



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



109

October 28, 2024

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, NH 03301

REQUESTED ACTION

Approve Cardigan Mountain School's request to perform the following work on Canaan Street Lake in Canaan pursuant to NH Department of Environmental Services (NHDES) Wetlands Bureau permit #2024-01210, and in accordance with RSA 482-A:3. No comments were submitted by the Canaan Conservation Commission regarding the project as proposed.

Impact 1,270 square feet along 133 linear feet of shoreline in order to construct a 1,101 square foot perched beach, install a 12 foot x 50 foot seasonal dock connected to shore via a 12 foot x 20 foot walkway on an average of 4,482 feet of frontage along Canaan Street Lake in Canaan.

NHDES imposed the following conditions as part of this approval:

1. In accordance with Env-Wt 307.16, all work shall be done in accordance with the revised plans, revision dated August 2024 by Horizons Engineering, as received by the NH Department of Environmental Services (NHDES) on August 19, 2024.
2. This permit shall not be effective until it has been recorded in the Grafton County Registry of Deeds and a copy of the recorded permit has been provided to the department as required pursuant to RSA 482-A:3, and Env-Wt 314.02.
3. Any subdivision of the property frontage will require removal of a sufficient portion of the docking structures to comply with the dock size and density requirements in effect at the time of the subdivision as required to maintain compliance with Env-Wt 314.02 and Env-Wt 513.12.
4. Only those structures shown on the approved plans shall be installed or constructed along this frontage as required per Env-Wt 513.22, (a).
5. All portions of the docking structures shall be located at least 20 feet from the abutting property lines and no watercraft shall be secured to the docking facility such that it crosses over the imaginary extension of the property lines over the surface water as required by RSA 482-A:3, XIII.
6. All seasonal structures shall be removed for the non-boating season as required per Env-Wt 513.22.
7. The seasonal dock shall be removed from the water prior to applying any paint, stain, or other preservative coating, and not returned to the water until after such coating is dry as required per Env-Wt 513.22(b)(4).
8. The owner understands and accepts that should these docking structures be found to have an unreasonable impact on the ability of abutting owners to use and enjoy their properties or the public's right to navigation, passage, and use of the resource for commerce and recreation the structures shall be subject to removal pursuant to RSA 482-A:1, RSA 482-A:11, II, and Env-Wt 513.03(a).

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095

NHDES Main Line: (603) 271-3503 • Subsurface Fax: (603) 271-6683 • Wetlands Fax: (603) 271-6588

TDD Access: Relay NH 1 (800) 735-2964

9. All development activities associated with any project shall be conducted in compliance with applicable requirements of RSA 483-B and Env-Wq 1400 during and after construction as required pursuant to RSA 483-B:3.
10. Pursuant to RSA 483-B:9, V(a)(2)(D), (v), this permit does not authorize the removal of trees or saplings within the waterfront buffer that would result in a tree and sapling point score below the minimum required per RSA 483-B:9, V(a)(2)(D), (iv).
11. Work authorized shall be carried out in accordance with Env-Wt 307 such that appropriate turbidity controls are in place to protect water quality, that no turbidity escapes the immediate dredge area, and that appropriate turbidity controls shall remain until suspended particles have settled and water at the work site has returned to normal clarity.
12. All construction-related debris shall be placed outside of those areas subject to RSA 482-A or RSA-483-B unless a permit for the deposition of materials within those areas has been obtained as required per RSA 482-A:3 or RSA 483-B:5-b respectively.
13. Pursuant to RSA 482-A:14, RSA 482-A:14-b, and RSA 482-A:14-c, NHDES is authorized to take appropriate compliance actions should it be determined that, based upon additional information which becomes available, any of the structures depicted as "existing" on the plans submitted by or on behalf of the permittee were not previously permitted or grandfathered.

EXPLANATION

NHDES approved this project on September 17, 2024. NHDES supported its decision with the following findings:

1. This is a major impact project per Administrative Rule Env-Wt 513.24(c), the proposed dock is part of a docking system providing five or more slips on the frontage.
2. The applicant has an average of 4,482 feet of frontage along Canaan Street Lake.
3. A maximum of 60 slips may be permitted on this frontage per Rule Env-Wt 513.12, Frontage Requirements for Private and Non-commercial Docking Structures.
4. The pre-existing and proposed docking structures will provide a total of 19 slips as defined per RSA 482-A:2, VIII, and therefore meets Rule Env-Wt 513.12.
5. The NHDES finds that because the project is not of significant public interest and will not significantly impair the resources of Canaan Street Lake, a public hearing under RSA 482-A:8 is not required.
6. No concerns were received from abutters, nor the local Conservation Commission related to the project.
7. The proposed perched beach exceeds the criteria of Rule Env-Wt 511.04, (k), Water Access Structure Design Requirements, as it impacts more than 50 feet of the shoreline.
8. The applicant has requested a waiver of Rule Env-Wt 511.04, (k), in order to construct a 75 foot x 15 foot irregular shaped beach as provided under Rule Env-Wt 204, Waivers.
9. The applicant has submitted evidence supporting that the requested 75 foot x 15 foot irregular shaped beach is an operational necessity for the camp to support the quantity of people using the frontage.
10. The applicant has demonstrated that granting the waiver will have no adverse effect on the environment, natural resources of the state, public health, public safety, nor impacts to abutting properties more significant than that which would result from complying with the rule as required to meet Rule Env-Wt 204.05, Criteria, (a)(1).

11. The applicant has demonstrated that strict compliance with Rule Env-Wt 513.11, (a), (2) will provide no benefit to the public and will provide an operational impact to the applicant as required to meet Rule Env-Wt 204.05, Criteria, (a)(2).
12. The request for a waiver meets the requirements of Rule Env-Wt 204.05, Criteria, and therefore, the waiver Rule Env-Wt 513.11, (a), (2) is granted.
13. The proposed 12 foot x 70 foot seasonal pier and walkway fails to conform to the 6 foot maximum width and 30 foot maximum length of seasonal docking structures allowed pursuant to Rule Env-Wt 513.11, (a), (2), Dimensions of Docking Structures.
14. The applicant has requested a waiver of Rule Env-Wt 513.11, (a), (2) in order to install a 12 foot x 70 foot seasonal pier as provided under Rule Env-Wt 204, Waivers.
15. The applicant has submitted evidence supporting that the requested 12 foot x 70 foot seasonal pier is an operational necessity for the unique usage of the pier.
16. The applicant has demonstrated that granting the waiver will have no adverse effect on the environment, natural resources of the state, public health, public safety, nor impacts to abutting properties more significant than that which would result from complying with the rule as required to meet Rule Env-Wt 204.05, Criteria, (a)(1).
17. The applicant has demonstrated that strict compliance with Rule Env-Wt 513.11, (a), (2) will provide no benefit to the public and will provide both an operational and economic impact to the applicant as required to meet Rule Env-Wt 204.05, Criteria, (a)(2).
18. The request for a waiver meets the requirements of Rule Env-Wt 204.05, Criteria, and therefore, the waiver Rule Env-Wt 513.11, (a), (2) is granted.
19. The NHDES finds that the project as proposed and conditioned meets the requirements of RSA 482-A and the Wetlands Program Code of Administrative Rules Chapters Env-Wt 100 - 900. No waivers of RSA 482-A were requested or approved under this permit action.

NHDES Wetlands Bureau permit #2024-01210 application documents are enclosed for review by the Governor and the Executive Council in consideration of this request and in accordance with RSA 482-A:3, II(a), as it is a major project located in New Hampshire public waters.

We respectfully request your approval of this item.



Robert R. Scott
Commissioner



**STANDARD DREDGE AND FILL
WETLANDS PERMIT APPLICATION**
Water Division/Land Resources Management
Wetlands Bureau



[Check the Status of your Application](#)

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: Cardigan Mountain School

TOWN NAME: Canaan

		File No.: 2024 01210
		Check No.: 102825
		Amount: 1751.60
		Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the [Waiver Request Form](#).

<p>SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))</p> <p>Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: priority resource areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.</p>	
<p>Has the required planning been completed?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Does the property contain a PRA? If yes, provide the following information:</p> <ul style="list-style-type: none"> • Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHFG) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04. • Protected species or habitat? <ul style="list-style-type: none"> ○ If yes, species or habitat name(s): ○ NHB Project ID #: NHB24-0572 • Bog? • Floodplain wetland contiguous to a tier 3 or higher watercourse? • Designated prime wetland or duly-established 100-foot buffer? • Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone? 	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>Is the property within a Designated River corridor? If yes, provide the following information:</p> <ul style="list-style-type: none"> • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: Day: Year: 	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

lrn@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): NA	
SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))	
Provide a brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.	
The Client is planning improvements to the waterfront area on Canaan Lake near the Wakely Center on the Cardigan Mountain School campus. The improvements are to support the new crew program and are anticipated to include a boat storage building, upgrades to existing waterfront buildings, removal of a covered deck on the water, new perched beach, modified docking, and bench seating along the grassed slope with a patio and fire pit area.	
SECTION 3 - PROJECT LOCATION	
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: 62 Alumni Drive	
TOWN/CITY: Canaan	
TAX MAP/BLOCK/LOT/UNIT: I-E 26	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Canaan Street Lake <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	° North ° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))			
If the applicant is a trust or a company, then complete with the trust or company information.			
NAME: Cardigan Mountain School; ATTN: Tim Jennings			
MAILING ADDRESS: [REDACTED]			
TOWN/CITY: [REDACTED]		STATE: [REDACTED]	ZIP CODE: [REDACTED]
EMAIL ADDRESS: [REDACTED]			
FAX:		PHONE: 603-523-3536	
ELECTRONIC COMMUNICATION: By initialing here: TJ, I hereby authorize NHDES to communicate all matters relative to this application electronically.			
SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))			
<input type="checkbox"/> N/A			
LAST NAME, FIRST NAME, M.I.: Banaszak, Caitlin			
COMPANY NAME: Horizons Engineering			
MAILING ADDRESS: 176 Newport Road, Suite 8			
TOWN/CITY: New London		STATE: NH	ZIP CODE: 03257
EMAIL ADDRESS: cbanaszak@horizonsengineering.com			
FAX:		PHONE: 603-444-4111	
ELECTRONIC COMMUNICATION: By initialing here CB, I hereby authorize NHDES to communicate all matters relative to this application electronically.			
SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))			
If the owner is a trust or a company, then complete with the trust or company information.			
<input checked="" type="checkbox"/> Same as applicant			
NAME:			
MAILING ADDRESS:			
TOWN/CITY:		STATE:	ZIP CODE:
EMAIL ADDRESS:			
FAX:		PHONE:	
ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.			

