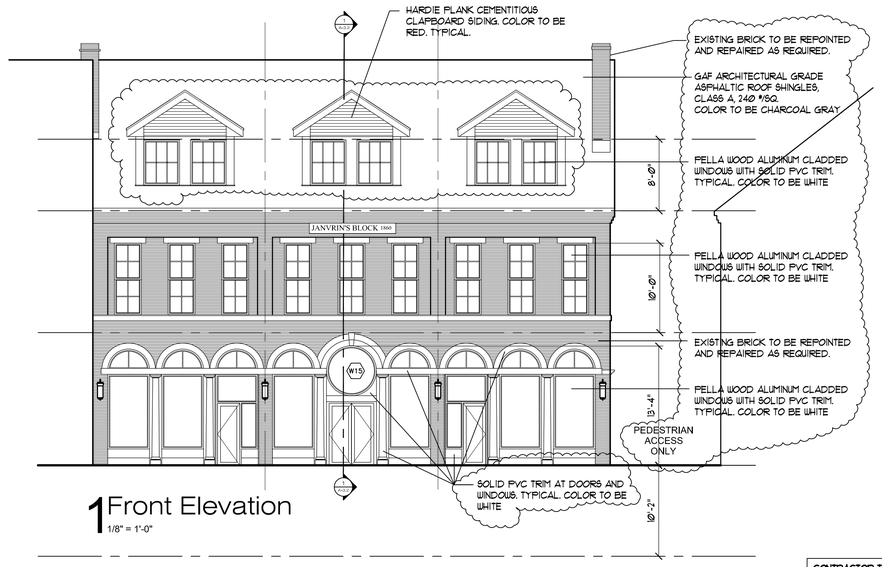
JOB NO: 21006

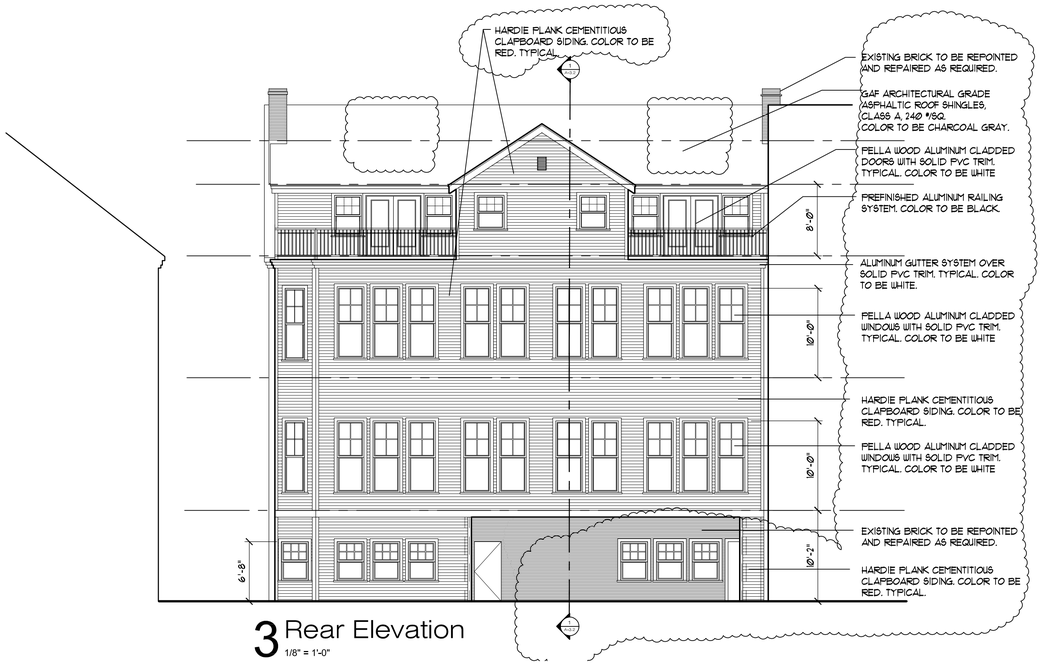
SHEET NUMBER
A-1.R



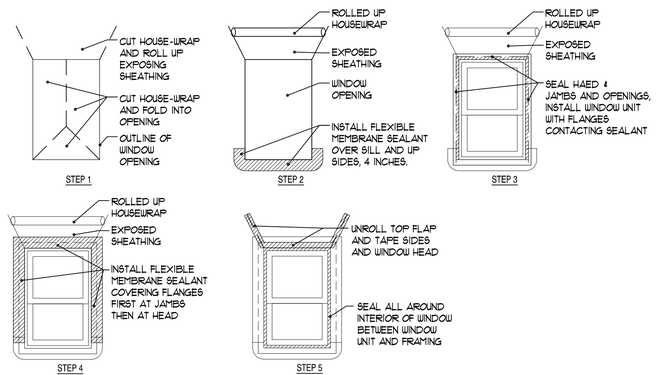
1 Front Elevation
1/8" = 1'-0"

2 Side Elevation
1/8" = 1'-0"

CONTRACTOR TO CONFIRM ALL FLOOR TO FLOOR DIMENSIONS. COORDINATE WITH ARCHITECT WITH ANY DISCREPANCIES.



3 Rear Elevation
1/8" = 1'-0"



Window Installation
NO SCALE

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Exterior Elevations Notes

Structural Engineer:
Emanuel Engineering

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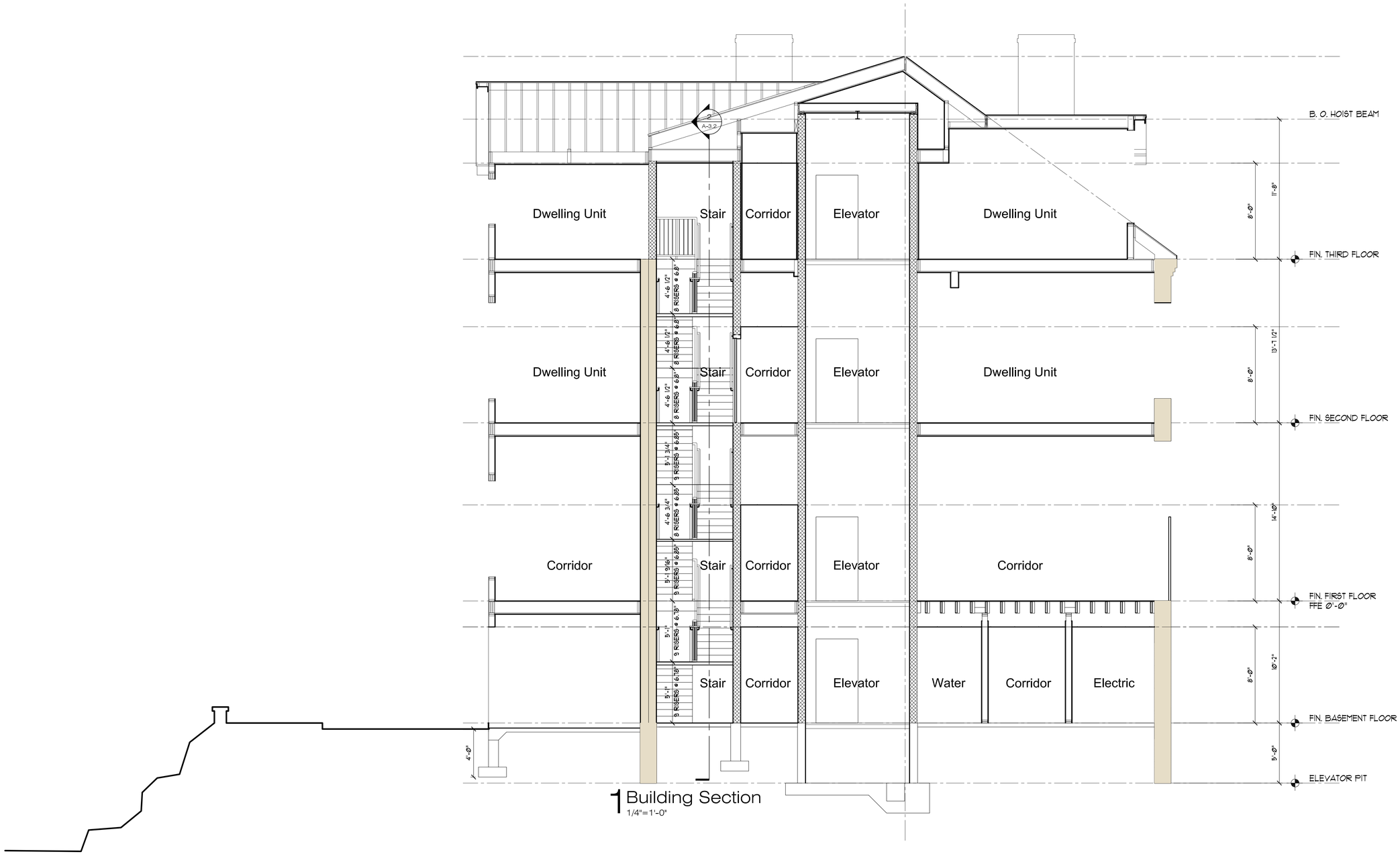
JOB NO: 21006

SHEET NUMBER
A-2.1



1 Building Section
1/4"=1'-0"

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Exeter, NH

Building Sections Details

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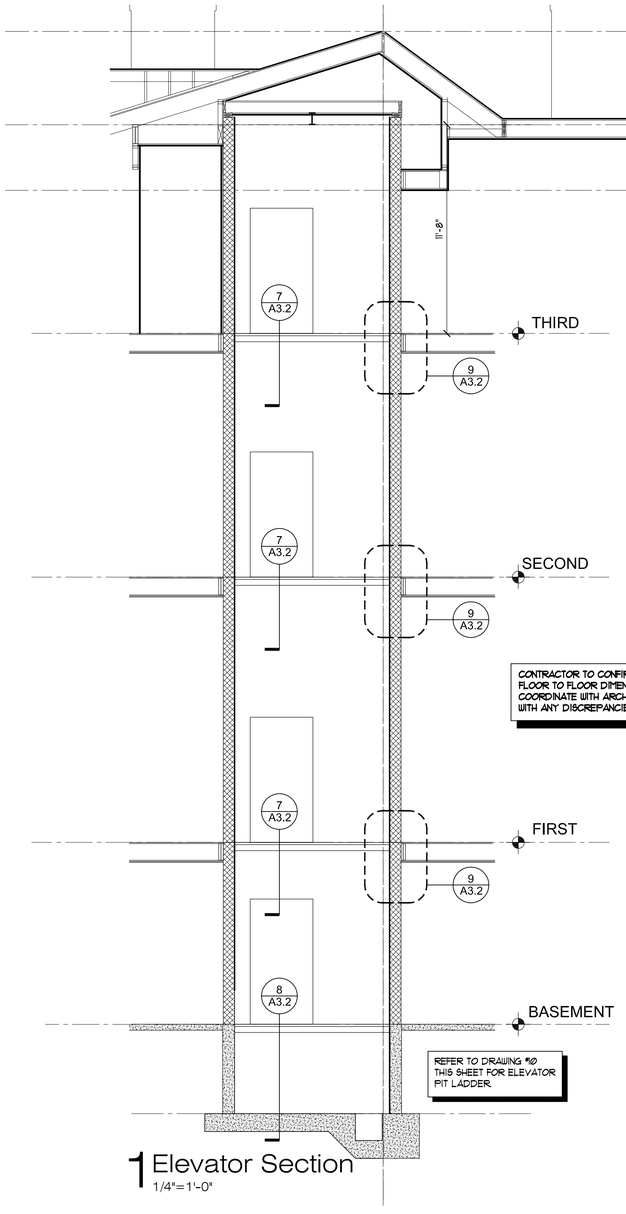
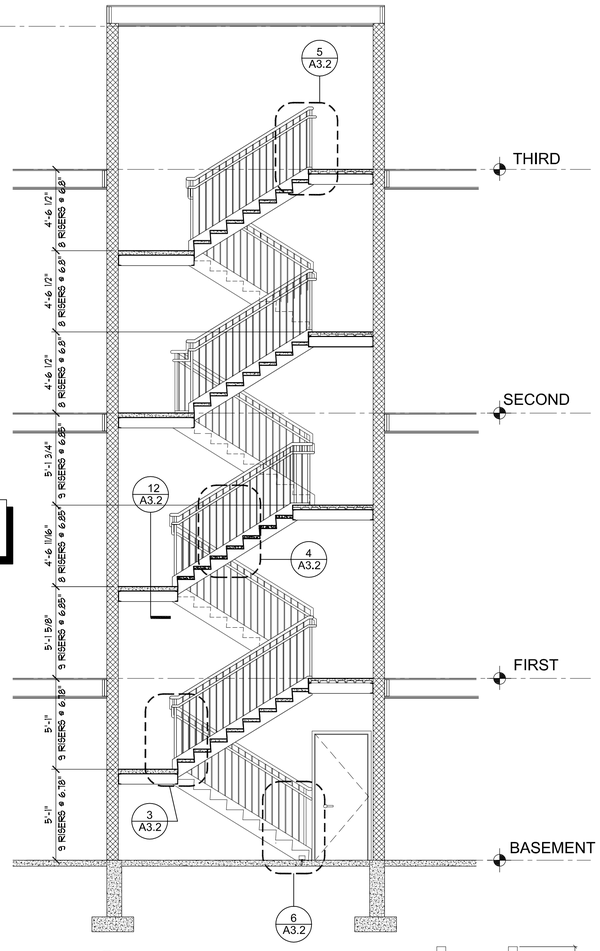
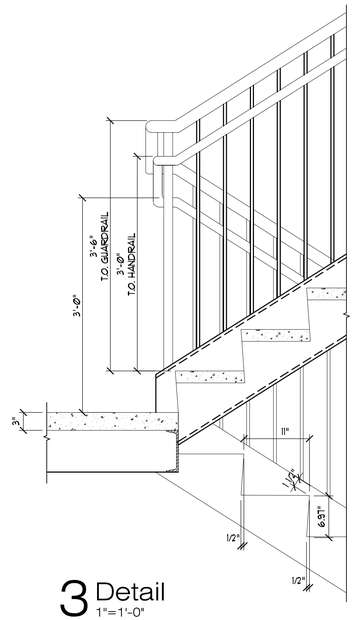


1 Elevator Section
1/4"=1'-0"

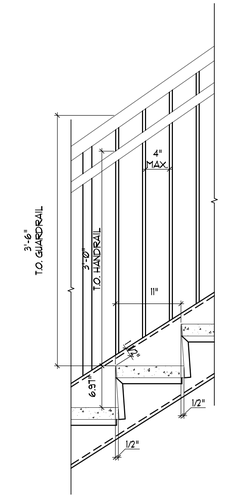
CONTRACTOR TO CONFIRM ALL FLOOR TO FLOOR DIMENSIONS. COORDINATE WITH ARCHITECT WITH ANY DISCREPANCIES.



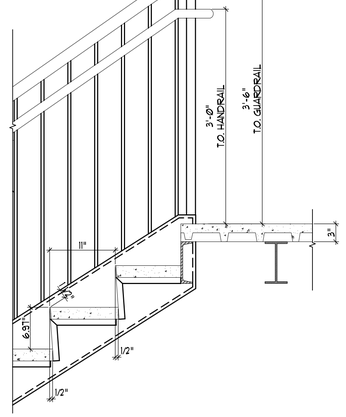
2 Stair Section
1/4"=1'-0"



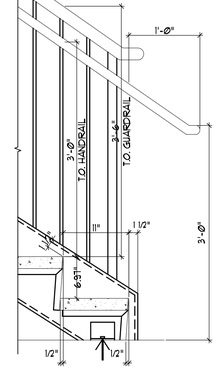
3 Detail
1"=1'-0"



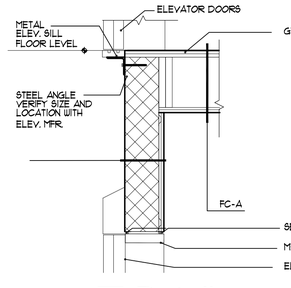
4 Detail
1"=1'-0"



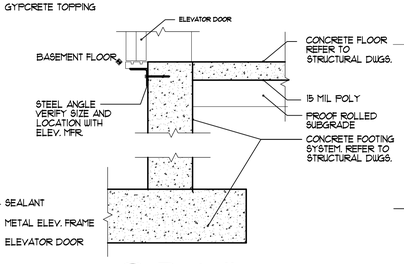
5 Detail
1"=1'-0"



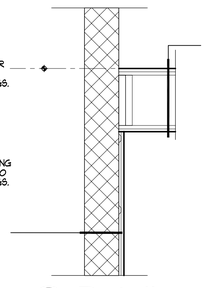
6 Detail
1"=1'-0"



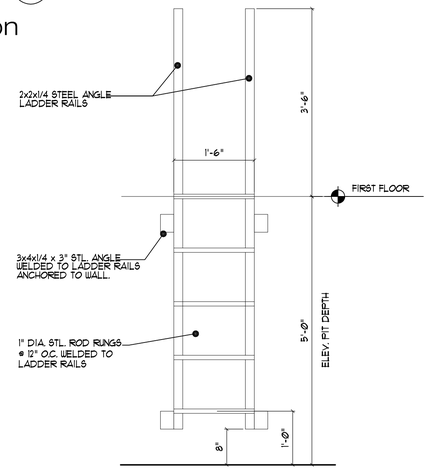
7 Detail
3/4"=1'-0"



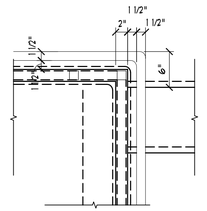
8 Detail
3/4"=1'-0"



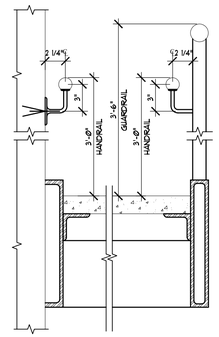
9 Detail
3/4"=1'-0"



10 Elevator Ladder
3/4"=1'-0"



11 Guardrail Detail
1"=1'-0"



12 Detail
1 1/2"=1'-0"

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Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Stair & Elevator Sections Details

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

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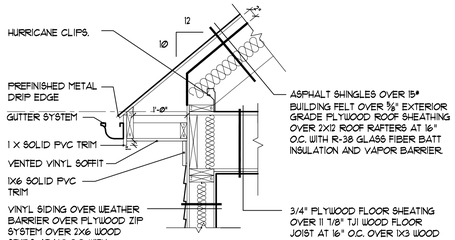
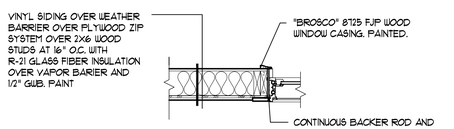
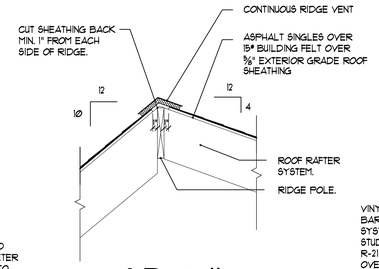
SHEET NUMBER
A-3.2



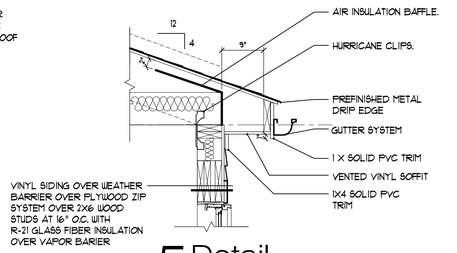
2 Detail
3/4"=1'-0"



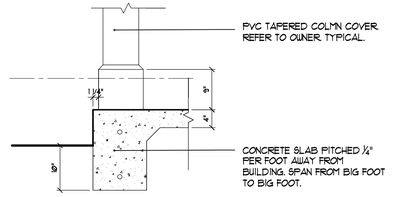
3 Detail
3/4"=1'-0"



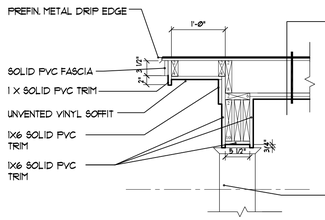
4 Detail
3/4"=1'-0"



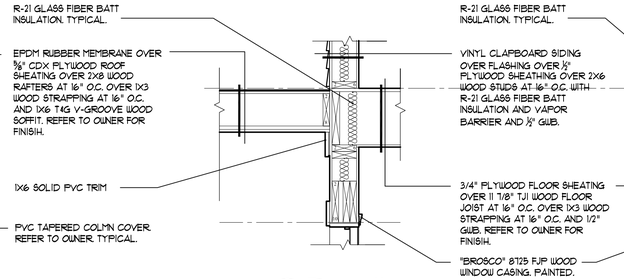
5 Detail
3/4"=1'-0"



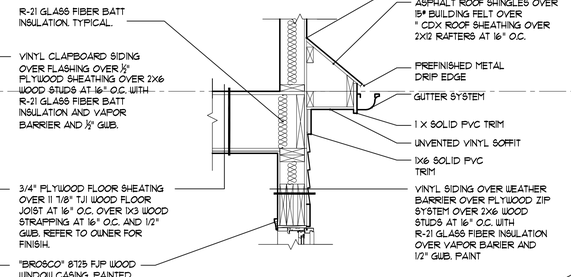
6 Detail
3/4"=1'-0"



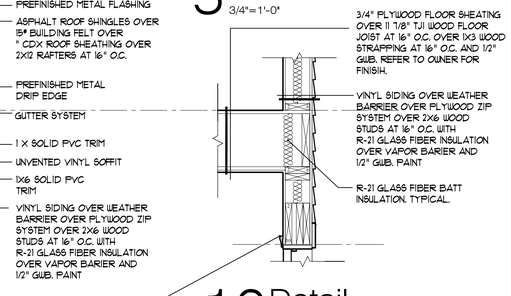
7 Detail
3/4"=1'-0"



8 Detail
3/4"=1'-0"



9 Detail
3/4"=1'-0"



10 Detail
3/4"=1'-0"

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Mario Ponte
101 Water Street
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Janvrin's Block
85 Water Street
Exeter, NH

Details

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

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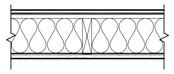
JOB NO: 21006

SHEET NUMBER
A-4.1

Exterior Walls

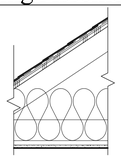
EW-A
RATING: NO RATING
TEST:



VINYL SIDING
AIR INFILTRATION BARRIER
⅜" ZIP PLYWOOD SHEATHING
2X6 WOOD STUDS @ 16" O.C.
R21 GLASS FIBER BATT INSULATION-UNFACED
VAPOR BARRIER
⅝" TYPE 'X' GWB

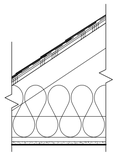
Roof/Ceiling Assemblies

RC-A
RATING: NO RATING
TEST:

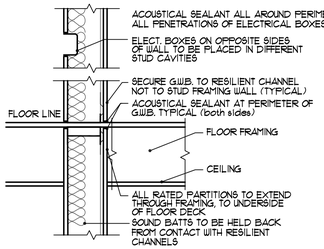


ASPHALT SHINGLES OR ADHERED E.P.D.M.
ICE AND WATER BARRIER
5/8" T&G PLYWOOD DECKING
WOOD ROOF TRUSSES @ 24" O.C. MAX
(REFER TO STRUCTURAL DRAWINGS)
INSULATON BAFFLE
R38 GLASS FIBER BATT INSULATION
VAPOR BARRIER
1 X 3 WOOD STRAPPING
2 LAYERS 5/8" TYPE 'X' GWB

RC-B
RATING: NO RATING
TEST:



PREFINISHED METAL ROOF SYSTEM
ICE AND WATER BARRIER
5/8" T&G PLYWOOD DECKING
WOOD ROOF TRUSSES @ 24" O.C. MAX
(REFER TO STRUCTURAL DRAWINGS)
INSULATON BAFFLE
R38 GLASS FIBER BATT INSULATION
VAPOR BARRIER
1 X 3 WOOD STRAPPING
2 LAYERS 5/8" TYPE 'X' GWB



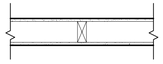
TYP. DETAIL AT RATED PARTITIONS

GENERAL NOTES:

1. GWB MUST RUN BEHIND ALL TUBS, SHOWERS, CHASES, ETC AT ALL RATED INTERIOR WALLS, EXTERIOR WALLS, FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES.
2. ALL PENETRATIONS THROUGH RATED WALLS OR FLOOR/CEILING ASSEMBLIES MUST BE FIRE CAULKED TOP & BOTTOM AS PER A UL APPROVED INSTALLATION.
3. ALL COMBUSTABLE (PVC) PIPE PENETRATIONS SHALL HAVE A UL APPROVED COLLAR INSTALLED AS PER UL AT THE PENETRATIONS.

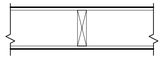
Interior Walls

IW-A
RATING:
NO RATING



1/2" GYPSUM WALLBOARD
2X4 WOOD STUDS @ 16" o.c.
1/2" GYPSUM WALLBOARD

IW-B
RATING:
NO RATING

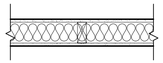


1/2" GYPSUM WALLBOARD
2X6 WOOD STUDS @ 16" o.c.
1/2" GYPSUM WALLBOARD

IW-C
RATING:
NO RATING

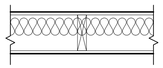
1/2" GYPSUM WALLBOARD
2X4 WOOD STUDS @ 16" o.c.

IW-D
RATING:
NO RATING



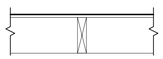
1/2" GYPSUM WALLBOARD
2X4 WOOD STUDS @ 16" o.c.
3" MINERAL FIBER SOUND BATTS
1/2" GYPSUM WALLBOARD

IW-E
RATING:
NO RATING



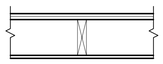
1/2" GYPSUM WALLBOARD
2X6 WOOD STUDS @ 16" o.c.
3" MINERAL FIBER SOUND BATTS
1/2" GYPSUM WALLBOARD

IW-F
RATING:
NO RATING



1/2" GYPSUM WALLBOARD
2X6 WOOD STUDS @ 16" o.c.

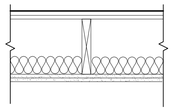
IW-G
RATING:
NO RATING



⅝" TYPE'X' GWB
½" GWB
2X6 WOOD STUDS @ 16" o.c.
⅝" TYPE 'X' GWB

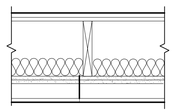
Floor/Ceiling Assemblies

FC-A
RATING: 1 HOUR
TEST: UL #L528



3/4" GYPSUM CONCRETE
3/4" T&G PLYWOOD SUBFLOOR
WOOD JOISTS @ 16 O.C.
(REFER TO STRUCTURAL DRAWINGS)
3" FIBERGLASS SOUND BATS
2 LAYERS ⅝" TYPE 'X' GWB

FC-B
RATING: 1 HOUR
TEST: GA FILE #FC5406

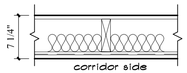


3/4" GYPSUM CONCRETE
3/4" T&G PLYWOOD SUBFLOOR
WOOD JOISTS @ 16 O.C.
(REFER TO STRUCTURAL DRAWINGS)
3" FIBERGLASS SOUND BATS
2 LAYERS ⅝" TYPE 'X' GWB

SUSPENDED CEILING BELOW IS NOT PART OF THE REQUIRED FIRE ASSEMBLY.

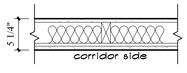
Fire Separation Walls

PW-A
RATING: 1 HOUR
TEST: UL #U311
STC = EST. 55



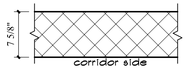
5/8" TYPE 'X' GWB
2X6 WOOD STUDS @ 16" o.c.
3" MINERAL FIBER SOUND BATTS
1/2" RESILIENT CHANNELS
5/8" TYPE 'X' GWB

PW-B
RATING: 1 HOUR
TEST: UL #U309
STC = EST. 55



5/8" TYPE 'X' GWB
2X4 WOOD STUDS @ 24" o.c.
3" MINERAL FIBER SOUND BATTS
1/2" RESILIENT CHANNELS
5/8" TYPE 'X' GWB

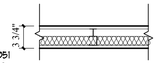
PW-C
RATING: 2 HOUR
TEST: UL #U906
STC = EST. 55



NOMINAL 8" CONCRETE MASONRY UNIT

Shaft Wall Assemblies

SW-A
RATING: 2 HOURS
TEST: GA FILE WP7051
NON-LOAD BEARING



½" TYPE 'X' GYPSUM WALLBOARD
1" TYPE 'X' GYPSUM PANEL (VERTICAL)
"CH" CHANNELS BETWEEN PANELS
½" GLASS FIBER BATT INSULATION
½" TYPE 'X' GYPSUM WALLBOARD

THA
ARCHITECTS, LLC
ARCHITECTURE • DESIGN • PLANNING • INTERIOR DESIGN
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STRATHAM, NEW HAMPSHIRE 03885
Tel: (603) 770-2491
www.thaarc.com

Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Wall/Floor Types
Floor/Ceiling Types
Roof/Ceiling Types

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

ISSUED / DRAWN BY

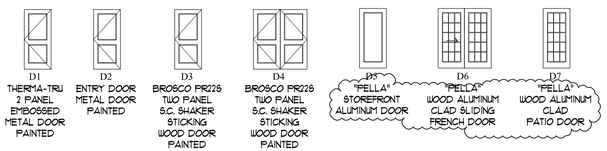
REVISED / REVISED BY

JOB NO: 21006

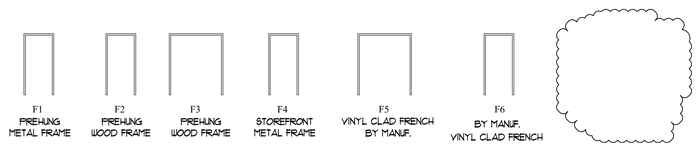
SHEET NUMBER
A-5.1

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	DOOR MAT'L	DOOR W x H x T	DOOR FINISH	FRAME TYPE	FRAME MAT'L	FRAME FINISH	DETAILS JAMB	DETAILS HEAD	DETAILS SILL	RATING (min.)	HDWE SET	REMARKS
B100	NOT USED												
B101	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				60		
B102	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				60		
B103	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				60		
B104a	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				60		
100	D10	ALUM.	(2)3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
101a	D8	ALUM.	3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
101b	D8	ALUM.	3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
101c	D8	ALUM.	3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
102	D1	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT						
103a	D8	ALUM.	3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
103b	D8	ALUM.	3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
103c	D8	ALUM.	3'-0"X6'-8"X1 3/4"	ANODIZED	F4	ALUM.	ANODIZED						
104	D1	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT						
200	NOT USED												
300	NOT USED												
UNIT No. 1 and UNIT No. 2													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
03	NOT USED												
04	D7	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F6	CLAD	MANUF.						
05	D4	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
06	NOT USED												
07	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
08	D4	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
09	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
UNIT No. 3													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
03	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
04	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
05	D4	WOOD	(2)2'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
06	D3	WOOD	1'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
07	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
08	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
09	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
UNIT No.4													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D3	WOOD	2'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
03	NOT USED												
04	NOT USED												
05	D4	WOOD	(2)2'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
06	D3	WOOD	1'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
07	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
08	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
09	D4	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
UNIT No. 5													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D3	WOOD	1'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
03	NOT USED												
04	D4	WOOD	(2)2'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
05	D3	WOOD	1'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
06	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD							
07	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
08	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD							
09	NOT USED												
10	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
11	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
UNIT No. 6													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
03	NOT USED												
04	NOT USED												
05	D4	WOOD	(2)2'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
06	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
07	NOT USED												
08	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
09	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
UNIT No. 7													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D4	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
03	NOT USED												
04	D6	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F5	CLAD	MANUF.						
05	NOT USED												
06	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
07	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
08	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
09	D4	WOOD	(2)2'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
10	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
11	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
12	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
UNIT No.8													
01	D2	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				20		
02	D4	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
03	NOT USED												
04	D6	WOOD	(2)3'-0"X6'-8"X1 3/4"	PAINT	F5	CLAD	MANUF.						
05	NOT USED												
06	D3	WOOD	1'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
07	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
08	D3	WOOD	1'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
09	D3	WOOD	2'-6"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
10	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
11	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
12	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
13	D3	WOOD	3'-0"X6'-8"X1 3/4"	PAINT	F2	WOOD	PAINT						
14	D4	WOOD	(2)2'-6"X6'-8"X1 3/4"	PAINT	F3	WOOD	PAINT						
STB100a	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				90		
STB100b	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				90		
ST100	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				90		
ST200	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				90		
ST300	D8	METAL	3'-0"X6'-8"X1 3/4"	PAINT	F1	METAL	PAINT				90		



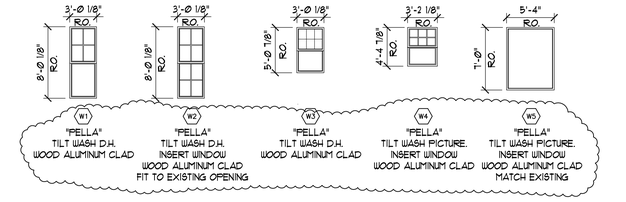
DOOR TYPES

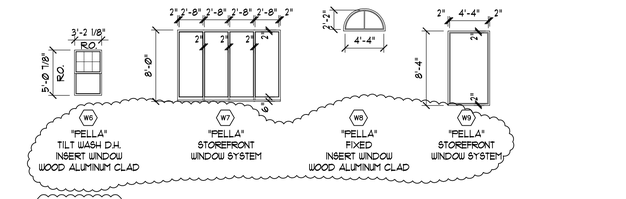


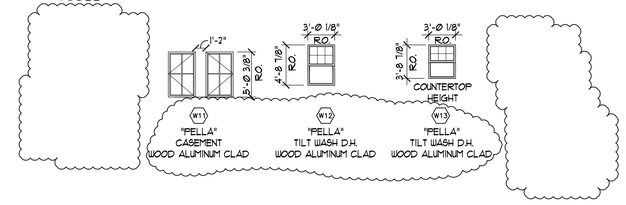
FRAME TYPES

GENERAL NOTES

1. PROVIDE TEMPERED GLASS AT ALL GLAZING PANELS BELOW 18" A.F.F. NOTE FULL GLASS DOORS WITH SILLS BELOW 18" A.F.F. WILL REQUIRE A TEMPERING OF ENTIRE PANEL.
2. PROVIDE INSULATED GLASS AND FRAMES AT EXTERIOR LOCATIONS TYPICAL. REFER TO 1/4" PLAN FOR LOCATIONS.
3. ALL DOORS TO HAVE TRUE INTERSAL MUNTIN LOCATIONS AS INDICATED IN SCHEDULE.
4. PROVIDE INSULATED DOORS AND FRAMES AT EXTERIOR LOCATIONS. TYPICAL REFER TO 1/4" PLANS FOR LOCATIONS.
5. PROVIDE FLOOR DOOR STOPS WHERE EVER DOOR HANDLE CONTACTS ANOTHER SURFACE. WHERE DOOR STOPS ARE NOT FEASIBLE, PROVIDE DOOR STOP.
6. SOLID WEATHER STRIPPING SEAL AT ALL EXTERIOR DOORS.
7. ALL INTERIOR DOOR HARDWARE TO BE BRUSHED NICKEL. VERIFY WITH OWNER.
8. ALL EXTERIOR DOOR HARDWARE TO BE STAINLESS STEEL. VERIFY WITH OWNER.
9. PROVIDE SMOKE SEAL AT ALL APARTMENT DOORS TO CORRIDORS.







WINDOW TYPES

ALL WINDOWS TO BE PELLA WOOD ALUMINUM CLAD WINDOWS WITH DOUBLE PANE LOW E OR PASSIVE SUN GLASS WITH FIXED INTERNAL GRILLES/LIFETIME WARRANTY UNLESS OTHERWISE NOTED

DOUBLE HUNG WINDOWS TO BE PROVIDED WITH FULL HEIGHT ALUMINUM INSECT SCREENS.

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR: VINYL PLANK	FLOOR: CERAMIC TILE	FLOOR: CONCRETE	FLOOR: CARPET	BASE: CERAMIC TILE BASE	BASE: WOOD BASE	BASE: VINYL BASE	BASE: NO BASE	WALL: WALLBOARD - PAINTED	WALL: CONCRETE	WALL: CERAMIC TILE	CEILING: WALLBOARD - PAINTED	CEILING: ACOUSTICAL CEILING TILE	CEILING: VINYL HEAD BOARD SOFFIT	NOTES
B100	CORRIDOR			●			●			●	●		●			
B101	WATER			●					●	●	●		●			
B102	ELECTRIC			●					●	●	●		●			
B103	CMU			●			●			●	●		●			
100	CORRIDOR	●					●			●	●		●			
101	RETAIL No.1	●						●		●			●			
102	TOILET		●				●			●			●			
103	RETAIL No.2	●														
104	TOILET		●				●			●			●			
UNIT No.1 and UNIT No.2																
01	ENTRY	●					●			●			●			
02	KITCHEN	●					●			●			●			
03	DINING			●			●			●			●			
04	LIVING			●			●			●			●			
05	CLOSET			●			●			●			●			
06	BEDROOM			●			●			●			●			
07	BATHROOM		●			●				●			●			
08	CLOSET			●			●			●			●			
09	UTILITY	●					●			●			●			
UNIT No.3																
01	ENTRY	●					●			●			●			
02	CLOSET	●					●			●			●			
03	KITCHEN	●					●			●			●			
04	LIVING/DINING			●			●			●			●			
05	UTILITY	●					●			●			●			
06	LINEN			●			●			●			●			
07	BATHROOM		●			●				●			●			
08	BEDROOM			●			●			●			●			
09	W.I.C.			●			●			●						
UNIT No.4																
01	ENTRY	●					●			●			●			
02	CLOSET	●					●			●			●			
03	KITCHEN	●					●			●			●			
04	LIVING/DINING			●			●			●			●			
05	UTILITY	●					●			●			●			
06	LINEN			●			●			●			●			
07	BATHROOM		●			●				●			●			
08	BEDROOM			●			●			●			●			
09	CLOSET			●			●			●			●			
UNIT No.5																
01	ENTRY	●					●			●			●			
02	CLOSET	●					●			●			●			
03	KITCHEN	●					●			●			●			
04	UTILITY	●					●			●			●			
05	LINEN	●					●			●			●			
06	BEDROOM No.1			●			●			●			●			
07	CLOSET			●			●			●			●			
08	BATHROOM		●			●				●			●			
09	LIVING/DINING			●			●			●			●			
10	BEDROOM No.2			●			●			●			●			
11	CLOSET			●			●			●			●			
UNIT No.6																
01	ENTRY	●					●			●			●			
02	CLOSET	●					●			●			●			
03	KITCHEN	●					●			●			●			
04	DINING			●			●			●			●			
05	UTILITY	●					●			●			●			
06	BATHROOM		●			●				●			●			
07	LIVING			●			●			●			●			
08	BEDROOM			●			●			●			●			
09	CLOSET			●			●			●			●			
UNIT No.7																
01	ENTRY	●					●			●			●			
02	CLOSET	●					●			●			●			
03	KITCHEN	●					●			●			●			
04	DINING	●					●			●			●			
05	LIVING	●					●			●			●			
06	UTILITY	●					●			●			●			
07	BATHROOM No. 2		●			●				●			●			
08	BEDROOM			●			●			●			●			
09	CLOSET			●			●			●			●			
10	BEDROOM No. 1			●			●			●			●			
11	BATHROOM No.1		●			●				●			●			
12	CLOSET			●			●			●			●			
UNIT No.8																
01	ENTRY	●					●			●			●			
02	CLOSET	●					●			●			●			
03	KITCHEN	●					●			●			●			
04	DINING	●					●			●			●			
05	LIVING	●					●			●			●			
06	UTILITY	●					●			●			●			
07	BATHROOM No.2		●			●				●			●			
08	LINEN		●			●				●			●			
09	LAUNDRY	●				●				●						
10	BEDROOM No. 1			●			●			●			●			
11	BATHROOM No. 1		●			●				●			●			
12	CLOSET			●			●			●			●			
13	BEDROOM No. 2			●			●			●			●			
14	CLOSET			●			●			●			●			
ST	STAIR			●			●			●			●			

THA ARCHITECTS, LLC
ARCHITECTURE • DESIGN • PLANNING • INTERIOR DESIGN
P.O. Box 88
STRATHAM, NEW HAMPSHIRE 03885
Tel: (603) 770-2491
www.thaarc.com

Mario Ponte
101 Water Street
Exeter, NH

Janvrin's Block
85 Water Street
Exeter, NH

Door/Frame Types
Door Schedule
Room Finish Schedule
Window Types

Structural Engineer:
Emanuel Engineering

Progress Set
September 6, 2023

SCALE:

ISSUED / DRAWN BY

REVISED / REVISED BY

JOB NO: 21006

SHEET NUMBER
A-6.1

TOWN OF EXETER, NEW HAMPSHIRE
10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 •FAX 772-4709
www.exeternh.gov

October 18, 2023

Mario Ponte
101 Water Street
Exeter, New Hampshire 03833

Re: Zoning Board of Adjustment Case #23-16 – Variance Request
85-87 Water Street, Exeter, N. H.
Tax Map Parcel #72-29

Dear Mr. Ponte:

This letter will serve as official confirmation that the Zoning Board of Adjustment, at its October 17th, 2023 meeting, voted to grant the above-captioned application for a variance from Article 5, Section 5.6.6. to permit less parking spaces than required for the residential and retail uses proposed for within the existing building at 85-87 Water Street, as presented.

Please be advised that in accordance with Article 12, Section 12.4 of the Town of Exeter Zoning Ordinance entitled "Limits of Approval" that all approvals granted by the Board of Adjustment shall only be valid for a period of three (3) years from the date such approval was granted; therefore, should substantial completion of the improvements, modifications, alterations or changes in the property not occur in this period of time, this approval will expire.

If you should have any questions, please do not hesitate to contact the Building Department office at (603) 773-6112.

Sincerely,

Robert V. Prior
Chairman
Exeter Zoning Board of Adjustment

cc: John DeStefano, DeStefano & Associates, Inc.
Douglas Eastman, Building Inspector/Code Enforcement Officer
Janet Whitten, Town Assessor

RVP: bsm

f:\docs\plan'g & build'g dept\zba cases\zba 23-16 let.docx

the applicant will add one parking space in addition to what is stated in the application, for a total of 7 parking spaces; and 4) that the approval of this application is dependent on site plan approval by the Planning Board. Ms. Pennell seconded. Ms. Petito, Mr. Prior, Ms. Olson-Murphy, and Ms. Pennell voted aye. Ms. Montagno voted nay. The motion passed 4-1.

D. The application of Mario A. Ponte for a variance from Article 5, Section 5.6.6. to permit less parking spaces than required for the residential and retail uses proposed for within the existing building at 85-87 Water Street. The subject property is located in the WC-Waterfront Commercial zoning district. Tax Map Parcel #72-29. ZBA Case #23-16.

Applicant Mario Ponte and builder John DeStefano were present to discuss the application. Mr. Ponte said this is the building that Trends is currently in.

Ms. Petito said she wanted to disclose that she rents office space from the applicant, but she doesn't think she needs to recuse herself. She is not in the building under discussion

Mr. Ponte said we'd like to renovate the apartments on the second floor. There are three apartments on the second floor, but there will be four. There is one existing retail space, but we will convert it to two. There will be two more apartments below the retail. We need parking relief like most of the buildings downtown. He was told by the Engineer that his building owns most of the alleyway, but we need additional parking spaces.

Mr. Prior asked Mr. Ponte to describe the existing layout. Mr. Ponte said upstairs there are three apartments. There have been apartments there for 60 years. They're occupied, but we're not renewing their leases because we're renovating. One floor below the street level, we use the space as storage for Trends and the bookstore. It was apartments maybe 10 years ago.

Mr. Prior said there will be a net gain in the number of apartments, so a net gain in the requirement for parking. The applicant said he was told 20 years ago that the building was already allocated 20 parking spaces out front. Mr. Prior said they're fictitious. Ms. Petito said without considering these spaces as parking there would be no new development downtown. Mr. Ponte said both the church converted to apartments and the Ioka got parking relief.

Mr. Prior asked if any changes to the exterior of the building are being made. Mr. Ponte said yes, we're bringing it back to its original historical significance, with dormered windows. It's already been approved by the HDC twice.

Ms. Petito said she thinks the relief being sought would be for seven additional spaces. Mr. Prior said they don't exist, we get that. Downtown is a mix of residential and retail, and nobody has enough parking. Ms. Montagno asked if

the supposed spaces take into account overnight winter parking. The municipal lot only has 18 dedicated spaces for overnight parking. Ms. Petito said this is similar to the renovation of the Ioka building, which was recently approved. Mr. Prior said solving parking is not within the ZBA's purview. Ms. Montagno said it is within our purview to approve or deny a variance from the parking regulations in our zoning.

Mr. Prior asked for public comment, but there was none.

Barry Pastor of Front Street said parking downtown is a problem for everybody. The parking ban in place during the winter may not make a difference to the businesses, but people living there need a place to park overnight. Mr. Prior said he shares his skepticism that anyone would want to buy a condominium unit that doesn't come with parking, but it's not the business of this Board to question the business plan of anyone who comes before us.

Mr. Prior closed the public session and went into Board deliberations. He said these parking spaces are fictitious to some extent, but where can we draw the line to say this building can have them and this one can't? He doesn't believe that this Board can draw such a line. It's up to the town to address the shortage of parking that exists.

Ms. Olson-Murphy made a motion to approve the application of Mario A. Ponte for a variance from Article 5, Section 5.6.6. to permit less parking spaces than required for the residential and retail uses proposed for within the existing building at 85-87 Water Street. Ms. Pennell seconded. Ms. Petito, Mr. Prior, Ms. Olson-Murphy, and Ms. Pennell voted aye. Ms. Montagno voted nay. The motion passed 4-1.

II. Other Business

A. Request for Rehearing: Aaron Jefferson – 165 A Kingston Road, Tax Map Parcel #115-12, ZBA Case #23-12

Mr. Prior said this is strictly a discussion within the Board, and doesn't get public input. The criteria for rehearing is that A) there is new evidence that was not available at the time of the application, which is not the case; or B) The Board determines that an error has been made in its decision, which the applicant believes. Our decision was unanimously to deny the application, and there were four separate criteria that we determined that the application did not meet, criteria 1, 2, 3, and 5.

Ms. Petito said she wasn't present at the previous meeting, but she read the minutes and didn't see any error. The concerns raised by abutters were very carefully considered by the Board. The Board came to a reasoned decision. She went out to look at the site, and it's right in the middle of residences, so she understands the concerns.

Mr. Prior said given that their denial was unanimous, he doubts the applicant would have much of a chance in Superior Court.

Mr. Prior said that Ms.Montagno, Ms. Pennell, and Mr. Prior were the members present at the prior meeting who are here tonight. It was a long

discussion with a lot of public testimony and back-and-forth, but we did a good job of rendering a decision taking into account the applicant, the abutters, and the interests of the town.

Ms. Montagno made a motion to deny the request to rehear the variance application for the property at 165-A Kingston Road. Ms. Petito seconded. Ms. Petito, Mr. Prior, Ms. Olson-Murphy, Ms. Pennell, and Ms. Montagno voted aye. The motion passed 5-0.

B. Approval of Minutes: August 15, 2023

Ms. Montagno made a motion to approve the minutes of August 15, 2023 as submitted. Ms. Pennell seconded. Ms. Montagno, Ms. Pennell, and Mr. Prior voted aye and the motion passed 3-0.

III. Adjournment

Mr. Prior made a motion to adjourn. Ms. Olson-Murphy seconded. Ms. Petito, Mr. Prior, Ms. Olson-Murphy, and Ms. Pennell, and Ms. Montagno voted aye. The motion passed 5-0. The meeting was adjourned at 9 PM.

Respectfully Submitted,
Joanna Bartell
Recording Secretary

TOWN OF EXETER
PLANNING DEPARTMENT
INTER-OFFICE TRANSMITTAL

DATE: November 7, 2023

TO: Planning Board

FROM: Dave Sharples, Town Planner

RE: **PB Case #23-19 Sheila Groonell & Donald G. & Carol Murray**
Lot Line Adjustment
78 Kingston Road & 74 Kingston Road
Tax Map Parcel #97-5-8 and #97-5-7

The Applicant(s) are seeking a lot line adjustment of the common boundary line between the properties located at 78 Kingston Road and 74 Kingston Road. The subject properties are located in the R-1, Low Density Residential zoning district and are identified as Tax Map Parcel #97-29 and #97-28.

The proposed lot line adjustment will allow for the conveyance of 43,852 square feet (1.007 acres) of lot area from the Groonell property at 78 Kingston Road (TM #97- 29) to the abutting Murray property at 74 Kingston Road (TM #97-28).

The Applicant(s) have submitted a lot line adjustment application, plan and supporting documents, dated October 24, 2023, which are enclosed for your review. There was no TRC review, however, the materials have been reviewed by staff for compliance with the zoning and subdivision regulations.

There are no waivers being requested in conjunction with the application.

I will be prepared with suggested conditions of approval at the meeting in the event the board decides to act on the request.

Planning Board Motions

Lot Line Adjustment Motion: I move that the request of Sheila Groonell and Donald G. & Carol Murray (PB Case #23-19) for Lot Line Adjustment approval be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

October 24, 2023

Dave Sharples, Town Planner
Planning Department, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: Lot Line Adjustment
Tax Map 97, Lots 28 and 29
74 and 78 Kingston Road
Altus Project No. 5494

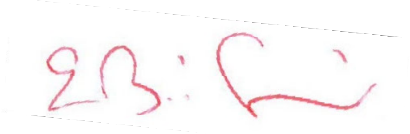
Dear Mr. Sharples,

On behalf of the Applicants, Sheila Groonell and Donald Grant and Carol Murray, we are pleased to submit an application for a Lot Line Adjustment between the two above referenced properties. The intent is to convey one acre of land from Lot 29 (Groonell) to Lot 28 (Murray). No road, utility, other public improvement or new lot development is proposed. We respectfully request this be placed on the next available Planning Board agenda.

Please feel free to contact me directly if you have any questions or require any additional documentation. Thank you for your time and consideration.

Sincerely,

ALTUS ENGINEERING



Erik B. Saari
Vice President

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TOWN OF EXETER, NH
APPLICATION FOR MINOR SITE PLAN REVIEW, MINOR SUBDIVISION and/or LOT LINE ADJUSTMENT

A completed application shall contain the following items, although please note that some items may not apply such as waivers or conditional use permit:

1.	Application for Hearing	(X)
2.	Abutter's List Keyed to the Tax Map (including name and business address of all professionals responsible for the submission (engineer, landscape architect, wetland scientist, etc.)	(X)
3.	Checklist for plan requirements	(X)
4.	Letter of Explanation	(X)
5.	Written request and justification for waiver(s) from Site Plan/Sub Regulations	
6.	Application to Connect and/or Discharge to Town of Exeter Sewer, Water, or Storm Water Drainage System(s) - if applicable	( )
7.	Application Fees	(x)
8.	~~Seven (7)~~ five (5) copies of 24'x36' plan set	(x)
9.	~~Fifteen (15)~~ ten (10) 11"x 17" copies of the plan set	(x)
10.	Three (3) pre-printed 1"x 2 5/8" labels for each abutter, the applicant and all consultants.	(X)

NOTES: All required submittals must be presented to the Planning Department Office for distribution to other Town departments. Any material submitted directly to other departments will not be considered.

TOWN OF EXETER
MINOR SUBDIVISION, MINOR SITE PLAN, AND/OR LOT LINE ADJUSTMENT APPLICATION

OFFICE USE ONLY

THIS IS AN APPLICATION FOR:

( ) MINOR SITE PLAN
( ) MINOR (3lots or less) SUBDIVISION ( ) LOTS

(X) LOT LINE ADJUSTMENT

_____APPLICATION
_____DATE RECEIVED
_____APPLICATION FEE
_____PLAN REVIEW FEE
_____ABUTTER FEE
_____LEGAL NOTICE FEE
_____INSPECTION FEE
_____TOTAL FEES
_____AMOUNT REFUNDED

1. **NAME OF LEGAL OWNER OF RECORD:** Sheila M. Groonell / Donald G. and Carol J. Murray

ADDRESS: 78 Kingston Road, Exeter, NH 03833, c/o (603) 319-8012 / 74 Kingston Road, Exeter, NH 03833, (781) 248-5285

_____ **TELEPHONE:** ( ) _____

2. **NAME OF APPLICANT:** Same as Owner

ADDRESS: _____

_____ **TELEPHONE:** ( )_____

3. **RELATIONSHIP OF APPLICANT TO PROPERTY IF OTHER THAN OWNER:** _____

(Written permission from Owner is required, please attach.)

4. **DESCRIPTION OF PROPERTY:**

ADDRESS: 74 and 78 Kingston Road

TAX MAP: 97 **PARCEL #:** 28 and 29 **ZONING DISTRICT:** R-1

AREA OF ENTIRE TRACT: 7.20 ac. & 1.16 **PORTION BEING DEVELOPED:** N/A

5. **EXPLANATION OF PROPOSAL:** Lot line adjustment between Map 97 Lots 28 and 29

6. **ARE MUNICIPAL SERVICES AVAILABLE?** (YES/NO) No new connections required
IF YES, WATER AND SEWER SUPERINTENDENT MUST GRANT WRITTEN APPROVAL FOR CONNECTION. IF NO, SEPTIC SYSTEM MUST COMPLY WITH W.S.P.C.C. REQUIREMENTS.

7. **LIST ALL MAPS, PLANS AND OTHER ACCOMPANYING MATERIAL SUBMITTED WITH THIS APPLICATION:**

ITEM:	NUMBER OF COPIES
A. Cover Letter	5
B. USGS Map, Aerial, Tax Map, Abutters List, Mailing Labels	5
C. Application and Notice Fees	1
D. Lot Line Adjustment Plan	5 full size, 10 half size
E.	
F.	

8. **ANY DEED RESTRICTIONS AND COVENANTS THAT APPLY OR ARE CONTEMPLATED** (YES/NO) No IF YES, ATTACH COPY.

9. **NAME AND PROFESSION OF PERSON DESIGNING PLAN:**

NAME: Altus Engineering
ADDRESS: 133 Court Street, Portsmouth, NH 03801
PROFESSION: Civil Engineers **TELEPHONE:** (603) 733-2335

10. **LIST ALL IMPROVEMENTS AND UTILITIES TO BE INSTALLED:** None

11. **HAVE ANY SPECIAL EXCEPTIONS OR VARIANCES BEEN GRANTED BY THE ZONING BOARDOF ADJUSTMENT TO THIS PROPERTY PREVIOUSLY?**

(Please check with the Planning Department Office to verify) (YES/NO) Unknown IF YES, LIST BELOW AND NOTE ON PLAN.

_____

_____

NOTICE:

I CERTIFY THAT THIS APPLICATION AND THE ACCOMPANYING PLANS AND SUPPORTING INFORMATION HAVE BEEN PREPARED IN CONFORMANCE WITH ALL APPLICABLE TOWN REGULATIONS, INCLUDING BUT NOT LIMITED TO THE "SITE PLAN REVIEW AND SUBDIVISION REGULATION" AND THE ZONING ORDINANCE. FURTHERMORE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE "SITE PLAN REVIEW AND SUBDIVISION REGULATIONS", I AGREE TO PAY ALL COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

DATE 10/24/23 APPLICANT'S SIGNATURE _____

Erik Saari, Altus Engineering (Agent)

See attached Letter of Authorization

ACCORDING TO RSA 676.4.I (c), THE PLANNING BOARD MUST DETERMINE WHETHER THE APPLICATION IS COMPLETE WITHIN 30 DAYS OF SUBMISSION. THE PLANNING BOARD MUST ACT TO EITHER APPROVE, CONDITIONALLY APPROVE, OR DENY AN APPLICATION WITHIN SIXTY FIVE (65) DAYS OF ITS ACCEPTANCE BY THE BOARD AS A COMPLETE APPLICATION. A SEPARATE FORM ALLOWING AN EXTENSION OR WAIVER TO THIS REQUIREMENT MAY BE SUBMITTED BY THE APPLICANT.

CHECK LIST FOR MINOR SITE PLAN REVIEW, MINOR SUBDIVISON AND LOT LINE ADJUSTMENT

APPLICANT	TRC	REQUIRED EXHIBITS, SEE REGULATION 6.6.2.4
X		a) The name and address of the property owner, authorized agent, the person or firm preparing the plan, and the person or firm preparing any other data to be included in the plan.
X		b) Title of the site plan, subdivision or lot line adjustment, including Planning Board Case Number.
X		c) Scale, north arrow, and date prepared.
X		d) Location of the land/site under consideration together with the names and address of all owners of record of abutting properties and their existing use.
X		e) Tax map reference for the land/site under consideration, together with those of abutting properties.
X		f) Zoning (including overlay) district references.
X		g) A vicinity sketch showing the location of the land/site in relation to the surrounding public street system and other pertinent location features within a distance of 1,000-feet.
NA		h) For minor site plan review only, a description of the existing site and proposed changes thereto, including, but not limited to, buildings and accessory structures, parking and loading areas, signage, lighting, landscaping, and the amount of land to be disturbed.
NA		i) If deemed necessary by the Town Planner, natural features including watercourses and water bodies, tree lines, and other significant vegetative cover, topographic features and any other environmental features which are significant to the site plan review or subdivision design process.
NA		j) If deemed necessary by the Town Planner, existing contours at intervals not to exceed 2-feet with spot elevations provided when the grade is less than 5%. All datum provided shall reference the latest applicable US Coast and Geodetic Survey datum and should be noted on the plan.
NA		k) If deemed necessary by the Town Planner for proposed lots not served by municipal water and sewer utilities, a High Intensity Soil Survey (HISS) of the entire site, or portion thereof. Such soil surveys shall be prepared and stamped by a certified soil scientist in accordance with the standards established by the Rockingham County Conservation District. Any cover letters or explanatory data provided by the certified soil scientist shall also be submitted.
X		l) State and federal jurisdictional wetlands, including delineation of required setbacks.
X		m) A note as follows: "The landowner is responsible for complying with all applicable local, State, and Federal wetlands regulations, including any permitting and setback requirements required under these regulations."
X		n) Surveyed exterior property lines including angles and bearings, distances, monument locations, and size of the entire parcel. A professional land surveyor licensed in New Hampshire must attest to said plan.

NA	☐	o) For minor site plans only, plans are not required to be prepared by a professional engineer or licensed surveyor unless deemed essential by the Town Planner or the TRC.
X	☐	p) For minor subdivisions and lot line adjustments only, the locations, dimensions, and areas of all existing and proposed lots.
X	☐	q) The lines of existing abutting streets and driveways locations within 100-feet of the site.
NA	☐	r) The location, elevation, and layout of existing catch basins and other surface drainage features.
X	☐	s) The footprint location of all existing structures on the site and approximate location of structures within 100-feet of the site.
X	☐	t) The size and location of all existing public and private utilities.
X	☐	u) The location of all existing and proposed easements and other encumbrances.
X	☐	v) All floodplain information, including contours of the 100-year flood elevation, based upon the Flood Insurance Rate Map for Exeter, as prepared by the Federal Emergency Management Agency, dated May 17, 1982.
NA	☐	w) The location of all test pits and the 4,000-square-foot septic reserve areas for each newly created lot, if applicable.
NA	☐	x) The location and dimensions of all property proposed to be set aside for green space, parks, playgrounds, or other public or private reservations. The plan shall describe the purpose of the dedications or reservations, and the accompanying conditions thereof (if any).
X	☐	y) A notation shall be included which explains the intended purpose of the subdivision. Include the identification and location of all parcels of land proposed to be dedicated to public use and the conditions of such dedications, and a copy of such private deed restriction as are intended to cover part of all of the tract.
NA	☐	z) Newly created lots shall be consecutively numbered or lettered in alphabetical order. Street address numbers shall be assigned in accordance with Section 9.17 Streets of these regulations.
NA X	☐ ☐	aa) The following notations shall also be shown: • Explanation of proposed drainage easements, if any • Explanation of proposed utility easement, if any • Explanation of proposed site easement, if any • Explanation of proposed reservations, if any • Signature block for Board approval as follows: Town of Exeter Planning Board _____ _____ Chairman Date

Letter of Authorization

I, Sheila M. Groonell, hereby authorize Altus Engineering to represent me as the Owner and Applicant in all matters concerning engineering and related permitting for Tax Map 97 Lot 29 located at 78 Kingston Road in Exeter, New Hampshire. This authorization shall include representation at public hearings and other project-related meetings in addition to any signatures required for Federal, State and Municipal permit applications.

Sheila Groonell
Signature

Sheila Groonell
Print Name

Oct 24 2023
Date

Witness

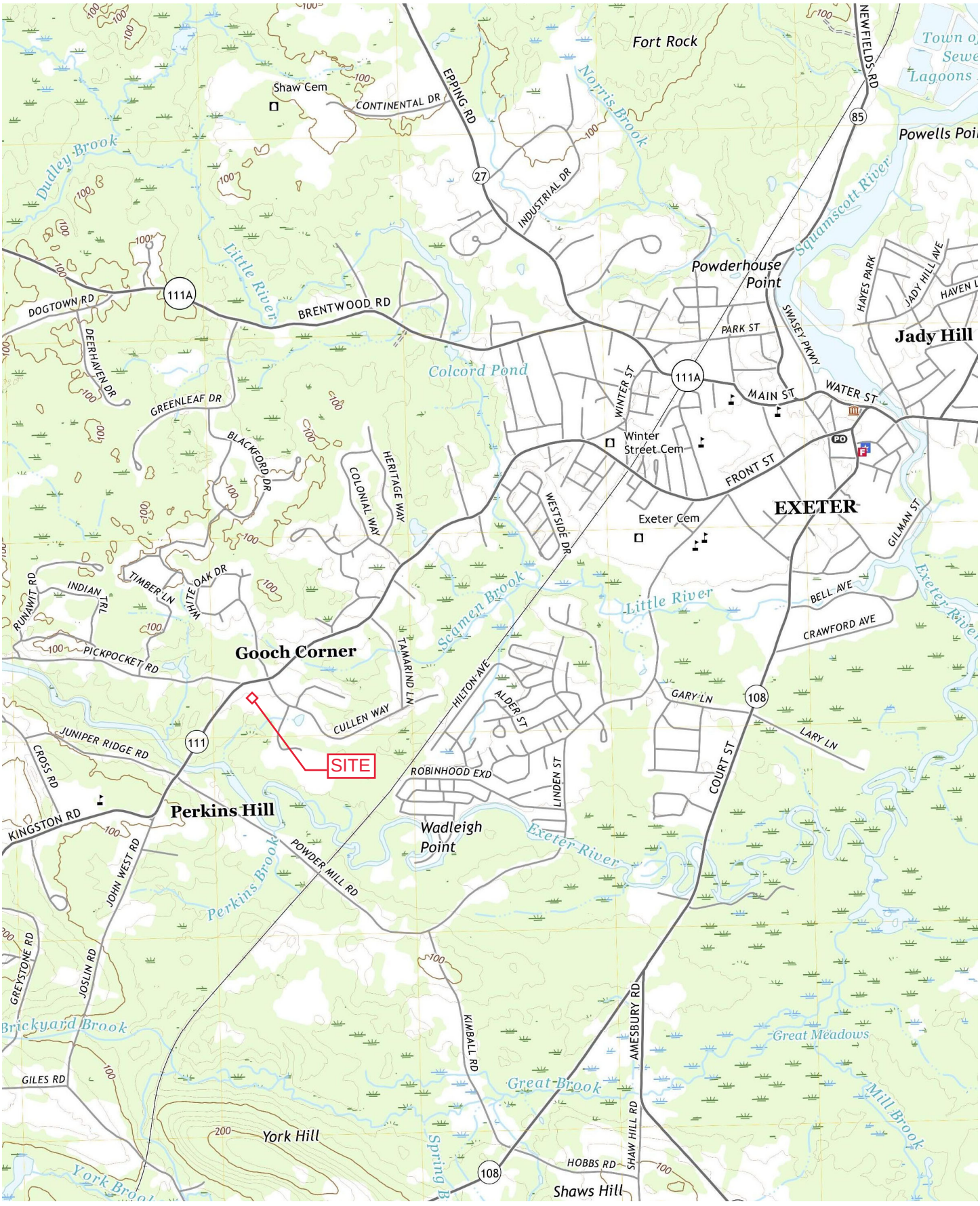
MICHAEL J. BARRETT
★ NOTARY PUBLIC - NEW HAMPSHIRE ★
My Commission Expires Dec 21 2027
Print Name

10/24/2023
Date

Letter of Authorization

We, Donald Grant Murray and Carol Jean Murray, hereby authorize Altus Engineering to represent us as the Owner and Applicant in all matters concerning engineering and related permitting for Tax Map 97 Lot 28 located at 74 Kingston Road in Exeter, New Hampshire. This authorization shall include representation at public hearings and other project-related meetings in addition to any signatures required for Federal, State and Municipal permit applications.

D. Grant Murray	D. GRANT MURRAY	10/23/23
Signature	Print Name	Date
Carol J. Murray	CAROL J. MURRAY	10/23/23
Signature	Print Name	Date
Witness	Print Name	Date


SITE
Fort Rock
Shaw Cem
CONTINENTAL DR
EPPING RD
NEWFIELDS RD
Norris Brook
Dudley Brook
Powells Poi
Squamscott River
INDUSTRIAL DR
Little River
Powderhouse Point
HAYES PARK
JADY HILL AVE
DOGTOWN RD
111A
BRENTWOOD RD
PARK ST
SWASEY PKWY
Jady Hill
DEERHAVEN DR
Colcord Pond
WINTER ST
MAIN ST
WATER ST
GREENLEAF DR
Winter Street Cem
BLACKFORD DR
HERITAGE WAY
COLONIAL WAY
FRONT ST
EXETER
WESTSIDE DR
Exeter Cem
GILMAN ST
RUNAWIT RD
INDIAN TRL
TIMBER LN
WHITE OAK DR
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Little River
BELL AVE
CRAWFORD AVE
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Gooch Corner
PICKPOCKET RD
TAMARIND LN
HILTON AVE
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CULLEN WAY
JUNIPER RIDGE RD
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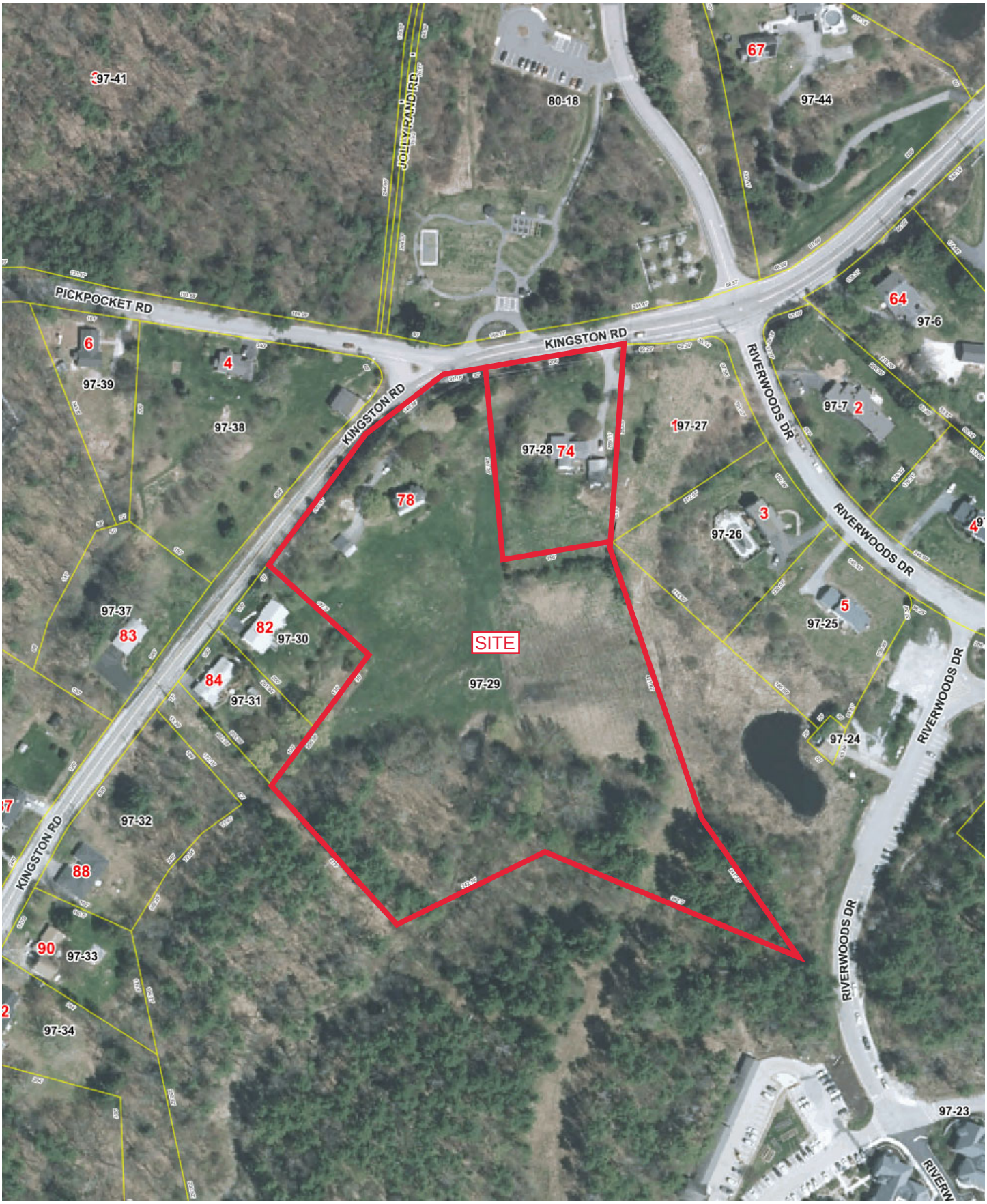
LARY LN
CROSS RD
ROBINHOOD EXD
LINDEN ST
COURT ST
KINGSTON RD
Perkins Hill
Wadleigh Point
Exeter River
JOHN WEST RD
POWDER MILL RD
Perkins Brook
GREYSTONE RD
JOSLIN RD
KIMBALL RD
AMESBURY RD
Great Meadows
Brickyard Brook
GILES RD
Great Brook
Mill Brook
York Hill
SHAW HILL RD
HOBBS RD
Shaws Hill
York Brook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RIVERWOODS DR
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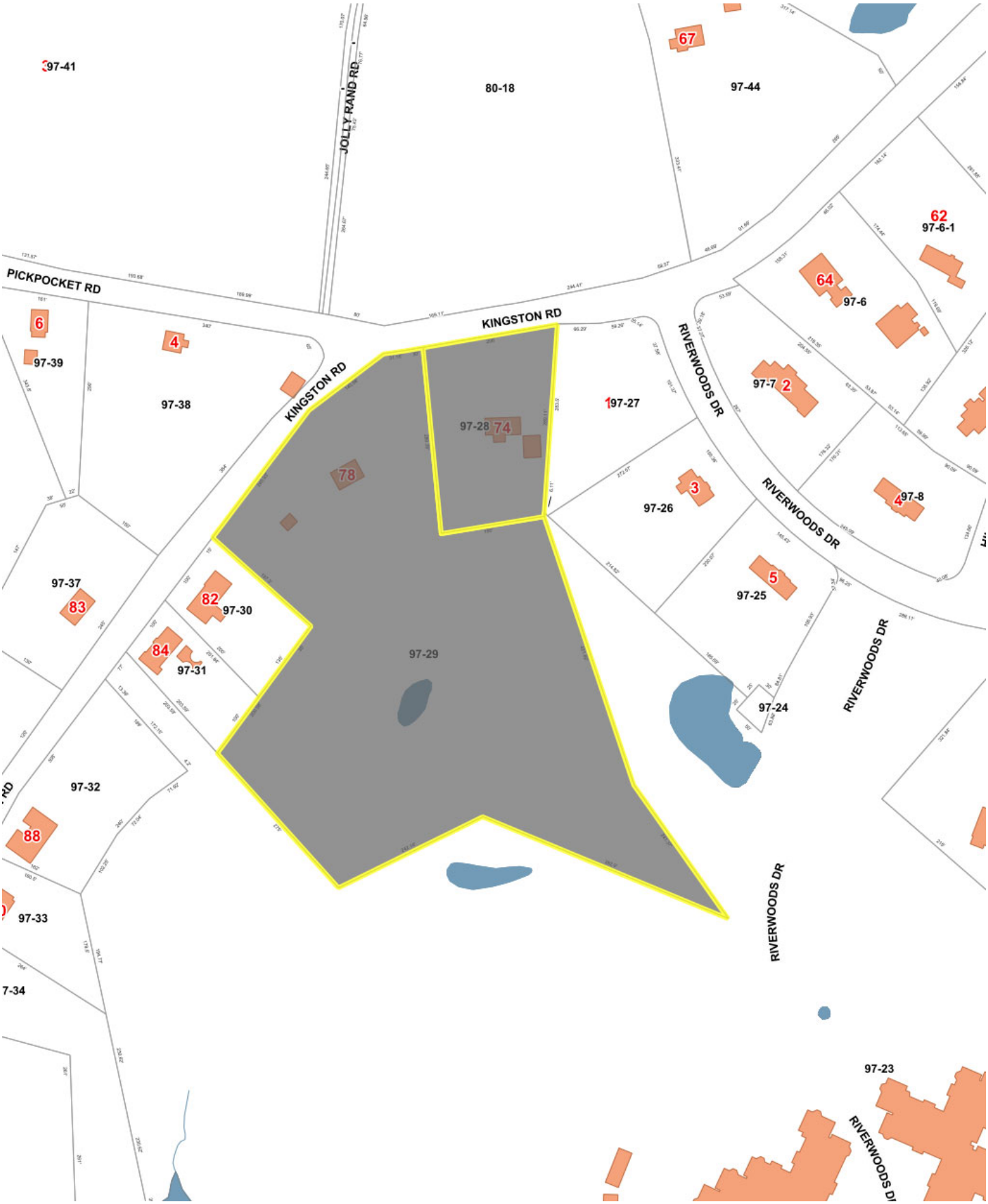
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RIVERWOODS DR
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97-37
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7-34
97-23

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

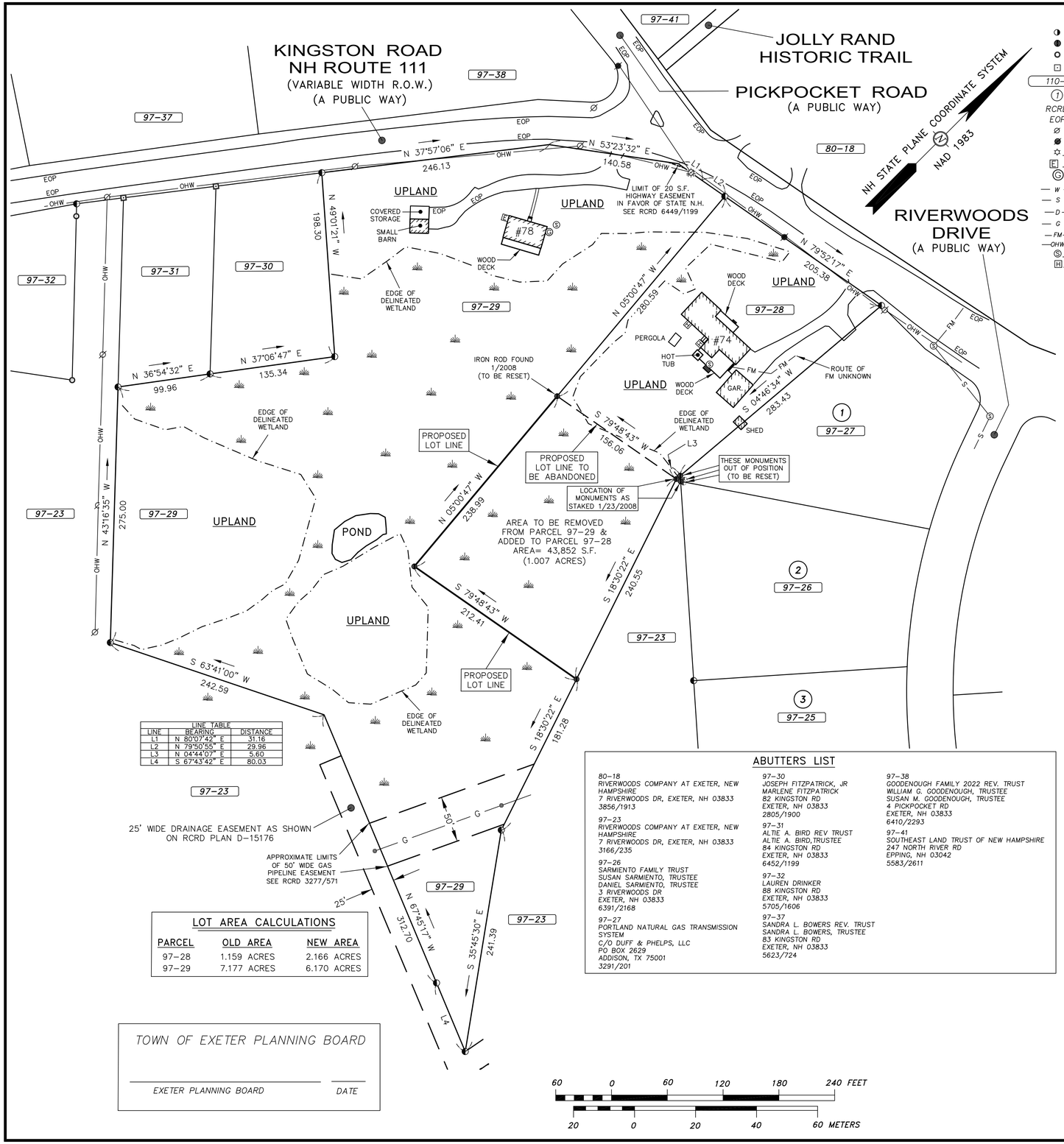
133 Court Street
Portsmouth, NH
03801-4413

ABUTTER'S LIST

Tax Map 97, Lots 28 and 29
74 and 78 Kingston Road
Exeter, NH 03833

	Tax Map / Parcel	Abutter Name & Address
Owner/ Applicant:	97 / 28	Grant D. Murray 74 Kingston Road Exeter, NH 03833
	97 / 29	Sheila M. Groonell 78 Kingston Road Exeter, NH 03833
Abutters:	97 / 27	Portland Natural Gas P.O. Box 2629 Addison, TX 75001
	97 / 26	Sarmiento Family Trust 36 Riverwoods Drive Exeter, NH 03833
	97 / 23	RiverWoods Co. at Exeter 7 RiverWoods Drive Exeter, NH 03833
	97 / 31	Altie A. Bird Rev. Trust 84 Kingston Road Exeter, NH 03833
	97/30	Joseph Fitzpatrick, Jr. 82 Kingston Road Exeter, NH 03833
	97/38	Goodenough Family 2022 Rev. Tr. 4 Pickpocket Road Exeter, NH 03833
	97 / 41	Southeast Land Trust of NH 247 North River Road Epping, NH 03042

80 / 18	RiverWoods Co. at Exeter 7 RiverWoods Drive Exeter, NH 03833
Engineer:	Altus Engineering c/o Erik Saari 133 Court Street Portsmouth, NH 03801
Surveyor:	James Verra and Associates, Inc. 101 Shattuck Way #8 Newington, NH 03801
Wetland and Soils Scientist:	Gove Environmental Services, Inc. 8 Continental Drive, Unit H Exeter, NH 03833



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 80°07'42" E	31.16
L2	N 79°50'55" E	29.96
L3	N 04°44'07" E	5.60
L4	S 67°43'42" E	80.03

LOT AREA CALCULATIONS

PARCEL	OLD AREA	NEW AREA
97-28	1.159 ACRES	2.166 ACRES
97-29	7.177 ACRES	6.170 ACRES

TOWN OF EXETER PLANNING BOARD

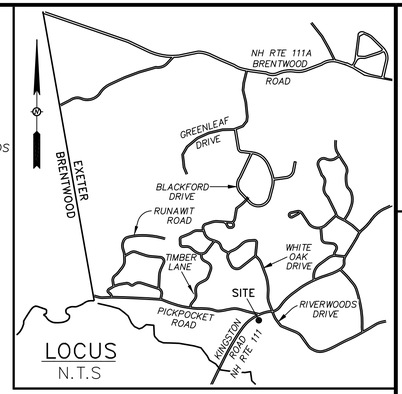
EXETER PLANNING BOARD _____ DATE _____

60 0 60 120 180 240 FEET

20 0 20 40 60 METERS

LEGEND:

- ◑ ..... IRON ROD FOUND
- ● ..... IRON ROD TO BE SET
- ○ ..... IRON PIPE FOUND
- ⊡ ..... BOUND as DESCRIBED
- 110-5 ..... TAX SHEET – LOT NUMBER
- (1) ..... LOT NO. PER REFERENCE PLAN 1
- RCRD ..... ROCKINGHAM COUNTY REGISTRY OF DEEDS
- EOP ..... EDGE OF PAVEMENT
- Ø ..... UTILITY POLE
- ◙ ..... UTILITY POLE W/TRANSFORMER
- ☼ ..... LIGHT POLE
- (E) ..... ELECTRIC METER
- (G) ..... VERTICAL PROPANE TANK
- — W — ..... WATER LINE
- — S — ..... SEWER LINE
- — D — ..... DRAIN LINE
- — G — ..... GAS LINE
- — FM — ..... FORCE MAIN
- —OHW— ..... OVERHEAD WIRES
- (S) ..... SEWER MANHOLE
- [H] ..... HVAC UNIT



ABUTTERS LIST

80-18
RIVERWOODS COMPANY AT EXETER, NEW HAMPSHIRE
7 RIVERWOODS DR, EXETER, NH 03833
3856/1913

97-23
RIVERWOODS COMPANY AT EXETER, NEW HAMPSHIRE
7 RIVERWOODS DR, EXETER, NH 03833
3166/235

97-26
SARMIENTO FAMILY TRUST
SUSAN SARMIENTO, TRUSTEE
DANIEL SARMIENTO, TRUSTEE
3 RIVERWOODS DR
EXETER, NH 03833
6391/2168

97-27
PORTLAND NATURAL GAS TRANSMISSION SYSTEM
C/O DUFF & PHELPS, LLC
PO BOX 2629
ADDISON, TX 75001
3291/201

97-30
JOSEPH FITZPATRICK, JR
MARLENE FITZPATRICK
82 KINGSTON RD
EXETER, NH 03833
2805/1900

97-31
ALTIE A. BIRD REV TRUST
ALTIE A. BIRD,TRUSTEE
84 KINGSTON RD
EXETER, NH 03833
6452/1199

97-32
LAUREN DRINKER
88 KINGSTON RD
EXETER, NH 03833
5705/1606

97-37
SANDRA L. BOWERS REV. TRUST
SANDRA L. BOWERS, TRUSTEE
83 KINGSTON RD
EXETER, NH 03833
5623/724

97-38
GOODENOUGH FAMILY 2022 REV. TRUST
WILLIAM G. GOODENOUGH, TRUSTEE
SUSAN M. GOODENOUGH, TRUSTEE
4 PICKPOCKET RD
EXETER, NH 03833
6410/2293

97-41
SOUTHEAST LAND TRUST OF NEW HAMPSHIRE
247 NORTH RIVER RD
EPPING, NH 03042
5583/2611

NOTES:

1. OWNER OF RECORD..... D. GRANT MURRAY & CAROL J. MURRAY
   ADDRESS..... 74 KINGSTON, EXETER, NH 03833
   DEED REFERENCE..... 4592/2040
   TAX SHEET / LOT..... 97-28

   OWNER OF RECORD..... SHEILA M. GROONEL
   ADDRESS..... 78 KINGSTON ROAD, EXETER, NH 03833
   DEED REFERENCE..... 4838/236
   TAX SHEET / LOT..... 97-29
2. THE PURPOSE OF THIS PLAN IS TO TRANSFER 1.007 ACRES OF LAND ADJOINING THE REAR OF PARCEL 97-28 FROM PARCEL 97-29 TO PARCEL 97-28.
3. ZONED:..... R-1 — FRONT YARD SETBACK.... 25'
   MINIMUM LOT AREA 2 ACRES — SIDE YARD SETBACK.....15'
   FRONTAGE..... 150' — REAR YARD SETBACK.....25'
4. ON SITE CONTROL ESTABLISHED USING SURVEY GRADE GPS UNITS. UNITS: U.S. SURVEY FOOT
5. THE RELATIVE ERROR OF CLOSURE WAS LESS THAN 1 FOOT IN 15,000 FEET.
6. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG-SAFE @ 1-888-DIG-SAFE.
7. MONUMENTS SHOWN HEREON WERE FOUND UNLESS NOTED OTHERWISE.
8. THIS PLAN IS BASED UPON SURVEY WORK CONDUCTED BY THIS OFFICE 9/2006 TO 10/2023.
9. WETLANDS DELINEATION PERFORMED 9/22/2023 & 10/13/2023 BY BRENDEN WALDEN, NHCWS# 297, OF GOVE ENVIRONMENTAL SEVICES, INC., 8 CONTINENTAL DR, BLDG 2, UNIT H, EXETER, NH 03833-7507. WETLANDS FLAGS WERE SURVEY LOCATED BY JAMES VERRA AND ASSOCIATES, INC.
10. CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE SETTING OR ESTABLISHMENT OF ANY GRADES/ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOC., INC.
11. PARCELS 97-28 & 97-29 LIE IN FLOOD HAZARD AREA ZONE X (UNSHADED), AREA OF MINIMAL FLOOD HAZARD, AS SHOWN ON FLOOD INSURANCE RATE MAP 33015C0403E, EFFECTIVE DATE 5/17/2005.
12. PARCELS 97-28 & 97-29 ARE BOTH SERVED BY MUNICIPAL WATER. PARCEL 97-28 IS SERVED BY MUNICIPAL SEWER.
13. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.

