
NOTICE OF INTENT

pursuant to

The Massachusetts Wetlands Protection Act

and

Town of Wayland Wetlands and Water Resources Protection Bylaw

Snake Brook Dam Rehabilitation

Wayland, Massachusetts

Applicant:

Town of Wayland
c/o Linda Hansen, Conservation Administrator
41 Cochituate Road
Wayland, MA 01778

AUGUST 2023

August 11, 2023

Mr. Sean Fair, Chair
Wayland Conservation Commission
Wayland Town Hall
41 Cochituate Road
Wayland, MA 01778

Re: **Notice of Intent**
Town of Wayland
Snake Brook Dam Rehabilitation
Wayland, MA 01778
(Pare Project No. 19167.02)

Dear Mr. Fair and Members of the Wayland Conservation Commission:

On behalf of the Town of Wayland and pursuant to the Regulations of the Massachusetts Wetlands Protection Act 310 CMR 10.00 and Town of Wayland Wetlands Water Resources Protection Bylaw, Pare Corporation (Pare) is submitting the attached Notice of Intent (NOI) for your review. This NOI addresses the rehabilitation of Snake Brook Dam and is submitted under the Limited Project provisions of 310 CMR 10.53(3)(i) for the maintenance and repair of a dam and appurtenant works which existed on April 1, 1983.

Enclosed for your review are one (1) original and one (1) copy of the NOI for the above-referenced project, including the required state and municipal forms, Figures, Abutter Notification Documentation, Narrative Project Description, Wetland Delineation Documentation, and Design Basis Report; and two (2) full size sets of Project Plans prepared by Pare. An electronic copy of the NOI and Plans will be sent to Conservation Administrator Linda Hanson via email at the time of filing. Please note that abutters are being notified via certificate of mailing as provided for under 310 CMR 10.05(4)(a). Proof of mailing will be supplied at the public hearing. As a municipality, the Town is exempt from the filing fee requirements of the Wetlands Protection Act and the Bylaw.

The Snake Brook Dam (National ID MA00119/State ID 4-09-315-03, referred to herein as the Dam) impounds water along Snake Brook to form the Old Wayland Reservoirs. Originally constructed as part of the municipal water supply system, the dam currently impounds water for recreational uses. The Dam is classified as an Intermediate sized, Significant hazard potential structure under Commonwealth of Massachusetts dam safety rules and regulations. Dam inspections performed by Pare in 2022 found the dam to be in poor condition due to numerous deficiencies including:

- Routine and persistent beaver activity / accumulated debris issues at the spillway, causing elevated pool levels, limited freeboard during normal operations, and restricted discharge capacity;
- Inadequate discharge capacity to accommodate the SDF, even with a cleared spillway;
- Inoperable low level outlet system;
- Steep and irregular downstream slope that does not meet the required factors of safety for slope stability;
- Areas of overgrown tree and brush vegetation along the dam embankment;
- Areas of apparent sinkholes/vertical irregularities within the downstream area in the vicinity of the alignment of both the water supply distribution line and the stone culvert;
- Gatehouse deficiencies including collapsed roof, inoperable door, and lack of safe access to mechanical equipment;
- Sediment/leaf accumulation as well several downed trees and limbs; and
- Additional maintenance and dam safety concerns.





Based upon the findings of these evaluations, Pare developed a Design Basis Report summarizing alternatives for addressing the observed deficiencies and recommended approaches for repair. Based upon these recommendations Pare has developed a dam rehabilitation design, addressed in this NOI, which includes the following repairs and improvements:

- a. Embankment Work:
 - i. Raise Core Wall to El. 227.5 (2 feet above existing)
 - ii. Raise dam crest to El. 228.0 (0.5 to 2.5 feet above existing)
 - iii. Regrade downstream slope to 2H:1V (of flatter if desired by the Town)
 - iv. Establish maintainable grass vegetation throughout site
- b. Spillway Improvements
 - i. Remove beaver debris and previous beaver deceiver devices
 - ii. Enlarge spillway, install new control weir and spillway channel improvements
 - iii. Install new beaver deceiver/deterrence devices
- c. Establish Low Level Outlet Capabilities
 - i. Install Upstream Low-Level Outlet Control System
 - ii. Slip Lining Existing 18-inch Low-Level Outlet
 - iii. Establish a restored outlet conduit
 - iv. Address other gatehouse concerns

Wetland resource areas in the project vicinity include Bank, Land Under Waterbodies and Waterways, Bordering Vegetated Wetlands, and 200-Foot Riverfront Area associated with Snake Brook. Impacts to resource areas are unavoidable due to the water dependent use of the dam and nature of the maintenance work. A wetland replication area is being proposed to account for the dam rehabilitation project and is sized to provide 3:1 mitigation for impacts from the overall project. Detailed description of project activities, resource area impacts, and regulatory compliance of the project is provided in the Project Narrative enclosed in this NOI.

On behalf of the applicant, Pare respectfully requests that the Wayland Conservation Commission issue an Order of Conditions allowing the repairs to proceed as proposed. Thank you for your consideration of this application. If you have any questions, please feel free to contact us.

Sincerely,
Pare Corporation

A handwritten signature in black ink, appearing to read 'Lauren Gluck'.

Lauren Gluck
Senior Environmental Scientist, P.W.S

LHG

cc: DEP Northeast Regional Office, via Certified Mail
Wayland Board of Health, via Certified Mail
File

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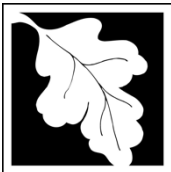
Section 1	Administrative Documentation WPA Form 3 - Notice of Intent Filing Fee Transmittal Form Chapter 194 Application Chapter 194 Checklist
Section 2	Abutter Notification Information Notification to Abutters Certified Lists of Abutters
Section 3	Figures Figure 1 - Site Location Map Figure 2 - Annotated MassGIS Aerial Photograph Figure 3 - FEMA Flood Insurance Rate Maps Figure 4 - Wetland Impact Plan
Section 4	Project Narrative
Section 5	Wetland Delineation Documentation Wetland Field Report Annotated Site Photographs USACE Wetland Delineation Data Forms
Section 6	Design Basis Report for Snake Brook Dam, prepared by Pare Corporation, dated April 2020, Bound Separately
Section 7	Project Plans entitled “Snake Brook Dam Rehabilitation” prepared by Pare Corporation, dated November 2022, Bound Separately



SECTION 1

Administrative Documentation





Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wayland

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

<u>80 Rice Road</u>	<u>Wayland</u>	<u>01778</u>
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:		
<u>42.337580</u>	<u>-71.341000</u>	
d. Latitude	e. Longitude	
<u>45</u>	<u>004A</u>	
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant:

<u>Linda</u>	<u>Hansen</u>	
a. First Name	b. Last Name	
<u>Town of Wayland Conservation Commission</u>		
c. Organization		
<u>41 Cochituate Road</u>		
d. Street Address		
<u>Wayland</u>	<u>MA</u>	<u>01778</u>
e. City/Town	f. State	g. Zip Code
<u>(508) 358-7701</u>	<u>(508) 358-3627</u>	<u>lhansen@wayland.ma.us</u>
h. Phone Number	i. Fax Number	j. Email Address

3. Property owner (required if different from applicant): Check if more than one owner

<u></u>	<u></u>	
a. First Name	b. Last Name	
<u></u>		
c. Organization		
<u></u>		
d. Street Address		
<u></u>	<u></u>	<u></u>
e. City/Town	f. State	g. Zip Code
<u></u>	<u></u>	<u></u>
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

<u>Lauren</u>	<u>Gluck</u>	
a. First Name	b. Last Name	
<u>Pare Corporation</u>		
c. Company		
<u>10 Lincoln Road, Suite 210</u>		
d. Street Address		
<u>Foxborough</u>	<u>MA</u>	<u>02035</u>
e. City/Town	f. State	g. Zip Code
<u>(508)488-4122</u>	<u>lgluck@parecorp.com</u>	
h. Phone Number	i. Fax Number	j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

<u>Fee Exempt</u>	<u></u>	<u></u>
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
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A. General Information (continued)

6. General Project Description:

Rehabilitating Snake Brook Dam and addressing numerous deficiencies located along the dam and spillway channel.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- 1. Single Family Home
- 2. Residential Subdivision
- 3. Commercial/Industrial
- 4. Dock/Pier
- 5. Utilities
- 6. Coastal engineering Structure
- 7. Agriculture (e.g., cranberries, forestry)
- 8. Transportation
- 9. Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

- 1. Yes No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53(3)(i) - dam maintenance

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex

a. County

1493

c. Book

b. Certificate # (if registered land)

0134

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1. Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- 2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input checked="" type="checkbox"/> Bank	455 (Perm.), 76 (Temp.), 1. linear feet	2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	150(Perm), 5 (Temp) 1. square feet	465 2. square feet
c. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	2,901 (Perm.), 3,544 (Temp.) 1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input checked="" type="checkbox"/> Riverfront Area	Snake Brook 1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- 25 ft. - Designated Densely Developed Areas only
- 100 ft. - New agricultural projects only
- 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 26,725
square feet

4. Proposed alteration of the Riverfront Area:

26,725 22,030 4,695
a. total square feet b. square feet within 100 ft. c. square feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI? Yes No

6. Was the lot where the activity is proposed created prior to August 1, 1996? Yes No

3. Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	_____	
	1. square feet	

	2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	_____	_____
	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	_____	_____
	1. square feet	2. cubic yards dune nourishment

	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	_____	
	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	_____	
	1. square feet	
h. <input type="checkbox"/> Salt Marshes	_____	_____
	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____	
	1. square feet	

	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	_____	
	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	

	1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	
	1. square feet	

4. Restoration/Enhancement
If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

- a. Yes No **If yes, include proof of mailing or hand delivery of NOI to:**

**Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581**

- 8/2/2023
b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

1. Percentage/acreage of property to be altered:
 - (a) within wetland Resource Area _____ percentage/acreage
 - (b) outside Resource Area _____ percentage/acreage

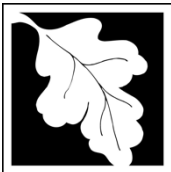
2. Assessor's Map or right-of-way plan of site

2. Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **
 - (a) Project description (including description of impacts outside of wetland resource area & buffer zone)
 - (b) Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

(c) MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).
 Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

(d) Vegetation cover type map of site

(e) Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. Project is exempt from MESA review.
 Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. Separate MESA review ongoing. a. NHESP Tracking # _____ b. Date submitted to NHESP _____

3. Separate MESA review completed.
 Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. Not applicable – project is in inland resource area only b. Yes No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
 Southeast Marine Fisheries Station
 Attn: Environmental Reviewer
 836 South Rodney French Blvd.
 New Bedford, MA 02744
 Email: dmf.envreview-south@mass.gov

Division of Marine Fisheries -
 North Shore Office
 Attn: Environmental Reviewer
 30 Emerson Avenue
 Gloucester, MA 01930
 Email: dmf.envreview-north@mass.gov

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

c. Is this an aquaculture project? d. Yes No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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C. Other Applicable Standards and Requirements (cont'd)

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
- a. Yes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
- a. Yes No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
- a. Yes No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
- a. Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
 2. A portion of the site constitutes redevelopment
 3. Proprietary BMPs are included in the Stormwater Management System.
- b. No. Check why the project is exempt:
1. Single-family house
 2. Emergency road repair
 3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

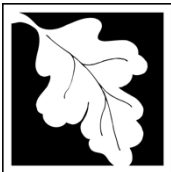
- This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.