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach Information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):
 Wetlands we delineated by NH Certified Wetland Scientist, Caitlin Banaszak, on January 5, 2024. Forested and Scrub-Shrub wetland areas were identified in the project area, however, these areas are not proposed to be impacted.

The wetland impacts proposed in this permit are associated with the construction of a perched beach within the existing sand beach area (101 sf Permanent and 78 Temporary Impacts below Top of Bank), and a new 600 SF seasonal dock with a 240 SF ramp extending from land to the dock (840 sf total). The relevant portion of Canaan Street Lake is classified as L2UBH.

The perched beach design adheres to Env-Wt 511.06 rules and NHDES guidelines for building perched beaches.

In accordance with Env-Wt 513.08, Cardigan Mountain School has provided a statement explaining why the new proposed dock needs to exceed the dimensions specified in Env-Wt 513.11 and why the existing seasonal dock is not correctly sized for a competitive rowing program, however, this existing dock will remain in use for other school needs (swimming, summer programs, etc.).

Since only 840 SF new docking and 179 SF total perched beach impacts are proposed, mitigation is not required.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#) and the [Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet](#). For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the [Avoidance and Minimization Checklist](#), the [Avoidance and Minimization Narrative](#), or your own avoidance and minimization narrative.

*See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation [pre-application meeting](#) must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

N/A - Mitigation is not required

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: I confirm submittal.

N/A - Compensatory mitigation is not required

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/ivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River			<input type="checkbox"/>			<input type="checkbox"/>
	Lake / Pond	101		<input type="checkbox"/>	78		<input type="checkbox"/>
	Docking - Lake / Pond	840		<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
TOTAL		941			78		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

MINIMUM IMPACT FEE: Flat fee of \$400.

NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION: Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).

MINOR OR MAJOR IMPACT FEE: Calculate using the table below:

Permanent and temporary (non-docking):	179 SF	× \$0.40 =	\$ 71.60
Seasonal docking structure:	840 SF	× \$2.00 =	\$ 1,680
Permanent docking structure:	SF	× \$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =			\$
Total =			\$

irm@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 1,751.60

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)
 Indicate the project classification.

Minimum Impact Project Minor Project Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: CB
 To the best of the signer's knowledge and belief, all required notifications have been provided.

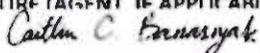
Initials: CB
 The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.

Initials: CB
 The signer understands that:

- The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:
 1. Deny the application.
 2. Revoke any approval that is granted based on the information.
 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
- The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.
- The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.

Initials: CB
 If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: Tim P. Jennings	DATE: 4/24/24
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): _____	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT IF APPLICABLE): 	PRINT NAME LEGIBLY: Caitlin Banaszak	DATE: 04/23/24

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: <i>Ann M. Labrie</i>	PRINT NAME LEGIBLY: <i>Ann M. Labrie</i>
TOWN/CITY: <i>Lancaster</i>	DATE: <i>May 1, 2024</i>

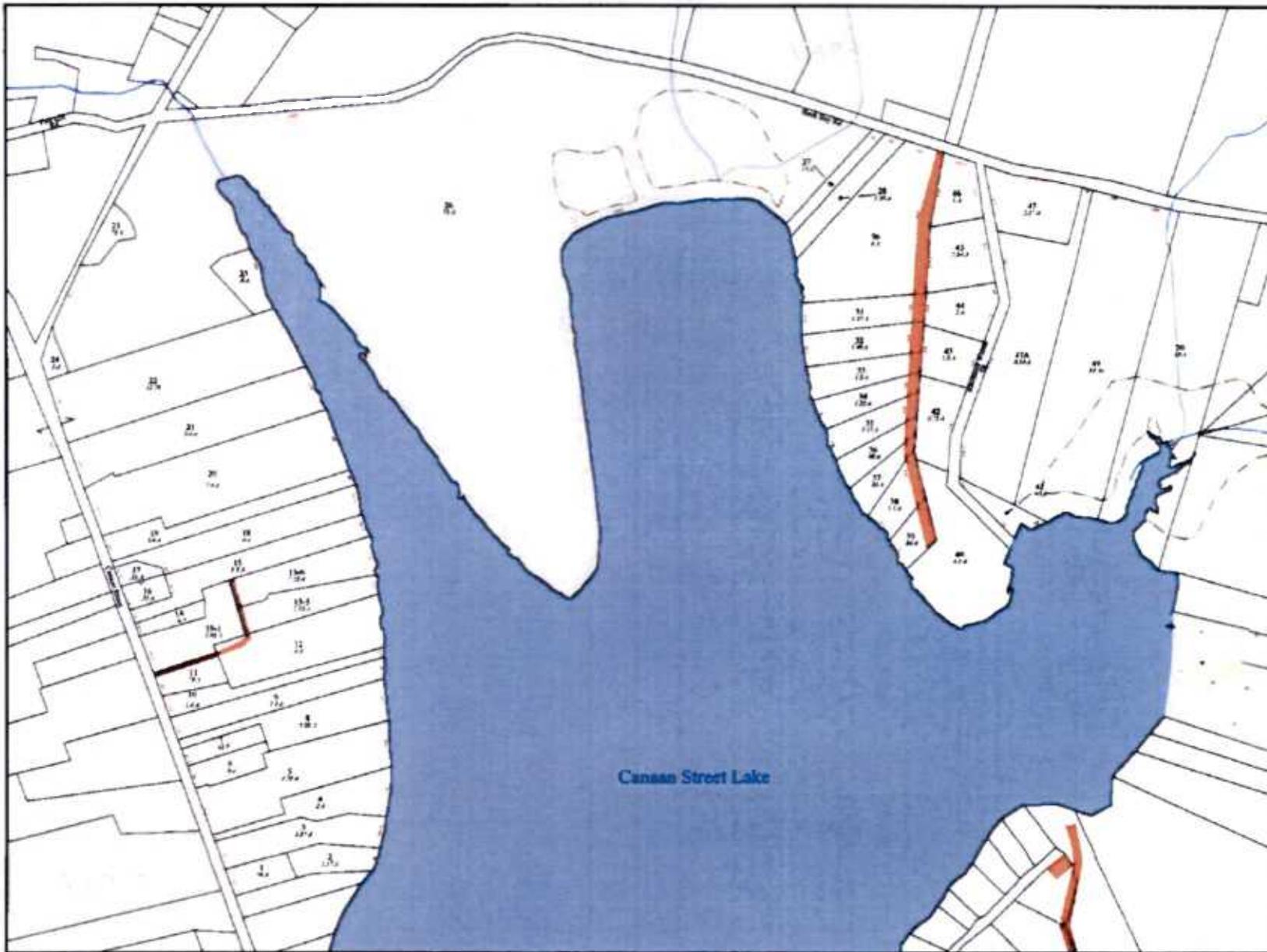
DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, l(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer – State of NH".



**PROPERTY MAP
FOR
CANAAN
GRAFTON COUNTY
NEW HAMPSHIRE**

LEGEND

PARCEL INFO
 6-4 Lot-Sub
 S.F.A.S Parcel Acreage
 1- Gradient, 2- Turn of Dimension (Feet)
 200 Map Boundary