REFERENCE PLANS:

1. BELMONTE ESTATES FOR BELL AND FLYNN, SUBDIVISION OF LAND LOCATED IN EXETER, N.H., REVISED TO 6/11/1986, RCRD PLAN D-15176.
2. PERIMETER SURVEY & BOUNDARY CHANGE FOR JERRY W. BELMONTE IN EXETER, N.H., DATED 3/1978, RCRD PLAN D-7764.
3. SUBDIVISION PLOT PLAN, EXETER, N.H., FOR RICHARD & PEGGY SUE BELMONTE, DATED 2/1976, RCRD PLAN C-5785.
4. RIVERWOODS AT EXETER, OVERVIEW PLAN, LIFE CARE SERVICES OF N.H., INC., REVISED TO 10/27/1992, RCRD PLAN D-22123.
5. EASEMENT PLAN, ROBERT J. LANNON AND SHEILA M. GROONELL TO THE N.H. DEPARTMENT OF TRANSPORTATION, 78 KINGSTON ROAD, EXETER, N.H., DATED 12/10/2020, RCRD PLAN D-43602.

SURVEYOR:

JAMES VERRA & ASSOCIATES, INC.
101 SHATTUCK WAY, SUITE 8
NEWINGTON, N.H., 03801-7876
603-436-3557
JOB NO: 23-2074
PLAN NO: 23-2074

ENGINEER:

ALTUS ENGINEERING
133 Court Street, Portsmouth, NH 03801
(603) 433-2335, www.altus-eng.com

ISSUED FOR: LLA SUBMITTAL

ISSUE DATE: OCTOBER 23, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	LLA SUBMITTAL	JCS	10/23/23

DRAWN BY: JCS
APPROVED BY: JCS
DRAWING FILE: 23-2074.DWG

SCALE:
22" x 34" – 1" = 60'
11" x 17" – 1" = 120'

PROJECT:
PROPOSED LOT LINE ADJUSTMENT
MURRAY & GROONELL PROPERTITES

OWNERS/APPLICANTS:

D. GRANT MURRAY
CAROL J. MURRAY
74 KINGSTON ROAD
EXETER, NH 03833
ASSESSOR'S PARCEL 97-28
RCRD 4592/2040

SHEILA M. GROONELL
78 KINGSTON ROAD
EXETER, NH 03833
ASSESSOR'S PARCEL 97-29
RCRD 4838/236

STATE OF NEW HAMPSHIRE — No. 924 JOHN C. SALTER — LICENSED LAND SURVEYOR
SIGNATURE

TITLE:
LOT LINE ADJUSTMENT PLAN

SHEET NUMBER:
1 OF 1

P5015

TOWN OF EXETER
PLANNING DEPARTMENT
INTER-OFFICE TRANSMITTAL

DATE: November 6, 2023

TO: Planning Board

FROM: Dave Sharples, Town Planner

RE: **PB Case #23-20 Singh Realty Group**
Site Plan Review – Amendment to Site Plan
19 Continental Drive
Tax Map Parcel #46-7-2

The Applicant is seeking an amendment to a previously approved site plan and Wetlands Conditional Use permit for the proposed construction of a warehouse facility, parking and associated site improvements on the property located at 19 Continental Drive (former PB Case #22-9, Glerups, Inc.). The subject property is located in the CT-1, Corporate Technology Park-1 zoning district and is identified as Tax Map Parcel #46-7-2.

The current property owner, Glerups, Inc. is looking to convey the site and its approval to the Applicant, however, several modifications are needed to accommodate the proposed new business.

The Applicant has submitted a cover letter, revised site plans and supporting documents, dated October 24, 2023, which are enclosed for your review. A copy of the Glerups, Inc. conditions of approval letter, dated September 9, 2022 and minutes from the August 25th and September 8th, 2022 Planning Board meetings are also attached.

There are no waivers being requested in conjunction with the application; there were no waivers granted for the previous Glerups, Inc. application.

I will be prepared with suggested conditions of approval at the meeting in the event the board decides to act on the request.

Planning Board Motions

Site Plan Amendment Motion: I move that the request of Singh Realty Group (PB Case #23-20) for an amendment to the previous Site Plan approval (for Glerups, Inc. - Case #22-9) be APPROVED / APPROVED WITH THE FOLLOWING CONDITIONS / TABLED / DENIED.

Thank You.

Enclosures

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

October 24, 2023

Dave Sharples, Town Planner
Planning Department, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: Site Plan Amendment
Tax Map 46, Lot 7
19 Continental Drive
Altus Project No. 5493

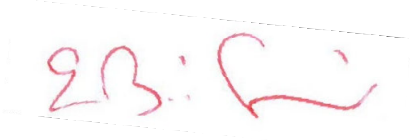
Dear Mr. Sharples,

As you may recall, the Planning Board granted site plan and conditional use approval to Glerups, Inc. on September 9, 2022 (PB Case #22-9). At that time, the plan consisted of a ±95,000 sf warehouse with seventy-five parking spaces. Due to various considerations, Glerups has decided to convey the site and its approvals to the new applicant, Singh Realty Group. Singh currently operates a frozen food warehouse in Haverhill, MA and is looking to relocate to Exeter but first needs to adjust the plans to suit their needs. Although relatively in conformance with the approval plans, these modifications include the following notable changes:

- Building footprint decreased to ±76,500 sf
- Parking reduced to 31 spaces
- Revisions to the stormwater collection system including the elimination of a bioretention pond
- Impervious surfaces reduced by over 9,000 sf
- Wetland buffer impact reduced by over 4,300 sf
- Wetland impact reduced by 338 sf
- Overall area of disturbance reduced by almost 9,400 sf
- Retaining walls and steep slopes have bene significantly reduced
- Minor changes to utilities, lighting and landscaping

The owner and applicant would like to convey that time is of the essence and we respectfully request that this be placed on the next available Planning Board agenda for a site plan amendment. Please feel free to contact me directly if you have any questions or require any additional documentation. Thank you for your time and consideration.

Sincerely,
ALTUS ENGINEERING



Erik B. Saari
Vice President

ebs/5493.01-CoverLetter-102423

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

ABUTTER'S LIST

Glerups, Inc.
Tax Map 47, Lot 7
19 Continental Drive
Exeter, NH 03833

	Tax Map / Parcel	Abutter Name & Address
Owner:	47 / 7-2	Glerups, Inc. 27 Pleasant Street Newfields, NH 03856
Applicant:	47 / 7-2	Singh Realty Group 6 Fordi Road Haverhill, MA 01832
Abutters:	47 / 4-6	Exeter Business (Condo Master Card) P.O. Box 272 North Salem, NH 03073
	47 / 1-4	3-5 Continental Drive, LLC 156 Epping Road Exeter, NH 03833
	56 / 2	Town of Exeter 10 Front Street Exeter, NH 03833
	56 / 3-1	Garrison Glen, LLC 20 Trafalgar Sq., Suite 610 Nashua, NH 03063
	46 / 6	Perry Corporate Center, LLC 2094 Townline Road Madison, OH 44057
	46 / 5	Continental Microwave, Inc. 11 Continental Drive Exeter, NH 03833
	46 / 1	12 Continental Drive, LLC 20 Trafalgar Sq., Suite 610 Nashua, NH 03063

Engineer:	Altus Engineering c/o Erik Saari 133 Court Street Portsmouth, NH 03801
Surveyor:	Haynor Swanson, Inc. 3 Congress St. Nashua, NH 03062
Wetland and Soils Scientist:	Gove Environmental Services, Inc. 8 Continental Drive, Unit H Exeter, NH 03833
Architect	CMC 1 Adams Place 859 Willard Street, Ste. 300 Quincy, MA 02169

ALTUS ENGINEERING

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

November 1, 2023

Dave Sharples, Town Planner
Planning Department, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: Traffic Memorandum
Site Plan Amendment
Tax Map 46, Lot 7
19 Continental Drive
Altus Project No. 5493

Dear Mr. Sharples,

Per your request, we have undertaken a basic study of the potential traffic impacts resultant of the proposed "Exeter Frozen Foods" site plan amendment at 19 Continental Drive. The proposed development will feature a 76,509 sf warehouse in place of the previously-permitted 95,116 sf Glerups facility. Using the prior study done by Stephen Pernaw for Glerups for comparison, we have prepared the following assessment based on *Trip Generation,* 11th edition, prepared by the Institute of Transportation Engineers (ITE).

As shown below, the site can be expected to generate the following traffic volumes during typical Peak Hours relative to the prior approved Glerups plan:

ITE Land Use Code: 150 (Warehousing)

	Glerups	Cold Storage	Delta
	95,116 sf	76,509 sf	-18,607 sf
Weekday Total			
Entering	82 veh	66 veh	-16 veh
Exiting	82 veh	66 veh	-16 veh
Total	164 trips	132 trips	-32 trips
Weekday AM Peak Hour			
Entering	12 veh	10 veh	-2 veh
Exiting	4 veh	3 veh	-1 veh
Total	16 trips	13 trips	-3 trips
Weekday PM Peak Hour			
Entering	5 veh	4 veh	-1 veh
Exiting	12 veh	10 veh	-2 veh
Total	17 trips	14 trips	-3 trips

Per the above analysis, we calculated that the project can be expected to generate a maximum of 132 trip ends on a typical weekday, 32 less than the Glerups site. Maximum daily peaks are shown to be only 14 cars in the PM hour which equates to one car every four and a half minutes. Based on this information, we find that this project will have less of an impact than the approved Glerups plan, the attached traffic analysis for which indicated that the Level of Service at the NH 27/Continental Drive intersection would not change significantly and did not call for improvements to the intersection.

Please contact us if you have any questions or need any additional information.

Sincerely,

ALTUS ENGINEERING

Erik B. Saari
Vice President

ebs/5493-Traffic

Enclosures

CASE #22-9

THIS DRAWING SET HAS NOT BEEN RELEASED FOR CONSTRUCTION

EXETER COLD STORAGE
SITE PLAN AMENDMENT

19 Continental Drive
Exeter, NH

Assessor's Parcel 46, Lot 7

ISSUED FOR SITE PLAN AMENDMENT

Plan Issue Date:

October 24, 2013

Owner:

glerups
Our passion is felt

glerups, inc.
27 Pleasant Street
Newfields, NH 03856
(603) 978-7683

Applicant:

SINGH REALTY GROUP
6 FORDI ROAD
HAVERHILL, MA 01832
(978) 475-4740

Civil Engineer:

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

Architect:

CMC Design • Build
One Adams Place
859 Willard Street, Ste. 300
Quincy, MA 02169
t 617.328.7899
f 617.328.1779
www.cmcdesign-build.com

Surveyor:

Hayner/Swanson, Inc.
CIVIL ENGINEERS/LAND SURVEYORS
Three Congress Street
Nashua, New Hampshire
03062-3301
Tel 603-883-2057

Landscape Architect:

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Lighting Consultant:

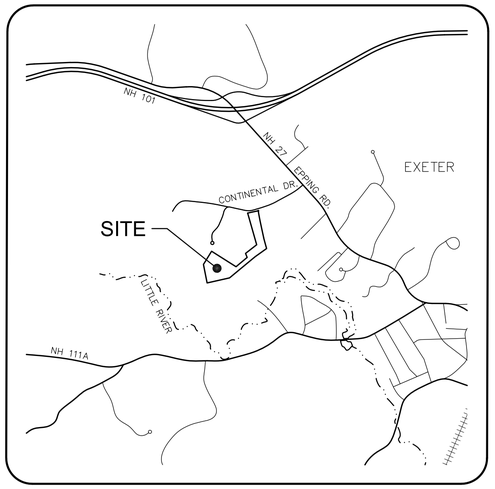
VISIBLELIGHT
24 STICKNEY TERRACE, SUITE 6
HAMPTON, NH 03842
(603) 926-6049

Wetland Scientist:

GOVE ENVIRONMENTAL SERVICES, INC.
Wetlands and Soil Mapping
8 Continental Dr Bldg 2 Unit H, Exeter, NH 03833-7526
Ph (603) 778 0644 / Fax (603) 778 0654

Traffic Engineer:

Stephen G. Pernaw & Company, Inc.
P.O. Box 1721, Concord, NH 03302
(603) 731-8000

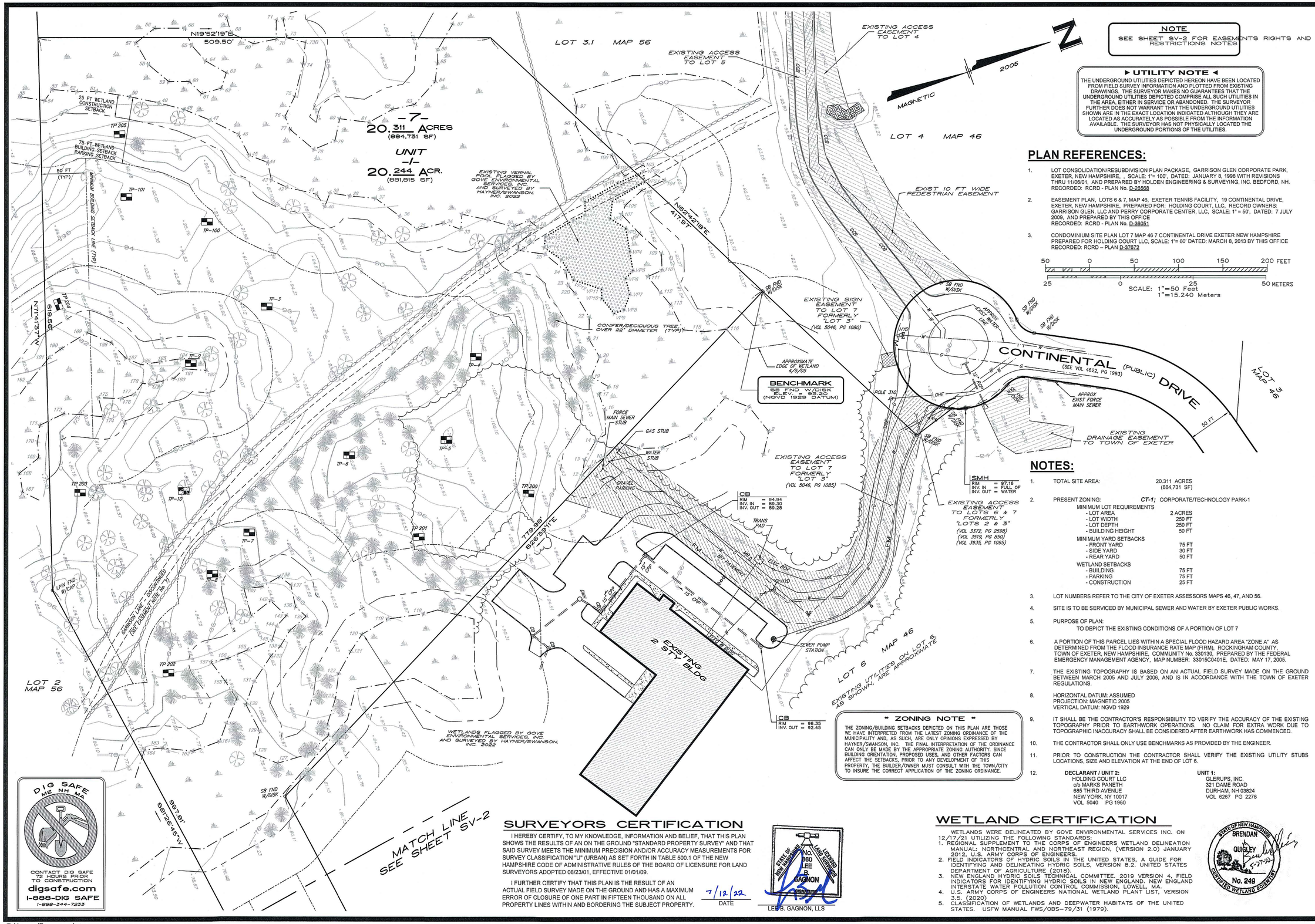


LOCUS NOT TO SCALE

Sheet Index Title	*Sheet Desig.:*	*Sheet No.:*	*Rev.*	*Date*
Existing Conditions Plan	SV-1	2	0	05/05/22
Existing Conditions Plan	SV-2	3	0	05/05/22
Previously Approved Site Plan	1 of 1	4	2	08/30/22
Site Plan	C-1	5	0	10/24/23
Stormwater Management Plan	C-2	6	0	10/24/23
Erosion and Sediment Control Plan	C-3	7	0	10/24/23
Utility Plan	C-4	8	0	10/24/23
Wetland/Conditional Use Permit Plan	C-5	9	0	10/24/23
Lighting Plan	C-6	10	0	10/24/23
Detail Sheet	C-7	11	0	10/24/23
Detail Sheet	C-8	12	0	10/24/23
Detail Sheet	C-9	13	0	10/24/23
Detail Sheet	C-10	14	0	10/24/23
Detail Sheet	C-11	15	0	10/24/23
Detail Sheet	C-12	16	0	10/24/23
Detail Sheet	C-13	17	0	10/24/23
Detail Sheet	C-14	18	0	10/24/23
Detail Sheet	C-15	19	0	10/24/23
Landscape Plan	L-1	20	0	10/24/23
Architectural Elevations	A4.00	21	0	09/21/23

Permit Summary:	*Submitted*	*Received*	*Permit No.*
Exeter Site Plan Review	05/31/22	09/08/22	Case 22-9
NHDES Alteration of Terrain	08/03/22	11/15/22	AoT-2258
NHDES Wetlands	06/29/22	12/15/22	2022-01872
EPA Notice of Intent	By Contractor 14 days prior to construction		

P5493



NOTE

SEE SHEET SV-2 FOR EASEMENTS RIGHTS AND RESTRICTIONS NOTES

▶ 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.

PLAN REFERENCES:

1. LOT CONSOLIDATION/RESUBDIVISION PLAN PACKAGE, GARRISON GLEN CORPORATE PARK, EXETER, NEW HAMPSHIRE, . SCALE: 1"= 100', DATED: JANUARY 8, 1998 WITH REVISIONS THRU 11/06/01, AND PREPARED BY HOLDEN ENGINEERING & SURVEYING, INC. BEDFORD, NH. RECORDED: RCRD - PLAN No. D-26568
2. EASEMENT PLAN, LOTS 6 & 7, MAP 46, EXETER TENNIS FACILITY, 19 CONTINENTAL DRIVE, EXETER, NEW HAMPSHIRE, PREPARED FOR: HOLDING COURT, LLC, RECORD OWNERS: GARRISON GLEN, LLC AND PERRY CORPORATE CENTER, LLC, SCALE: 1" = 50', DATED: 7 JULY 2009, AND PREPARED BY THIS OFFICE RECORDED: RCRD - PLAN No. D-38051
3. CONDOMINIUM SITE PLAN LOT 7 MAP 46 7 CONTINENTAL DRIVE EXETER NEW HAMPSHIRE PREPARED FOR HOLDING COURT LLC, SCALE: 1"= 60' DATED: MARCH 6, 2013 BY THIS OFFICE RECORDED: RCRD – PLAN D-37672

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

NOTES:

1. TOTAL SITE AREA: 20.311 ACRES (884,731 SF)
2. PRESENT ZONING: *CT-1;* CORPORATE/TECHNOLOGY PARK-1

MINIMUM LOT REQUIREMENTS	
- LOT AREA	2 ACRES
- LOT WIDTH	250 FT
- LOT DEPTH	250 FT
- BUILDING HEIGHT	50 FT
MINIMUM YARD SETBACKS	
- FRONT YARD	75 FT
- SIDE YARD	30 FT
- REAR YARD	50 FT
WETLAND SETBACKS	
- BUILDING	75 FT
- PARKING	75 FT
- CONSTRUCTION	25 FT

3. LOT NUMBERS REFER TO THE CITY OF EXETER ASSESSORS MAPS 46, 47, AND 56.
4. SITE IS TO BE SERVICED BY MUNICIPAL SEWER AND WATER BY EXETER PUBLIC WORKS.
5. PURPOSE OF PLAN:
   TO DEPICT THE EXISTING CONDITIONS OF A PORTION OF LOT 7
6. A PORTION OF THIS PARCEL LIES WITHIN A SPECIAL FLOOD HAZARD AREA "ZONE A" AS DETERMINED FROM THE FLOOD INSURANCE RATE MAP (FIRM), ROCKINGHAM COUNTY, TOWN OF EXETER, NEW HAMPSHIRE, COMMUNITY No. 330150, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33015C0401E, DATED: MAY 17, 2005.
7. THE EXISTING TOPOGRAPHY IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BETWEEN MARCH 2005 AND JULY 2006, AND IS IN ACCORDANCE WITH THE TOWN OF EXETER REGULATIONS.
8. HORIZONTAL DATUM: ASSUMED
   PROJECTION: MAGNETIC 2005
   VERTICAL DATUM: NGVD 1929
9. 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.
10. THE CONTRACTOR SHALL ONLY USE BENCHMARKS AS PROVIDED BY THE ENGINEER.
11. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE EXISTING UTILITY STUBS LOCATIONS, SIZE AND ELEVATION AT THE END OF LOT 6.
12. **DECLARANT / UNIT 2:**
    HOLDING COURT LLC
    c/o MARKS PANETH
    685 THIRD AVENUE
    NEW YORK, NY 10017
    VOL 5040 PG 1960

    UNIT 1:
    GLERUPS, INC.
    321 DAME ROAD
    DURHAM, NH 03824
    VOL 6267 PG 2278

* 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.

DIG SAFE ME NH MA
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION
digsafe.com
1-888-DIG SAFE
1-888-344-7233

SURVEYORS CERTIFICATION

I HEREBY 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.

7/12/22
DATE

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR NO. 880 LEE B. GAGNON

LEE B. GAGNON, LLS

WETLAND CERTIFICATION

WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES INC. ON 12/17/21 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2. UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
3. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
4. U.S. ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLANT LIST, VERSION 3.5. (2020)
5. CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS–79/31 (1979).

STATE OF NEW HAMPSHIRE BRENDAN QUIGLEY 5-27-22 No. 249 CERTIFIED WETLAND SCIENTIST

NO.	DATE	REVISION	BY
1	07/12/22	ADD TEST PIT LOCATIONS	LBG

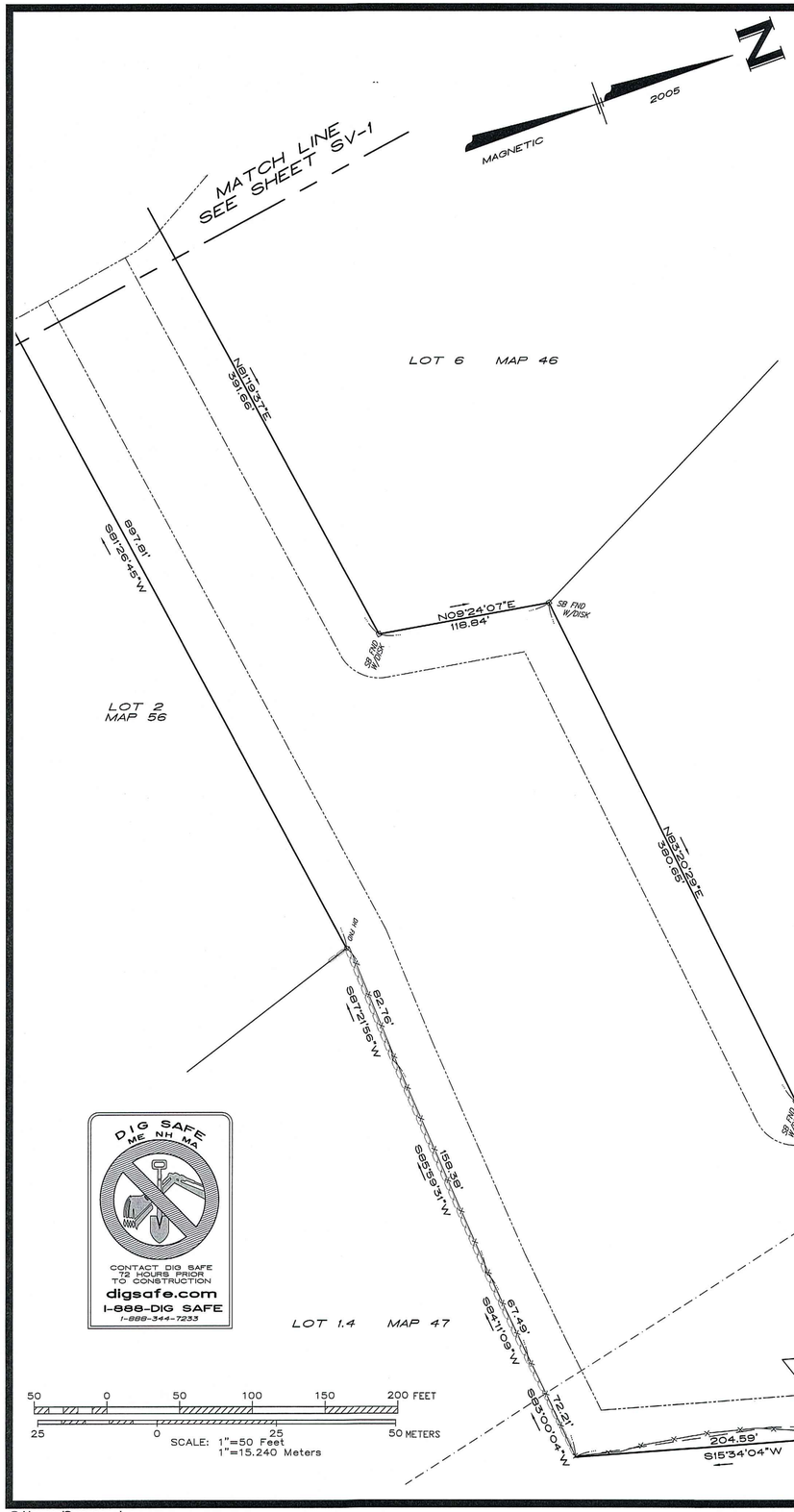
PREPARED FOR:
ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801

DECLARANT:
HOLDING COURT, LLC
141 MAIN STREET NASHUA, NEW HAMPSHIRE 03060

EXISTING CONDITIONS PLAN
(LOT 7, MAP 46)
19 CONTINENTAL DRIVE
EXETER, NEW HAMPSHIRE

HSI Hayner/Swanson, Inc.
Civil Engineers/Land Surveyors
Three Capenter Hahlon, Nor Hampton, NH 03862-3301
Tel (603) 883-2057 Fax (603) 883-5057
www.hayner-swanson.com

FIELD BOOK: 1133/1134 | DWG LOCATION: J:\4900\4891\DWG\ALTUS
DRAWING NAME: HC-ECS1-REV
SV-1 | Scale: 1" = 50' | Date: 05 MAY 2022 | Job No.: 4891-HC | Sheet No.: SV-1



CERTIFICATION

I HEREBY 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.

7/12/22
DATE

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — NO. 860 — LEE B. BACKUN — SURVEYOR

LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED GRADE
- PROPOSED SPOT GRADE
- STORM DRAIN & CATCHBASIN
- STORM DRAIN & MANHOLE
- STORM DRAIN & HEADWALL
- FORCE MAIN
- WATER MAIN & HYDRANT
- WATER MAIN & GATE VALVE
- GAS LINE & GATE VALVE
- UTILITY POLE WITH GUY SUPPORT
- STREET LIGHT
- OVERHEAD ELECTRIC & TELEPHONE
- UNDERGROUND ELEC/TEL & MANHOLES
- SIGN
- TREE LINE
- STONE BOUND
- IRON PIN
- STONE BOUND TO BE SET
- IRON PIN TO BE SET
- WETLAND FLAGGING LIMIT
- BUILDING SETBACK LINE
- WIRE FENCE
- CURBING
- HANDICAP PARKING SPACE
- PARKING SPACE COUNT
- STORMWATER RUNOFF DIRECTION
- DECIDUOUS/CONIFEROUS TREE OVER 22" IN DIAMETER

* 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.

▶ 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.

EASEMENTS RIGHTS AND RESTRICTIONS:

1. DECLARATION OF EASEMENTS AND PROTECTIVE COVENANTS FOR GARRISON GLEN CORPORATE PARK AS RECORDED IN BK. 3372 PG. 2598 AND AMENDED BY BK. 3519 PG. 850 AND BK. 3935 PG. 1095.
2. SUBJECT TO AND WITH THE BENEFIT OF A SIGN EASEMENT AGREEMENT BETWEEN GARRISON GLEN, LLC AND HOLDING COURT, LLC AS RECORDED AT BK. 5040 PG. 1963 AND RERECORDED AT BK. 5046 PG. 1080.
3. TOGETHER WITH AND SUBJECT TO MODIFICATION OF ACCESS EASEMENT AND MUTUAL CROSS AGREEMENT RECORDED AT BK. 5040 PG. 1968 AND RERECORDED AT BK. 5046 PG. 1085.
4. SUBJECT TO A LEASE TO TELECORP REALTY, LLC BK. 3438 PG. 2189 AS CLARIFIED BY BK. 3471 PG. 1312 AND AS ASSIGNED TO GARRISON GLEN, LLC BY ASSIGNMENT F LEASE BK. 4404 PG. 2745.
5. SUBJECT TO MEMORANDUM OF LEASE BETWEEN GARRISON GLEN, LLC AND GTP TOWERS VII, LLC RECORDED AT BK. 5115 PG. 2484.
6. DECLARATION OF CONDOMINIUM OF HOLDING COURT CONDOMINIUM DATED MARCH 28, 2013 RECORDED AR BK. 5423 PG. 2946 AS AMENDED BY BK. 5805 PG. 132 AS DEPICTED ON PLAN No. 37672.
7. GARRISON LANE WAS DISCONTINUED BY TOWN OF EXETER WARRANT ARTICLE No. 40 ON MARCH 10, 1998.

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TO CONSTRUCTION
digsafe.com
1-888-DIG SAFE
1-888-344-7233

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

DETAIL 'A'
SCALE: 1" = 30'

No.	DATE	REVISION	BY
1	07/12/22	ADD TEST PIT LOCATIONS	LBG

PREPARED FOR:
ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801

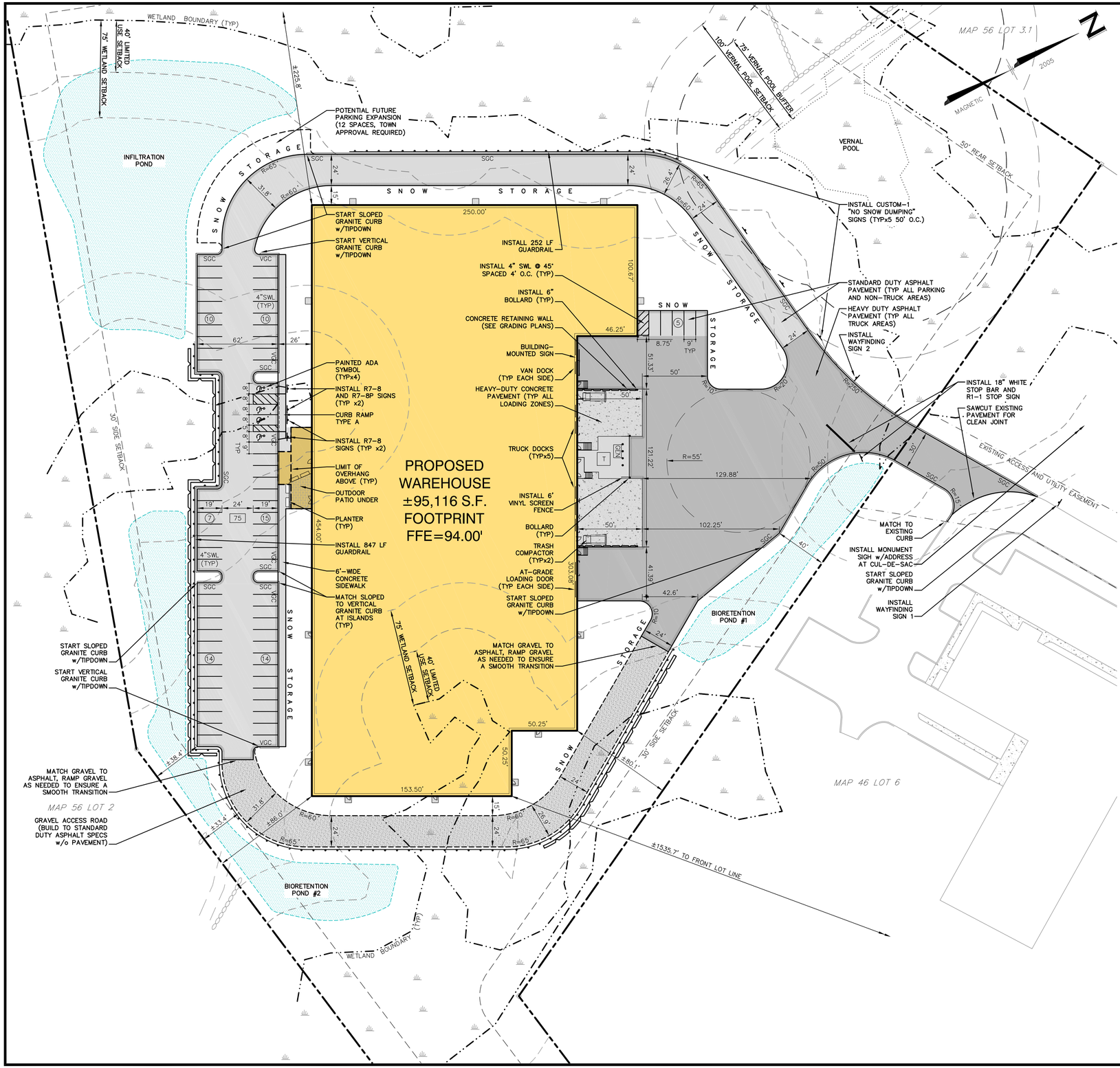
DECLARANT:
HOLDING COURT, LLC
141 MAIN STREET NASHUA, NEW HAMPSHIRE 03060

EXISTING CONDITIONS PLAN
(LOT 7, MAP 46)

19 CONTINENTAL DRIVE
EXETER, NEW HAMPSHIRE

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

FIELD BOOK: 1153/1134 | DWG LOCATION: X:\4000\4891\DWG\4891.DWG
DRAWING NAME: HC-ECSI-REV
Scale: 1" = 50'
Date: 05 MAY 2022
SV-2 | 4891-HC
Sheet | Proj. Number



SITE NOTES

1. DESIGN INTENT – THIS PLAN SET IS INTENDED TO DEPICT THE DEVELOPMENT OF THE SITE FOR A WAREHOUSE USE.
2. LOT AREA: ±884,731 S.F. (±20.24 ACRES)
3. REFERENCE DEED: RCRD BOOK 6267 PAGE 2278
4. ZONE: CORPORATE/TECHNOLOGY PARK – 1 (CT–1)
5. DIMENSIONAL REQUIREMENTS – CT–1:

MIN. LOT AREA:	87,120 S.F.
MIN. STREET FRONTAGE:	250' (292.82' PROVIDED)
FRONT SETBACK:	75' (±1535.7' PROVIDED)
SIDE SETBACK:	30' (±80.1' PROVIDED)
REAR SETBACK:	50' (±225.8' PROVIDED)
MAX. BUILDING HEIGHT:	50' (60' IF 200' FROM RESIDENTIAL ZONE/USE)
MAX. BLDG. COVERAGE:	40% (10.8% PROPOSED)
MIN. OPEN SPACE:	30% (78.9%/695,689 SF PROVIDED)
PARKING SETBACK:	10' (±38.4' PROVIDED)
WETLAND SETBACKS:	40' LIMITED USE (POORLY DRAINED)
	50' LIMITED USE (VERY POORLY DRAINED)
	75' PARKING/STRUCTURE
	75' LIMITED USE (VERNAL POOL)
	100' PARKING/STRUCTURE (VERNAL POOL)

6. PARKING REQUIREMENTS:
   9'x19' SPACES, 22' AISLES (24' PROPOSED FOR FIRE LANE)
   WAREHOUSE: 1 SPACE/EMPLOYEE MAX. SHIFT (BUT NOT <25% GFA)
   75 EMPLOYEES ON MAXIMUM SHIFT = 75 SPACES
   TOTAL PARKING REQUIRED = 75 SPACES
   TOTAL PARKING PROVIDED = 75 SPACES
7. CONDITIONAL USE PERMIT UNDER ZONING SECTION 9.1.6 REQUIRED FOR SITE DEVELOPMENT IN THE WETLANDS CONSERVATION OVERLAY DISTRICT.
8. OVERALL AREA OF DISTURBANCE OVER 100,000 S.F., NHDES ALTERATION OF TERRAIN PERMIT REQUIRED.
9. AREA OF DISTURBANCE OVER 43,560 SF, COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT REQUIRED (NOI TO BE PREPARED AND SUBMITTED BY CONTRACTOR, SWPPP AND INSPECTIONS TO BE PREPARED AND PERFORMED BY CONTRACTOR).
10. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. ON DECEMBER 17, 2021. A VERNAL POOL ASSESSMENT WAS CONDUCTED BY GES IN MAY OF 2022.
11. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN HEREON, AND/OR TRUCKED OFF SITE AS APPROPRIATE.
12. PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"–WIDE DIAGONAL WHITE LINES 3'–0" O.C. BORDERED BY 4"–WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"–WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS.
13. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
14. ALL CONSTRUCTION SHALL MEET THE MINIMUM STANDARDS OF THE TOWN OF EXETER & NHDOT'S STANDARD SPECIFICATION FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
15. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINES WITH RS–1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
16. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
17. THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
18. UNLESS OTHERWISE NOTED, ALL NEW CURBING SHALL BE VERTICAL OR SLOPED GRANITE WITH A MINIMUM RADIUS OF 4'.
19. EXETER SITE PLAN APPROVAL WILL BE REQUIRED IF BUILDING CONSTRUCTION IS PHASED.
20. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
21. BUILDING AREA SHOWN IS BASED ON FOOTPRINT MEASURED TO THE EDGE OF FOUNDATIONS AND/OR SLABS. ACTUAL INTERIOR SPACE WILL DIFFER.
22. GRAVEL PARKING AREAS AND TRAVEL LANES SHALL BE CONSTRUCTED PER THE STANDARD DUTY PAVEMENT CROSS SECTION WITH ASPHALT OMITTED. GRAVEL FINISH GRADES SHALL BE TO THE TOP OF PAVEMENT SUBGRADE.
23. WETLAND BOUNDARY MARKERS MEETING THE REQUIREMENTS OF THE TOWN OF EXETER SHALL BE PLACED ALONG THE WETLAND BOUNDARY WITHIN THE PROJECT LIMITS AT 100' MINIMUM INTERVALS.
24. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE.
25. TOWN OF EXETER SIGN PERMIT REQUIRED.
26. SEE SHEET C–11 FOR LEGEND.

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE – ERIC D. WEINRIEB No. 7634 – LICENSED PROFESSIONAL ENGINEER
8/30/22

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: AUGUST 30, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	05/31/22
1	PER REVIEW COMMENTS	EBS	07/26/22
2	PER REVIEW COMMENTS	EBS	08/30/22

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4839–SITE.dwg

SCALE:
22" x 34" – 1" = 40'
11" x 17" – 1" = 80'

OWNER:
GLERUPS, INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

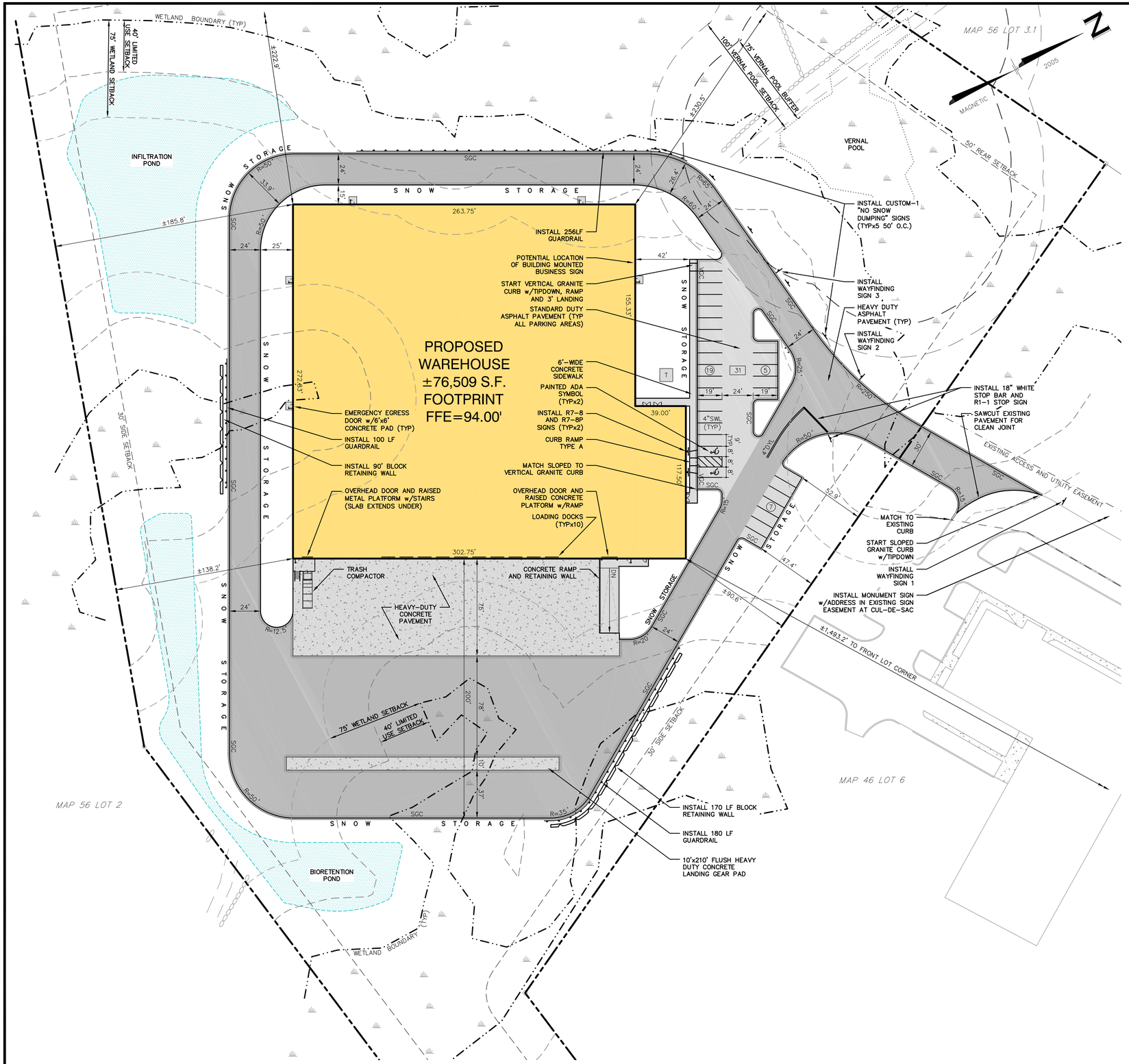
APPLICANT:
GLERUPS, INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

PROJECT:
GLERUPS
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH

TITLE:
PREVIOUSLY APPROVED
SITE PLAN

SHEET NUMBER:
1 of 1

P4839



SITE NOTES

1. DESIGN INTENT – THIS PLAN SET IS INTENDED TO DEPICT THE DEVELOPMENT OF THE SITE FOR A WAREHOUSE USE.
2. LOT AREA: ±884,731 S.F. (±20.24 ACRES)
3. REFERENCE DEED: RCRD BOOK 6267 PAGE 2278
4. ZONE: CORPORATE/TECHNOLOGY PARK – 1 (CT–1)
5. DIMENSIONAL REQUIREMENTS – CT–1:

MIN. LOT AREA:	87,120 S.F.
MIN. STREET FRONTAGE:	250' (292.82' PROVIDED)
FRONT SETBACK:	75' (±1,493.2' PROVIDED)
SIDE SETBACK:	30' (±90.6' PROVIDED)
REAR SETBACK:	50' (±222.9' PROVIDED)
MAX. BUILDING HEIGHT:	50' (60' IF 200' FROM RESIDENTIAL ZONE/USE)
MAX. BLDG. COVERAGE:	40% (8.65% PROPOSED)
MIN. OPEN SPACE:	30% (79.66%/704,771 SF PROVIDED)
PARKING SETBACK:	10' (±47.4' PROVIDED)
WETLAND SETBACKS:	40' LIMITED USE (POORLY DRAINED) 50' LIMITED USE (VERY POORLY DRAINED) 75' PARKING/STRUCTURE 75' LIMITED USE (VERNAL POOL) 100' PARKING/STRUCTURE (VERNAL POOL)

4. PARKING REQUIREMENTS:
   9'x19' SPACES, 22' AISLES (24' PROPOSED)
   WAREHOUSE: 1 SPACE/EMPLOYEE MAX. SHIFT
   25 EMPLOYEES ON MAXIMUM SHIFT = 25 SPACES
   TOTAL PARKING REQUIRED = 25 SPACES
   TOTAL PARKING PROVIDED = 31 SPACES
5. CONDITIONAL USE PERMIT UNDER ZONING SECTION 9.1.6 FOR SITE DEVELOPMENT IN THE WETLANDS CONSERVATION OVERLAY DISTRICT GRANTED 09/08/22.
6. OVERALL AREA OF DISTURBANCE OVER 100,000 S.F., AMENDMENT AND TRANSFER OF NHDES ALTERATION OF TERRAIN PERMIT AoT–2258 REQUIRED.
7. AREA OF DISTURBANCE OVER 43,560 SF, COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT REQUIRED (NOI TO BE PREPARED AND SUBMITTED BY CONTRACTOR, SWPPP AND INSPECTIONS TO BE PREPARED AND PERFORMED BY CONTRACTOR).
8. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. ON DECEMBER 17, 2021. A VERNAL POOL ASSESSMENT WAS CONDUCTED BY GES IN MAY OF 2022.
9. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN HEREON, AND/OR TRUCKED OFF SITE AS APPROPRIATE.
10. PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"–WIDE DIAGONAL WHITE LINES 3'–0" O.C. BORDERED BY 4"–WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"–WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS.
11. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
12. ALL CONSTRUCTION SHALL MEET THE MINIMUM STANDARDS OF THE TOWN OF EXETER & NHDOT'S STANDARD SPECIFICATION FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
13. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINES WITH RS–1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
14. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
15. THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
16. UNLESS OTHERWISE NOTED, ALL NEW CURBING SHALL BE VERTICAL OR SLOPED GRANITE WITH A MINIMUM RADIUS OF 4'.
17. EXETER SITE PLAN APPROVAL WILL BE REQUIRED IF BUILDING CONSTRUCTION IS PHASED.
18. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
19. BUILDING AREA SHOWN IS BASED ON FOOTPRINT MEASURED TO THE EDGE OF FOUNDATIONS AND/OR SLABS. ACTUAL INTERIOR SPACE WILL DIFFER.
20. WETLAND BOUNDARY MARKERS MEETING THE REQUIREMENTS OF THE TOWN OF EXETER SHALL BE PLACED ALONG THE WETLAND BOUNDARY WITHIN THE PROJECT LIMITS AT 100' MINIMUM INTERVALS.
21. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT), AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 9.3 STORMWATER STANDARDS, STORMWATER MANAGEMENT PLAN, STORMWATER POLLUTION PREVENTION PLAN, AND EROSION AND SEDIMENT CONTROL STANDARDS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN EXETER, NEW HAMPSHIRE.
22. TOWN OF EXETER SIGN PERMIT REQUIRED.
23. SEE SHEET C–11 FOR LEGEND.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

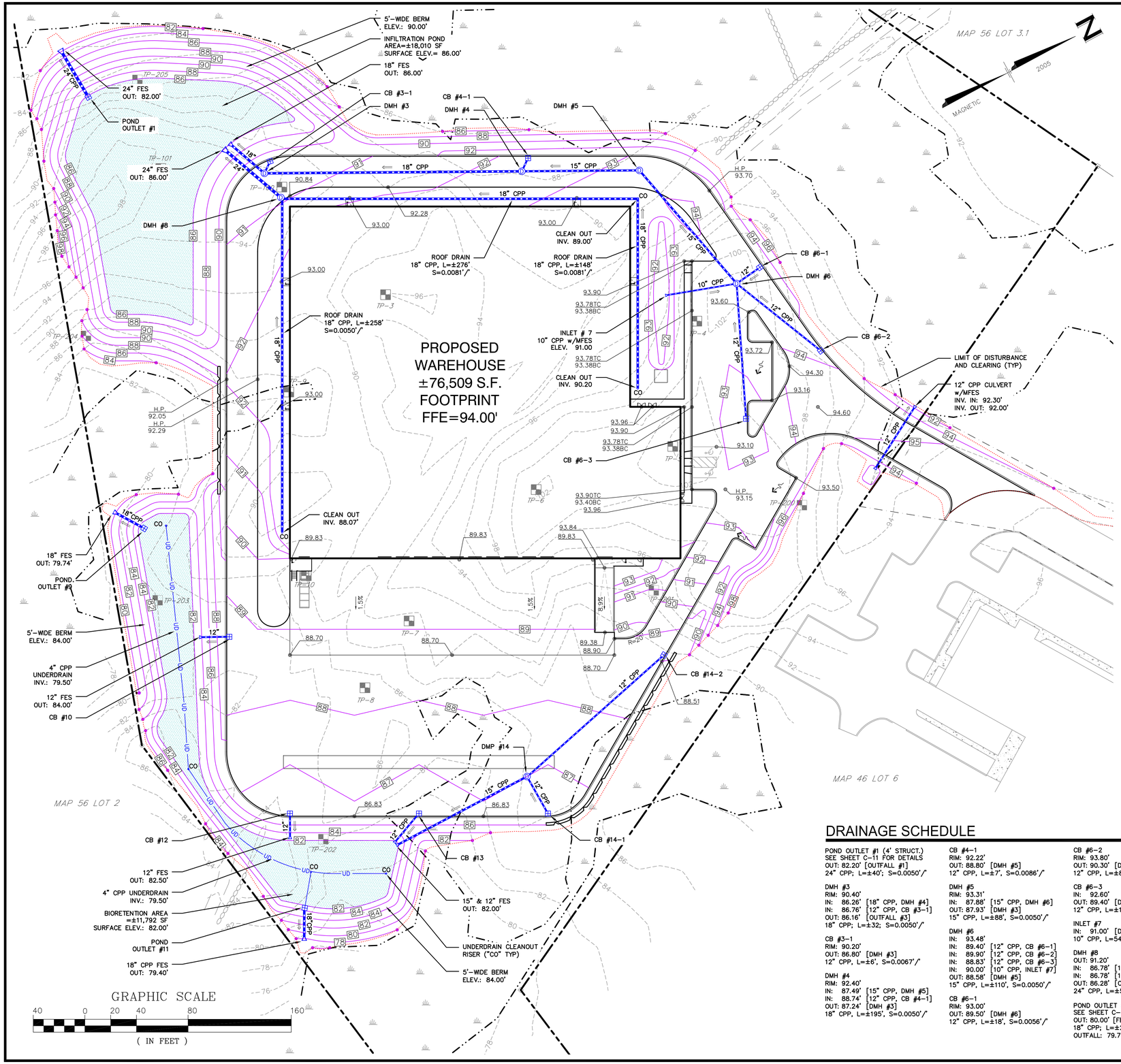
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
SITE PLAN

SHEET NUMBER:
C - 1

5493



GRADING AND DRAINAGE NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. THE LIMITS OF CONSTRUCTION DISTURBANCE SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY TREE CLEARING, STUMPING, GRUBBING OR EARTH MOVING OCCURS. WHERE CONSTRUCTION IS TO TAKE PLACE WITHIN 50' OF A PROPERTY LINE, THE PROPERTY LINE SHALL BE STAKED AT 50' MINIMUM INTERVALS.
4. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
5. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBMS) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
6. PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
7. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
8. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
9. DRAINAGE PIPE SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP), TYPE ADS N-12 OR HANCOR H1-Q, PVC SDR 35 OR REINFORCED CONCRETE PIPE (RCP) WHERE SPECIFIED.
10. ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
11. ROOF DRAIN LEADERS SHALL BE SIZED AND LOCATED IN COORDINATION WITH THE ARCHITECTURAL PLANS TO MATCH ALL DOWNSPOUTS. RISERS SHALL BE SET TO FINISH GRADE PLUS 6" (MIN.).
12. ALL SPOT GRADES ARE AT FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
13. IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. SYMBOLS MAY NOT BE INDICATIVE OF THE CENTER OF A STRUCTURE, PARTICULARLY WHEN SHOWN ADJACENT TO A CURB LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
14. ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
15. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
16. THE APPLICANT HAS COMPLETED A LAND USE TRACKING FORM, MOST RECENT REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL AT https://www.unh.edu/unhsc/ptapp (PTAPP SUBMISSION ID 209).
17. CONTRACTOR SHALL PROVIDE RETAINING WALL DESIGN DRAWINGS STAMPED BY A NH-LICENSED PROFESSIONAL STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. DESIGN MUST BE PRE-APPROVED BY SELECTED WALL MANUFACTURER.
18. CONTRACTOR MAY CONNECT BUILDING AND RETAINING FOUNDATION DRAINS TO THE NEAREST DRAINAGE STRUCTURE PROVIDED A MINIMUM 1% SLOPE CAN BE MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FOUNDATION DRAINS WITH THE BUILDING AND WALL PLANS.
19. DRAINAGE OUTFALLS AT RETAINING WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WALL MANUFACTURERS SPECIFICATIONS.
20. ADJUST GRADING AT EMERGENCY BUILDING EXITS AS NECESSARY TO ENSURE CODE COMPLIANCE. COORDINATE WITH ARCHITECT IF RAILINGS ARE REQUIRED.
21. SEE SHEET C-11 FOR LEGEND.

DRAINAGE SCHEDULE

POND OUTLET #1 (4' STRUCT.)
SEE SHEET C-11 FOR DETAILS
OUT: 82.20' [OUTFALL #1]
24" CPP; L=±40'; S=0.0050'/'

DMH #3
RIM: 90.40'
IN: 86.26' [18" CPP, DMH #4]
IN: 86.76' [12" CPP, CB #3-1]
OUT: 86.16' [OUTFALL #3]
18" CPP; L=±32; S=0.0050'/'

CB #3-1
RIM: 90.20'
OUT: 86.80' [DMH #3]
12" CPP, L=±6', S=0.0067'/'

DMH #4
RIM: 92.40'
IN: 87.49' [15" CPP, DMH #5]
IN: 88.74' [12" CPP, CB #4-1]
OUT: 87.24' [DMH #3]
18" CPP, L=±195', S=0.0050'/'

CB #4-1
RIM: 92.22'
OUT: 88.80' [DMH #5]
12" CPP, L=±7', S=0.0086'/'

DMH #5
RIM: 93.31'
IN: 87.88' [15" CPP, DMH #6]
OUT: 87.93' [DMH #3]
15" CPP, L=±88', S=0.0050'/'

DMH #6
IN: 93.48'
IN: 89.40' [12" CPP, CB #6-1]
IN: 89.90' [12" CPP, CB #6-2]
IN: 88.83' [12" CPP, CB #6-3]
IN: 90.00' [10" CPP, INLET #7]
OUT: 88.58' [DMH #5]
15" CPP, L=±110', S=0.0050'/'

CB #6-1
RIM: 93.00'
OUT: 89.50' [DMH #6]
12" CPP, L=±18', S=0.0056'/'

CB #6-2
RIM: 93.80'
OUT: 90.30' [DMH #6]
12" CPP, L=±80', S=0.0050'/'

CB #6-3
IN: 92.60'
OUT: 89.40' [DMH #6]
12" CPP, L=±104', S=0.0055'/'

INLET #7
IN: 91.00' [DMH #6]
10" CPP, L=54", S=0.0185'/'

DMH #8
OUT: 91.20'
IN: 86.78' [18" CPP, RD]
IN: 86.78' [18" CPP, RD]
OUT: 86.28' [OUTFALL #8]
24" CPP, L=±56', S=0.0050'/'

POND OUTLET #9 (4' STRUCT.)
SEE SHEET C-11 FOR DETAILS
OUT: 80.00' [FES]
18" CPP; L=±26'; S=0.0100'/'
OUTFALL: 79.74'

CB #10
RIM: 88.50'
OUT: 84.40' [OUTFALL]
12" CPP, L=±20', S=0.0200'/'

POND OUTLET #11 (4' STRUCT.)
SEE SHEET C-11 FOR DETAILS
IN: 79.50' [4" U.D.]
OUT: 79.50' [FES]
18" CPP; L=±20'; S=0.0050'/'
OUTFALL: 79.40' w/FES

CB #12
RIM: 86.20'
OUT: 82.70' [OUTFALL]
12" CPP, L=±12', S=0.0167'/'

CB #13
RIM: 86.20'
OUT: 82.42' [OUTFALL]
12" CPP, L=±28', S=0.0150'/'

DMH #14
RIM: 87.00'
IN: 83.50' [12" CPP, CB #14-1]
IN: 82.65' [12" CPP, CB #14-2]
OUT: 82.55' [OUTFALL]
12" CPP, L=±110', S=0.0050'/'

CB #14-1
RIM: 86.20'
OUT: 82.80' [DMH #14]
12" CPP, L=±30', S=0.0050'/'

CB #14-2
RIM: 88.50'
OUT: 85.00' [DMH #14]
12" CPP, L=±130', S=0.0115'/'

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STATE OF NEW HAMPSHIRE
ERIC D. WEINRIEB
No. 7634
LICENSED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

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APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE:
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11" x 17" - 1" = 80'

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GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER
COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
STORMWATER
MANAGEMENT PLAN

SHEET NUMBER:
C - 2

P5493

EROSION AND SEDIMENT CONTROL NOTES

1. PROJECT SUBJECT TO EPA NPDES PHASE II. NOI, SWPPP AND MINIMUM WEEKLY INSPECTIONS REQUIRED. NOI TO BE PREPARED AND SUBMITTED BY CONTRACTOR, SWPPP AND INSPECTIONS TO BE PREPARED AND PERFORMED BY CONTRACTOR. CONTRACTOR SHALL FILE NOI WITH EPA 2 WEEKS PRIOR TO CONSTRUCTION.
2. AREA OF DISTURBANCE = ±294,937 S.F. (INCLUDES OFFSITE WORK). AMENDMENT AND TRANSFER OF NHDES ALTERATION OF TERRAIN PERMIT AoT-2258 REQUIRED.
3. AREA OF WETLAND IMPACT = 9,202 S.F. (434 S.F. TEMPORARY, 8,768 S.F. PERMANENT) TRANSFER OF NHDES DREDGE AND FILL PERMIT 2022-01872 REQUIRED.
4. PERIMETER SEDIMENT CONTROLS AND CULVERT AND CATCH BASIN INLET PROTECTION MEASURES SHALL BE INSTALLED AFTER TREE CLEARING OPERATIONS HAVE CEASED AND BEFORE ANY STUMPING, GRUBBING OR OTHER EARTH DISTURBANCE.
5. GRIND STUMPS AND REUSE GRINDINGS FOR EROSION CONTROL WHERE POSSIBLE OR TRUCK OFFSITE. NO STUMPS SHALL BE BURIED ON SITE.
6. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
7. SEE DETAIL SHEETS FOR PERTINENT SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH BY THE NEW HAMPSHIRE OF ENVIRONMENTAL SERVICES.
9. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
10. TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
11. ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADEABLE.
12. ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
13. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF LOAM, LIMESTONE, FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES. SEE DETAILS FOR ADDITIONAL INFORMATION.
14. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
15. UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
16. CONTRACTOR SHALL READ AND FOLLOW ALL CONDITIONS OF APPROVAL IN THE SITE'S NHDES ALTERATION OF TERRAIN, NHDES WETLANDS, ARMY CORPS OF ENGINEER'S AND TOWN OF EXETER SITE PLAN PERMITS.
17. CONSTRUCTION ACTIVITIES SHALL BE MANAGED IN STRICT ACCORDANCE WITH NH RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. NO INVASIVE SPECIES SHALL BE INSTALLED ON THE PROJECT SITE FOR ANY REASON.
18. FUGITIVE DUST SHALL BE CONTROLLED DURING CONSTRUCTION IN ACCORDANCE WITH ENV-A 1000. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DUST FROM LEAVING THE SITE. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE PROACTIVE MANAGEMENT OF STOCKPILES, MATERIALS PROCESSING ACTIVITIES, VEHICULAR TRAFFIC, THE EXCAVATION AND PLACEMENT OF EARTH MATERIALS, SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
19. PERIMETER SEDIMENT CONTROLS SHALL BE PLACED AT THE LIMIT OF DISTURBANCE.
20. NEW ENGLAND CONSERVATION SEED MIX AVAILABLE FROM NEW ENGLAND WETLAND PLANTS, INC., 14 PEARL LANE, SOUTH HADLEY, MA 01075, (413) 548-8000. THIS IS NOT INTENDED TO BE AN EXCLUSIVE SUPPLIER. THE CONTRACTOR MAY USE ANY SUPPLIER PROVIDED THAT THE PLANTS AND SEED MIXTURES MEET THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHOULD NOTE THAT LOCAL NEW ENGLAND SUPPLIERS ARE PREFERABLE.
21. SEE SHEET C-7 FOR BLASTING BEST MANAGEMENT PRACTICES.
22. SEE SHEET C-11 FOR LEGEND.

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NEWFIELDS, NH 03856

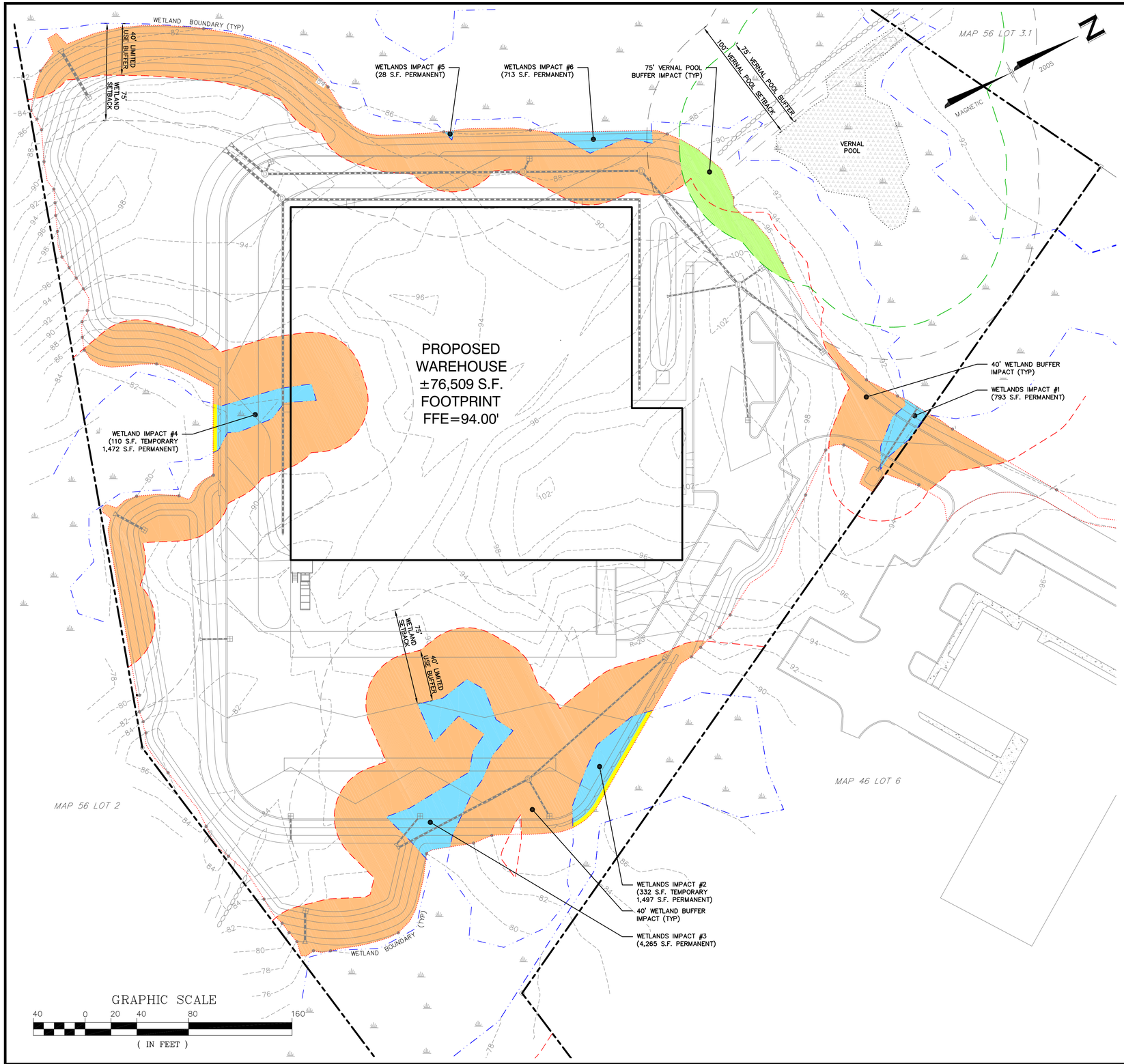
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER:
C - 3

P5493



WETLAND NOTES

1. NHDES WETLAND IMPACT ANALYSIS:

	AREA
TEMPORARY IMPACT:	442 S.F.
PERMANENT IMPACT:	8,768 S.F.
TOTAL WETLAND IMPACT:	9,210 S.F.

(NHDES WETLAND PERMIT 2022-01872 GRANTED 12/15/22)

2. TOWN OF EXETER WETLAND BUFFER IMPACT ANALYSIS:

	AREA
40' WETLAND BUFFER:	71,245 S.F.
75' VERNAL POOL BUFFER:	2,614 S.F.
TOTAL BUFFER IMPACT:	73,859 S.F.

(CONDITIONAL USE PERMIT GRANTED 09/08/22)

3. A VERNAL POOL ASSESSMENT WAS CONDUCTED BY GOVE ENVIRONMENTAL SERVICES, INC. IN MAY OF 2022.

4. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES INC. ON 12/17/21 UTILIZING THE FOLLOWING STANDARDS:

- REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
- FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2. UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
- NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
- U.S. ARMY CORPS OF ENGINEERS NATIONAL WETLAND PLANT LIST, VERSION 3.5. (2020)
- CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1979).