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D. Additional Information (cont'd)

3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. List the titles and dates for all plans and other materials submitted with this NOI.

Snake Brook Dam Rehabilitation

a. Plan Title

Pare Corporation

b. Prepared By

November 2022

d. Final Revision Date

c. Signed and Stamped by

As noted

e. Scale

f. Additional Plan or Document Title

g. Date

5. If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. Attach NOI Wetland Fee Transmittal Form

9. Attach Stormwater Report, if needed.

E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant

LINDA HANSEN

8/10/2023

2. Date

3. Signature of Property Owner (if different)

4. Date

8/10/23

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a copy of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

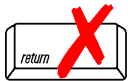
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

80 Rice Road
 a. Street Address
 Wayland
 b. City/Town

 c. Check number

 d. Fee amount

2. Applicant Mailing Address:

Linda
 a. First Name
 Hanson
 b. Last Name
 Town of Wayland
 c. Organization
 41 Cochituate Road
 d. Mailing Address
 Wayland
 e. City/Town
 MA
 f. State
 01778
 g. Zip Code
 (508) 358-7701
 h. Phone Number
 (508) 358-3627
 i. Fax Number
 lhansen@wayland.ma.us
 j. Email Address

3. Property Owner (if different):

 a. First Name

 b. Last Name

 c. Organization

 d. Mailing Address

 e. City/Town

 f. State

 g. Zip Code

 h. Phone Number

 i. Fax Number

 j. Email Address

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Fee Exempt			

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee: _____
 a. Total Fee from Step 5

State share of filing Fee: _____
 b. 1/2 Total Fee **less** \$12.50

City/Town share of filing Fee: _____
 c. 1/2 Total Fee **plus** \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
 Box 4062
 Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Wayland Wetlands and Water Resources Bylaw, Chapter 194 Application

1. Applicant:

Town of Wayland Conservation Commission		Lhansen@wayland.ma.us	
Name (PLEASE PRINT)		Email Address (if applicable)	
41 Cochituate Road	Wayland	MA	01778
Mailing Address	City/Town	State	Zip Code
508-358-7701		508-358-3627	
Phone Number		Fax Number (if applicable)	

2. Representative:

Pare Corporation		Lauren Gluck, PWS	
Firm/Business Name		Contact Name	
10 Lincoln Road, Suite 210	Foxboro	MA	02035
Mailing Address	City/Town	State	Zip Code
508-543-1755			
Phone Number		Fax Number (if applicable)	

3. Property Owner(s)

Town of Wayland			
Property Owner (PLEASE PRINT)		Email Address (if applicable)	
41 Cochituate Road	Wayland	MA	01778
Address	City/Town	State	Zip Code
508-358-7701		508-358-3627	
Phone Number		Fax Number (if applicable)	

4. Type of Application

- | | |
|---|--|
| <input type="checkbox"/> Request for a Determination of Applicability (RDA) | <input checked="" type="checkbox"/> Notice of Intent (NOI) |
| <input type="checkbox"/> Abbreviated NOI | <input type="checkbox"/> Extension of O.O.C. |
| <input type="checkbox"/> Notice of Resource Area Delineation | <input type="checkbox"/> Certificate of Compliance |
| <input type="checkbox"/> After the Fact Amendment (AFA) | <input type="checkbox"/> After the Fact Filing (AFF) |
| <input type="checkbox"/> Amendment to Order of Conditions | |

5. Project

80 Rice Road	45	004A
Location Address	Assessors Map(s)	Parcel(s)


Project Description (PLEASE PRINT):

Rehabilitating Snake Brook Dam and addressing numerous deficiencies located along the dam and spillway channel

6. Title/Date of Plan(s) Snake Brook Dam Rehabilitation, dated November 2022

7. Bylaw Application Fee: \$ Fee exempt

8. Application filed pursuant to MGL Chapter 131, Section 40 Yes No

9. Signature of Applicant  Date 8/10/2023
 Signature of Property Owner _____ Date _____
LINDA HANSEN - Conservation Administrator

(NOTE: This application shall be signed by the property owner as well as the applicant. Signature of the property owner on this application shall be deemed permission granted to the Conservation Commission and their agents to go upon the subject property.)

**FEES- Wetlands and Water Resources Bylaw (Chapter 194) and
Stormwater and Land Disturbance Bylaw(Chapter 193)**

ADOPTED: May 10, 2005
Effective June 8, 2005

RDA (1) – S.f.h. addition/Landscaping/ Septic Repair (w/on-site grading, other than septic, less than 1,000 s.f.): Work less than 50' from wetlands	\$100.00
RDA (1): Work, including grading more than 50' from wetlands	\$ 50.00
RDA – Determination of Conservation Commission jurisdiction, <i>w/no proposed work</i>	\$100.00/40,000 s.f. of lot area
Other RDA – Work less than 50' from wetlands	\$150.00
Other RDA – if no alteration of resource area is proposed, except buffer zone more than 50' from wetlands	\$100.00
Other RDA – w/alteration of resource area more than 50' from wetlands, excluding buffer zone	\$100.00 + .25/s.f. of resource area impacted (excluding buffer zone)
NOI – Single-family addition and on-site grading less than 2,000 s.f. and work more than 50' from wetlands	\$50.00
NOI – Single-family addition and on-site grading less than 2,000 s.f. and work less than 50' from wetlands	\$100.00
NOI – New construction and <i>NO</i> alteration of v.w. or l.s.f.i. work less than 50' from wetlands	\$200.00/unit
NOI – New construction and <i>NO</i> alteration of v.w. or l.s.f.i. and work more than 50 from wetlands	\$100.00/unit
NOI –Other, work less than 50' from wetlands	\$200.00
NOI –Other, work more than 50' from wetlands	\$100.00
NOI – w/alteration of v.w. and/or l.s.f.i. and work less than 50' from wetlands	\$200.00 + .25/s.f. of resource area impacted
NOI – w/alteration of v.w. and/or l.s.f.i. and work more than 50' from wetlands	\$100.00 + .25/s.f. of resource area impacted
NOI/RDA: Riverfront Area –Work within 100' and 200' of mean annual high water (First application)	Two times the applicable fee
NOI/RDA: Riverfront Area – work between 100' and 200' of mean annual high water (First application)	Applicable fee times 1.5
ANRAD	\$100.00/40,000 s.f. of lot area
After the Fact Amendment	Applicable fee above + \$100.00
After the Fact Filing	Double the applicable fee above
Amendment	\$75.00
Extension	\$25.00
Certificate of Compliance	\$50.00/unit
Chapter 193- Stormwater Management and Land Disturbance Bylaw	\$100.00

Abbreviations:

Request for Determination of Applicability (RDA)
Notice of Intent (NOI)
Request to Amend Order of Conditions (Amendment)
Abbreviate Notice of Intent – Resource Area Determination (ANRAD)
Single Family House (S.f.h.)
Vegetated Wetlands (v.w.)
Land Subject to Flooding and Inundation (l.s.f.i.)
Riverfront Area (R.A.)
Vernal Pool (V.P.)
Square Feet (s.f.)

* **NOTE:** Stormwater Management and Land Disturbance Bylaw, Chapter 193, has a separate filing fee. Please refer to the application for further submittal requirement.

NOTES:

- Legal advertising will be billed directly to the applicant.
- The Conservation Commission may seek consultant fees pursuant to the Rules and Regulations.
- These fees are in addition to the fees required for applications filed pursuant to the Wetlands Protection Act (MGL Chapter 131, Section 40).
- Payment of fee does NOT guarantee approval of project.
- Town, county, state, and federal projects may be exempted from fees upon request.



TOWN OF WAYLAND
Conservation Commission
 41 COCHITUATE ROAD
 WAYLAND, MASSACHUSETTS 01778

SEAN FAIR, CHAIR
 BARBARA HOWELL, VICE CHAIR
 JOANNE BARNETT
 TOM DAVIDSON
 JOHN SULLIVAN
 JENNIFER PEARLMAN
 LUKE LEGERE

CHAPTER 194 Submittal Requirements

Upon submittal of any Bylaw application the applicant(s), property owner (if different), and their representative(s) must sign this checklist.

- Original and one copy of the MA Wetlands Protection Act (“WPA”) application and Chapter 194 Bylaw application, including owner(s) signature, the applicant(s) signature, site plan(s), narrative, etc. *

NOTE: If a WPA Application is not filed, a copy of either a statement as to not applicable (limited generally to buffer zone or bordering land subject to flooding) or a valid Order of Resource Area Determination (ORAD) must be provided with copies.

N/A A separate check for all applicable Wetlands Act fees.

N/A A separate check for all applicable Chapter 194 Bylaw fees.

- A list of the 100’ Abutters, certified by the Assessors Office.

- Evidence of Board of Health receipt of application or approval for all applications with septic work or home renovations.

*A copy of all documents submitted should be provided electronically to Conservation (conservation@wayland.ma.us) and Linda Hansen (lhansen@wayland.ma.us)

Project Summary

- A narrative statement describing all of the activities proposed. If work is omitted from the narrative it may not be permitted.
- A narrative summary description of the types of resource areas on or near the site. Omission of resource areas is a basis for denial of the project as being incomplete.
- A narrative discussion how the project has been designed to minimize impacts to resource areas and how any mitigation has been proposed to better protect or enhance the resource areas during and after construction.

The Conservation Commission will evaluate the application based on the scope of the project and the potential impacts on the resource area (e.g. a wetland, pond, vernal pool, riverfront area, etc.) The Commission’s priorities for project assessment are avoidance, minimization, and mitigation of impacts to resource area/s in that order. If mitigation is proposed, the Commission will require a 1:1.5 ratio of replication for impacts to wetlands and for buffer zones. The narrative should clearly address these priorities.

- A narrative discussion that presents justification, based on factors of technical or economic feasibility, why alternatives that might minimize or completely avoid adverse impact to the Riverfront Area, Floodplain, the Buffer Zone, and/or any other resource area are not being proposed. At a minimum there must be discussion of the alternative for no alteration.

The following items are required for Site Plans submitted with a Bylaw application; however, if the Applicant considers that the information is not relevant to the scope or scale of the proposed project, a Waiver(s) of requirements must be requested at the time of filing the application with the Conservation Commission.