WATER FEATURES
 Rivers and Brooks
 Lakes and Ponds

ROADS
 ROW
 Not Maintained

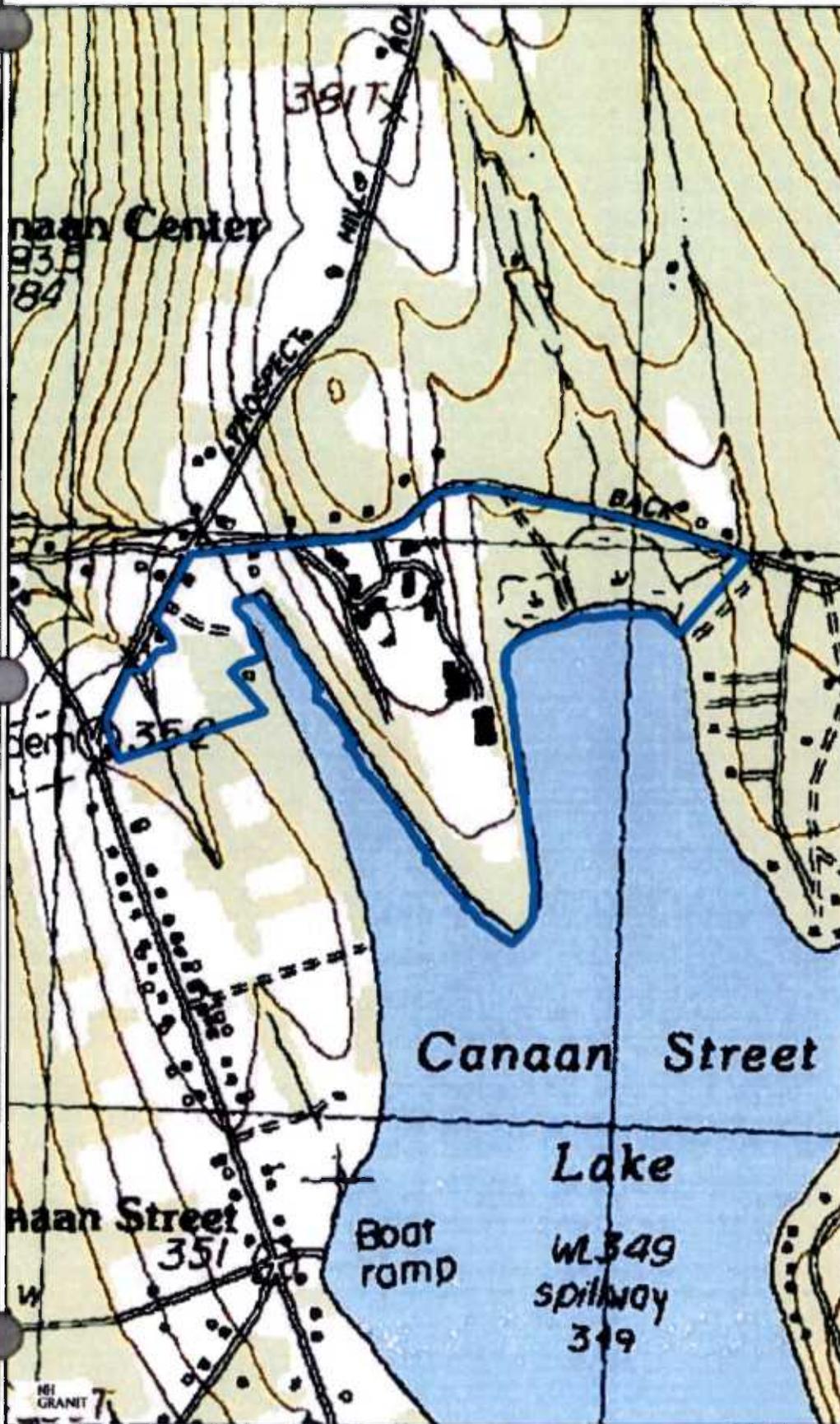
LAND
 Town
 State

Scale
 FEET
 0 200 400 600 800

FOR ASSESSMENT PURPOSES ONLY
 NOT TO BE USED FOR CONVEYANCES
 REVISED APRIL 1, 2019

Terra-Map
 A [unclear] of [unclear] Inc.
MAP I-E

USGS Topo



Legend

- State
- County
- City/Town

Map Scale

1: 10,000

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Map Generated: 3/7/2024



Notes



**New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter**

To: Drew MacDermott, Horizons Engineering, Inc.
176 Newport Road
Suite 8
New London, NH 03257

From: NH Natural Heritage Bureau
Date: 3/5/2024 (valid until 3/5/2025)
Re: Review by NH Natural Heritage Bureau of request submitted 2/23/2024
Permits: MUNICIPAL POR - Canaan, NHDES - Alteration of Terrain Permit, NHDES - Seasonal Dock, Trails and Culvert Repair and Replacement Statutory Permit by Notification (SPN), NHDES - Shoreland Standard Permit, NHDES - Wetland Standard Dredge & Fill - Minor

NHB ID: NHB24-0572

Applicant: Drew MacDermott

Location: Canaan
62 Alumni Drive

Project

Description: Waterfront improvements in support of the new school crew program, including a boat storage building, upgrades to existing waterfront buildings, removal of existing covered deck at water, new perched beach, modified docking, and fire pit and patio with bench seating.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 2/23/2024 11:06:47 AM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: NHB24-0572

NHB24-0572



SSICA WARREN
11A WHITE MOUNTAIN HIGHWAY
RTH CONWAY NH 0

CERTIFIED MAIL



9407 1112 0620 4191 9797 33

\$5.040
US POSTAGE
FIRST CLASS
FROM 03857
04/28/2024
stamps
on file

0628001463277



SUZANNE & JOHN FISKE III, TTEES



ISSICA WARREN
641A WHITE MOUNTAIN HIGHWAY
NORTH CONWAY NH 03860

CERTIFIED MAIL



9407 1112 0620 4191 9788 63

MICHAEL ROY



\$5.04
US POSTAGE
FIRST-CLASS
FROM 03857
04/26/2024
stamps
enclos



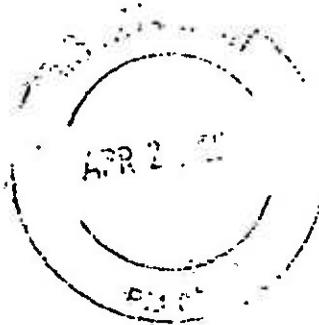
ISSICA WARREN
641A WHITE MOUNTAIN HIGHWAY
NORTH CONWAY NH 03860

CERTIFIED MAIL



9407 1112 0620 4191 8782 68

NANCY ROSENTHAL



\$5.04
US POSTAGE
FIRST-CLASS
FROM 03857
04/26/2024
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CARDIGAN MOUNTAIN SCHOOL

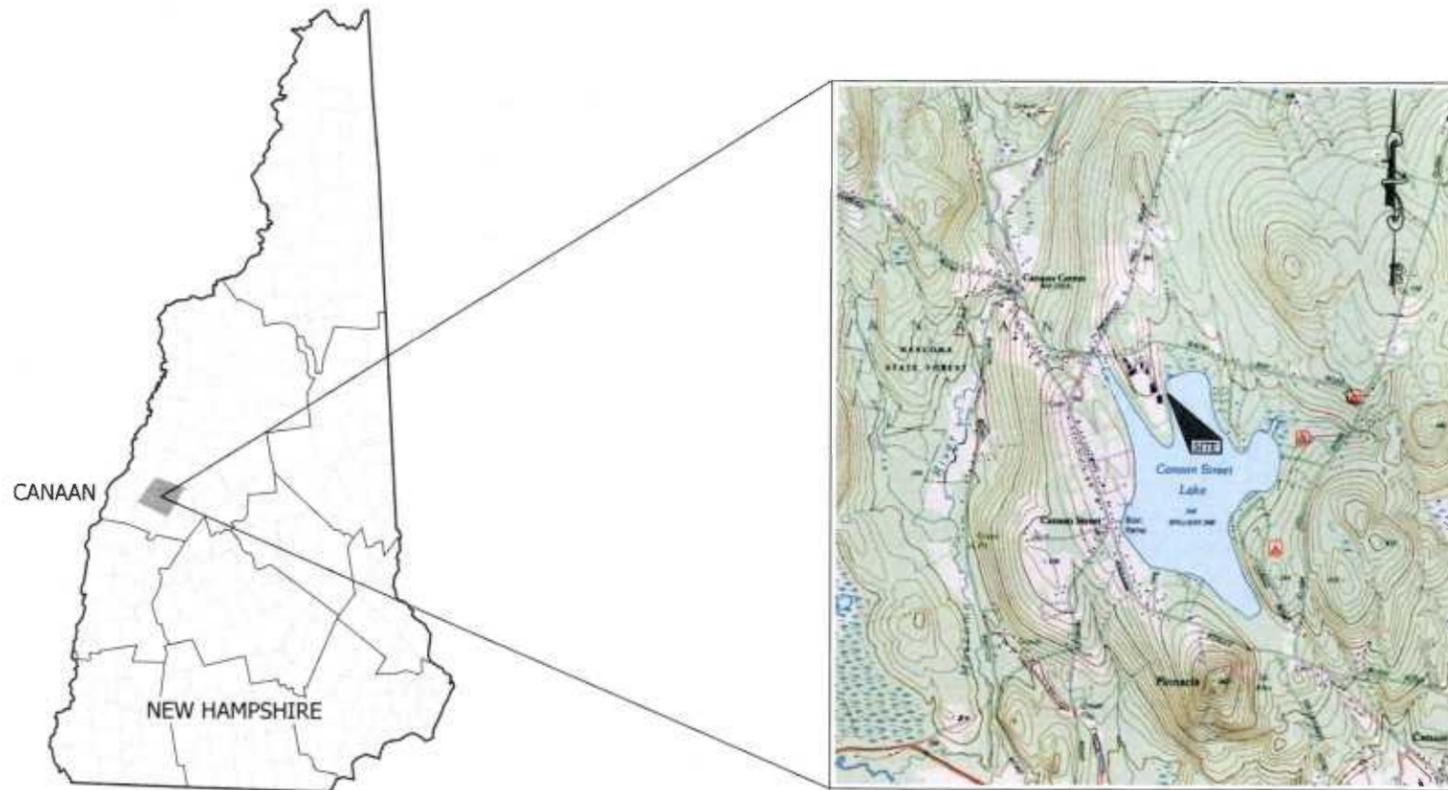
WATERFRONT IMPROVEMENTS

CANAAN, NEW HAMPSHIRE

APRIL 2024

PRELIMINARY DESIGN AND PERMITTING PLANSET

REVISED AUGUST 19, 2024



LOCATION PLAN

SCALE: 1" = 2000'

OWNER:

CARDIGAN MOUNTAIN SCHOOL
62 ALUMNI DRIVE
CANAAN, NH 03741
(603) 523-3536

TOPOGRAPHIC SURVEYOR:

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET
SUITE 100
LEBANON, NH 03766
(603) 448-2200

**ENGINEER, SURVEYOR
& WETLAND SCIENTIST:**

horizons
Engineering
34 SCHOOL STREET
LITTLETON, NH 03561
(603) 444-4111

RECORD UTILITY SURVEYOR:

STEVENS ENGINEERING, INC.
PO BOX 1945
NEW LONDON, NH 03257
(603) 526-2493

LANDSCAPE ARCHITECT:

GRADIENT, PLLC
P.O. BOX 311
NEW LONDON, NH 03257
(603) 344-2868

SOIL SCIENTIST:

LUKE HURLEY, CSS #095
BSC GROUP, INC.
803 SUMMER STREET
BOSTON, MA 02127
(617) 896-4300

SHEET LIST:

- COVER SHEET
- OVERVIEW PLAN
- △ C1.0
- C1.1 EXISTING CONDITIONS PLAN
- C2.1 PROPOSED SITE PLAN - GRADING, UTILITIES, DRAINAGE AND EROSION CONTROL
- C2.2 PROPOSED PERCHED BEACH CLOSE-UP PLAN (5' SCALE)
- C3.1 CONSTRUCTION SEQUENCE, EROSION CONTROL NOTES AND DETAILS
- C3.2 BIORETENTION BASIN DETAILS
- C3.3-3.4 CONSTRUCTION DETAILS

PERMIT NOTES

IT IS THE OWNERS RESPONSIBILITY TO INSURE ALL PERMITS ARE IN PLACE PRIOR TO CONSTRUCTION.