LEGEND

- 40' WETLAND SETBACK
- 75' VERNAL POOL BUFFER
- LIMIT OF PROJECT DISTURBANCE
- WETLAND BOUNDARY
- VERNAL POOL
- PROPOSED 40' WETLAND BUFFER IMPACT
- PROPOSED 75' VERNAL POOL BUFFER IMAPCT
- PROPOSED TEMPORARY WETLAND IMPACT
- PROPOSED PERMANENT WETLAND IMPACT

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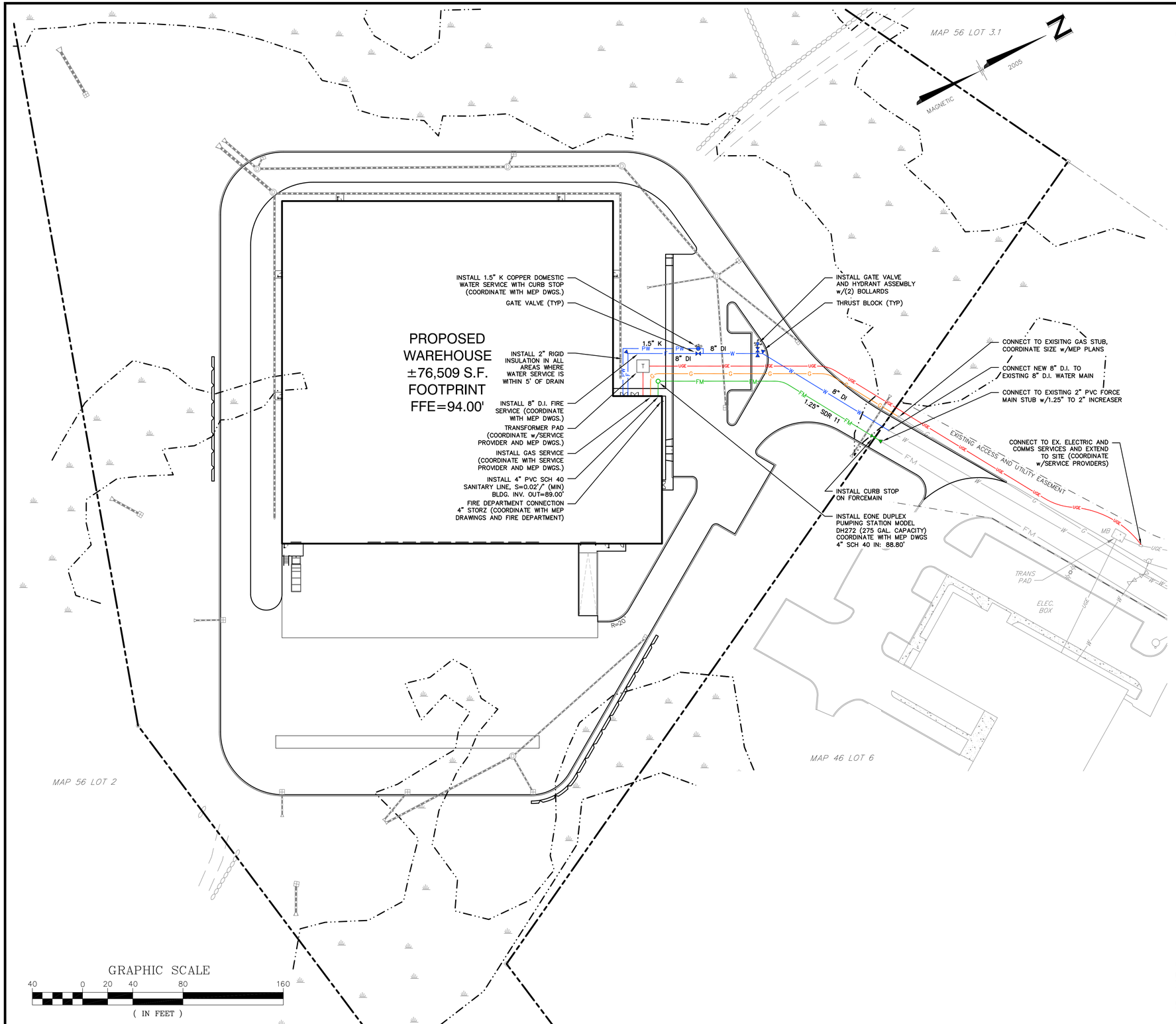
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
WETLAND AND CONDITIONAL USE PERMIT PLAN

SHEET NUMBER:
C - 4

P5493



UTILITY NOTES

1. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY PROVIDERS AND GOVERNMENTAL AGENCIES. AS SUCH, THEY ARE NOT INCLUSIVE AS OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE NOT SHOWN ON THE PLANS MAY EXIST. THE ENGINEER, SURVEYOR AND OWNER ACCEPT NO RESPONSIBILITY FOR POTENTIAL INACCURACIES IN THE PLAN AND/OR UNFORESEEN CONDITIONS. THE CONTRACTOR SHALL NOTIFY, IN WRITING, SAID AGENCIES, UTILITY PROVIDERS, TOWN OF EXTER DPW AND OWNER'S AUTHORIZED REPRESENTATIVE AND CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION WORK.
2. PRIOR TO CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING AND PROPOSED STORMWATER AND UTILITY LINES. CONFLICTS SHALL BE ANTICIPATED AND ALL EXISTING LINES TO BE RETAINED SHALL BE PROTECTED. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED AND, IF NECESSARY, EXISTING UTILITIES SHALL BE RELOCATED AT NO EXTRA COST TO THE OWNER. ALL CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, DPW AND APPROPRIATE UTILITIES.
3. THE SITE IS SERVED BY MUNICIPAL WATER AND SEWER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
5. ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS SHALL BE COORDINATED WITH THE EXETER POLICE DEPARTMENT AND DPW AT LEAST TWO WEEKS PRIOR TO COMMENCING RELATED CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, BEDDING, BACKFILL & COMPACTION FOR ALL UTILITY TRENCHING IN ADDITION TO ALL CONDUIT INSTALLATION AND COORDINATION OF ALL REQUIRED INSPECTIONS.
7. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
8. SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDING. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
9. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.
10. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
11. FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE ARCHITECT, CONTRACTOR, APPROPRIATE UTILITY COMPANIES AND THE EXETER DPW.
12. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
13. UTILITY PROVIDERS AND CONTACTS:
    - WATER & SEWER: EXETER PUBLIC WORKS, PAUL VLASICH, TOWN ENGINEER, (603) 773-6157.
    - GAS: UNITIL, DAVID MACLEAN, (603) 294-5144.
    - TELECOMMUNICATIONS: CONSOLIDATED, JASON CUNHA, (603) 325-2041.
    - CABLE: COMCAST, MIKE COLLINS, (603) 679-5695, EXT. 1037.
    - ELECTRICAL: EVERSOURCE, NICK KOSKO, (603) 332-4227. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
11. CONTRACTOR TO PROVIDE BOLLARDS AT SERVICE ENTRANCES PER THE SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
12. ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL BE CONSTRUCTED AND TESTED PER EXETER DPW STANDARDS AND SPECIFICATIONS. ALL OTHER UTILITIES SHALL BE TO THE STANDARDS AND SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
13. WHERE WATER LINES CROSS, RUN ADJACENT TO OR ARE WITHIN 5' OF STORM DRAINAGE PIPES OR STRUCTURES, 2"-THICK CLOSED CELL RIGID BOARD INSULATION SHALL BE INSTALLED FOR FROST PROTECTION.
14. WATER AND SANITARY SEWER LINES SHALL BE LOCATED AT LEAST 10' HORIZONTALLY FROM EACH OTHER. WHERE CROSSING, 18" MINIMUM VERTICAL CLEARANCE SHALL BE PROVIDED WITH WATER INSTALLED OVER SEWER.
15. THE CONTRACTOR SHALL CONFIRM ALL UTILITY LINE AND CONDUIT SIZES WITH THE MEP PLANS AND SERVICE PROVIDERS PRIOR TO INSTALLATION. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
16. FIRE ALARM PANELS SHALL BE MONITORED THROUGH A THIRD-PARTY SECURITY COMPANY. CONTRACTOR SHALL COORDINATE PANEL LOCATIONS AND INTERCONNECTIONS WITH CITY FIRE DEPARTMENT AND ARCHITECT.
17. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE BUILDING AS SHOWN. COORDINATE WITH THE MEP PLANS AND THE CITY FIRE DEPARTMENT. ACCESS TO THE FDC SHALL BE MAINTAINED AS A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
18. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER THE 2015 STATE BUILDING CODES.
19. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
20. THE TOWN OF EXETER SHALL BE GRANTED A BLANKET EASEMENT FOR ACCESS TO ALL WATER VALVES AND FIRE HYDRANTS.
21. UNLESS OTHERWISE DETERMINED BY THE UTILITY PROVIDER, ALL ELECTRICAL TRANSFORMERS AND SWITCHES SHALL REMAIN THE PROPERTY OF EVERSOURCE.
22. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL HANDHOLES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED IN THIS DRAWING SET IN ORDER TO RENDER THE FULL INSTALLATION OF COMPLETE AND OPERATIONAL UTILITY AND DRAINAGE SYSTEMS.
23. CONTRACTOR TO COORDINATE WITH EXETER DPW FOR WATERLINE TESTING AND PROCEDURE TO PLACE EXISTING LINE FROM CONTINENTAL DRIVE INTO SERVICE, INSTALL NEW GATE VALVE IF REQUIRED.
24. SEE SHEET C-11 FOR LEGEND.

WATER/SEWER FLOW CALCULATIONS

INDUSTRIAL BUILDING:
15 GPD/EMPLOYEE (TYPICAL FLOW RATE)
15 GPD * 25 EMPLOYEES = 375 GPD

(CALCULATED FROM METCALF & EDDY/AECOM "WASTEWATER ENGINEERING TREATMENT AND RESOURCE RECOVERY", 5TH EDITION)

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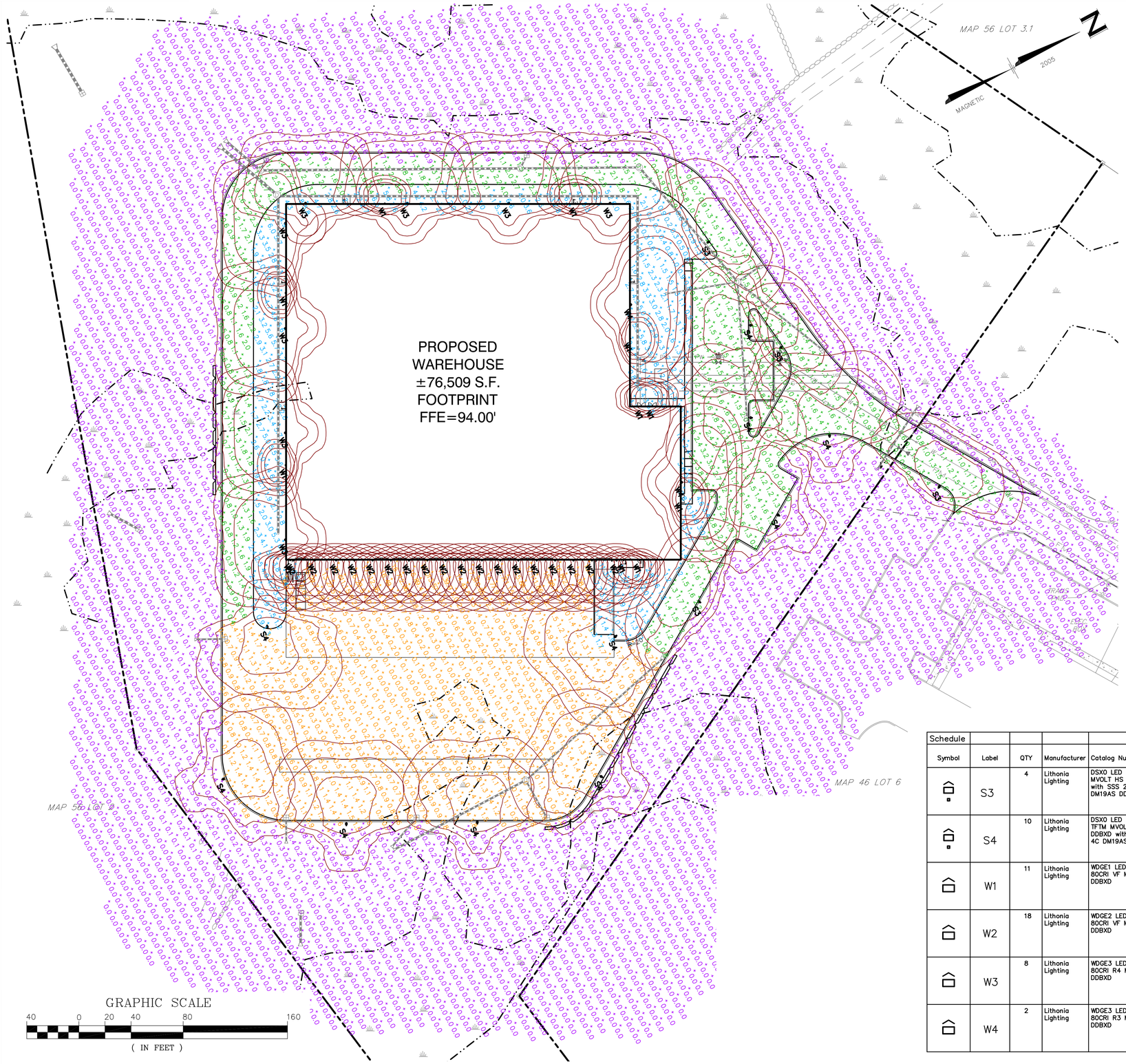
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
UTILITY PLAN

SHEET NUMBER:
C - 5

P5493



LIGHTING NOTES

1. SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF UNDERGROUND UTILITY AND DRAINAGE INFRASTRUCTURE BEFORE INSTALLING POLE BASES.
2. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES TO INCLUDE LIGHTING CONDUIT, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
3. LIGHTING CONDUIT SHALL BE PVC SCH 40.
4. ALL LIGHTING MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
5. ALL PARKING LOT AND DRIVEWAY LIGHTING FIXTURES SHALL BE FULL CUT-OFF AND 3000K COLOR TEMPERATURE SO AS TO BE DARK-SKY COMPLIANT.
6. CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND BUILDING ELECTRICAL CONTRACTOR FOR ALL SITE ELECTRICAL WORK INCLUDING BUT NOT LIMITED TO ALL SERVICE ENTRANCES/EXITS, RISERS, CIRCUITRY, METERS, SUB-METERS, ETC.
7. COORDINATE WITH ARCHITECTURAL PLANS FOR ALL BUILDING-MOUNTED AND LANDSCAPE FIXTURES, TYPES, LOCATIONS AND WIRING.
8. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP BALLAST AND LUMINAIRE MAY AFFECT FIELD RESULTS.
9. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
10. ALL SITE LIGHTING SHALL BE EQUIPPED WITH A TIMER TO EITHER SHUT OFF OR REDUCE IN INTENSITY AT 10PM OF EVERY EVENING.
11. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION PROVIDED BY VISIBLE LIGHT, INC., 24 STICKNEY TERRACE, SUITE 6, HAMPTON, NH 03842. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, CIRCUITRY, ETC.) SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ARCHITECT AND SPECIFIER.
12. SEE DETAIL SHEETS POLE BASE AND CONDUIT TRENCH DETAILS.
13. SEE SHEET C-11 FOR LEGEND.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Landscape Area	+	3.1 fc	18.5fc	0.2 fc	92.5:1	15.5:1
Loading Dock Area	+	1.8 fc	17.7fc	0.0 fc	N/A	N/A
Outside of Parking Lot	+	0.1 fc	2.0 fc	0.0 fc	N/A	N/A
Parking Lot	+	1.5 fc	5.6fc	0.4 fc	14.0:1	3.8:1

Schedule											
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Wattage	Distribution
	S3	4	Lithonia Lighting	DSXO LED P3 30K T3M MVOLT HS SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSXO LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	DSXO_LED_P3_30K_T3M_MVOLT.ies	6172	0.9	71	TYPE III, MEDIUM, BUG RATING: B2 – U0 – G2
	S4	10	Lithonia Lighting	DSXO LED P3 30K TFTM MVOLT SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSXO LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	DSXO_LED_P3_30K_TFTM_MVOLT.ies	7841	0.9	71	TYPE IV, SHORT, BUG RATING: B2 – U0 – G2
	W1	11	Lithonia Lighting	WDGE1 LED P2 30K 80CRI VF MVOLT SRM DDBXD	WDGE1 LED Wallpack; mounted above mandoors at 10ft	LED	WDGE1_LED_P3_30K_80CRI_VF.ies	1872	0.9	15.0178	TYPE II, VERY SHORT, BUG RATING: B1 – U0 G0
	W2	18	Lithonia Lighting	WDGE2 LED P5 30K 80CRI VF MVOLT SRM DDBXD	WDGE2 LED Wallpack; mounted at 15ft	LED	WDGE2_LED_P5_30K_80CRI_VF.ies	5771	0.9	48.44	TYPE III, VERY SHORT, BUG RATING: B1 – U0 – G1
	W3	8	Lithonia Lighting	WDGE3 LED P4 30K 80CRI R4 MVOLT SRM DDBXD	WDGE3 LED Wallpack; mounted at 18ft	LED	WDGE3_LED_P4_70CRI_R4_30K.ies	11554	0.9	87.8914	TYPE IV, SHORT, BUG RATING: B2 – U0 G2
	W4	2	Lithonia Lighting	WDGE3 LED P4 30K 80CRI R3 MVOLT SRM DDBXD	WDGE3 LED Wallpack; mounted at 18ft	LED	WDGE3_LED_P4_70CRI_R3_30K.ies	11212	1	87.8914	TYPE III, SHORT, BUG RATING: B2 – U0 G2

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

VISIBLELIGHT

NOT FOR CONSTRUCTION

ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER
COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
LIGHTING PLAN

SHEET NUMBER:
C - 6

P5493

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

19 CONTINENTAL DRIVE
EXETER, NEW HAMPSHIRE
TAX MAP 46 LOT 7

LATITUDE: 42.991° N
LONGITUDE: 70.982° W

OWNER:
GLERUPS, INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

DESCRIPTION

The project consists of the development of a ±76,506 s.f. warehouse and associated improvements.

DISTURBED AREA

The total area to be disturbed for the development is ±294,950 S.F. (±6.77 acres).

PROJECT PHASING

The project will be completed in one phase.

NAME OF RECEIVING WATER

The site drains to an unnamed wetland tributary to the Little River.

SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control measures including perimeter controls, stabilized construction entrance and inlet sediment filters as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
2. Delineate limits of disturbance.
3. Remove trees, stumps and brush strip loam and stockpile.
4. Demolish existing site features, buildings, utilities, pavement, etc. as shown on Demolition Plan.
5. Construct building foundations.
6. Rough grade site including placement of borrow materials.
7. Construct new buildings and associated improvements.
8. Construct drainage structures, culverts, utilities & pavement base course materials.
9. Install base course paving & curbing.
10. Install top course paving and sidewalks.
11. Loam (6" min) and seed on all disturbed areas not paved or otherwise stabilized.
12. Install landscaping.
13. When all construction activity is complete and site is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 – 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, perimeter controls shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area and permanent measures are established, perimeter controls shall be removed.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through appropriate perimeter controls. All storm drain inlets shall be provided with inlet protection measures.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.25 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built–up sediment shall be removed from perimeter barriers when it has reached one–third the height of the barrier or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. An area shall be considered stable if one of the following has occurred:
   a. Base coarse gravels have been installed in areas to be paved;
   b. A minimum of 85% vegetated growth as been established;
   c. A minimum of 3 inches of non–erosive material such as stone of riprap has been installed; – or –
   d. Erosion control blankets have been properly installed.
9. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing – In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
   a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
   b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.
2. Guidelines for Winter Mulch Application –

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrubs.
Jute and Fibrous Matting (Erosion Blanket	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1–1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	* The organic matter content is between 80 and 100%, dry weight basis. * Particle size by weight is 100% passing a 6"screen and a minimum of 70 %, maximum of 85% passing a 0.75" screen. *The organic portion needs to be fibrous and elongated. *Large portions of silts, clays or fine sands are not acceptable in the mix. * Soluble salts content is less than 4.0 mmhos/cm. *The pH should fall between 5.0 and 8.0.

3. Maintenance – All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. PERMANENT SEEDING –

1. Bedding – stones larger than 1/2", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.
2. Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and organic fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

   Agricultural Limestone @ 100 lbs. per 1,000 s.f.
   10–20–20 organic fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (for lawns**):

Type	Lbs. / Acre	Lbs. / 1,000 sf
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Seed Mixture (For slope embankments**):
Grass Seed: Provide fresh, clean, new–crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified:

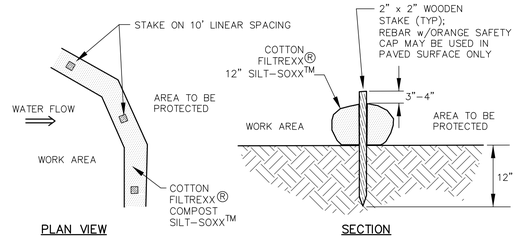
Type	Min. Purity (%)	Min. Germination (%)	Kg./Hectare (Lbs/Acre)
Creeping Red Fescue (c)	96	85	45 (40)
Perennial Rye Grass (a)	98	90	35 (30)
Redtop	95	80	5 (5)
Alsike Clover	97	90(e)	5 (5)
		Total	90 (80)

a. Ryegrass shall be a certified fine–textured variety such as Pennfine, Fiesta, Yorktown, Diplomat, or equal.
b. Fescue varieties shall include – Creeping Red and/or Hard Reliant, Scaldis, Koket, or Jamestown.
** In the event that the seed mixes shown here conflict with the project landscape plans, the landscape plans shall govern.

4. Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and
3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.



NOTES:
1. SILTSOXX MAY BY USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. ALL SOCK MATERIAL TO BE COTTON AND MEET FILTREXX SPECIFICATIONS.
3. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
4. ALL SEDIMENT TRAPPED BY SILTSOXX SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER — NOT TO SCALE

BEST MANAGEMENT PRACTICES FOR BLASTING

REFERENCE: NHDES WD–19–05

PURPOSE: ALL ACTIVITIES RELATED TO BLASTING SHALL FOLLOW BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT CONTAMINATION OF GROUNDWATER INCLUDING PREPARING, REVIEWING AND FOLLOWING AN APPROVED BLASTING PLAN; PROPER DRILLING, EXPLOSIVE HANDING AND LOADING PROCEDURES; OBSERVING THE ENTIRE BLASTING PROCEDURES; EVALUATING BLASTING PERFORMANCE; AND HANDLING AND STORAGE OF BLASTED ROCK.

LOADING PRACTICES: THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:

(a) DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS.

(b) EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF–SITE DISPOSAL.

(c) SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF–SITE DISPOSAL.

(d) LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED.

(e) LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT.

(f) EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.

EXPLOSIVE SELECTION: THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:

(a) EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION.

(b) EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER.

PREVENTION OF MISFIRES: APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.

MUCK PILE MANAGEMENT: MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:

(a) REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE.

(b) MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.

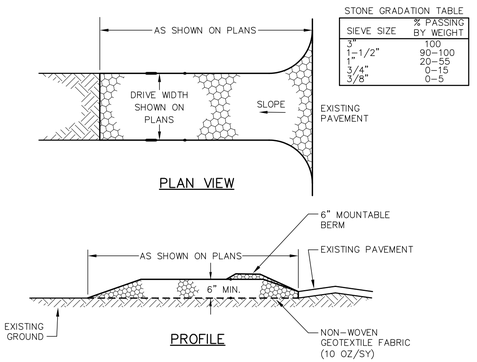
SPILL PREVENTION MEASURES AND SPILL MITIGATION: SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:

(a) THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE:
1. STORAGE OF REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE.
2. SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY.
3. LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY.
4. INSPECT STORAGE AREAS WEEKLY.
5. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS.
6. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS.
7. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.

(b) THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
1. EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED.
2. PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS.
3. HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS.
4. USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES.
5. PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.

(c) THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.

(d) FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT WILL COMPLY WITH THE REGULATIONS OF NHDES [NOTE THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6: "BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT"OR ITS SUCCESSOR DOCUMENT].



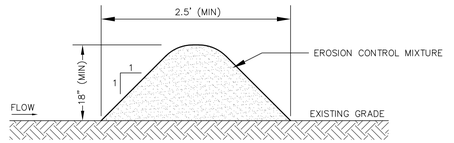
STONE GRADATION TABLE

SIEVE SIZE	% PASSING BY WEIGHT
3"	100
1–1/2"	90–100
1"	20–55
3/4"	0–15
3/8"	0–5

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – NHDOT STANDARD STONE SIZE #4 – SECTION 703 OF NHDOT STANDARD.
2. LENGTH – DETAILED ON PLANS (50 FOOT MINIMUM).
3. THICKNESS – SIX (6) INCHES (MINIMUM).
4. WIDTH – FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
5. FILTER FABRIC – MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
6. SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS–OF–WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.

STABILIZED CONSTRUCTION EXIT — NOT TO SCALE



NOTES

1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. THE EROSION CONTROL MIXTURE USED IN FILTER BERMS SHALL BE A WELL–GRADED MIX OF PARTICLE SIZES THAT MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, AND/OR ACCEPTABLE MANUFACTURED PRODUCTS AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH. EROSION CONTROL MIXTURE SHALL MEET THE FOLLOWING STANDARDS:
   a) THE ORGANIC CONTENT SHALL BE 80–100% OF DRY WEIGHT.
   b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70–85% PASSING A 0.75" SCREEN.
   c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.
   d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.
   e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.
   f) THE pH SHALL BE BETWEEN 5.0 AND 8.0.
3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BERM.
4. ON SLOPES LESS THAN 5%, OR AT THE BOTTOM OF SLOPES NO STEEPER THAN 3:1 AND UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE) AND A MINIMUM OF 36" WIDE. ON LONGER AND/OR STEEPER SLOPES, THE BERM SHALL BE TALLER AND WIDER TO ACCOMMODATE THE POTENTIAL FOR ADDITIONAL RUNOFF (MAXIMUM HEIGHT SHALL NOT EXCEED 2').
5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING AREA.
6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FILTER BERMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BERM.
7. ORGANIC FILTER BERMS MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED PROVIDED ANY SEDIMENT DEPOSITS TRAPPED BY THEM ARE REMOVED AND DISPOSED OF PROPERLY.
8. FILTER BERMS ARE PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER WITHOUT THE SUPPORT OF ADDITIONAL MEASURES SUCH AS SILTFENCE.

ORGANIC FILTER BERM — NOT TO SCALE

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE
ERIC D. WEINRIEB
No. 7634
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493–SITE.dwg

SCALE:
AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

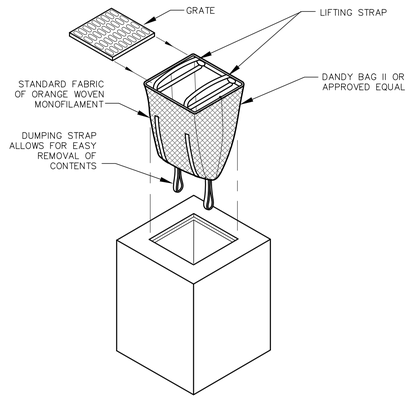
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER
COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
DETAIL SHEET

SHEET NUMBER:
C - 7

P5493



INSTALLATION AND MAINTENANCE:

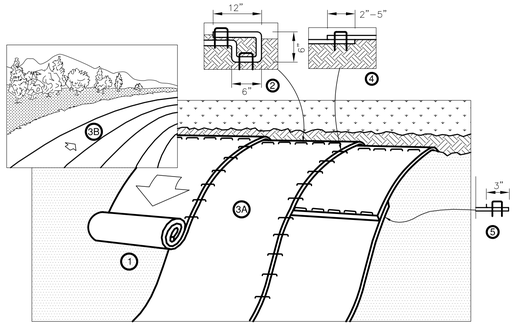
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

UNACCEPTABLE INLET PROTECTION METHOD;

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

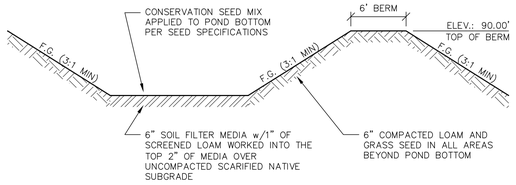
STORM DRAIN INLET PROTECTION NOT TO SCALE



NOTES

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 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 SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"–5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED 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. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

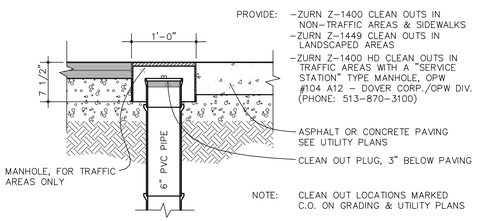
EROSION CONTROL BLANKET - SLOPE NOT TO SCALE



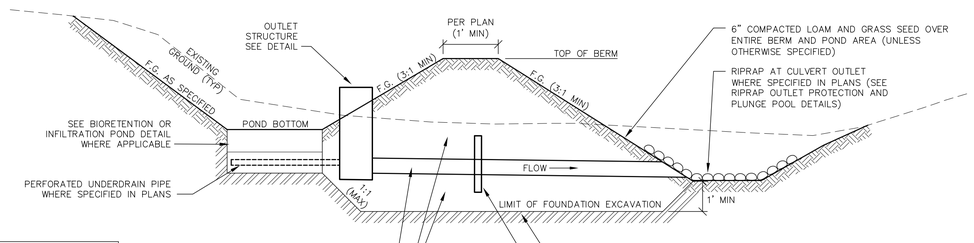
NOTES

1. SOIL FILTER MEDIA SHALL BE AS SPECIFIED FOR BIOFILTRATION PONDS, SEE DETAIL.
2. DO NOT PLACE INFILTRATION POND INTO SERVICE UNTIL ITS SIDE SLOPES AND CONTRIBUTING AREAS HAVE BEEN STABILIZED.
3. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES TO THE INFILTRATION POND DURING ANY STAGE OF CONSTRUCTION.
4. DO NOT TRAFFIC EXPOSED SURFACES OF INFILTRATION POND WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION ACTIVITIES WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE BASIN.
5. POND BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STORMWATER POND BERM DETAIL.

INFILTRATION POND #3 NOT TO SCALE



CLEANOUT DETAIL NOT TO SCALE



GRANULAR FILL GRADATION	
Sieve size	Embankment Material % Passing sieve
4	90–100%
40	50–80%
100	29–43%
200	15–30%

Construction Criteria

1. Foundation Preparation –– The foundation shall be cleared of trees, logs, stumps, roots, brush, boulders, sod, and rubbish. If suitable for reuse, the topsoil and sod shall be stockpiled and spread on the completed embankment and spillways. Foundation surfaces shall be sloped no steeper than 1:1. The foundation area shall be thoroughly scarified before placement of fill material. The surface shall have moisture added and/or it shall be compacted if necessary so that the first layer of fill can be bonded to the foundation.

   The cutoff trench and any other required excavations shall be dug to the lines and grades shown on the plans or as staked in the field. If they are suitable, excavated materials shall be used in the permanent fill.

   Existing stream channels in the foundation area shall be sloped no steeper than 1:1 and deepened and widened as necessary to remove all stones, gravel, sand, stumps, roots, and other objectionable material and to accommodate compaction equipment.

   Foundation areas shall be kept free of standing water when fill is being placed on them.

2. Granular Fill Placement –– The material placed in the fill shall be free of sod, roots, frozen soil, stones more than 4 inches in diameter and other objectionable material.

   Selected backfill material shall be placed around structures, pipe conduits, and drainage diaphragm at about the same rate on all sides to prevent damage from unequal loading.

   The placing and spreading of fill material shall be started at the lowest point of the foundation and the fill brought up in horizontal layers of such thickness that the required compaction can be obtained. The fill shall be constructed in 8" continuous horizontal layers except where openings or sectionalized fills are required. In those cases, the slope of the bonding surfaces between the embankment in place and the embankment to be placed shall not be steeper than 3 horizontal to 1 vertical. The bonding surface shall be treated the same as that specified for the foundation so as to insure a good bond with the new fill.

   The distribution and gradation of materials shall be such that no lenses, pockets, streaks, or layers of material differ substantially in texture of gradation from the surrounding material. If it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the center and upstream parts of the fill. If zoned fills of substantially differing materials are specified, the zones shall be placed according to the lines and grades shown on the drawings. The complete work shall conform to the lines, grades, and elevations shown on the drawings or as staked in the field.

3. Moisture Control –– The moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall have water added and mixed until the requirement is met.

4. Compaction –– Construction equipment shall be operated over the areas of each layer of fill to insure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction.

   Fill material shall be compacted to not less than 95% of AASHTO T99 Method C compaction method.

   Fill adjacent to structures, pipe conduits, and drainage diaphragm shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tamper or plate vibrators. Fill adjacent to concrete structures shall not be compacted until the concrete is strong enough to support the load.

5. Protection –– A protective cover of vegetation shall be established on all exposed surfaces of the embankment, spillway, and borrow area in accordance with the plans. If soil or climatic conditions preclude the use of vegetation and protection is needed, non–vegetative means, such as mulches or gravel, may be used. In some places, temporary vegetation may be used until conditions permit establishment of permanent vegetation.

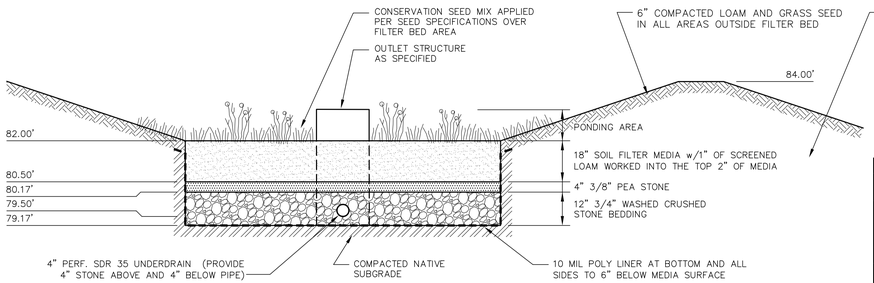
Maintenance

Maintenance is necessary if detention/retention basins are to continue to function as originally designed. A local government, a designated group such as a homeowners' association, or an individual must be assigned responsibility for maintaining the structures and the basin area. A maintenance plan should be developed that outlines the maintenance operations and a schedule for carrying out the procedures.

The following should be considered in formulating a maintenance plan:

1. Embankment –– The embankment should be inspected annually to determine if rodent burrows, wet areas, or erosion of the fill is taking place.
2. Vegetation –– The vegetated areas of the structure should be protected from damage by fire, grazing, traffic, and dense weed growth. Lime and fertilizer should be applied as necessary as determined by soil tests. Trees and shrubs should be kept off the embankment and emergency spillway areas.
3. Inlets –– Pipe inlets and spillway structures should be inspected annually and after every major storm. Accumulated debris and sediment should be removed.
4. Outlets –– Pipe outlets should be inspected annually and after every major storm. The condition of the pipes should be noted and repairs made as necessary. If erosion is taking place, then measures should be taken to stabilize and protect the affected area.
5. Sediment –– Sediment should be continually checked in the basin. When sediment accumulations reach the predetermined design elevation, then the sediment should be removed and properly disposed of.
6. Safety Inspections –– All permanent impoundments should be inspected by a qualified professional engineer on a periodic basis. If there is potential for significant damage or loss of life downstream, then the inspection should be carried out annually.

STORMWATER POND BERM DETAIL NOT TO SCALE



BERM GRANULAR FILL GRADATION	
Sieve size	Embankment Material % Passing sieve
4	90 – 100%
40	50 – 80%
100	29 – 43%
200	15 – 30%
CRUSHED STONE BEDDING *	
Sieve size	% Passing by weight
1"	100%
3/4"	90 – 100%
3/8'	20 – 55%
#4	0 – 10%
#8	0 – 5%

* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 NHDOT STANDARD SPECIFICATIONS

NOTES

1. WHEN CONTRACTOR EXCAVATES BIORETENTION POND AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
2. SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.
3. DO NOT PLACE BIORETENTION POND INTO SERVICE UNTIL ITS SIDE SLOPES AND CONTRIBUTING AREAS HAVE BEEN STABILIZED.
4. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES TO THE BIORETENTION POND DURING ANY STAGE OF CONSTRUCTION.
5. DO NOT TRAFFIC EXPOSED SURFACES OF BIORETENTION POND WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION ACTIVITIES WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE BASIN.
6. POND BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STORMWATER POND BERM DETAIL.

MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24–HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72–HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, WEED WHACKING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES. BERM AREAS ARE TO BE MOWED TWICE ANNUALLY.

DESIGN REFERENCES

- UNH STORMWATER CENTER
- EPA (1999A)
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C–33 concrete sand	50 – 55%		
Loamy sand topsoil, with fines as indicated	20 – 30%	200	15 to 25%
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 – 30%	200	< 5%
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 – 30%	200	< 5%
Loamy coarse sand	70 – 80%	10	85 – 100%
		20	70 – 100%
		60	15 – 40%
		200	8 – 15%

BIORETENTION POND (BIO #'S 1 AND 2) NOT TO SCALE

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ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493–SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

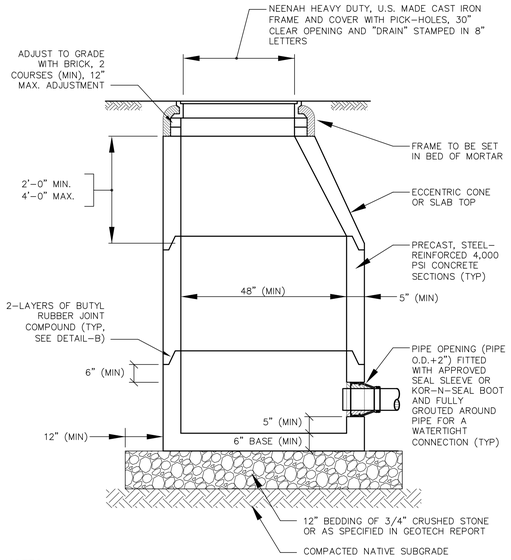
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE: DETAIL SHEET

SHEET NUMBER: C - 8

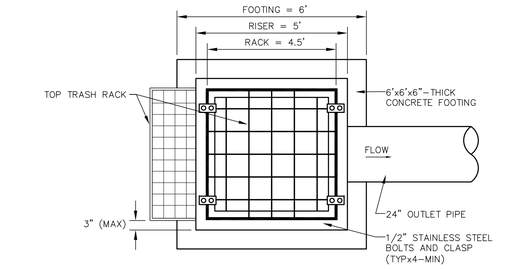
P5493

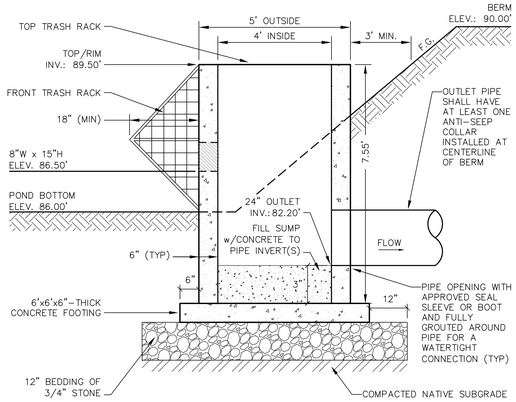


NOTES

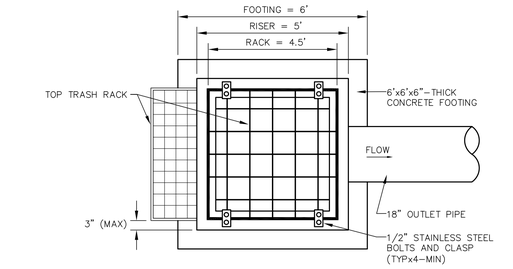
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. ALL MANHOLE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. USE H-20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4 FT OF GRADE.
7. MANHOLE STEPS ARE REQUIRED PER THE CITY OF DOVER.

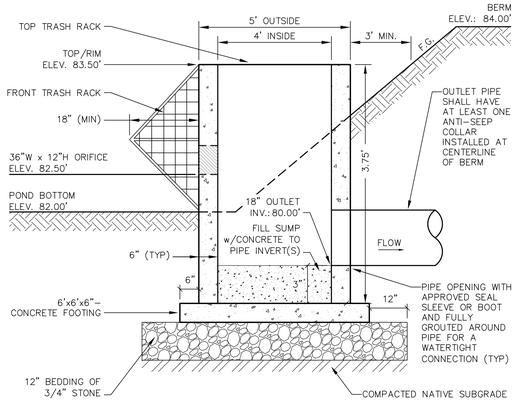
DRAIN MANHOLE (DMH) NOT TO SCALE



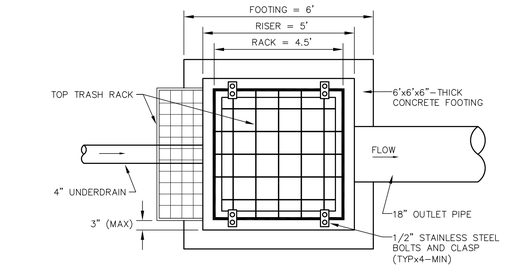


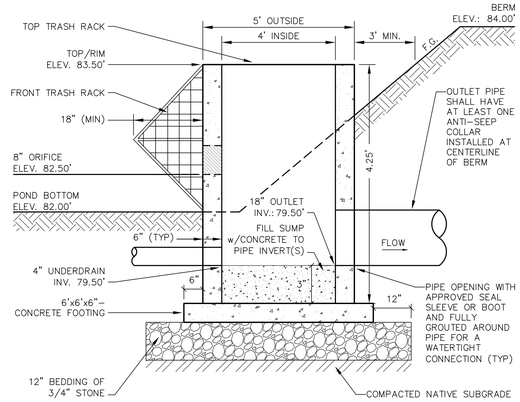
POND OUTLET #1 (4' STRUCTURE) NOT TO SCALE



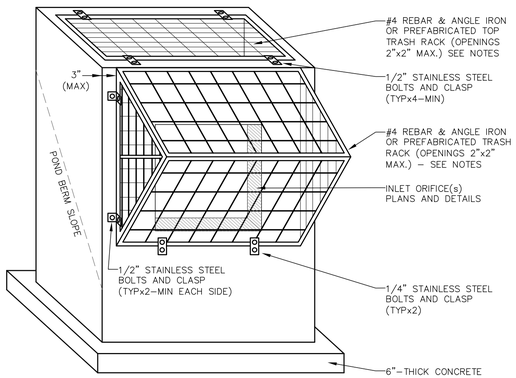


POND OUTLET #9 (4' STRUCTURE) NOT TO SCALE





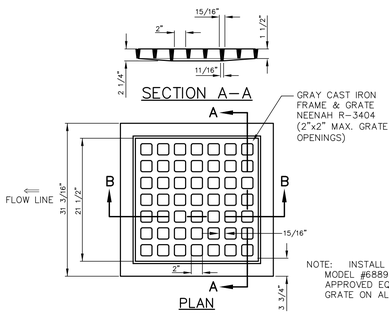
POND OUTLET #11 (4' STRUCTURE) NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. OUTLET STRUCTURE SHALL BE CONSTRUCTED OF STEEL REINFORCED CONCRETE FABRICATED ONSITE OR PRECAST TO EQUAL DIMENSIONS AND REINFORCING.
2. CONCRETE FOOTING TO BE CONSTRUCTED INTEGRAL WITH BASE. IF CONSTRUCTED SEPARATELY, FOOTING SHALL HAVE A CONTINUOUS KEYWAY INSTALLED AND REBAR CAST INTO IT THAT SHALL EXTEND ABOVE THE SLAB A MINIMUM OF 8" FOR CONNECTION TO THE BOX AND ANY REINFORCING.
3. ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
4. ALL EXPOSED REBAR TO BE PAINTED WITH RUST-RESISTANT PAINT OR HOT-DIPPED GALVANIZED.
5. PRE-FABRICATED TRASH RACKS INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS ARE ACCEPTABLE UPON WRITTEN ACCEPTANCE BY THE ENGINEER.
6. STRUCTURE IS TO BE BUILT TO WITHSTAND H20 LOADING.
7. NATIVE IN SITU SOILS UNDERLYING THE STRUCTURE'S STONE BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED PRIOR TO INSTALLING STRUCTURE.
8. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.
9. STAINLESS STEEL BOLTS FOR TRASH RACK TO BE INSTALLED WITH HILTI AND EPOXY OR CAST IN.
10. EXTERIOR TRASH RACK DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRASH RACKS THAT ALLOW FULL SCREENING PROTECTION TO EVERY INLET ORIFICE AND THE TOP OF THE STRUCTURE. THIS MAY REQUIRE CUSTOM FABRICATION AND/OR ALTERNATE METHODS TO CONNECT THE RACKS TO THE OUTLET STRUCTURE.

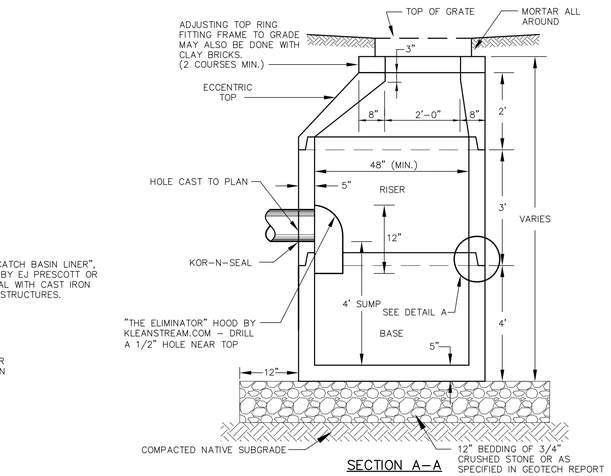
POND OUTLET STRUCTURE (TYPICAL) NOT TO SCALE

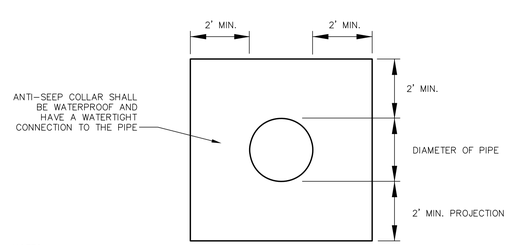


NOTES

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. USE H20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF FINISH GRADE.
7. FRAME AND GRATE DIMENSIONS ARE TYPICAL BUT MAY VARY BASED ON PRODUCT SELECTED OR EQUIVALENT APPROVED BY THE ENGINEER.

DEEP SUMP CATCH BASIN (CB) NOT TO SCALE





NOTES

ANTI-SEEP COLLARS SHALL BE CLAY, CONCRETE, PLASTIC (AGRI-DRAIN), OR EQUAL APPROVED BY THE ENGINEER.

ANTI-SEEP COLLAR NOT TO SCALE

ALTUS ENGINEERING
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STATE OF NEW HAMPSHIRE ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

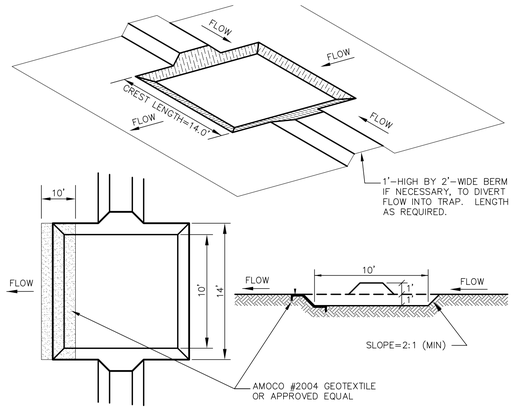
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE: DETAIL SHEET

SHEET NUMBER: C - 9

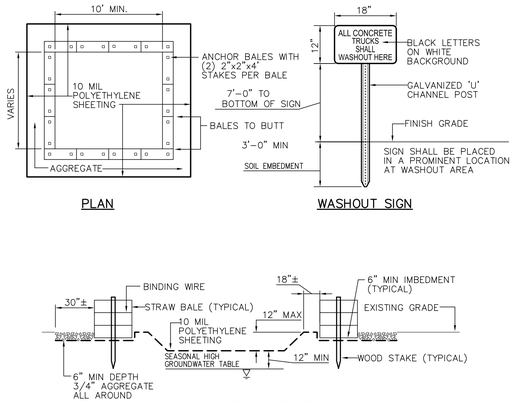
P5493



NOTES:

1. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION, ROOTS, AND DEBRIS.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS, WOODY VEGETATION, STONES OVER 6" SIZE, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIALS. THE FILL SHALL BE COMPACTED BY ROUTING CONSTRUCTION EQUIPMENT OVER IT SO THAT THE ENTIRE AREA OF THE FILL IS TRAVERSED BY AT LEAST ONE WHEEL OR TREAD TRACK OF THE EQUIPMENT.
3. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
4. ALL CUT AND FILL SLOPES SHALL BE 2:1 (H:V) OR FLATTER.
5. OUTLET CREST ELEVATIONS SHALL BE AT LEAST ONE FOOT BELOW THE TOP OF THE EMBANKMENT.
6. OUTLET CREST IS TO BE STABILIZED WITH AMOCO #2004 GEOTEXTILE (OR APPROVED EQUAL), WHICH IS TO BE TOED INTO THE GROUND AT ITS ENDS AT LEAST SIX INCHES AND IS TO EXTEND AT LEAST ONE FOOT INTO THE TRAP AND ONE FOOT DOWNSTREAM FROM THE OUTLET EDGE FOR THE ENTIRE LENGTH OF THE CREST.
7. ALL DISTURBED AREAS SHALL BE VEGETATED USING THE APPROPRIATE VEGETATIVE BEST MANAGEMENT PRACTICE.
8. ALL TRAPS ARE TO HAVE SEDIMENT DEPOSITS REMOVED AND DISPOSED PROPERLY ONCE THEY REACH HALF THE CAPACITY OF THE TRAP.

TEMPORARY SEDIMENT TRAP NOT TO SCALE

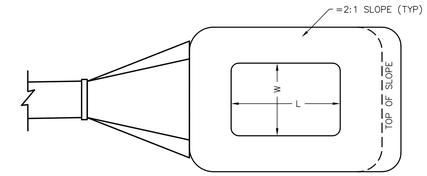


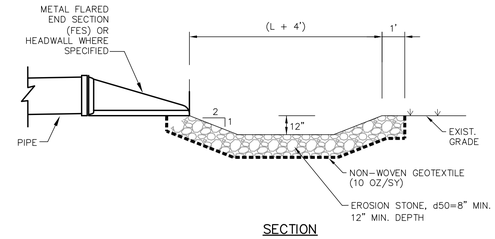
TYPICAL SECTION

NOTES

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

CONCRETE WASHOUT NOT TO SCALE

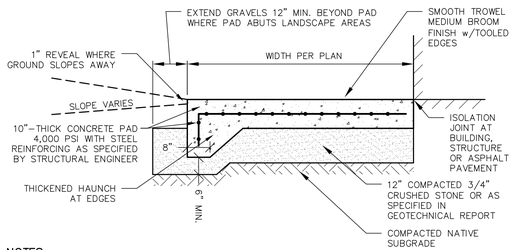




NOTES

1. CONSTRUCT PLUNGE POOL TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO LINES AND GRADES SHOWN ON THE PLANS.
3. EROSION STONE USED FOR THE PLUNGE POOL SHALL MEET THE FOLLOWING GRADATION.
4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.
5. THE EROSION STONE MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

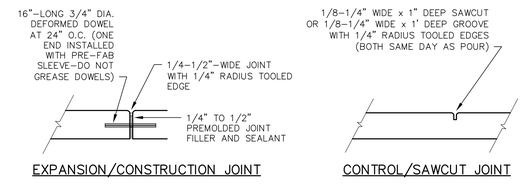
PLUNGE POOL NOT TO SCALE

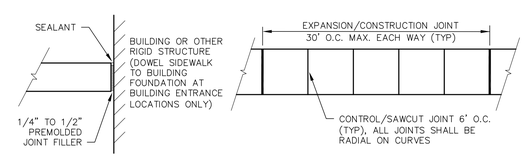


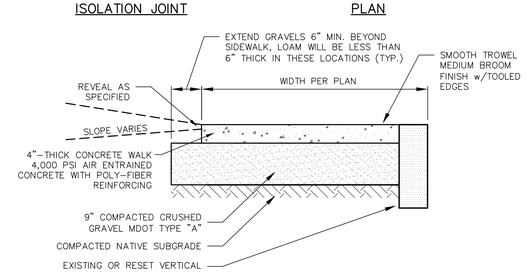
NOTES

1. PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. ISOLATION JOINT TO BE INSTALLED IN ALL LOCATIONS WHERE PAD ABUTS ANY OTHER STRUCTURE OR PAVEMENT. ALL OTHER EXPANSION, ISOLATION AND CONTROL JOINTS TO BE INSTALLED PER THE RECOMMENDATIONS OF THE STRUCTURAL ENGINEER.

HEAVY-DUTY CONCRETE PAVEMENT NOT TO SCALE



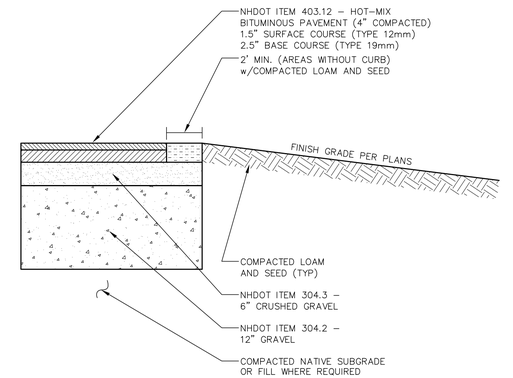




NOTE

1. JOINTS IN CONCRETE SIDEWALKS SHALL CONFORM TO THE TYPES AND LOCATIONS SHOWN IN THE HEAVY-DUTY CONCRETE PAVEMENT DETAIL

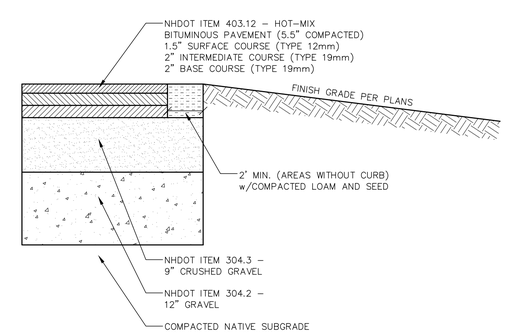
CONCRETE SIDEWALK NOT TO SCALE



NOTES FOR STANDARD AND HEAVY DUTY ASPHALT PAVEMENT

1. PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION(S). THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. ALL EXISTING FILL, BURIED ORGANIC MATTER, CLAY, LOAM, MUCK, AND/OR OTHER QUESTIONABLE MATERIAL SHALL BE REMOVED FROM BELOW ALL PAVEMENT, SHOULDERS AND UNDERGROUND PIPING/UTILITIES TO DEPTHS RECOMMENDED IN GEOTECHNICAL REPORT.
3. SUBGRADE SHALL BE PROOFROLLED A MINIMUM OF 6 PASSES WITH A 10-TON VIBRATORY COMPACTOR OPERATING AT PEAK RATED FREQUENCY OR BY MEANS APPROVED BY THE ENGINEER.
4. FILL BELOW PAVEMENT GRADES SHALL BE GRANULAR BORROW COMPACTED PER DOT REQUIREMENTS.
5. SITEWORK CONTRACTOR SHALL COORDINATE GEOTECHNICAL ENGINEERING INSPECTIONS WITH THE CONSTRUCTION MANAGER PRIOR TO PLACING GRAVELS.
6. TACK COAT SHALL BE APPLIED BETWEEN SUCCESSIVE LIFTS OF ASPHALT.
7. THE BITUMINOUS PAVEMENT SHALL BE COMPACTED TO 95 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041. THE BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITIES AS DETERMINED BY ASTM D-1557.

STANDARD DUTY ASPHALT PAVEMENT NOT TO SCALE



HEAVY DUTY APSHALT PAVEMENT NOT TO SCALE

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133 Court Street Portsmouth, NH 03801
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STATE OF NEW HAMPSHIRE ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

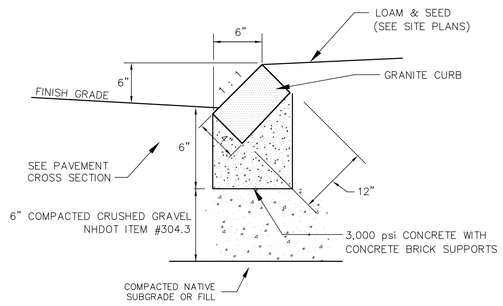
TITLE: DETAIL SHEET

SHEET NUMBER: C - 10

P5493

LEGEND

- PROPERTY LINE
- BUILDING SETBACK
- EDGE OF WETLAND
- TP #11 — TESTPIT OR BORING LOCATION
- EXISTING/PROPOSED GRAVEL
- VGC SGC — EXISTING PAVEMENT/VERTICAL/SLOPED GRANITE CURB
- VGC/SGC/MCC DYL — PROP. PAVEMENT/VERTICAL/SLOPED GRANITE/CONCRETE CURB
- EXISTING/PROPOSED GUARDRAIL
- EXISTING/PROPOSED STOCKADE FENCE
- 60 — EXISTING CONTOUR
- 60 — PROPOSED CONTOUR
- x 100.00 — x 104.00T 100.00B — PROPOSED SPOT GRADE/TOP & BOTTOM OF WALL OR CURB
- PROPOSED RETAINING WALL
- W — EXISTING WATER/CURB STOP/VALVE/HYDRANT
- S — EXISTING SEWER/MANHOLE
- G — EXISTING GAS/VALVE
- OHW — UGU — EXIST. OVERHEAD/UNDERGROUND UTILITIES/POLE
- D — EXISTING DRAINAGE/CB/DMH
- W — PROPOSED THRUST BLOCK/CURB STOP/VALVE/HYDRANT
- PW — F — PROPOSED DOMESTIC/FIRE WATER SERVICE LINE
- S — PROPOSED SEWER/MANHOLE/CLEANOUT
- G — PROPOSED GAS OR PROPANE
- UGE — PROPOSED UNDERGROUND ELECTRIC
- PROPOSED DRAINAGE (HARD PIPE)/CB/YD/DCB/DMH/FES
- UD — PROPOSED DRAINAGE (PERFORATED PIPE)/CLEANOUT
- RD — PROPOSED DRAINAGE (ROOF DRAIN)
- CPP FES HDWL — CORRUGATED PLASTIC PIPE/FLARED END SECTION/HEADWALL
- 4% — PROPOSED GROUND SLOPE/APPROX. GRADE/PLUNGE POOL
- SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- STABILIZED CONSTRUCTION EXIT
- PROPOSED LIMIT OF DISTURBANCE/TREE CLEARING
- 44 — 226 — PARKING COUNT PER ROW/FOR TOTAL SITE
- PROPOSED RIPRAP
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED BIORETENTION/INFILTRATION POND SURFACE

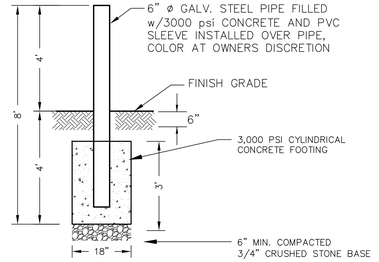


NOTES

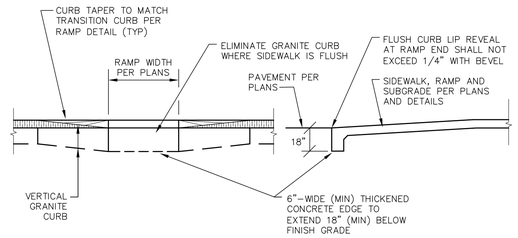
1. SEE SITE PLAN FOR LIMITS OF CURBING
2. ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART

RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'–28'	1'–6"
29'–41'	2'
42'–55'	3'
56'–68'	4'
69'–82'	5'
83'–96'	6'
97'–110'	7'
OVER 110'	8'

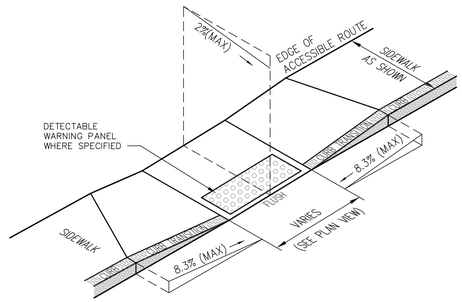
SLOPED GRANITE CURB — NOT TO SCALE



BOLLARD — NOT TO SCALE



FLUSH CURB AT RAMP DETAIL — NOT TO SCALE

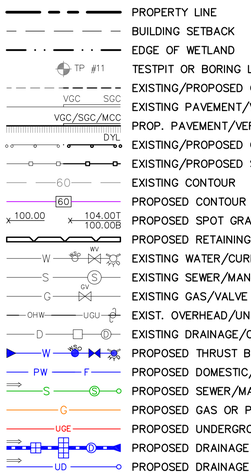


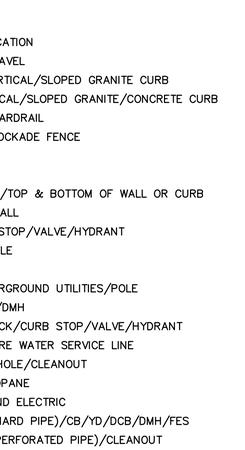
CURB RAMP (TYPE 'A') — NOT TO SCALE

NOTES APPLICABLE TO ALL CURB RAMPS:

1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 2%.
2. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
4. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
5. BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
6. SEE CONCRETE SIDEWALK SECTION FOR RAMP CONSTRUCTION.
7. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA), PROWAG R305.21 AND ALL APPLICABLE CODES.
8. FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
9. EDGES OF CONCRETE SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
10. NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
11. CURB RAMPS SHALL HAVE A FLAT 2% MAX LANDING AT THE TOP AND BOTTOM OF THE RAMPS WHEN THERE IS A CHANGE IN DIRECTION.

CURB RAMP NOTES — NOT TO SCALE





LENGTH: AS REQUIRED

WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)

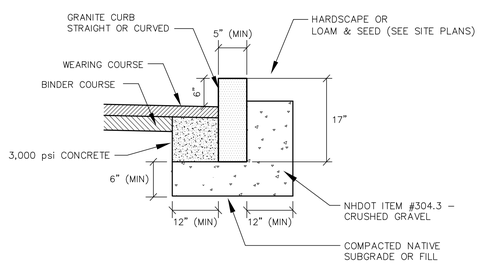
HOLES: 3/8" DIAMETER, 1" C–C FULL LENGTH

STEEL: SHALL CONFORM TO ASTM A–499 (GRADE 60) OR ASTM A–576 (GRADE 1070 – 1080)

NOTES

1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
2. WHEN PLACED PERPENDICULAR TO A TRAVELLED WAY OR SIDEWALK, SIGN EDGE SHALL BE NO CLOSER THAN 2' TO THE EDGE OF PAVEMENT. GREATER MINIMUM DISTANCE MAY BE REQUIRED IN CERTAIN LOCATIONS.

SIGN DETAILS — NOT TO SCALE

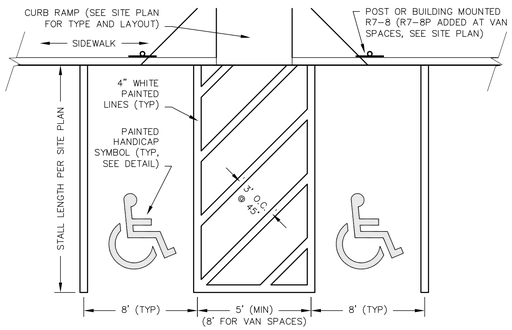


NOTES:

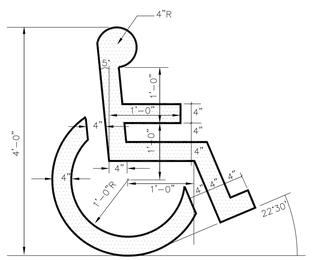
1. SEE PLANS FOR CURB LOCATION.
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF CURB STONES = 3'
4. MAXIMUM LENGTH OF CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART.
6. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.

RADIUS	MAX. LENGTH
21'	3'
22'–28'	4'
29'–35'	5'
36'–42'	6'
43'–49'	7'
50'–56'	8'
57'–60'	9'
OVER 60'	10'

VERTICAL GRANITE CURB — NOT TO SCALE



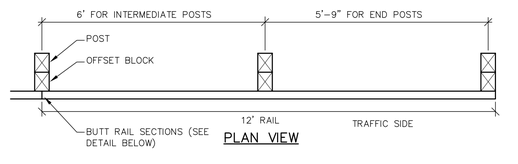
HANDICAP PARKING STALL LAYOUT — NOT TO SCALE



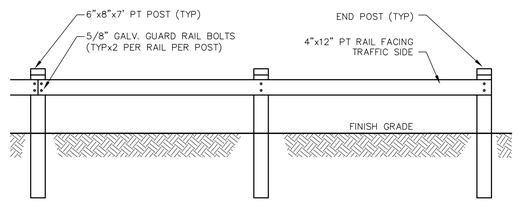
NOTES

1. SYMBOL TO BE PAINTED IN ALL HANDICAPPED ACCESSIBLE SPACES IN WHITE PAINT (BLUE–PAINTED SQUARE BACKGROUND AND WHITE BORDER OPTIONAL).

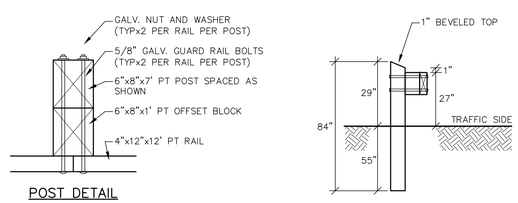
PAINTED HANDICAP SYMBOL — NOT TO SCALE



PLAN VIEW



FRONT VIEW



POST DETAIL — SIDE VIEW

NOTES

1. ALL POST AND RAIL MATERIAL SHALL BE PRESSURE TREATED (PT). PT POSTS SHALL BE RATED FOR GROUND CONTACT.
2. BOLT LENGTH IS DETERMINED BY 8" POST AND RAIL THICKNESS PLUS 1 INCH FOR NUT AND WASHER.
3. ALL MATERIAL TO MEET OR EXCEED NHDOT SECTION 606 – GUARDRAIL.

WOOD BEAM GUARDRAIL — NOT TO SCALE

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133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE — ERIC D. WEINREB — No. 7634 — LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493–SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

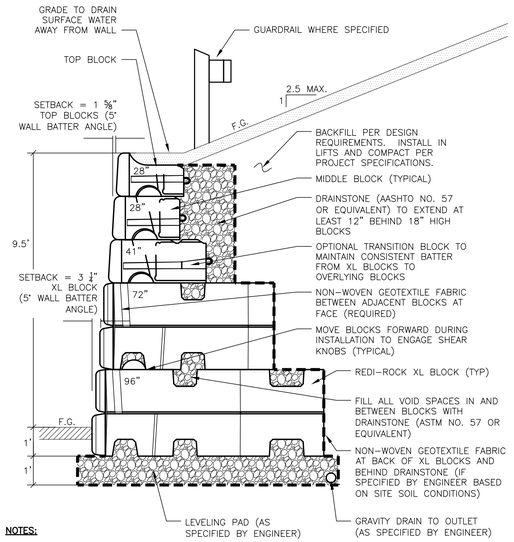
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE: DETAIL SHEET

SHEET NUMBER: C - 11

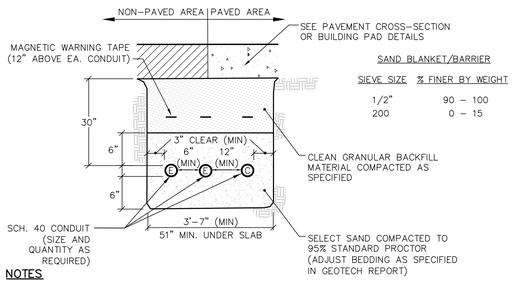
P5493



NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY SHORING, SHEETING AND/OR BRACING OF EXCAVATION WALLS AGAINST PROPERTY LINES OR OTHER AREAS THAT ARE NOT TO BE UNDERMINED.
2. WALL SHALL BE REDI-ROCK OR APPROVED EQUAL.
3. NO RETAINING WALL WORK SHALL EXTEND BEYOND THE LIMITS OF THE PROJECT SITE.
4. THIS DRAWING IS FOR REFERENCE ONLY. FINAL PROJECT DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A NH LICENSED PROFESSIONAL STRUCTURAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE. FINAL WALL DESIGN MUST ADDRESS BOTH INTERNAL AND EXTERNAL DRAINAGE AND ALL MODES OF WALL STABILITY.
5. FINAL WALL DESIGN PLANS STAMPED BY A NH-LICENSED STRUCTURAL ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

MODULAR BLOCK RETAINING WALL NOT TO SCALE



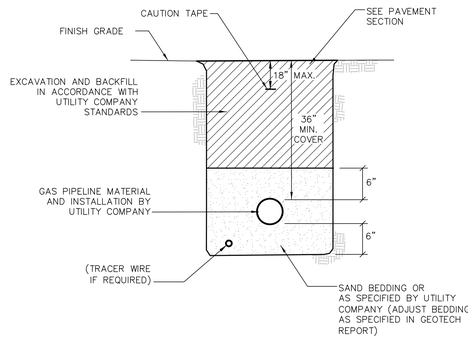
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
8. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



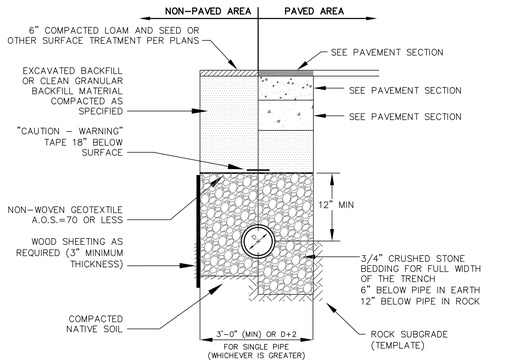
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL REQUIRED FOR PIPE INSTALLATION.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

GAS TRENCH NOT TO SCALE



NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

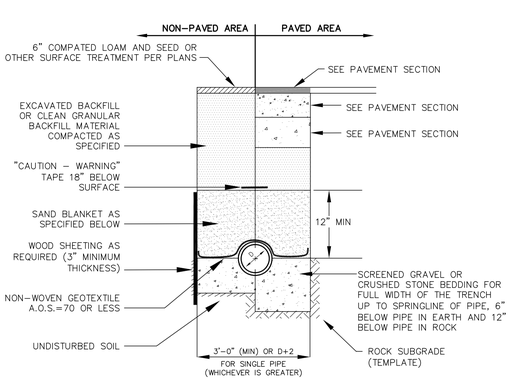
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
3/8"	20 – 55
# 4	0 – 10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

SEWER TRENCH NOT TO SCALE

STANDARD TRENCH NOTES

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT ONLY IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES – DIVISIONS 300 AND 400 RESPECTIVELY.
6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAT 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DOT STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG
   CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH
   CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
11. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.
12. THE CONTRACTOR SHALL INSTALL TRENCH DAMS IN ACCORDANCE WITH NHDES REGULATIONS.
13. SEWER TRENCHES SHALL BE CONSTRUCRTED IN ACCORANCE WITH NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER FACILITES, LATEST EDITION.



NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
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3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
3/8"	20 – 55
# 4	0 – 10
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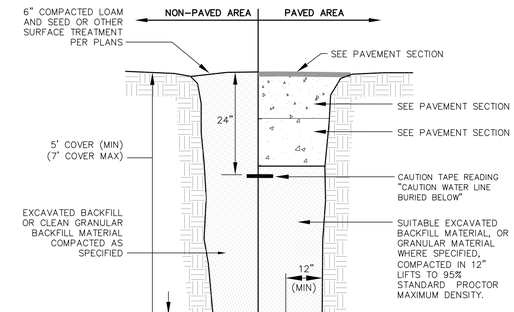
* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

DRAINAGE TRENCH NOT TO SCALE



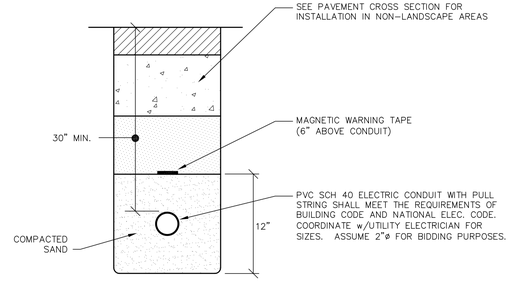
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. ALL TRENCHING AND BACKFILL SHALL CONFORM WITH THE STANDARDS OF EXETER DPW.

WATER MAIN TRENCH NOT TO SCALE



SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. CONTRACTOR TO COORDINATE WITH MEP PLANS AND ELECTRICIAN AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL REQUIRED FOR CONDUIT INSTALLATION.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL ALL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

LIGHTING TRENCH SECTION NOT TO SCALE

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE: DETAIL SHEET

SHEET NUMBER: C - 12

P5493

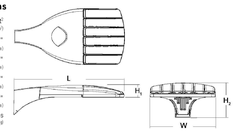
D-Series Size 0
LED Area Luminaire

Catalog Number
Notes
Type

Buy American

Specifications

EPA: 0.95 ft² (.09 m²)
Length: 26" (66.0 cm)
Width: 13" (33.0 cm)
Height$_1$: 3" (7.62 cm)
Height$_2$: 7" (17.8 cm)
Weight (max): 16 lbs (7.3 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7[1] P4[1] **Rotated optics** P10[1] P12[1] P11[1] P13[1]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short[1]	MVOLT (120V-277V)[2,3] XVOLT (277V-480V)[3,4] 120[1] 208[1] 240[1] 277[1] 347[1] 480[1]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[5] WBA Wall bracket SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[11] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adapter (specify finish)[6]

Control options		Other options		Finish (required)	
Shipped installed		**Shipped installed**		DDBXD	Dark bronze
NLTAIR2	nLight AIR generation 2 enabled[8,9]	HS	House-side shield[10]	DBLBD	Black
PIRHN	Network, high/low motion/ambient sensor[9]	SF	Single fuse (120, 277, 347V)[1]	DNAXD	Natural aluminum
PER	NEMA twist-lock receptacle only (control ordered separately)[10]	DF	Double fuse (208, 240, 480V)[4]	DWHXD	White
PERS	Five-pin receptacle only (control ordered separately)[10]	L90	Left rotated optics[1]	DDBTXD	Textured dark bronze
PERT	Seven-pin receptacle only (leads exit fixture) (control ordered separately)[9,10]	R90	Right rotated optics[1]	DBLBKD	Textured black
DMG	0-10V dimming wires; pull back of housing for external control (control ordered separately)[9]	DDL	Diffused drop lens[10]	DNATXD	Textured natural aluminum
		HA	50°C ambient operations[1]	DWHGXD	Textured white
		BAA	Buy American Act Compliant		
		Shipped separately			
		BS	Bird spikes[10]		
		EGS	External glare shield		

ARC1 LED
Architectural Wall Luminaire

Catalog Number
Notes
Type

Specifications

Depth (D1): 6.5"
Depth (D2): 4.75"
Height: 5"
Width: 11"
Weight (without options): 7 lbs

Introduction

The Lithonia Lighting ARC LED wall-mounted luminaires provide both architectural styling and visually comfortable illumination while providing the high energy savings and low initial costs for quick financial payback.

ARC1 delivers up to 3,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of ARC1, with its integrated emergency battery backup option, is ideal for over-the-door applications.

ARC LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Approximate Lumens (4000K)				
			P1	P2	P3	P4	P5
ARC1 LED	4W	--	1,500	2,000	3,000	--	--
ARC2 LED	4W	8W	1,500	2,000	3,000	4,000	6,500

Ordering Information

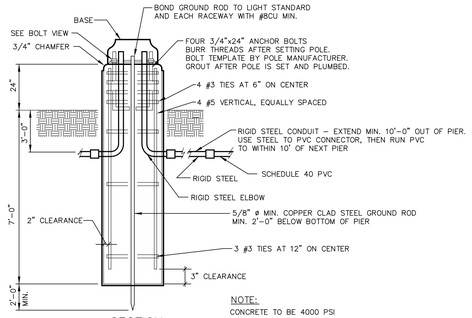
EXAMPLE: ARC1 LED P2 40K MVOLT PE DDBXD

Series	Package	Color Temperature	Voltage	Options		Finish	
ARC1 LED	P1 1,500 Lumens P2 2,000 Lumens P3 3,000 Lumens	30K 3000K 40K 4000K 50K 5000K	MVOLT 347[1]	E4WH Emergency battery backup, CEC compliant (4W, 0°C min)[2] PE Button type photocell for dusk-to-dawn operation DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[1] SPDXKV 6kV surge protection FAO Field adjustable light output device. Allows factory adjustment to the desired light levels, from 70% to 100%[2]		DDBXD Dark bronze DBLBD Black DNAXD Natural aluminum DWHXD White DSSTXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories
Ordered and shipped separately.
WGBW DDBXD U Surface - mounted backbox (specify finish)

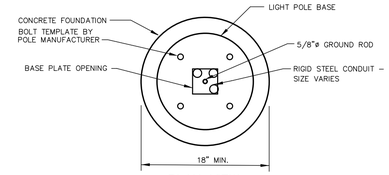
NOTES
1 347V not available with E4WH.
2 FAO not available with DMG.