TOWN OF WAYLAND Conservation Commission

41 COCHITUATE ROAD
WAYLAND, MASSACHUSETTS 01778

SEAN FAIR, CHAIR
BARBARA HOWELL, VICE CHAIR
JOANNE BARNETT
TOM DAVIDSON
JOHN SULLIVAN
JENNIFER PEARLMAN
LUKE LEGERE

Site Plan Minimum Requirements

The following shall be included on the Site Plan:

- Stamp of a Professional Engineer (P.E.) and/or a Professional Land Surveyor (P.L.S.) depending upon proximity to lot lines or project complexity.
- OR**
- Stamp of a Registered Sanitarian (R.S.) is acceptable for designs of septic systems handling less than 2,000 gallons per day, with incidental site work.
- Grade elevations based on National Geodetic Vertical Datum (NGVD). Grade contours in the area of work shall be provided with at least 1-foot intervals.
- Plan Scale: 1 inch = 10 feet or 1 inch = 20 feet.
- Wetlands flagging with letters and/or numbers as defined in the field.
- Date that wetlands flagging was done and name of the wetland delineator (if GIS was used to wetlands, then include the GIS source.)
- Site Plans must clearly show existing conditions and proposed conditions, utilities, impervious surfaces, limit of lawn, trees greater than 6 inches in diameter proposed for removal, significant land features such as rock outcroppings, all Resource Areas (differentiate each) including Buffer Zone. *Note: It may be more comprehensible to submit two plans: an existing conditions plan and a proposed conditions plan.*
- Site plans must detail the permanent demarcation of the limit of lawn with minimum 30' offset from resource area for new construction, and minimum average 15' offset for existing dwellings.
- Locations and identifiers for all test pit locations.
- A cross-section of grading and profile for proposed septic systems.
- Locations for temporary stockpiles or storage of soils or demolition debris during construction.
- Access route for construction equipment and construction entrance location details.
- Location of erosion control barrier(s).
- Detail for installation of erosion control barrier(s).
- Location for refueling of equipment. (Outside buffer zone strongly preferred)
- Locations designated for snow storage, if necessary.
- Pre/Post-Construction Lot Coverage Summary for areas within by-law jurisdiction: a) Total lot area; b) total impervious area (**Note: impervious areas shall include, but are not limited to, roofs, decks, walks, and driveways**); c) total landscaped/lawn area; and d) total area altered during construction (including temporary impacts).



TOWN OF WAYLAND Conservation Commission

41 COCHITUATE ROAD
WAYLAND, MASSACHUSETTS 01778

CONSERVATION COMMISSION

SEAN FAIR, CHAIR
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JOANNE BARNETT
TOM DAVIDSON
JOHN SULLIVAN
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LUKE LEGERE

Drainage Requirements

The Commission seeks to protect water quality of surface waters and groundwater, and to limit any increase in the rate or quantity of runoff of storm water from the property.

- For projects adding less than or equal to 500 square feet of impervious area, a narrative description of specific measures used to provide for infiltration of runoff equivalent to runoff this additional impervious area. Those measures must be clearly depicted on the Site Plan as a specification.
- OR**
- For projects adding more than 500 square feet of impervious area,
 - A narrative discussion of the methods and all assumptions used in the drainage calculations
 - A plan showing drainage catchment areas
 - Supporting calculations (i.e. HydroCAD) stamped by a P.E.
 - Summary tables presenting Pre/Post Construction Storm Water Runoff Rates and Volumes for a 1-inch storm event, a 10-year, and a 100-year storm events. Note: Rainfall of at least 8 inches in 24 hours must be used for 100-year storm event.
 - Compliance with DEP's Stormwater Management Standards.
- Narrative description of structural and non-structural best management practice (BMP) (See "Definitions), controls for storm water management for the project **during construction phases and for long term site management:**
 - Evaluation of BMP selection and factors of site suitability including: soils, drainage area, depth to water table, depth to bedrock, slopes and proximity to wells and foundations
 - Discussion of construction phasing
 - Relevant site characterization data for design
 - Water quality calculations for total suspended solids (TSS) removal
 - Calculated storm water recharge rate
 - Calculated peak discharge rate
- Maintenance requirements and site inspections templates for BMPs must be specified. Operation and Maintenance (O&M) plans for Stormwater shall be submitted with the application describing short-term BMPs (during construction) and long-term BMPs (post-construction) for management of the drainage structures, roadway and/or parking lot (as applicable) including but not limited to sweeping; catch basin cleaning; snow storage and erosion controls, such as hay bales or sediment fences. The drainage components (Best Management Practice – BMP) shall be as described using terminology in the most recent version of the DEP Storm water Technical Handbook, March 1997. A Plan for protecting the post-construction BMPs during construction shall be include in the O&M Plan.
- Aquifer Protection District – If the project is within this area, a narrative description of how the project complies with aquifer protection requirements.



TOWN OF WAYLAND
Conservation Commission
41 COCHITUATE ROAD
WAYLAND, MASSACHUSETTS 01778

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LUKE LEGERE

Soils Information

- Septic Systems or Drainage BMPs (where applicable) - Clear statement of how many test pits or borings were conducted...
Septic Systems and/or applicable drainage BMP - Copies of all soil data including boring and/or test pit logs.
Wetland field data forms that document observations made during the wetland delineation including soil or test pit logs.

Waivers

In the event that Applicant considers certain required information to be, in their opinion, not relevant to the scope or scale of the proposed project Applicant may request a Waiver of the requirements with this application to the Conservation Commission.

Site Plan Minimum Requirement Waiver(s) [] None [] List
Drainage Requirement Waiver(s) [] None [] List
Soils Information Waiver(s) [] None [] List

If applicable, attach a statement for justification of the requested waivers.

In the event that any requested Waiver is not granted by the Commission or the application is otherwise found to be deficient in providing required information the hearing may at the discretion of the Commission either be closed and denied for the lack of information or continued for a specific timeframe approved by the Commission for the Applicant to submit the required information.

The Commission has authorized its Administrator to review projects and to not accept project applications under the Bylaw that have apparent deficiencies to meeting the above requirements. Notwithstanding that authority, acceptance of an application by the Administrator does not represent a decision that the application is fully complete. Deficiencies identified by the Administrator will be report to the applicant and the Commission during the hearing.

The property owner, as well as the applicant and/or representative (if different from owner) must sign this checklist and all other applicable applications. The property owner, by signing this checklist and the applications, acknowledges that the Commission and Staff may enter the property to inspect the premises as part of the assessment of the application.

Property Owner's Name (Print) Property Owner's Signature Date

I certify under penalty of law that this document and all its attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Applicant's Name (Print) LINDA HANSEN Applicant's Signature Date 8/10/2023

SECTION 2

Abutter Notification Information





Town of Wayland
41 COCHITUATE ROAD
WAYLAND MASSACHUSETTS 01778
www.wayland.ma.us TEL. 508-358-3788

OFFICE STAFF
Rob Leroux, Director of Assessing
Mary-Ann Wohlfarth, Sr. Admin. Coordinator

BOARD OF ASSESSORS
Zachariah Ventress, Chair
Vice Chair John A. Todd
Molly Upton, Secretary
Philip Parks
Massimo Taurisano

Certification of Abutters

Date of request June 20, 2023

Please plan your submission accordingly. The Assessors' office has 10 business days to certify an abutters list Per MGL Ch. 66, S.10

Address to be certified 80 Rice Road Parcel ID 45/004A
(Map/Lot)

Owner's Name Town of Wayland
(PLEASE PRINT)

Owner's Mailing Address 41 Cochituate Road, Wayland, MA 01778

Name of Applicant Town of Wayland (Linda Hanson) Telephone: (508) 358-3669
(PLEASE PRINT)

41 Cochituate Road Wayland MA 01778
Mailing Address of Applicant City/Town State Zip

Signature of Applicant 
*Sarah Pierce on behalf of applicant

Reason for List (check one) Conservation Health Planning Zoning Board of Selectmen

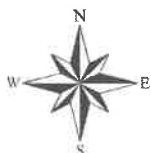
^{100'}
**Please check with the Board/Commission for their guidelines regarding the number of feet required for notification. Each Board/Commission has its own regulations for their abutters listing. There's no fee for certification, however the list/s of abutters must be provided by the person or company requesting certification.

For use by Assessors

This is to certify that at the time of the last assessment for taxation made by the Town of Wayland, the names and addresses are the assessed owners to these parcels.

Certified By:  Date: 20 JUN 2023

CC: Conservation Health Planning Zoning Board of Selectmen



Wayland, MA

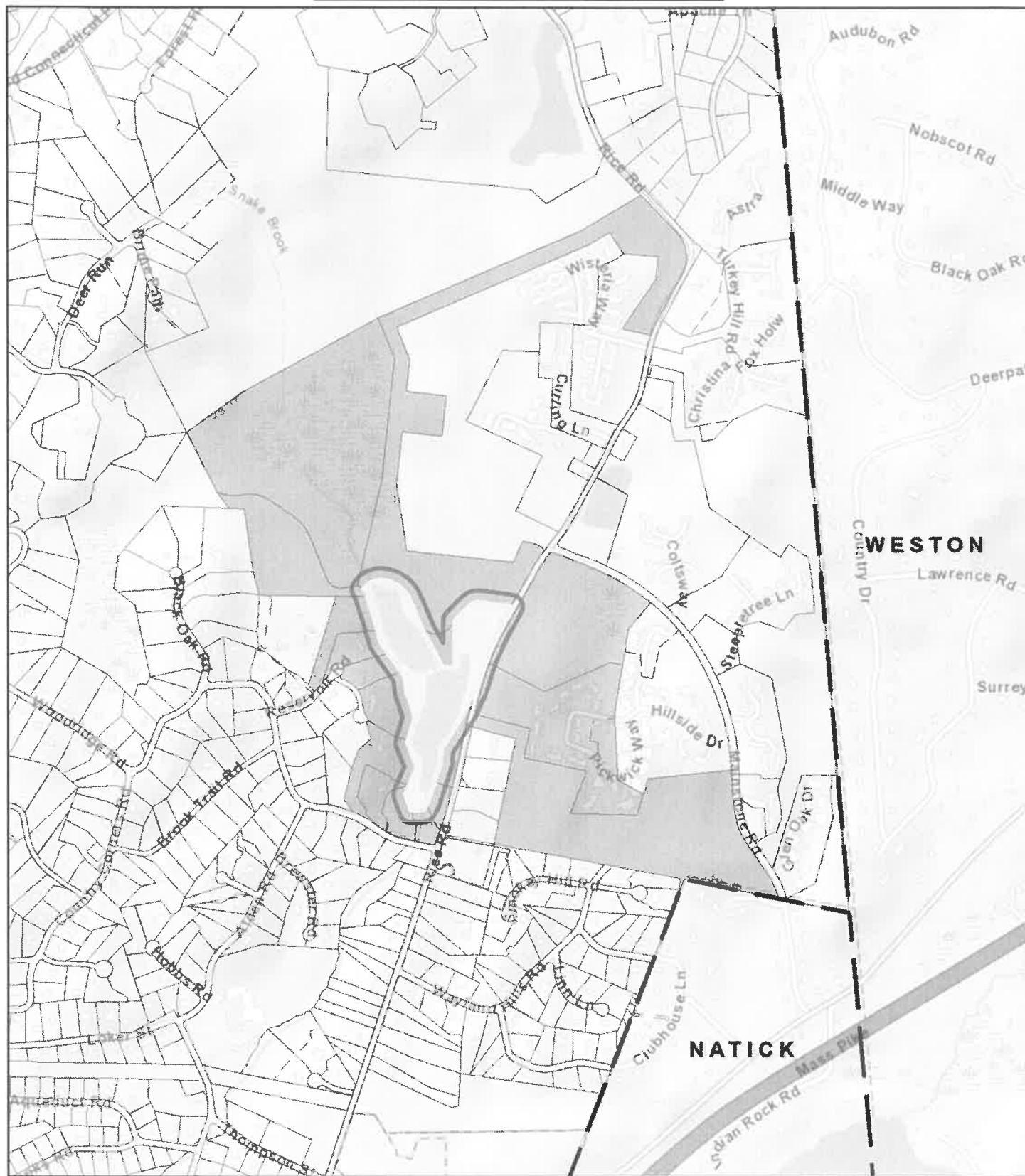
1 inch = 1113 Feet

CAI Technologies
Precision Mapping. Conceptual Solutions.

www.cai-tech.com

June 20, 2023

0 1113 2226 3339



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.