THIS PROJECT SHALL COMPLY WITH ALL CONDITIONS OF ALL PERMITS FOR THE PROJECT. COPIES OF THESE PERMITS MAY BE REQUESTED FROM THE HORIZONS ENGINEERING OFFICE IN NEW LONDON, NH. PERMITS LISTED BELOW ARE REPRESENTATIVE OF PROJECT PERMITTING COLLECTED BY HORIZONS ENGINEERING. ALL REQUIRED PERMITS SHALL BE COLLECTED AND VERIFIED BY THE GENERAL CONTRACTOR.

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES	
ALTERATION OF TERRAIN	PENDING
SEASONAL DOCK	PENDING
WETLAND IMPACTS	PENDING
SHORELAND IMPACT PERMIT	APPROVED, #2024-01156

PROJECT SPECIFIC PERMIT NOTES:

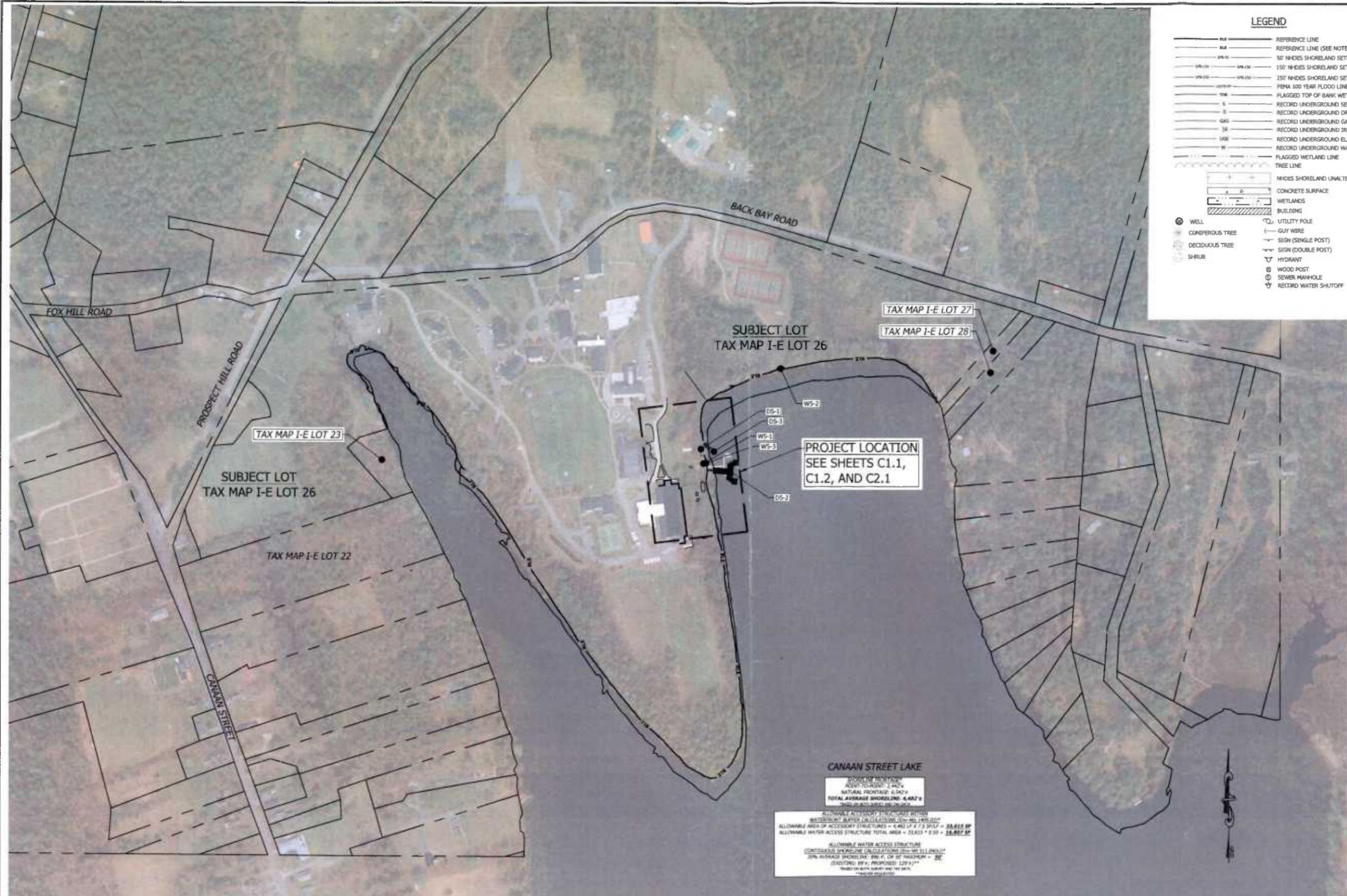
1. THIS PROJECT REQUIRES DETAILED STORMWATER TREATMENT SYSTEM(S) MEETING NHDES ALTERATION OF TERRAIN (AOT) RULE Env-Wq 1507.03, POLLUTANT DISCHARGE MINIMIZATION REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE ENGINEER AN ANTICIPATED SCHEDULE FOR ALL STORMWATER TREATMENT SYSTEM INSTALLATION(S) AT LEAST 30 DAYS IN ADVANCE OF ANY INSTALLATION, OR AS SOON AS PRACTICABLE. THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON ANY CHANGES TO THE SCHEDULE.
- PURSUANT TO Env-Wq 1503.21(c), FAILURE TO CONTACT THE ENGINEER (WILL DAVIS, PE; 603-444-4111; WDAVIS@HORIZONSENGINEERING.COM) FOR ON-SITE INSPECTIONS DURING CONSTRUCTION MAY RESULT IN RE-WORK OR REPAIR SOLELY AT THE CONTRACTOR'S EXPENSE.

NEW HAMPSHIRE AOT PERMIT WILDLIFE PROTECTION NOTES:

1. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: **NHB24-0573, CMS WATERFRONT IMPROVEMENTS, Wildlife Species Observations (AOT FILE NO. 240430-085)**. PHOTOGRAPHS SHALL BE PROVIDED FOR VERIFICATION AS MOST FEASIBLE; AND
2. 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; AND
3. 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, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04; AND
4. THE NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT; AND
5. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, AND INLET PROTECTION, CHECK DAMS, SEDIMENT TRAPS, AND SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH.

DATE OF PRINT
AUGUST 19 2024
HORIZONS ENGINEERING

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LEGEND

- REFERENCE LINE
- REFERENCE LINE (SEE NOTE 7)
- 50' NHDES SHORELAND SETBACK
- 150' NHDES SHORELAND SETBACK
- 250' NHDES SHORELAND SETBACK
- FEMA 100 YEAR FLOOD LINE
- FLAGGED TOP OF BANK WETLAND LINE
- RECORD UNDERGROUND SEWER LINE
- RECORD UNDERGROUND DRAIN LINE
- RECORD UNDERGROUND GAS LINE
- RECORD UNDERGROUND IRRIGATION LINE
- RECORD UNDERGROUND ELECTRIC LINE
- RECORD UNDERGROUND WATER LINE
- FLAGGED WETLAND LINE
- TREE LINE

NHDES SHORELAND UNALTERED AREA
 CONCRETE SURFACE
 WETLANDS
 BUILDING
 UTILITY POLE
 GUY WIRE
 SIGN (SINGLE POST)
 SIGN (DOUBLE POST)
 HYDRANT
 WOOD POST
 SEWER MANHOLE
 RECORD WATER SHUTOFF

CANAAN STREET LAKE

SCOURING POLYLOGIC
 ADJUSTMENT: 2.442'
 NATURAL PROPORTION: 6.042%
 TOTAL AVERAGE SHORELINE: 4.442'
 SHORELAND UNALTERED AREA: 100,000 SQ FT

ALLOWABLE ACCESSORY STRUCTURE WIDTH
 WATERFRONT BEACH CALCULATION: 100' x 1.45 = 145.00'
 ALLOWABLE AREA OF ACCESSORY STRUCTURES = 4.982 LF x 7.0 345 LF = 25,615 SF
 ALLOWABLE WATER ACCESS STRUCTURE TOTAL AREA = 25,615 SF x 0.30 = 7,684 SF

ALLOWABLE WATER ACCESS STRUCTURE
 CONTRACTOR SHORLINE CALCULATION: 100' x 1.45 = 145.00'
 50% AVERAGE SHORELINE: 800 FT. OR 10' MAXIMUM = 80'
 LENGTH OF BEACH: PROPOSED 120' x 11'
 100' x 10' x 10' x 10' x 10' x 10'