LIGHT FIXTURE CUT SHEETS — NOT TO SCALE

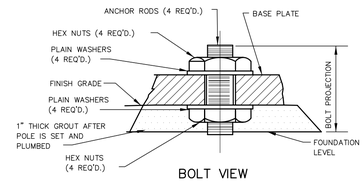


SECTION

NOTE:
CONCRETE TO BE 4000 PSI

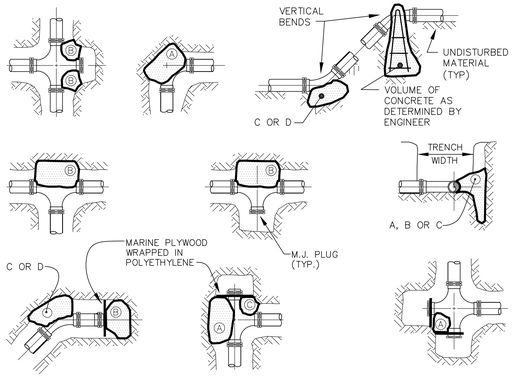


PLAN VIEW



BOLT VIEW

LIGHT POLE BASE — NOT TO SCALE

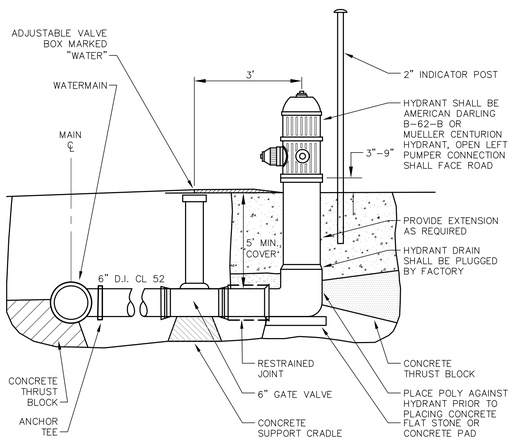


TEST PRESSURE = 150 psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
2. NO JOINTS SHALL BE COVERED WITH CONCRETE. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.
3. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
4. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.

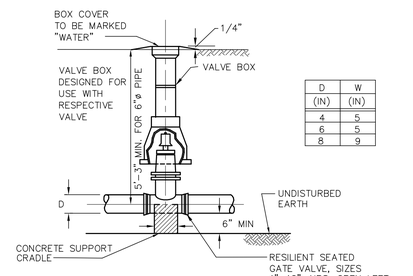
THRUST BLOCKING — NOT TO SCALE



NOTES

1. HYDRANT INSTALLATION AND OPERATION TO CONFORM TO REGULATIONS OF THE EXETER WATER & FIRE DEPARTMENT.
2. HYDRANT TO BE PAINTED YELLOW.
3. FIRE HYDRANT CONNECTION SHALL USE MEGALUG (RODS NOT ALLOWED).
4. DRAIN PLUG SHALL BE PLUGGED.
5. GATE VALVES SHALL BE 6" M.J. RESILIENT SEAT GATE VALVE, OPEN LEFT, CONFORMING TO EXTER WATER DEPARTMENT REQUIREMENTS.

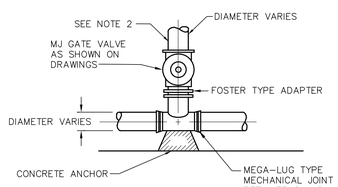
FIRE HYDRANT — NOT TO SCALE



D (IN)	W (IN)
4	5
6	5
8	9

SECTION

WATER VALVE — NOT TO SCALE

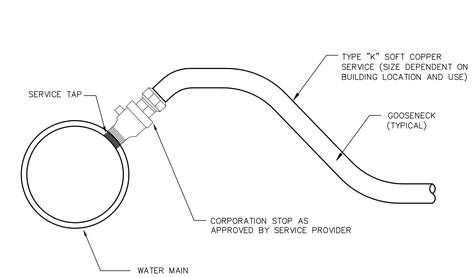


PLAN

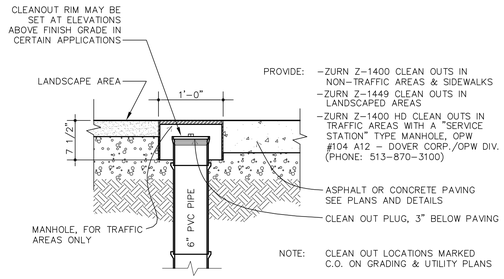
NOTES:

1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

TEE & GATE VALVE ASSEMBLY — NOT TO SCALE



WATER SERVICE CONNECTION — NOT TO SCALE



SEWER CLEANOUT — NOT TO SCALE

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE
ERIC D. WEINRIEB
No. 7634
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE:
AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

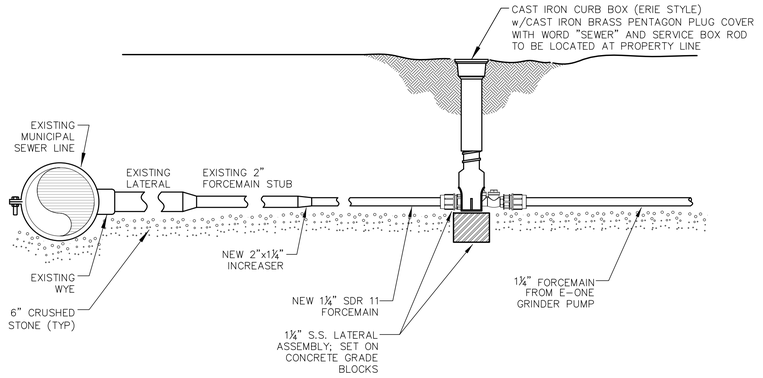
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER
COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
DETAIL SHEET

SHEET NUMBER:
C - 13

P5493



STUB CONNECTION - LOWER PRESSURE SEWER

NOT TO SCALE

Pumping Station: Furnish and install pump station as shown on the plans. Pump station shall include but not be limited to pump, controller, access cover, piping, fittings, valves, level sensors, electric service, siphon breaker, and level controls. Electrical wiring, circuits and conduit shall be designed by an electrical engineer or licensed electrician. All wiring shall be in compliance with the Town of Exeter, New Hampshire codes. All pump motor grinder units shall be of like type and horsepower. All internal discharge piping shall be 304 stainless steel. Contractor to submit shop drawings for all system components.

Pump Chamber: High density polyethylene tank with melt index of 2.0 grams /10 minutes or lower to dimensions shown. Corrugated sections shall be of double wall construction with a smooth interior wall.

Pumps: Low pressure pumps shall be supplied capable of delivering 15 gpm at 0' TDH and 9 gpm at 138' TDH. Pump must also be capable of operating at negative TDH without overloading motor. Motor shall be one phase, 1 h.p., and 1,725 rpm unless otherwise specified by the manufacturer and approved by the Engineer. Pumps shall be grinder sewage pump designed to operate in low pressure systems such as E\One semi-positive displacement sewer grinder pumps Model DH272 manufactured by Environment One Corporation (www.eone.com) or approved equal.

Piping: Contractor shall provide 1-¼" HDPE SDR 11 discharge pipe and 4" PVC SDR 35 gravity inlet pipe with push on joints and all other fittings necessary to provide a complete working system. Install full ported stainless steel ball valve rated for 200 psi minimum in discharge pipe (see detail). PVC ball valves will not be accepted. The working pressure of all check valves and curb stop shall be 150 psi minimum. Contractor shall provide redundant check valve assembly per manufacturer's recommendation. Piping shall be pressure tested for one hour at 100 psi.

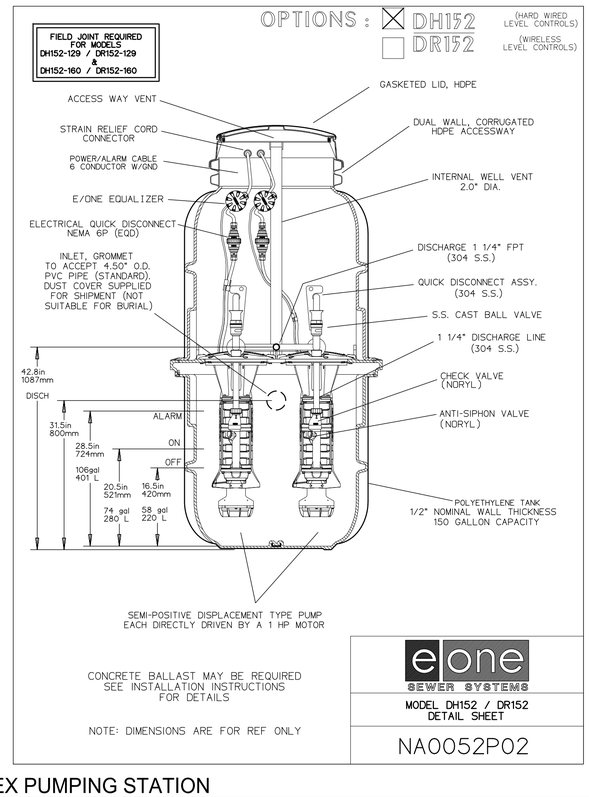
Controls: Non-fouling wastewater level controls for controlling pump operation shall be accomplished by monitoring the pressure changes in an integral air column connected to a pressure switch. Level detection device shall have no moving parts in direct contact with the wastewater. ON/OFF and High-level alarm functions shall not be controlled by the same switch.

Alarm Panel: NEMA 4X, UL listed duplex alternating alarm panel suitable for wall mounting. NEMA 4X enclosure shall include a hinged, lockable cover, padlock, and secured dead front. The alarm panel shall include the following features: run time meters, audio & visual alarm, push-to-run switch, and high level (redundant) pump starting control. Alarm sequence to be per manufacturer's installation instructions. Locate panel on building wall or post according to local codes and Owner's preference.

Ballast: Pump station shall not be installed without installation of ballast. See anchoring system detail.

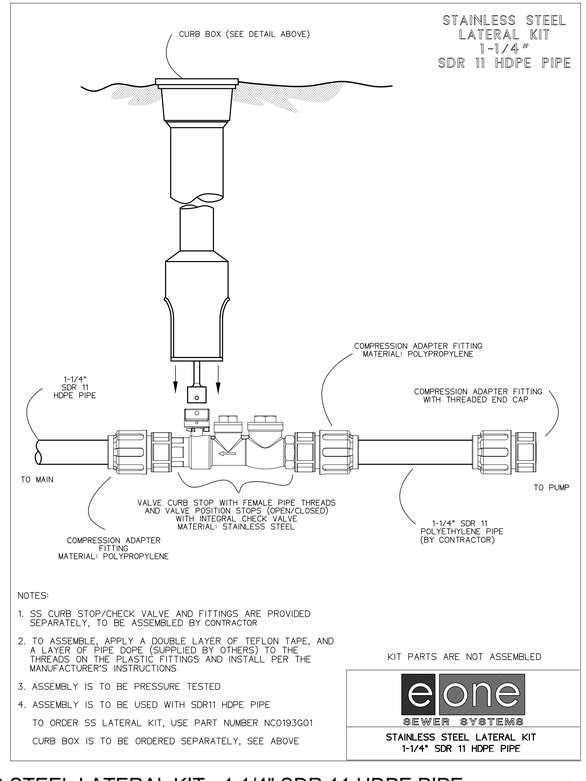
PUMPING STATION SPECIFICATIONS

NOT TO SCALE



DUPLEX PUMPING STATION

NOT TO SCALE



STAINLESS STEEL LATERAL KIT - 1 1/4" SDR 11 HDPE PIPE

NOT TO SCALE

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE: DETAIL SHEET

SHEET NUMBER: C - 14

P5493

WILDLIFE PROTECTION

1. NORTHERN BLACK RACER OCCUR WITHIN THE VICINITY OF THE PROJECT AREA. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THIS SPECIES AND SHALL BE PROVIDED FLYERS THAT HELP TO IDENTIFY THIS SPECIES, ALONG WITH NHFG CONTACT INFORMATION. RARE SPECIES INFORMATION (E.G. IDENTIFICATION, OBSERVATION AND REPORTING OF OBSERVATIONS, WHEN TO CONTACT NHFG IMMEDIATELY AND NHFG CONTACT INFORMATION) SHALL BE COMMUNICATED DURING MORNING TAILGATE MEETINGS PRIOR TO WORK COMMENCEMENT DURING THE CONSTRUCTION PHASE OF THE PROJECT. SEE PLAN SHEET C-15.

2. OBSERVATIONS OF NORTHERN BLACK RACERS IN THE MONTHS OF APRIL-MAY AND SEPTEMBER-OCTOBER MAY INDICATE THE POTENTIAL FOR A DEN SITE ON OR NEAR THE PROJECT SITE. OBSERVATIONS OF THIS SPECIES DURING THIS TIMEFRAME SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM. PLEASE CONTACT MELISSA WINTERS (603-479-1129) OR BRENDAN CLIFFORD (603-944-0885). OBSERVATIONS OF THIS SPECIES OUTSIDE OF THIS TIMEFRAME CAN FOLLOW GENERAL REPORTING GUIDANCE. PLEASE INCLUDE PHOTOGRAPH WITH TEXT IF FEASIBLE.

3. TURTLES AND SNAKES MAY BE ATTRACTED TO DISTURBED GROUND DURING NESTING SEASON. TURTLE NESTING SEASON OCCURS APPROXIMATELY MAY 15TH – JUNE 30TH. ALL TURTLE SPECIES NESTS AND NORTHERN BLACK RACER NESTS ARE PROTECTED BY NH LAWS. IF A NEST IS OBSERVED OR SUSPECTED, OPERATORS SHALL CONTACT MELISSA WINTERS (603-479-1129) OR JOSH MEGYESY (978-578-0802) AT NHFG IMMEDIATELY FOR FURTHER CONSULTATION. THE NEST OR SUSPECTED NEST SHALL BE MARKED (SURROUNDING ROPED OFF OR CONE BUFFER DEPLOYED) AND AVOIDED; THIS SHALL BE COMMUNICATED TO ALL PERSONNEL ONSITE. SITE ACTIVITIES SHALL NOT OCCUR IN THE AREA SURROUNDING THE NEST OR SUSPECTED NEST UNTIL FURTHER GUIDANCE IS PROVIDED BY NHFG.

4. OUTLET CONTROL STRUCTURES SHALL NOT CONTAIN SUMPS.

5. CATCH BASINS SHALL BE EQUIPPED WITH GRATES WITH OPENINGS OF 2"X2" OR SMALLER.

6. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENT MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC, OR MULTIFILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES.

7. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES ON THE PROJECT SITE SHALL BE REPORTED IMMEDIATELY TO THE NHFG NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV, WITH THE EMAIL SUBJECT LINE CONTAINING THE NHB DATACHECK TOOL RESULTS LETTER ASSIGNED NUMBER, THE PROJECT NAME, AND THE TERM WILDLIFE SPECIES OBSERVATION.

8. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHFG IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION, AS FEASIBLE.

9. IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHFG AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHFG.

10. SITE OPERATORS SHALL BE ALLOWED TO RELOCATE WILDLIFE ENCOUNTERED IF DISCOVERED WITHIN THE ACTIVE WORK ZONE IF IN DIRECT HARM FROM PROJECT ACTIVITIES. WILDLIFE SHALL BE RELOCATED IN CLOSE PROXIMITY TO THE CAPTURE LOCATION BUT OUTSIDE OF THE WORK ZONE AND IN THE DIRECTION THE INDIVIDUAL WAS HEADING. NHFG SHALL BE CONTACTED IMMEDIATELY IF THIS ACTION OCCURS.

11. THE NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

12. WOOD TURTLE (STATE SPECIES OF SPECIAL CONCERN) OCCUR WITHIN THE VICINITY OF THE PROJECT AREA. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THESE SPECIES AND SHALL BE PROVIDED FLYERS THAT HELP TO IDENTIFY THESE SPECIES, ALONG WITH NHFG CONTACT INFORMATION.

Northern Black Racer

(New Hampshire state threatened species)

Emerge from hibernacula in April, Basking April - August,

Hatchlings emerge August - September, Return to hibernacula mid-September - mid-October

- Solid black with a white throat and chin
- Slender with glossy scales, 3-6 ft. long
- Hatchlings are very small and patterned

Immediately report sightings to NH Fish and Game
Melissa Doperalski (603-479-1129) or
Brendan Clifford (603-944-0885)
Please report promptly, noting specific location and date
Photographs strongly encouraged

Fis 1401.03 (a) No person shall take or possess a black racer (*Coluber constrictor*)...or any egg or part thereof.

Wood Turtle *(Glyptemys insculpta)*

(New Hampshire Species of Special Concern)

Turtles may be attracted to disturbed ground during nesting season (May 15th – June 30th)

Turtles are most active from April 15th - October 15th - maintain silt fences during this time

- Neck and forelimbs are orange.
- Characterized by its highly sculpted shell with each large scute taking on an irregular pyramidal shape.
- Adults can be 5-8 inches long.

Please report sightings to NH Fish and Game at RAARP@wildlife.nh.gov or at 603-271-2461. Photo documentation, location, and date/time of observation is helpful.

NOTE: It is illegal to remove a wood turtle from the wild (RSA 207:1, FIS 804.02).
Fis 1401.03 (a) No person shall take or possess a...wood turtle (*Glyptemys insculpta*)...or any egg or part thereof.

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR: SITE PLAN AMENDMENT

ISSUE DATE: OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE: AS NOTED

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

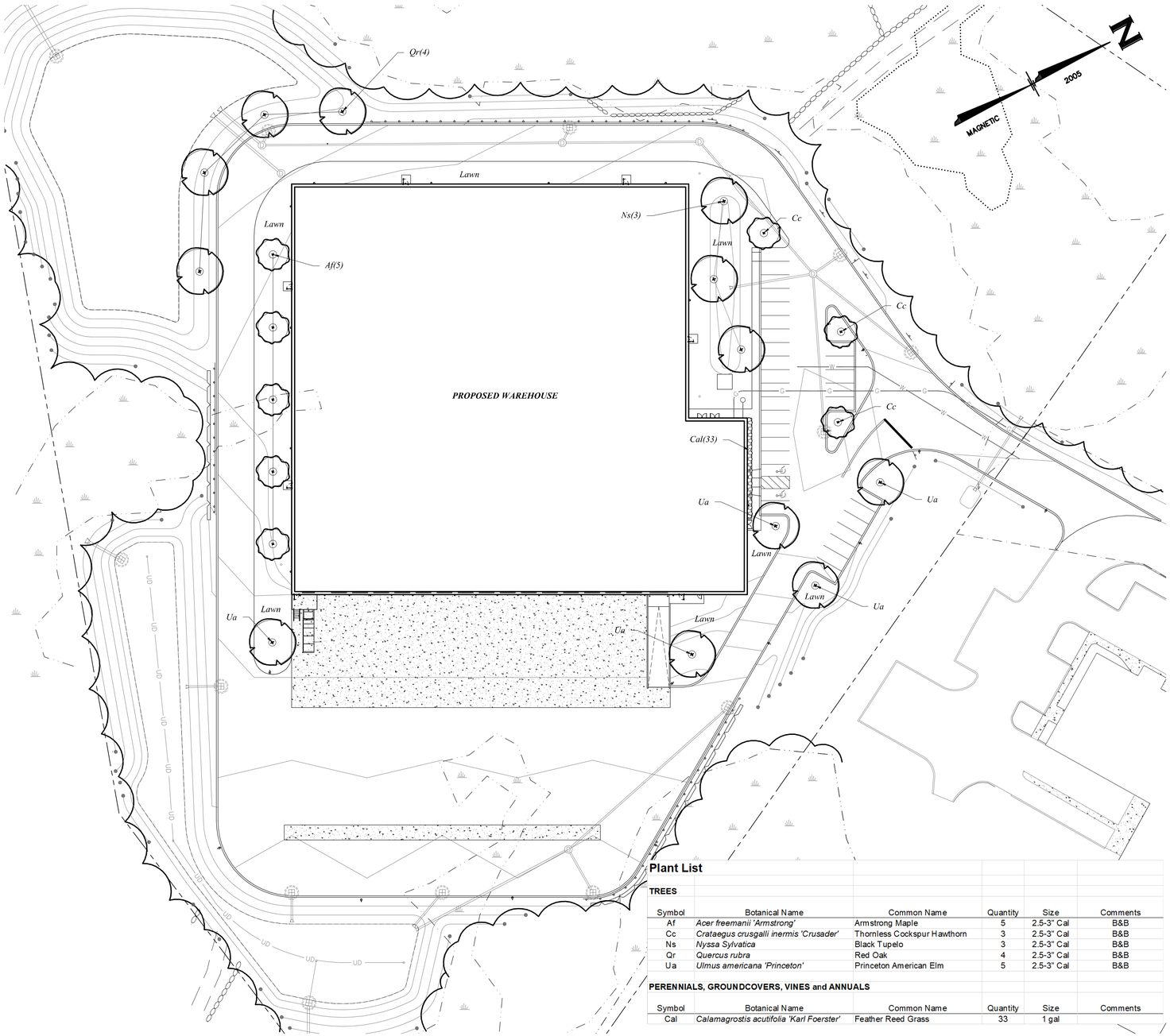
APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
EXETER
COLD STORAGE
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
DETAIL SHEET

SHEET NUMBER:
C - 15

P5493



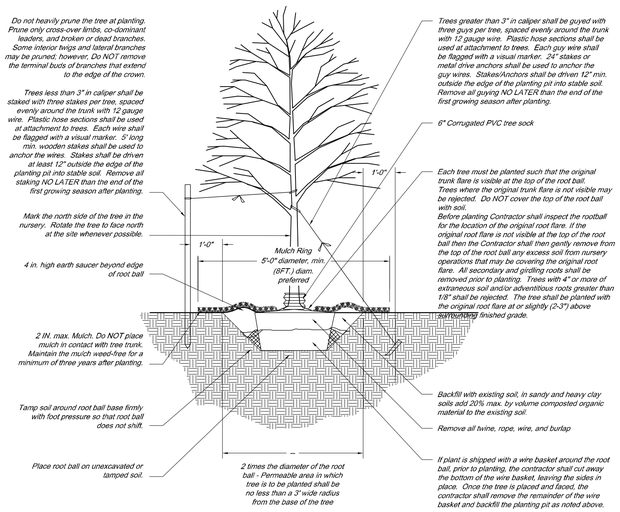
Plant List

TREES

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Af	*Acer freemanii 'Armstrong'*	Armstrong Maple	5	2.5-3" Cal	B&B
Cc	*Crataegus crusgalli inermis 'Crusader'*	Thornless Cockspur Hawthorn	3	2.5-3" Cal	B&B
Ns	*Nyssa Sylvatica*	Black Tupelo	3	2.5-3" Cal	B&B
Qr	*Quercus rubra*	Red Oak	4	2.5-3" Cal	B&B
Ua	*Ulmus americana 'Princeton'*	Princeton American Elm	5	2.5-3" Cal	B&B

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Cal	*Calamagrostis acutifolia 'Karl Foerster'*	Feather Reed Grass	33	1 gal	



Tree Planting Detail

Landscape Notes

1. Design is based on drawings by Altus Engineering and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
5. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
6. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
7. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
8. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
9. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
10. The Contractor shall procure any required permits prior to construction.
11. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
12. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
13. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
14. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
15. All plants shall be legibly tagged with proper botanical name.
16. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with the following:
    a. Outside hose attachments spaced a maximum of 150 feet apart, and
    b. An underground irrigation system, or
    c. A temporary irrigation system designed for a two-year period of plant establishment.
20. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
21. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
22. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
23. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
24. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
25. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 8' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicular intersections the canopies shall be raised to 8' min.
26. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
27. Landscape Architect is not responsible for the means and methods of the contractor.

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

NOT FOR CONSTRUCTION

ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	VM	10/23/23

DRAWN BY: VM
APPROVED BY: RW
DRAWING FILE: 5493-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

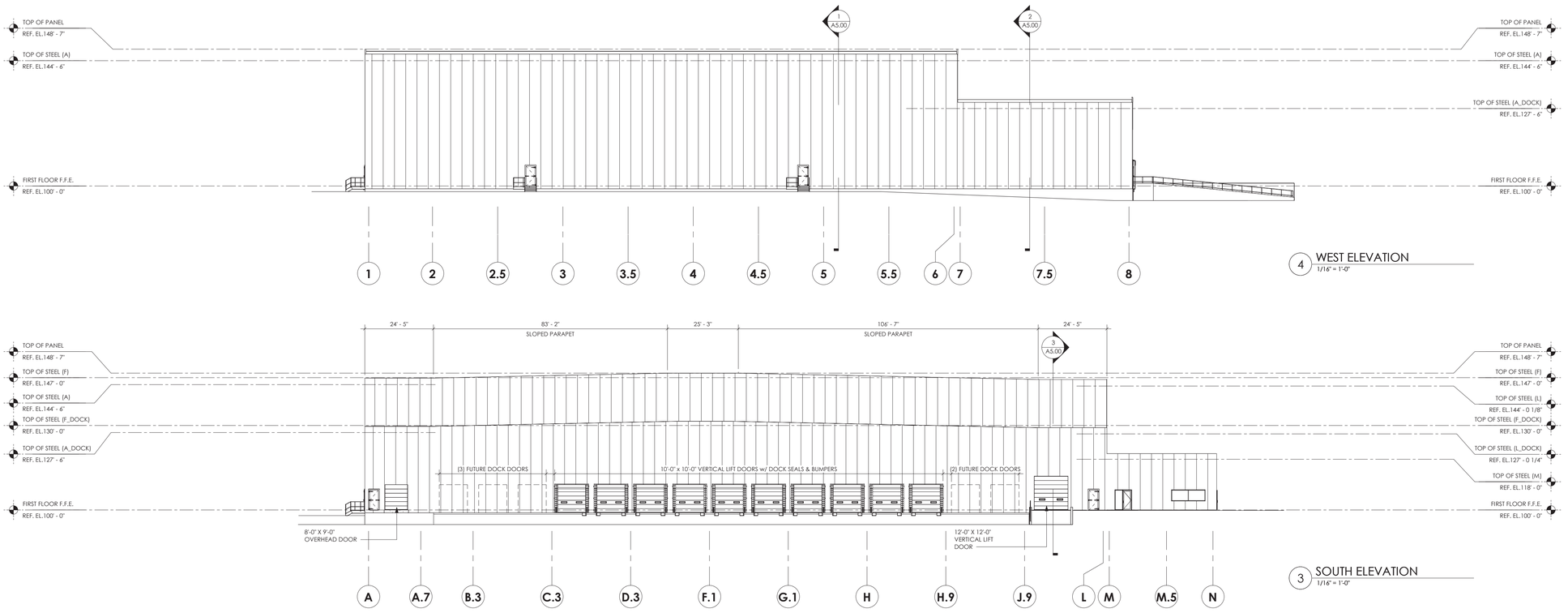
OWNER:
GLERUPS, INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
SINGH REALTY
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
L - 1



Rev.	Date	Revision Description

Ryan A. Marshall, Architect

Exeter Cold Storage
New Cooler and Office Suite
19 Continental Drive
Exeter, NH

CMC Design • Build
One Adams Place
859 Willard Street Ste 300
Quincy MA 02169
t 617 328 7899
f 617 328 1779
www.cmcdesign-build.com

Architectural Elevations

0' 0.5' 1' 2'

SCALE:	1/16" = 1'-0"
DATE:	21 September, 2023
DRAWN BY:	Author

A4.00

20906

10/23/2023 2:25:08 PM

DRAINAGE ANALYSIS

FOR

Exeter Cold Storage

19 Continental Drive
Exeter NH

Tax Map 46, Lot 7

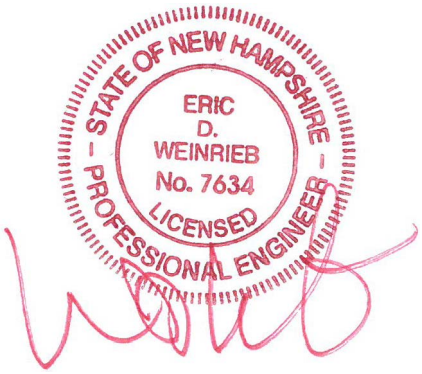
October 24, 2023

Prepared For:

Singh Realty Group
6 Fondi Road
Haverhill, MA 01832

Prepared By:

ALTUS ENGINEERING
133 Court Street
Portsmouth, NH 03801
Phone: (603) 433-2335



ALTUS ENGINEERING

Altus Project 5493

Table of Contents

ALTUS ENGINEERING

Section 1

Narrative

ALTUS
ENGINEERING, INC.

PROJECT DESCRIPTION

Singh Realty Group is proposing to construct a ±76,509 sf warehouse facility on an undeveloped lot located at 19 Continental Drive in Exeter, New Hampshire. The 20.24-acre property is identified as Assessor's Map 46, Lot 7 and is located in the Corporate/Technology Park (CT-1) District. The site is primarily wooded with the exception of a small area of clearing done as part of an abandoned previously approved project and an area around a cell tower near Continental Drive. Access to the development site is via an easement over the adjacent Map 46, Lot 6 around which the property wraps.

The proposed project will construct a new warehouse facility serviced by municipal water and sewer, paved accessways and parking areas and stormwater treatment measures. These measures will include a bioretention pond and an infiltration pond. Pretreatment will be provided by catch basins with deep sumps and grease hoods. The proposed stormwater management system will reduce peak flows and treat runoff from the entirety of the site's impervious areas prior to leaving the site.

Site Soils

Schauer Environmental Consultants, LLC completed a high-intensity soil survey (HISS) for a previous project at this site. This survey indicates that the subject property can be broken into hydrologic soils groups HSG B and HSG C.

Pre-Development (Existing Conditions)

Three wetland fingers extend into the parcel through which runoff generally flows in a southerly direction across adjacent conservation land eventually discharging to the Little River. The site hydrology is characterized by three existing subcatchments as delineated on the accompanying "Pre-Development Watershed Plan". Site runoff was analyzed at three points of analysis (POA) where the wetland fingers cross the property line and at a fourth POA totaling the sites total discharge.

Post-Development (Proposed Conditions)

The post-development conditions were analyzed at the same discharge points as the pre-development conditions. The post-development watersheds are delineated on the accompanying "Post-Development Watershed Plan". Modifications to the delineated areas and associated ground cover were made to sub-catchments to account for the improvements to the property.

As shown on the attached Post-Development Watershed Plan, the site was divided into twenty-three post-development subcatchment areas. The same points of analysis in the Pre-Development model were used for comparison of the Pre- and Post-development conditions.

The Post-Development Watershed Plan illustrates the proposed stormwater management system. Site topography, existing features, proposed site improvements, proposed grading, drainage and erosion control measures are shown on the accompanying plans. Recommended erosion control measures are based upon the December 2008 edition of the "*New Hampshire Stormwater Manual Volumes 1 through 3*" prepared by NHDES and Comprehensive Environmental, Inc. as amended.

CALCULATION METHODS

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method with automated calculation of tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25 and 50 year - 24-hour storm events using rainfall data provided by the Northeast Regional Climate Center (NRCC). As the project site lies within a Coastal and Great Bay Community identified by NHDES Alteration of Terrain, all rainfall amounts were increased by 15% to account for potential future increases in rainfall due to climate change. A time span of 0 to 36 hours was analyzed at 0.01-hour increments. The design infiltration rate used in the infiltration pond was calculated from the SSSNNE publication *Ksat for New Hampshire Soils* using the average of the lowest rates in the C-horizon of the soil subtypes comprising the in-situ material (Chatfield-Hollis-Canton) divided by two.

Disclaimer

Altus Engineering, Inc. notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (ke), velocity factors (kv) and times of concentration (Tc) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (Cn) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Drainage Analysis

A complete summary of the drainage model is included in the appendix of this report. The following table compares pre- and post-development peak rates at the Point of Analysis identified on the plans for the 2, 10, 25 and 50-year storm events:

Stormwater Modeling Summary
Peak Q (cfs) for Type III 24-Hour Storm Events

	2-Yr Storm (4.10 inch)	10-Yr Storm (6.39 inch)	25-Yr Storm (8.22 inch)	50-Yr Storm (9.97 inch)
POA #1 (South)				
Pre	2.26	5.41	8.18	10.93
Post	1.33	3.81	5.61	7.21
Change	**-0.93**	**-1.60**	**-2.57**	**-3.72**
POA #2 (Middle)				
Pre	2.13	5.84	9.24	12.69
Post	0.96	4.92	8.52	11.62
Change	**-1.17**	**-0.92**	**-0.72**	**-1.07**
POA #3 (North)				
Pre	4.00	9.51	14.39	19.24
Post	3.99	7.46	13.55	17.32
Change	**-0.01**	**-0.05**	**-0.84**	**-1.92**
POA #4 (Combined Site)				
Pre	7.29	18.08	27.83	37.59
Post	5.73	15.83	23.40	30.28
Change	**-1.56**	**-2.25**	**-4.43**	**-7.31**

As the above table demonstrates, the proposed peak rates of runoff at the point of analysis will be decreased from the existing conditions for all analyzed storm events.

POLLUTANT REMOVAL

Based on the New Hampshire Stormwater Manual (Volume 2), the following pollutant removal rates would be expected from the implementation of the proposed stormwater BMPs:

Pollutant	Removal Efficiency
Total Suspended Solids (TSS)	90%
Total Nitrogen (TN)	65%
Total Phosphorus (TP)	60-65%

CONCLUSION

This proposed site development of property located at 19 Continental Drive in Exeter, New Hampshire will have minimal adverse effect on abutting properties and infrastructure as a result of stormwater runoff or siltation. Post-construction peak rates of runoff from the site will be lower than the existing conditions for all analyzed storm events. The new stormwater management system will also provide appropriate treatment to runoff from 100% of the proposed on-site impervious surfaces. Appropriate steps will be taken to properly mitigate erosion and sedimentation through the use of temporary and permanent Best Management Practices for sediment and erosion control, including deep sump catch basins with grease hoods, bioretention ponds and an infiltration basin.

Section 2

Aerial Photo and USGS Map

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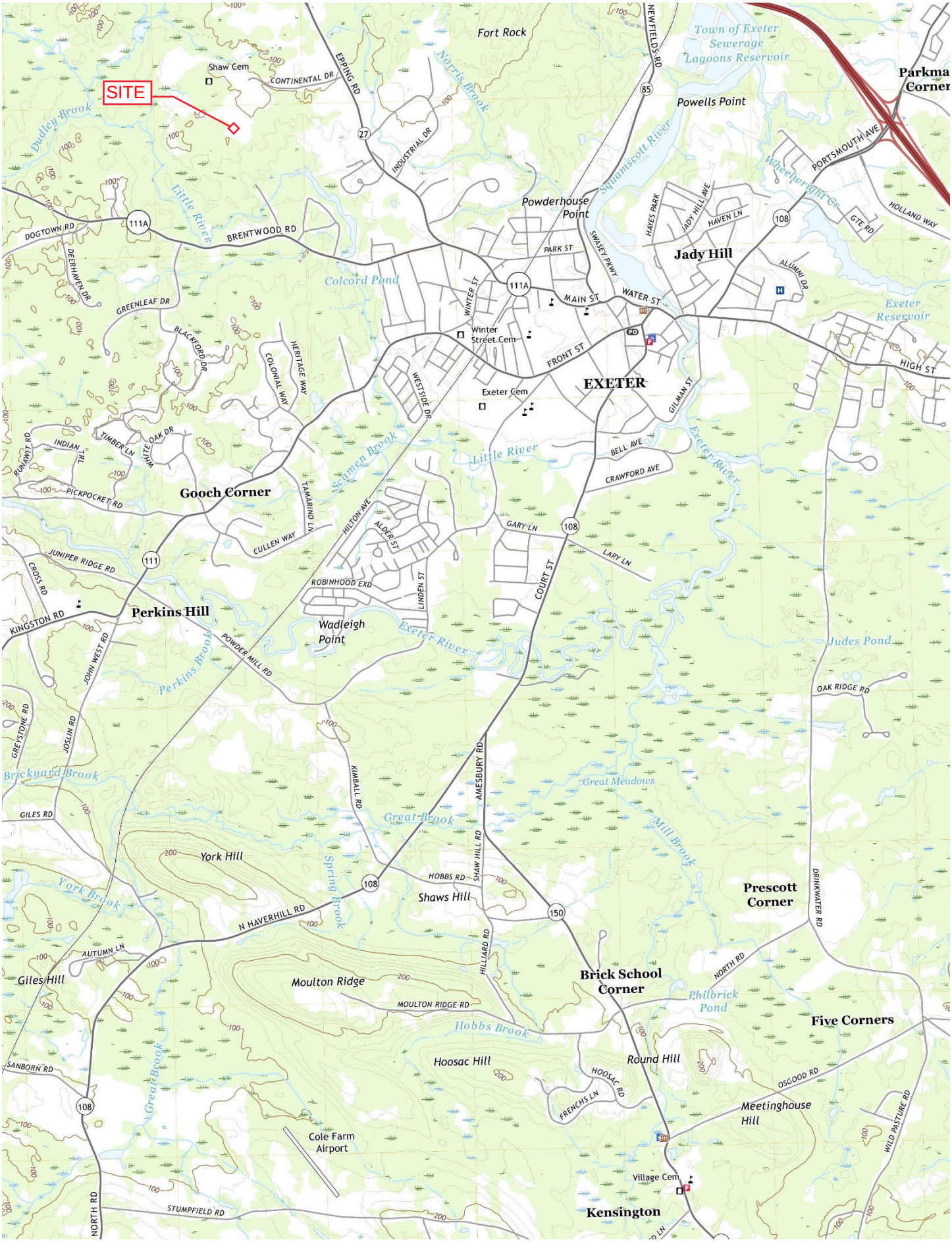
SITE
Fort Rock
Shaw Cem
CONTINENTAL DR
EPPING RD
NEWFIELDS RD
Town of Exeter Sewerage Lagoons Reservoir
Parkma Corner
Powells Point
Squamscott River
PORTSMOUTH AVE
Wheelwright Gr
HOLLAND WAY
GTE RD
Dudley Brook
Little River
Norris Brook
INDUSTRIAL DR
Powderhouse Point
HAYES PARK
JADY HILL AVE
HAVEN LN
Jady Hill
ALUMNI DR
DOGTOWN RD
BRENTWOOD RD
PARK ST
SWASEY PKWY
Colcord Pond
WINTER ST
MAIN ST
WATER ST
Exeter Reservoir
DEERHAVEN DR
GREENLEAF DR
BLACKFORD DR
COLONIAL WAY
HERITAGE WAY
Winter Street Cem
FRONT ST
HIGH ST
WESTSIDE DR
Exeter Cem
EXETER
GILMAN ST
RUNAWAY RD
INDIAN TRL
TIMBER LN
WHITE OAK DR
Seamen Brook
Little River
BELL AVE
CRAWFORD AVE
Exeter River
PICKPOCKET RD
Gooch Corner
TAMARIND LN
HILTON AVE
ALDER ST
GARY LN
CULLEN WAY
JUNIPER RIDGE RD
CROSS RD
ROBINHOOD EXD
LINDEN ST
COURT ST
LARY LN
KINGSTON RD
Perkins Hill
Wadleigh Point
Exeter River
Judes Pond
JOHN WEST RD
POWDER MILL RD
Perkins Brook
OAK RIDGE RD
GREYSTONE RD
JOSLIN RD
Brickyard Brook
AMESBURY RD
KIMBALL RD
Great Meadows
GILES RD
Great Brook
Mill Brook
York Hill
SHAW HILL RD
HOBBS RD
Prescott Corner
DRINKWATER RD
York Brook
Spring Brook
Shaws Hill
N HAVERHILL RD
AUTUMN LN
HILLIARD RD
NORTH RD
Giles Hill
Moulton Ridge
Brick School Corner
Philbrick Pond
MOULTON RIDGE RD
Five Corners
Hobbs Brook
Hoosac Hill
Round Hill
HOOSAC RD
FRENCHS LN
OSGOOD RD
SANBORN RD
GreatBrook
Meetinghouse Hill
WILD PASTURE RD
Cole Farm Airport
Village Cem
NORTH RD
STUMPFIELD RD
Kensington


N
GourmetGiftBaskets.com
Gift basket store
Gourmet Pl
Energy Way
Energy Way
Energy Way
Frank Webb Home
Bathroom supply store
New Hampshire
Corrections Department
Eastern States
Auto Repair
Auto repair shop
Epping Rd
Exeter Decorating Center
Carpet store
Tire Warehouse
Tire shop
Jillian Ln
Murray Academy
of Irish Dance
Jaguar Exeter
Jaguar dealer
Continental Dr
Continental Dr
Continental Dr
Continental Dr
Gove Environmental
Services
Sawbelly Brewing
Takeout
Cobham
flippityflop
Kings Way Ave
The Ultimate Bath Store
Bathroom supply store
Exeter Motor Works
North Atlantic Power
Store It Now |
Storage King
Palmer
Plumbing &
Rust Auto Shippers
Allard St
Michael Ave
Michael Ave
Colcord Pond
Colcord Pond Dr
Laperle
Little River
Little River
Google

Section 3

Drainage Calculations

Pre-Development
2-Year, 24-Hour Summary
10-Year, 24-Hour Complete
25-Year, 24-Hour Summary
50-Year, 24-Hour Summary

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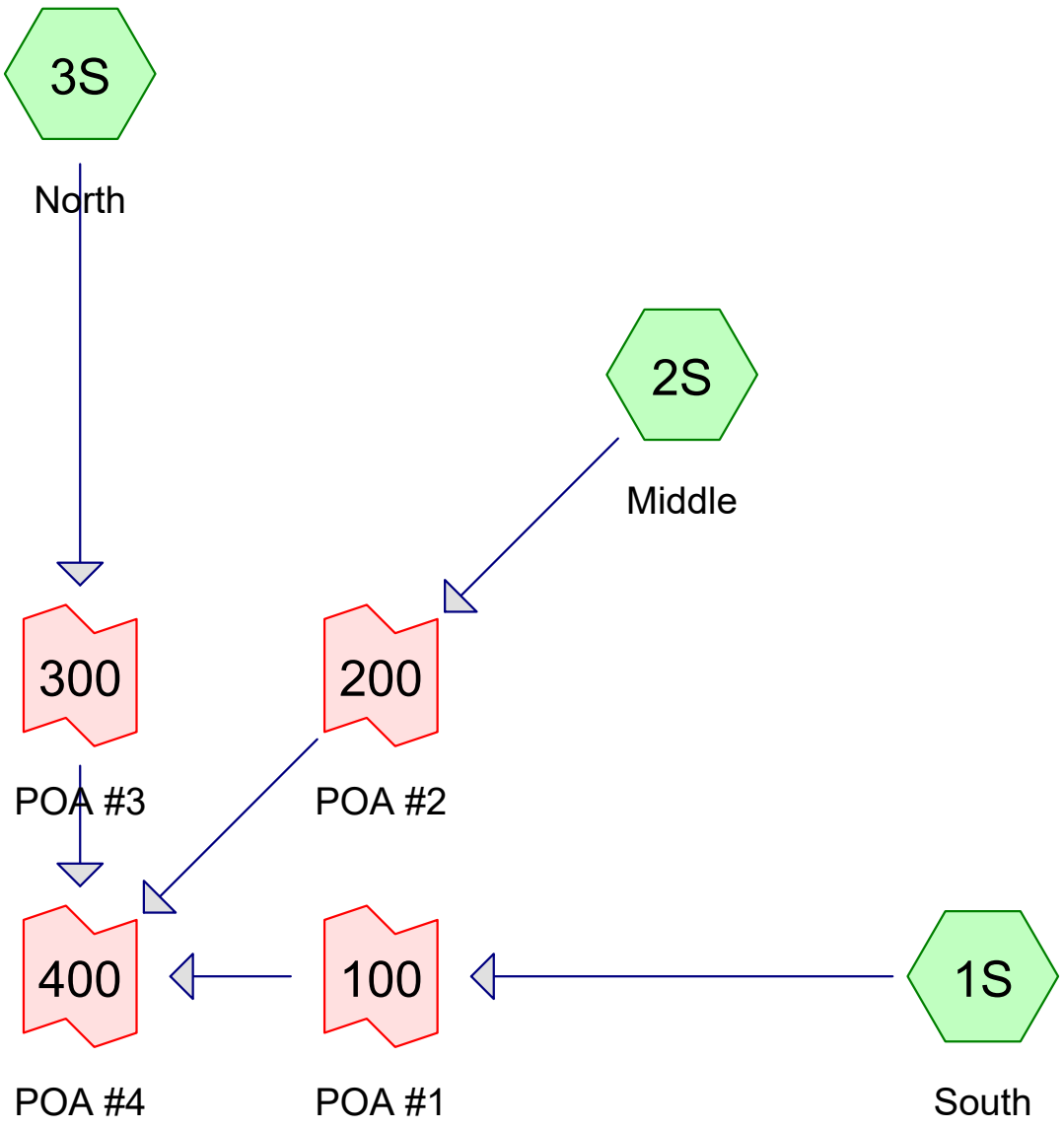


Subcat Reach Pond Link

Routing Diagram for 4839.DS.Pre
Prepared by Altus Engineering, Inc., Printed 6/30/2022

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: South Runoff Area=99,362 sf 0.00% Impervious Runoff Depth=1.21"
Flow Length=540' Tc=20.0 min CN=67 Runoff=2.00 cfs 0.229 af

Subcatchment 2S: Middle Runoff Area=139,809 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=480' Tc=24.0 min CN=63 Runoff=1.98 cfs 0.260 af

Subcatchment 3S: North Runoff Area=250,529 sf 1.03% Impervious Runoff Depth=0.86"
Flow Length=1,045' Tc=43.6 min CN=61 Runoff=2.29 cfs 0.414 af

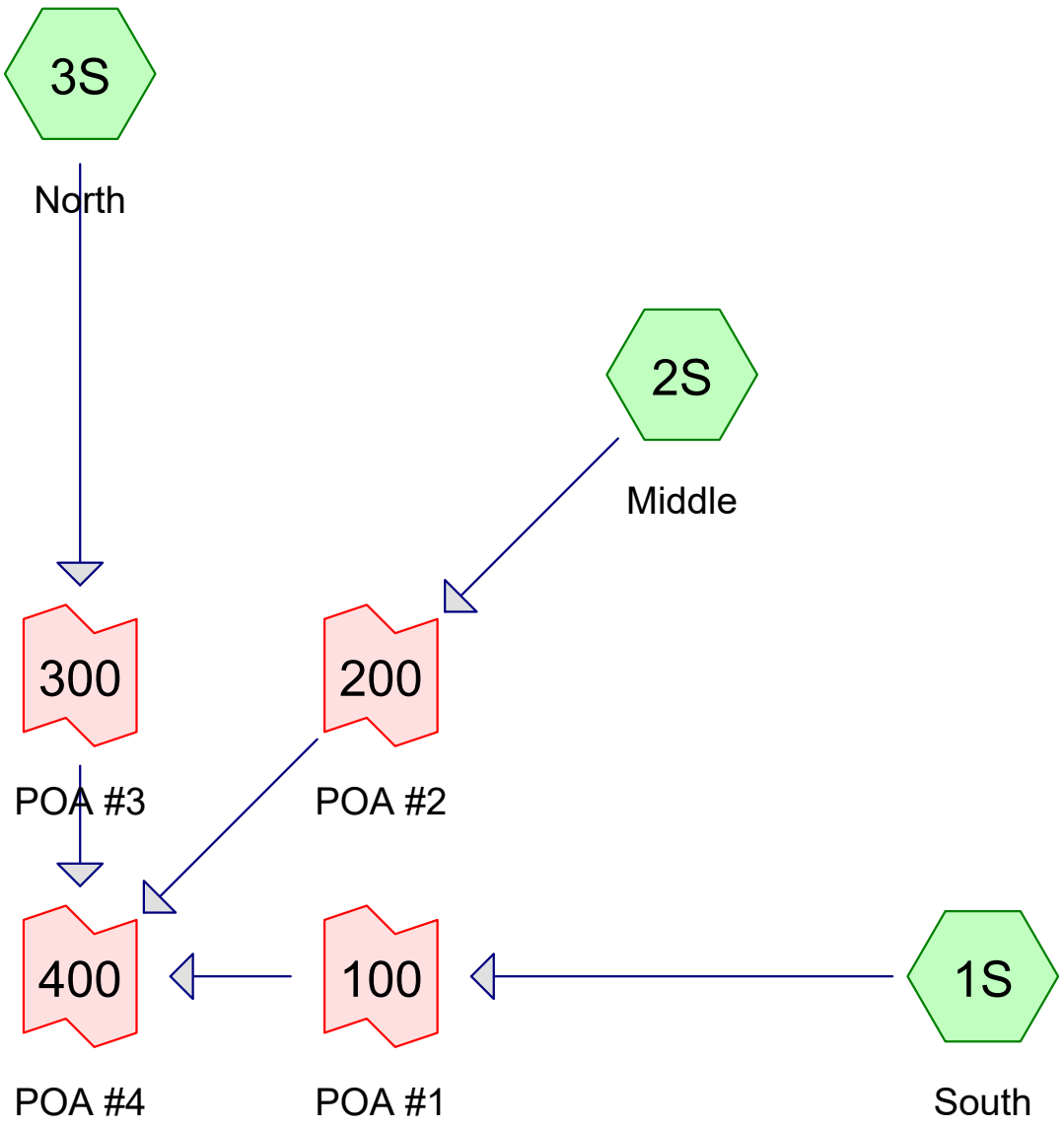
Link 100: POA #1 Inflow=2.00 cfs 0.229 af
Primary=2.00 cfs 0.229 af

Link 200: POA #2 Inflow=1.98 cfs 0.260 af
Primary=1.98 cfs 0.260 af

Link 300: POA #3 Inflow=2.29 cfs 0.414 af
Primary=2.29 cfs 0.414 af

Link 400: POA #4 Inflow=5.29 cfs 0.904 af
Primary=5.29 cfs 0.904 af

Total Runoff Area = 11.242 ac Runoff Volume = 0.904 af Average Runoff Depth = 0.96"
99.47% Pervious = 11.183 ac 0.53% Impervious = 0.059 ac



Subcat Reach Pond Link

Routing Diagram for 4839.DS.Pre
Prepared by Altus Engineering, Inc., Printed 6/30/2022

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.139	74	>75% Grass cover, Good, HSG C (3S)
0.059	98	Gravel, HSG B (3S)
5.495	55	Woods, Good, HSG B (1S, 2S, 3S)
5.549	70	Woods, Good, HSG C (1S, 2S, 3S)
11.242	**63**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
5.554	HSG B	1S, 2S, 3S
5.688	HSG C	1S, 2S, 3S
0.000	HSG D	
0.000	Other	
11.242		**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: South Runoff Area=99,362 sf 0.00% Impervious Runoff Depth=2.83"
Flow Length=540' Tc=20.0 min CN=67 Runoff=5.04 cfs 0.538 af

Subcatchment 2S: Middle Runoff Area=139,809 sf 0.00% Impervious Runoff Depth=2.45"
Flow Length=480' Tc=24.0 min CN=63 Runoff=5.60 cfs 0.656 af

Subcatchment 3S: North Runoff Area=250,529 sf 1.03% Impervious Runoff Depth=2.27"
Flow Length=1,045' Tc=43.6 min CN=61 Runoff=6.93 cfs 1.088 af

Link 100: POA #1 Inflow=5.04 cfs 0.538 af
Primary=5.04 cfs 0.538 af

Link 200: POA #2 Inflow=5.60 cfs 0.656 af
Primary=5.60 cfs 0.656 af

Link 300: POA #3 Inflow=6.93 cfs 1.088 af
Primary=6.93 cfs 1.088 af

Link 400: POA #4 Inflow=15.14 cfs 2.282 af
Primary=15.14 cfs 2.282 af

Total Runoff Area = 11.242 ac Runoff Volume = 2.282 af Average Runoff Depth = 2.44"
99.47% Pervious = 11.183 ac 0.53% Impervious = 0.059 ac

Summary for Subcatchment 1S: South

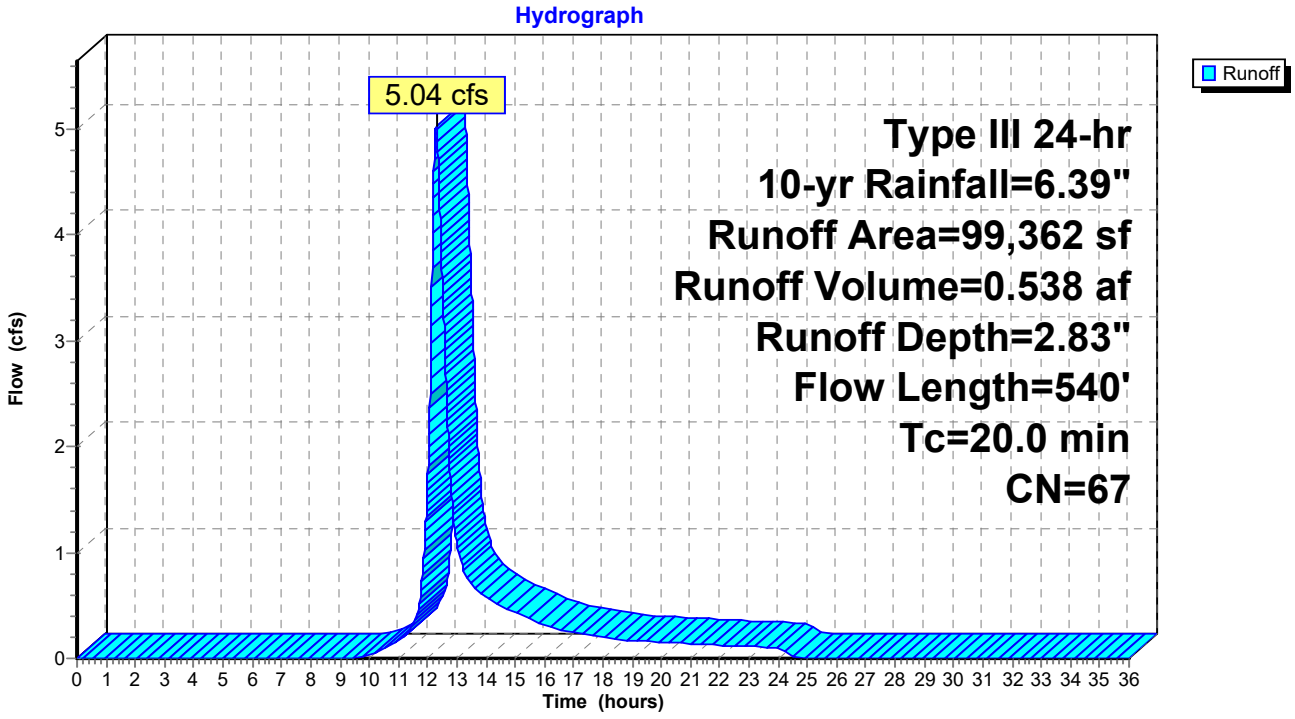
Runoff = 5.04 cfs @ 12.29 hrs, Volume= 0.538 af, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
18,262	55	Woods, Good, HSG B
81,100	70	Woods, Good, HSG C
99,362	67	Weighted Average
99,362		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	70	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 4.10"
7.0	470	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.0	540	Total			

Subcatchment 1S: South



Summary for Subcatchment 2S: Middle

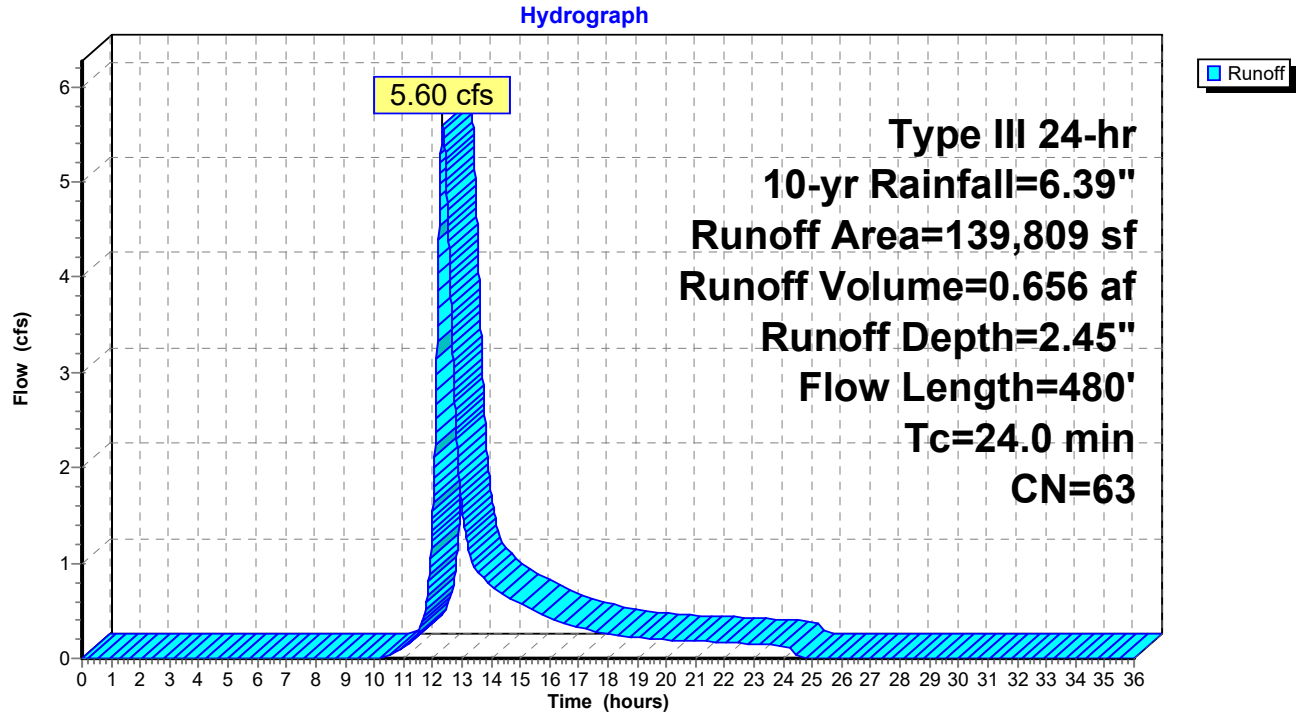
Runoff = 5.60 cfs @ 12.35 hrs, Volume= 0.656 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
65,340	55	Woods, Good, HSG B
74,469	70	Woods, Good, HSG C
139,809	63	Weighted Average
139,809		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.1000	0.10		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 4.10"
6.6	380	0.0370	0.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.0	480	Total			

Subcatchment 2S: Middle



Summary for Subcatchment 3S: North

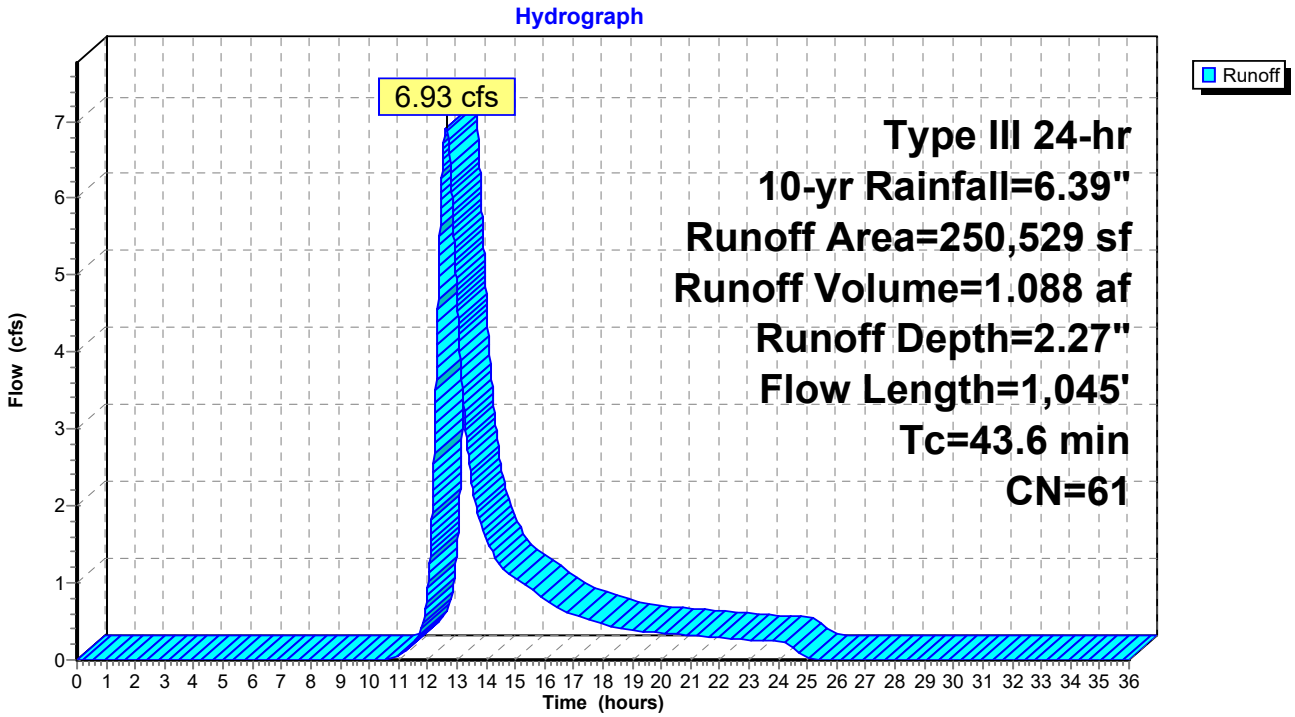
Runoff = 6.93 cfs @ 12.64 hrs, Volume= 1.088 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

	Area (sf)	CN	Description
	155,771	55	Woods, Good, HSG B
	86,143	70	Woods, Good, HSG C
	6,041	74	>75% Grass cover, Good, HSG C
*	2,574	98	Gravel, HSG B
	250,529	61	Weighted Average
	247,955		98.97% Pervious Area
	2,574		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0600	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 4.10"
22.3	945	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.6	1,045	Total			

Subcatchment 3S: North

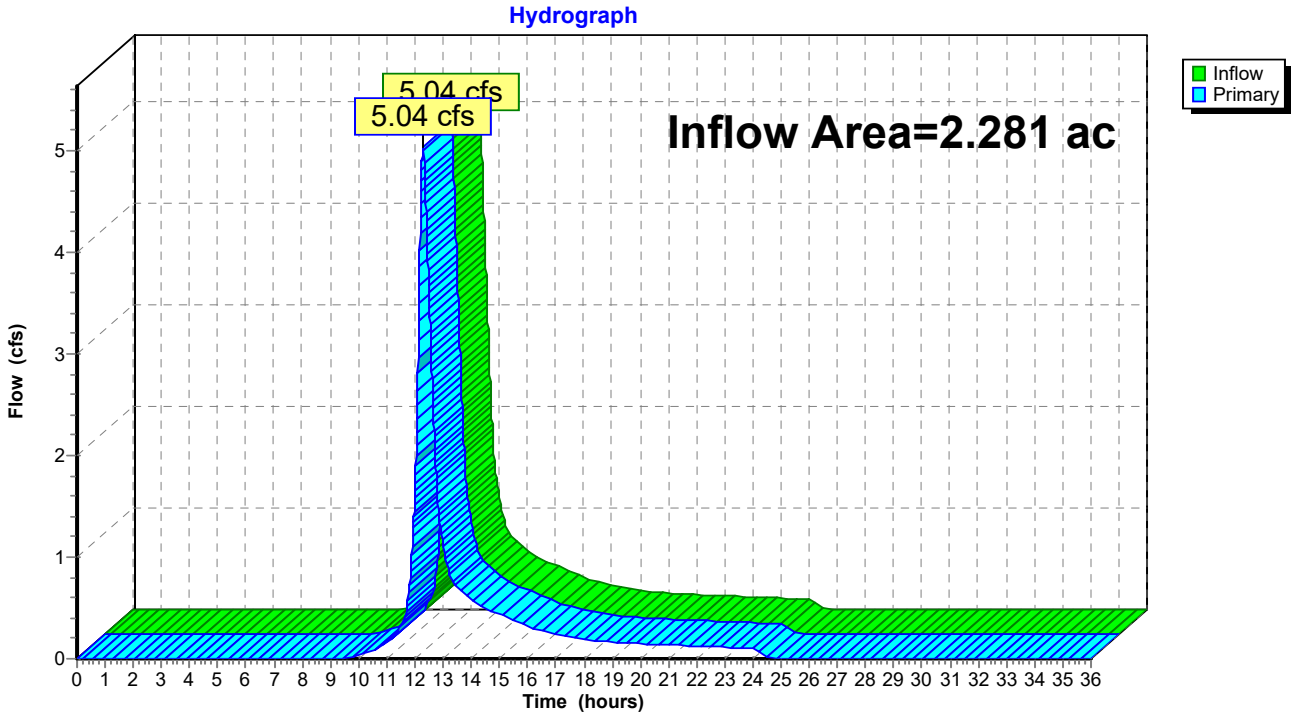


Summary for Link 100: POA #1

Inflow Area = 2.281 ac, 0.00% Impervious, Inflow Depth = 2.83" for 10-yr event
Inflow = 5.04 cfs @ 12.29 hrs, Volume= 0.538 af
Primary = 5.04 cfs @ 12.29 hrs, Volume= 0.538 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 100: POA #1

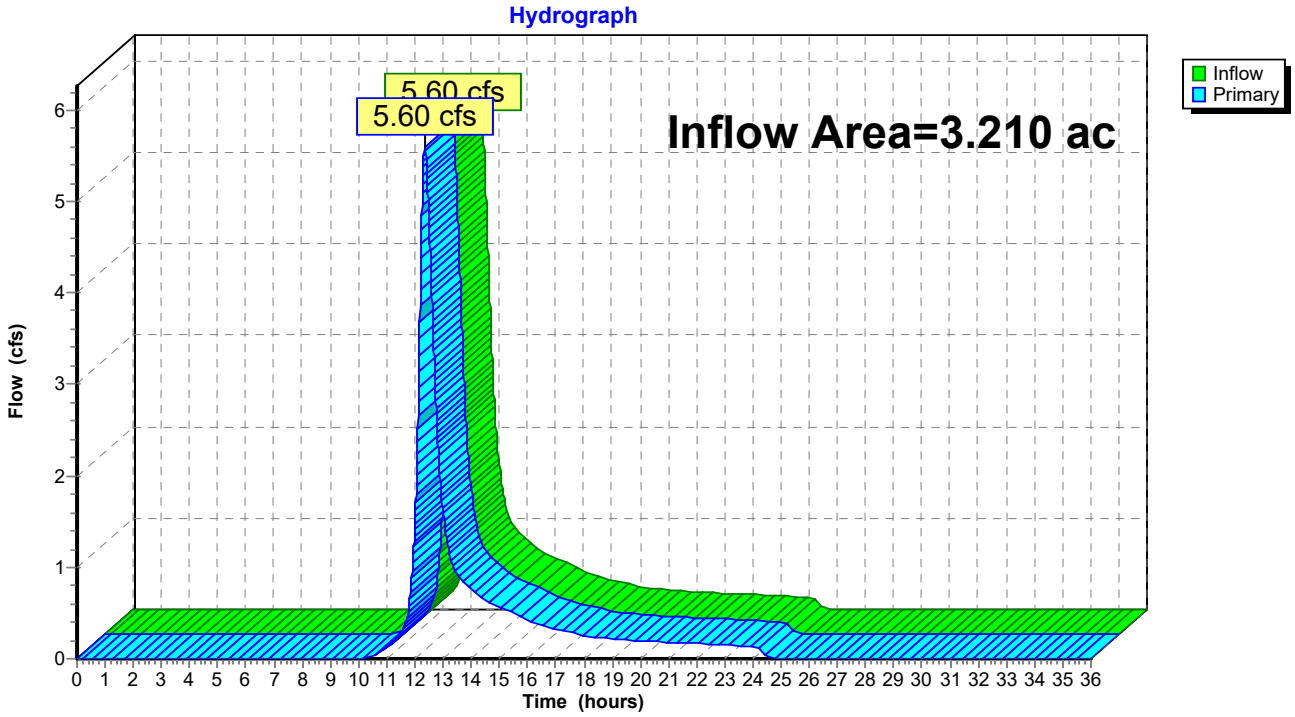


Summary for Link 200: POA #2

Inflow Area = 3.210 ac, 0.00% Impervious, Inflow Depth = 2.45" for 10-yr event
Inflow = 5.60 cfs @ 12.35 hrs, Volume= 0.656 af
Primary = 5.60 cfs @ 12.35 hrs, Volume= 0.656 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 200: POA #2

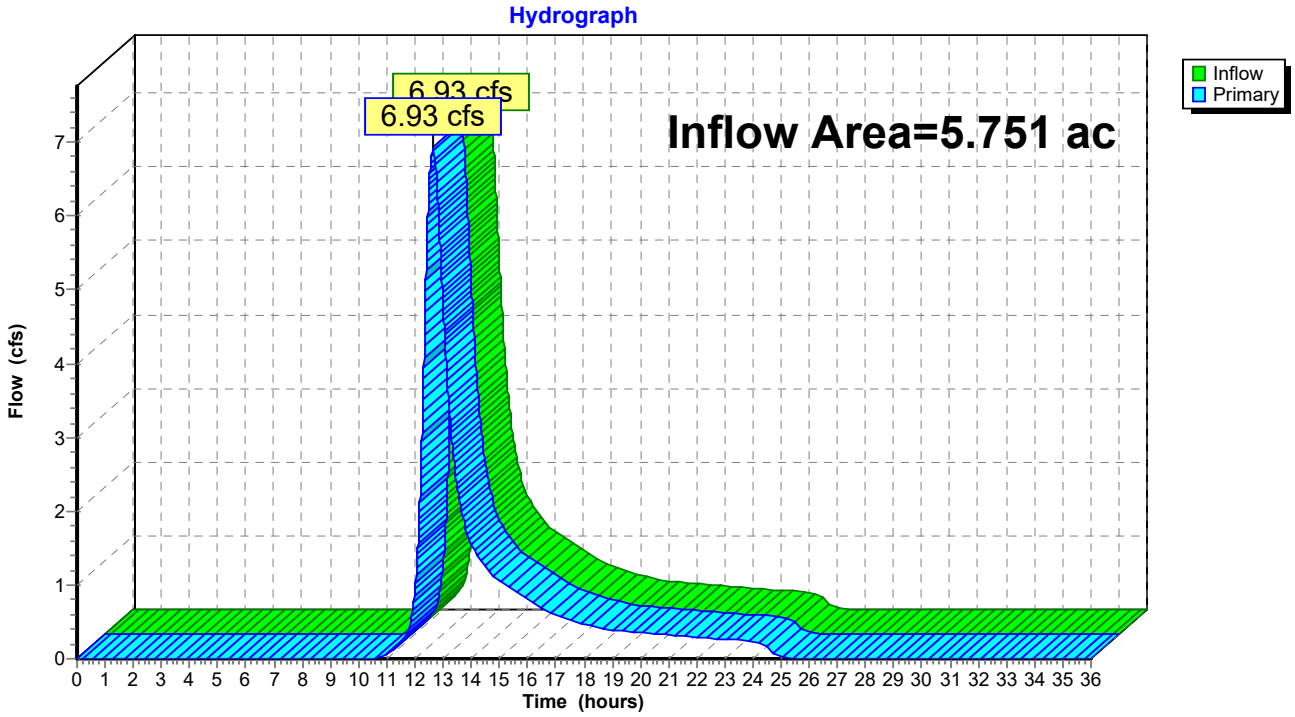


Summary for Link 300: POA #3

Inflow Area = 5.751 ac, 1.03% Impervious, Inflow Depth = 2.27" for 10-yr event
Inflow = 6.93 cfs @ 12.64 hrs, Volume= 1.088 af
Primary = 6.93 cfs @ 12.64 hrs, Volume= 1.088 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 300: POA #3

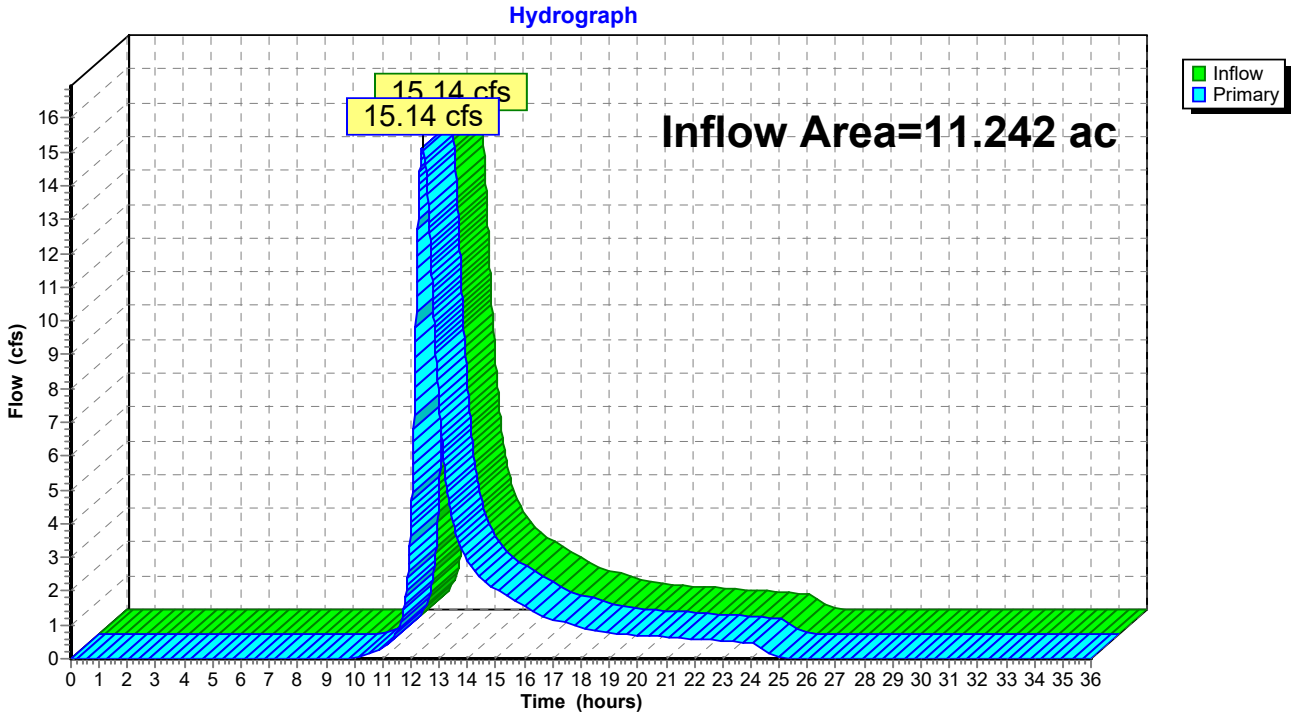


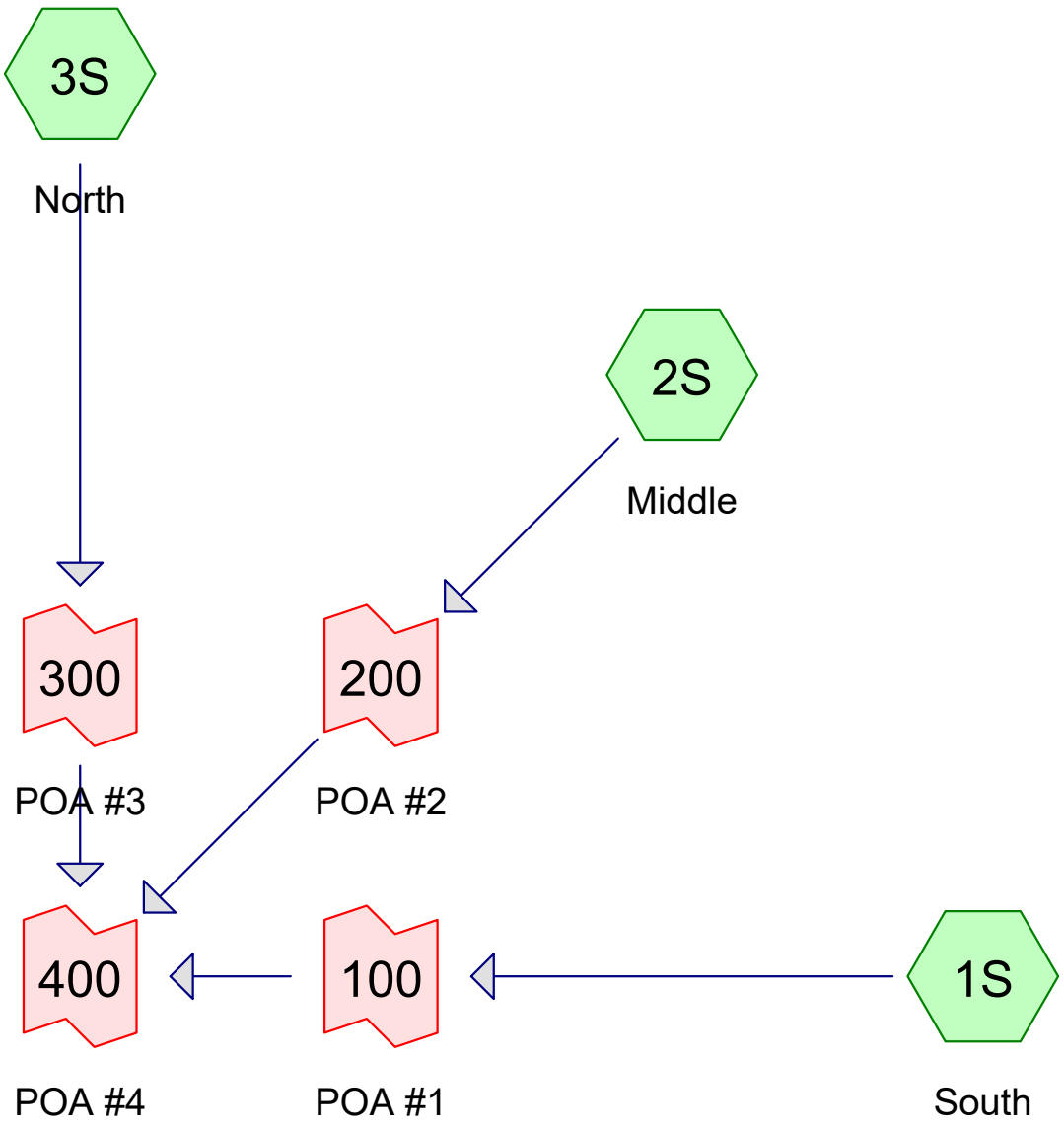
Summary for Link 400: POA #4

Inflow Area = 11.242 ac, 0.53% Impervious, Inflow Depth = 2.44" for 10-yr event
Inflow = 15.14 cfs @ 12.40 hrs, Volume= 2.282 af
Primary = 15.14 cfs @ 12.40 hrs, Volume= 2.282 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 400: POA #4