100 foot Abutters List Report

Wayland, MA
June 20, 2023

Subject Property:

Parcel Number: 45-004A
CAMA Number: 45-004A
Property Address: 80 RICE RD

Mailing Address: TOWN OF WAYLAND CONSERVATION
41 COCHITUATE RD
WAYLAND, MA 01778

Abutters:

Parcel Number: 39-001B
CAMA Number: 39-001A
Property Address: 90A RICE RD

Mailing Address: SUDBURY VALLEY TRUSTEES INC
18 WOLBACH RD
SUDBURY, MA 01776

Parcel Number: 39-001A
CAMA Number: 39-001B
Property Address: 90B RICE RD

Mailing Address: SUDBURY VALLEY TRUSTEES INC
18 WOLBACH RD
SUDBURY, MA 01776

Parcel Number: 40-003A
CAMA Number: 40-003A
Property Address: 2 MAINSTONE RD

Mailing Address: TOWN OF WAYLAND CONSERVATION
41 COCHITUATE RD
WAYLAND, MA 01778

Parcel Number: 40-019
CAMA Number: 40-019
Property Address: 90 RICE RD

Mailing Address: TOWN OF WAYLAND CONCOM
41 COCHITUATE RD
WAYLAND, MA 01778

Parcel Number: 44-112
CAMA Number: 44-112
Property Address: 9 RESERVOIR RD

Mailing Address: HICKLIN JOSEPH F
HICKLIN MELISSA PIKE
9 RESERVOIR RD
WAYLAND, MA 01778

Parcel Number: 44-114
CAMA Number: 44-114
Property Address: 15 RESERVOIR RD

Mailing Address: HIERONYMUS ANTONIA M
15 RESERVOIR RD
WAYLAND, MA 01778

Parcel Number: 45-001
CAMA Number: 45-001
Property Address: 200 MAINSTONE

Mailing Address: TOWN OF WAYLAND CONCOM
41 COCHITUATE RD
WAYLAND, MA 01778

Parcel Number: 45-004
CAMA Number: 45-004
Property Address: 80A RICE RD

Mailing Address: TOWN OF WAYLAND CONSERVATION
41 COCHITUATE RD
WAYLAND, MA 01778

Parcel Number: 45-005
CAMA Number: 45-005
Property Address: 78 RICE RD

Mailing Address: ROWE, KRISTIN V
ROWE, PATRICK D
78 RICE RD WAYLAND,
MA 01778

Parcel Number: 45-009
CAMA Number: 45-009
Property Address: 70 RICE RD

Mailing Address: LOVE AMY
LOVE CARL
70 RICE RD
WAYLAND, MA 01778



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100 foot Abutters List Report

Wayland, MA
June 20, 2023

Parcel Number: 45-011 CAMA Number: 45-011 Property Address: 68 RICE RD	Mailing Address: TEMPESTA GERARD TEMPESTA SUZANNE O 68 RICE RD WAYLAND, MA 01778
Parcel Number: 45-019 CAMA Number: 45-019 Property Address: 148 WOODRIDGE RD	Mailing Address: MENG QING MIN CHEN DAI 148 WOODRIDGE RD WAYLAND, MA 01778
Parcel Number: 45-020 CAMA Number: 45-020 Property Address: 14 RESERVOIR RD	Mailing Address: PILKINGTON CHRISTOPHER CIOLFI DEBORAH A 14 RESERVOIR RD WAYLAND, MA 01778
Parcel Number: 45-020A CAMA Number: 45-020A Property Address: 144 WOODRIDGE RD	Mailing Address: DANESH MO REZA YOUNG LEE 144 WOODRIDGE RD WAYLAND, MA 01778
Parcel Number: 45-021 CAMA Number: 45-021 Property Address: 16 RESERVOIR RD	Mailing Address: EAGLE BARBARA M 16 RESERVOIR RD WAYLAND, MA 01778
Parcel Number: 45-022 CAMA Number: 45-022 Property Address: 18 RESERVOIR RD	Mailing Address: RECK ANDREW J RECK LOUISE 18 RESERVOIR RD WAYLAND, MA 01778
Parcel Number: 45-CM6 CAMA Number: 45-077A Property Address: 45 HILLSIDE DR	Mailing Address: TAYLOR-KELL BARBARA KELL HANS 45 HILLSIDE DR WAYLAND, MA 01778
Parcel Number: 45-CM6 CAMA Number: 45-077B Property Address: 47 HILLSIDE DR	Mailing Address: POHL JESSICA 47 HILLSIDE DRIVE UNIT 47 WAYLAND, MA 01778
Parcel Number: 45-CM6 CAMA Number: 45-077C Property Address: 49 HILLSIDE DR	Mailing Address: FREED ELLEN FREED ANDREA & JANET 49 HILLSIDE DR WAYLAND, MA 01778
Parcel Number: 45-CM6 CAMA Number: 45-078A Property Address: 51 HILLSIDE DR	Mailing Address: SINS JACK B 51 HILLSIDE DR WAYLAND, MA 01778
Parcel Number: 45-CM6 CAMA Number: 45-078B Property Address: 53 HILLSIDE DR	Mailing Address: AGRANAT ELEANOR A 53 HILLSIDE DR WAYLAND, MA 01778
Parcel Number: 45-CM6 CAMA Number: 45-078C Property Address: 55 HILLSIDE DR	Mailing Address: COMPANIEH MOHAMMAD COMPANIEH FARIMAH 55 HILLSIDE DR WAYLAND, MA 01778



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6/20/2023

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Page 2 of 7



100 foot Abutters List Report

Wayland, MA
June 20, 2023

Parcel Number: 45-CM6
CAMA Number: 45-079A
Property Address: 57 HILLSIDE DR

Mailing Address: KUDIRKA PAUL E
KUDIRKA MARCY T
57 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-079B
Property Address: 59 HILLSIDE DR

Mailing Address: NOLLMAN MYRON M
NOLLMAN BEVERLY R
59 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-079C
Property Address: 61 HILLSIDE DR

Mailing Address: FALBER SARAH
MOTUZICK CRAIG
61 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-080A
Property Address: 63 HILLSIDE DR

Mailing Address: AMBURGEY KAREN
63 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-080B
Property Address: 65 HILLSIDE DR

Mailing Address: HOLLENBERG ERIC
BARI ANN JACOBS
65 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-080C
Property Address: 67 HILLSIDE DR

Mailing Address: SIU BRIAN Y
SIU EMILIE C
67 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-081A
Property Address: 69 HILLSIDE DR

Mailing Address: LEVINSON DIANA
69 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-081B
Property Address: 71 HILLSIDE DR

Mailing Address: TANSKI MARY L
71 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-081C
Property Address: 73 HILLSIDE DR

Mailing Address: STELLAR ILENE D
STELLAR RICHARD H
73 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-082A
Property Address: 75 HILLSIDE DR

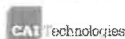
Mailing Address: SHUSTER BERNARD W
SHUSTER EVELYN S
75 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-082B
Property Address: 77 HILLSIDE DR

Mailing Address: EISENBERG HARRY A
LEAVITT LINDA J
77 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-082C
Property Address: 79 HILLSIDE DR

Mailing Address: ROZMAN EDUARD
ROZMAN INNA
79 HILLSIDE DR
WAYLAND, MA 01778



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100 foot Abutters List Report

Wayland, MA
June 20, 2023

Parcel Number: 45-CM6
CAMA Number: 45-083A
Property Address: 81 HILLSIDE DR

Mailing Address: FRANICZEK CHRISTOPHER J
FRANICZEK BIANCA T
81 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-083B
Property Address: 83 HILLSIDE DR

Mailing Address: CHURCHILL CHRISTINE S
83 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-083C
Property Address: 85 HILLSIDE DR

Mailing Address: ROONEY STEVEN
85 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-083D
Property Address: 87 HILLSIDE DR

Mailing Address: FEIGE CHRISTOPHER C
COX JR BERNARD J
87 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-084A
Property Address: 89 HILLSIDE DR

Mailing Address: LERNER LAURA
89 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-084B
Property Address: 91 HILLSIDE DR

Mailing Address: LERNER GARY
LERNER JILL
91 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-084C
Property Address: 93 HILLSIDE DR

Mailing Address: BALABANIS ELLEN ANN
93 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-084D
Property Address: 95 HILLSIDE DR

Mailing Address: DALITZKY CAROL
95 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-084E
Property Address: 97 HILLSIDE DR

Mailing Address: GILLEN ROBERT B
GILLEN MAXINE Z
97 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-085A
Property Address: 99 HILLSIDE DR

Mailing Address: SMITH SYLVIA
99 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-085B
Property Address: 101 HILLSIDE DR

Mailing Address: MCGRAW KAREN P
101 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-085C
Property Address: 103 HILLSIDE DR

Mailing Address: KENT MALCOLM P
KENT MARGOT L
103 HILLSIDE DR
WAYLAND, MA 01778



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100 foot Abutters List Report

Wayland, MA
June 20, 2023

Parcel Number: 45-CM6
CAMA Number: 45-085D
Property Address: 105 HILLSIDE DR

Mailing Address: SPEAR CATHY J
105 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-085E
Property Address: 107 HILLSIDE DR

Mailing Address: TURNBULL MARILYN
107 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-086A
Property Address: 68 PICKWICK WAY

Mailing Address: TURNEY HERBERT
TURNEY DEBORAH
68 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-086B
Property Address: 66 PICKWICK WAY

Mailing Address: DOXER KATHLEEN A
66 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-086C
Property Address: 64 PICKWICK WAY

Mailing Address: FISHER MELISSA H
HENRY LINDA CHILDS
18 HICKORY RD
SUDBURY, MA 01776

Parcel Number: 45-CM6
CAMA Number: 45-086D
Property Address: 62 PICKWICK WAY

Mailing Address: CULLEY DEBORAH J
62 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-086E
Property Address: 60 PICKWICK WAY

Mailing Address: YOUNG NOREEN P
60 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-086F
Property Address: 58 PICKWICK WAY

Mailing Address: KHALIL MAGED F
KHALIL PAMELA J
58 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-087A
Property Address: 121 HILLSIDE DR

Mailing Address: KAROFKY MARC G
KAROFKY SUSAN Z
121 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-087B
Property Address: 123 HILLSIDE DR

Mailing Address: ACHMAKJIAN MARIA
123 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-087C
Property Address: 125 HILLSIDE DR

Mailing Address: KAPLAN MARC
125 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-088A
Property Address: 127 HILLSIDE DR

Mailing Address: KATES KENNETH P
ROBINSON LESLIE CARTER
127 HILLSIDE DR
WAYLAND, MA 01778



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100 foot Abutters List Report

Wayland, MA
June 20, 2023

Parcel Number: 45-CM6
CAMA Number: 45-088B
Property Address: 129 HILLSIDE DR

Mailing Address: COLEMAN K ANN
GILMORE ROBERT A
1145 S KINGS DR
CHARLOTTE, NC 28207

Parcel Number: 45-CM6
CAMA Number: 45-088C
Property Address: 131 HILLSIDE DR

Mailing Address: GURTLER MICHAEL D
131 HILLSIDE DR
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-093D
Property Address: 22 PICKWICK WAY

Mailing Address: KAUFMAN LARRY R
KAUFMAN JUDITH A
22 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-093E
Property Address: 24 PICKWICK WAY

Mailing Address: HILL PETER S
HILL NANCY G
24 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-094A
Property Address: 26 PICKWICK WAY