WATER ACCESS STRUCTURES

WS-1 EXISTING STUDENT WATERFRONT BEACH, 34'± LINEAR FEET (TO BE DEMOLISHED & REPLACED BY WS-3)
 WS-2 EXISTING FACULTY WATERFRONT BEACH, 55'± LINEAR FEET
 WS-3 PROPOSED STUDENT WATERFRONT BEACH, 74'± LINEAR FEET
 *NO OTHER WATER ACCESS STRUCTURES ARE KNOWN TO EXIST

DOCKING STRUCTURES

DS-1 EXISTING SAILBOAT LAUNCH RAMP, 191± SQUARE FEET
 DS-2 EXISTING SWIMMING & SAILING SEASONAL DOCK, 1,226± SQUARE FEET, 15 EXISTING SLIP CAPACITY
 DS-3 PROPOSED ROWING PROGRAM SEASONAL DOCK, 1,226± SQUARE FEET, 4 SLIP CAPACITY
 *NO OTHER DOCKING STRUCTURES ARE KNOWN TO EXIST



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NO.	DATE	REVISION DESCRIPTION	ENG.	CHK.	APP.
1	08/19/2024	ISSUED FOR PERMIT			

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CARDIGAN MOUNTAIN SCHOOL
WATERFRONT IMPROVEMENTS
GRAFTON COUNTY, NEW HAMPSHIRE

PROJECT #:	231081
DATE:	MARCH 2024
ENGINEER BY:	WJM
DRAWN BY:	DHW
CHECKED BY:	WTD
ARCHIVE #:	H-1000

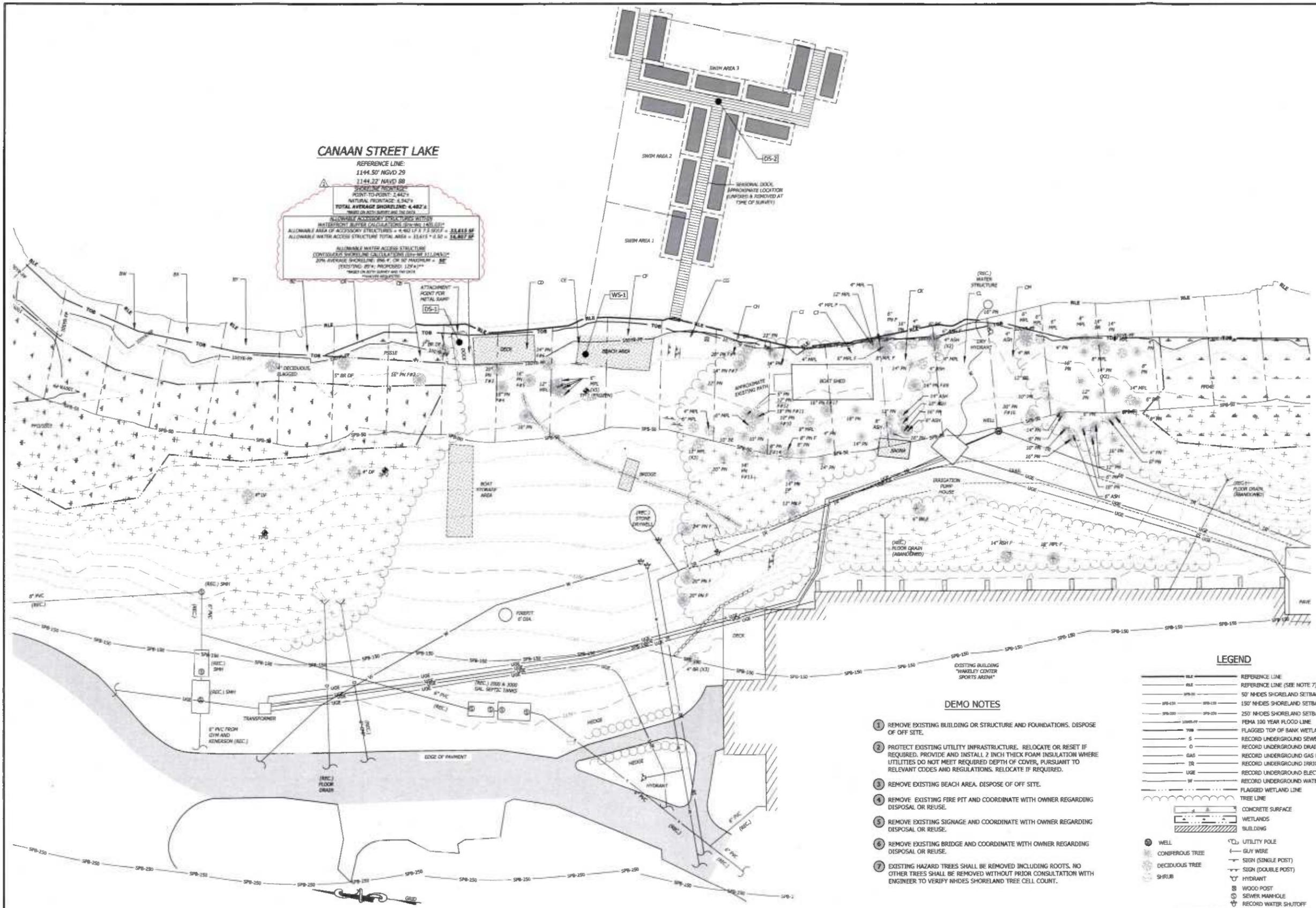
SHEET C1.0

OVERVIEW PLAN

DATE OF PRINT
AUGUST 19, 2024
HORIZONS ENGINEERING
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CANAAN STREET LAKE

REFERENCE LINE:
1144.50' NAVD 29
1144.22' NAVD 88
SHORELINE POINT-TO-POINT: 2.442'
NATURAL PROPORTION: 1.5:1
TOTAL AVERAGE SHORELINE: 4,482' L
ALLOWABLE ACCESSORY STRUCTURES WITHIN
INTERPOLATED BUFFER CALCULATIONS: 57,900 SF
ALLOWABLE AREA OF ACCESSORY STRUCTURES: 4,482 LF x 7.5' WIDE = 33,615 SF
ALLOWABLE WATER ACCESS STRUCTURES TOTAL AREA = 15,615' x 0.50' = 7,807 SF
ALLOWABLE WATER ACCESS STRUCTURE
CONTIGUOUS SHORELINE CALCULATIONS (100' WIDE BUFFER):
20% AVERAGE SHORELINE: 20% OF 4,482' = 896.4'
(EXISTING: 89' W. PROPOSED: 120' W.)
BASED ON CITY ZONING AND 100' BUFFER
PROPOSED BUFFER



DEMO NOTES

- REMOVE EXISTING BUILDING OR STRUCTURE AND FOUNDATIONS. DISPOSE OF OFF SITE.
- PROTECT EXISTING UTILITY INFRASTRUCTURE. RELOCATE OR RESET IF REQUIRED. PROVIDE AND INSTALL 2 INCH THICK FOAM INSULATION WHERE UTILITIES DO NOT MEET REQUIRED DEPTH OF COVER, PURSUANT TO RELEVANT CODES AND REGULATIONS. RELOCATE IF REQUIRED.
- REMOVE EXISTING BEACH AREA. DISPOSE OF OFF SITE.
- REMOVE EXISTING FIRE PIT AND COORDINATE WITH OWNER REGARDING DISPOSAL OR REUSE.
- REMOVE EXISTING SIGNAGE AND COORDINATE WITH OWNER REGARDING DISPOSAL OR REUSE.
- REMOVE EXISTING BRIDGE AND COORDINATE WITH OWNER REGARDING DISPOSAL OR REUSE.
- EXISTING HAZARD TREES SHALL BE REMOVED INCLUDING ROOTS. NO OTHER TREES SHALL BE REMOVED WITHOUT PRIOR CONSULTATION WITH ENGINEER TO VERIFY NHDES SHORELAND TREE CELL COUNT.

LEGEND

—	REFERENCE LINE	—	REFERENCE LINE (SEE NOTE 7)
---	50' NHDES SHORELAND SETBACK	---	150' NHDES SHORELAND SETBACK
---	250' NHDES SHORELAND SETBACK	---	FEMA 100 YEAR FLOOD LINE
---	FLAGGED TOP OF BANK WETLAND LINE	---	RECORD UNDERGROUND SEWER LINE
---	RECORD UNDERGROUND SEWER LINE	---	RECORD UNDERGROUND DRAIN LINE
---	RECORD UNDERGROUND GAS LINE	---	RECORD UNDERGROUND IRRIGATION LINE
---	RECORD UNDERGROUND ELECTRIC LINE	---	RECORD UNDERGROUND WATER LINE
---	FLAGGED WETLAND LINE	---	TREE LINE
---	CONCRETE SURFACE	---	WETLANDS
---	BUILDING	---	AREA OF DEMOLITION
○	WELL	○	UTILITY POLE
●	CONIFEROUS TREE	○	GLY WIRE
●	DECIDUOUS TREE	+	SIGN (SINGLE POST)
●	SHRUB	++	SIGN (DOUBLE POST)
		⋈	HYDRANT
		⊗	WOOD POST
		⊙	SEWER MANHOLE
		⊕	RECORD WATER SHUTOFF
			AREA OF DEMOLITION



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CARDIGAN MOUNTAIN SCHOOL
WATERFRONT IMPROVEMENTS
GRAFTON COUNTY, NEW HAMPSHIRE