Subcat Reach Pond Link

Routing Diagram for 4839.DS.Pre
Prepared by Altus Engineering, Inc., Printed 6/30/2022

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: South Runoff Area=99,362 sf 0.00% Impervious Runoff Depth=4.30"
Flow Length=540' Tc=20.0 min CN=67 Runoff=7.75 cfs 0.818 af

Subcatchment 2S: Middle Runoff Area=139,809 sf 0.00% Impervious Runoff Depth=3.84"
Flow Length=480' Tc=24.0 min CN=63 Runoff=8.96 cfs 1.028 af

Subcatchment 3S: North Runoff Area=250,529 sf 1.03% Impervious Runoff Depth=3.61"
Flow Length=1,045' Tc=43.6 min CN=61 Runoff=11.32 cfs 1.732 af

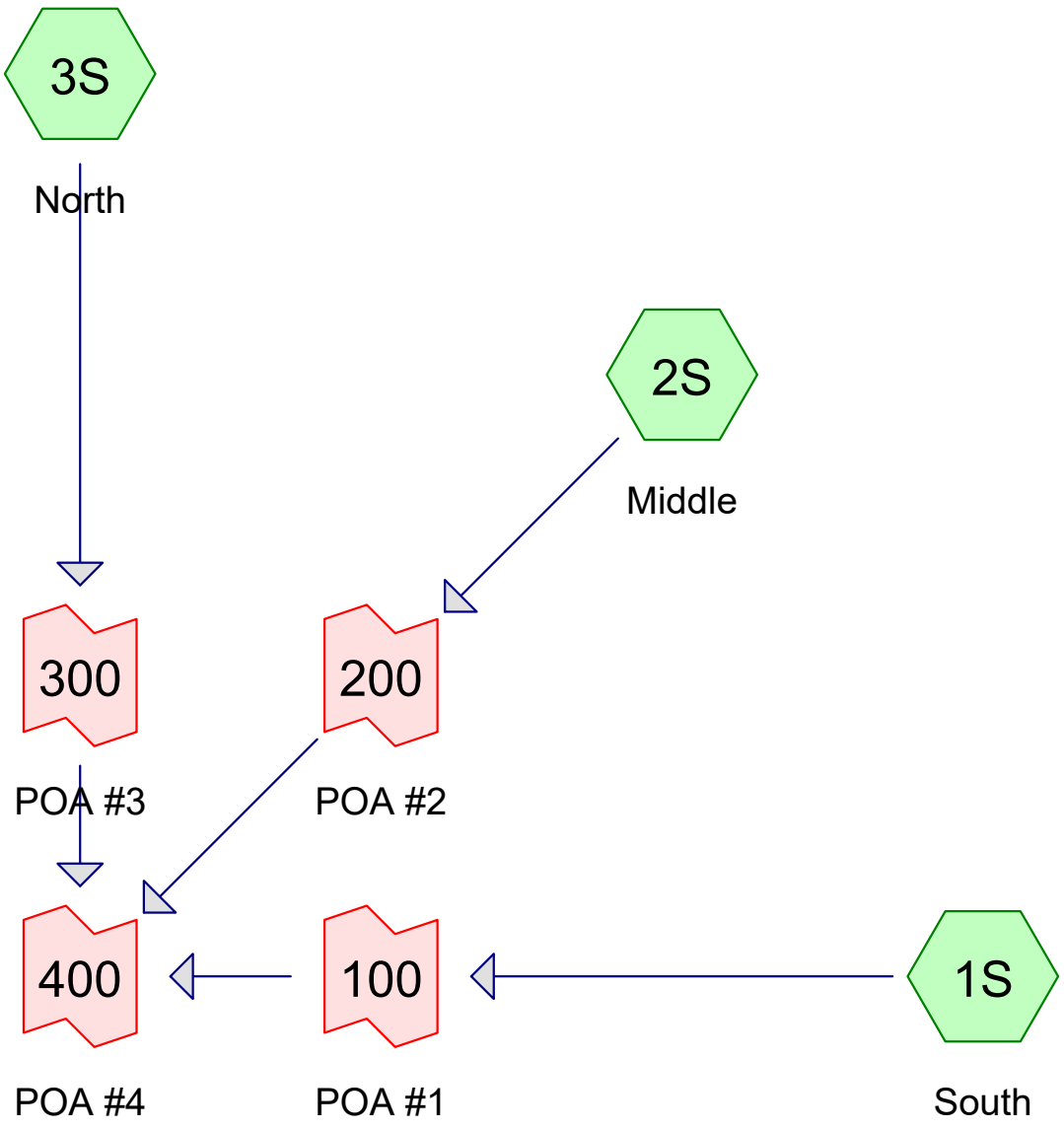
Link 100: POA #1 Inflow=7.75 cfs 0.818 af
Primary=7.75 cfs 0.818 af

Link 200: POA #2 Inflow=8.96 cfs 1.028 af
Primary=8.96 cfs 1.028 af

Link 300: POA #3 Inflow=11.32 cfs 1.732 af
Primary=11.32 cfs 1.732 af

Link 400: POA #4 Inflow=24.34 cfs 3.578 af
Primary=24.34 cfs 3.578 af

Total Runoff Area = 11.242 ac Runoff Volume = 3.578 af Average Runoff Depth = 3.82"
99.47% Pervious = 11.183 ac 0.53% Impervious = 0.059 ac



Subcat Reach Pond Link

Routing Diagram for 4839.DS.Pre
Prepared by Altus Engineering, Inc., Printed 6/30/2022

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: South Runoff Area=99,362 sf 0.00% Impervious Runoff Depth=5.80"
Flow Length=540' Tc=20.0 min CN=67 Runoff=10.46 cfs 1.103 af

Subcatchment 2S: Middle Runoff Area=139,809 sf 0.00% Impervious Runoff Depth=5.27"
Flow Length=480' Tc=24.0 min CN=63 Runoff=12.37 cfs 1.411 af

Subcatchment 3S: North Runoff Area=250,529 sf 1.03% Impervious Runoff Depth=5.01"
Flow Length=1,045' Tc=43.6 min CN=61 Runoff=15.83 cfs 2.400 af

Link 100: POA #1 Inflow=10.46 cfs 1.103 af
Primary=10.46 cfs 1.103 af

Link 200: POA #2 Inflow=12.37 cfs 1.411 af
Primary=12.37 cfs 1.411 af

Link 300: POA #3 Inflow=15.83 cfs 2.400 af
Primary=15.83 cfs 2.400 af

Link 400: POA #4 Inflow=33.70 cfs 4.914 af
Primary=33.70 cfs 4.914 af

Total Runoff Area = 11.242 ac Runoff Volume = 4.914 af Average Runoff Depth = 5.25"
99.47% Pervious = 11.183 ac 0.53% Impervious = 0.059 ac

Section 4

Drainage Calculations

Post-Development
2-Year, 24-Hour Summary
10-Year, 24-Hour Complete
25-Year, 24-Hour Summary
50-Year, 24-Hour Summary

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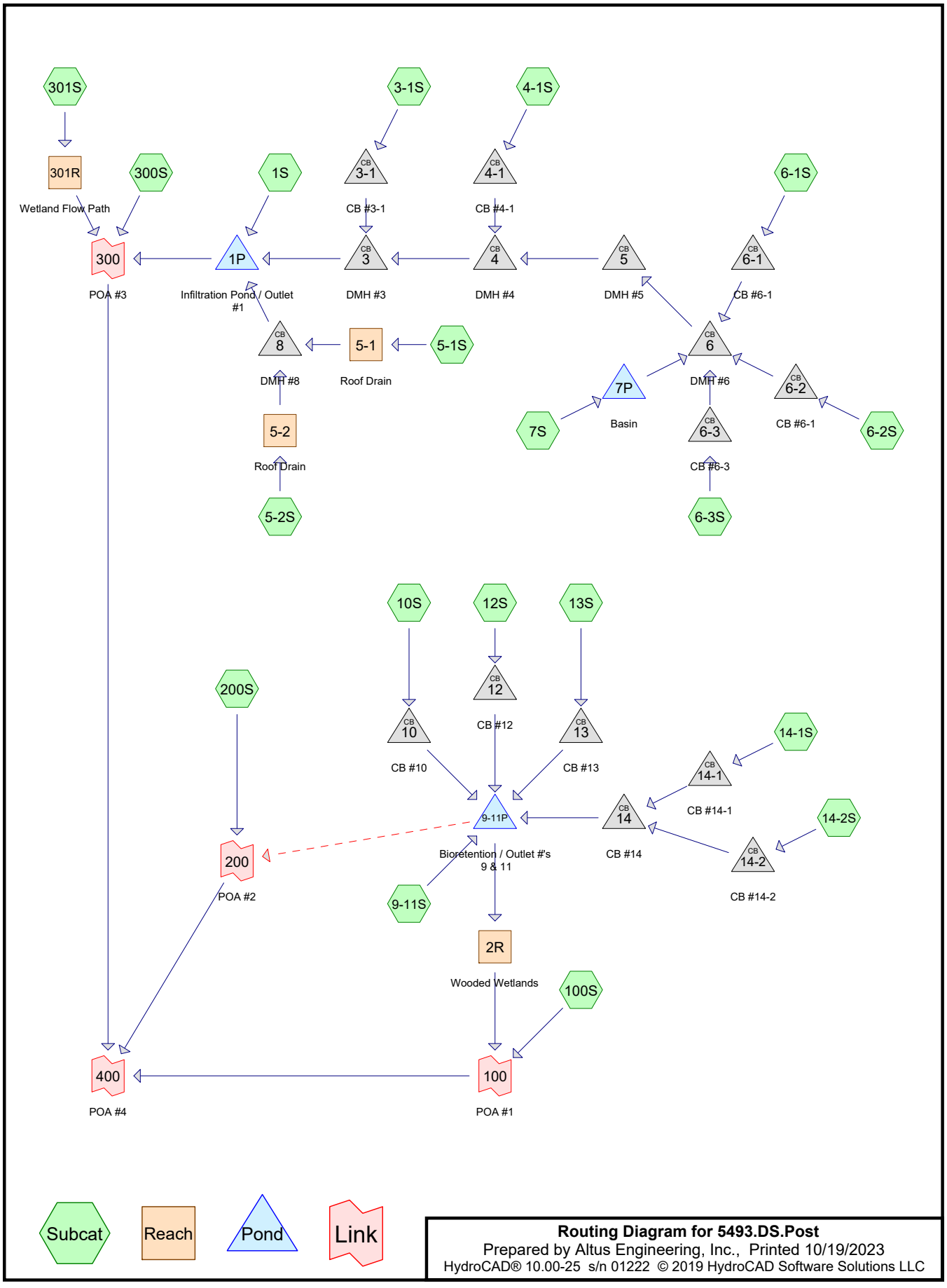


Routing Diagram for 5493.DS.Post

Prepared by Altus Engineering, Inc., Printed 10/19/2023

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=32,559 sf 0.00% Impervious Runoff Depth=1.27"
Flow Length=45' Slope=0.0670 '/' Tc=6.0 min CN=68 Runoff=1.04 cfs 0.079 af

Subcatchment 3-1S: Runoff Area=15,375 sf 60.07% Impervious Runoff Depth=2.73"
Flow Length=235' Tc=6.0 min CN=87 Runoff=1.12 cfs 0.080 af

Subcatchment 4-1S: Runoff Area=4,680 sf 71.05% Impervious Runoff Depth=3.11"
Flow Length=150' Tc=6.0 min CN=91 Runoff=0.38 cfs 0.028 af

Subcatchment 5-1S: Runoff Area=44,054 sf 100.00% Impervious Runoff Depth=3.86"
Flow Length=174' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=4.05 cfs 0.326 af

Subcatchment 5-2S: Runoff Area=32,456 sf 100.00% Impervious Runoff Depth=3.86"
Flow Length=120' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=2.98 cfs 0.240 af

Subcatchment 6-1S: Runoff Area=7,178 sf 63.23% Impervious Runoff Depth=2.92"
Flow Length=160' Tc=6.0 min CN=89 Runoff=0.55 cfs 0.040 af

Subcatchment 6-2S: Runoff Area=5,633 sf 100.00% Impervious Runoff Depth=3.86"
Flow Length=170' Tc=6.0 min CN=98 Runoff=0.52 cfs 0.042 af

Subcatchment 6-3S: Runoff Area=12,542 sf 88.75% Impervious Runoff Depth=3.53"
Flow Length=100' Tc=6.0 min CN=95 Runoff=1.11 cfs 0.085 af

Subcatchment 7S: Runoff Area=6,724 sf 3.75% Impervious Runoff Depth=1.40"
Flow Length=30' Slope=0.0500 '/' Tc=6.0 min CN=70 Runoff=0.24 cfs 0.018 af

Subcatchment 9-11S: Runoff Area=24,722 sf 0.00% Impervious Runoff Depth=1.67"
Flow Length=35' Slope=0.0200 '/' Tc=6.0 min CN=74 Runoff=1.09 cfs 0.079 af

Subcatchment 10S: Runoff Area=8,911 sf 52.24% Impervious Runoff Depth=2.46"
Flow Length=215' Tc=6.0 min CN=84 Runoff=0.59 cfs 0.042 af

Subcatchment 12S: Runoff Area=17,158 sf 97.67% Impervious Runoff Depth=3.75"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=1.56 cfs 0.123 af

Subcatchment 13S: Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=3.86"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=1.84 cfs 0.148 af

Subcatchment 14-1S: Runoff Area=22,508 sf 94.60% Impervious Runoff Depth=3.75"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=2.05 cfs 0.162 af

Subcatchment 14-2S: Runoff Area=5,643 sf 71.72% Impervious Runoff Depth=3.11"
Flow Length=105' Tc=6.0 min CN=91 Runoff=0.46 cfs 0.034 af

Subcatchment 100S: Runoff Area=46,572 sf 0.00% Impervious Runoff Depth=1.46"
Flow Length=500' Tc=17.5 min CN=71 Runoff=1.25 cfs 0.130 af

Subcatchment 200S: Runoff Area=18,353 sf 0.00% Impervious Runoff Depth=1.46"
Flow Length=130' Tc=6.0 min CN=71 Runoff=0.70 cfs 0.051 af

Subcatchment 300S: Runoff Area=153,830 sf 0.00% Impervious Runoff Depth=1.40"
Flow Length=880' Tc=47.0 min CN=70 Runoff=2.49 cfs 0.411 af

Subcatchment 301S: Runoff Area=10,832 sf 0.00% Impervious Runoff Depth=1.53"
Flow Length=165' Tc=8.1 min CN=72 Runoff=0.40 cfs 0.032 af

Reach 2R: Wooded Wetlands Avg. Flow Depth=0.12' Max Vel=1.54 fps Inflow=0.22 cfs 0.151 af
n=0.040 L=100.0' S=0.0500 '/' Capacity=19.85 cfs Outflow=0.22 cfs 0.150 af

Reach 5-1: Roof Drain Avg. Flow Depth=0.65' Max Vel=5.42 fps Inflow=4.05 cfs 0.326 af
18.0" Round Pipe n=0.012 L=424.0' S=0.0081 '/' Capacity=10.22 cfs Outflow=3.97 cfs 0.326 af

Reach 5-2: Roof Drain Avg. Flow Depth=0.63' Max Vel=4.20 fps Inflow=2.98 cfs 0.240 af
18.0" Round Pipe n=0.012 L=270.0' S=0.0050 '/' Capacity=8.05 cfs Outflow=2.94 cfs 0.240 af

Reach 301R: Wetland Flow Path Avg. Flow Depth=0.07' Max Vel=0.60 fps Inflow=0.40 cfs 0.032 af
n=0.035 L=880.0' S=0.0120 '/' Capacity=14.89 cfs Outflow=0.20 cfs 0.032 af

Pond 1P: Infiltration Pond / Outlet #1 Peak Elev=87.24' Storage=24,161 cf Inflow=11.80 cfs 0.937 af
Discarded=0.01 cfs 0.015 af Primary=1.36 cfs 0.689 af Outflow=1.37 cfs 0.705 af

Pond 3: DMH #3 Peak Elev=87.28' Inflow=3.86 cfs 0.292 af
18.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=3.86 cfs 0.292 af

Pond 3-1: CB #3-1 Peak Elev=87.48' Inflow=1.12 cfs 0.080 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0067 '/' Outflow=1.12 cfs 0.080 af

Pond 4: DMH #4 Peak Elev=88.17' Inflow=2.74 cfs 0.212 af
18.0" Round Culvert n=0.012 L=195.0' S=0.0050 '/' Outflow=2.74 cfs 0.212 af

Pond 4-1: CB #4-1 Peak Elev=89.15' Inflow=0.38 cfs 0.028 af
12.0" Round Culvert n=0.012 L=7.0' S=0.0086 '/' Outflow=0.38 cfs 0.028 af

Pond 5: DMH #5 Peak Elev=88.81' Inflow=2.36 cfs 0.184 af
15.0" Round Culvert n=0.012 L=88.0' S=0.0050 '/' Outflow=2.36 cfs 0.184 af

Pond 6: DMH #6 Peak Elev=89.48' Inflow=2.36 cfs 0.184 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=2.36 cfs 0.184 af

Pond 6-1: CB #6-1 Peak Elev=89.94' Inflow=0.55 cfs 0.040 af
12.0" Round Culvert n=0.012 L=18.0' S=0.0056 '/' Outflow=0.55 cfs 0.040 af

Pond 6-2: CB #6-1 Peak Elev=90.71' Inflow=0.52 cfs 0.042 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0050 '/' Outflow=0.52 cfs 0.042 af

Pond 6-3: CB #6-3 Peak Elev=90.05' Inflow=1.11 cfs 0.085 af
12.0" Round Culvert n=0.012 L=104.0' S=0.0055 '/' Outflow=1.11 cfs 0.085 af

Pond 7P: Basin Peak Elev=91.24' Storage=48 cf Inflow=0.24 cfs 0.018 af
10.0" Round Culvert n=0.012 L=54.0' S=0.0185 '/' Outflow=0.21 cfs 0.018 af

Pond 8: DMH #8 Peak Elev=87.66' Inflow=6.91 cfs 0.566 af
24.0" Round Culvert n=0.012 L=66.0' S=0.0050 '/' Outflow=6.91 cfs 0.566 af

Pond 9-11P: Bioretention / Outlet #'s 9 & 11 Peak Elev=82.69' Storage=15,496 cf Inflow=7.58 cfs 0.587 af
Primary=0.22 cfs 0.151 af Secondary=0.81 cfs 0.188 af Outflow=1.03 cfs 0.339 af

Pond 10: CB #10 Peak Elev=84.79' Inflow=0.59 cfs 0.042 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0200 '/' Outflow=0.59 cfs 0.042 af

Pond 12: CB #12 Peak Elev=83.41' Inflow=1.56 cfs 0.123 af
12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/' Outflow=1.56 cfs 0.123 af

Pond 13: CB #13 Peak Elev=83.34' Inflow=1.84 cfs 0.148 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0214 '/' Outflow=1.84 cfs 0.148 af

Pond 14: CB #14 Peak Elev=83.61' Inflow=2.50 cfs 0.195 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=2.50 cfs 0.195 af

Pond 14-1: CB #14-1 Peak Elev=83.90' Inflow=2.05 cfs 0.162 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=2.05 cfs 0.162 af

Pond 14-2: CB #14-2 Peak Elev=85.34' Inflow=0.46 cfs 0.034 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0115 '/' Outflow=0.46 cfs 0.034 af

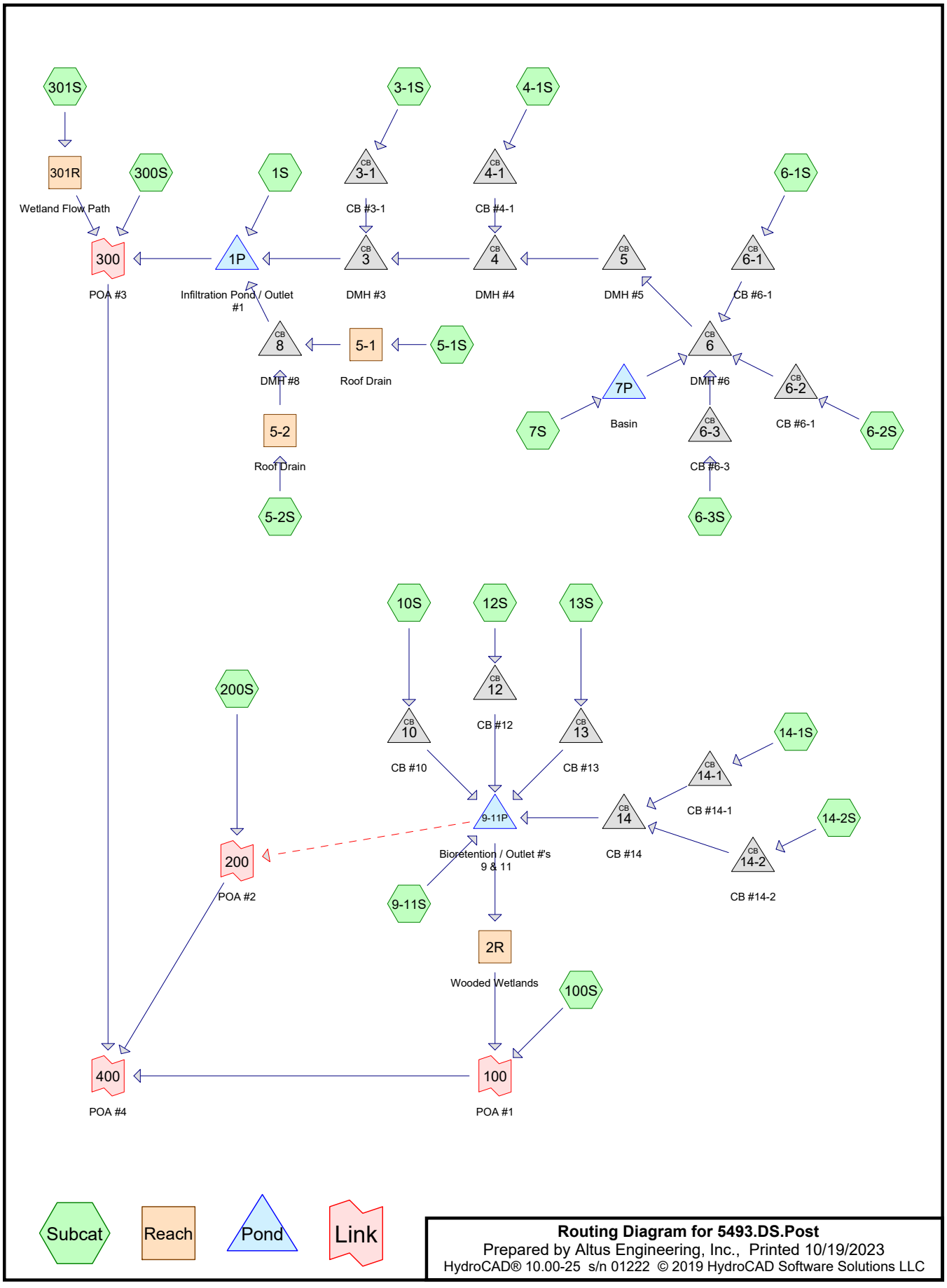
Link 100: POA #1 Inflow=1.33 cfs 0.281 af
Primary=1.33 cfs 0.281 af

Link 200: POA #2 Inflow=0.96 cfs 0.240 af
Primary=0.96 cfs 0.240 af

Link 300: POA #3 Inflow=3.99 cfs 1.132 af
Primary=3.99 cfs 1.132 af

Link 400: POA #4 Inflow=5.73 cfs 1.653 af
Primary=5.73 cfs 1.653 af

Total Runoff Area = 11.243 ac Runoff Volume = 2.149 af Average Runoff Depth = 2.29"
63.78% Pervious = 7.171 ac 36.22% Impervious = 4.072 ac



Routing Diagram for 5493.DS.Post

Prepared by Altus Engineering, Inc., Printed 10/19/2023

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.665	61	>75% Grass cover, Good, HSG B (1S, 3-1S, 6-3S, 7S, 9-11S, 10S, 12S, 200S, 300S)
2.014	74	>75% Grass cover, Good, HSG C (1S, 3-1S, 4-1S, 6-1S, 6-3S, 7S, 9-11S, 10S, 12S, 14-1S, 14-2S, 100S, 200S, 300S, 301S)
0.631	98	Paved parking, HSG B (3-1S, 6-1S, 6-3S, 7S, 10S, 12S, 13S, 14-1S)
1.685	98	Paved parking, HSG C (3-1S, 4-1S, 6-1S, 6-2S, 6-3S, 10S, 12S, 13S, 14-1S, 14-2S)
0.641	98	Roofs, HSG B (5-1S, 5-2S)
1.116	98	Roofs, HSG C (5-1S, 5-2S)
0.056	55	Woods, Good, HSG B (200S, 300S)
4.436	70	Woods, Good, HSG C (100S, 200S, 300S, 301S)
11.243	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.992	HSG B	1S, 3-1S, 5-1S, 5-2S, 6-1S, 6-3S, 7S, 9-11S, 10S, 12S, 13S, 14-1S, 200S, 300S
9.250	HSG C	1S, 3-1S, 4-1S, 5-1S, 5-2S, 6-1S, 6-2S, 6-3S, 7S, 9-11S, 10S, 12S, 13S, 14-1S, 14-2S, 100S, 200S, 300S, 301S
0.000	HSG D	
0.000	Other	
11.243		**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=32,559 sf 0.00% Impervious Runoff Depth=2.92"
Flow Length=45' Slope=0.0670 '/' Tc=6.0 min CN=68 Runoff=2.55 cfs 0.182 af

Subcatchment 3-1S: Runoff Area=15,375 sf 60.07% Impervious Runoff Depth=4.89"
Flow Length=235' Tc=6.0 min CN=87 Runoff=1.96 cfs 0.144 af

Subcatchment 4-1S: Runoff Area=4,680 sf 71.05% Impervious Runoff Depth=5.34"
Flow Length=150' Tc=6.0 min CN=91 Runoff=0.63 cfs 0.048 af

Subcatchment 5-1S: Runoff Area=44,054 sf 100.00% Impervious Runoff Depth=6.15"
Flow Length=174' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=6.34 cfs 0.518 af

Subcatchment 5-2S: Runoff Area=32,456 sf 100.00% Impervious Runoff Depth=6.15"
Flow Length=120' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=4.67 cfs 0.382 af

Subcatchment 6-1S: Runoff Area=7,178 sf 63.23% Impervious Runoff Depth=5.11"
Flow Length=160' Tc=6.0 min CN=89 Runoff=0.94 cfs 0.070 af

Subcatchment 6-2S: Runoff Area=5,633 sf 100.00% Impervious Runoff Depth=6.15"
Flow Length=170' Tc=6.0 min CN=98 Runoff=0.81 cfs 0.066 af

Subcatchment 6-3S: Runoff Area=12,542 sf 88.75% Impervious Runoff Depth=5.80"
Flow Length=100' Tc=6.0 min CN=95 Runoff=1.77 cfs 0.139 af

Subcatchment 7S: Runoff Area=6,724 sf 3.75% Impervious Runoff Depth=3.12"
Flow Length=30' Slope=0.0500 '/' Tc=6.0 min CN=70 Runoff=0.56 cfs 0.040 af

Subcatchment 9-11S: Runoff Area=24,722 sf 0.00% Impervious Runoff Depth=3.52"
Flow Length=35' Slope=0.0200 '/' Tc=6.0 min CN=74 Runoff=2.34 cfs 0.166 af

Subcatchment 10S: Runoff Area=8,911 sf 52.24% Impervious Runoff Depth=4.56"
Flow Length=215' Tc=6.0 min CN=84 Runoff=1.07 cfs 0.078 af

Subcatchment 12S: Runoff Area=17,158 sf 97.67% Impervious Runoff Depth=6.03"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=2.46 cfs 0.198 af

Subcatchment 13S: Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=6.15"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=2.88 cfs 0.235 af

Subcatchment 14-1S: Runoff Area=22,508 sf 94.60% Impervious Runoff Depth=6.03"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=3.22 cfs 0.260 af

Subcatchment 14-2S: Runoff Area=5,643 sf 71.72% Impervious Runoff Depth=5.34"
Flow Length=105' Tc=6.0 min CN=91 Runoff=0.76 cfs 0.058 af

Subcatchment 100S: Runoff Area=46,572 sf 0.00% Impervious Runoff Depth=3.22"
Flow Length=500' Tc=17.5 min CN=71 Runoff=2.86 cfs 0.287 af

Subcatchment 200S: Runoff Area=18,353 sf 0.00% Impervious Runoff Depth=3.22"
Flow Length=130' Tc=6.0 min CN=71 Runoff=1.59 cfs 0.113 af

Subcatchment 300S: Runoff Area=153,830 sf 0.00% Impervious Runoff Depth=3.12"
Flow Length=880' Tc=47.0 min CN=70 Runoff=5.80 cfs 0.918 af

Subcatchment 301S: Runoff Area=10,832 sf 0.00% Impervious Runoff Depth=3.32"
Flow Length=165' Tc=8.1 min CN=72 Runoff=0.90 cfs 0.069 af

Reach 2R: Wooded Wetlands Avg. Flow Depth=0.24' Max Vel=2.43 fps Inflow=0.97 cfs 0.224 af
n=0.040 L=100.0' S=0.0500 '/' Capacity=19.85 cfs Outflow=0.97 cfs 0.224 af

Reach 5-1: Roof Drain Avg. Flow Depth=0.85' Max Vel=6.07 fps Inflow=6.34 cfs 0.518 af
18.0" Round Pipe n=0.012 L=424.0' S=0.0081 '/' Capacity=10.22 cfs Outflow=6.23 cfs 0.518 af

Reach 5-2: Roof Drain Avg. Flow Depth=0.81' Max Vel=4.71 fps Inflow=4.67 cfs 0.382 af
18.0" Round Pipe n=0.012 L=270.0' S=0.0050 '/' Capacity=8.05 cfs Outflow=4.62 cfs 0.382 af

Reach 301R: Wetland Flow Path Avg. Flow Depth=0.11' Max Vel=0.80 fps Inflow=0.90 cfs 0.069 af
n=0.035 L=880.0' S=0.0120 '/' Capacity=14.89 cfs Outflow=0.53 cfs 0.069 af

Pond 1P: Infiltration Pond / Outlet #1 Peak Elev=87.87' Storage=37,956 cf Inflow=19.93 cfs 1.590 af
Discarded=0.02 cfs 0.018 af Primary=3.35 cfs 1.336 af Outflow=3.37 cfs 1.354 af

Pond 3: DMH #3 Peak Elev=87.97' Inflow=6.57 cfs 0.507 af
18.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=6.57 cfs 0.507 af

Pond 3-1: CB #3-1 Peak Elev=88.21' Inflow=1.96 cfs 0.144 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0067 '/' Outflow=1.96 cfs 0.144 af

Pond 4: DMH #4 Peak Elev=88.67' Inflow=4.61 cfs 0.364 af
18.0" Round Culvert n=0.012 L=195.0' S=0.0050 '/' Outflow=4.61 cfs 0.364 af

Pond 4-1: CB #4-1 Peak Elev=89.27' Inflow=0.63 cfs 0.048 af
12.0" Round Culvert n=0.012 L=7.0' S=0.0086 '/' Outflow=0.63 cfs 0.048 af

Pond 5: DMH #5 Peak Elev=89.27' Inflow=3.98 cfs 0.316 af
15.0" Round Culvert n=0.012 L=88.0' S=0.0050 '/' Outflow=3.98 cfs 0.316 af

Pond 6: DMH #6 Peak Elev=89.94' Inflow=3.98 cfs 0.316 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=3.98 cfs 0.316 af

Pond 6-1: CB #6-1 Peak Elev=90.13' Inflow=0.94 cfs 0.070 af
12.0" Round Culvert n=0.012 L=18.0' S=0.0056 '/' Outflow=0.94 cfs 0.070 af

Pond 6-2: CB #6-1 Peak Elev=90.82' Inflow=0.81 cfs 0.066 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0050 '/' Outflow=0.81 cfs 0.066 af

Pond 6-3: CB #6-3 Peak Elev=90.38' Inflow=1.77 cfs 0.139 af
12.0" Round Culvert n=0.012 L=104.0' S=0.0055 '/' Outflow=1.77 cfs 0.139 af

Pond 7P: Basin Peak Elev=91.38' Storage=98 cf Inflow=0.56 cfs 0.040 af
10.0" Round Culvert n=0.012 L=54.0' S=0.0185 '/' Outflow=0.50 cfs 0.040 af

Pond 8: DMH #8 Peak Elev=88.14' Inflow=10.85 cfs 0.900 af
24.0" Round Culvert n=0.012 L=66.0' S=0.0050 '/' Outflow=10.85 cfs 0.900 af

Pond 9-11P: Bioretention / Outlet #'s 9 & 11 Peak Elev=83.07' Storage=20,771 cf Inflow=12.73 cfs 0.995 af
Primary=0.97 cfs 0.224 af Secondary=4.17 cfs 0.520 af Outflow=5.14 cfs 0.745 af

Pond 10: CB #10 Peak Elev=84.94' Inflow=1.07 cfs 0.078 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0200 '/' Outflow=1.07 cfs 0.078 af

Pond 12: CB #12 Peak Elev=83.67' Inflow=2.46 cfs 0.198 af
12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/' Outflow=2.46 cfs 0.198 af

Pond 13: CB #13 Peak Elev=83.68' Inflow=2.88 cfs 0.235 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0214 '/' Outflow=2.88 cfs 0.235 af

Pond 14: CB #14 Peak Elev=84.78' Inflow=3.99 cfs 0.317 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=3.99 cfs 0.317 af

Pond 14-1: CB #14-1 Peak Elev=85.50' Inflow=3.22 cfs 0.260 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=3.22 cfs 0.260 af

Pond 14-2: CB #14-2 Peak Elev=85.50' Inflow=0.76 cfs 0.058 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0115 '/' Outflow=0.76 cfs 0.058 af

Link 100: POA #1 Inflow=3.81 cfs 0.511 af
Primary=3.81 cfs 0.511 af

Link 200: POA #2 Inflow=4.92 cfs 0.633 af
Primary=4.92 cfs 0.633 af

Link 300: POA #3 Inflow=9.46 cfs 2.322 af
Primary=9.46 cfs 2.322 af

Link 400: POA #4 Inflow=15.83 cfs 3.466 af
Primary=15.83 cfs 3.466 af

Total Runoff Area = 11.243 ac Runoff Volume = 3.970 af Average Runoff Depth = 4.24"
63.78% Pervious = 7.171 ac 36.22% Impervious = 4.072 ac

Summary for Subcatchment 1S:

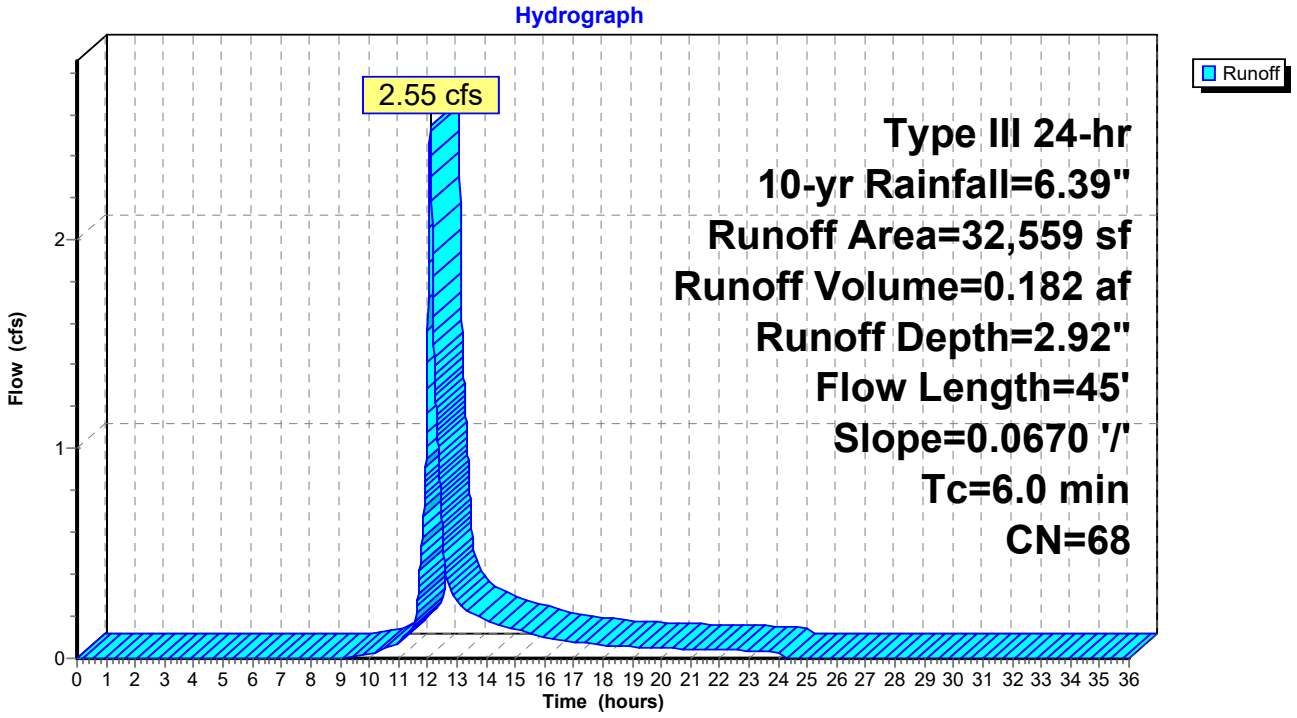
Runoff = 2.55 cfs @ 12.09 hrs, Volume= 0.182 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
15,776	61	>75% Grass cover, Good, HSG B
16,783	74	>75% Grass cover, Good, HSG C
32,559	68	Weighted Average
32,559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	45	0.0670	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 4.10"
4.1	45	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 1S:



Summary for Subcatchment 3-1S:

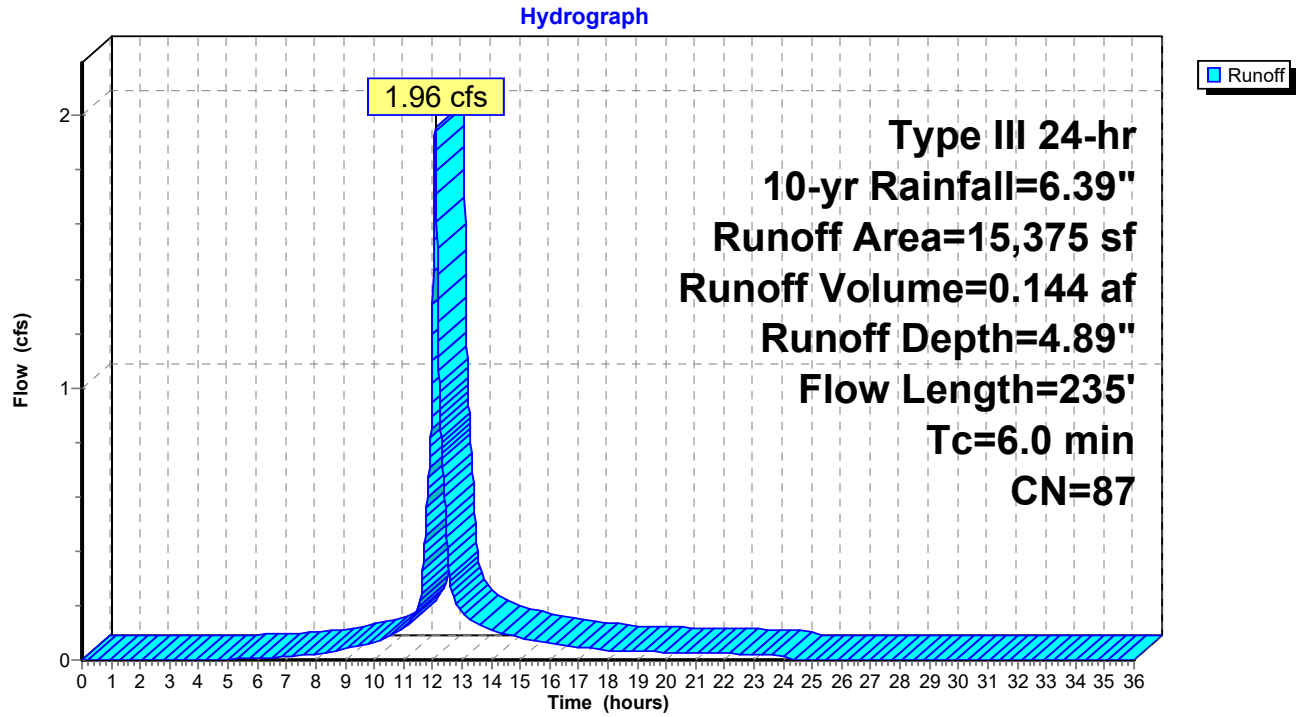
Runoff = 1.96 cfs @ 12.09 hrs, Volume= 0.144 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
2,164	61	>75% Grass cover, Good, HSG B
2,749	98	Paved parking, HSG B
3,975	74	>75% Grass cover, Good, HSG C
6,487	98	Paved parking, HSG C
15,375	87	Weighted Average
6,139		39.93% Pervious Area
9,236		60.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	35	0.0200	1.26		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	235	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 3-1S:



Summary for Subcatchment 4-1S:

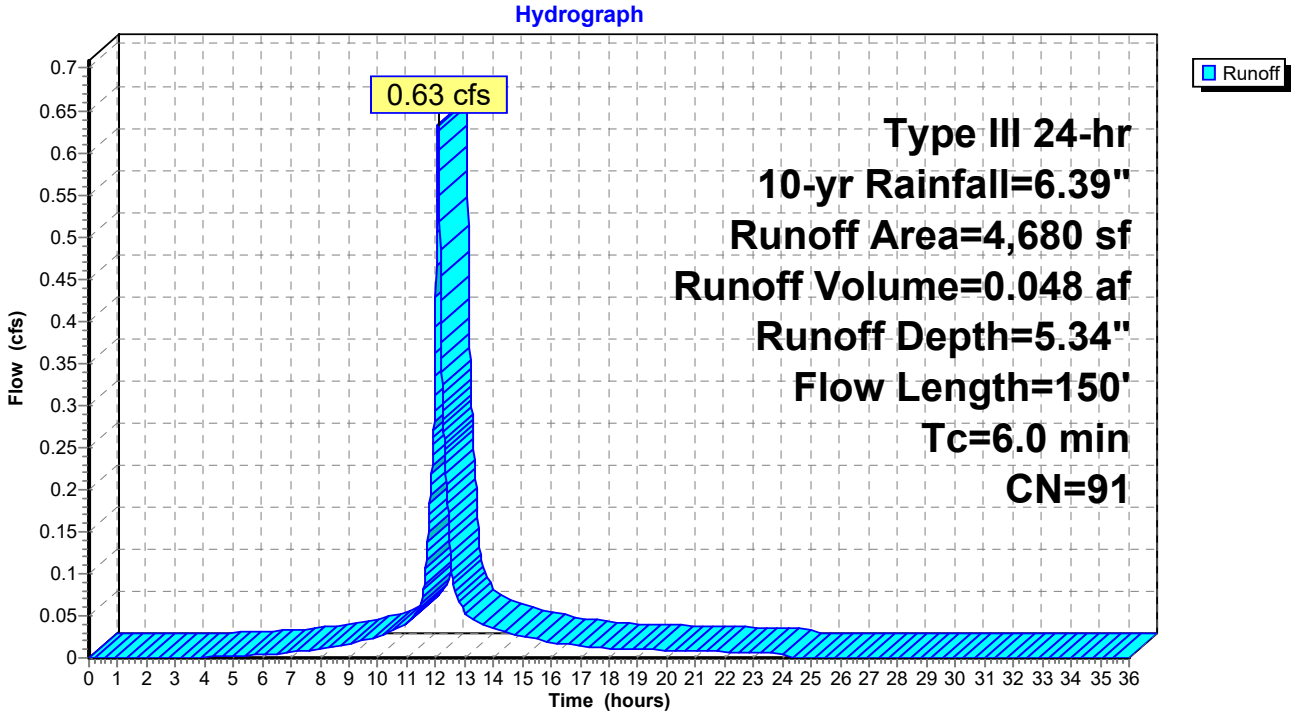
Runoff = 0.63 cfs @ 12.08 hrs, Volume= 0.048 af, Depth= 5.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
1,355	74	>75% Grass cover, Good, HSG C
3,325	98	Paved parking, HSG C
4,680	91	Weighted Average
1,355		28.95% Pervious Area
3,325		71.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0200	1.22		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
1.0	120	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 4-1S:



Summary for Subcatchment 5-1S:

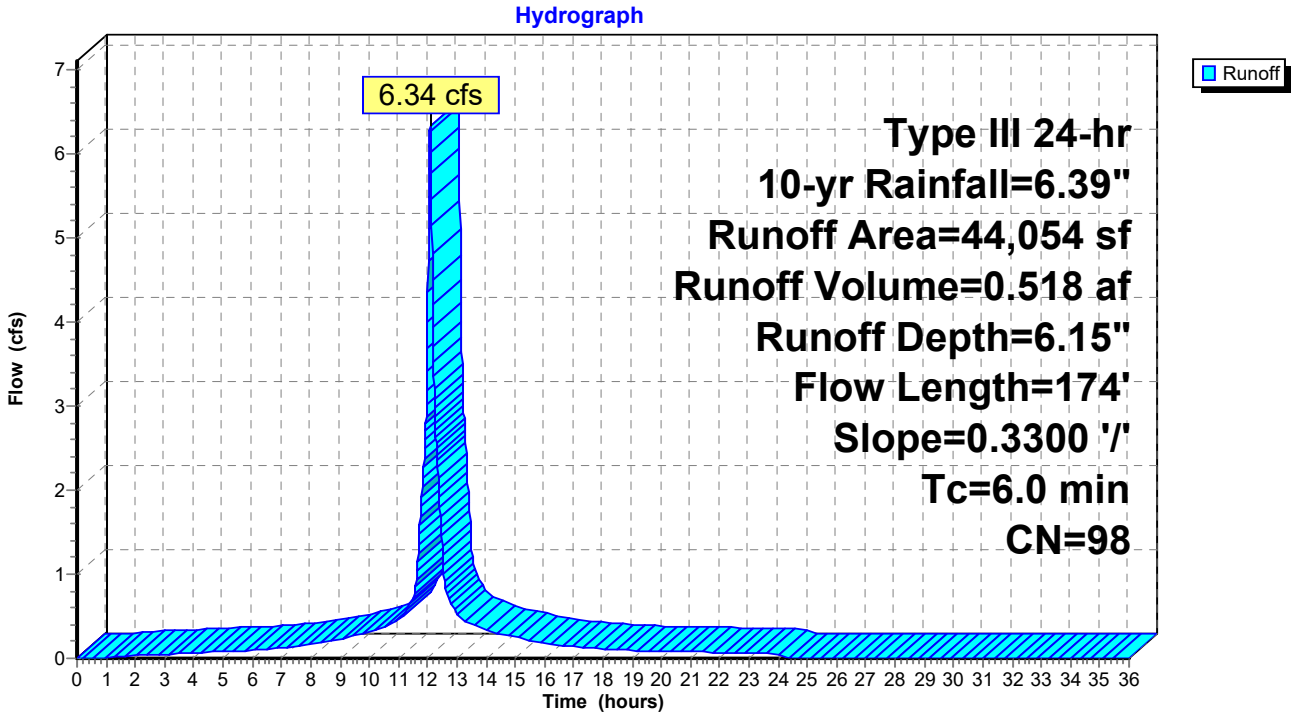
Runoff = 6.34 cfs @ 12.08 hrs, Volume= 0.518 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
13,248	98	Roofs, HSG B
30,806	98	Roofs, HSG C
44,054	98	Weighted Average
44,054		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	174	0.3300	5.34		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.5	174	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 5-1S:



Summary for Subcatchment 5-2S:

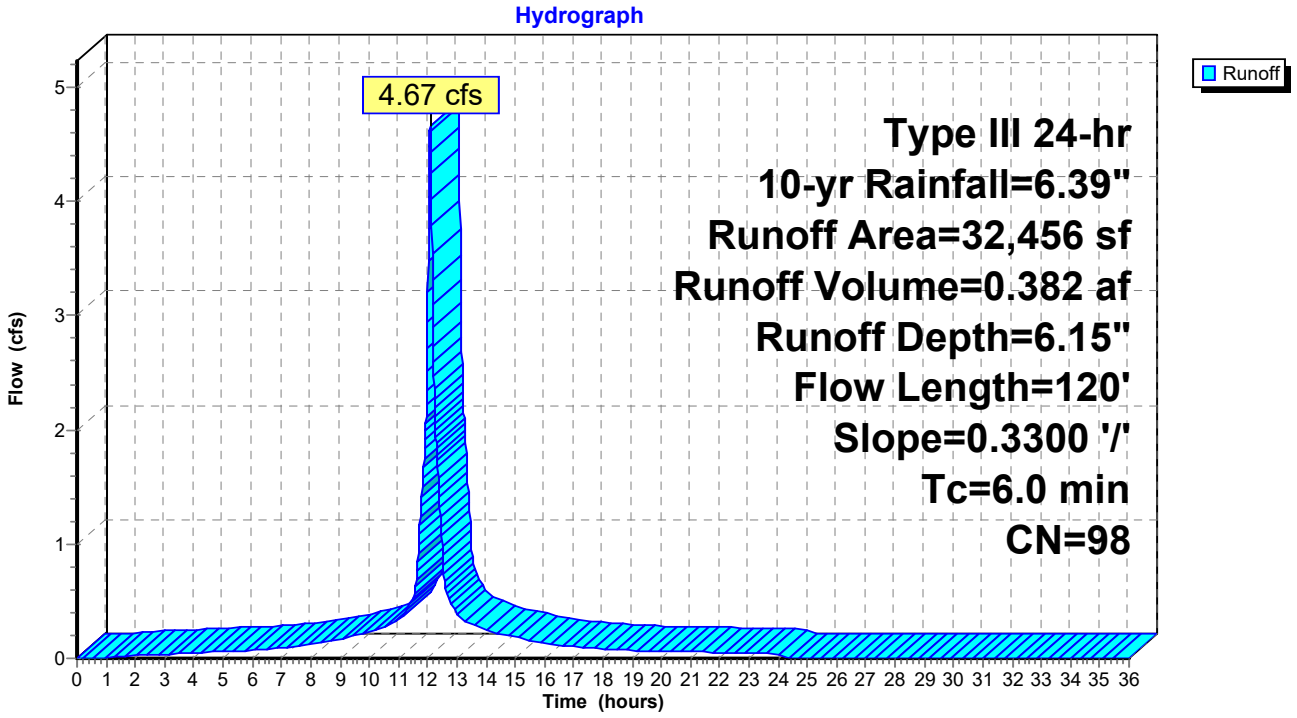
Runoff = 4.67 cfs @ 12.08 hrs, Volume= 0.382 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
14,653	98	Roofs, HSG B
17,803	98	Roofs, HSG C
32,456	98	Weighted Average
32,456		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	120	0.3300	4.96		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 5-2S:



Summary for Subcatchment 6-1S:

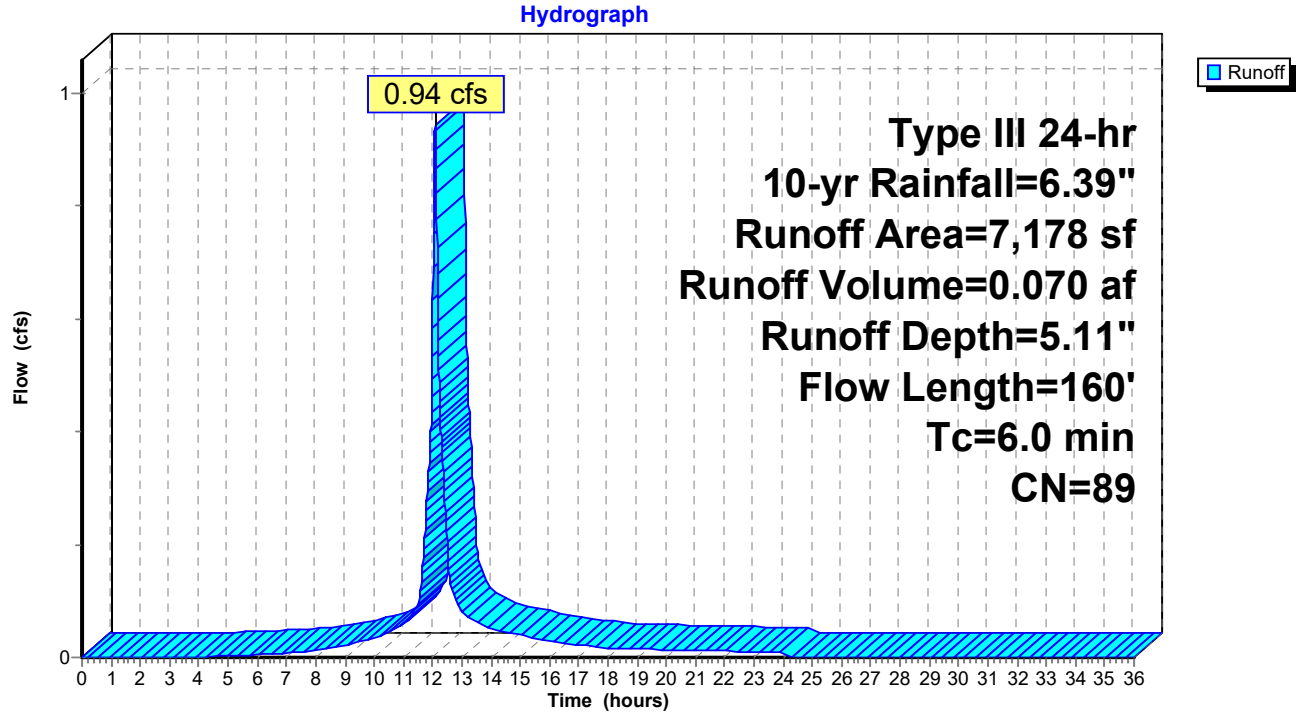
Runoff = 0.94 cfs @ 12.08 hrs, Volume= 0.070 af, Depth= 5.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
1,763	98	Paved parking, HSG B
2,639	74	>75% Grass cover, Good, HSG C
2,776	98	Paved parking, HSG C
7,178	89	Weighted Average
2,639		36.77% Pervious Area
4,539		63.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0200	1.22		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
1.1	130	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	160	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 6-1S:



Summary for Subcatchment 6-2S:

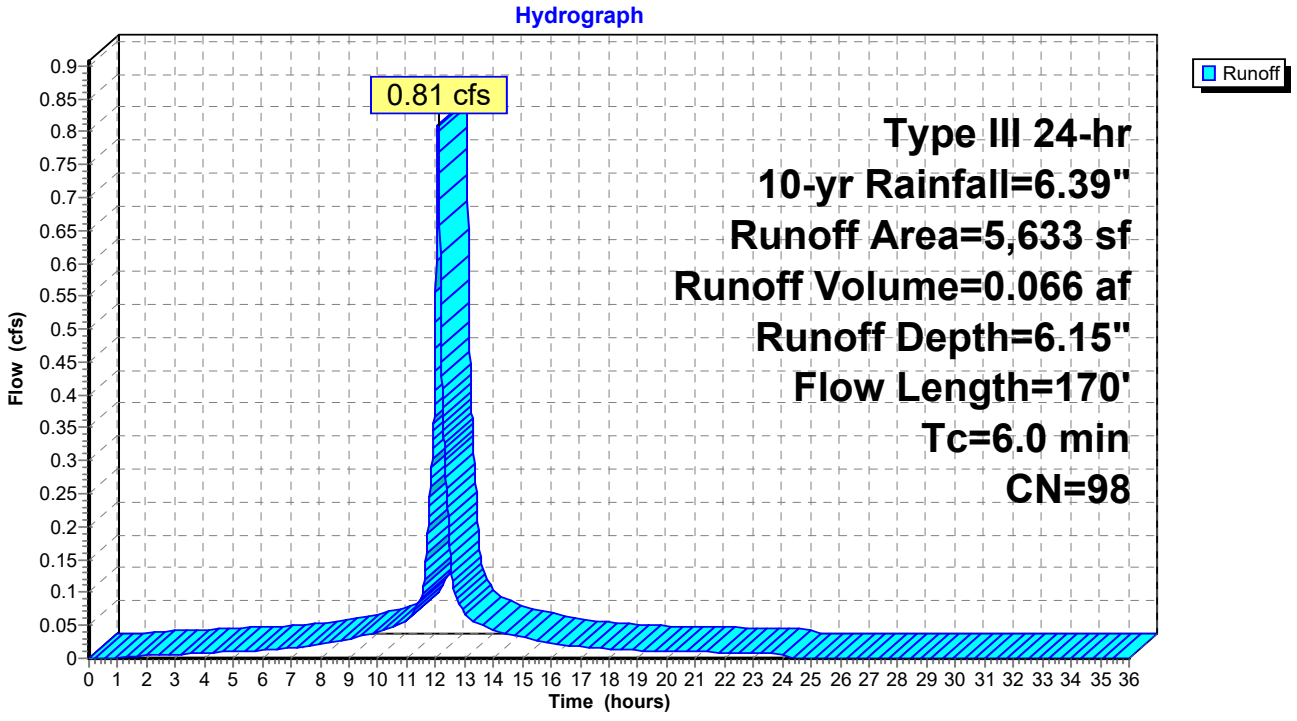
Runoff = 0.81 cfs @ 12.08 hrs, Volume= 0.066 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
5,633	98	Paved parking, HSG C
5,633		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	35	0.0200	1.26		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
1.1	135	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	170	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 6-2S:



Summary for Subcatchment 6-3S:

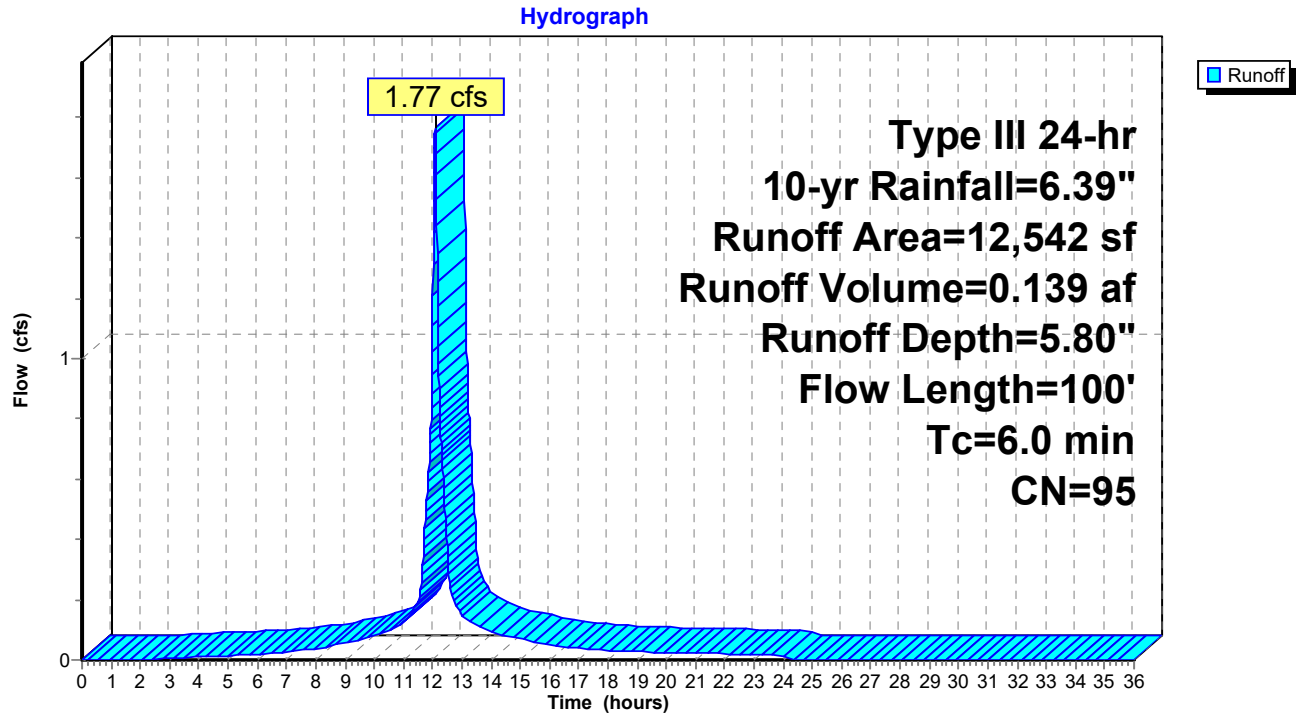
Runoff = 1.77 cfs @ 12.08 hrs, Volume= 0.139 af, Depth= 5.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
450	61	>75% Grass cover, Good, HSG B
1,633	98	Paved parking, HSG B
961	74	>75% Grass cover, Good, HSG C
9,498	98	Paved parking, HSG C
12,542	95	Weighted Average
1,411		11.25% Pervious Area
11,131		88.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.13		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.7	80	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 6-3S:



Summary for Subcatchment 7S:

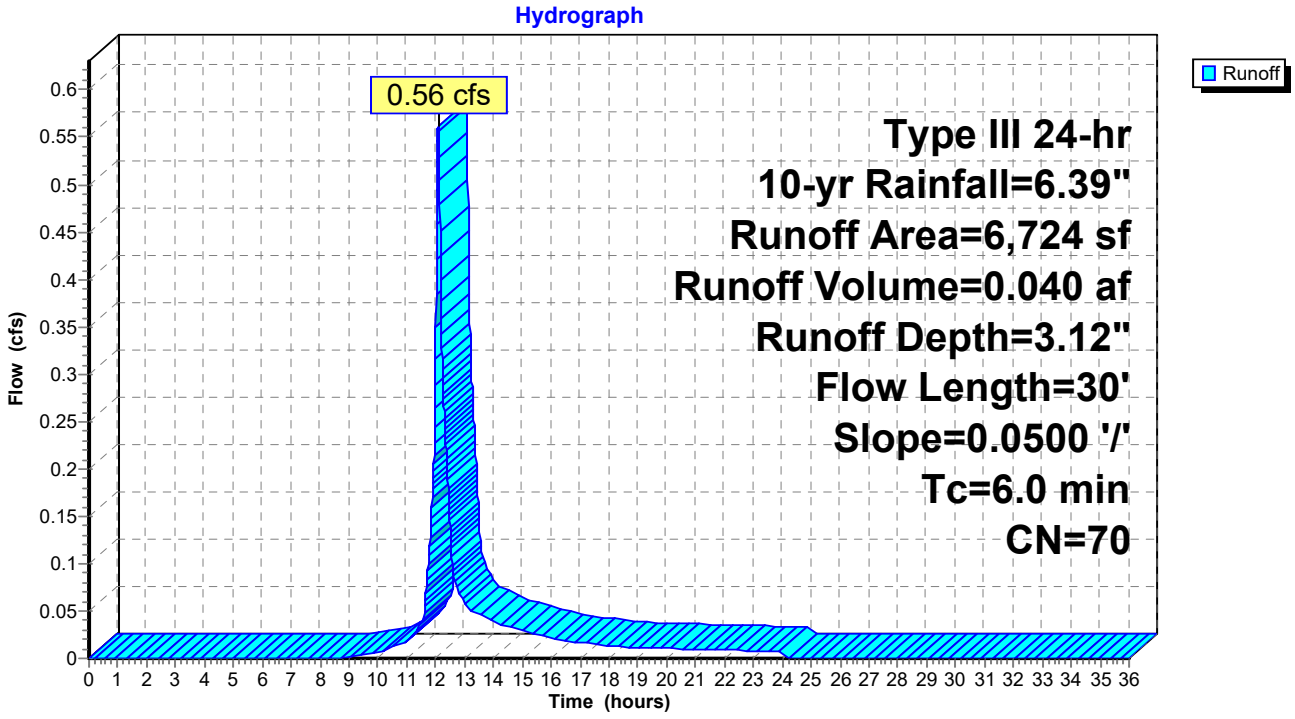
Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
2,708	61	>75% Grass cover, Good, HSG B
252	98	Paved parking, HSG B
3,764	74	>75% Grass cover, Good, HSG C
6,724	70	Weighted Average
6,472		96.25% Pervious Area
252		3.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	30	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 4.10"
2.3	30	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 7S:



Summary for Subcatchment 9-11S:

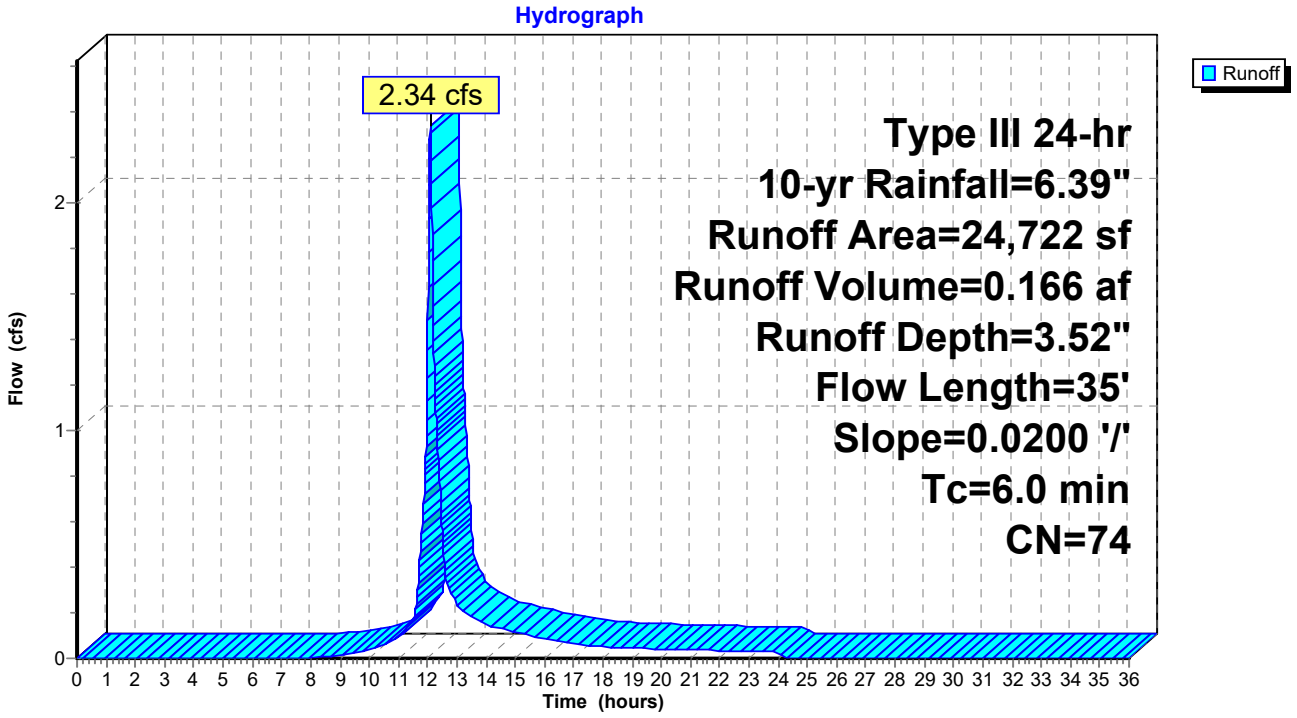
Runoff = 2.34 cfs @ 12.09 hrs, Volume= 0.166 af, Depth= 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
638	61	>75% Grass cover, Good, HSG B
24,084	74	>75% Grass cover, Good, HSG C
24,722	74	Weighted Average
24,722		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	35	0.0200	1.26		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.5	35	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 9-11S:



Summary for Subcatchment 10S:

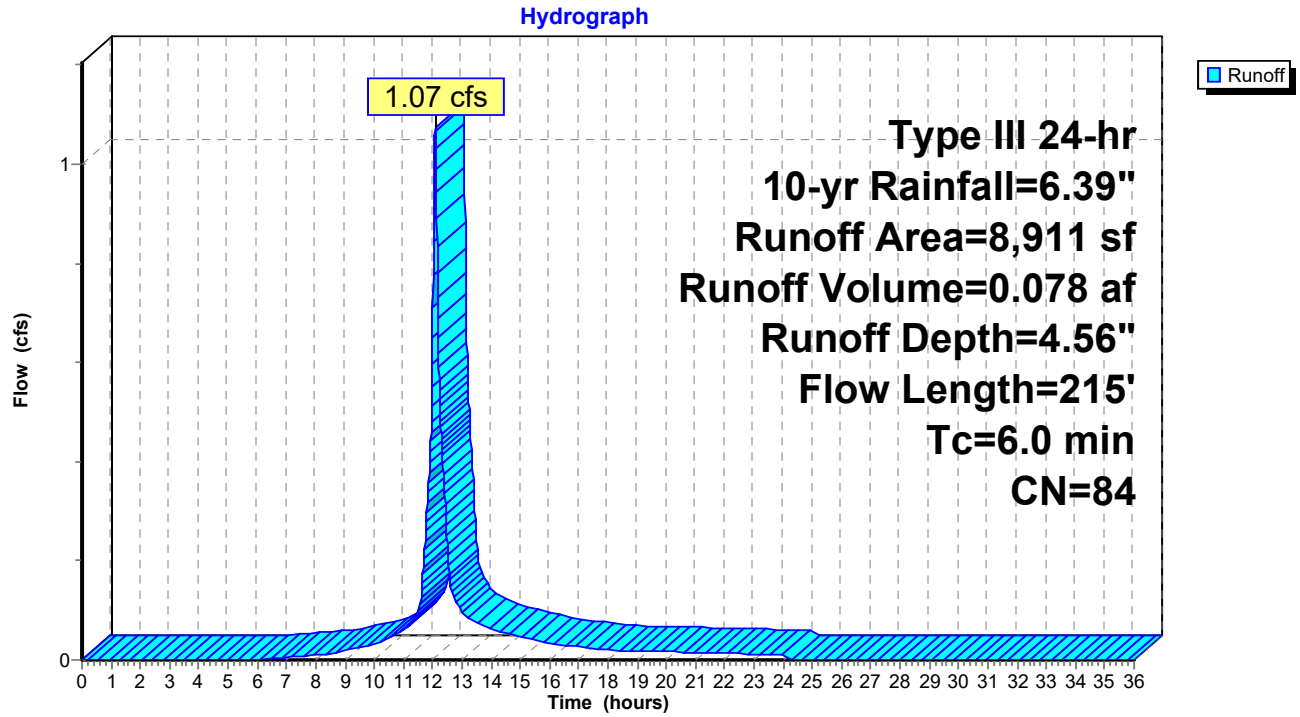
Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.078 af, Depth= 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
2,050	61	>75% Grass cover, Good, HSG B
1,346	98	Paved parking, HSG B
2,206	74	>75% Grass cover, Good, HSG C
3,309	98	Paved parking, HSG C
8,911	84	Weighted Average
4,256		47.76% Pervious Area
4,655		52.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0200	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
1.0	165	0.0180	2.72		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	215	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 10S:



Summary for Subcatchment 12S:

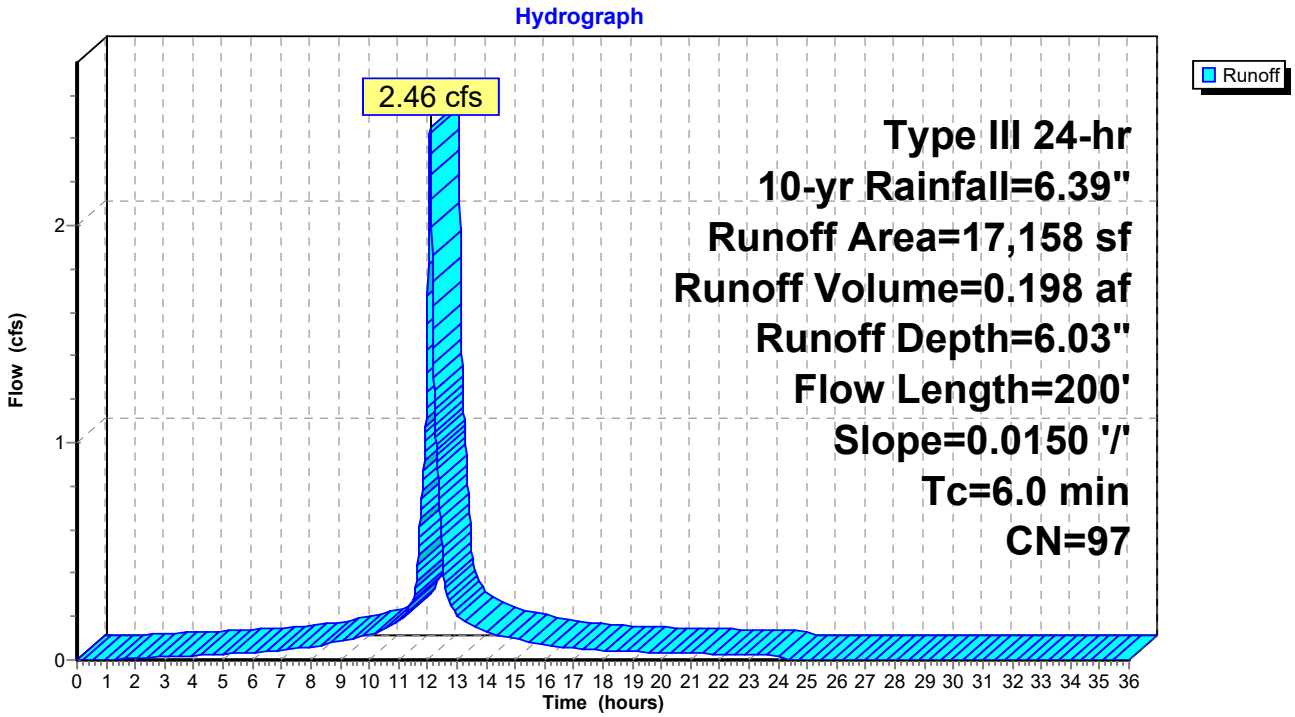
Runoff = 2.46 cfs @ 12.08 hrs, Volume= 0.198 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
365	61	>75% Grass cover, Good, HSG B
4,363	98	Paved parking, HSG B
34	74	>75% Grass cover, Good, HSG C
12,396	98	Paved parking, HSG C
17,158	97	Weighted Average
399		2.33% Pervious Area
16,759		97.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.39		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.7	100	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 12S:



Summary for Subcatchment 13S:

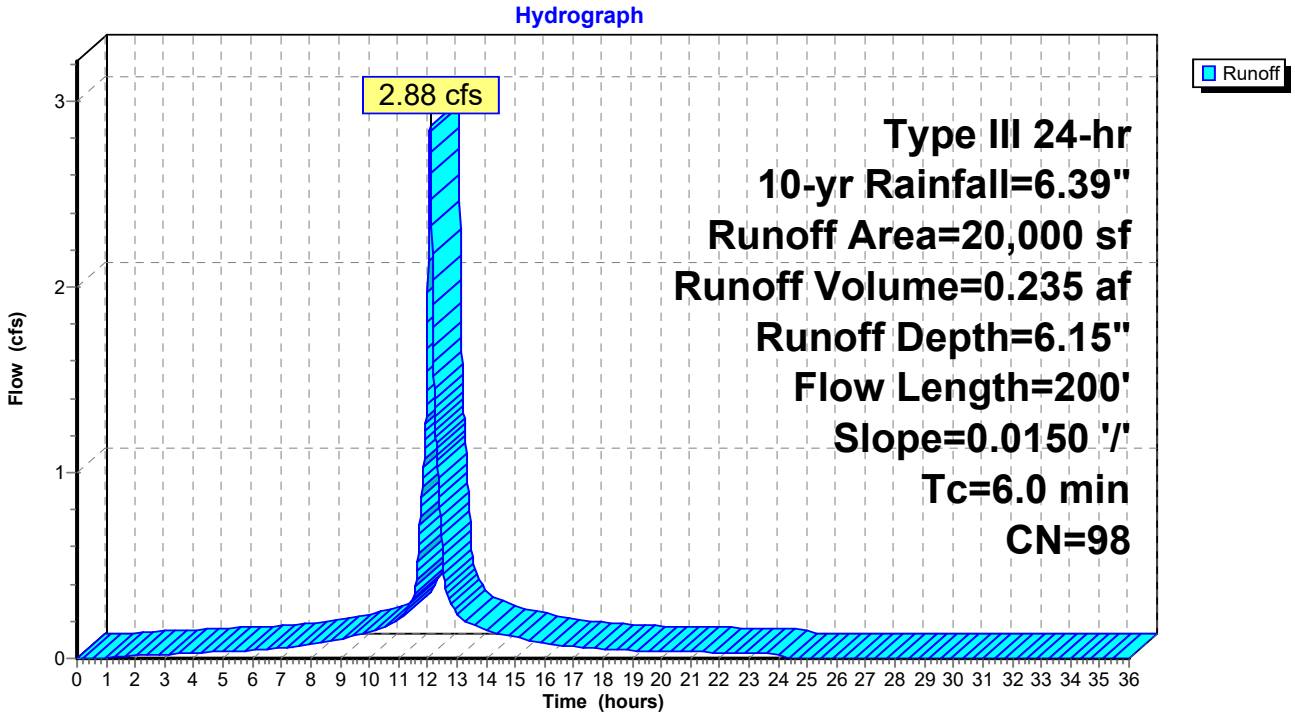
Runoff = 2.88 cfs @ 12.08 hrs, Volume= 0.235 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
10,878	98	Paved parking, HSG B
9,122	98	Paved parking, HSG C
20,000	98	Weighted Average
20,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.39		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.7	100	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 13S:



Summary for Subcatchment 14-1S:

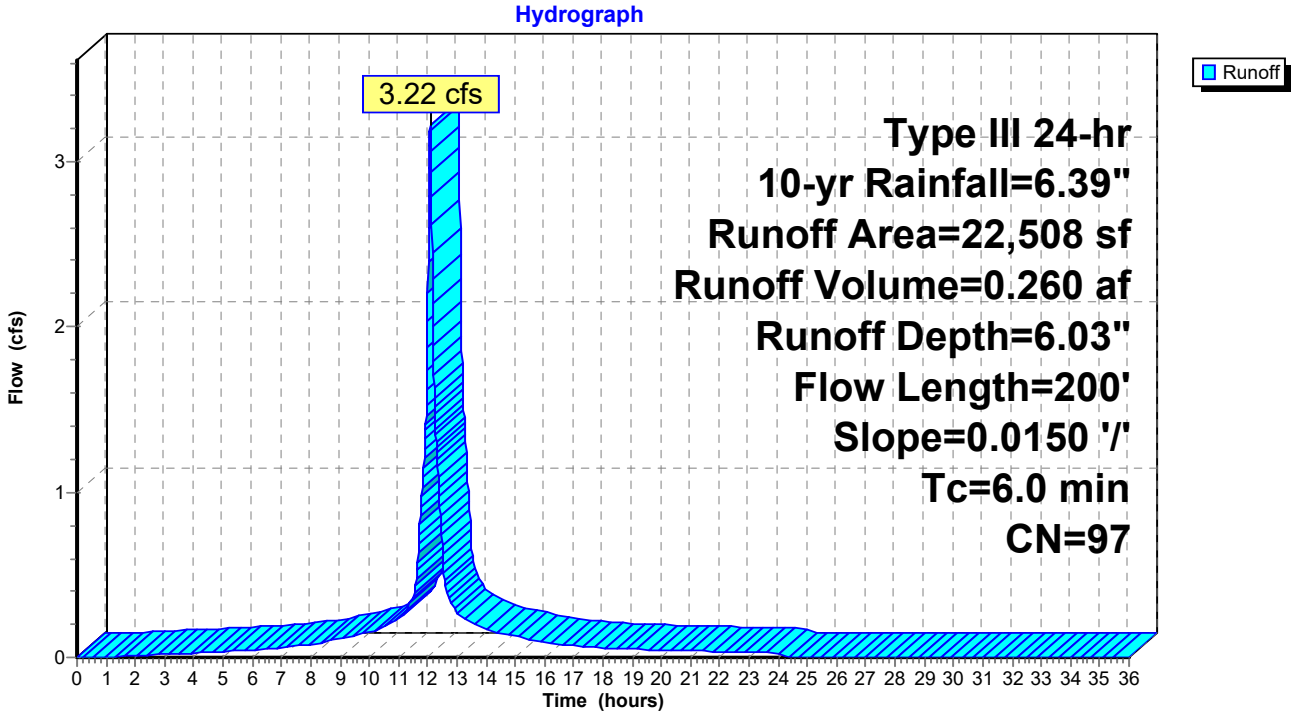
Runoff = 3.22 cfs @ 12.08 hrs, Volume= 0.260 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
4,506	98	Paved parking, HSG B
1,216	74	>75% Grass cover, Good, HSG C
16,786	98	Paved parking, HSG C
22,508	97	Weighted Average
1,216		5.40% Pervious Area
21,292		94.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0150	1.39		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.7	100	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 14-1S:



Summary for Subcatchment 14-2S:

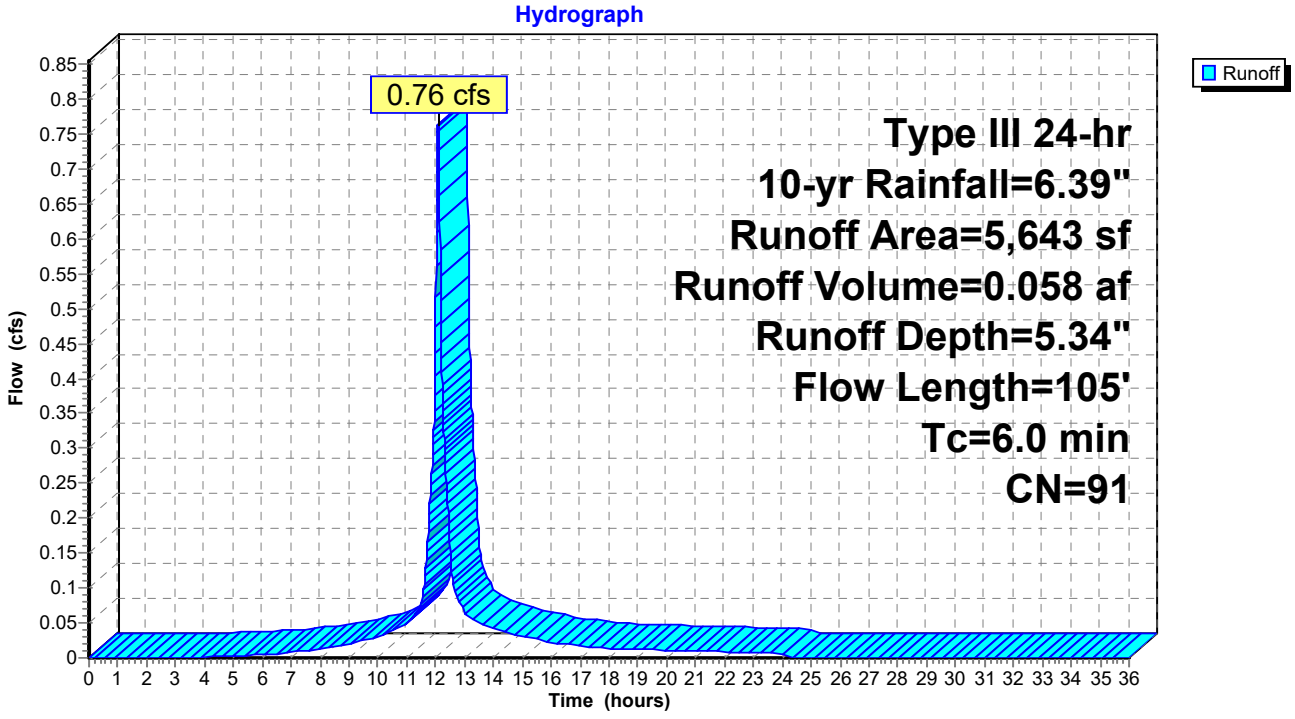
Runoff = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af, Depth= 5.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
1,596	74	>75% Grass cover, Good, HSG C
4,047	98	Paved parking, HSG C
5,643	91	Weighted Average
1,596		28.28% Pervious Area
4,047		71.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.13		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.3	85	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	105	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 14-2S:



Summary for Subcatchment 100S:

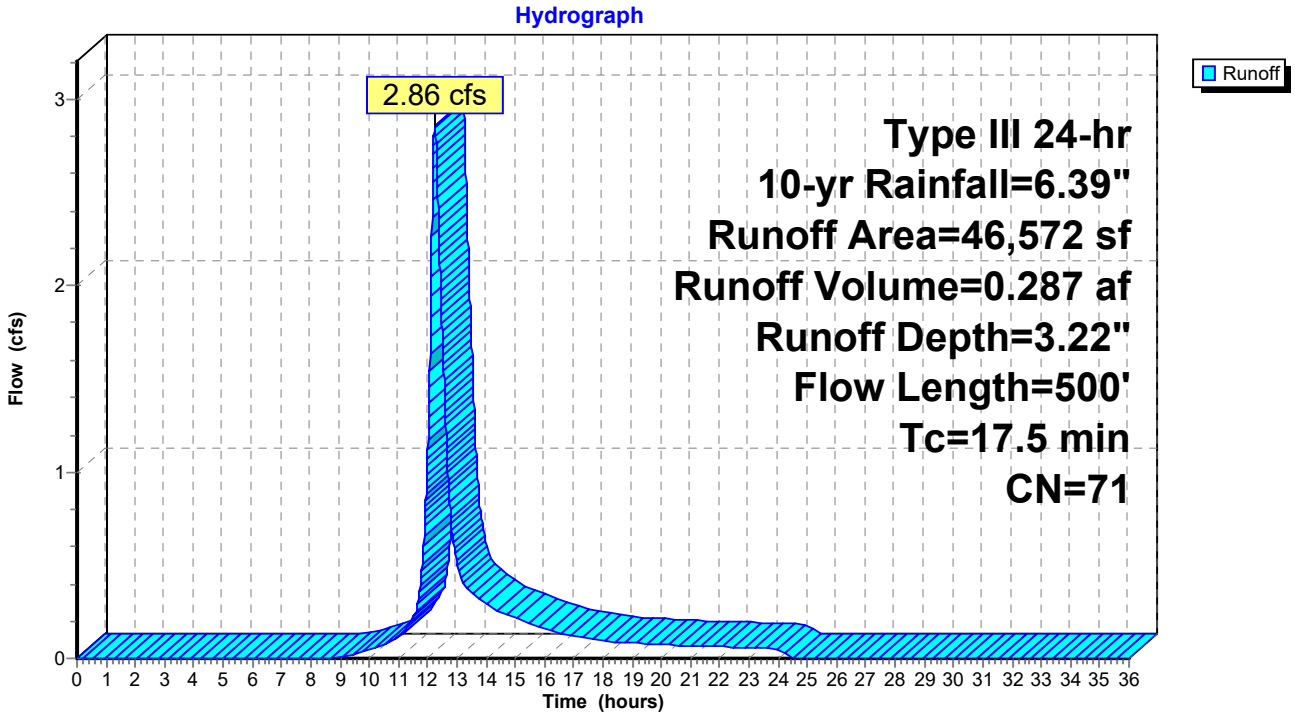
Runoff = 2.86 cfs @ 12.24 hrs, Volume= 0.287 af, Depth= 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
8,918	74	>75% Grass cover, Good, HSG C
37,654	70	Woods, Good, HSG C
46,572	71	Weighted Average
46,572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0700	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 4.10"
6.0	400	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.5	500	Total			

Subcatchment 100S:



Summary for Subcatchment 200S:

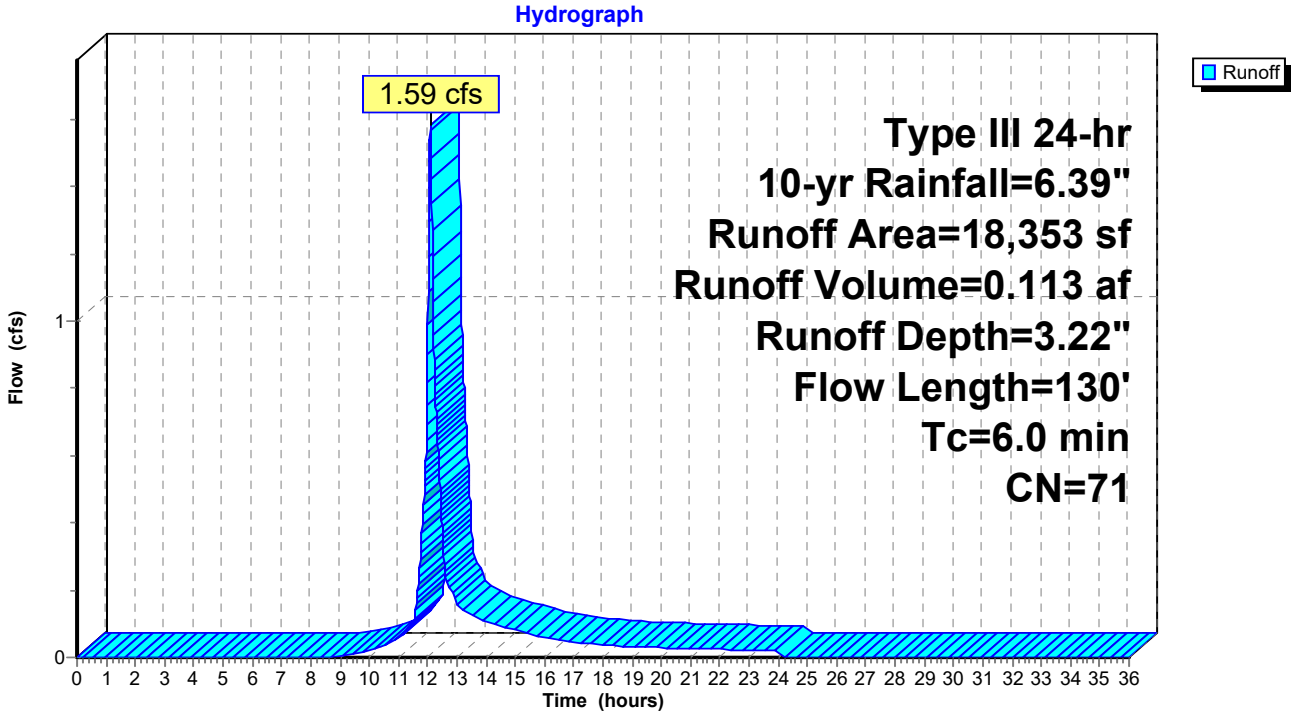
Runoff = 1.59 cfs @ 12.09 hrs, Volume= 0.113 af, Depth= 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
568	55	Woods, Good, HSG B
15	61	>75% Grass cover, Good, HSG B
11,169	70	Woods, Good, HSG C
6,601	74	>75% Grass cover, Good, HSG C
18,353	71	Weighted Average
18,353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	100	1.0000	7.45		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 4.10"
0.2	30	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	130	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 200S:



Summary for Subcatchment 300S:

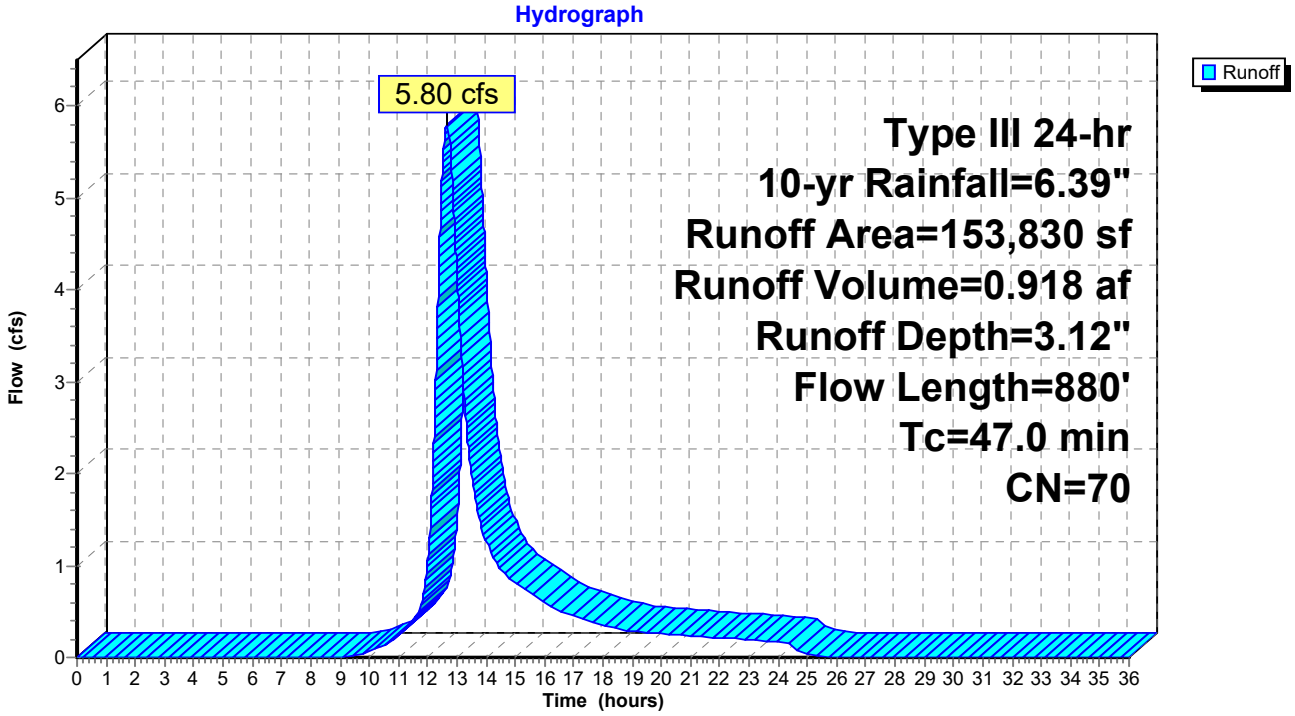
Runoff = 5.80 cfs @ 12.68 hrs, Volume= 0.918 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
1,850	55	Woods, Good, HSG B
4,815	61	>75% Grass cover, Good, HSG B
139,627	70	Woods, Good, HSG C
7,538	74	>75% Grass cover, Good, HSG C
153,830	70	Weighted Average
153,830		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.0	100	0.0100	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 4.10"
22.0	780	0.0140	0.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
47.0	880	Total			

Subcatchment 300S:



Summary for Subcatchment 301S:

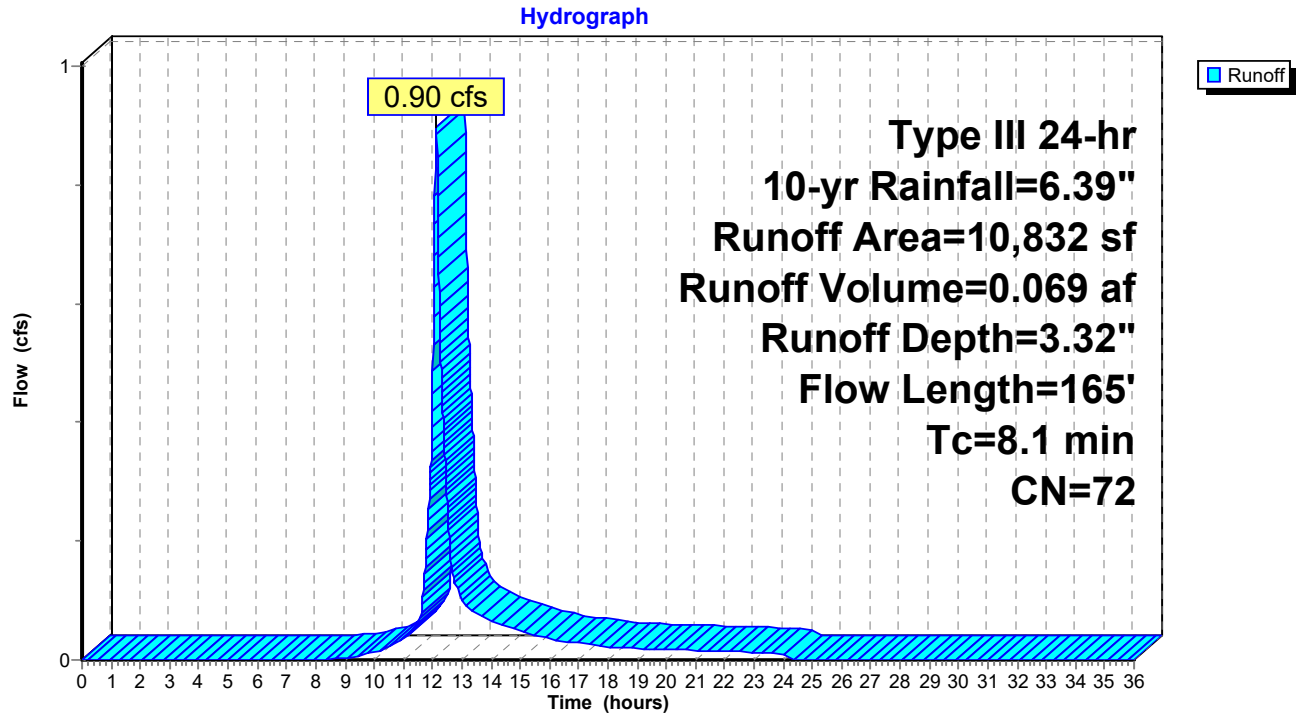
Runoff = 0.90 cfs @ 12.12 hrs, Volume= 0.069 af, Depth= 3.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=6.39"

Area (sf)	CN	Description
4,792	70	Woods, Good, HSG C
6,040	74	>75% Grass cover, Good, HSG C
10,832	72	Weighted Average
10,832		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	45	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 4.10"
1.8	65	0.0140	0.59		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	55	0.0050	3.47	2.73	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Corrugated PP, smooth interior
8.1	165	Total			

Subcatchment 301S:



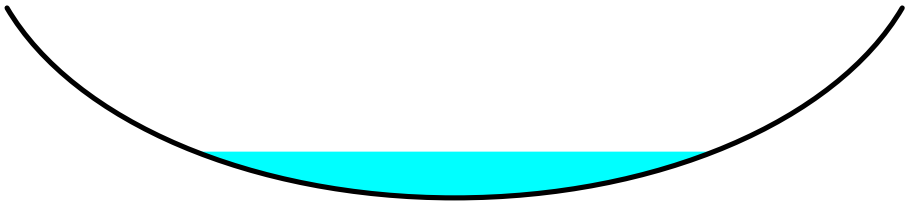
Summary for Reach 2R: Wooded Wetlands

Inflow Area = 2.271 ac, 67.47% Impervious, Inflow Depth > 1.18" for 10-yr event
Inflow = 0.97 cfs @ 12.30 hrs, Volume= 0.224 af
Outflow = 0.97 cfs @ 12.31 hrs, Volume= 0.224 af, Atten= 0%, Lag= 0.5 min

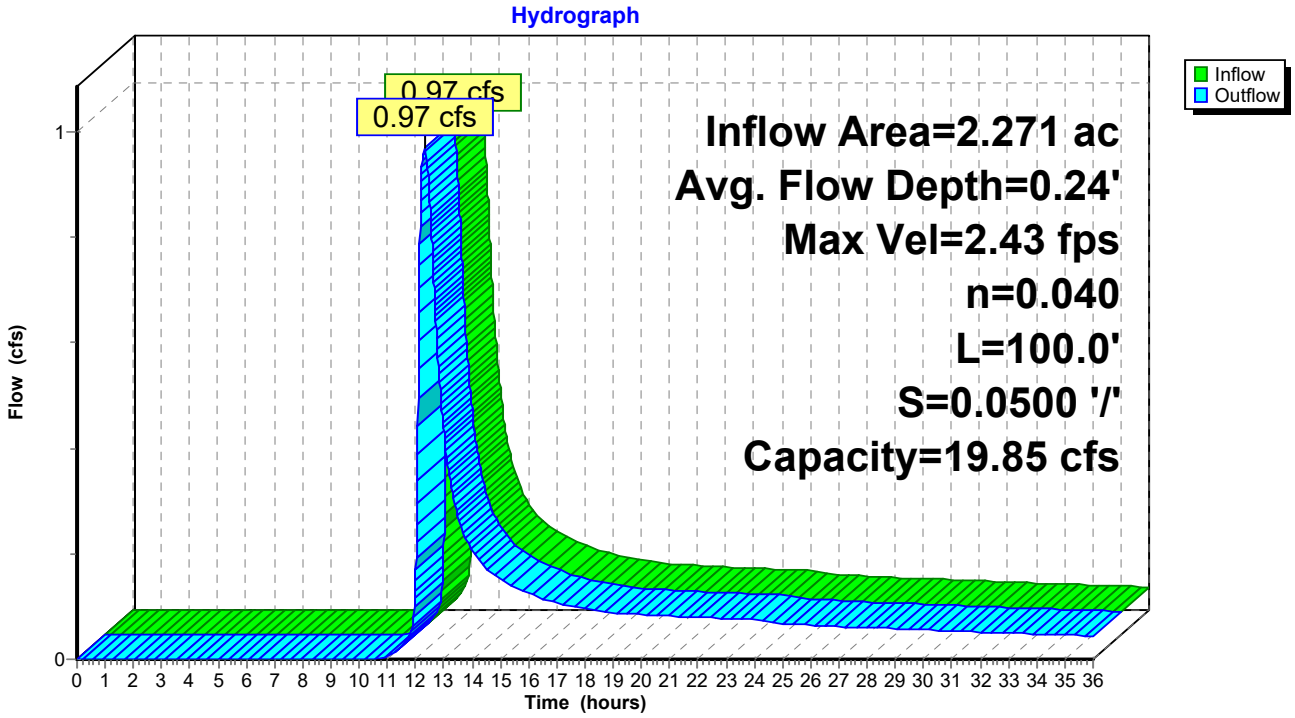
Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.43 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.16 fps, Avg. Travel Time= 1.4 min

Peak Storage= 40 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 1.00' Flow Area= 3.3 sf, Capacity= 19.85 cfs

5.00' x 1.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 100.0' Slope= 0.0500 '/'
Inlet Invert= 78.00', Outlet Invert= 73.00'



Reach 2R: Wooded Wetlands



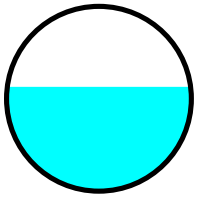
Summary for Reach 5-1: Roof Drain

Inflow Area = 1.011 ac,100.00% Impervious, Inflow Depth = 6.15" for 10-yr event
Inflow = 6.34 cfs @ 12.08 hrs, Volume= 0.518 af
Outflow = 6.23 cfs @ 12.10 hrs, Volume= 0.518 af, Atten= 2%, Lag= 0.9 min

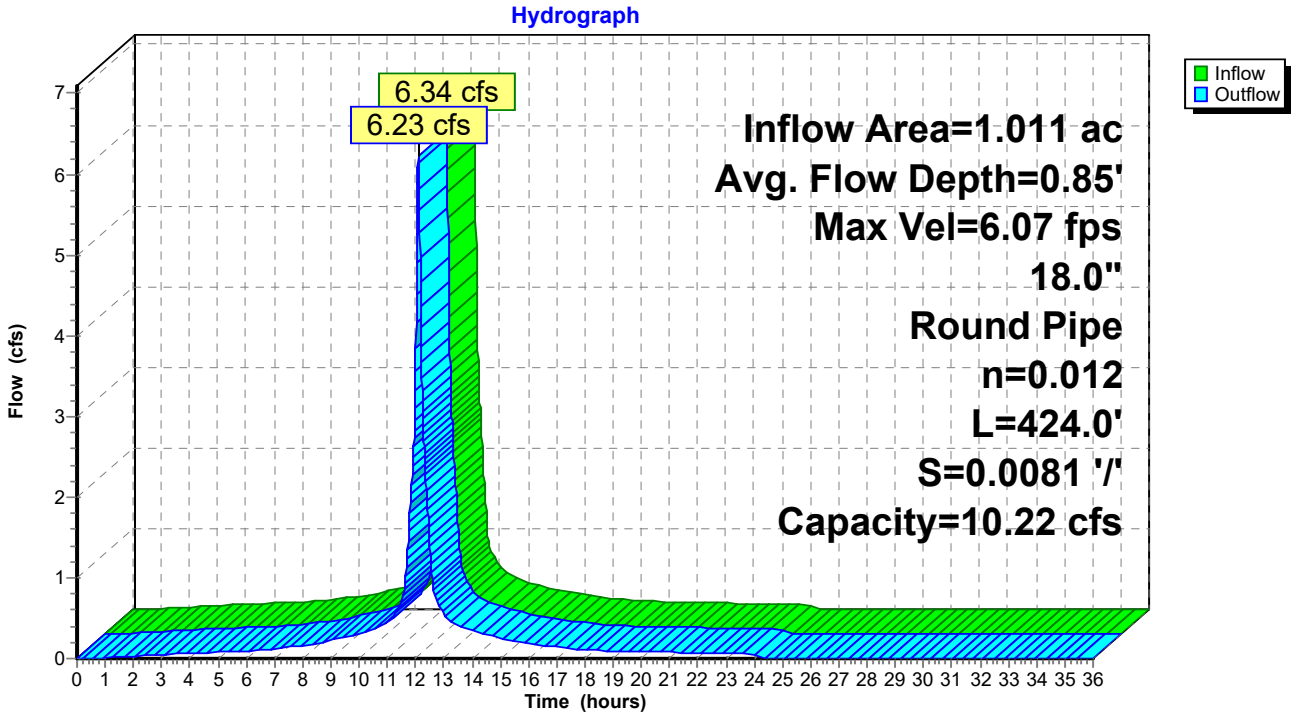
Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.07 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.03 fps, Avg. Travel Time= 3.5 min

Peak Storage= 436 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.85'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.22 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 424.0' Slope= 0.0081 '/'
Inlet Invert= 90.20', Outlet Invert= 86.78'



Reach 5-1: Roof Drain



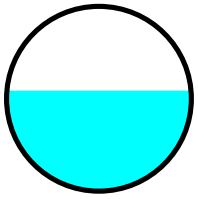
Summary for Reach 5-2: Roof Drain

Inflow Area = 0.745 ac,100.00% Impervious, Inflow Depth = 6.15" for 10-yr event
Inflow = 4.67 cfs @ 12.08 hrs, Volume= 0.382 af
Outflow = 4.62 cfs @ 12.10 hrs, Volume= 0.382 af, Atten= 1%, Lag= 0.7 min

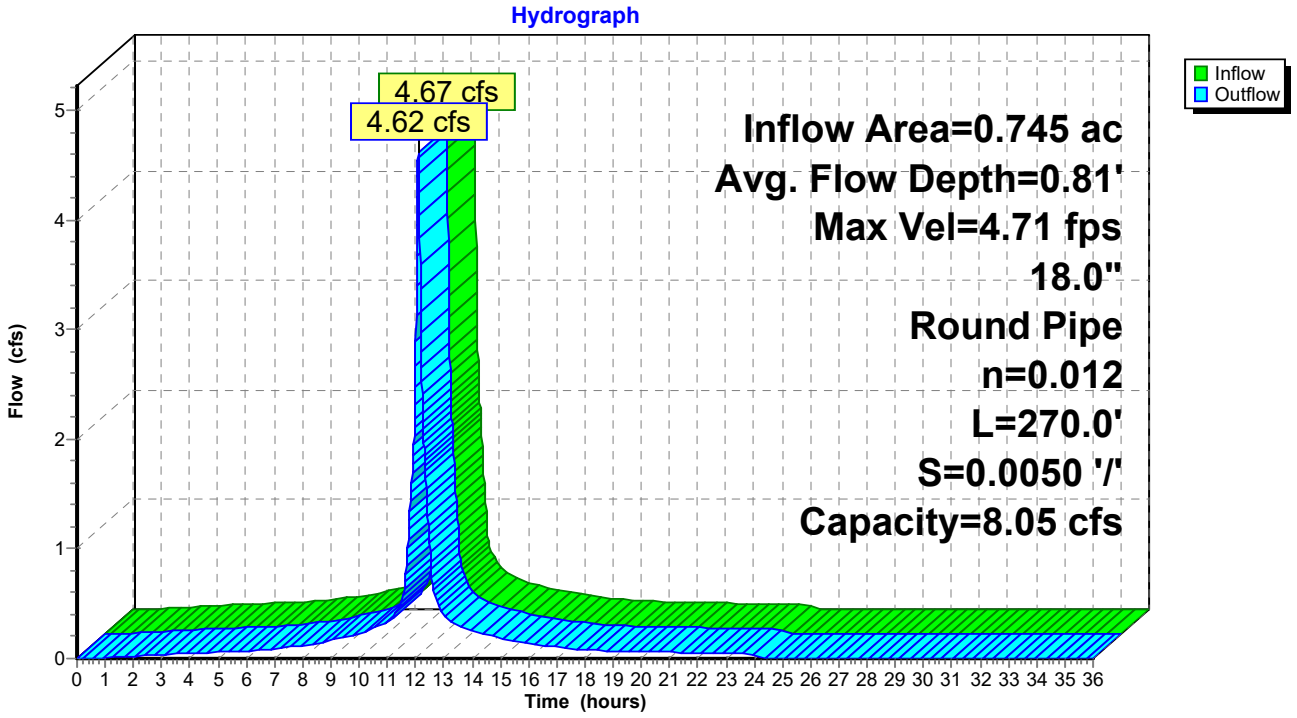
Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.71 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.58 fps, Avg. Travel Time= 2.8 min

Peak Storage= 265 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.81'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 8.05 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 270.0' Slope= 0.0050 '/'
Inlet Invert= 88.13', Outlet Invert= 86.78'



Reach 5-2: Roof Drain



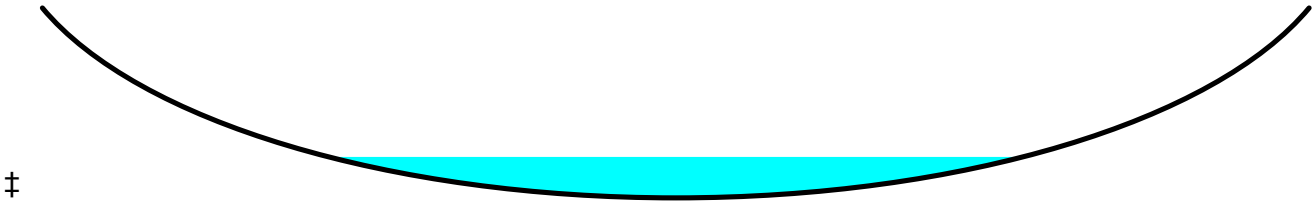
Summary for Reach 301R: Wetland Flow Path

Inflow Area = 0.249 ac, 0.00% Impervious, Inflow Depth = 3.32" for 10-yr event
Inflow = 0.90 cfs @ 12.12 hrs, Volume= 0.069 af
Outflow = 0.53 cfs @ 12.26 hrs, Volume= 0.069 af, Atten= 41%, Lag= 8.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.80 fps, Min. Travel Time= 18.3 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 60.9 min

Peak Storage= 585 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 14.89 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.035 Earth, dense weeds
Length= 880.0' Slope= 0.0120 '/'
Inlet Invert= 92.00', Outlet Invert= 81.44'



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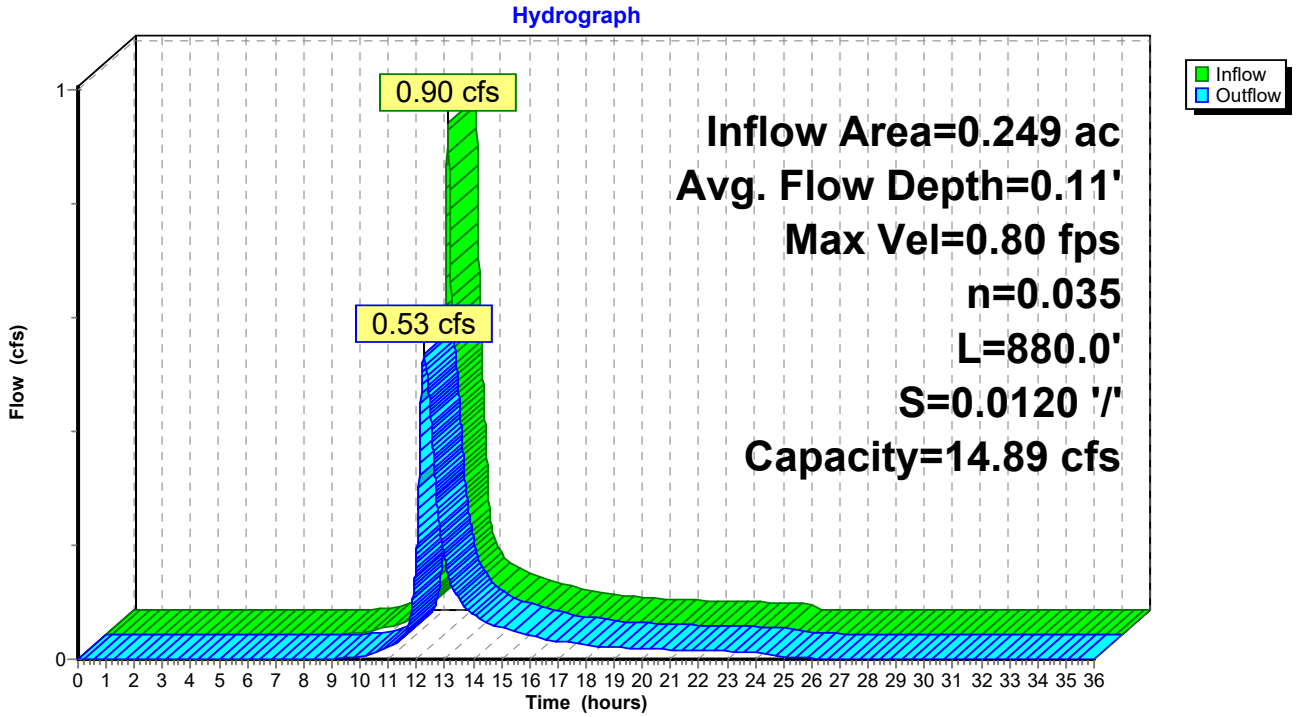
Reach 301R: Wetland Flow Path



Summary for Pond 1P: Infiltration Pond / Outlet #1

Inflow Area = 3.701 ac, 68.63% Impervious, Inflow Depth = 5.16" for 10-yr event
Inflow = 19.93 cfs @ 12.09 hrs, Volume= 1.590 af
Outflow = 3.37 cfs @ 12.57 hrs, Volume= 1.354 af, Atten= 83%, Lag= 28.4 min
Discarded = 0.02 cfs @ 12.57 hrs, Volume= 0.018 af
Primary = 3.35 cfs @ 12.57 hrs, Volume= 1.336 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 87.87' @ 12.57 hrs Surf.Area= 22,465 sf Storage= 37,956 cf

Plug-Flow detention time= 285.3 min calculated for 1.354 af (85% of inflow)
Center-of-Mass det. time= 220.1 min (987.8 - 767.7)

Volume	Invert	Avail.Storage	Storage Description
#1	86.00'	91,465 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

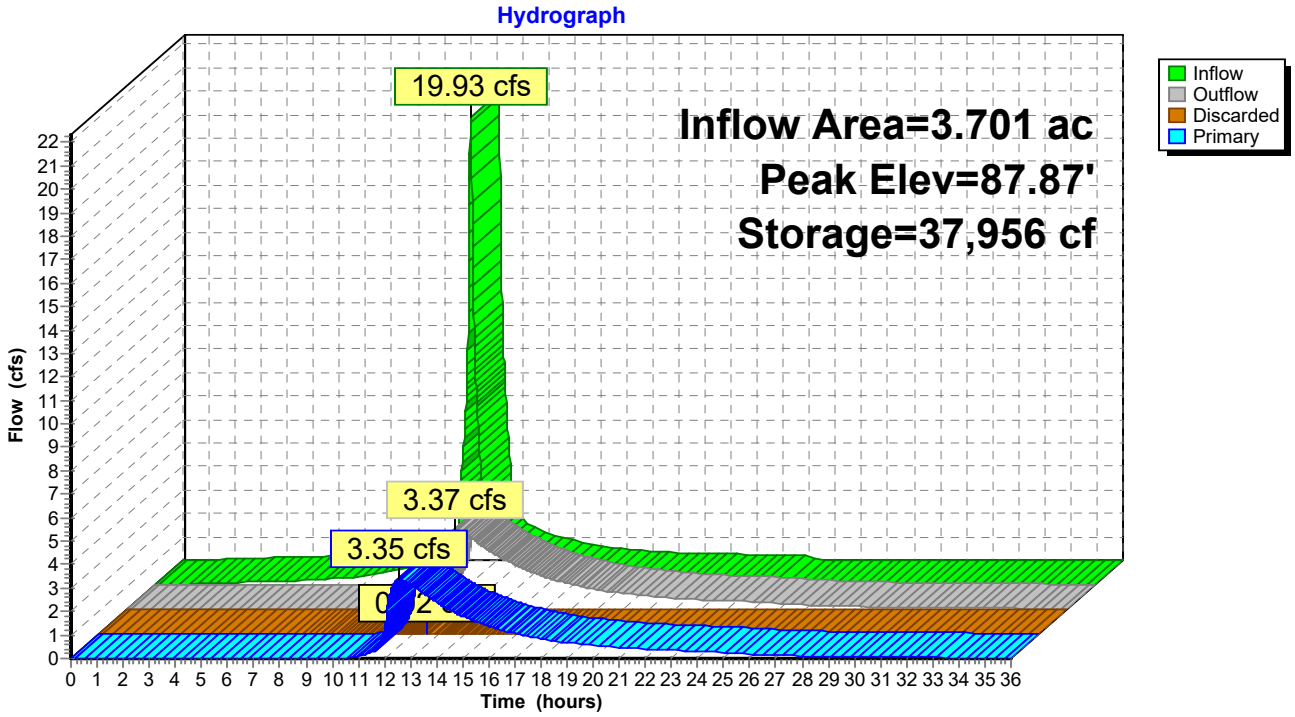
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
86.00	18,011	0	0	18,011
86.75	19,846	14,191	14,191	19,882
88.00	22,768	26,613	40,804	22,875
90.00	27,983	50,661	91,465	28,210

Device	Routing	Invert	Outlet Devices
#1	Primary	82.20'	**24.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.20' / 82.00' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf
#2	Discarded	86.00'	**0.165 in/hr Exfiltration over Wetted area above 86.00'** Excluded Wetted area = 18,011 sf Phase-In= 0.01'
#3	Device 1	86.50'	**8.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	89.50'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.02 cfs @ 12.57 hrs HW=87.87' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=3.35 cfs @ 12.57 hrs HW=87.87' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 3.35 cfs of 32.70 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 3.35 cfs @ 4.02 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Infiltration Pond / Outlet #1



Summary for Pond 3: DMH #3

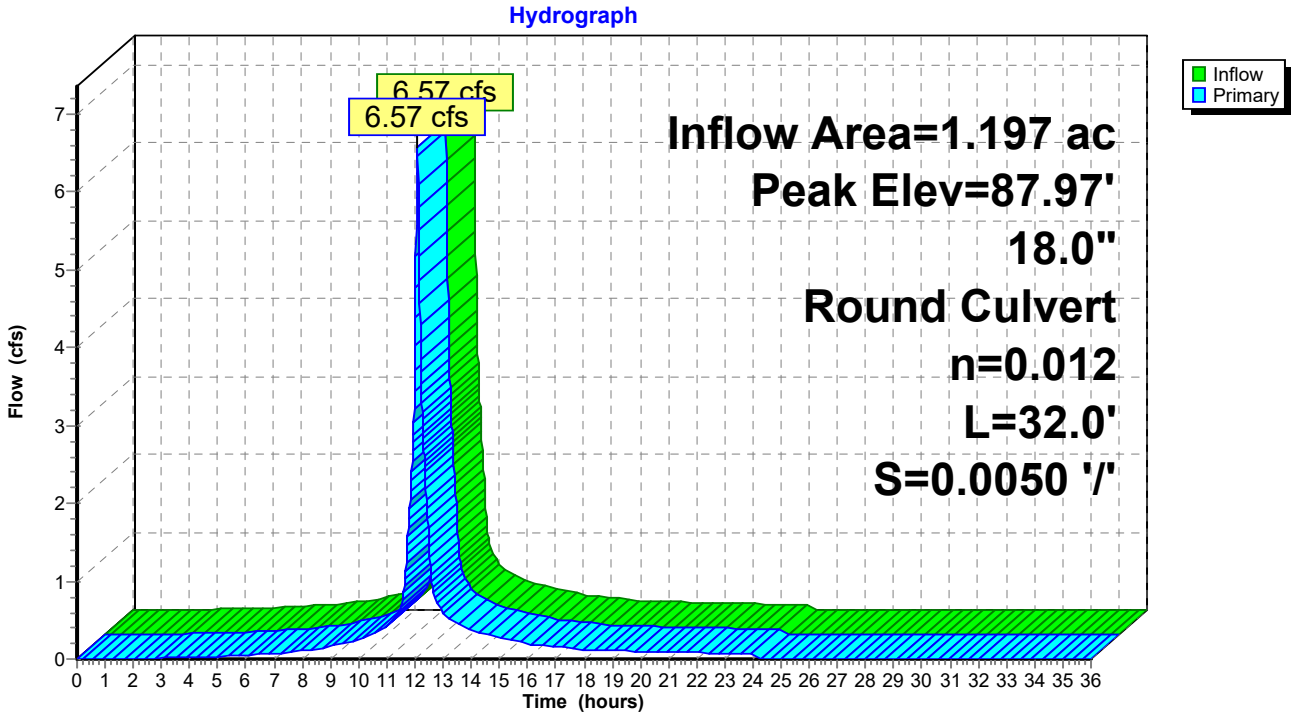
Inflow Area = 1.197 ac, 65.44% Impervious, Inflow Depth = 5.09" for 10-yr event
Inflow = 6.57 cfs @ 12.09 hrs, Volume= 0.507 af
Outflow = 6.57 cfs @ 12.09 hrs, Volume= 0.507 af, Atten= 0%, Lag= 0.0 min
Primary = 6.57 cfs @ 12.09 hrs, Volume= 0.507 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 87.97' @ 12.11 hrs
Flood Elev= 90.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	86.16'	**18.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 86.16' / 86.00' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.39 cfs @ 12.09 hrs HW=87.94' TW=87.38' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 6.39 cfs @ 3.62 fps)

Pond 3: DMH #3



Summary for Pond 3-1: CB #3-1

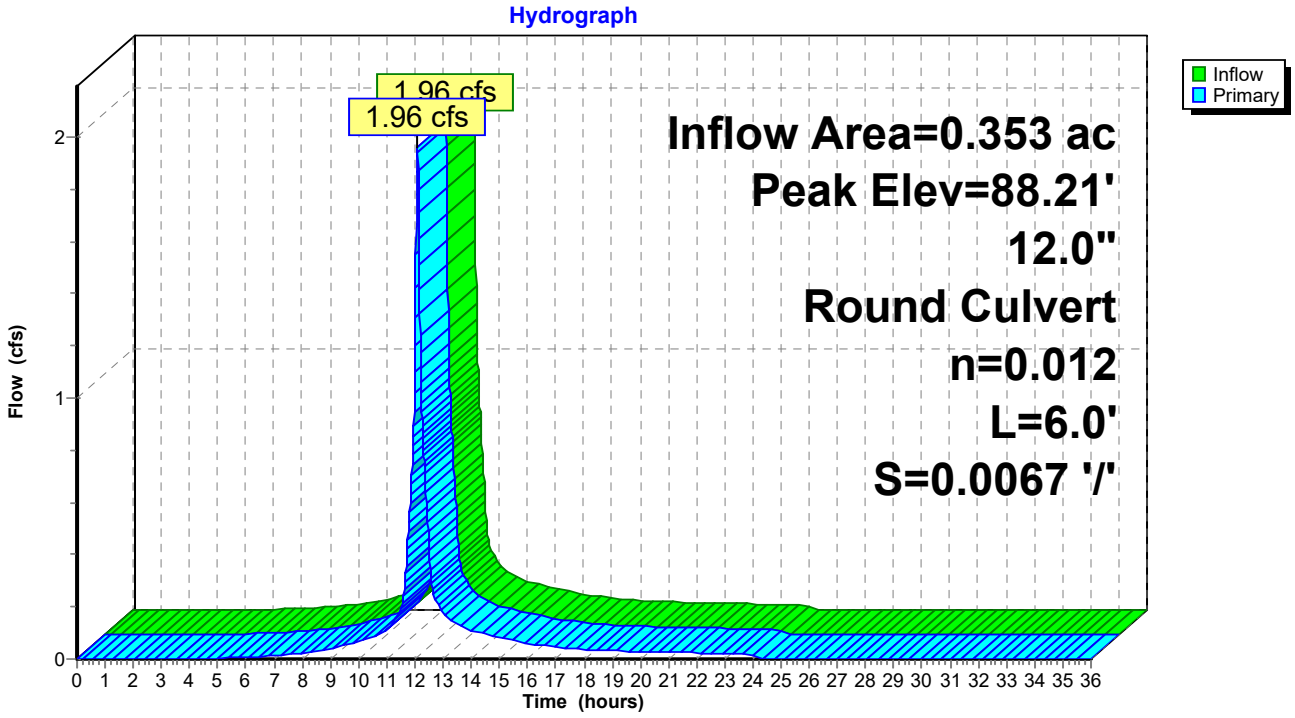
Inflow Area = 0.353 ac, 60.07% Impervious, Inflow Depth = 4.89" for 10-yr event
Inflow = 1.96 cfs @ 12.09 hrs, Volume= 0.144 af
Outflow = 1.96 cfs @ 12.09 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min
Primary = 1.96 cfs @ 12.09 hrs, Volume= 0.144 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 88.21' @ 12.11 hrs
Flood Elev= 90.22'

Device	Routing	Invert	Outlet Devices
#1	Primary	86.80'	**12.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 86.80' / 86.76' S= 0.0067 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.80 cfs @ 12.09 hrs HW=88.16' TW=87.94' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 1.80 cfs @ 2.29 fps)

Pond 3-1: CB #3-1



Summary for Pond 4: DMH #4

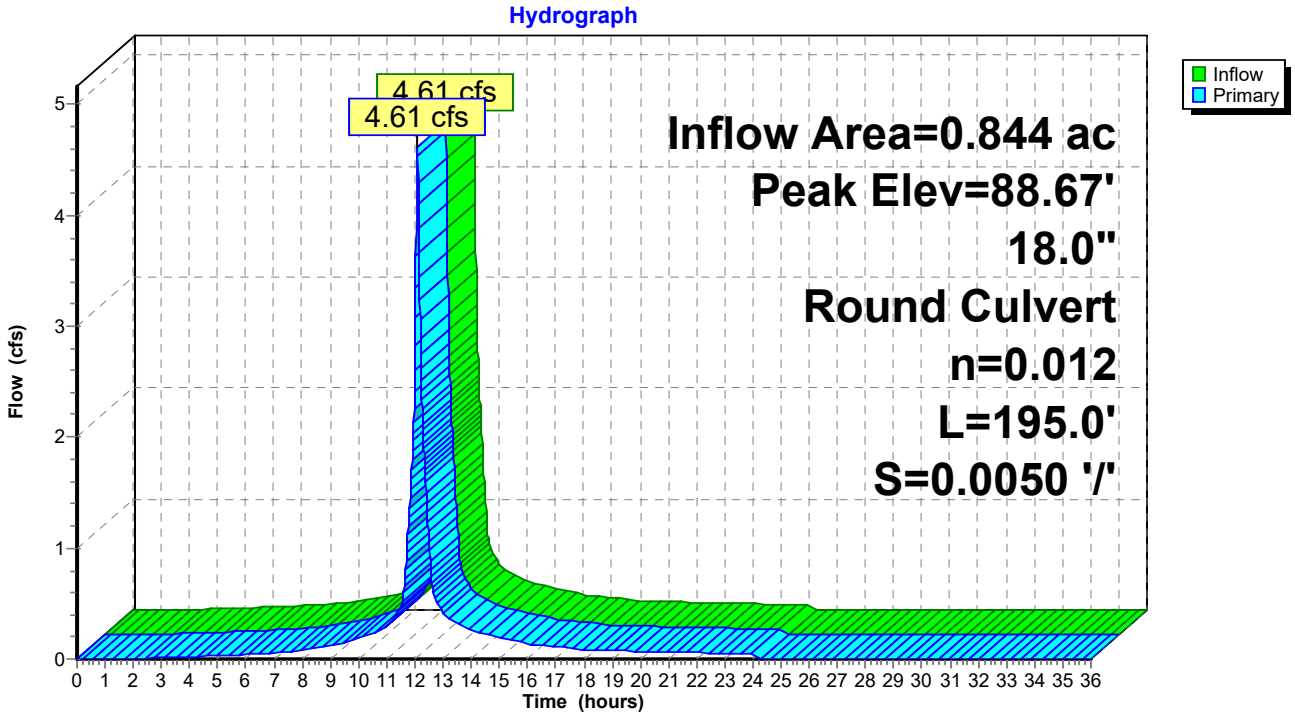
Inflow Area = 0.844 ac, 67.69% Impervious, Inflow Depth = 5.17" for 10-yr event
Inflow = 4.61 cfs @ 12.09 hrs, Volume= 0.364 af
Outflow = 4.61 cfs @ 12.09 hrs, Volume= 0.364 af, Atten= 0%, Lag= 0.0 min
Primary = 4.61 cfs @ 12.09 hrs, Volume= 0.364 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 88.67' @ 12.10 hrs
Flood Elev= 92.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	87.26'	**18.0" Round Culvert** L= 195.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 87.26' / 86.28' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.49 cfs @ 12.09 hrs HW=88.65' TW=87.94' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 4.49 cfs @ 3.41 fps)

Pond 4: DMH #4



Summary for Pond 4-1: CB #4-1

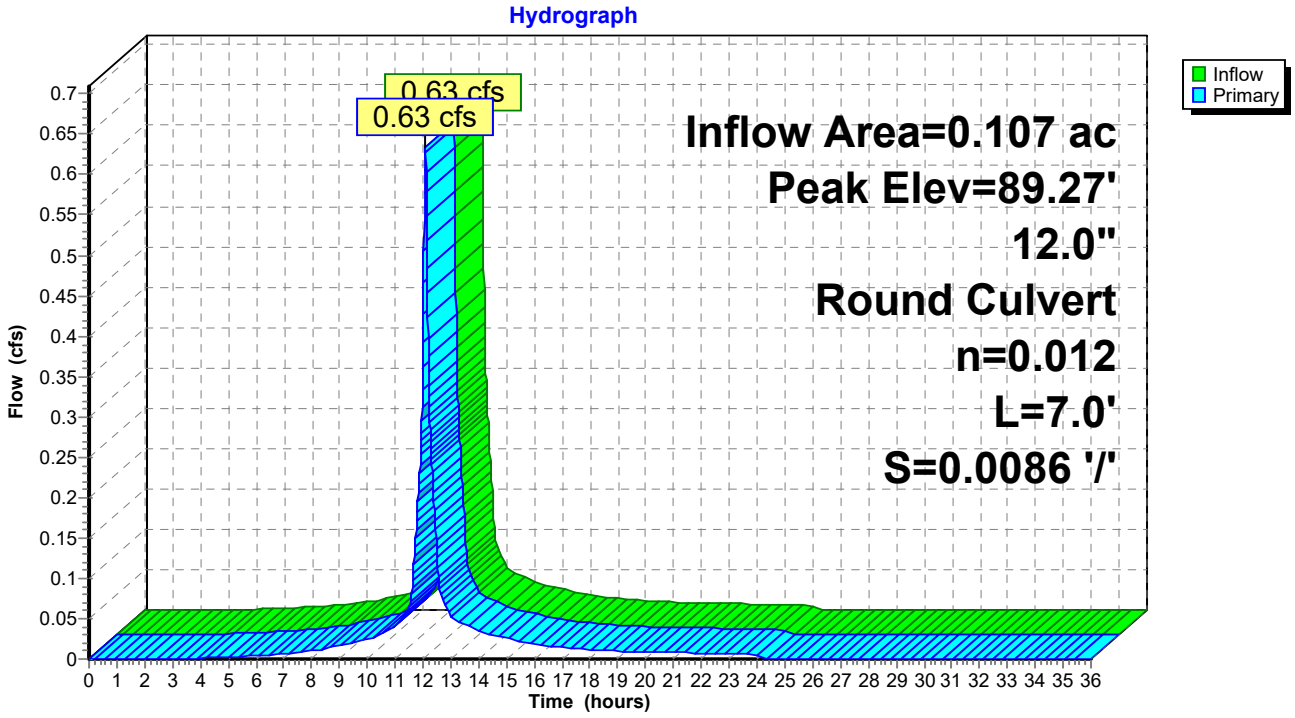
Inflow Area = 0.107 ac, 71.05% Impervious, Inflow Depth = 5.34" for 10-yr event
Inflow = 0.63 cfs @ 12.08 hrs, Volume= 0.048 af
Outflow = 0.63 cfs @ 12.08 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.08 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 89.27' @ 12.08 hrs
Flood Elev= 92.22'

Device	Routing	Invert	Outlet Devices
#1	Primary	88.80'	**12.0" Round Culvert** L= 7.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.80' / 88.74' S= 0.0086 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.63 cfs @ 12.08 hrs HW=89.27' TW=88.65' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.63 cfs @ 2.55 fps)

Pond 4-1: CB #4-1



Summary for Pond 5: DMH #5

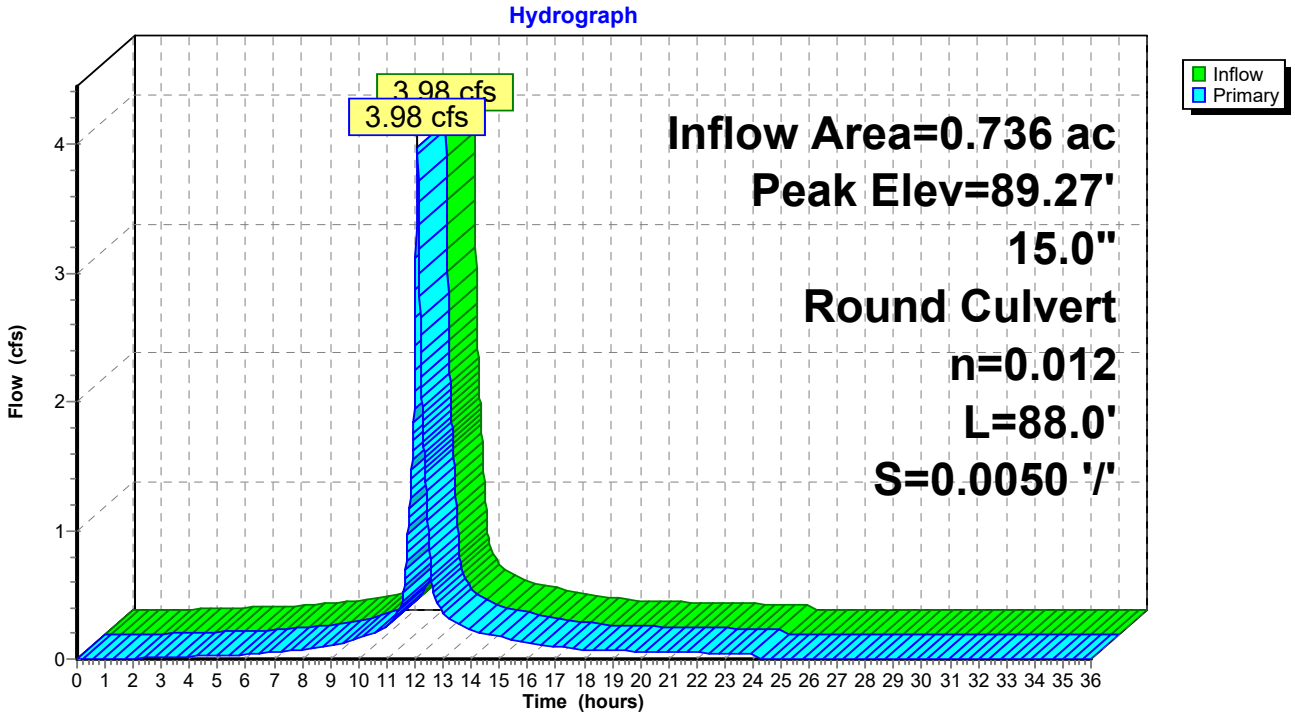
Inflow Area = 0.736 ac, 67.20% Impervious, Inflow Depth = 5.15" for 10-yr event
Inflow = 3.98 cfs @ 12.09 hrs, Volume= 0.316 af
Outflow = 3.98 cfs @ 12.09 hrs, Volume= 0.316 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98 cfs @ 12.09 hrs, Volume= 0.316 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 89.27' @ 12.10 hrs
Flood Elev= 93.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	87.93'	**15.0" Round Culvert** L= 88.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 87.93' / 87.49' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.89 cfs @ 12.09 hrs HW=89.26' TW=88.66' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 3.89 cfs @ 3.70 fps)

Pond 5: DMH #5



Summary for Pond 6: DMH #6

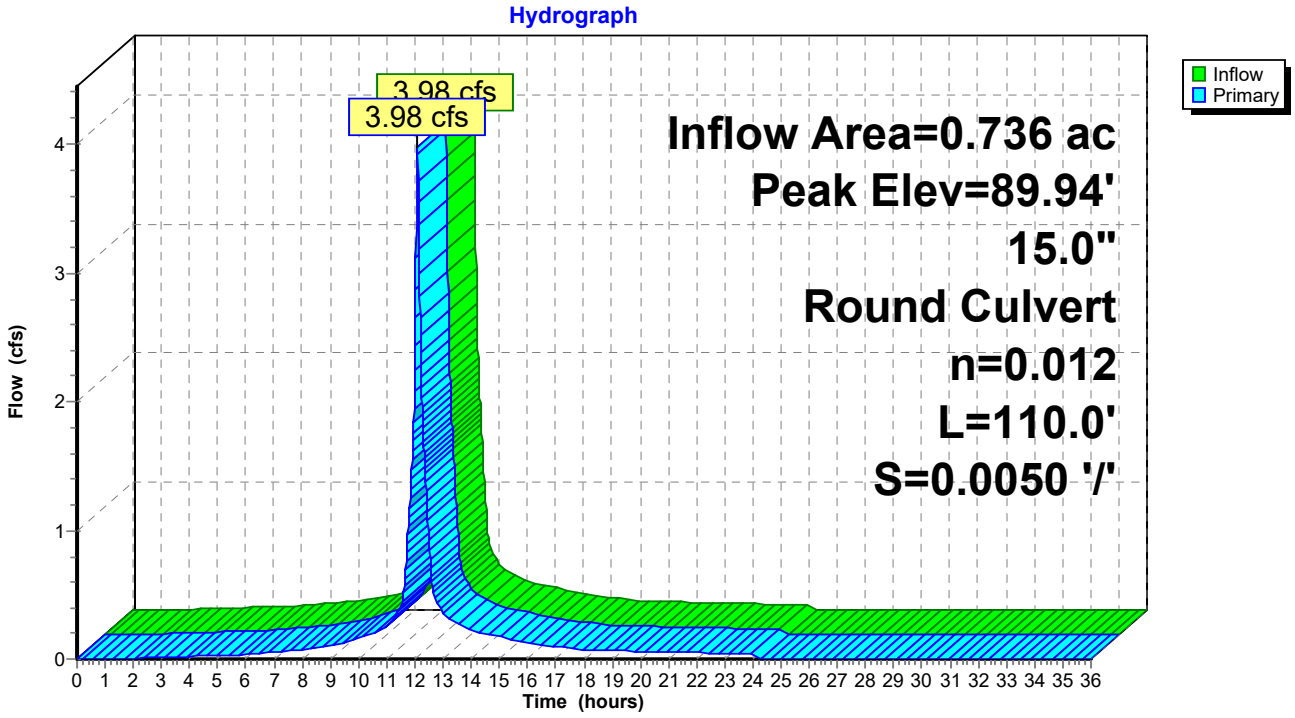
Inflow Area = 0.736 ac, 67.20% Impervious, Inflow Depth = 5.15" for 10-yr event
Inflow = 3.98 cfs @ 12.09 hrs, Volume= 0.316 af
Outflow = 3.98 cfs @ 12.09 hrs, Volume= 0.316 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98 cfs @ 12.09 hrs, Volume= 0.316 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 89.94' @ 12.10 hrs
Flood Elev= 93.48'

Device	Routing	Invert	Outlet Devices
#1	Primary	88.58'	**15.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.58' / 88.03' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.90 cfs @ 12.09 hrs HW=89.93' TW=89.26' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 3.90 cfs @ 3.67 fps)

Pond 6: DMH #6



Summary for Pond 6-1: CB #6-1

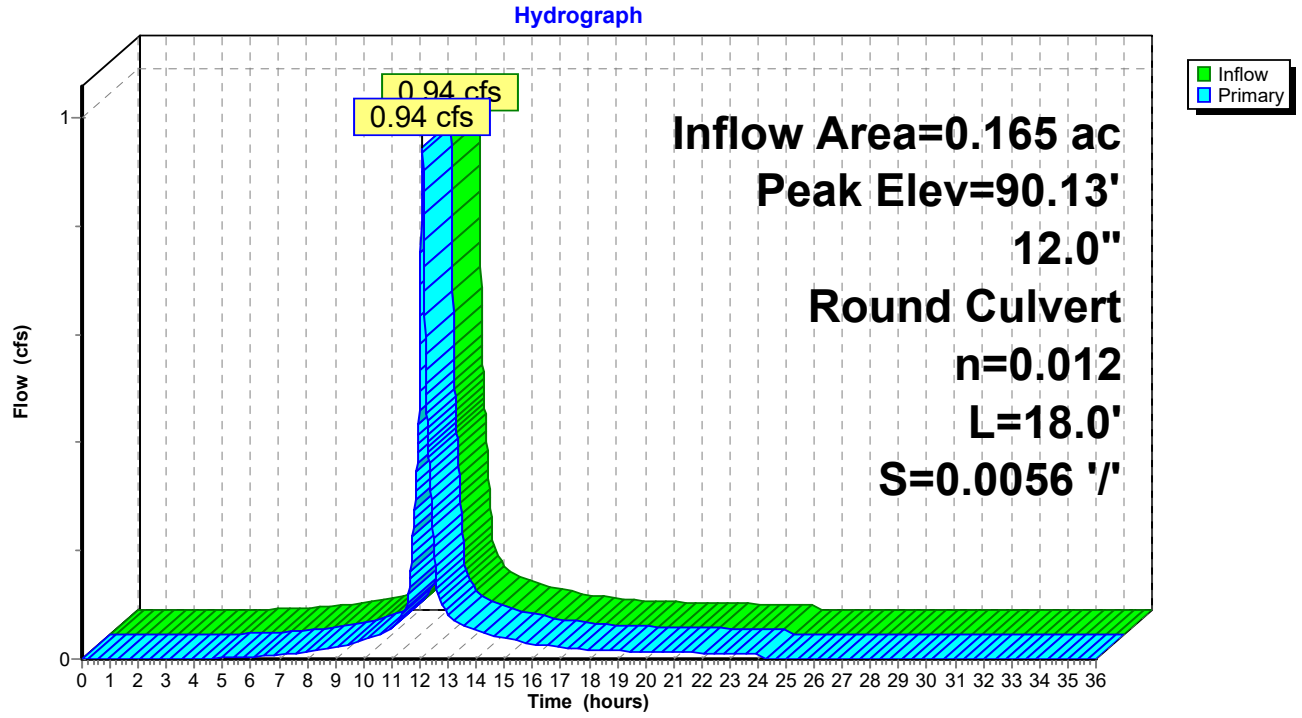
Inflow Area = 0.165 ac, 63.23% Impervious, Inflow Depth = 5.11" for 10-yr event
Inflow = 0.94 cfs @ 12.08 hrs, Volume= 0.070 af
Outflow = 0.94 cfs @ 12.08 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.94 cfs @ 12.08 hrs, Volume= 0.070 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 90.13' @ 12.10 hrs
Flood Elev= 92.22'

Device	Routing	Invert	Outlet Devices
#1	Primary	89.50'	**12.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 89.50' / 89.40' S= 0.0056 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.88 cfs @ 12.08 hrs HW=90.11' TW=89.92' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 0.88 cfs @ 2.49 fps)

Pond 6-1: CB #6-1



Summary for Pond 6-2: CB #6-1

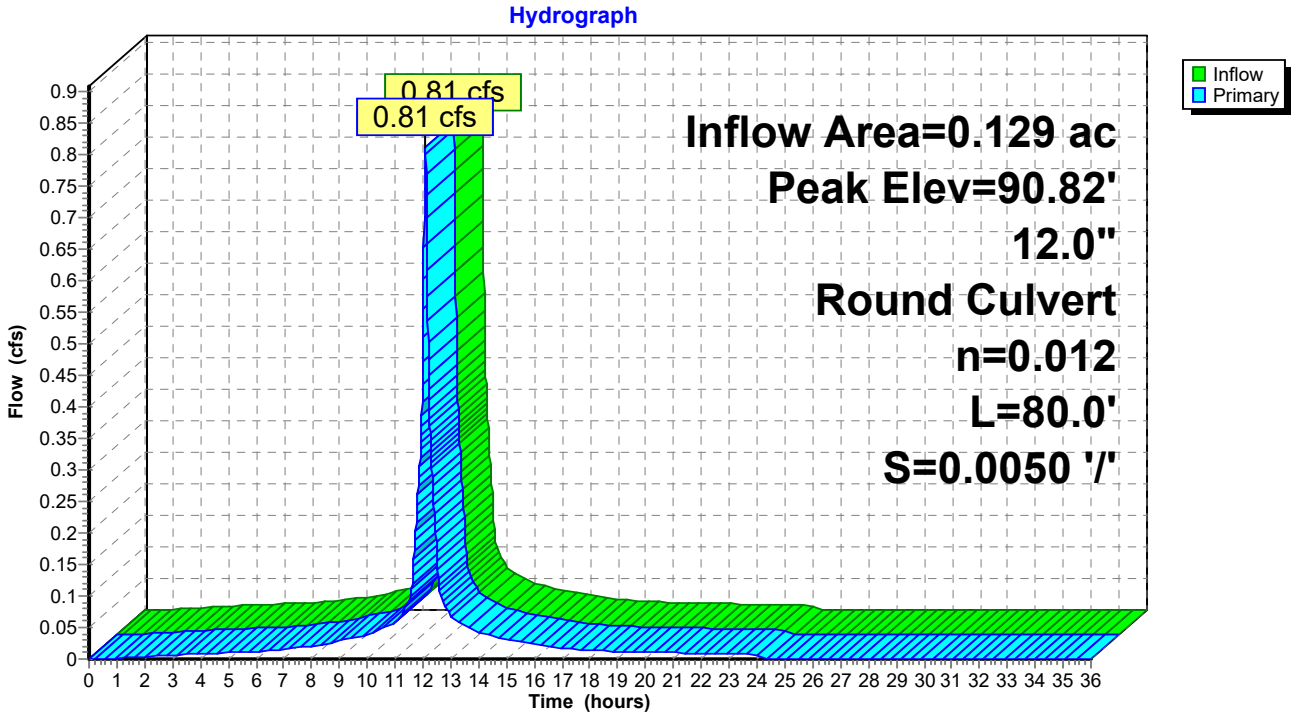
Inflow Area = 0.129 ac,100.00% Impervious, Inflow Depth = 6.15" for 10-yr event
Inflow = 0.81 cfs @ 12.08 hrs, Volume= 0.066 af
Outflow = 0.81 cfs @ 12.08 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.08 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 90.82' @ 12.08 hrs
Flood Elev= 92.22'

Device	Routing	Invert	Outlet Devices
#1	Primary	90.30'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 90.30' / 89.90' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.08 hrs HW=90.82' TW=89.92' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 0.81 cfs @ 2.85 fps)

Pond 6-2: CB #6-1



Summary for Pond 6-3: CB #6-3

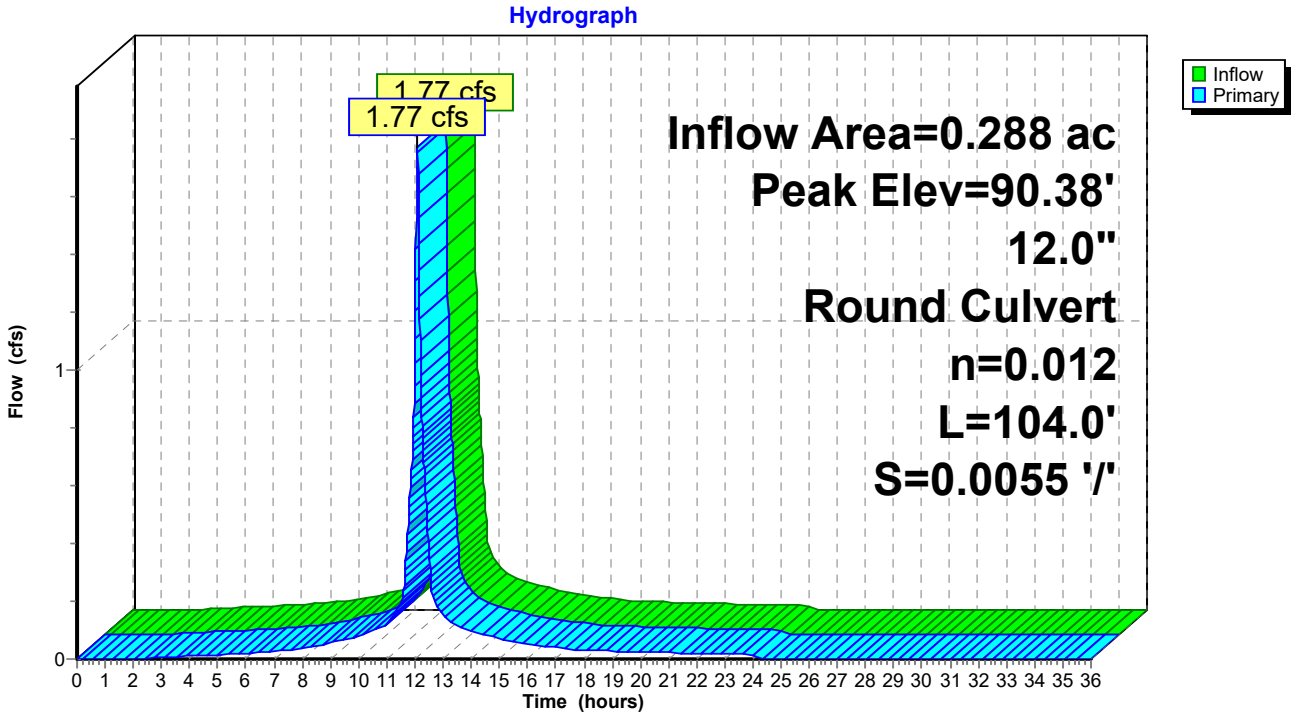
Inflow Area = 0.288 ac, 88.75% Impervious, Inflow Depth = 5.80" for 10-yr event
Inflow = 1.77 cfs @ 12.08 hrs, Volume= 0.139 af
Outflow = 1.77 cfs @ 12.08 hrs, Volume= 0.139 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77 cfs @ 12.08 hrs, Volume= 0.139 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 90.38' @ 12.10 hrs
Flood Elev= 92.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	89.40'	**12.0" Round Culvert** L= 104.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 89.40' / 88.83' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.71 cfs @ 12.08 hrs HW=90.37' TW=89.92' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.71 cfs @ 2.80 fps)