Mailing Address: STETSON DAVID B
STETSON ATHENA N
26 PICKWICK WAY
WAYLAND, MA 01778-0076

Parcel Number: 45-CM6
CAMA Number: 45-094B
Property Address: 28 PICKWICK WAY

Mailing Address: AMARA ANTHONY D
AMARA ALISA A
28 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-094C
Property Address: 30 PICKWICK WAY

Mailing Address: WYMAN LYNDA F
30 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-094D
Property Address: 32 PICKWICK WAY

Mailing Address: BERNACIAK ANDRES JORGE
SCAGNI VINCENTELLI PAULA NATALIA
32 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-094E
Property Address: 34 PICKWICK WAY

Mailing Address: ALLEN EDWARD B
ALLEN MARY M
34 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-095A
Property Address: 36 PICKWICK WAY

Mailing Address: GARB JEFFREY B
GARB KAREN TOBASKY
36 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-095B
Property Address: 38 PICKWICK WAY

Mailing Address: REYHAN T LARIMER
38 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-095C
Property Address: 40 PICKWICK WAY

Mailing Address: LUCAS MARGERY MARIE
SEPTAK MICHAEL
40 PICKWICK WAY
WAYLAND, MA 01778



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100 foot Abutters List Report

Wayland, MA
June 20, 2023

Parcel Number: 45-CM6
CAMA Number: 45-096A
Property Address: 42 PICKWICK WAY

Mailing Address: BARNETT DAVID P
BARNETT SHERI
42 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-096B
Property Address: 44 PICKWICK WAY

Mailing Address: HAHN ELIZABETH W
44 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-096C
Property Address: 46 PICKWICK WAY

Mailing Address: DARVIN GRETCHEN
46 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-097A
Property Address: 48 PICKWICK WAY

Mailing Address: STREHLE GLENN P
STREHLE KATHERINE H
48 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-097B
Property Address: 50 PICKWICK WAY

Mailing Address: HELLER KALMAN M
HELLER ELLEN S
50 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-097C
Property Address: 52 PICKWICK WAY

Mailing Address: FRENCH DEBORAH S
52 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-097D
Property Address: 54 PICKWICK WAY

Mailing Address: VENO ROBERT
54 PICKWICK WAY
WAYLAND, MA 01778

Parcel Number: 45-CM6
CAMA Number: 45-097E
Property Address: 56 PICKWICK WAY

Mailing Address: SHEMS BATIA
56 PICKWICK WAY
WAYLAND, MA 01778



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Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

Notification to Abutters
Under the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131,
Section 40, you are hereby notified of the following:

- A. The name of the **Applicant** is Town of Wayland
- B. The Applicant has filed a Notice of Intent with the Wayland Conservation Commission for permission to remove, fill, dredge, or alter an Area Subject to Protection (Wetland Resource Area and/or Buffer Zone) Under the Massachusetts Wetlands Protection Act (General Laws Chapter 131, Section 40).
- C. The **address** of the lot where the activity is proposed: 80 Rice Road
Map: 45 Lot: 004A
- D. The **proposed activity** is: Rehabilitating Snake Brook Dam and addressing numerous deficiencies located along the dam and spillway channel.
-
- D. A **Public Hearing** regarding this Notice of Intent will be held on:
- Wednesday, August 30 at 6:30 PM at Town Hall (41 Cochituate Road, Wayland).
 - Information regarding the date, time, and place of the public hearing may be obtained from the applicant or the Wayland Conservation Commission (check website).
- E. Copies of the Notice of Intent may be examined at **THE WAYLAND CONSERVATION COMMISSION OFFICE** at Wayland Town Hall between the hours of 8:00 A.M. & 4:00 P.M. Monday – Thursday and 8:00 A.M. & 12:30 P.M. Friday. For more information, call: 508-358-3669.
- F. Copies of the Notice of Intent may be obtained from either:
- The Applicant, or the Applicant's representative Lauren Gluck, by calling this telephone number: (508)488-4122 between the hours of 8:30-4:30 on the following days of the week: Tuesday-Thursday.

Note: Public Hearing Notice, including its date, time, and place, will be published at least 5 days in advance in the MetroWest Daily News (at the applicant's expense).

Note: You also may contact the Department of Environmental Protection (DEP) for more information about this application or the Wetlands Protection Act. To contact DEP (205B Lowell Street, Wilmington, MA 01887), call (978) 694-3200

Since you are receiving this notice, you may have wetland or riverfront resource areas on your property.

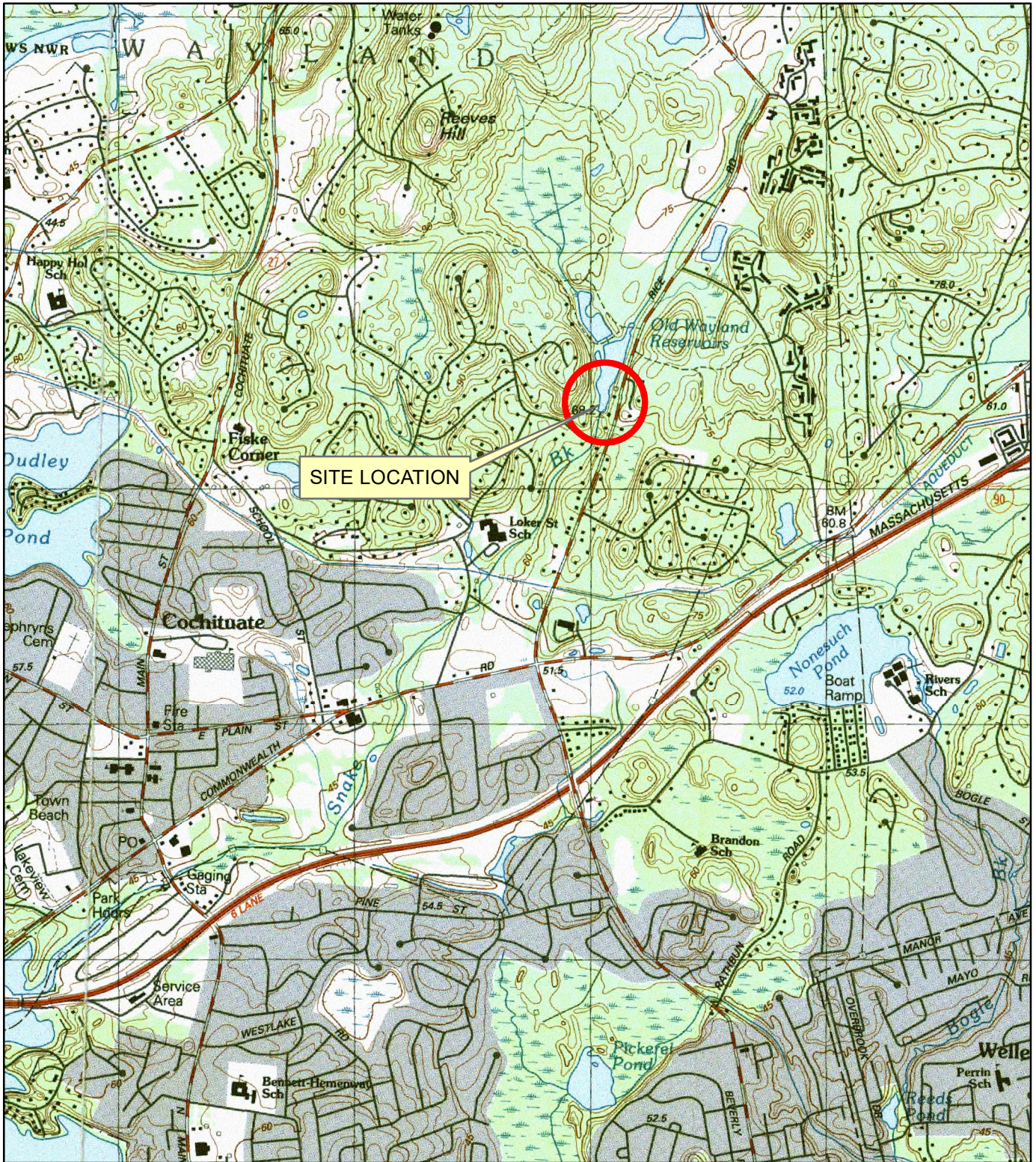
Therefore, construction, cutting, clearing, or grading may require a permit. For clarification or for more information, call the Conservation office 508-358-3669 or visit our web site:

http://www.wayland.ma.us/Pages/WaylandMA_Conservation/index

SECTION 3

Figures





SITE LOCATION MAP

SCALE: 1"=2,000'



8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100


10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

FIGURE 1

**SNAKE BROOK DAM REHABILITATION
WAYLAND, MA**



Legend

 Subject Property



ANNOTATED AERIAL PHOTOGRAPH

SCALE:1"=100'



8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No.19167.02

JUNE 2023

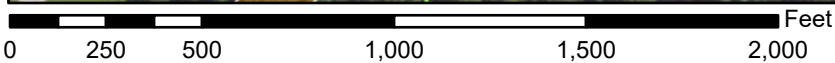
FIGURE 2

**SNAKE BROOK DAM REHABILITATION
WAYLAND, MA**

National Flood Hazard Layer FIRMMette



71°20'48"W 42°20'14"N



1:6,000

71°20'11"W 42°19'47"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

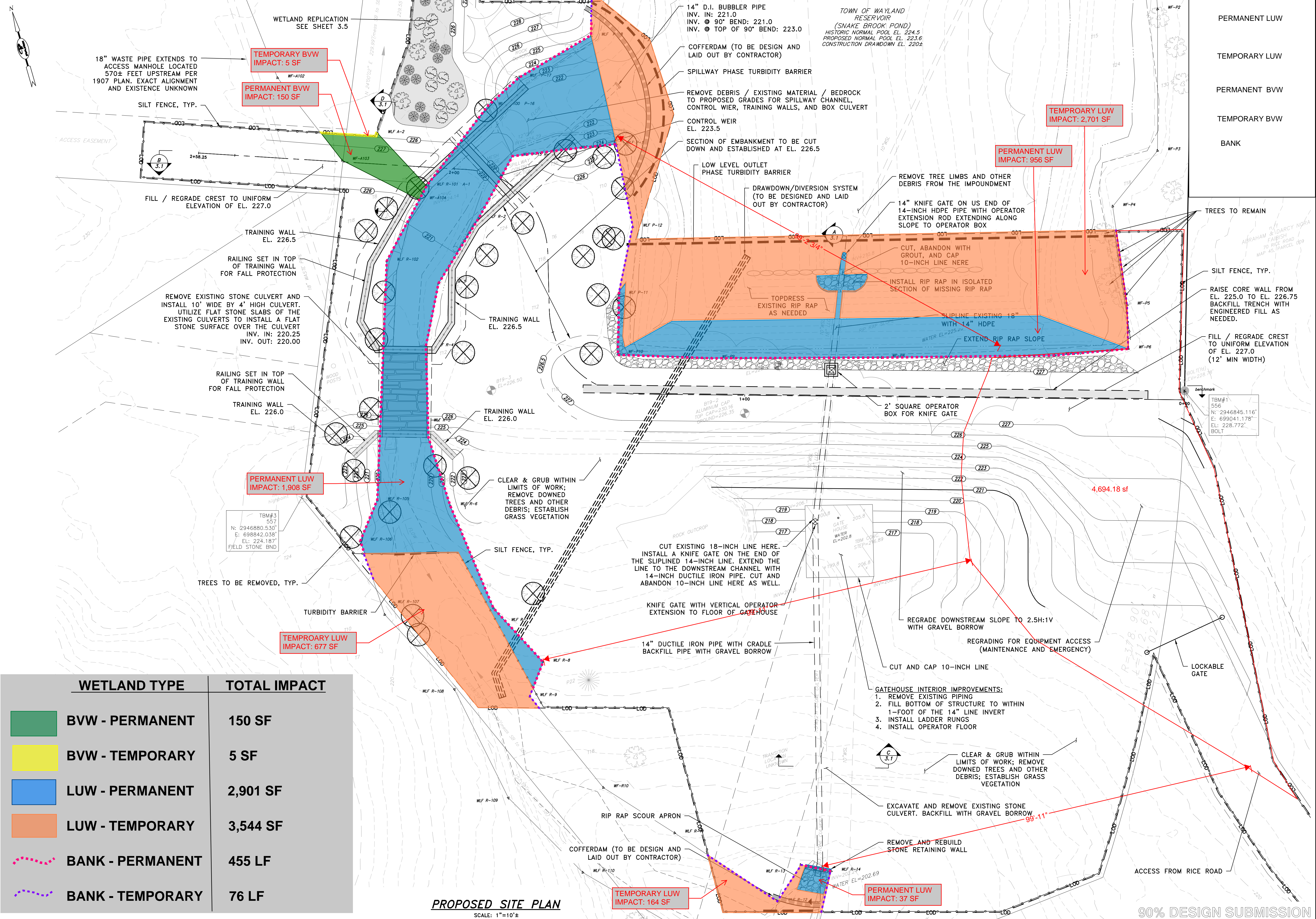
SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **6/20/2023 at 12:54 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