DATE:	PROJECT #:	ARCHIVE #:	SHEET
MARCH 2024	231061	001	C1.2
ENGINEER BY:	DRAWN BY:	CHECKED BY:	
WAM	DWH	XXX	

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POST-CONSTRUCTION IMPERVIOUS AREA	
STRUCTURE	AREA (SF)
ACCESSORY STRUCTURES, DECK, AND STAIRS WITHIN PROJECT AREA	4,729
OTHER STRUCTURES W/IN PROPERTY	48,526
PAVE/GRAVEL W/IN PROJECT AREA	0
OTHER PAVE/GRAVEL W/IN PROPERTY	116,907
TOTAL IMPERVIOUS W/IN 250' BUFFER	170,162
TOTAL LOT AREA W/IN 250' BUFFER	1,569,721
POST-CONSTRUCTION % COVERAGE	10.8%
TOTAL IMPERVIOUS W/IN 50' BUFFER	5,184

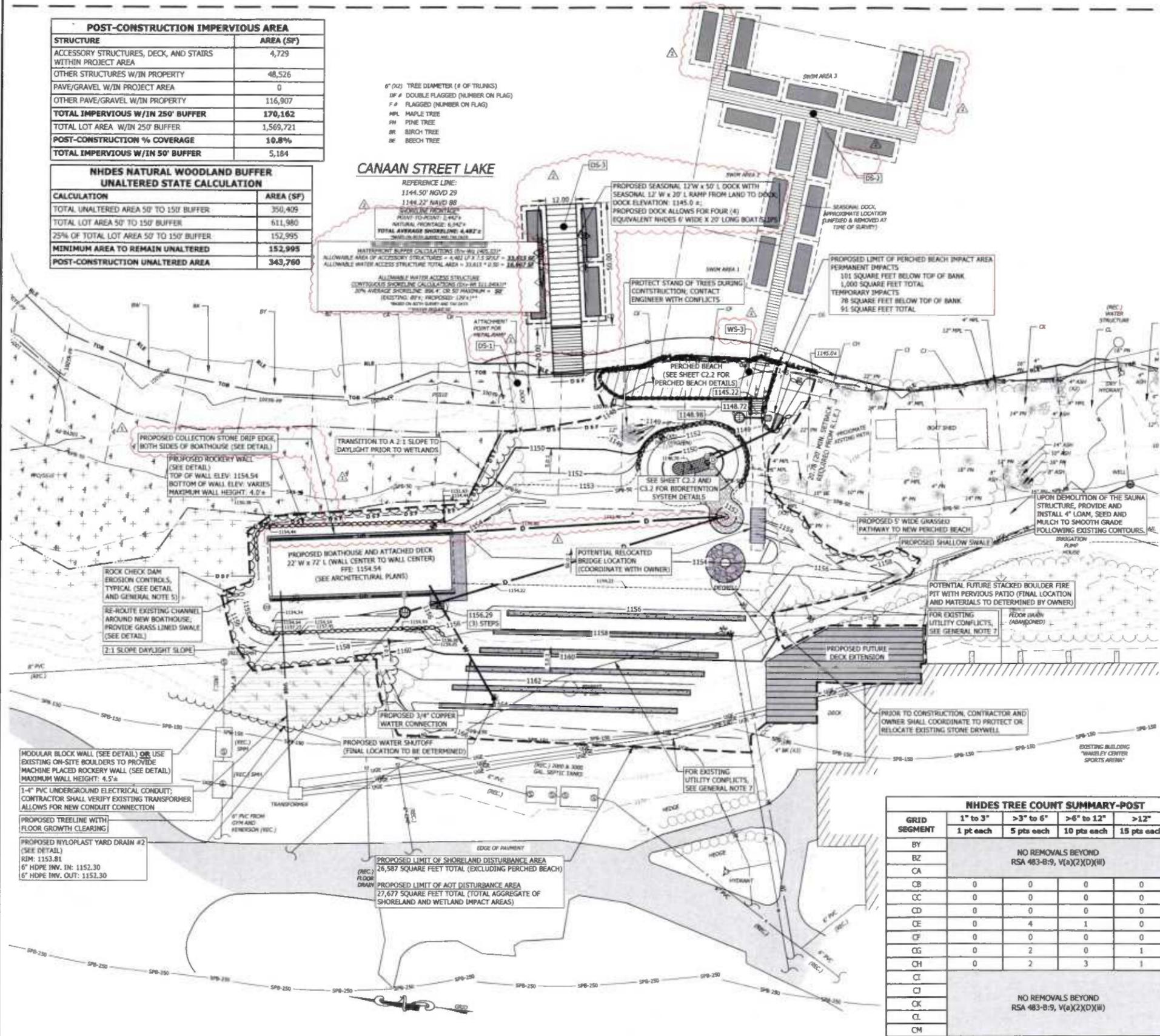
NHDES NATURAL WOODLAND BUFFER UNALTERED STATE CALCULATION	
CALCULATION	AREA (SF)
TOTAL UNALTERED AREA 50' TO 150' BUFFER	350,405
TOTAL LOT AREA 50' TO 150' BUFFER	611,980
25% OF TOTAL LOT AREA 50' TO 150' BUFFER	152,995
MINIMUM AREA TO REMAIN UNALTERED	152,995
POST-CONSTRUCTION UNALTERED AREA	343,760

CANAAN STREET LAKE

REFERENCE LINE:
1144.50' NAVD 88
1144.22' NAVD 88
SPONGE LINE PROTRUSION POINT TO POINT: 6'-0"
NATURAL PROTRUSION: 4.482' ±
TOTAL AVERAGE SHOULDERLINE: 4.482' ±
SHOULDERLINE: 4.482' ±
ALLOWABLE WATER ACCESS STRUCTURE TOTAL AREA = 30.613' x 2.50' = 76.532 SF

WATERFRONT BUFFER CALCULATIONS (FROM 40' LANE 20' CONTIGUOUS SETBACK CALCULATIONS (SEE SHEET C2.1))
ALLOWABLE AREA OF ACCESSORY STRUCTURES = 4.482' L.P. x 2.50' W.P. = 11.205 SF
ALLOWABLE WATER ACCESS STRUCTURE TOTAL AREA = 30.613' x 2.50' = 76.532 SF

ALLOWABLE WATER ACCESS STRUCTURE CONTIGUOUS SETBACK CALCULATIONS (SEE SHEET C2.1)
30% AVERAGE SHOULDERLINE: 30% x 4.482' OR 50' MAXIMUM = 52' (EXCEPTING: 80% PROPOSED: 120' ±)
MINIMUM 40' BUFFER: 40' ±



GENERAL NOTES

- THE PURPOSE OF THESE PLANS ARE FOR REVIEW AND PERMITTING USE ONLY. THESE PLANS SHALL NOT BE USED FOR CONSTRUCTION.
- NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
- ALL WORK SHALL BE PERFORMED WITHIN THE PROPERTY OF, AND EASEMENTS SECURED BY, THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DATA COLLECTION, PREPARATION, AND SUBMITTAL OF RECORD DRAWINGS TO THE ENGINEER AND OWNER. SEE ALSO NOTE 5.
- UPON COMPLETION OF CONSTRUCTION, THE NHDES ALTERATION OF TERRAIN (AOT) PERMIT HOLDER AND A QUALIFIED ENGINEER SHALL CERTIFY THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS, OR THAT DEVIATIONS WERE MADE WHICH DID NOT REQUIRE AN AMENDED OR NEW PERMIT. SEE PERMIT NOTES ON THE COVER SHEET.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY HIM.

CONTRACTOR MAY USE SILT FENCE, PERVIOUS MULCH BERM, OR FILTRIX SILT SOCK, OR A COMBINATION OF ONE OR MORE OF THESE PRODUCTS. SEE DETAILS.

NHDES SHORELAND SPECIFIC NOTES

- THE TREES PROPOSED FOR REMOVAL HAVE BEEN IDENTIFIED BY AN ARBORIST AND FLAGGED AS BEING DEAD, DISEASED, OR UNSAFE AND HAVE NOT BEEN INCLUDED IN TREE SCORING TABLES. SEE ALSO SHEET C1.2, DEMOLITION PLAN.

LEGEND

—	REFERENCE LINE
—	REFERENCE LINE (SEE GENERAL NOTE 7)
SPB-50	50' NHDES SHORELAND SETBACK
SPB-150	150' NHDES SHORELAND SETBACK
SPB-250	250' NHDES SHORELAND SETBACK
100YR-FP	FEHA 100 YEAR FLOOD LINE
TOP	FLAGGED TOP OF BANK WETLAND LINE
S	RECORD UNDERGROUND SEWER LINE
D	RECORD UNDERGROUND DRAIN LINE
GS	RECORD UNDERGROUND GAS LINE
IR	RECORD UNDERGROUND IRRIGATION LINE
WE	RECORD UNDERGROUND ELECTRIC LINE
W	RECORD UNDERGROUND WATER LINE
—	FLAGGED WETLAND LINE
—	TREE LINE

+	NHDES SHORELAND UNALTERED AREA
—	PAVEMENT SURFACE
—	CONCRETE SURFACE
—	WETLANDS
—	BUILDING
⊙	WELL
⊙	CONIFEROUS TREE
⊙	DECIDUOUS TREE
⊙	SHRUB
—	PROPOSED MAJOR CONTOUR
—	PROPOSED MINOR CONTOUR
—	PROPOSED CUSTOM CONTOUR
—	PROPOSED LIMIT OF DISTURBANCE
—	PROPOSED BUILDING AND OVERHANG
—	PROPOSED CONCRETE
—	PROPOSED DECK
—	PROPOSED DOCK
—	PROPOSED ROCKERY WALL (SEE DETAIL)
—	PROPOSED WATER LINE AND SHUTOFF VALVE
—	PROPOSED UNDERGROUND ELECTRIC CONDUIT
—	PROPOSED DITCH LINE
—	PROPOSED DOUBLE EROSION CONTROLS (SEE GENERAL NOTE 5)
—	PROPOSED TURBIDITY CURTAIN (SEE DETAIL)
—	PROPOSED DRAIN PIPE WITH YARD DRAIN/OUTLET STRUCTURE
—	PROPOSED TREELINE
—	PROPOSED SELECTIVE TREE CLEARING
—	PROPOSED BIORETENTION FILTER MEDIA AREA
—	PROPOSED DRIP EDGE (SEE SITE PLAN)
—	PROPOSED STONE (SEE SITE PLAN)