Pond 6-3: CB #6-3



Summary for Pond 7P: Basin

Inflow Area = 0.154 ac, 3.75% Impervious, Inflow Depth = 3.12" for 10-yr event
Inflow = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af
Outflow = 0.50 cfs @ 12.13 hrs, Volume= 0.040 af, Atten= 10%, Lag= 2.4 min
Primary = 0.50 cfs @ 12.13 hrs, Volume= 0.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 91.38' @ 12.13 hrs Surf.Area= 420 sf Storage= 98 cf
Flood Elev= 92.22' Surf.Area= 1,254 sf Storage= 764 cf

Plug-Flow detention time= 5.8 min calculated for 0.040 af (100% of inflow)
Center-of-Mass det. time= 5.7 min (840.9 - 835.2)

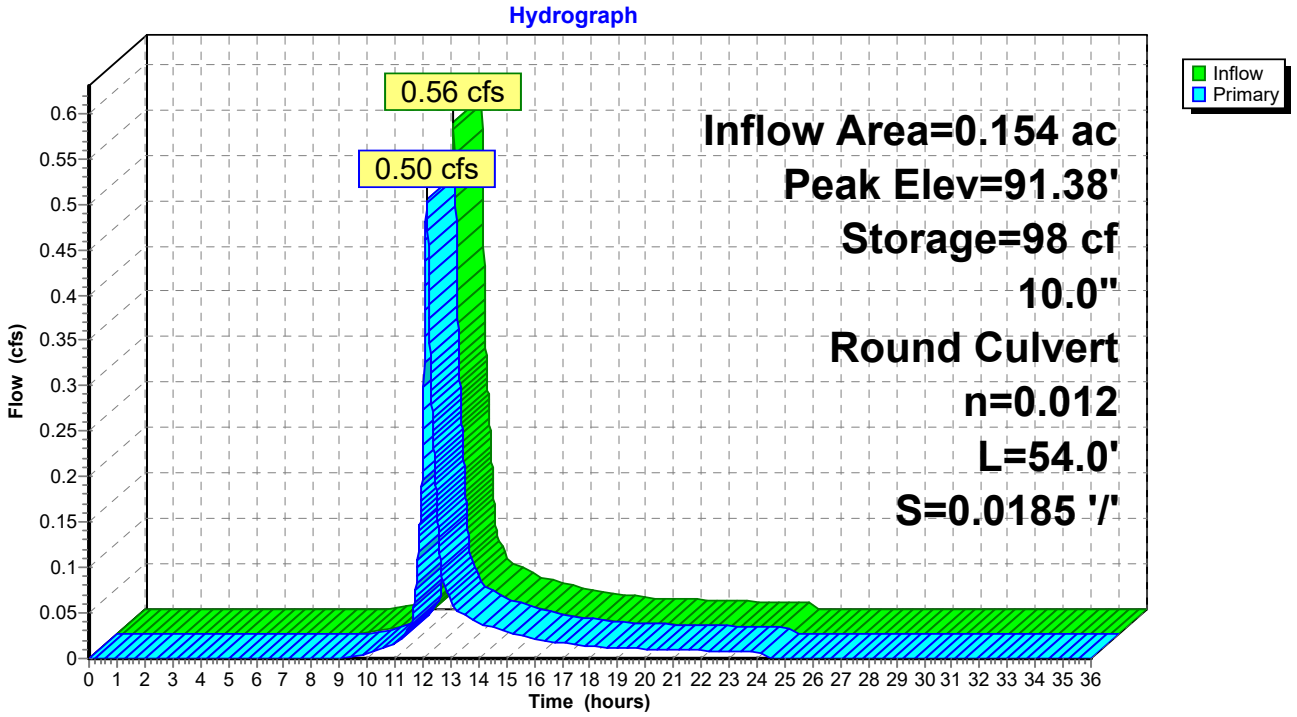
Volume	Invert	Avail.Storage	Storage Description
#1	91.00'	2,170 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
91.00	100	0	0
92.00	945	523	523
93.00	2,350	1,648	2,170

Device	Routing	Invert	Outlet Devices
#1	Primary	91.00'	**10.0" Round Culvert** L= 54.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.00' / 90.00' S= 0.0185 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=0.50 cfs @ 12.13 hrs HW=91.38' TW=89.85' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.50 cfs @ 2.09 fps)

Pond 7P: Basin



Summary for Pond 8: DMH #8

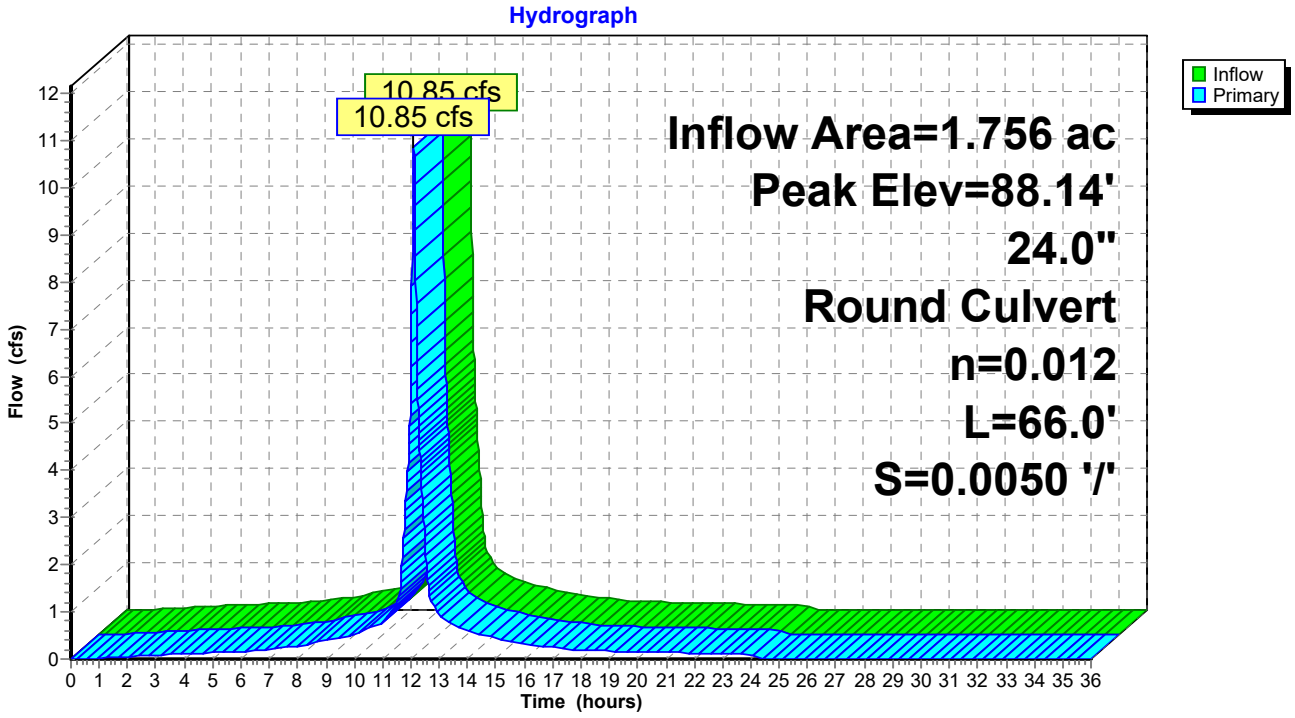
Inflow Area = 1.756 ac,100.00% Impervious, Inflow Depth = 6.15" for 10-yr event
Inflow = 10.85 cfs @ 12.10 hrs, Volume= 0.900 af
Outflow = 10.85 cfs @ 12.10 hrs, Volume= 0.900 af, Atten= 0%, Lag= 0.0 min
Primary = 10.85 cfs @ 12.10 hrs, Volume= 0.900 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 88.14' @ 12.11 hrs
Flood Elev= 90.84'

Device	Routing	Invert	Outlet Devices
#1	Primary	86.33'	**24.0" Round Culvert** L= 66.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 86.33' / 86.00' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=10.61 cfs @ 12.10 hrs HW=88.12' TW=87.41' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.61 cfs @ 4.72 fps)

Pond 8: DMH #8



Summary for Pond 9-11P: Bioretention / Outlet #'s 9 & 11

Inflow Area = 2.271 ac, 67.47% Impervious, Inflow Depth = 5.26" for 10-yr event
Inflow = 12.73 cfs @ 12.08 hrs, Volume= 0.995 af
Outflow = 5.14 cfs @ 12.30 hrs, Volume= 0.745 af, Atten= 60%, Lag= 12.9 min
Primary = 0.97 cfs @ 12.30 hrs, Volume= 0.224 af
Secondary = 4.17 cfs @ 12.30 hrs, Volume= 0.520 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 83.07' @ 12.30 hrs Surf.Area= 14,331 sf Storage= 20,771 cf

Plug-Flow detention time= 262.5 min calculated for 0.745 af (75% of inflow)
Center-of-Mass det. time= 174.6 min (942.1 - 767.5)

Volume	Invert	Avail.Storage	Storage Description
#1	79.25'	34,877 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

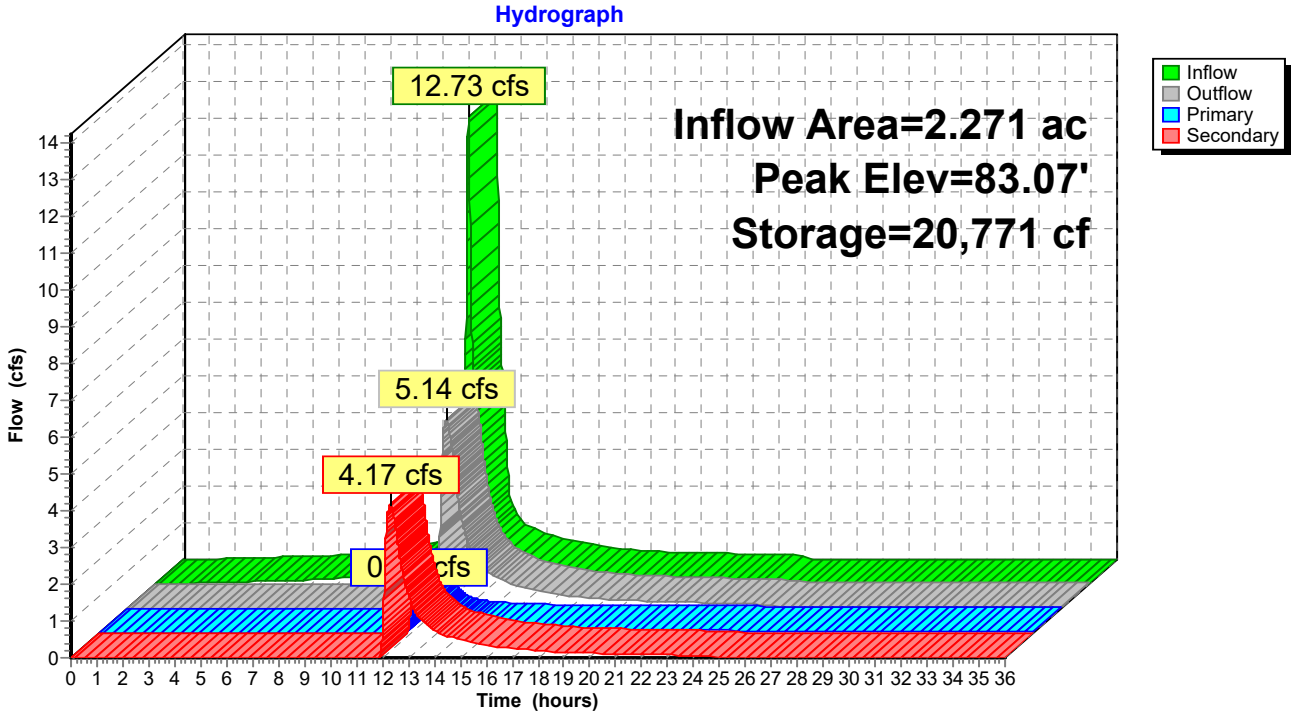
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
79.25	11,792	0.0	0	0
80.25	11,792	40.0	4,717	4,717
80.50	11,792	40.0	1,179	5,896
82.00	11,792	5.0	884	6,780
82.50	12,921	100.0	6,178	12,959
83.00	14,194	100.0	6,779	19,737
84.00	16,085	100.0	15,140	34,877

Device	Routing	Invert	Outlet Devices
#1	Primary	79.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 79.50' / 79.38' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	79.50'	**4.0" Vert. Underdrain** C= 0.600
#3	Device 1	82.50'	**8.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	83.50'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads
#5	Device 2	82.00'	**2.500 in/hr Exfiltration over Surface area above 82.00'** Excluded Surface area = 11,792 sf Phase-In= 0.01'
#6	Secondary	80.00'	**18.0" Round Culvert** L= 26.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.00' / 79.74' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf
#7	Device 6	82.50'	**36.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#8	Device 6	83.50'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.97 cfs @ 12.30 hrs HW=83.07' TW=78.24' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.97 cfs of 14.29 cfs potential flow)
  - **2=Underdrain** (Passes 0.15 cfs of 0.78 cfs potential flow)
    - **5=Exfiltration** (Exfiltration Controls 0.15 cfs)
  - **3=Orifice/Grate** (Orifice Controls 0.82 cfs @ 2.58 fps)
  - **4=Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=4.17 cfs @ 12.30 hrs HW=83.07' TW=0.00' (Dynamic Tailwater)
- **6=Culvert** (Passes 4.17 cfs of 12.97 cfs potential flow)
  - **7=Orifice/Grate** (Orifice Controls 4.17 cfs @ 2.43 fps)
  - **8=Overflow** (Controls 0.00 cfs)

Pond 9-11P: Bioretention / Outlet #'s 9 & 11



Summary for Pond 10: CB #10

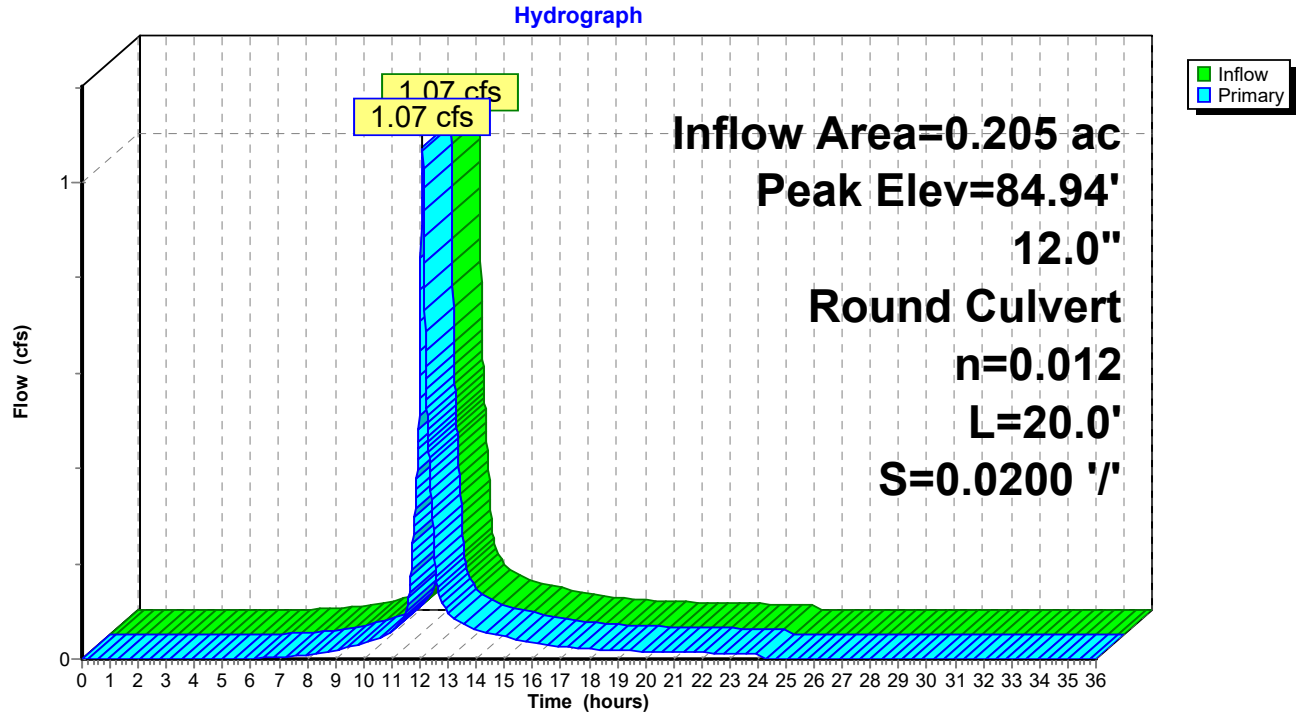
Inflow Area = 0.205 ac, 52.24% Impervious, Inflow Depth = 4.56" for 10-yr event
Inflow = 1.07 cfs @ 12.09 hrs, Volume= 0.078 af
Outflow = 1.07 cfs @ 12.09 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.09 hrs, Volume= 0.078 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 84.94' @ 12.09 hrs
Flood Elev= 88.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	84.40'	**12.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 84.40' / 84.00' S= 0.0200 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.07 cfs @ 12.09 hrs HW=84.94' TW=82.87' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.07 cfs @ 2.50 fps)

Pond 10: CB #10



Summary for Pond 12: CB #12

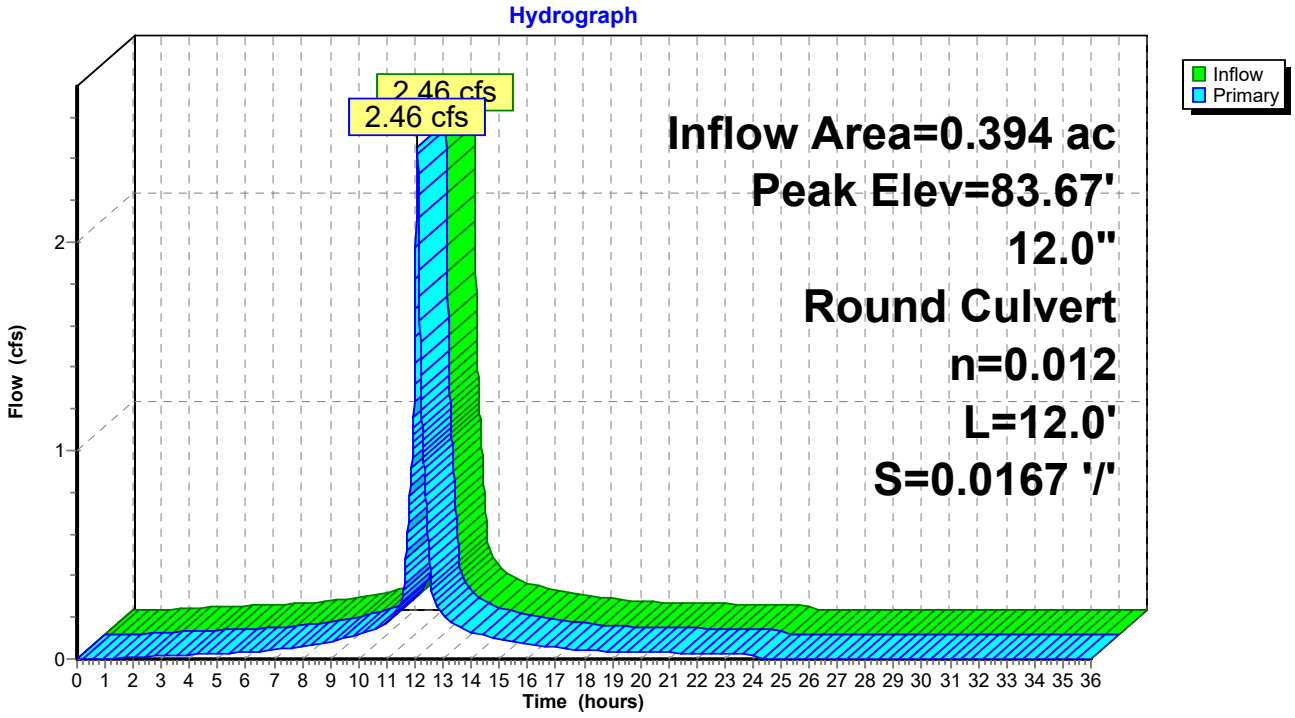
Inflow Area = 0.394 ac, 97.67% Impervious, Inflow Depth = 6.03" for 10-yr event
Inflow = 2.46 cfs @ 12.08 hrs, Volume= 0.198 af
Outflow = 2.46 cfs @ 12.08 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.08 hrs, Volume= 0.198 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 83.67' @ 12.08 hrs
Flood Elev= 86.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	82.70'	**12.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.70' / 82.50' S= 0.0167 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.45 cfs @ 12.08 hrs HW=83.67' TW=82.86' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 2.45 cfs @ 4.03 fps)

Pond 12: CB #12



Summary for Pond 13: CB #13

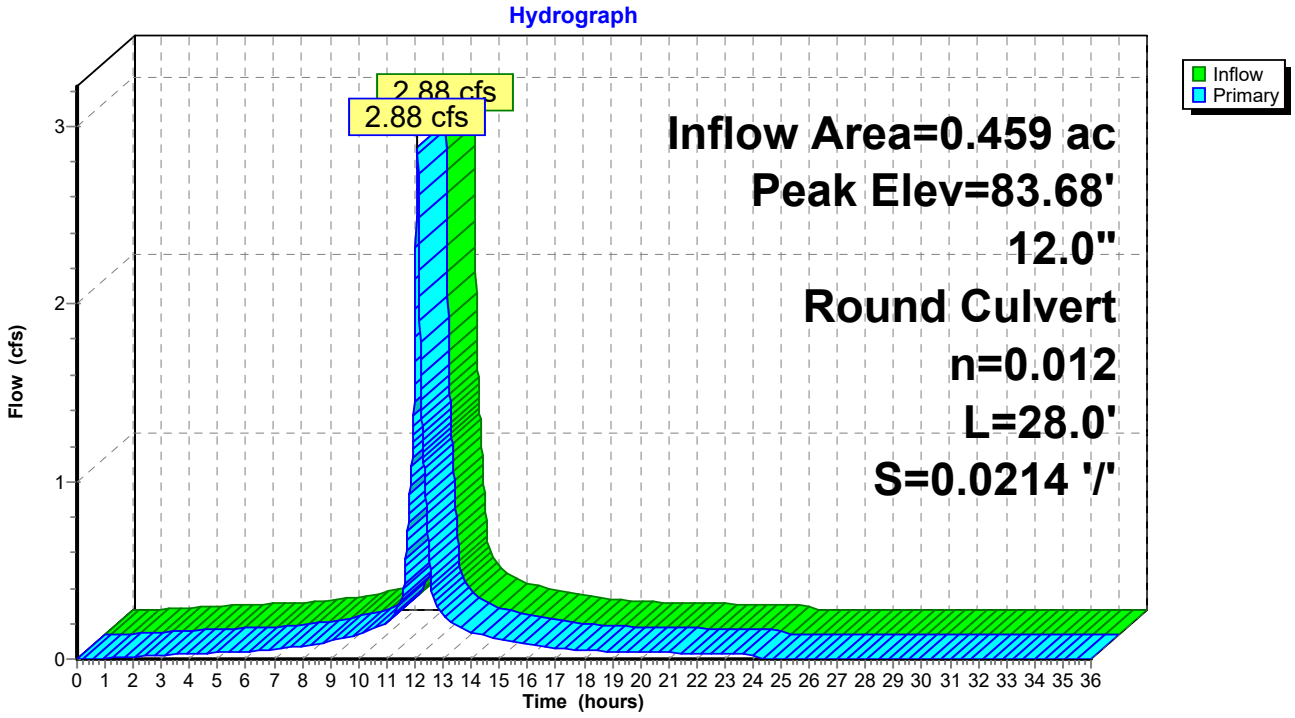
Inflow Area = 0.459 ac,100.00% Impervious, Inflow Depth = 6.15" for 10-yr event
Inflow = 2.88 cfs @ 12.08 hrs, Volume= 0.235 af
Outflow = 2.88 cfs @ 12.08 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min
Primary = 2.88 cfs @ 12.08 hrs, Volume= 0.235 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 83.68' @ 12.08 hrs
Flood Elev= 86.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	82.60'	**12.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.60' / 82.00' S= 0.0214 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.87 cfs @ 12.08 hrs HW=83.68' TW=82.86' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 2.87 cfs @ 3.66 fps)

Pond 13: CB #13



Summary for Pond 14: CB #14

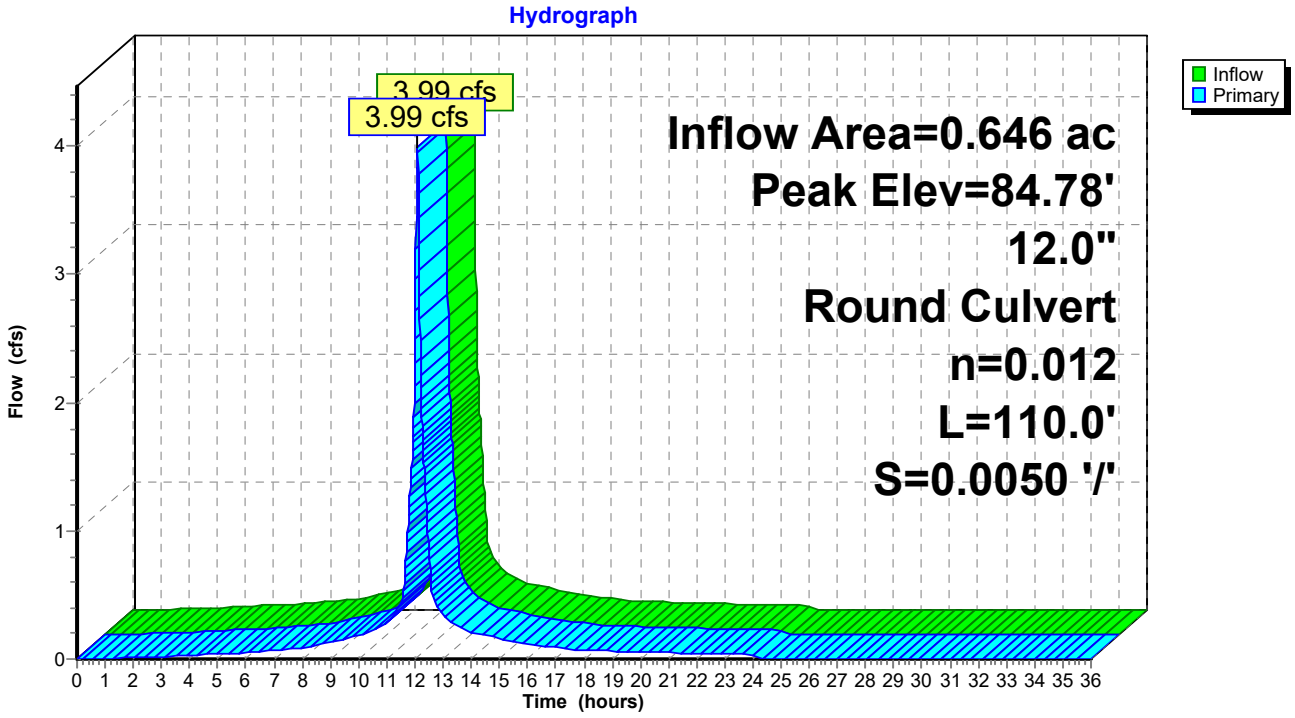
Inflow Area = 0.646 ac, 90.01% Impervious, Inflow Depth = 5.89" for 10-yr event
Inflow = 3.99 cfs @ 12.08 hrs, Volume= 0.317 af
Outflow = 3.99 cfs @ 12.08 hrs, Volume= 0.317 af, Atten= 0%, Lag= 0.0 min
Primary = 3.99 cfs @ 12.08 hrs, Volume= 0.317 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 84.78' @ 12.08 hrs
Flood Elev= 87.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	82.55'	**12.0" Round Culvert** L= 110.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.55' / 82.00' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.98 cfs @ 12.08 hrs HW=84.77' TW=82.86' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.98 cfs @ 5.07 fps)

Pond 14: CB #14



Summary for Pond 14-1: CB #14-1

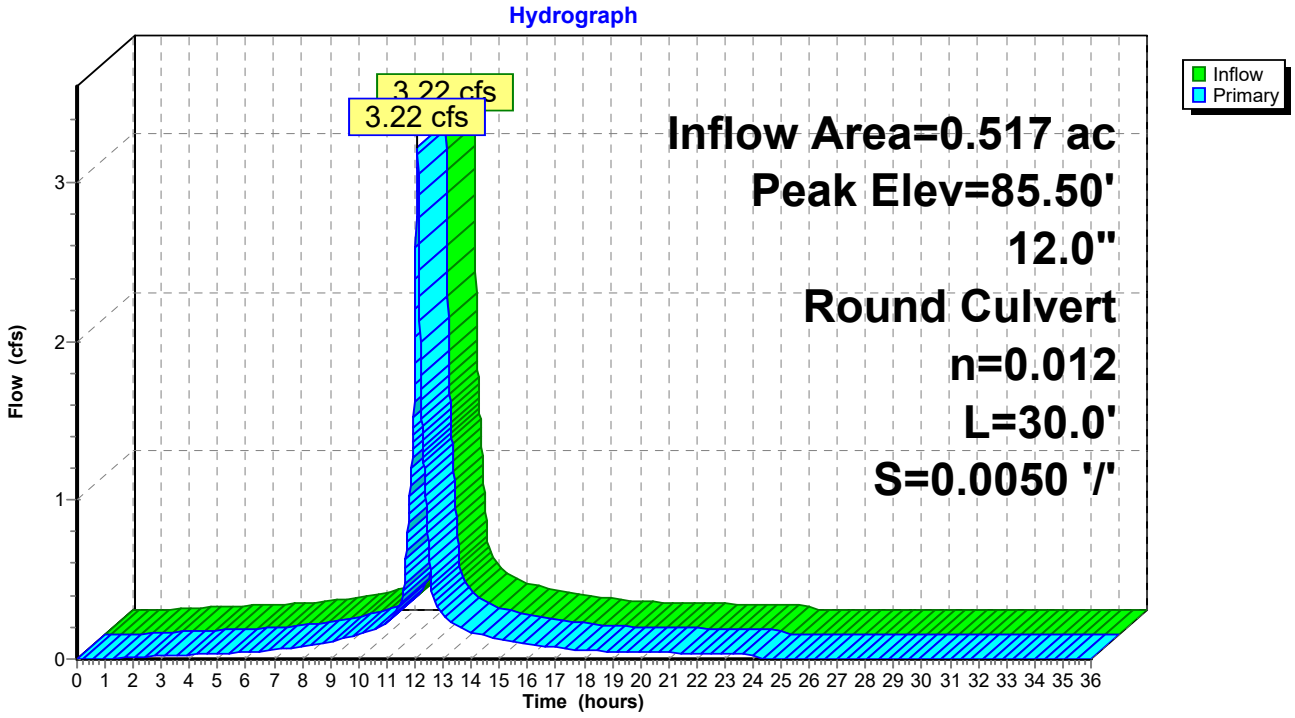
Inflow Area = 0.517 ac, 94.60% Impervious, Inflow Depth = 6.03" for 10-yr event
Inflow = 3.22 cfs @ 12.08 hrs, Volume= 0.260 af
Outflow = 3.22 cfs @ 12.08 hrs, Volume= 0.260 af, Atten= 0%, Lag= 0.0 min
Primary = 3.22 cfs @ 12.08 hrs, Volume= 0.260 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 85.50' @ 12.09 hrs
Flood Elev= 86.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	82.80'	**12.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 82.80' / 82.65' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.16 cfs @ 12.08 hrs HW=85.47' TW=84.77' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 3.16 cfs @ 4.02 fps)

Pond 14-1: CB #14-1



Summary for Pond 14-2: CB #14-2

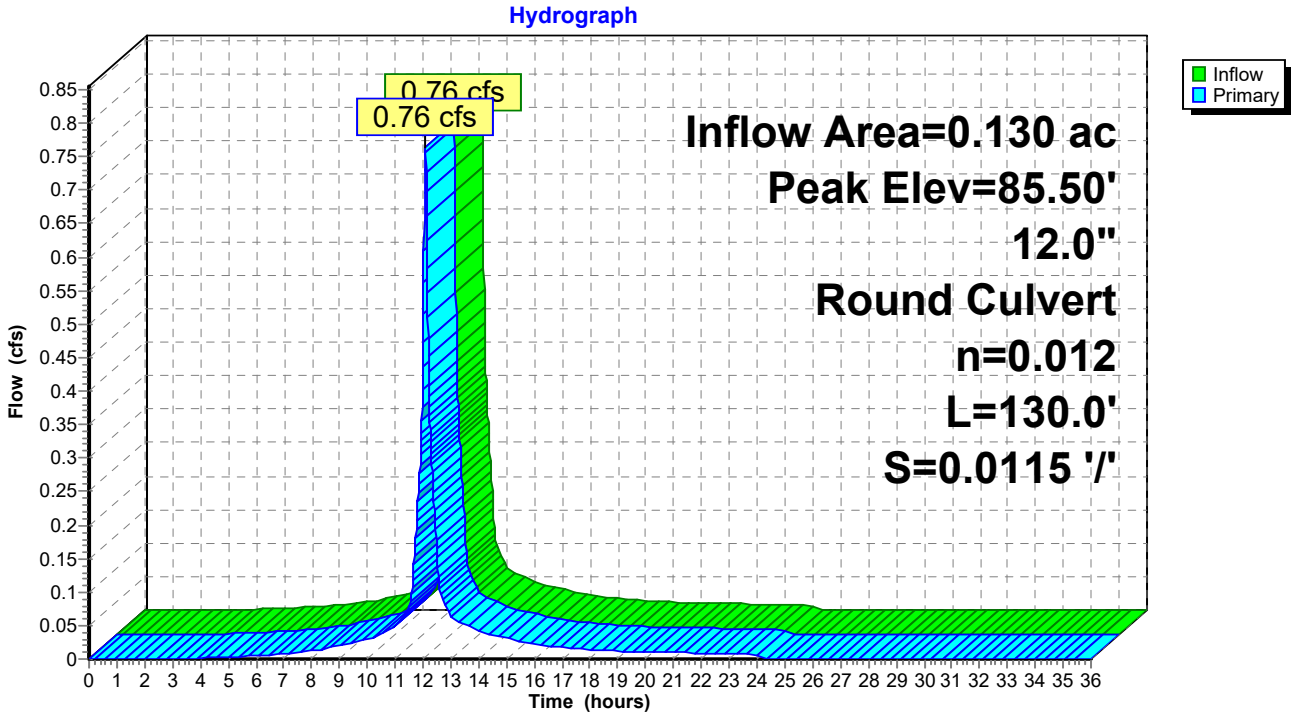
Inflow Area = 0.130 ac, 71.72% Impervious, Inflow Depth = 5.34" for 10-yr event
Inflow = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af
Outflow = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min
Primary = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 85.50' @ 12.09 hrs
Flood Elev= 88.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	85.00'	**12.0" Round Culvert** L= 130.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 85.00' / 83.50' S= 0.0115 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.75 cfs @ 12.08 hrs HW=85.50' TW=84.77' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.75 cfs @ 2.79 fps)

Pond 14-2: CB #14-2

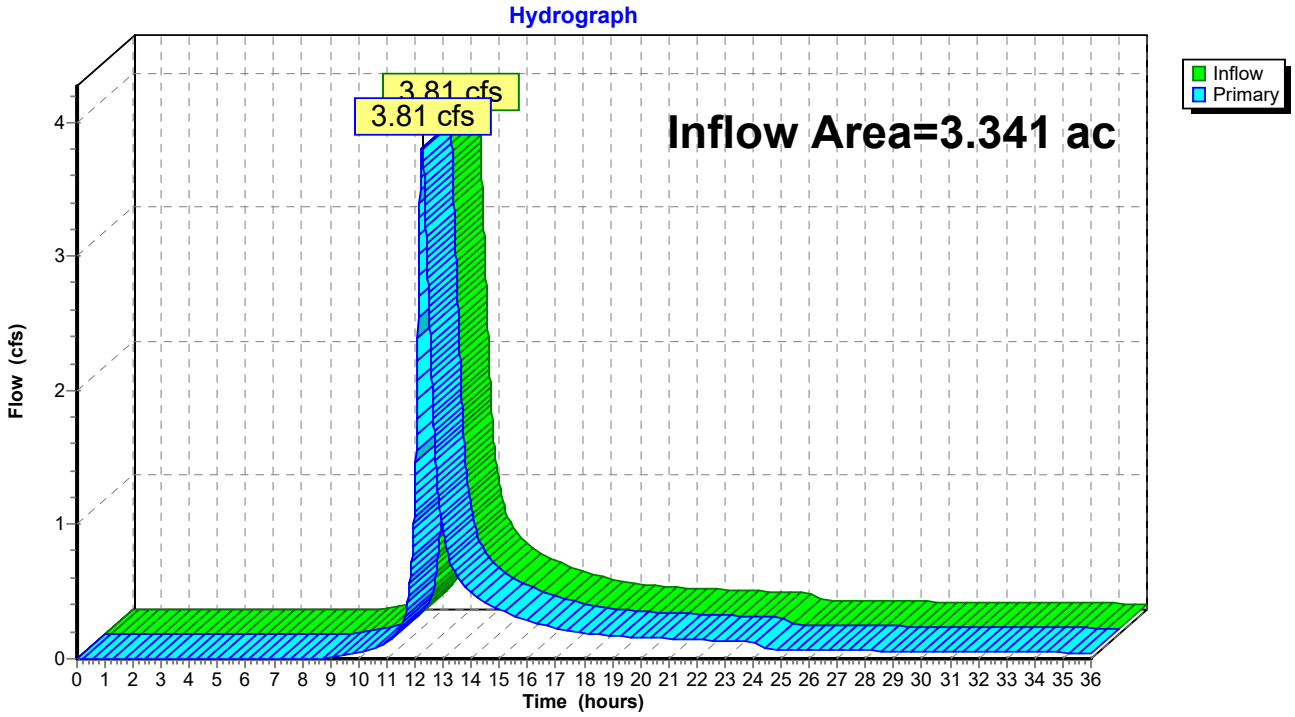


Summary for Link 100: POA #1

Inflow Area = 3.341 ac, 45.87% Impervious, Inflow Depth > 1.83" for 10-yr event
Inflow = 3.81 cfs @ 12.25 hrs, Volume= 0.511 af
Primary = 3.81 cfs @ 12.25 hrs, Volume= 0.511 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 100: POA #1

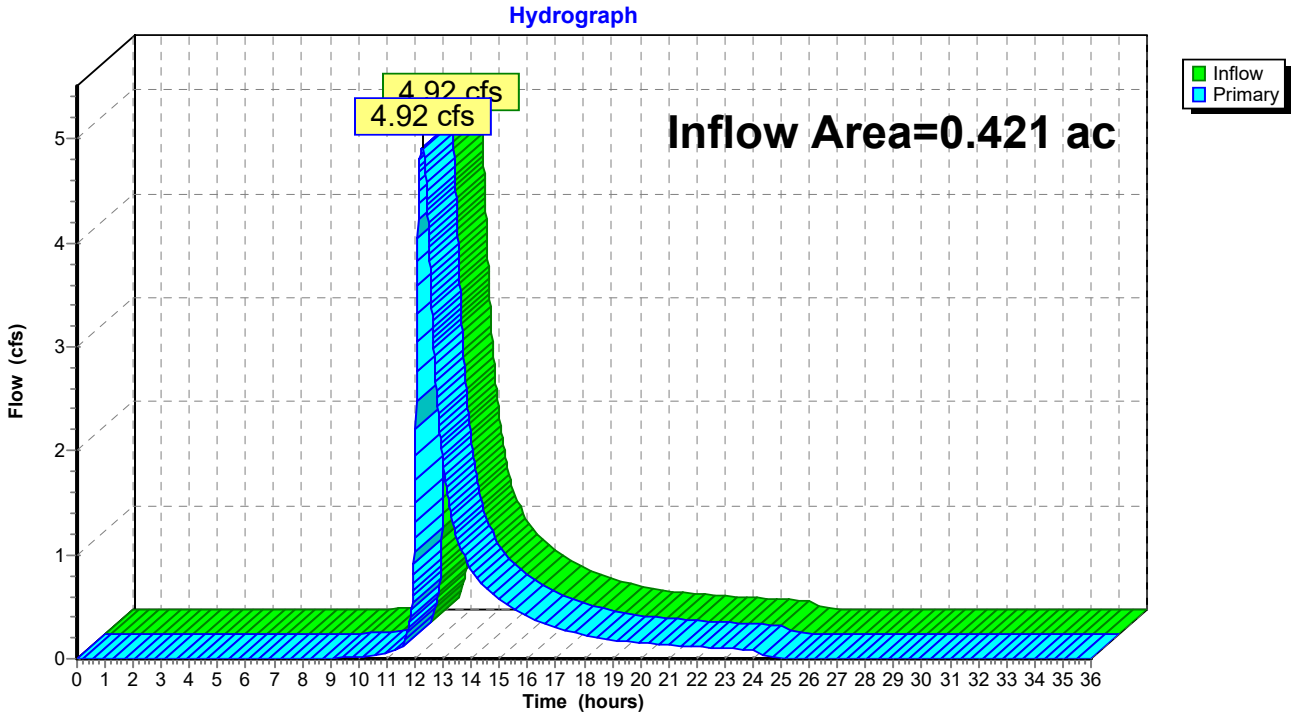


Summary for Link 200: POA #2

Inflow Area = 0.421 ac, 0.00% Impervious, Inflow Depth = 18.04" for 10-yr event
Inflow = 4.92 cfs @ 12.25 hrs, Volume= 0.633 af
Primary = 4.92 cfs @ 12.25 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 200: POA #2

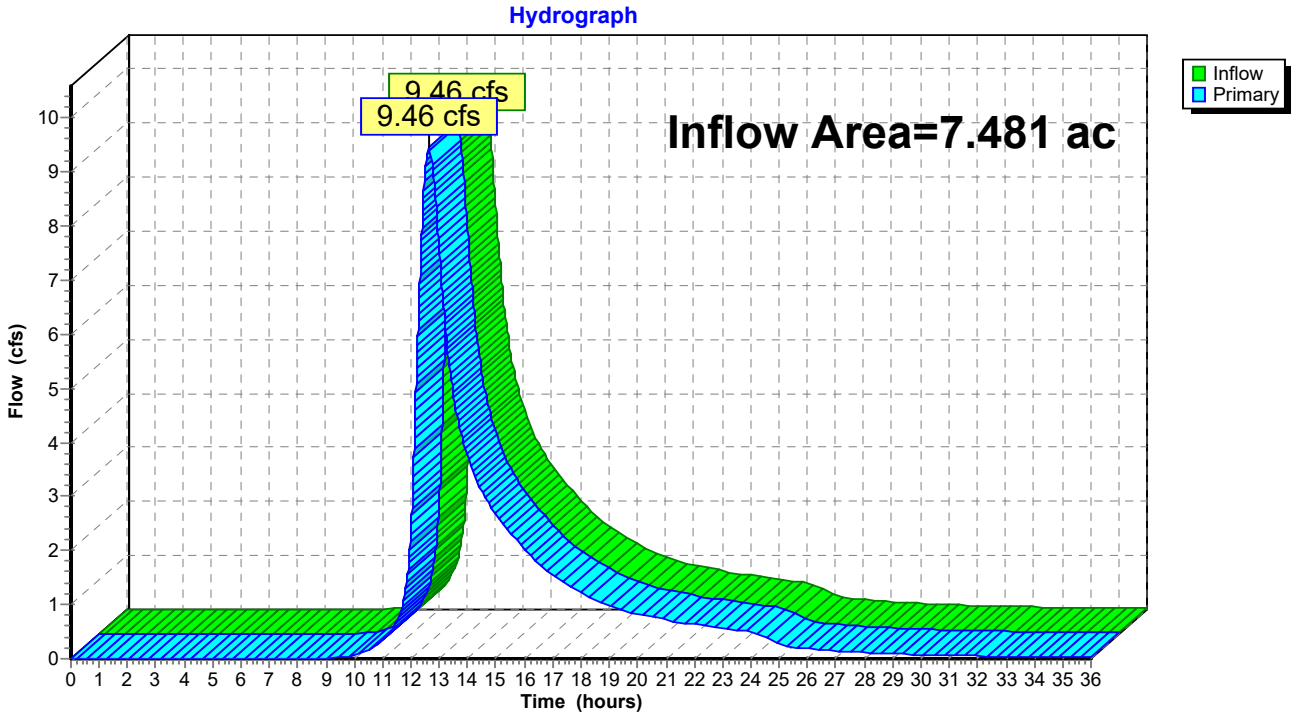


Summary for Link 300: POA #3

Inflow Area = 7.481 ac, 33.95% Impervious, Inflow Depth > 3.72" for 10-yr event
Inflow = 9.46 cfs @ 12.64 hrs, Volume= 2.322 af
Primary = 9.46 cfs @ 12.64 hrs, Volume= 2.322 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 300: POA #3

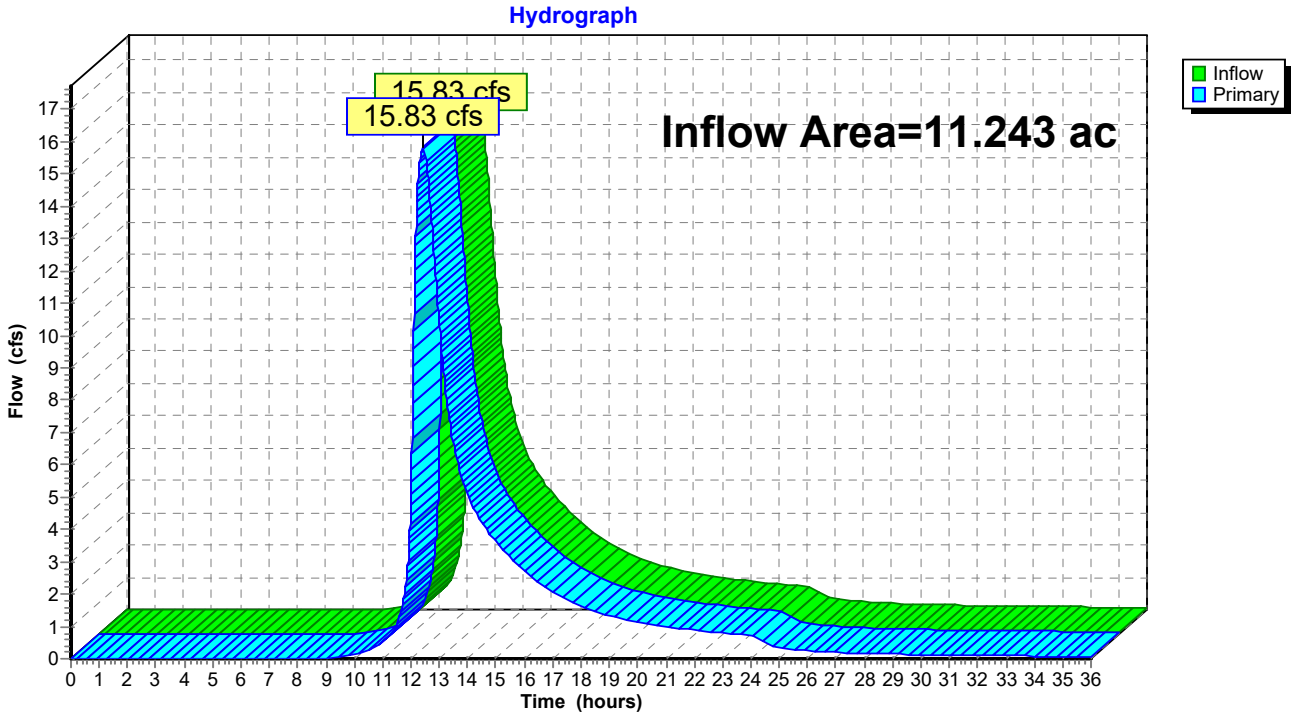


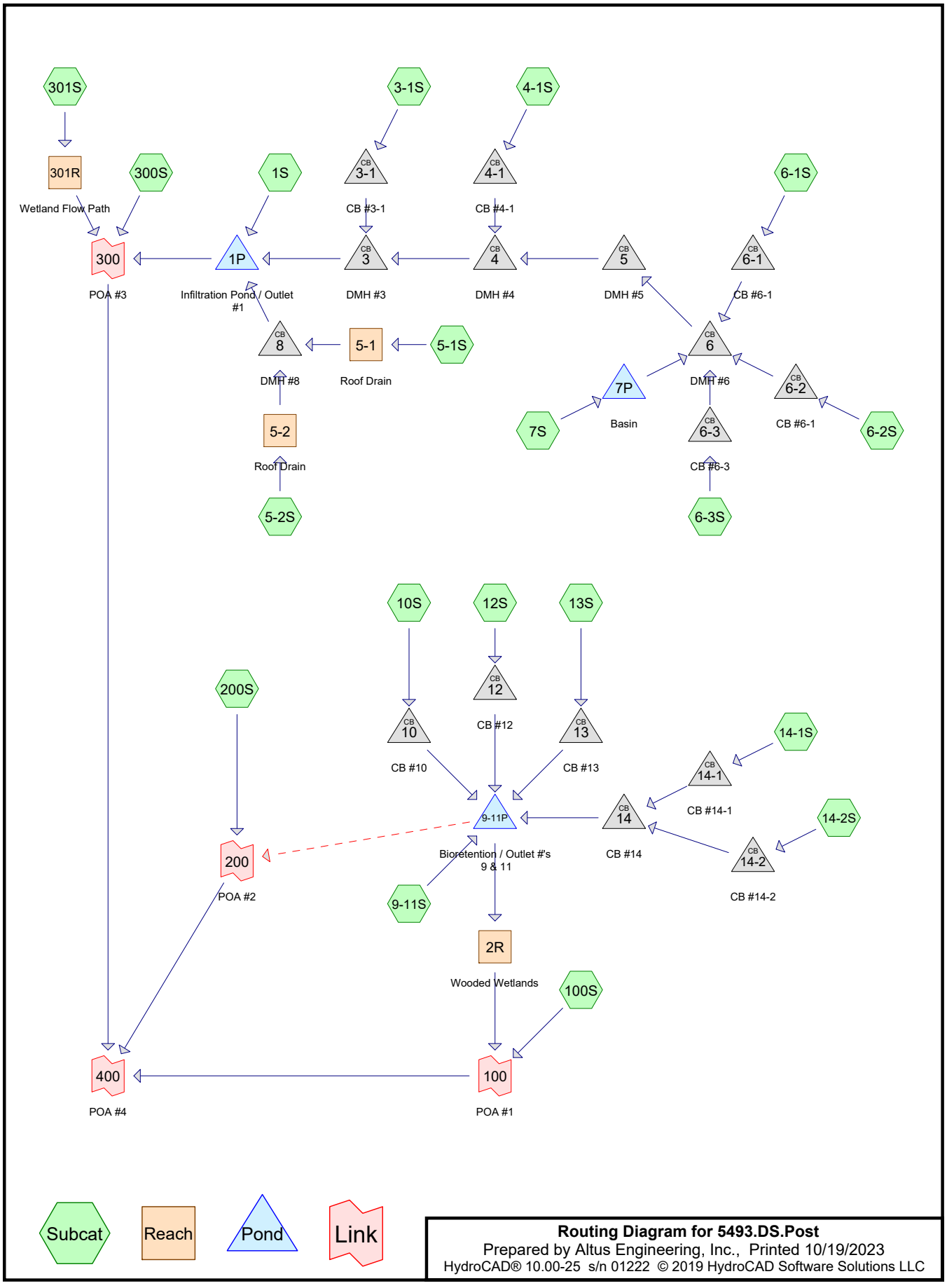
Summary for Link 400: POA #4

Inflow Area = 11.243 ac, 36.22% Impervious, Inflow Depth > 3.70" for 10-yr event
Inflow = 15.83 cfs @ 12.43 hrs, Volume= 3.466 af
Primary = 15.83 cfs @ 12.43 hrs, Volume= 3.466 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link 400: POA #4





Routing Diagram for 5493.DS.Post

Prepared by Altus Engineering, Inc., Printed 10/19/2023

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=32,559 sf 0.00% Impervious Runoff Depth=4.42"
Flow Length=45' Slope=0.0670 '/' Tc=6.0 min CN=68 Runoff=3.88 cfs 0.275 af

Subcatchment 3-1S: Runoff Area=15,375 sf 60.07% Impervious Runoff Depth=6.66"
Flow Length=235' Tc=6.0 min CN=87 Runoff=2.63 cfs 0.196 af

Subcatchment 4-1S: Runoff Area=4,680 sf 71.05% Impervious Runoff Depth=7.14"
Flow Length=150' Tc=6.0 min CN=91 Runoff=0.83 cfs 0.064 af

Subcatchment 5-1S: Runoff Area=44,054 sf 100.00% Impervious Runoff Depth=7.98"
Flow Length=174' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=8.16 cfs 0.673 af

Subcatchment 5-2S: Runoff Area=32,456 sf 100.00% Impervious Runoff Depth=7.98"
Flow Length=120' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=6.01 cfs 0.495 af

Subcatchment 6-1S: Runoff Area=7,178 sf 63.23% Impervious Runoff Depth=6.90"
Flow Length=160' Tc=6.0 min CN=89 Runoff=1.25 cfs 0.095 af

Subcatchment 6-2S: Runoff Area=5,633 sf 100.00% Impervious Runoff Depth=7.98"
Flow Length=170' Tc=6.0 min CN=98 Runoff=1.04 cfs 0.086 af

Subcatchment 6-3S: Runoff Area=12,542 sf 88.75% Impervious Runoff Depth=7.62"
Flow Length=100' Tc=6.0 min CN=95 Runoff=2.30 cfs 0.183 af

Subcatchment 7S: Runoff Area=6,724 sf 3.75% Impervious Runoff Depth=4.65"
Flow Length=30' Slope=0.0500 '/' Tc=6.0 min CN=70 Runoff=0.84 cfs 0.060 af

Subcatchment 9-11S: Runoff Area=24,722 sf 0.00% Impervious Runoff Depth=5.12"
Flow Length=35' Slope=0.0200 '/' Tc=6.0 min CN=74 Runoff=3.40 cfs 0.242 af

Subcatchment 10S: Runoff Area=8,911 sf 52.24% Impervious Runoff Depth=6.31"
Flow Length=215' Tc=6.0 min CN=84 Runoff=1.46 cfs 0.108 af

Subcatchment 12S: Runoff Area=17,158 sf 97.67% Impervious Runoff Depth=7.86"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=3.17 cfs 0.258 af

Subcatchment 13S: Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=7.98"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=3.71 cfs 0.305 af

Subcatchment 14-1S: Runoff Area=22,508 sf 94.60% Impervious Runoff Depth=7.86"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=4.16 cfs 0.338 af

Subcatchment 14-2S: Runoff Area=5,643 sf 71.72% Impervious Runoff Depth=7.14"
Flow Length=105' Tc=6.0 min CN=91 Runoff=1.00 cfs 0.077 af

Subcatchment 100S: Runoff Area=46,572 sf 0.00% Impervious Runoff Depth=4.77"
Flow Length=500' Tc=17.5 min CN=71 Runoff=4.26 cfs 0.425 af

Subcatchment 200S: Runoff Area=18,353 sf 0.00% Impervious Runoff Depth=4.77"
Flow Length=130' Tc=6.0 min CN=71 Runoff=2.36 cfs 0.168 af

Subcatchment 300S: Runoff Area=153,830 sf 0.00% Impervious Runoff Depth=4.65"
Flow Length=880' Tc=47.0 min CN=70 Runoff=8.71 cfs 1.370 af

Subcatchment 301S: Runoff Area=10,832 sf 0.00% Impervious Runoff Depth=4.89"
Flow Length=165' Tc=8.1 min CN=72 Runoff=1.32 cfs 0.101 af

Reach 2R: Wooded Wetlands Avg. Flow Depth=0.28' Max Vel=2.68 fps Inflow=1.34 cfs 0.279 af
n=0.040 L=100.0' S=0.0500 '/' Capacity=19.85 cfs Outflow=1.34 cfs 0.279 af

Reach 5-1: Roof Drain Avg. Flow Depth=1.00' Max Vel=6.40 fps Inflow=8.16 cfs 0.673 af
18.0" Round Pipe n=0.012 L=424.0' S=0.0081 '/' Capacity=10.22 cfs Outflow=8.03 cfs 0.673 af

Reach 5-2: Roof Drain Avg. Flow Depth=0.96' Max Vel=4.98 fps Inflow=6.01 cfs 0.495 af
18.0" Round Pipe n=0.012 L=270.0' S=0.0050 '/' Capacity=8.05 cfs Outflow=5.95 cfs 0.495 af

Reach 301R: Wetland Flow Path Avg. Flow Depth=0.13' Max Vel=0.92 fps Inflow=1.32 cfs 0.101 af
n=0.035 L=880.0' S=0.0120 '/' Capacity=14.89 cfs Outflow=0.84 cfs 0.101 af

Pond 1P: Infiltration Pond / Outlet #1 Peak Elev=88.36' Storage=49,061 cf Inflow=26.40 cfs 2.127 af
Discarded=0.02 cfs 0.021 af Primary=4.40 cfs 1.868 af Outflow=4.42 cfs 1.889 af

Pond 3: DMH #3 Peak Elev=88.73' Inflow=8.69 cfs 0.683 af
18.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=8.69 cfs 0.683 af

Pond 3-1: CB #3-1 Peak Elev=89.21' Inflow=2.63 cfs 0.196 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0067 '/' Outflow=2.63 cfs 0.196 af

Pond 4: DMH #4 Peak Elev=89.52' Inflow=6.07 cfs 0.487 af
18.0" Round Culvert n=0.012 L=195.0' S=0.0050 '/' Outflow=6.07 cfs 0.487 af

Pond 4-1: CB #4-1 Peak Elev=89.60' Inflow=0.83 cfs 0.064 af
12.0" Round Culvert n=0.012 L=7.0' S=0.0086 '/' Outflow=0.83 cfs 0.064 af

Pond 5: DMH #5 Peak Elev=90.37' Inflow=5.24 cfs 0.423 af
15.0" Round Culvert n=0.012 L=88.0' S=0.0050 '/' Outflow=5.24 cfs 0.423 af

Pond 6: DMH #6 Peak Elev=91.30' Inflow=5.24 cfs 0.423 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=5.24 cfs 0.423 af

Pond 6-1: CB #6-1 Peak Elev=91.40' Inflow=1.25 cfs 0.095 af
12.0" Round Culvert n=0.012 L=18.0' S=0.0056 '/' Outflow=1.25 cfs 0.095 af

Pond 6-2: CB #6-1 Peak Elev=91.40' Inflow=1.04 cfs 0.086 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0050 '/' Outflow=1.04 cfs 0.086 af

Pond 6-3: CB #6-3 Peak Elev=91.85' Inflow=2.30 cfs 0.183 af
12.0" Round Culvert n=0.012 L=104.0' S=0.0055 '/' Outflow=2.30 cfs 0.183 af

Pond 7P: Basin Peak Elev=91.53' Storage=174 cf Inflow=0.84 cfs 0.060 af
10.0" Round Culvert n=0.012 L=54.0' S=0.0185 '/' Outflow=0.86 cfs 0.060 af

Pond 8: DMH #8 Peak Elev=88.62' Inflow=13.98 cfs 1.168 af
24.0" Round Culvert n=0.012 L=66.0' S=0.0050 '/' Outflow=13.98 cfs 1.168 af

Pond 9-11P: Bioretention / Outlet #'s 9 & 11 Peak Elev=83.32' Storage=24,337 cf Inflow=16.90 cfs 1.329 af
Primary=1.34 cfs 0.279 af Secondary=7.12 cfs 0.798 af Outflow=8.46 cfs 1.077 af

Pond 10: CB #10 Peak Elev=85.04' Inflow=1.46 cfs 0.108 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0200 '/' Outflow=1.46 cfs 0.108 af

Pond 12: CB #12 Peak Elev=83.90' Inflow=3.17 cfs 0.258 af
12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/' Outflow=3.17 cfs 0.258 af

Pond 13: CB #13 Peak Elev=84.09' Inflow=3.71 cfs 0.305 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0214 '/' Outflow=3.71 cfs 0.305 af

Pond 14: CB #14 Peak Elev=86.10' Inflow=5.16 cfs 0.416 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=5.16 cfs 0.416 af

Pond 14-1: CB #14-1 Peak Elev=87.29' Inflow=4.16 cfs 0.338 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=4.16 cfs 0.338 af

Pond 14-2: CB #14-2 Peak Elev=86.22' Inflow=1.00 cfs 0.077 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0115 '/' Outflow=1.00 cfs 0.077 af

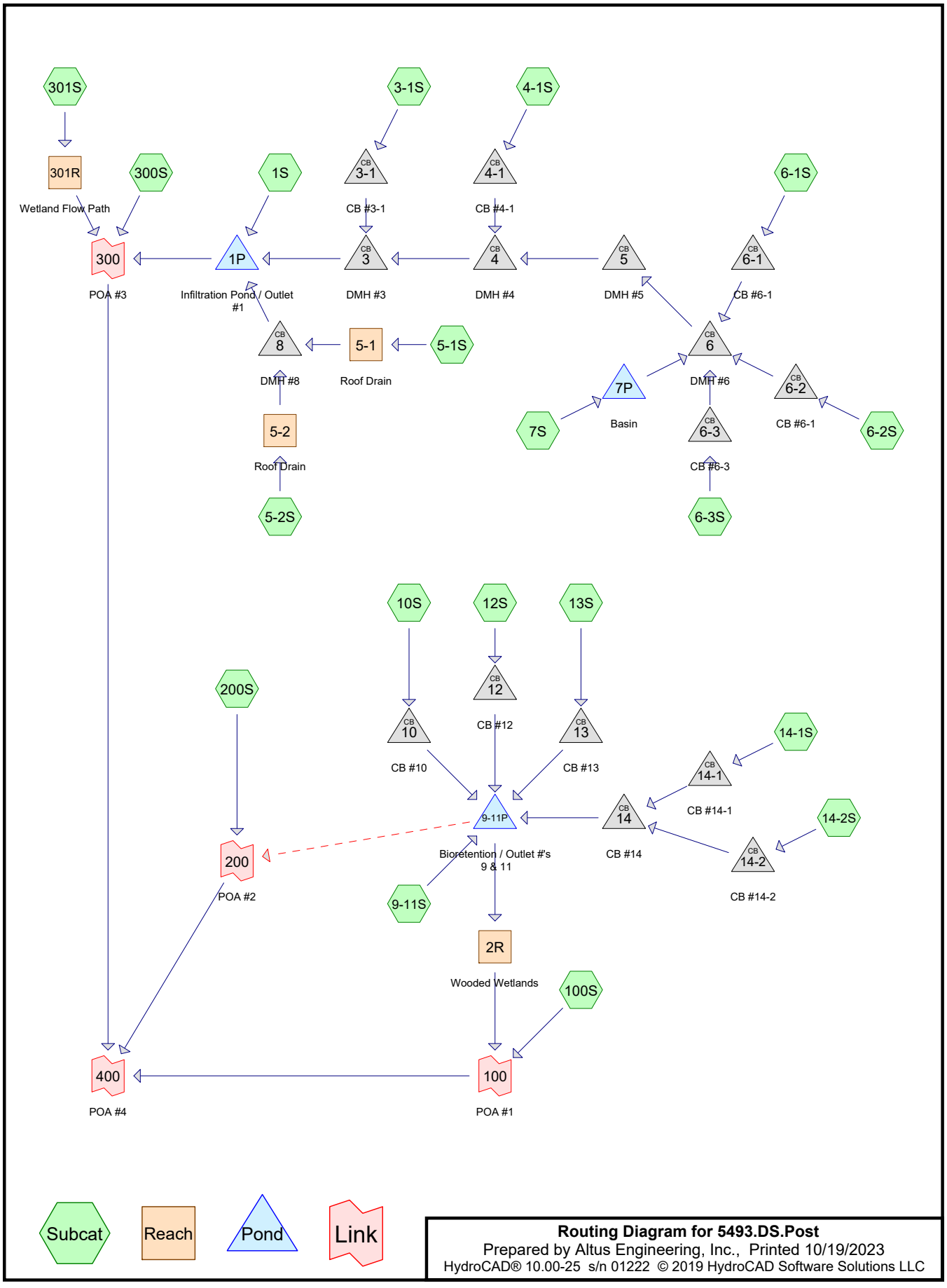
Link 100: POA #1 Inflow=5.61 cfs 0.704 af
Primary=5.61 cfs 0.704 af

Link 200: POA #2 Inflow=8.52 cfs 0.965 af
Primary=8.52 cfs 0.965 af

Link 300: POA #3 Inflow=13.55 cfs 3.339 af
Primary=13.55 cfs 3.339 af

Link 400: POA #4 Inflow=23.40 cfs 5.009 af
Primary=23.40 cfs 5.009 af

Total Runoff Area = 11.243 ac Runoff Volume = 5.519 af Average Runoff Depth = 5.89"
63.78% Pervious = 7.171 ac 36.22% Impervious = 4.072 ac



Routing Diagram for 5493.DS.Post

Prepared by Altus Engineering, Inc., Printed 10/19/2023

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=32,559 sf 0.00% Impervious Runoff Depth=5.94"
Flow Length=45' Slope=0.0670 '/' Tc=6.0 min CN=68 Runoff=5.20 cfs 0.370 af

Subcatchment 3-1S: Runoff Area=15,375 sf 60.07% Impervious Runoff Depth=8.38"
Flow Length=235' Tc=6.0 min CN=87 Runoff=3.26 cfs 0.246 af

Subcatchment 4-1S: Runoff Area=4,680 sf 71.05% Impervious Runoff Depth=8.87"
Flow Length=150' Tc=6.0 min CN=91 Runoff=1.02 cfs 0.079 af

Subcatchment 5-1S: Runoff Area=44,054 sf 100.00% Impervious Runoff Depth=9.73"
Flow Length=174' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=9.91 cfs 0.820 af

Subcatchment 5-2S: Runoff Area=32,456 sf 100.00% Impervious Runoff Depth=9.73"
Flow Length=120' Slope=0.3300 '/' Tc=6.0 min CN=98 Runoff=7.30 cfs 0.604 af

Subcatchment 6-1S: Runoff Area=7,178 sf 63.23% Impervious Runoff Depth=8.63"
Flow Length=160' Tc=6.0 min CN=89 Runoff=1.55 cfs 0.118 af

Subcatchment 6-2S: Runoff Area=5,633 sf 100.00% Impervious Runoff Depth=9.73"
Flow Length=170' Tc=6.0 min CN=98 Runoff=1.27 cfs 0.105 af

Subcatchment 6-3S: Runoff Area=12,542 sf 88.75% Impervious Runoff Depth=9.37"
Flow Length=100' Tc=6.0 min CN=95 Runoff=2.80 cfs 0.225 af

Subcatchment 7S: Runoff Area=6,724 sf 3.75% Impervious Runoff Depth=6.20"
Flow Length=30' Slope=0.0500 '/' Tc=6.0 min CN=70 Runoff=1.12 cfs 0.080 af

Subcatchment 9-11S: Runoff Area=24,722 sf 0.00% Impervious Runoff Depth=6.72"
Flow Length=35' Slope=0.0200 '/' Tc=6.0 min CN=74 Runoff=4.43 cfs 0.318 af

Subcatchment 10S: Runoff Area=8,911 sf 52.24% Impervious Runoff Depth=8.00"
Flow Length=215' Tc=6.0 min CN=84 Runoff=1.83 cfs 0.136 af

Subcatchment 12S: Runoff Area=17,158 sf 97.67% Impervious Runoff Depth=9.61"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=3.85 cfs 0.315 af

Subcatchment 13S: Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=9.73"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=98 Runoff=4.50 cfs 0.372 af

Subcatchment 14-1S: Runoff Area=22,508 sf 94.60% Impervious Runoff Depth=9.61"
Flow Length=200' Slope=0.0150 '/' Tc=6.0 min CN=97 Runoff=5.05 cfs 0.414 af

Subcatchment 14-2S: Runoff Area=5,643 sf 71.72% Impervious Runoff Depth=8.87"
Flow Length=105' Tc=6.0 min CN=91 Runoff=1.23 cfs 0.096 af

Subcatchment 100S: Runoff Area=46,572 sf 0.00% Impervious Runoff Depth=6.33"
Flow Length=500' Tc=17.5 min CN=71 Runoff=5.64 cfs 0.564 af

Subcatchment 200S: Runoff Area=18,353 sf 0.00% Impervious Runoff Depth=6.33"
Flow Length=130' Tc=6.0 min CN=71 Runoff=3.11 cfs 0.222 af

Subcatchment 300S: Runoff Area=153,830 sf 0.00% Impervious Runoff Depth=6.20"
Flow Length=880' Tc=47.0 min CN=70 Runoff=11.59 cfs 1.824 af

Subcatchment 301S: Runoff Area=10,832 sf 0.00% Impervious Runoff Depth=6.46"
Flow Length=165' Tc=8.1 min CN=72 Runoff=1.74 cfs 0.134 af

Reach 2R: Wooded Wetlands Avg. Flow Depth=0.30' Max Vel=2.81 fps Inflow=1.57 cfs 0.329 af
n=0.040 L=100.0' S=0.0500 '/' Capacity=19.85 cfs Outflow=1.57 cfs 0.329 af

Reach 5-1: Roof Drain Avg. Flow Depth=1.17' Max Vel=6.58 fps Inflow=9.91 cfs 0.820 af
18.0" Round Pipe n=0.012 L=424.0' S=0.0081 '/' Capacity=10.22 cfs Outflow=9.73 cfs 0.820 af

Reach 5-2: Roof Drain Avg. Flow Depth=1.11' Max Vel=5.15 fps Inflow=7.30 cfs 0.604 af
18.0" Round Pipe n=0.012 L=270.0' S=0.0050 '/' Capacity=8.05 cfs Outflow=7.22 cfs 0.604 af

Reach 301R: Wetland Flow Path Avg. Flow Depth=0.15' Max Vel=1.02 fps Inflow=1.74 cfs 0.134 af
n=0.035 L=880.0' S=0.0120 '/' Capacity=14.89 cfs Outflow=1.15 cfs 0.134 af

Pond 1P: Infiltration Pond / Outlet #1 Peak Elev=88.80' Storage=59,803 cf Inflow=31.95 cfs 2.647 af
Discarded=0.03 cfs 0.023 af Primary=5.16 cfs 2.385 af Outflow=5.19 cfs 2.408 af

Pond 3: DMH #3 Peak Elev=89.37' Inflow=9.89 cfs 0.854 af
18.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=9.89 cfs 0.854 af

Pond 3-1: CB #3-1 Peak Elev=90.08' Inflow=3.26 cfs 0.246 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0067 '/' Outflow=3.26 cfs 0.246 af

Pond 4: DMH #4 Peak Elev=90.32' Inflow=6.63 cfs 0.607 af
18.0" Round Culvert n=0.012 L=195.0' S=0.0050 '/' Outflow=6.63 cfs 0.607 af

Pond 4-1: CB #4-1 Peak Elev=90.39' Inflow=1.02 cfs 0.079 af
12.0" Round Culvert n=0.012 L=7.0' S=0.0086 '/' Outflow=1.02 cfs 0.079 af

Pond 5: DMH #5 Peak Elev=91.32' Inflow=5.68 cfs 0.528 af
15.0" Round Culvert n=0.012 L=88.0' S=0.0050 '/' Outflow=5.68 cfs 0.528 af

Pond 6: DMH #6 Peak Elev=92.44' Inflow=5.68 cfs 0.528 af
15.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=5.68 cfs 0.528 af

Pond 6-1: CB #6-1 Peak Elev=92.59' Inflow=1.55 cfs 0.118 af
12.0" Round Culvert n=0.012 L=18.0' S=0.0056 '/' Outflow=1.55 cfs 0.118 af

Pond 6-2: CB #6-1 Peak Elev=92.57' Inflow=1.27 cfs 0.105 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0050 '/' Outflow=1.27 cfs 0.105 af

Pond 6-3: CB #6-3 Peak Elev=93.20' Inflow=2.80 cfs 0.225 af
12.0" Round Culvert n=0.012 L=104.0' S=0.0055 '/' Outflow=2.80 cfs 0.225 af

Pond 7P: Basin Peak Elev=91.96' Storage=488 cf Inflow=1.12 cfs 0.080 af
10.0" Round Culvert n=0.012 L=54.0' S=0.0185 '/' Outflow=1.61 cfs 0.080 af

Pond 8: DMH #8 Peak Elev=89.33' Inflow=16.95 cfs 1.424 af
24.0" Round Culvert n=0.012 L=66.0' S=0.0050 '/' Outflow=16.95 cfs 1.424 af

Pond 9-11P: Bioretention / Outlet #'s 9 & 11 Peak Elev=83.50' Storage=27,065 cf Inflow=20.89 cfs 1.651 af
Primary=1.57 cfs 0.329 af Secondary=9.62 cfs 1.070 af Outflow=11.19 cfs 1.399 af

Pond 10: CB #10 Peak Elev=85.14' Inflow=1.83 cfs 0.136 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0200 '/' Outflow=1.83 cfs 0.136 af

Pond 12: CB #12 Peak Elev=84.34' Inflow=3.85 cfs 0.315 af
12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/' Outflow=3.85 cfs 0.315 af

Pond 13: CB #13 Peak Elev=84.71' Inflow=4.50 cfs 0.372 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0214 '/' Outflow=4.50 cfs 0.372 af

Pond 14: CB #14 Peak Elev=87.71' Inflow=6.29 cfs 0.510 af
12.0" Round Culvert n=0.012 L=110.0' S=0.0050 '/' Outflow=6.29 cfs 0.510 af

Pond 14-1: CB #14-1 Peak Elev=89.46' Inflow=5.05 cfs 0.414 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0050 '/' Outflow=5.05 cfs 0.414 af

Pond 14-2: CB #14-2 Peak Elev=87.90' Inflow=1.23 cfs 0.096 af
12.0" Round Culvert n=0.012 L=130.0' S=0.0115 '/' Outflow=1.23 cfs 0.096 af

Link 100: POA #1 Inflow=7.21 cfs 0.893 af
Primary=7.21 cfs 0.893 af

Link 200: POA #2 Inflow=11.62 cfs 1.292 af
Primary=11.62 cfs 1.292 af

Link 300: POA #3 Inflow=17.32 cfs 4.343 af
Primary=17.32 cfs 4.343 af

Link 400: POA #4 Inflow=30.28 cfs 6.528 af
Primary=30.28 cfs 6.528 af

Total Runoff Area = 11.243 ac Runoff Volume = 7.043 af Average Runoff Depth = 7.52"
63.78% Pervious = 7.171 ac 36.22% Impervious = 4.072 ac