- PERMANENT LUW
- TEMPORARY LUW
- PERMANENT BVW
- TEMPORARY BVW
- BANK



SCALE ADJUSTMENT GUIDE
 0" 1"
 BAR IS ONE INCH ON ORIGINAL DRAWING.

SLAKE BROOK DAM REHABILITATION
 MA01119
 WAYLAND, MASSACHUSETTS
 TOWN OF WAYLAND CONSERVATION COMMISSION

WETLAND TYPE	TOTAL IMPACT
BVW - PERMANENT	150 SF
BVW - TEMPORARY	5 SF
LUW - PERMANENT	2,901 SF
LUW - TEMPORARY	3,544 SF
BANK - PERMANENT	455 LF
BANK - TEMPORARY	76 LF

REVISIONS:

PROJECT NO.: 19167.02
 DATE: NOVEMBER 2022
 SCALE: AS NOTED

FIGURE 4
WETLAND IMPACT PLAN

PROPOSED SITE PLAN
 SCALE: 1"=10'±

90% DESIGN SUBMISSION

SECTION 4

Project Narrative



I. Introduction

This Notice of Intent (NOI) is submitted by Pare Corporation (Pare) on behalf of the Town of Wayland Conservation Commission (the Town) for the proposed rehabilitation of the Snake Brook Dam in Wayland, Massachusetts. The proposed dam improvements are eligible as a Limited Project under the provisions of 310 CMR 10.53(3)(i). Rehabilitation is necessary to comply with current dam safety regulations and to address deficiencies in prior dam inspections.

The Snake Brook Dam (National ID MA00119/State ID 4-09-315-03, referred to herein as the Dam) impounds water along Snake Brook to form the Old Wayland Reservoirs. Originally constructed as part of the municipal water supply system, the dam currently impounds water for recreational uses. The Dam is classified as an Intermediate sized, Significant hazard potential structure under Commonwealth of Massachusetts dam safety rules and regulations. Dam inspections performed by Pare in 2022 found the dam to be in poor condition due to numerous deficiencies including:

- Routine and persistent beaver activity / accumulated debris issues at the spillway, causing elevated pool levels, limited freeboard during normal operations, and restricted discharge capacity;
- Inadequate discharge capacity to accommodate the SDF, even with a cleared spillway;
- Inoperable low level outlet system;
- Steep and irregular downstream slope that does not meet the required factors of safety for slope stability;
- Areas of overgrown tree and brush vegetation along the dam embankment;
- Areas of apparent sinkholes/vertical irregularities within the downstream area in the vicinity of the alignment of both the water supply distribution line and the stone culvert;
- Gatehouse deficiencies including collapsed roof, inoperable door, and lack of safe access to mechanical equipment;
- Sediment/leaf accumulation as well several downed trees and limbs; and
- Additional maintenance and dam safety concerns.

Based upon the findings of these evaluations, Pare developed a Design Basis Report summarizing alternatives for addressing the observed deficiencies and recommended approaches for repair. Based upon these recommendations Pare has worked with the Town to develop a dam rehabilitation program that includes improvements to the embankment and spillway as well as the establishment of low-level outlet capabilities.

Wetland resource areas in the project vicinity include Bank, Land Under Waterbodies and Waterways, Bordering Vegetated Wetlands, and 200-Foot Riverfront Area associated with Snake Brook. Impacts to resource areas are unavoidable due to the water dependent use of the dam and nature of the maintenance work. A wetland replication area is being proposed to account for the dam rehabilitation project and is sized to provide 3:1 mitigation for impacts from the overall project. Detailed description of project activities, resource area impacts, and regulatory compliance of the project is provided in the Project Narrative enclosed in this NOI.

The following narrative discusses the project background and existing site conditions; demonstrates the need for the work; describes the proposed project and alternatives evaluated; discusses activity within jurisdictional areas; and demonstrates project compliance with the applicable regulatory provisions of 310 CMR 10.00 and the Ordinance. The existing site conditions and the proposed reconstruction are shown on plans entitled “*Snake Brook Dam Rehabilitation*” prepared by Pare Corporation, dated September 2022 (the “Project Plans”). The Project Plans are bound under separate cover as Section 7 of this NOI.



II. Existing Site Conditions

a. Snake Brook Dam

The Snake Brook Dam (National ID MA01119/State ID 4-09-315-03) impounds the Old Wayland Reservoirs, an 11.5 +/- acre impoundment of Snake Brook located west of Rice Road within the Town of Wayland, Massachusetts. The dam is located at the south end of the impoundment and discharges into Snake Brook, which eventually flows into Lake Cochituate approximately 2.5 miles southwest of the dam. The Town of Wayland owns the dam and is primarily responsible for the maintenance and operations at the structure. According to historical records, the dam was originally constructed with the intended use as a water supply structure for the town. However, it has since been used to impound water for passive recreational uses and is surrounded by residential development and town-owned conservation land.

Snake Brook Dam consists of an approximately 130-foot-long earthen embankment with a maximum structural height of approximately 25 feet. The dam is currently classified as an **Intermediate** sized, **Significant** (Class II) hazard potential dam under Commonwealth of Massachusetts dam safety rules and regulations stated in 302 CMR 10.00. The appurtenant structures include a spillway located northwest to the left abutment; a Water Supply System; and a Waste Pipe System.

The primary spillway channel extends southwest approximately 50 feet north of the dam structure. The spillway consists of a 10-foot-wide open channel with a stone masonry “waste” weir located at the upstream end. A timber sluiceway and siphon pipe were installed within the spillway to combat buildup of beaver debris and currently act as regulating structures for the reservoir elevation. The upstream portion of the spillway near its entrance extends through an area of bedrock. As the channel continues downstream, it consists of dry-laid stone masonry walls before passing through a 6-foot stone culvert near the right end of the dam. After passing through the culvert, the channel converts to a steep bedrock and boulder lined trapezoidal channel that extends along the right downstream groin of the dam.

Although the dam no longer serves its original purpose as a municipal water supply structure, the existing water supply system remains and consists of several components including the following:

- An upstream filter gallery collection system along the east (left) side of the reservoir with several intake lines that extend from the center of the impoundment to the left shoreline.
- A 10-inch diameter cast iron water supply intake line that extends from the filter well of the filter gallery along the left shore of the impoundment, along the pond bottom, through the dam embankment and through the right upstream corner of the gatehouse structure.
- An 18- inch diameter cast iron conduit that extends from the upstream stone masonry wall at the upstream toe of the upstream slope of the dam, through the embankment and through the right upstream corner of the gatehouse structure. The 18-inch line is supported on five stone piers along its alignment that all extend down to bedrock.
- A stone masonry gatehouse structure that houses the components of the former pumping system of the former water supply system. The pumping system includes a series of valves and a former turbine that are situated between the 10-inch and 18-inch intake lines located at the upstream right corner and the sole 10-inch water supply distribution lines that leaves the downstream left corner of the gatehouse structure.



- A 10-inch diameter water supply distribution line that extends from the downstream left corner of the gatehouse to the downstream area.
- A stone masonry waste culvert that extends from the base of the downstream right corner of the gatehouse to the downstream channel. The culvert measures 1.5-foot wide by 2-feet high at its upstream end and 3 sf at its downstream end at the downstream channel.

According to plans from 1907, a “waste” pipe system is located along the western shoreline of the impoundment. This system is controlled at the upstream end via a gate valve with an intake manhole, which would then convey flow from the manhole to the spillway downstream channel via an 18-inch diameter drainage pipe.

b. Wetlands and Floodplain

Resource areas present at the project site include the Banks, Bordering Vegetated Wetland (BVW), Riverfront Area (RFA), and Land Under Water (LUW) associated with Old Wayland Reservoirs and Snake Brook. A majority of the site is located within the RFA and 100-foot Wetland Buffer Zones associated with resource areas onsite. Impacts to resource areas are unavoidable due to the nature of the work, and have been minimized to the extent practicable, as demonstrated in Section V of this Narrative. Wetlands are described in greater detail in the Wetland Delineation Report, which is included as Section 5 of this Notice of Intent.

Pare acknowledges that the Wayland Conservation Commission typically requires that wetland delineations be completed during the months of May through October; however, the wetlands boundaries were straightforward and weather conditions were favorable for delineation in early November. As demonstrated in the attached Wetland Report, much of the herbaceous layer remained at the time of delineation. Therefore, Pare is requesting that the Commission accept the delineation completed on November 19, 2019.

According to the FEMA Flood Insurance Rate Map (FIRM) for the area (Map Number 25017C0529F, effective date July 7, 2014), the site designated as Zone X, Areas of Minimal Flood Hazard.

c. Other Environmental Considerations

According to the most recent available MassGIS data, the site is not located within or in the vicinity of any Areas of Critical Environmental Concern (ACECs), mapped Priority or Estimated Habitats (MassGIS data layers PRIHAB_POLY, ESTHAB_POLY), or Outstanding Resource Waters (ORW). No Certified or Potential Vernal Pools have been identified on or near the site (MassGIS data layers PVPX1 and CVP_PT).