NHDES TREE COUNT SUMMARY-POST

GRID SEGMENT	1" to 3"	>3" to 6"	>6" to 12"	>12"	POINT TOTALS
	1 pt each	5 pts each	10 pts each	15 pts each	
BY					
BZ					
CA					
CB	0	0	0	0	0
CC	0	0	0	0	0
CD	0	0	0	0	0
CE	0	4	1	0	30
CF	0	0	0	0	0
CG	0	2	0	1	25
CH	0	2	3	1	55
CI					
CJ					
CK					
CL					
CM					

*MINIMUM TREE SCORE OF AT LEAST 25 POINTS SHALL BE MAINTAINED FOR EACH 25'x50' SEGMENT
**DEAD, DISEASED, OR UNSAFE TREES ARE NOT INCLUDED IN SCORING



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DATE OF PRINT
AUGUST 19 2024
PROJECT NO.
192024-001
PROJECT NAME
CARDIGAN MOUNTAIN SCHOOL WATERFRONT IMPROVEMENTS
PROJECT LOCATION
GRAFTON COUNTY, NEW HAMPSHIRE
DRAWN BY
WAM
CHECKED BY
XXX
SCALE
AS SHOWN

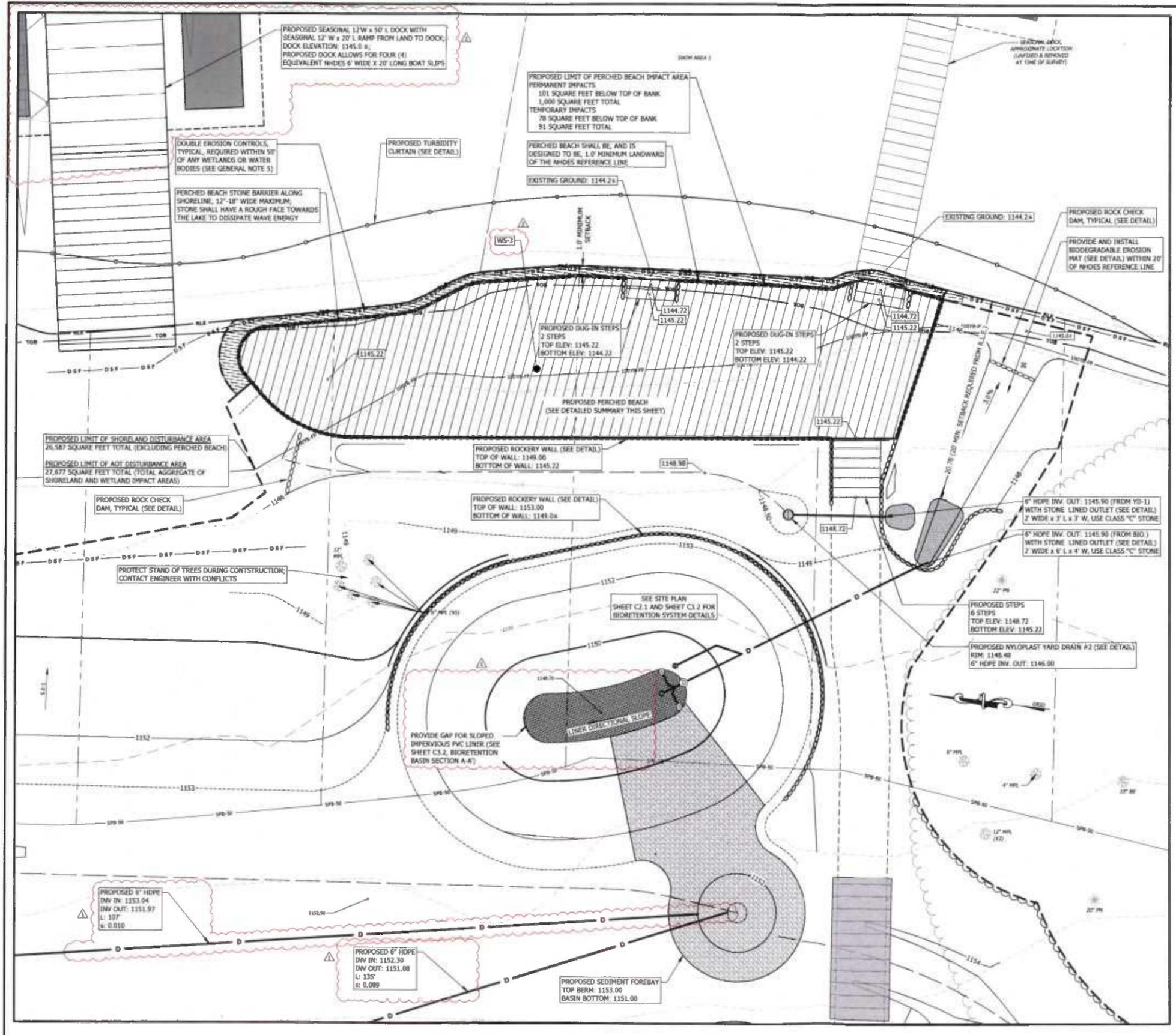
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7		REVISIONS AND COMMENTS
8		REVISIONS AND COMMENTS
9		REVISIONS AND COMMENTS
10		REVISIONS AND COMMENTS

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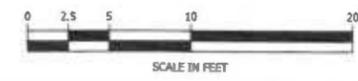
CARDIGAN MOUNTAIN SCHOOL WATERFRONT IMPROVEMENTS
GRAFTON COUNTY, NEW HAMPSHIRE
PROPOSED SITE PLAN
GRADING, UTILITIES, DRAINAGE AND EROSION CONTROL

PROJECT #:	231061
DATE:	MARCH 2024
ENGINEER BY:	WAM
CHECKED BY:	XXX
DRAWN BY:	DRW
ARCHITECT #:	—
SCALE:	AS SHOWN

SHEET C2.1



PERCHED BEACH CLOSE-UP DETAIL



PERCHED BEACH SPECIFIC NOTES

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY HIM.

CONTRACTOR MAY USE SILT FENCE, PERVIOUS MULCH BERM, OR FILTREX SILT SOXX, OR A COMBINATION OF ONE OR MORE OF THESE PRODUCTS. SEE DETAILS.

DOUBLE EROSION CONTROLS SHALL BE REQUIRED WITHIN 50' OF ANY WETLAND OR WATER BODY.
2. ALL EROSION CONTROLS SHALL BE INSPECTED DAILY AND MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED. ALL MACHINERY MUST STAY OUTSIDE THE WATER DURING CONSTRUCTION.
3. PROVIDE A RUNOFF DIVERSION SWALE UPSLOPE OF AND AROUND THE BEACH TO PREVENT EROSION OF THE SAND INTO THE LAKE.
4. FUTURE NHDES WETLAND PERMIT APPLICATIONS MAY BE REQUIRED FOR REPLENISHMENT OF BEACH SAND. CONTACT THE NHDES WETLAND BUREAU FOR MORE INFORMATION.

PERCHED BEACH IMPACT SUMMARY:

MAP 1E LOT 26 CONTIGUOUS SHORELINE = 6,542.4 LINEAR FT (PER TAX MAP DATA)
 20% ALLOWED FOR PERCHED BEACH = 1,308.4 LINEAR FT
 PROPOSED PERCHED BEACH = 78.90 LINEAR FT
 BEACH AREA = 1,000 S.F.
 SAND DEPTH = 6.0 INCHES
 TOTAL BEACH SAND VOLUME = 500 C.F. (18.5 C.Y.)
 PROPOSED ACCESS STEPS = 5.00 FT WIDE
 ACCESS STEPS AREA = 58 SF

LEGEND

- EXISTING IMPERVIOUS AREA
- PROPOSED IMPERVIOUS AREA
- PROPOSED PERCHED BEACH AREA PERMANENT IMPACTS
- PROPOSED PERCHED BEACH AREA TEMPORARY IMPACTS
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- TURBIDITY CURTAIN
- REFERENCE LINE
- LIMITS OF PERMANENT WETLAND/SHORELAND IMPACTS
- PROPOSED ROCKERY WALL (SEE DETAIL)
- PROPOSED DRAIN PIPE WITH YARD DRAIN OR OUTLET STRUCTURE

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

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CARDIGAN MOUNTAIN SCHOOL
WATERFRONT IMPROVEMENTS
GRAFTON COUNTY, NEW HAMPSHIRE
PROPOSED PERCHED BEACH CLOSE-UP PLAN

PROJECT #:	231061
DATE:	MARCH 2024
DESIGNED BY:	WMM
CHECKED BY:	WMM
DATE:	
SCALE:	AS SHOWN
SHEET #:	C2.2

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SEEDING RECOMMENDATIONS

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 AMENDED WITH ORGANIC MATTER AND TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME THOROUGHLY INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

3. ESTABLISHING VEGETATION
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 (P₂O₅), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
-POTASH (K₂O), 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).