Section 5

Precipitation Table

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Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.948 degrees West
Latitude	42.981 degrees North
Elevation	0 feet
Date/Time	Tue, 26 Apr 2022 17:11:17 -0400

Extreme Precipitation Estimates

add 15%

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr			1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	**1yr**	0.71	0.99	1.22	1.57	2.05	2.68	3.33	**1yr**	2.37	2.79	3.21	3.91	4.54	**1yr**
2yr	0.32	0.50	0.62	0.82	1.03	1.30	**2yr**	0.89	1.18	1.52	1.94	2.49	3.22	4.10	**2yr**	2.85	3.43	3.94	4.68	5.33	**2yr**
5yr	0.38	0.58	0.73	0.98	1.26	1.62	**5yr**	1.08	1.47	1.90	2.45	3.16	4.09	5.28	**5yr**	3.62	4.41	5.05	5.97	6.75	**5yr**
10yr	0.42	0.66	0.83	1.13	1.46	1.91	**10yr**	1.26	1.73	2.25	2.92	3.78	4.91	6.39	**10yr**	4.34	5.34	6.09	7.19	8.07	**10yr**
25yr	0.49	0.77	0.98	1.35	1.80	2.37	**25yr**	1.55	2.16	2.81	3.68	4.80	6.25	8.22	**25yr**	5.53	6.88	7.80	9.19	10.22	**25yr**
50yr	0.55	0.87	1.12	1.56	2.11	2.80	**50yr**	1.82	2.55	3.34	4.39	5.75	7.50	9.97	**50yr**	6.64	8.33	9.42	11.08	12.24	**50yr**
100yr	0.61	0.99	1.27	1.81	2.47	3.32	**100yr**	2.13	3.01	3.98	5.25	6.89	9.00	11.76	**100yr**	7.97	10.10	11.37	13.36	14.66	**100yr**
200yr	0.69	1.13	1.46	2.09	2.89	3.92	**200yr**	2.49	3.56	4.72	6.26	8.25	10.82		**200yr**	9.57	12.23	13.72	16.11	17.57	**200yr**
500yr	0.82	1.35	1.76	2.55	3.57	4.89	**500yr**	3.08	4.44	5.91	7.90	10.47	13.79		**500yr**	12.21	15.78	17.61	20.66	22.33	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.61	0.75	0.89	**1yr**	0.64	0.87	0.95	1.25	1.54	2.29	2.54	**1yr**	2.03	2.44	2.89	3.43	4.02	**1yr**
2yr	0.32	0.49	0.60	0.82	1.01	1.19	**2yr**	0.87	1.17	1.37	1.82	2.33	3.11	3.49	**2yr**	2.75	3.36	3.85	4.56	5.14	**2yr**
5yr	0.36	0.55	0.68	0.94	1.19	1.42	**5yr**	1.03	1.39	1.62	2.12	2.73	3.81	4.26	**5yr**	3.38	4.10	4.70	5.62	6.31	**5yr**
10yr	0.40	0.61	0.75	1.05	1.36	1.63	**10yr**	1.17	1.59	1.82	2.40	3.07	4.39	4.95	**10yr**	3.89	4.76	5.46	6.53	7.26	**10yr**
25yr	0.46	0.69	0.86	1.23	1.62	1.95	**25yr**	1.40	1.91	2.12	2.78	3.58	4.94	6.02	**25yr**	4.37	5.78	6.64	7.96	8.89	**25yr**
50yr	0.51	0.77	0.96	1.38	1.85	2.25	**50yr**	1.60	2.20	2.37	3.12	4.01	5.59	6.96	**50yr**	4.95	6.69	7.69	9.26	10.28	**50yr**
100yr	0.57	0.86	1.08	1.55	2.13	2.58	**100yr**	1.84	2.52	2.65	3.48	4.48	6.30	8.04	**100yr**	5.58	7.73	8.90	10.75	11.84	**100yr**
200yr	0.64	0.96	1.21	1.76	2.45	2.96	**200yr**	2.11	2.89	2.95	3.88	5.00	7.08	9.69	**200yr**	6.27	9.32	10.31	12.47	13.68	**200yr**
500yr	0.75	1.11	1.43	2.08	2.96	3.58	**500yr**	2.55	3.50	3.42	4.48	5.81	8.22	11.85	**500yr**	7.27	11.39	12.52	15.14	16.51	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.76	1.06	1.26	1.71	2.17	2.96	3.12	**1yr**	2.62	3.00	3.56	4.28	4.98	**1yr**
2yr	0.33	0.51	0.63	0.86	1.06	1.26	**2yr**	0.91	1.23	1.48	1.94	2.48	3.39	3.67	**2yr**	3.00	3.53	4.06	4.85	5.62	**2yr**
5yr	0.40	0.62	0.77	1.06	1.34	1.62	**5yr**	1.16	1.58	1.87	2.48	3.17	4.38	4.93	**5yr**	3.88	4.74	5.42	6.35	7.20	**5yr**
10yr	0.48	0.73	0.91	1.27	1.64	1.97	**10yr**	1.41	1.93	2.26	3.02	3.81	5.45	6.19	**10yr**	4.83	5.95	6.79	7.88	8.89	**10yr**
25yr	0.59	0.90	1.11	1.59	2.09	2.56	**25yr**	1.81	2.50	2.93	3.92	4.88	7.62	8.38	**25yr**	6.75	8.06	9.12	10.50	11.53	**25yr**
50yr	0.69	1.05	1.31	1.88	2.53	3.11	**50yr**	2.18	3.04	3.56	4.78	5.91	9.56	10.56	**50yr**	8.46	10.15	11.45	13.06	14.18	**50yr**
100yr	0.81	1.23	1.54	2.22	3.05	3.78	**100yr**	2.63	3.70	4.34	5.84	7.17	11.99	13.30	**100yr**	10.61	12.79	14.34	16.29	17.46	**100yr**
200yr	0.95	1.44	1.82	2.64	3.68	4.62	**200yr**	3.17	4.51	5.29	7.13	8.68	15.09	16.13	**200yr**	13.35	15.51	18.00	20.31	21.51	**200yr**
500yr	1.19	1.77	2.27	3.30	4.70	5.98	**500yr**	4.05	5.84	6.87	9.32	11.20	20.47	21.74	**500yr**	18.12	20.90	24.26	27.21	28.40	**500yr**

Powered by ACIS Northeast Regional Climate Center

Section 6

NRCS Soils Report
HISS Map
Test Pit Logs

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire

May 30, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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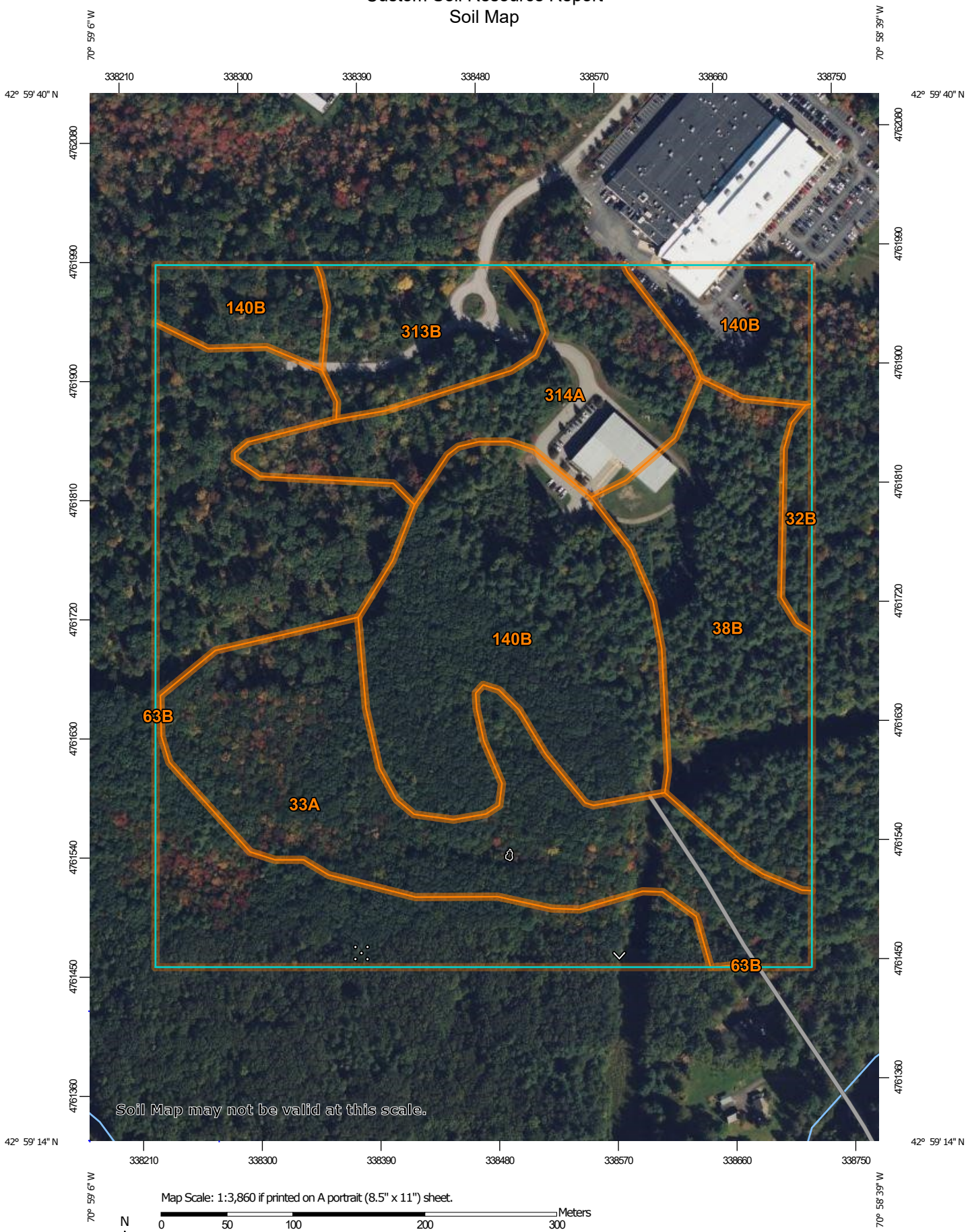
Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,860 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 24, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 19, 2021—Nov 1, 2021

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
32B	Boxford silt loam, 3 to 8 percent slopes	0.8	1.3%
33A	Scitico silt loam, 0 to 5 percent slopes	12.7	19.4%
38B	Eldridge fine sandy loam, 3 to 8 percent slopes	9.4	14.3%
63B	Charlton fine sandy loam, 3 to 8 percent slopes, very stony	15.4	23.4%
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	16.6	25.4%
313B	Deerfield loamy fine sand, 3 to 8 percent slopes	3.8	5.8%
314A	Pipestone sand, 0 to 5 percent slopes	6.8	10.4%
Totals for Area of Interest		**65.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

32B—Boxford silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9cn4
Elevation: 0 to 1,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 120 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Boxford and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boxford

Setting

Parent material: Glaciomarine

Typical profile

H1 - 0 to 2 inches: silt loam
H2 - 2 to 13 inches: silt loam
H3 - 13 to 23 inches: silty clay loam
H4 - 23 to 60 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Eldridge

Percent of map unit: 10 percent
Hydric soil rating: No

Scitico

Percent of map unit: 10 percent
Landform: Marine terraces

Hydric soil rating: Yes

33A—Scitico silt loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9cn6
Elevation: 0 to 180 feet
Mean annual precipitation: 47 to 49 inches
Mean annual air temperature: 48 degrees F
Frost-free period: 155 to 165 days
Farmland classification: Farmland of local importance

Map Unit Composition

Scitico and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scitico

Setting

Landform: Marine terraces

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 12 inches: silty clay loam
H3 - 12 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY019NH - Wet Lake Plain
Hydric soil rating: Yes

Minor Components

Squamscott

Percent of map unit: 5 percent
Landform: Marine terraces

Hydric soil rating: Yes

Boxford

Percent of map unit: 5 percent
Hydric soil rating: No

Maybid

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

38B—Eldridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9cnb
Elevation: 90 to 1,000 feet
Mean annual precipitation: 30 to 55 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 120 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Eldridge and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eldridge

Setting

Parent material: Outwash over glaciolacustrine

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 23 inches: loamy fine sand
H3 - 23 to 62 inches: loamy very fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Boxford
Percent of map unit: 5 percent
Hydric soil rating: No

Well drained inclusion
Percent of map unit: 5 percent
Hydric soil rating: No

Scitico
Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Squamscott
Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

63B—Charlton fine sandy loam, 3 to 8 percent slopes, very stony

Map Unit Setting
National map unit symbol: 2wh0r
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of local importance

Map Unit Composition
Charlton, very stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting
Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile
Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam

Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F142XB009VT - Acidic Till Upland
Hydric soil rating: No

Minor Components

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Chatfield, very stony

Percent of map unit: 3 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Leicester, very stony

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Linear

Across-slope shape: Concave
Hydric soil rating: Yes

140B—Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2w82m
Elevation: 380 to 1,070 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Chatfield, very stony, and similar soils: 35 percent
Hollis, very stony, and similar soils: 25 percent
Canton, very stony, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Hollis, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Canton, Very Stony

Setting

Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Newfields, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills, moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Freetown

Percent of map unit: 5 percent
Landform: Marshes, depressions, bogs, kettles, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Walpole, very stony

Percent of map unit: 3 percent
Landform: Deltas, depressions, outwash plains, depressions, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 2 percent

Landform: Ridges, hills
Hydric soil rating: Unranked

313B—Deerfield loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg9
Elevation: 0 to 1,190 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Deerfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Outwash deltas, outwash terraces, outwash plains, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 7 percent
Landform: Outwash terraces, outwash plains, kame terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Wareham

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sudbury

Percent of map unit: 2 percent
Landform: Kame terraces, outwash deltas, outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Ninigret

Percent of map unit: 1 percent
Landform: Outwash plains, outwash terraces, kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, concave
Hydric soil rating: No

314A—Pipestone sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9cn2
Elevation: 0 to 2,100 feet
Mean annual precipitation: 28 to 55 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Pipestone and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pipestone

Setting

Landform: Outwash terraces

Typical profile

H1 - 0 to 6 inches: sand
H2 - 6 to 33 inches: sand
H3 - 33 to 60 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 5 percent
Landform: Outwash terraces
Hydric soil rating: Yes

Chocorua

Percent of map unit: 5 percent
Landform: Bogs
Hydric soil rating: Yes

Scarboro

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

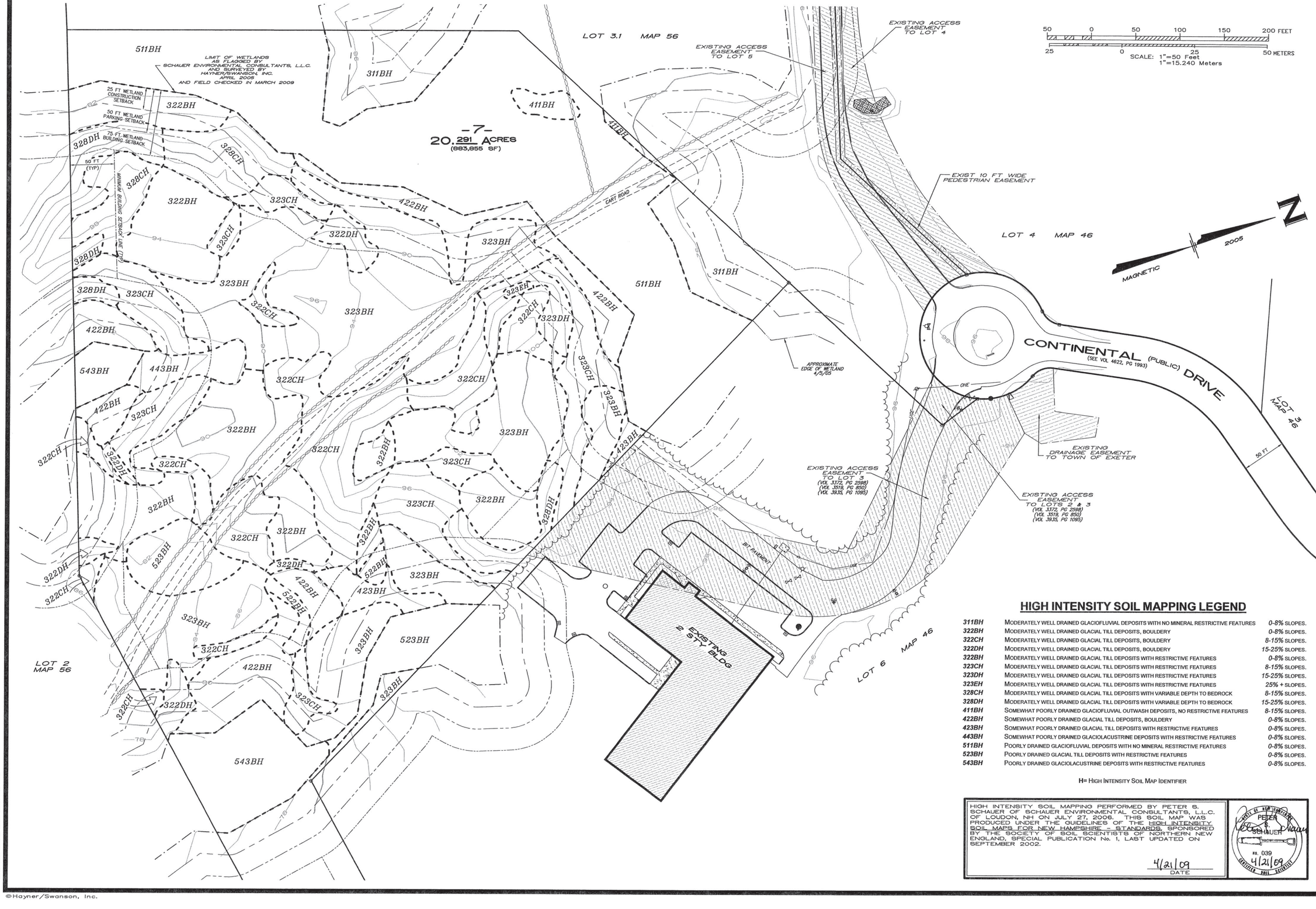
Squamscott

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Deerfield

Percent of map unit: 5 percent

Hydric soil rating: No



HIGH INTENSITY SOIL MAPPING LEGEND

311BH	MODERATELY WELL DRAINED GLACIOFLUVIAL DEPOSITS WITH NO MINERAL RESTRICTIVE FEATURES	0-8% SLOPES.
322BH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS, BOULDERY	0-8% SLOPES.
322CH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS, BOULDERY	8-15% SLOPES.
322DH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS, BOULDERY	15-25% SLOPES.
322BH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS WITH RESTRICTIVE FEATURES	0-8% SLOPES.
323CH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS WITH RESTRICTIVE FEATURES	8-15% SLOPES.
323DH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS WITH RESTRICTIVE FEATURES	15-25% SLOPES.
323EH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS WITH RESTRICTIVE FEATURES	25% + SLOPES.
328CH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS WITH VARIABLE DEPTH TO BEDROCK	8-15% SLOPES.
328DH	MODERATELY WELL DRAINED GLACIAL TILL DEPOSITS WITH VARIABLE DEPTH TO BEDROCK	15-25% SLOPES.
411BH	SOMEWHAT POORLY DRAINED GLACIOFLUVIAL OUTWASH DEPOSITS, NO RESTRICTIVE FEATURES	8-15% SLOPES.
422BH	SOMEWHAT POORLY DRAINED GLACIAL TILL DEPOSITS, BOULDERY	0-8% SLOPES.
423BH	SOMEWHAT POORLY DRAINED GLACIAL TILL DEPOSITS WITH RESTRICTIVE FEATURES	0-8% SLOPES.
443BH	SOMEWHAT POORLY DRAINED GLACIOLACUSTRINE DEPOSITS WITH RESTRICTIVE FEATURES	0-8% SLOPES.
511BH	POORLY DRAINED GLACIOFLUVIAL DEPOSITS WITH NO MINERAL RESTRICTIVE FEATURES	0-8% SLOPES.
523BH	POORLY DRAINED GLACIAL TILL DEPOSITS WITH RESTRICTIVE FEATURES	0-8% SLOPES.
543BH	POORLY DRAINED GLACIOLACUSTRINE DEPOSITS WITH RESTRICTIVE FEATURES	0-8% SLOPES.

H= HIGH INTENSITY SOIL MAP IDENTIFIER

HIGH INTENSITY SOIL MAPPING PERFORMED BY PETER S. SCHAUER OF SCHAUER ENVIRONMENTAL CONSULTANTS, L.L.C. OF LOUDON, NH ON JULY 27, 2006. THIS SOIL MAP WAS PRODUCED UNDER THE GUIDELINES OF THE HIGH INTENSITY SOIL MAPS FOR NEW HAMPSHIRE - STANDARDS, SPONSORED BY THE SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND, SPECIAL PUBLICATION No. 1, LAST UPDATED ON SEPTEMBER 2002.

4/21/09
DATE

STATE OF NEW HAMPSHIRE
PETER S. SCHAUER
No. 039
4/21/09
CERTIFIED SOIL SCIENTIST

NO.	DATE	REVISION	BY

PREPARED FOR:
HOLDING COURT, LLC
225 WATER STREET EXETER, NEW HAMPSHIRE 03833
RECORD OWNER:
GARRISON GLEN, LLC
141 MAIN STREET NASHUA, NEW HAMPSHIRE 03060

HIGH INTENSITY SOIL SURVEY PLAN
(LOT 7, MAP 46)

EXETER TENNIS FACILITY

7 CONTINENTAL DRIVE
EXETER, NEW HAMPSHIRE

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

FIELD BOOK: 1133/1134 | DWG LOCATION: Q:\4891\DWG\4891-L3
DRAWING NAME: HC-SOIL51 | Scale 1" = 50'
SV-3 | 4891-HC | Date 22 APRIL 2009
Sheet | Job Number

4891/4891-L3/HC-ECSI-REV. HC-TITI

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP3
LOCATION:
TIME STARTED: 1130
TIME COMPLETED 1200

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-2		Bouilders, orange/brown, f sand and silt, some gravel.	M	C	
2-4		Bouilders, orange/brown, f sand and silt, some gravel.	D	B,C	
4-6		Same, larger boulders Bottom of excavation at 6'.	D	B,C	

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION		F-Fine M-Medium C-Coarse	
L (FT)			TRACE (0-10%)	F/M-Fine to Medium	E-Easy
W (FT)	6"-18"	A	LITTLE (10-20%)	F/C-Fine to Coarse	M-Moderate
	18"-36"	B	SOME (20-35%)	V-Very	D-Difficult
	36" AND LARGER	C	AND (35-50%)	GR-Gray BN-Brown YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP4
LOCATION:
TIME STARTED: 1130
TIME COMPLETED 1200

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-2		Brown/orange, f SAND and silt	E		
2-4		Same (with 6" – 1' size boulders)	M	A,B	
5		Boulders/ledge			
		Bottom of excavation at 5'.			

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION		F-Fine	
L (FT)			TRACE (0-10%)	M-Medium	E-Easy
				C-Coarse	
W (FT)	6"-18"	A	LITTLE (10-20%)	F/M-Fine to Medium	M-Moderate
				F/C-Fine to Coarse	
	18"-36"	B	SOME (20-35%)	V-Very	D-Difficult
				GR-Gray	
	36" AND LARGER	C	AND (35-50%)	BN-Brown	
				YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP5
LOCATION:
TIME STARTED: 1130
TIME COMPLETED 1200

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-2		Brown/orange, f SAND and silt, (large 1-2' size) boulders	M	A,B	
2-4		Gray f sand and silt, boulders, some gravel	D	A,B	
4-6		Gray f sand and silt, boulders, some gravel	D	A,B	
8		Boulders/ledge Bottom of excavation at 8'.			

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
	SIZE FANGE CLASSIFICATION	LETTER DESIGNATION		F-Fine	
L (FT)			TRACE (0-10%)	M-Medium	E-Easy
	6"-18"	A		C-Coarse	
W (FT)			LITTLE (10-20%)	F/M-Fine to Medium	M-Moderate
	18"-36"	B		F/C-Fine to Coarse	
			SOME (20-35%)	V-Very	D-Difficult
	36" AND LARGER	C		GR-Gray	
			AND (35-50%)	BN-Brown	
				YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP6
LOCATION:
TIME STARTED: 1130
TIME COMPLETED 1200

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-2		Brown/orange, f SAND and silt, large boulders	D	A,B,C	
3		Large boulders/ledge	D	A,B,C	
		Bottom of excavation at 3'.			

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION		F-Fine	
L (FT)			TRACE (0-10%)	M-Medium	E-Easy
	6"-18"	A		C-Coarse	
W (FT)			LITTLE (10-20%)	F/M-Fine to Medium	M-Moderate
	18"-36"	B	SOME (20-35%)	F/C-Fine to Coarse	
				V-Very	D-Difficult
	36" AND LARGER	C	AND (35-50%)	GR-Gray	
				BN-Brown	
				YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP7
LOCATION:
TIME STARTED: 930
TIME COMPLETED: 1000

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-3		Orange/brown f SAND and silt, trace gravel, 6"-1' size boulders	M	A,B,C	
3-6		Gray f SAND and silt, trace gravel, 6"-1' size boulders	D	A,B,C	
10		Fine SAND and silt, large boulders	D	A,B,C	
		Bottom of excavation at 10'.			

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION		F-Fine	
L (FT)			TRACE (0-10%)	M-Medium	E-Easy
	6"-18"	A		C-Coarse	
W (FT)			LITTLE (10-20%)	F/M-Fine to Medium	M-Moderate
	18"-36"	B		F/C-Fine to Coarse	
			SOME (20-35%)	V-Very	D-Difficult
	36" AND LARGER	C		GR-Gray	
			AND (35-50%)	BN-Brown	
				YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP8
LOCATION:
TIME STARTED: 830
TIME COMPLETED: 930

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-2		Lt brown SAND and silt, trace clay	E		
2-4		Lt brown SAND and silt, trace clay	E		
5		Lt brown SAND and silt, trace clay	E		
10		Silt and clay, large boulder/ledge at 3' to 10' at 45 degree angle	E		
		Bottom of excavation at 10'			

REMARKS:
Attempted to do a preliminary percolation test with a 4" diameter PVC pipe at a depth of 3-4', saturated with water, waited 15 minutes and water level did not drop.

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION		F-Fine	
L (FT)			TRACE (0-10%)	M-Medium	E-Easy
	6"-18"	A		C-Coarse	
W (FT)			LITTLE (10-20%)	F/M-Fine to Medium	M-Moderate
	18"-36"	B		F/C-Fine to Coarse	
			SOME (20-35%)	V-Very	D-Difficult
	36" AND LARGER	C		GR-Gray	
			AND (35-50%)	BN-Brown	
				YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP9
LOCATION:
TIME STARTED: 1100
TIME COMPLETED: 1130

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C* NONE ENCOUNTERED	

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-1		Brown organic topsoil	E		
1-3		Lt brown, silt and clay.	E		
5-7		Same, some boulders	M	A,B	
8-10		Same, with larger boulders	D	A,B,C	
10		Boulders/ledge Bottom of excavation at 10'.	D	A,B,C	

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
L (FT)	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	TRACE (0-10%)	F-Fine M-Medium C-Coarse	E-Easy
W (FT)	6"-18"	A	LITTLE (10-20%)	F/M-Fine to Medium F/C-Fine to Coarse	M-Moderate
	18"-36"	B	SOME (20-35%)	V-Very GR-Gray	D-Difficult
	36" AND LARGER	C	AND (35-50%)	BN-Brown YEL-Yellow	

TEST PIT FIELD LOG

GEOTECHNICAL SERVICES, INC

PROJECT: Continental Drive
LOCATION: Exeter, NH
PROJECT NO: 205226
TEST PIT NO: TP10
LOCATION:
TIME STARTED: 1000
TIME COMPLETED: 1030

Engineer: M. ROONEY

Weather: CLEAR 80s

Date: 7/28/06

EXCAVATION EQUIPMENT

Contractor: PINCO
Operator: Corey Wyke
Make: Hyundai **Model: 160 l3-3**
Reach: 18' **Capacity: 2 yrds**

GROUNDWATER OBSERVATION

TIME	DEPTH(FT)
U/C*	NONE ENCOUNTERED

DEPTH (FT)	STRATUM CHANGE (FT)	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY/CLASS	DCPT RESULTS
0-2		Orange/brown f SAND and silt, some gravel	E	A,B,C	
2-4		Same, with larger boulders	M-D	A,B,C	
6-8		Large boulders, sand and silt. Difficult to remove.	D	A,B,C	
8		Boulders/ledge Bottom of excavation at 8'.			

REMARKS:

TEST PIT DIMENSIONS	LEGEND: BOULDER COUNT		PROPORTIONS USED	ABBREVIATIONS	EXCAVATION EFFORT
L (FT)	SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	TRACE (0-10%)	F-Fine M-Medium C-Coarse	E-Easy
W (FT)	6"-18"	A	LITTLE (10-20%)	F/M-Fine to Medium F/C-Fine to Coarse	M-Moderate
	18"-36"	B	SOME (20-35%)	V-Very GR-Gray	D-Difficult
	36" AND LARGER	C	AND (35-50%)	BN-Brown YEL-Yellow	

TEST PIT LOGS
Job #4981
June 5, 2007

TP-100 (HSI – 6/5/07)

0" – 9"	Dark Brown fine sandy loam
9" – 36"	Dark yellowish brown, fine sandy loam, large boulders (18" – 36" dia.)
36" – 138"	Light olive brown fine silty sand with boulders (till), very firm

Roots to 48"
No Water observed to 138"
No Ledge
No Seasonal High Water observed

TP-101 (HSI – 6/5/07)

0" – 10"	Dark Brown fine sandy loam
10" – 48"	Dark yellowish brown, fine sandy loam, large boulders (18" – 36" dia.)
48" – 132"	Light olive brown fine silty sand with boulders (till), very firm

Roots to 48"
No Water observed to 132"
No Ledge
No Seasonal High Water observed

Section 7

BMP Sizing Calculations

ALTUS
ENGINEERING, INC.

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

	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
1.27	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
2.80	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"
0.15	inches	Rd = Weighted groundwater recharge depth	
0.5975	ac-in	GRV = AI * Rd	
2,169	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):

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **Pond #9-11P (Bioretention)**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

Yes		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
2.27	ac	A = Area draining to the practice	
1.53	ac	A_I = Impervious area draining to the practice	
0.67	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.66	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.49	ac-in	WQV= 1" x Rv x A	
5,411	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
1,353	cf	25% x WQV (check calc for sediment forebay volume)	
4,058	cf	75% x WQV (check calc for surface sand filter volume)	
Deep Sump CB		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ 72-hrs
Calculate time to drain if system IS underdrained:			
82.50	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
0.06	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
50.10	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	≤ 72-hrs
80.50	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
79.50	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
78.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
78.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.00	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	≥ 1'
2.50	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	≥ 1'
2.50	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	≥ 1'
83.60	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
84.00	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	< 10 ac
	cf	V = Volume of storage[3] (attach a stage-storage table)	≥ 75%WQV
	inches	D_{FC} = Filter course thickness	18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	← yes

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
4,692	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet	C-8	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**≥ 3:1**
Sheet	C-8	Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Stage-Area-Storage for Pond 9-11P: Bioretention / Outlet #'s 9 & 11

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
79.25	11,792	0
79.30	11,792	236
79.35	11,792	472
79.40	11,792	708
79.45	11,792	943
79.50	11,792	1,179
79.55	11,792	1,415
79.60	11,792	1,651
79.65	11,792	1,887
79.70	11,792	2,123
79.75	11,792	2,358
79.80	11,792	2,594
79.85	11,792	2,830
79.90	11,792	3,066
79.95	11,792	3,302
80.00	11,792	3,538
80.05	11,792	3,773
80.10	11,792	4,009
80.15	11,792	4,245
80.20	11,792	4,481
80.25	11,792	4,717
80.30	11,792	4,953
80.35	11,792	5,188
80.40	11,792	5,424
80.45	11,792	5,660
80.50	11,792	5,896
80.55	11,792	5,925
80.60	11,792	5,955
80.65	11,792	5,984
80.70	11,792	6,014
80.75	11,792	6,043
80.80	11,792	6,073
80.85	11,792	6,102
80.90	11,792	6,132
80.95	11,792	6,161
81.00	11,792	6,191
81.05	11,792	6,220
81.10	11,792	6,250
81.15	11,792	6,279
81.20	11,792	6,309
81.25	11,792	6,338
81.30	11,792	6,368
81.35	11,792	6,397
81.40	11,792	6,427
81.45	11,792	6,456
81.50	11,792	6,486
81.55	11,792	6,515
81.60	11,792	6,545
81.65	11,792	6,574
81.70	11,792	6,604
81.75	11,792	6,633
81.80	11,792	6,662
81.85	11,792	6,692

Bottom of Media = 80.50'
(5,896 cf below discarded)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
81.90	11,792	6,721
81.95	11,792	6,751
82.00	11,792	6,780
82.05	11,905	7,373
82.10	12,018	7,971
82.15	12,131	8,575
82.20	12,244	9,184
82.25	12,357	9,799
82.30	12,469	10,420
82.35	12,582	11,046
82.40	12,695	11,678
82.45	12,808	12,315
82.50	12,921	12,959
82.55	13,048	13,608
82.60	13,176	14,263
82.65	13,303	14,925
82.70	13,430	15,594
82.75	13,558	16,268
82.80	13,685	16,950
82.85	13,812	17,637
82.90	13,939	18,331
82.95	14,067	19,031
83.00	14,194	19,737
83.05	14,289	20,449
83.10	14,383	21,166
[illegible]	[illegible]8	21,888
[illegible]	[illegible]2	22,614
83.25	14,667	23,345
83.30	14,761	24,081
83.35	14,856	24,821
83.40	14,950	25,566
83.45	15,045	26,316
83.50	15,140	27,071
83.55	15,234	27,830
83.60	15,329	28,594
83.65	15,423	29,363
83.70	15,518	30,136
83.75	15,612	30,915
83.80	15,707	31,698
83.85	15,801	32,485
83.90	15,896	33,278
83.95	15,990	34,075
84.00	**16,085**	**34,877**

12,959 cf - 5,896 cf
= 7,063 cf provided
WQV = 5,411 cf required:
5,896 + 5,411 cf = 11,307 cf
WQV Elev. = +/-82.40'

Lowest Outlet=82.50'
(12,959 cf storage)

Stage-Discharge for Pond 9-11P: Bioretention / Outlet #'s 9 & 11

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
79.25	0.00	0.00	0.00
79.30	0.00	0.00	0.00
79.35	0.00	0.00	0.00
79.40	0.00	0.00	0.00
79.45	0.00	0.00	0.00
79.50	0.00	0.00	0.00
79.55	0.00	0.00	0.00
79.60	0.00	0.00	0.00
79.65	0.00	0.00	0.00
79.70	0.00	0.00	0.00
79.75	0.00	0.00	0.00
79.80	0.00	0.00	0.00
79.85	0.00	0.00	0.00
79.90	0.00	0.00	0.00
79.95	0.00	0.00	0.00
80.00	0.00	0.00	0.00
80.05	0.00	0.00	0.00
80.10	0.00	0.00	0.00
80.15	0.00	0.00	0.00
80.20	0.00	0.00	0.00
80.25	0.00	0.00	0.00
80.30	0.00	0.00	0.00
80.35	0.00	0.00	0.00
80.40	0.00	0.00	0.00
80.45	0.00	0.00	0.00
80.50	0.00	0.00	0.00
80.55	0.00	0.00	0.00
80.60	0.00	0.00	0.00
80.65	0.00	0.00	0.00
80.70	0.00	0.00	0.00
80.75	0.00	0.00	0.00
80.80	0.00	0.00	0.00
80.85	0.00	0.00	0.00
80.90	0.00	0.00	0.00
80.95	0.00	0.00	0.00
81.00	0.00	0.00	0.00
81.05	0.00	0.00	0.00
81.10	0.00	0.00	0.00
81.15	0.00	0.00	0.00
81.20	0.00	0.00	0.00
81.25	0.00	0.00	0.00
81.30	0.00	0.00	0.00
81.35	0.00	0.00	0.00
81.40	0.00	0.00	0.00
81.45	0.00	0.00	0.00
81.50	0.00	0.00	0.00
81.55	0.00	0.00	0.00
81.60	0.00	0.00	0.00
81.65	0.00	0.00	0.00
81.70	0.00	0.00	0.00
81.75	0.00	0.00	0.00
81.80	0.00	0.00	0.00
81.85	0.00	0.00	0.00
81.90	0.00	0.00	0.00
81.95	0.00	0.00	0.00
82.00	0.00	0.00	0.00
82.05	0.01	0.01	0.00
82.10	0.01	0.01	0.00
82.15	0.02	0.02	0.00
82.20	0.03	0.03	0.00
82.25	0.03	0.03	0.00
82.30	0.04	0.04	0.00
82.35	0.05	0.05	0.00
82.40	0.05	0.05	0.00
82.45	0.06	0.06	0.00
82.50	0.07	0.07	0.00
82.55	0.19	0.08	0.11
82.60	0.42	0.12	0.30
82.65	0.72	0.16	0.56
82.70	1.09	0.23	0.86
82.75	1.51	0.31	1.20
82.80	1.98	0.39	1.58
82.85	2.48	0.49	1.99
82.90	3.03	0.60	2.44
82.95	3.61	0.70	2.91
83.00	4.22	0.82	3.40
83.05	4.85	0.92	3.93
83.10	5.50	1.02	4.48
83.15	6.15	1.11	5.05
83.20	6.82	1.18	5.64
83.25	7.51	1.25	6.25
83.30	8.21	1.32	6.89
83.35	8.93	1.39	7.55
83.40	9.67	1.45	8.22
83.45	10.42	1.51	8.92
83.50	11.20	1.57	9.63
83.55	13.05	2.21	10.84
83.60	15.79	3.33	12.46
83.65	19.12	4.77	14.36
83.70	21.07	6.46	14.61
83.75	23.11	8.37	14.74
83.80	25.34	10.48	14.86
83.85	27.74	12.76	14.98
83.90	30.31	15.21	15.10
83.95	31.59	16.37	15.22
84.00	**31.82**	**16.48**	**15.34**

WQV Elev. = 82.40'
Discharge = 0.05 cfs

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.06)

Type/Node Name: **Pond #14P (Infiltration)**

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**
3.70	ac	A = Area draining to the practice	
2.54	ac	A_I = Impervious area draining to the practice	
0.69	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.67	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
2.47	ac-in	WQV= 1" x Rv x A	
8,970	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
2,242	cf	25% x WQV (check calc for sediment forebay volume)	
Deep Sump CB		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ **25%WQV**
9,599	cf	V = Volume[1] (attach a stage-storage table)	≥ **WQV**
15,470	sf	A_{SA} = Surface area of the bottom of the pond	
0.17	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
42.2	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ **72-hrs**
86.00	feet	E_{BTM} = Elevation of the bottom of the basin	
82.83	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
80.50	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.17	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
5.5	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
	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**
88.43	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
89.60	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
90.00	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: TP #205 used as design basis (highest SHWT and refusal from all test pits in pond area)

Stage-Area-Storage for Pond 1P: Infiltration Pond / Outlet #1

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)	
86.00	18,011	18,011	0	
86.10	18,251	18,255	1,813	GRV = 2,169 cf
86.20	18,492	18,501	3,650	
86.30	18,734	18,749	5,511	WQV = 8,970 cf
86.40	18,979	18,998	7,397	
86.50	19,224	19,248	9,307	Lowest Outlet = 86.50' (9,307 cf)
86.60	19,472	19,501	11,242	
86.70	19,721	19,755	13,202	
86.80	19,959	19,998	15,186	
86.90	20,186	20,230	17,193	
87.00	20,414	20,464	19,223	
87.10	20,644	20,699	21,276	
87.20	20,875	20,936	23,352	
87.30	21,107	21,174	25,451	
87.40	21,340	21,413	27,573	
87.50	21,575	21,653	29,719	
87.60	21,811	21,895	31,889	
87.70	22,048	22,138	34,081	
87.80	22,287	22,382	36,298	
87.90	22,527	22,628	38,539	
88.00	22,768	22,875	40,804	
88.10	23,016	23,128	43,093	
88.20	23,265	23,384	45,407	
88.30	23,516	23,640	47,746	
88.40	23,768	23,898	50,110	
88.50	24,021	24,157	52,500	
88.60	24,276	24,418	54,914	
88.70	24,532	24,680	57,355	
88.80	24,790	24,943	59,821	
88.90	25,048	25,208	62,313	
89.00	25,308	25,474	64,831	
89.10	25,570	25,741	67,375	
89.20	25,833	26,010	69,945	
89.30	26,097	26,280	72,541	
89.40	26,362	26,552	75,164	
89.50	26,629	26,825	77,814	
89.60	26,897	27,099	80,490	
89.70	27,166	27,375	83,193	
89.80	27,437	27,652	85,923	
89.90	27,709	27,930	88,681	
90.00	**27,983**	**28,210**	**91,465**	

Section 8

Stormwater Operations & Maintenance Plan

ALTUS
ENGINEERING, INC.

STORMWATER INSPECTION AND MAINTENANCE MANUAL

Singh Realty Group
Assessor's Map 46, Lot 7

OWNER:
Singh Realty Group
6 Fondi Road
Haverhill, MA 01832

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner:	*Singh Realty Group*		*(978) 475-4740*
	Name	*Company*	*Phone*
Inspection:	*Singh Realty Group*		*(978) 475-4740*
	Name	*Company*	*Phone*
Maintenance:	*Singh Realty Group*		*(978) 475-4740*
	Name	*Company*	*Phone*

NOTES:

Written inspection forms and maintenance logs shall be completed yearly by a qualified inspector retained the owner or assigns. Reports shall be submitted to the Exeter Public Works department on or before January 31st of each year and a copy retained at the site's business office.

Photographs of each stormwater BMP are to be taken at each inspection and submitted with the annual inspection reports.

Inspection and maintenance responsibilities shall transfer to any future property owner(s).

This manual shall be updated as needed to reflect any changes related to any transfer of ownership and/or any delegation of inspection and maintenance responsibilities to another entity

ALTUS ENGINEERING

BIORETENTION PONDS (AKA RAINGARDENS)

Function – Bioretention ponds provide treatment to runoff prior to directing it to stormwater systems by filtering sediment and suspended solids, trapping them in the bottom of the garden and in the filter media itself. Additional treatment is provided by the native water-tolerant vegetation which removes nutrients and other pollutants through bio-uptake. Stormwater detention and infiltration can also be provided as the filtering process slows runoff, decreases the peak rate of discharge and promotes groundwater recharge.

Bioretention ponds shall be managed (Per AGR 3800 and RSA 430:53) to: prevent and control the spread of invasive plant, insect, and fungal species; minimize the adverse environmental and economic effects invasive species cause to agriculture, forests, wetlands, wildlife, and other natural resources of the state; and protect the public from potential health problems attributed to certain invasive species.

Maintenance

- Inspect annually and after significant rainfall events.
- If a raingarden does not completely drain within 72-hours following a rainfall event, then a qualified professional shall be retained to assess the condition of the facility to determine measures required to restore its filtration and/or infiltration function(s), including but not limited to removal of accumulated sediments and/or replacement or reconstruction of the filter media. Filter media shall be replaced with material matching the specification on the design drawings or the NHDES Stormwater Manual.
- Replace any riprap dislodged from spillways, inlets and outlets.
- Remove any obstructions, litter and accumulated sediment or debris as warranted but no less than once a year.
- Mowing of any grassed area in or adjacent to a raingarden, including its berm, shall be performed at least twice per year (when areas are not inundated) to keep the vegetation in vigorous condition. The cut grass shall be removed to prevent the decaying organic litter from clogging the filter media or choking other vegetation.
- Select vegetation should be maintained in healthy condition. This may include pruning, removal and replacement of dead or diseased vegetation.
- Remove any invasive species, Per AGR 3800 and RSA 430:53.
- Remove any hard wood growth from raingardens.

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or creek erosion is identified, the outlet owner shall take appropriate means to prevent further erosion. Increased lengths of riprap may require a NHDES Permit and/or local permit.

INFILTRATION PONDS

Function – Infiltration ponds allow for the infiltration and treatment of stormwater runoff.

Maintenance

- Inspect annually and after significant rainfall events.
- If an infiltration-based practice does not completely drain within 72-hours following a rainfall event, then a qualified professional shall be retained to assess the condition of the facility to determine measures required to restore its filtration and/or infiltration function(s), including but not limited to removal of accumulated sediments and/or replacement or reconstruction of the structure.
- Remove any obstructions, litter and accumulated sediment or debris as warranted but no less than once a year.
- Mowing of any grassed area in or adjacent to a raingarden, including its berm, shall be performed at least twice per year (when areas are not inundated) to keep the vegetation in vigorous condition. The cut grass shall be removed to prevent the decaying organic litter from clogging the filter media or choking other vegetation.
- Select vegetation should be maintained in healthy condition. This may include pruning, removal and replacement of dead or diseased vegetation.
- Remove any hard wood growth from pond areas, including side slopes and berms.

CATCH BASINS

Function – Catch basins collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Catch basin sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned annually and any removed sediment and debris shall be disposed of at a solid waste disposal facility.

RIP RAP OUTLETS, SWALES, LEVEL SPREADERS AND BUFFERS

Function – Rip rap outlets slow the velocity of runoff, minimizing erosion and maximizing the treatment capabilities of associated buffers. Vegetated buffers, either forested or meadow, slow runoff which promotes and reduces peak rates of runoff. The reduced velocities and the presence of vegetation encourage the filtration of sediment and the limited bio-uptake of nutrients.

Maintenance

- Inspect riprap, level spreaders and buffers at least annually for signs of erosion, sediment buildup, or vegetation loss.
- Inspect level for signs of condensed flows. Level spreader and rip rap shall be maintained to disperse flows evenly over level spreader.
- If a meadow buffer, provide periodic mowing as needed to maintain a healthy stand of herbaceous vegetation.
- If a forested buffer, then the buffer should be maintained in an undisturbed condition, unless erosion occurs.

- If erosion of the buffer (forested or meadow) occurs, eroded areas should be repaired and replanted with vegetation similar to the remaining buffer. Corrective action should include eliminating the source of the erosion problem and may require retrofit or reconstruction of the level spreader.
- Remove debris and accumulated sediment and dispose of properly.

LANDSCAPED AREAS – ORGANIC FERTILIZER MANAGEMENT

Function – All fertilizer used on site shall be certified organic. Organic fertilizer management involves controlling the rate, timing and method of organic fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Organic fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply organic fertilizer to frozen ground.
- Clean up any organic fertilizer spills.
- Do not allow organic fertilizer to be broadcast into water bodies.
- When organically fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminates that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

VEGETATIVE SWALES

Function – Vegetative swales filter sediment from stormwater, promote infiltration, and the uptake of contaminates. They are designed to treat runoff and dispose of it safely into the natural drainage system.

Maintenance

- Timely maintenance is important to keep a swale in good working condition. Mowing of grassed swales shall be monthly to keep the vegetation in vigorous condition. The cut vegetation shall be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale.
- Fertilizing shall be bi-annual or as recommended from soil testing.
- Inspect swales following significant rainfall events.
- Woody vegetation shall not be allowed to become established in the swales or rock riprap outlet protection and if present shall be removed.
- Accumulated debris disrupts flow and leads to clogging and erosion. Remove debris and litter as necessary.
- Inspect for eroded areas. Determine cause of erosion and correct deficiency as required. Monitor repaired areas.

CONTROL OF INVASIVE PLANTS

Function – Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

Maintenance

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described in the attached "Methods for Disposing Non-Native Invasive Plants" prepared by the UNH Cooperative Extension.

GENERAL CLEAN UP

- Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch basin inlet filter, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drain pipes that may have accumulated during construction.
- Once in operation, all paved areas of the site should be swept at least once annually at the end of winter/early spring prior to significant spring rains.

APPPENDIX

A. Stormwater System Operations and Maintenance Report
B. Site Grading and Drainage Plan

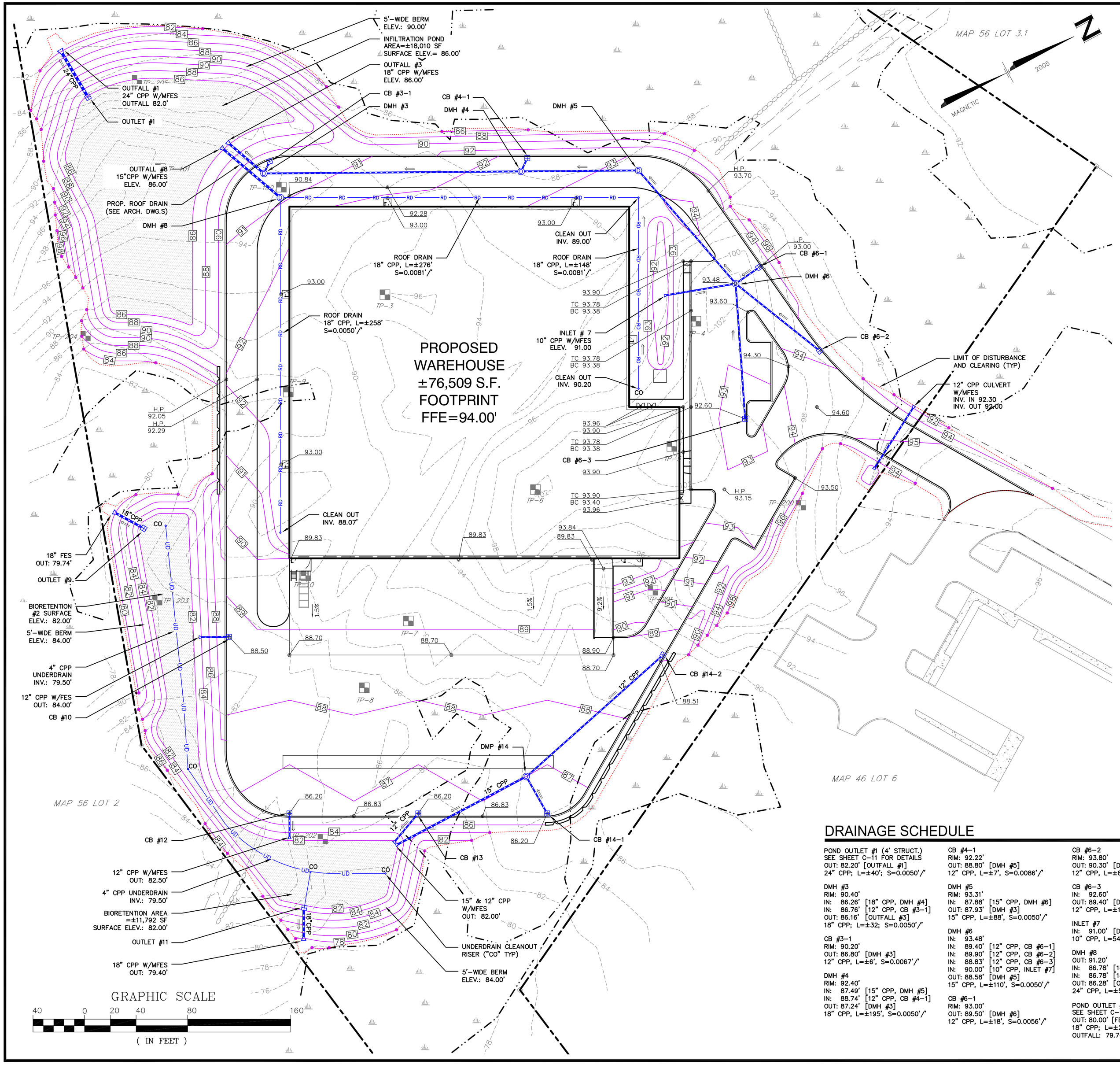
STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	**Start Time:**	**End Time:**
Type of Inspection: ☐ Annual Report ☐ Post-storm event ☐ Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment			
Subject		**Status**	**Notes**
A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:			*Notes/ Action taken:*
1	Do the current site conditions reflect the attached site plan?	❑Yes ❑No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated?	❑Yes ❑No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters?	❑Yes ❑No	

Permit Coverage and Plans				
#	**BMP/Facility**	**Inspected**	**Corrective Action Needed and Notes**	**Date Corrected**
	Infiltration Ponds	❑Yes ❑No		
	Catch Basins and Yard Drains	❑Yes ❑No		
	Drainage Pipes	❑Yes ❑No		
	Bioretention Ponds	❑Yes ❑No		
	Riprap Aprons	❑Yes ❑No		
	Site Vegetation	❑Yes ❑No		
		❑Yes ❑No		

- INSPECTOR TO TAKE REPRESENTATIVE PHOTOGRAPHS OF EACH BMP INSPECTED AND INCLUDE THEM IN THE ANNUAL INPECTION REPORT.



GRADING AND DRAINAGE NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. THE LIMITS OF CONSTRUCTION DISTURBANCE SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY TREE CLEARING, STUMPING, GRUBBING OR EARTH MOVING OCCURS. WHERE CONSTRUCTION IS TO TAKE PLACE WITHIN 50' OF A PROPERTY LINE, THE PROPERTY LINE SHALL BE STAKED AT 50' MINIMUM INTERVALS.
4. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
5. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBMS) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
6. PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
7. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
8. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
9. DRAINAGE PIPE SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP), TYPE ADS N-12 OR HANCOR H1-Q, PVC SDR 35 OR REINFORCED CONCRETE PIPE (RCP) WHERE SPECIFIED.
10. ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
11. ALL ROOF DRAIN LEADERS SHALL BE LOCATED IN COORDINATION WITH THE ARCHITECTURAL PLANS TO MATCH DOWNSPOUTS. RISERS SHALL BE SET TO FINISH GRADE PLUS 6" (MIN.) IF APPLICABLE.
12. ALL SPOT GRADES ARE AT FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
13. IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. SYMBOLS MAY NOT BE INDICATIVE OF THE CENTER OF A STRUCTURE, PARTICULARLY WHEN SHOWN ADJACENT TO A CURB LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
14. ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
15. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
16. THE APPLICANT HAS COMPLETED A LAND USE TRACKING FORM, MOST RECENT REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL AT https://www.unh.edu/unhsc/ptapp (PTAPP SUBMISSION ID 209).
17. CONTRACTOR SHALL PROVIDE RETAINING WALL DESIGN DRAWINGS STAMPED BY A NH-LICENSED PROFESSIONAL STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. DESIGN MUST BE PRE-APPROVED BY SELECTED WALL MANUFACTURER.
18. CONTRACTOR MAY CONNECT BUILDING AND RETAINING FOUNDATION DRAINS TO THE NEAREST DRAINAGE STRUCTURE PROVIDED A MINIMUM 1% SLOPE CAN BE MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FOUNDATION DRAINS WITH THE BUILDING AND WALL PLANS.
19. DRAINAGE OUTFALLS AT RETAINING WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WALL MANUFACTURERS SPECIFICATIONS.
20. ADJUST GRADING AT EMERGENCY BUILDING EXITS AS NECESSARY TO ENSURE CODE COMPLIANCE. COORDINATE WITH ARCHITECT IF RAILINGS ARE REQUIRED.
21. SEE SHEET C-11 FOR LEGEND.

DRAINAGE SCHEDULE

POND OUTLET #1 (4' STRUCT.)
SEE SHEET C-11 FOR DETAILS
OUT: 82.20' [OUTFALL #1]
24" CPP; L=±40'; S=0.0050'/'

DMH #3
RIM: 90.40'
IN: 86.26' [18" CPP, DMH #4]
IN: 86.76' [12" CPP, CB #3-1]
OUT: 86.16' [OUTFALL #3]
18" CPP; L=±32; S=0.0050'/'

CB #3-1
RIM: 90.20'
OUT: 86.80' [DMH #3]
12" CPP, L=±6', S=0.0067'/'

DMH #4
RIM: 92.40'
IN: 87.49' [15" CPP, DMH #5]
IN: 88.74' [12" CPP, CB #4-1]
OUT: 87.24' [DMH #3]
18" CPP, L=±195', S=0.0050'/'

CB #4-1
RIM: 92.22'
OUT: 88.80' [DMH #5]
12" CPP, L=±7', S=0.0086'/'

DMH #5
RIM: 93.31'
IN: 87.88' [15" CPP, DMH #6]
OUT: 87.93' [DMH #3]
15" CPP, L=±88', S=0.0050'/'

DMH #6
IN: 93.48'
IN: 89.40' [12" CPP, CB #6-1]
IN: 89.90' [12" CPP, CB #6-2]
IN: 88.83' [12" CPP, CB #6-3]
IN: 90.00' [10" CPP, INLET #7]
OUT: 88.58' [DMH #5]
15" CPP, L=±110', S=0.0050'/'

CB #6-1
RIM: 93.00'
OUT: 89.50' [DMH #6]
12" CPP, L=±18', S=0.0056'/'

CB #6-2
RIM: 93.80'
OUT: 90.30' [DMH #6]
12" CPP, L=±80', S=0.0050'/'

CB #6-3
IN: 92.60'
OUT: 89.40' [DMH #6]
12" CPP, L=±104', S=0.0055'/'

INLET #7
IN: 91.00' [DMH #6]
10" CPP, L=54", S=0.0185'/'

DMH #8
OUT: 91.20'
IN: 86.78' [18" CPP, RD]
IN: 86.78' [18" CPP, RD]
OUT: 86.28' [OUTFALL #8]
24" CPP, L=±56', S=0.0050'/'

POND OUTLET #9 (4' STRUCT.)
SEE SHEET C-11 FOR DETAILS
OUT: 80.00' [FES]
18" CPP; L=±26'; S=0.0100'/'
OUTFALL: 79.74'

CB #10
RIM: 88.50'
OUT: 84.40' [OUTFALL]
12" CPP, L=±20', S=0.0200'/'

POND OUTLET #11 (4' STRUCT.)
SEE SHEET C-11 FOR DETAILS
IN: 79.50' [4" U.D.]
OUT: 79.50' [FES]
18" CPP; L=±20'; S=0.0050'/'
OUTFALL: 79.40' w/FES

CB #12
RIM: 86.20'
OUT: 82.70' [OUTFALL]
12" CPP, L=±12', S=0.0167'/'

CB #13
RIM: 86.20'
OUT: 82.42' [OUTFALL]
12" CPP, L=±28', S=0.0150'/'

DMH #14
RIM: 87.00'
IN: 83.50' [12" CPP, CB #14-1]
IN: 82.65' [12" CPP, CB #14-2]
OUT: 82.55' [OUTFALL]
12" CPP, L=±110', S=0.0050'/'

CB #14-1
RIM: 86.20'
OUT: 82.80' [DMH #14]
12" CPP, L=±30', S=0.0050'/'

CB #14-2
RIM: 88.50'
OUT: 85.00' [DMH #14]
12" CPP, L=±130', S=0.0115'/'

ALTUS ENGINEERING
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

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ISSUED FOR:
SITE PLAN AMENDMENT

ISSUE DATE:
OCTOBER 24, 2023

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EBS	10/24/23

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5493-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

OWNER:
GLERUPS INC.
27 PLEASANT STREET
NEWFIELDS, NH 03856

APPLICANT:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
SINGH REALTY
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
STORMWATER MANAGEMENT PLAN

SHEET NUMBER:
C - 2

5493

Section 9

Watershed Plans

Pre-Development Drainage Plan
Pre-Development Soils Plan
Post-Development Drainage Plan
Post-Development Soils Plan

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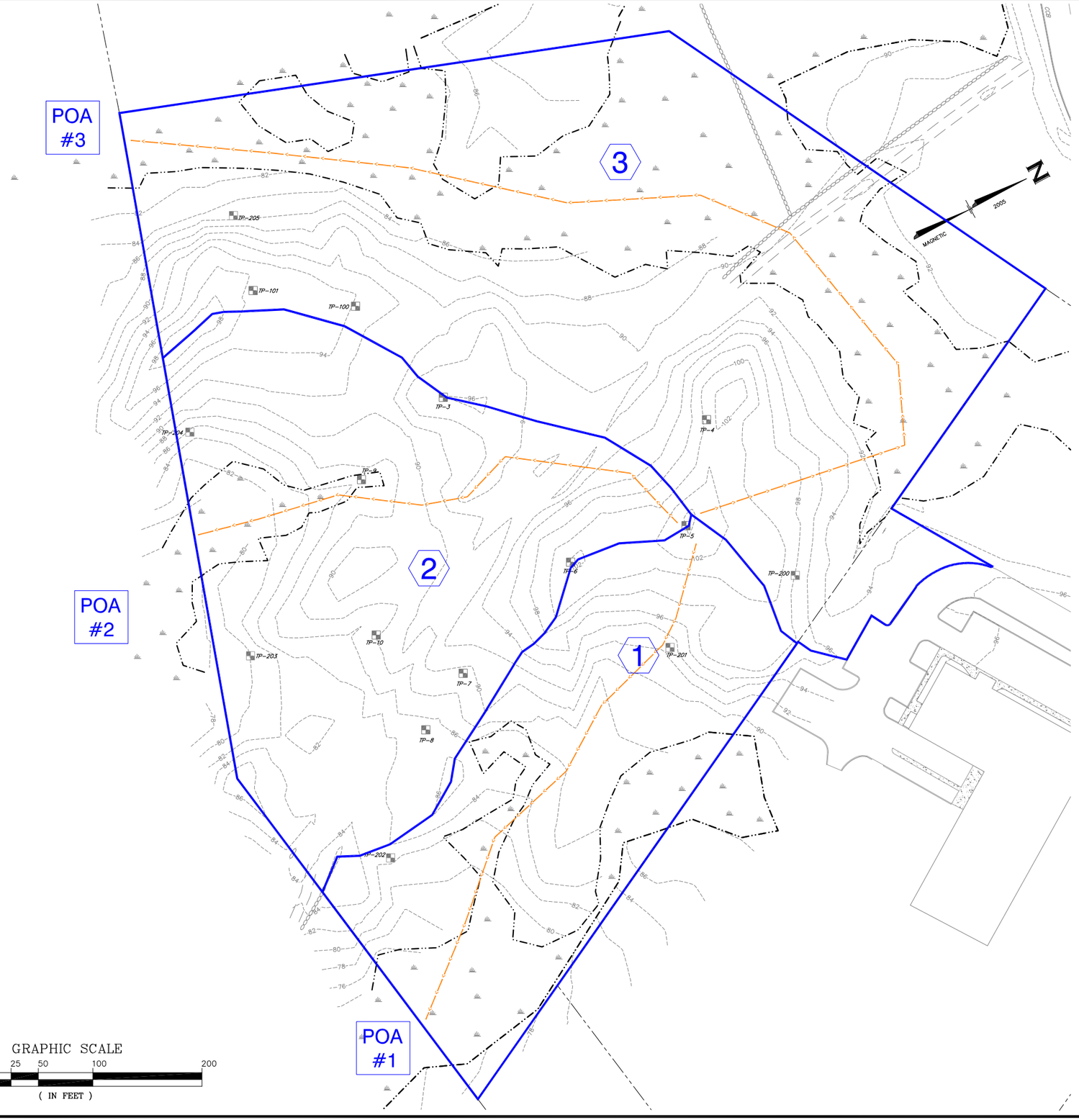

LEGEND

- PROPERTY LINE
- 60 EXISTING CONTOUR
- WATERSHED BOUNDARY
- Tc PATH
- 1 1 1 SUBCATCHMENT/POND/REACH
- POA POINT OF ANALYSIS

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)

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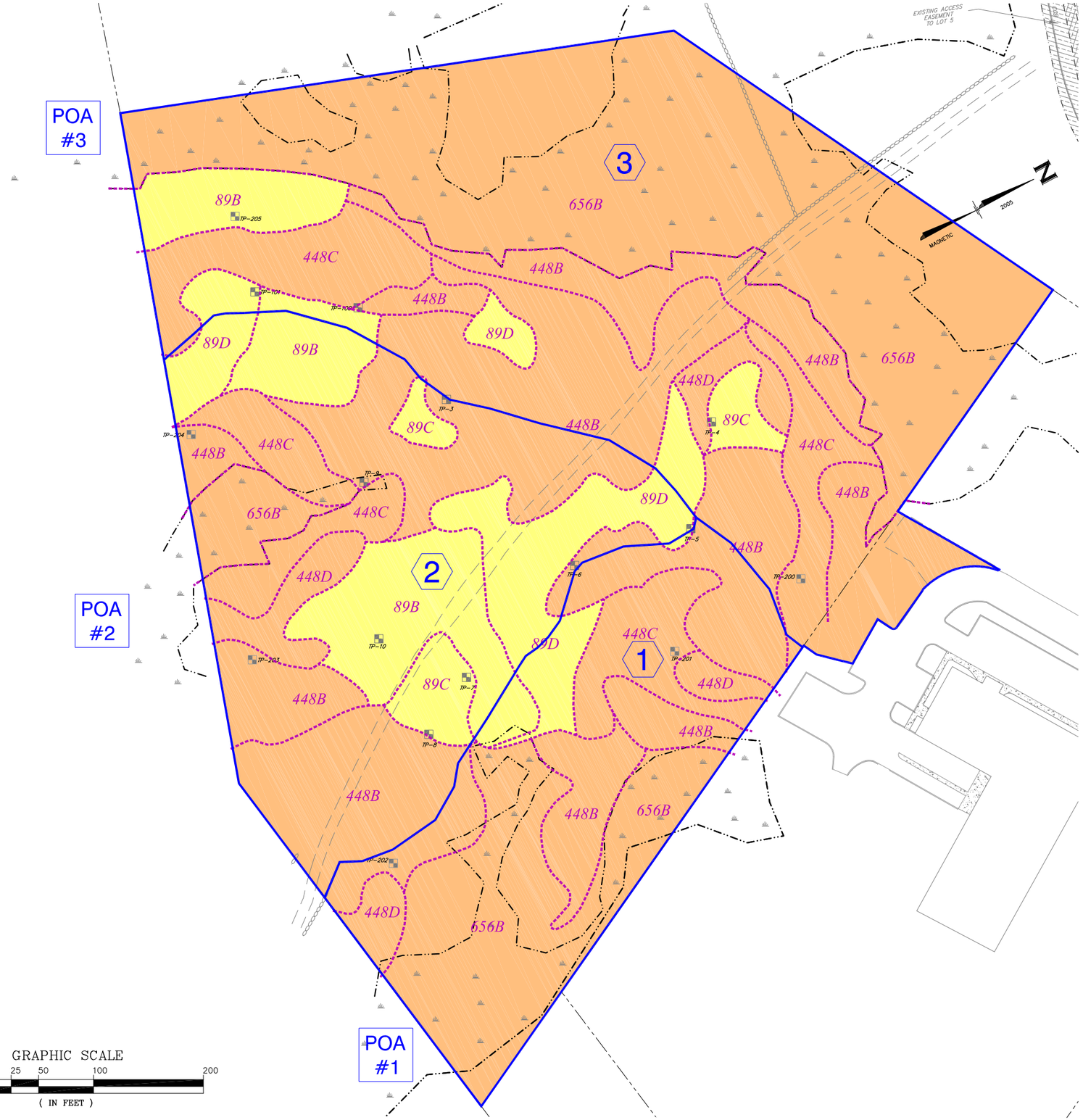
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
SINGH REALTY
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
PRE-DEVELOPMENT WATERHSED PLAN

SHEET NUMBER:
WS - 1

P5493



LEGEND

- WATERSHED BOUNDARY
- 1 1 1 SUBCATCHMENT/POND/REACH
- POA POINT OF ANALYSIS
- SOILS – HSG B
- SOILS – HSG C

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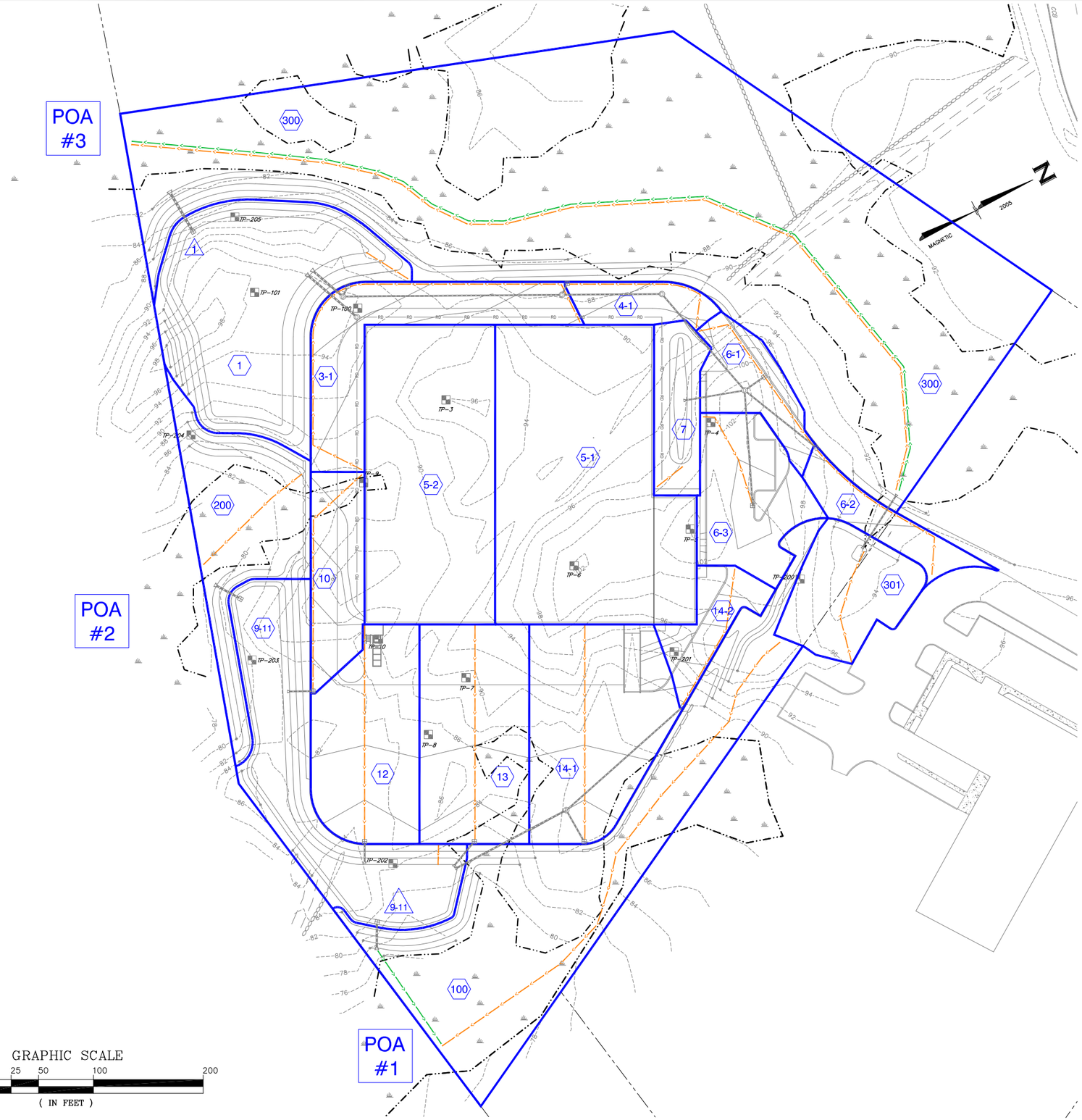
6 FONDI ROAD
HAVERHILL, MA 01832

PROJECT:
SINGH REALTY
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
PRE-DEVELOPMENT SOILS PLAN

SHEET NUMBER:
WS - 2

P5493



LEGEND

- PROPERTY LINE
- 60 EXISTING CONTOUR
- PROPOSED CONTOUR
- WATERSHED BOUNDARY
- Tc PATH
- REACH
- LIMIT OF DISTURBANCE/CLEARING
- PROPOSED GROUND SLOPE DIRECTION
- 1 1 1 SUBCATCHMENT/POND/REACH
- POA POINT OF ANALYSIS

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

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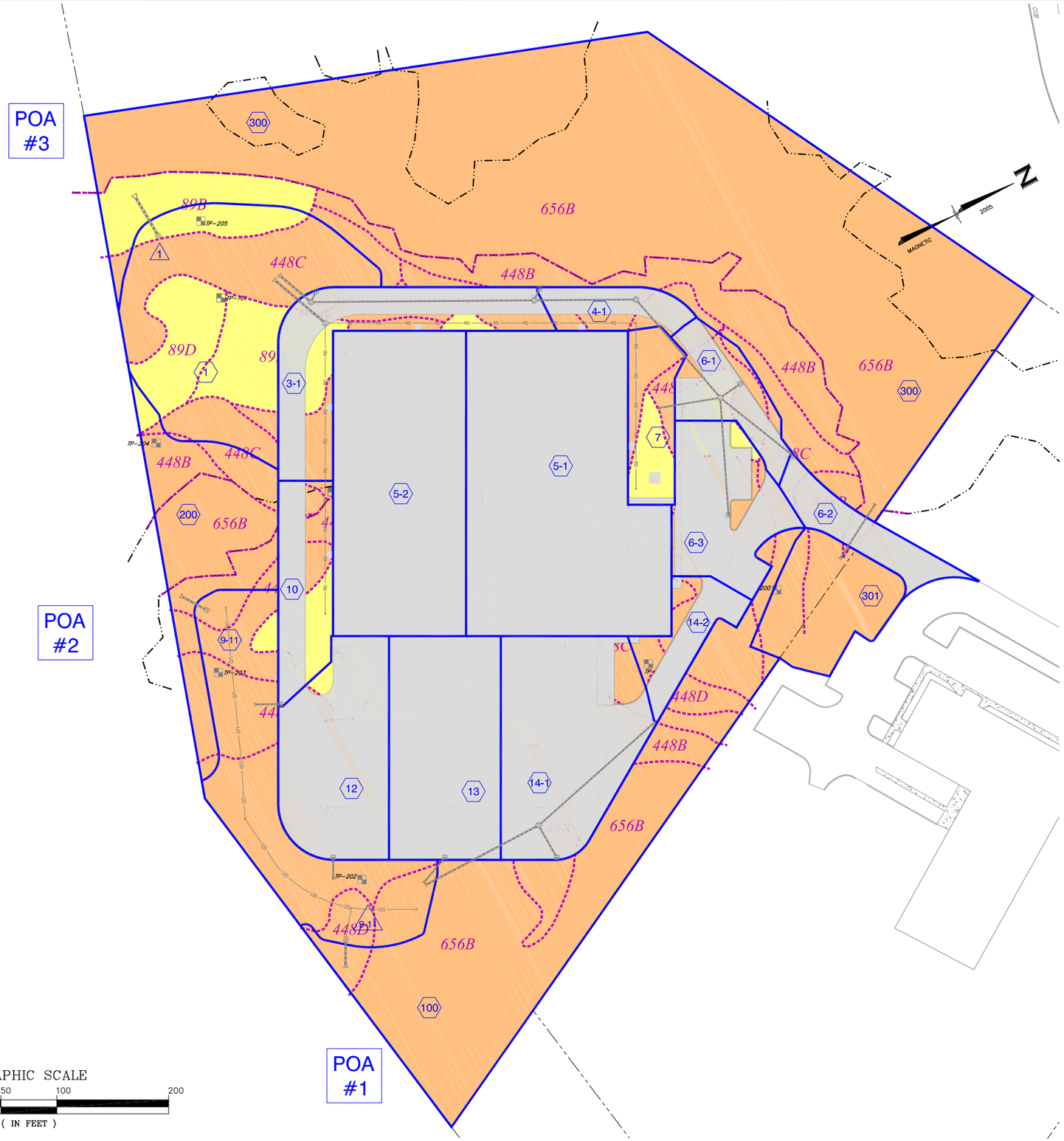
HAVERHILL, MA 01832

PROJECT:
SINGH REALTY
TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
POST-DEVELOPMENT WATERSHED PLAN

SHEET NUMBER:
WS - 3

P5493



LEGEND

- WATERSHED BOUNDARY
- 1 1 1 SUBCATCHMENT/POND/REACH
- POA POINT OF ANALYSIS
- SOILS – HSG B
- SOILS – HSG C
- SOILS – IMPERVIOUS

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PROJECT:
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TAX MAP 46, LOT 7
19 CONTINENTAL DRIVE
EXETER, NH 03833

TITLE:
POST-DEVELOPEMNT SOILS PLAN

SHEET NUMBER:
WS - 4

P5493