III. Proposed Work

The purpose of the project is to rehabilitate and improve the performance of the Snake Brook Dam and appurtenances. In addition, the Town of Wayland received a Certificate of Non-Compliance and Dam Safety Order from the Department of Conservation and Recreation on September 1, 2022. The Town is ordered to bring the dam into compliance and complete all repair work no later than March 2024. The project background and scope of the proposed project is summarized below and shown on the Project Plans, bound under separate cover.



a. *Dam Rehabilitation*

1. **Drawdown Diversion System:** Before work is conducted, the applicant proposes the installation of a water diversion system to implement and maintain a construction drawdown to El. 220; approximately 4 feet below normal pool. The details of the system will be based upon the Contractor's design; but, as conceptually developed, the system includes three 6-inch diameter siphon conduits installed between the dam embankment and spillway area; as shown on Sheet 3.0 of the drawings.
2. **Vegetation Management:** The applicant proposes vegetation management within the vicinity of the proposed work. Areas located downstream of the dam are proposed to be cleared and grubbed, have downed trees and debris removed, and established with maintainable grass vegetation. Tree limbs and debris located within the impoundment shall be removed. Six trees located along the eastern bank, upstream from the dam shall remain. As shown on Sheet 3.0 of the Plans, 30 trees (>6" dbh) are proposed to be removed.
3. **Embankment Improvements:** The applicant proposes numerous improvements to the existing dam embankment including:
 - Raising the core wall from its existing elevation of 225.0 feet to an elevation of 226.75 and backfilling the trench with engineered fill as needed;
 - Filling/regrading the crest of the dam on either side of the spillway channel to a uniform elevation of 227.0;
 - Lowering the section of embankment located east of spillway to an elevation of 226.5;
 - Regrading the downstream slope to 2.5H:1V using gravel borrow;
 - Topdressing the existing riprap located upstream of the dam as needed; and
 - Extending the riprap slope located upstream of the dam across entire embankment
4. **Establish Low-Level Outlet Capabilities:** The applicant proposes improvements to the low-level outlet including installation of an upstream low-level outlet control system, slip-lining existing pipes, establishing a restored outlet conduit and addressing gatehouse concerns. Proposed improvements are described below:
 - Remove sediment and debris to the extent needed to complete the work. Complete clean up of the impoundment bottom around work area.
 - Clean and slip line the existing 18-inch cast iron conduit line with a 14-inch (I.D.) HDPE conduit; grout the annulus.
 - Install the upstream gate valve with operator extension rod along the upstream slope; install the secondary gate valve within the gatehouse.
 - Install the operator chamber for the upstream gate valve along the upstream edge of the crest.
 - Install a screen around the inlet (upstream) end of the 14-inch conduit
 - Cut and grout the existing 10-inch line (former water supply line).
 - Excavate to remove the existing stone masonry outlet culvert that extends from the gatehouse to the downstream channel; backfill to subgrade for the proposed 14-inch outlet conduit.
 - Install the 14-inch conduit and cradle from gatehouse.
 - Install the downstream headwall.
 - Backfill the excavation.
 - Install the riprap apron.



5. **Gatehouse Interior Improvements:** The applicant proposes improvements to the interior of the gatehouse located downstream of the dam. Proposed improvements include:
- Removing existing piping
 - Filling in the bottom of the structure within one foot of the invert of the proposed 14-inch LLO conduit
 - Install a 2-inch drain line along and within the cradle of the 14-inch LLO outlet conduit.
 - Install ladder rungs
 - Install an operator floor
6. **Spillway Improvements:** Improvements within the spillway channel include:
- Removal of beaver debris and replacing the existing beaver deceiver devices with new deceiver and deterrence devices;
 - Removal of existing debris, material, and bedrock within the channel to the proposed grades for the spillway, control weir, training walls and box culvert;
 - Installation of a control weir at the location of the existing spillway control section;
 - Installation of training walls along both sides of the of the upstream portion of the spillway and extending out from the downstream end of the proposed culvert. Railings are proposed to be installed atop the training walls for fall protection;
 - Removal of the existing stone culvert and the installation of a 10-foot wide by 4-foot-high culvert which utilizes the flat stone slabs of the existing culvert to install a flat stone surface over the proposed and;
 - Installation of a 14" Ductile Iron (D.I.) bubbler pipe, which is proposed to extend from the reservoir, along the eastern side of the spillway ending in between the proposed control weir and culvert.
7. **Wetland Replication Area:** Approximately 465 square feet (sf.) of upland area shall be converted to wetlands to mitigate the approximately 150 sf. proposed to be permanently altered as a result of this project. A total of 5 Red Maples (*Acer rubrum*), 12 Sweet Pepperbush (*Clethra alnifolia*), and 12 Highbush Blueberry (*Vaccinium corymbosum*) are proposed to be planted within this area, in addition to a wetland seed mix. Organic materials such as saved trees/logs are to be scattered through the replication area to provide vital habitat for local wildlife. All work within the replication area will be performed in accordance with the Wetland Protection Act and Regulations under 310CMR 10.55 and the Massachusetts Inland Wetland Replication Guide. Further details regarding the wetland replication area can be found on Sheet 3.5 of the Project Plans.

b. *Site Access*

The downstream area is readily accessible via the dam access path extending from Rice Road. The applicant proposes the installation of a stone stabilization pad to protect the construction entrance of the site. The pad will consist of crushed stone and will minimize the tracking or flowing of sediments onto the public right of ways.

c. *Erosion and Sedimentation Control*

Erosion and sedimentation controls will consist of perimeter controls (straw bales and silt fence barriers or approved alternative) and staged turbidity barriers installed at the limits of work as shown on the Project Plans. Turbidity barriers will be staged to protect localized work areas. Cofferdams are proposed to be installed along the mouth of the spillway channel as well as downstream of the channel to provide protection while work is conducted on the stone retaining wall downstream from the gate house. The contractor will be responsible for installing and maintaining all erosion controls as indicated in the contract documents.



IV. Alternatives Analysis

During the development of the project approach and project design, a variety of design alternatives were reviewed and evaluated to identify a repair approach which would address dam safety deficiencies, meet the Owner's goals for the project, and limit the extent of required impacts to the resource areas surrounding the work area. An alternatives analysis for the project is provided in Section 5.0 of the Design Basis Report, attached as Section 6 of this NOI. Alternatives to the overall project approach are summarized briefly below:

- **No Action:** This alternative is not feasible due to the safety concerns present at the existing dam and was not considered further. Failure of the dam may cause loss of life and compromise important facilities and infrastructure. The Town is under a state mandate to repair the dam.
- **Dam Rehabilitation (Selected):** This alternative provides a long-term solution to structural and hydraulic deficiencies at the dam. This alternative best meets the needs of the Town as it will preserve the recreational and ecological functions provided by the Old Wayland Reservoirs, which contributes to a diverse and robust wildlife habitat within the Hamlin Woods conservation area. The Old Wayland Reservoirs also provide flood attenuation, provides aesthetic value for the neighborhood, and compliments the scenic road status of the adjacent Rice Road.
- **Dam Removal:** While removal of the dam would restore natural stream processes and eliminate future dam maintenance costs, removal of the dam was not considered the preferred alternative for the Town for several reasons, including:
 - The ecological and recreational value provided by the current impoundment are values that the Town is eager to preserve.
 - The current dam and impoundment offer a small amount of flood attenuation to the downstream area; removal of the dam would likely result in the loss of that attenuation, which could impact the downstream area. Further evaluation would be required to determine the extent of that impact and the need to implement any mitigative measures to offset the impact, such as multiple culvert replacements.
 - The removal of the dam may negatively impact a second dam as well as a trail crossing both located at the upper limits of the impoundment. Further evaluation would be required to determine the extent of that impact and the need to implement any mitigative measures to offset the impact.

Alternatives for various components of the rehabilitation work were considered, including alternatives for the upstream control system, improvements to the 18" conduit between the dam and gatehouse, restoration of the culvert passing the downstream conduit, and gatehouse improvements. Discussions of the various alternatives for each component of the project are provided in Section 5.0 of the Design Basis Report, attached as Section 6 of this NOI.

V. Wetland Impacts and Regulatory Compliance

Due to the nature and location of the proposed work, the project will result in unavoidable impacts to various wetland resource areas. Permanent and temporary alterations are proposed to Bank and Bordering Vegetated Wetlands, and Land Under Waterbodies and Waterways associated with Old Wayland Reservoir and Snake Brook. In addition, a majority of the proposed work located outside of the resource areas will occur within the 100-foot Buffer Zones associated with the wetland resources on the site, and the 200-foot Riverfront Area associated with Snake Brook. However, because the project consists of maintenance of structures in



existence on August 7, 1996, it qualifies for an exemption from the requirements for Riverfront Area, pursuant to 310 CMR 10.58(6)(a). Throughout the design, significant efforts have been made to avoid or minimize permanent impacts to the extent practicable. Unavoidable alterations to vegetated wetlands will be offset at a ratio of 3:1 by constructing a replacement wetland in an onsite location adjacent to the dam. Impacts to the various resource areas on the project site, and compliance with the applicable performance standards, are described in the following sections.

a. Bank

The project will result in approximately 531 linear feet of impacts to the banks of Wayland Reservoir and Snake Brook. Approximately 455 linear feet of the proposed work are permanent impacts. Impacts along the banks of Snake Brook result from the installation of training walls, replacement of the existing stone culvert and the removal and rebuilding of the stone retaining wall located in the southern end of the property. Permanent impacts anticipated to occur along the banks of Wayland Reservoir are located along the upstream side of the dam. These impacts account for the removal of four trees located along the western bank, extending from the spillway entrance to the face of the dam, as well as extending the existing riprap slope located at the upstream face of the dam. While this work will permanently alter the character of the Bank, it is necessary in order address the safety and functionality concerns present within the existing conditions.

The remaining 76 linear feet of bank impact are considered temporary and result from construction access and installation of erosion and sedimentation controls. On the upstream side of the work area, including the spillway and eastern banks of the reservoir approximately 66 linear feet of Bank will be temporarily impacted. Downstream of the spillway, beyond the culvert proposed work will account for approximately 28 linear feet of temporary Bank impacts along the banks of Snake Brook. Following the completion of the work, any areas of Bank that are disturbed by temporary construction activities will be stabilized and allowed to naturally revegetate.

None of the proposed work along the banks will adversely affect the physical stability of the Bank, or ground water and surface water quality. Installation of the training walls will improve the stability of the banks of Snake Brook by reducing the amount of erosion. Proposed work is not anticipated to negatively impact whatever capacity the Bank may have to provide breeding habitat, escape cover and food for fisheries. Pursuant to the Limited Project provisions of 310 CMR 10.53(3)(i), the applicant requests that the Conservation Commission waive the requirement for a wildlife habitat evaluation for work affecting more than 50 linear feet of Bank.

The project meets the applicable Performance Standards for LUW established in 310 CMR 10.54(4) of WPA Regulations, as demonstrated below:

(a) Where the presumption set forth in 310 CMR 10.54(3) is not overcome, any proposed work on a Bank shall not impair the following:

1. the physical stability of the Bank;

The project will result in improvements to Bank stability at the dam and immediate downstream area.

2. the water carrying capacity of the existing channel within the Bank;

The project will not impair the carrying capacity of the Bank, but rather will increase the outlet's carrying capacity through improvements to the spillway and downstream outlet channel, and elimination of the obstructions from persistent beaver activity.



3. *ground water and surface water quality;*

The project consists of rehabilitation of an existing dam within municipal open space, with no new development or changes in use proposed. As such, no adverse impacts to water quality are anticipated.

4. *the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;*

The Banks to be impacted consist of a maintained dam embankment and appurtenant features which provide minimal value to fisheries in the context of the extensive aquatic habitat within the upstream and downstream areas. The dam improvements will have minimal direct impact to the overall capacity of the Old Wayland Reservoirs and Snake Brook to provide fisheries habitat, and the dam rehabilitation is necessary to preserve the habitat provided by the impoundment. The temporary drawdown will preserve an approximately 3.3 acre remnant pool with depths up to 11 feet deep in the area upstream of the work area, which will support refuge for wildlife during the construction period of approximately 4 months, and flow will be maintained to the downstream channel throughout the construction.