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. SEEDING GUIDE:

USE	SEEDING MIXTURE (SEE 3D)	SOIL TYPE			
		DROUGHTY	WELL DRAINED	MOD. WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	POOR
	C	FAIR	EXCELLENT	EXCELLENT	FAIR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	GOOD	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

D. SEEDING RATES:

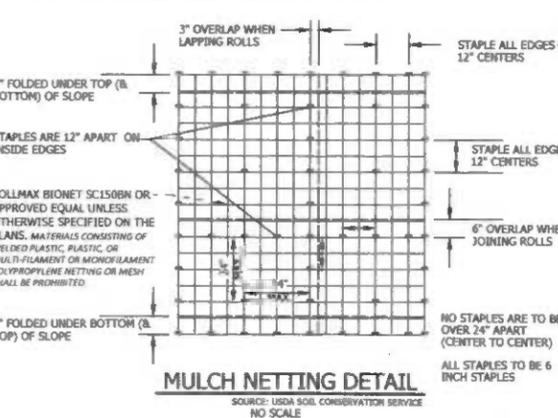
MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A TALL RESCUE	20	0.45
CREeping RED RESCUE	20	0.45
REDTOP	2	0.05
TOTAL:	42	0.95
B TALL RESCUE	15	0.35
CREeping RED RESCUE	10	0.25
CROWN VETCH OR FLATPEA	30	0.75
TOTAL:	40 OR 55	0.95 OR 1.35
C TALL RESCUE	20	0.45
FLATPEA	30	0.75
TOTAL:	50	1.20

E. WHEN SEEDING AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDING AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

F. TEMPORARY SEEDING RATES:

SPECIES	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.	REMARKS
WINTER RYE	112	2.5	BEST FOR FALL SEEDING. SEED FROM AUGUST TO SEPTEMBER 15TH FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	80	2.0	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15TH FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40	1.0	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE NOT IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. COVER SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30	0.7	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 15TH AND JUNE 15TH AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

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.
5. MAINTENANCE TO ESTABLISH A STAND
A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ON SITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 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.



EROSION CONTROL GENERAL NOTES

A. KEEP SITE MODIFICATION TO A MINIMUM
1. CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
2. EXPOSE AREAS OF BARE SOIL TO EROSION ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
3. SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
4. LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
5. AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.

B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES
1. STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
2. PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
3. USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
4. USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
5. USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
6. PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.

C. PROTECT AREA AFTER CONSTRUCTION
1. ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
2. MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
3. MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
4. DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
5. IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, REFER TO 'COLD WEATHER SITE STABILIZATION REQUIREMENTS'.

D. INVASIVE SPECIES AND FUGITIVE DUST
1. THE PROJECT SHALL NOT CONTRIBUTE TO THE SPREAD OF INVASIVE SPECIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EVALUATE WORK AREAS FOR THE PRESENCE OF INVASIVE SPECIES, AND IF FOUND SHALL TAKE NECESSARY MEASURES TO PREVENT THEIR SPREAD IN ACCORDANCE WITH RSA 430:51-57 AND AGR 3800. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT THE INTRODUCTION OF INVASIVE SPECIES BY INSPECTING AND CLEANING ALL EQUIPMENT ARRIVING ON SITE.
2. FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A-1000.

COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:

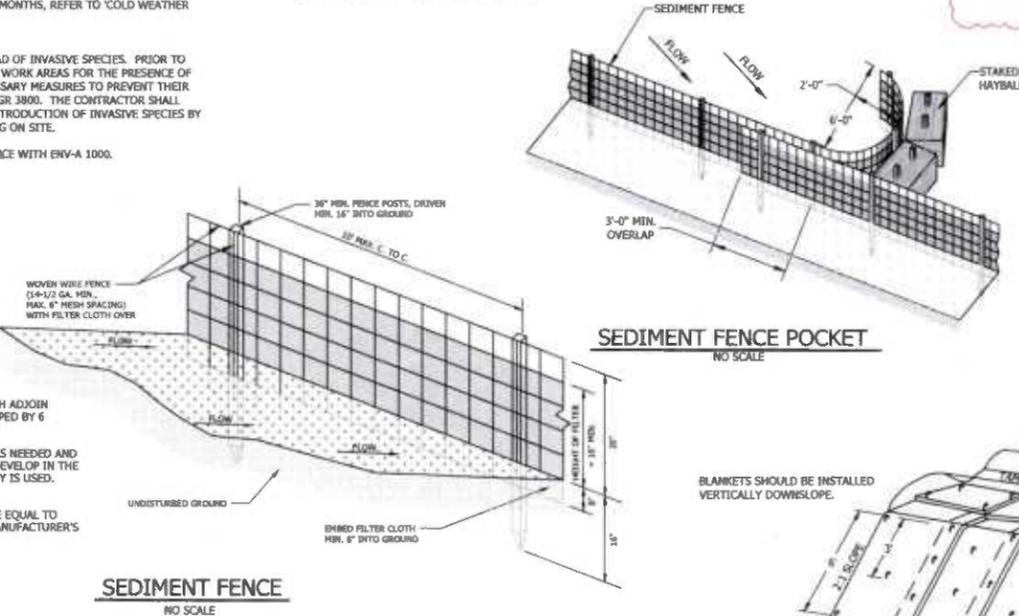
- THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE, SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
- ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
- AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REQUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM NO. 304.1 OR 304.2.

CONSTRUCTION SEQUENCE

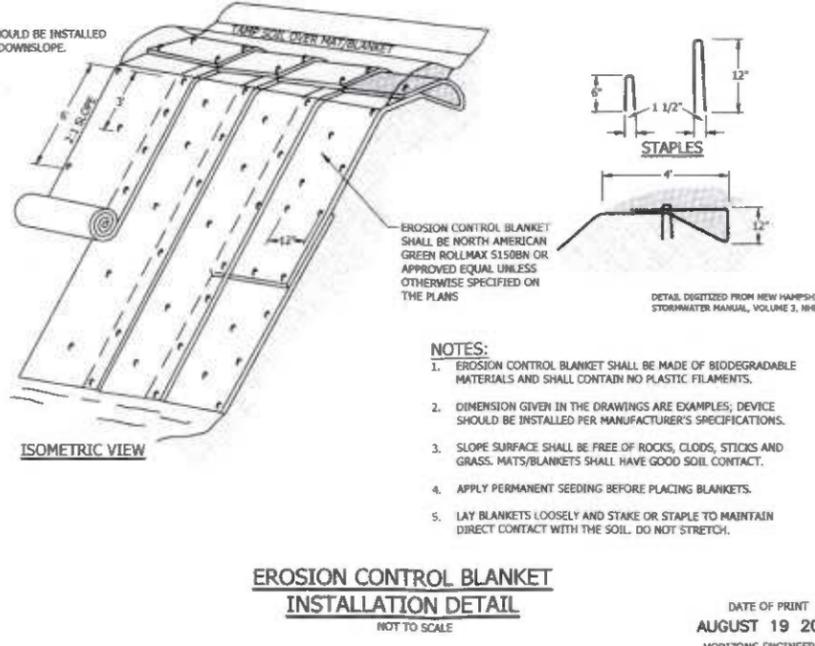
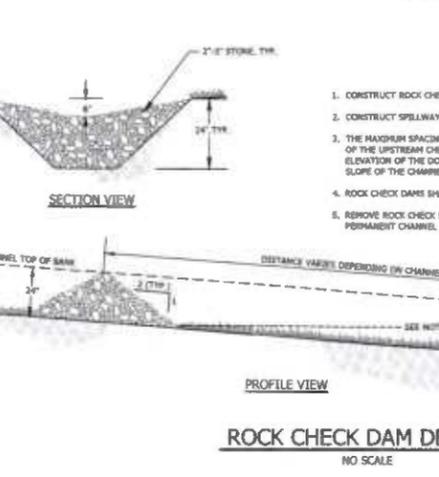
- PREPARE AN EROSION CONTROL PLAN OR A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- INSTALL AND MAINTAIN CONSTRUCTION ENTRANCE, SEE DETAIL.
- CUT AND CLEAR TREES WITHIN THE CLEARING LIMITS.
- INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED PRIOR TO EARTH MOVING ACTIVITIES.
- GRUB SITE WITHIN GRADING LIMITS.
- STRIP AND STOCKPILE TOPSOIL AND INSTALL EROSION CONTROL MEASURES.
- INSTALL/ADJUST SEDIMENT FENCE, FILTREXX SILT SOXX, PERVIOUS BERM, CHECK DAMS, AND HAYBALES, AS REQUIRED.
- CONSTRUCT PERMANENT STORMWATER BMP CONTROLS AS SOON AS PRACTICAL. DO NOT DIRECT STORMWATER TOWARD TREATMENT BASINS, PONDS, SWALES, DITCHES AND LEVEL SPREADERS UNTIL THEY HAVE BEEN STABILIZED.
- RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
- PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM OF UNCOVERED DISTURBED EARTH AT ANY ONE TIME IS FIVE ACRES. THE MAXIMUM LENGTH OF TIME THAT DISTURBED EARTH MAY BE LEFT UNSTABILIZED IS 45 DAYS.
- BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A) BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.03.
- INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, FILTREXX SILT SOXX, PERVIOUS BERM, CHECK DAMS, AND HAYBALES, ETC., AS NECESSARY.
- AS REQUIRED, INSTALL GRAVEL AND PAVED ROADWAYS AND/OR PARKING AREAS. ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- PLACE TOPSOIL, SEED AND MULCH.
- COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.
- MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.

CONSTRUCTION NOTES FOR SEDIMENT FENCE

- WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE SEDIMENT FENCE, OR 50% OF CAPACITY IS USED.
- 12" DIAMETER FILTREXX SILT SOXX SHALL BE CONSIDERED AN ACCEPTABLE EQUAL TO SEDIMENT FENCE IF INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.



SEDIMENT FENCE



EROSION CONTROL BLANKET INSTALLATION DETAIL

NOT TO SCALE

DATE OF PRINT
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HORIZONS ENGINEERING

NO.	DATE	REVISION DESCRIPTION
1		ISSUE FOR PERMITS AND REVISE COMMENTS

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