5. *the capacity of the Bank to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. In the case of a bank of a river or an intermittent stream, the impact shall be measured on each side of the stream or river. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.*

The Banks to be directly impacted consist of dam features which provide minimal value to wildlife in the context of the extensive habitats within the upstream and downstream areas. Pursuant to the Limited Project provisions of 310 CMR 10.53(3)(i), the applicant requests that the Conservation Commission waive the requirement for a wildlife habitat evaluation for work affecting more than 50 linear feet of Bank.

b. Land under Waterbody/Waterway

The proposed limits of work include approximately 6,445 square feet of impacts to Land Under Water (LUW), which is defined as land below the mean low water (MLW) level. Approximately 2,901 square feet of the anticipated impacts are permanent and result from removal of debris, existing material and bedrock located within the spillway channel to allow for the proposed grading. Additional permanent impacts within the channel result from the installation of a control weir at the mouth of the spillway, installation of the training walls, replacement of the stone culvert and the proposed rebuilding of the stone retaining wall. Approximately 956 square feet of the proposed permanent impacts occur along the upstream face of the dam. These impacts are a result of topdressing the existing riprap, installation of riprap in the isolated section of missing riprap located around the proposed knife gate, as well as installation of the knife gate. The remaining 3,544 square feet of impacts are considered temporary and result from areas providing site access and the installation of temporary cofferdams and turbidity barriers.



In addition to impacts within the limits of work, the project will require a temporary impoundment drawdown to safely complete the work in dry conditions. An approximately 4.5-foot deep drawdown (El. 220±) is proposed which will expose approximately 3 acres of pond bottom along the perimeter of Old Wayland Reservoirs. The remaining pool will be approximately 3.3 acres in size and up to 11 feet deep during a period of approximately 4 months. The extent of the proposed construction drawdown is shown on Sheet 2.0 of the Plans.

The project meets the applicable Performance Standards for LUW established in 310 CMR 10.56(4) of WPA Regulations, as demonstrated below:

(a) Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed work within Land under Water Bodies and Waterways shall not impair the following:

- 1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;*

The project will not impair the carrying capacity of the dam's outlet channel, but rather will increase carrying capacity through improvements to the spillway and downstream outlet channel, and elimination of the obstructions from persistent beaver activity.

- 2. Ground and surface water quality;*

The project consists of rehabilitation of an existing dam within municipal open space, with no new development or changes in use proposed. As such, no adverse impacts to water quality are anticipated.

- 3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries;*

The project will have minimal impact to the overall capacity of the Old Wayland Reservoirs and Snake Brook to provide fisheries habitat, and the dam rehabilitation is necessary to preserve the habitat provided by the impoundment. The temporary drawdown will preserve an approximately 3.3 acre remnant pool with depths up to 11 feet deep in the area upstream of the work area, which will support refuge for wildlife during the construction period, and flow will be maintained to the downstream channel throughout the construction.

- 4. The capacity of said land to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.*

The proposed work is required to provide a long-term solution to deficiencies noted at the dam and will preserve a valuable wildlife habitat area in municipal open space. As noted in item (3) above, the proposed drawdown will be completed to preserve a remnant pool during the construction and maintain flow to the downstream area. Pursuant to the Limited Project provisions of 310 CMR 10.53(3)(i), the applicant requests that the Conservation Commission waive the requirement for a wildlife habitat evaluation for work affecting more than 5,000 square feet of LUW.



c. Bordering Vegetated Wetland

The proposed work will result in a total of approximately 155± square feet of permanent impacts to Bordering Vegetated Wetland areas. These impacts will result from the embankment grading located west of the spillway channel. These impacts are unavoidable due to the location of these wetlands in the direct vicinity of the dam embankment. Throughout the design, significant efforts have been made to reduce the scope of work within the vegetated wetland areas.

To mitigate these unavoidable losses, the town is proposing a Wetland Mitigation Area located adjacent to the existing BVW (Wetland A) along Snake Brook. The proposed mitigation involves excavating a replacement wetland area with a surface area of approximately 465 square feet, providing greater than 3:1 mitigation for lost wetlands. As shown on Sheet 3.5 of the Plans, the mitigation area will be excavated to 12" below the grade of the bordering wetland areas, backfilled with 12" of high organic content soils and planted with a mixture of saplings, shrubs, and wetland seed mix to establish a native community of wetland vegetation.

The project meets the applicable Performance Standards for BVW established in 310 CMR 10.55(4) of WPA Regulations, as demonstrated below:

(a) Where the presumption set forth in 310 CMR 10.55(3) is not overcome, any proposed work in a Bordering Vegetated Wetland shall not destroy or otherwise impair any portion of said area.

The proposed work will result in minimal loss of wetland resource areas that are unavoidable due to the nature of the project. Approximately 150 square feet of permanent impacts to BVW will result from regrading the dam embankment to a uniform slope immediately west of the spillway.

(b) Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5000 square feet of Bordering Vegetated Wetland when said area is replaced in accordance with the following general conditions and any additional, specific conditions the issuing authority deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:

1. the surface of the replacement area to be created ("the replacement area") shall be equal to the area that will be lost ("the lost area")

The proposed replacement area will provide approximately 465 square feet of replacement wetland to mitigate for approximately 150 square feet of permanent impacts to BVW, creating greater than 3:1 replacement.

2. the ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area

The proposed replacement area is located immediately adjacent to the A-series wetland area just north of the proposed alteration. The replacement wetland will be graded to match the seasonally flooded hydrology of the lost wetland. As such, elevations will be virtually identical to those within lost wetland.

3. The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area;



The replacement area will be constructed immediately north of the lost area and is hydrologically connected to the same wetland complex. This location presented the most suitable area for replacement due to its previously disturbed nature, accessibility, and the proximity to the BVW being impacted by embankment grading.

4. the replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area;

The proposed replacement area is located immediately adjacent to the lost area and will be a part of the same wetland complex, which borders on the Old Wayland Reservoirs to the north.

5. the replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area.

The proposed replacement area is situated immediately adjacent to the lost area and is therefore located within the same general area of the wetland complex.

6. at least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative reestablishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods; and

The applicant understands that annual post-construction monitoring and reporting will be required to measure success of the replacement area and note any deficiencies. The ground surface will be stabilized as needed to protect the adjoining wetlands prior to establishment of vegetation. Conservation Department staff will monitor the replacement area.

7. the replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00.

The proposed replication area will be constructed in accordance with performance standards for other wetland areas. The selected location represents that which is most easily accessible from the site and will best minimize disturbance to mature vegetation.

(d). Notwithstanding the provisions of 310 CMR 10.55(4)(a),(b) and (c), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

According to the most recent MassGIS data, no such species are known to exist on or near the project.

(e) Any proposed work shall not destroy or otherwise impair any portion of a Bordering Vegetated Wetland that is within an Area of Critical Environmental Concern designated by the Secretary of Energy and Environmental Affairs under M.G.L. c. 21A, § 2(7) and 301 CMR 12.00: Areas of Critical Environmental Concern. 310 CMR 10.55(4)(e):

According to the most recent MassGIS data, the project is not located within an ACEC.



d. 100-Foot Buffer Zone

Most of the project area located outside of wetland resource areas is located within the 100-foot buffer zones associated with the Banks and BVW areas on the site. As with all dam repair projects, work within the buffer zones is unavoidable due to the nature and location of the proposed work. Permanent alterations within the buffer zone include the impacts discussed in the previous sections. Additional temporary alterations to the buffer zone may result from construction vehicle access for the aforementioned repairs, installation of erosion controls, and vegetation clearing.

e. 200-Foot Riverfront Area

The 200-foot Riverfront Area associated with Snake Brook encompasses a majority of the project area. Because the project consists of maintenance of structures in existence on August 7, 1996, it qualifies for an exemption from the requirements for Riverfront Area, pursuant to 310 CMR 10.58(6)(a).

IX. Summary

This NOI addresses the proposed rehabilitation of Snake Brook Dam and is submitted pursuant to the Limited Project provisions of 310 CMR 10.53(3)(i). The proposed repairs are necessary to comply with current dam safety regulations, and to protect the downstream public.

Wetland resource areas present in the vicinity of the site include the Banks and Land Under Water associated with Wayland Reservoir and Snake Brook; 200-foot Riverfront Area associated with Snake Brook; and one Bordering Vegetated Wetland (BVW) located within the Dam project area. Impacts to wetlands have been minimized to the extent practicable given the nature of the project and the extensive constraints of the site. Mitigation in the form of wetland replication is proposed in order to offset the impacts proposed to BVW.

On behalf of the applicant, Pare respectfully requests that the Wayland Conservation Commission issue an Order of Conditions allowing the repairs to proceed as proposed.



SECTION 5

Wetland Delineation Documentation





WETLAND FIELD REPORT

PROJECT TITLE: Snake Pond Dam

PARE JOB NO.: 19167.00

LOCATION: Wayland, Massachusetts

DELINEATION DATE: 11/6/19

WEATHER: Sunny, 50 degrees

REPORT DATE: 11/19/2019

PERFORMED BY: Lauren Gluck, P.W.S.

DISCUSSIONS AND COMMENTS

Wetland resource areas in the vicinity of the Snake Pond Dam in Wayland were defined and delineated in accordance with the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00, referred to as the WPA Regulations), and the methodology specified in the publications entitled Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act (Jackson, 1995) and The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North Central and Northeast Region (U.S. Army Corps of Engineers, 2012). Inspection and delineation of wetlands were completed on November 6, 2019.

The project site consists of an earthen dam with an impounded pond upstream of the dam and Snake Brook that outlets downstream of the dam. The site is located to the east of Rice Road and north of Woodbridge Road. Land bordering the pond and stream is a combination of undeveloped forest and residential properties. Vegetated wetlands border the eastern and southern sides of the pond.

According to the FEMA Flood Insurance Rate Map for the area (Map Number 25017C0529F, effective date July 7, 2014), there is no 100-year Floodplain on the site. According to the most recent available MassGIS data, no certified or potential vernal pools, Areas of Critical Environmental Concern, Outstanding Resource Waters, or mapped rare species habitats are located on or in the vicinity of the site.

Pink field flags were placed at appropriate intervals along the wetland/upland borders. Primary parameters evaluated in wetland delineation included vegetation, indicators of wetland hydrology, and hydric soil indicators. Observed wetland hydrologic indicators and soils are described in the following sections and within the attached Delineation Data Forms. Wetland resource areas within the vicinity of the site include the following: **Bordering Vegetated Wetlands, Bank, and Stream**. Wetland resource areas are discussed in the following sections.

WETLAND DESCRIPTIONS

Pond

The Snake Brook Dam impounds a linear-shaped pond to the west of Rice Street known as the Old Wayland Reservoirs. The edges of the impoundment are defined under section 10.54 of the WPA Regulations as **Bank**, which has an associated **100-foot Buffer Zone**. Flag series P-1 to P-20 defines the Bank in the vicinity of the earthen dam, which were delineated according to first observable break in slope. The series begins at the eastern end of the pond and extends south along a forested slope between flags P-1 to P-6. The

WETLAND FIELD REPORT

series then turns west to follow the upstream edge of the dam embankment between P-6 and P-10, where the Bank consists of a maintained earthen slope. Flags P-10 to P-20 define the wooded western edge of the pond, where the Snake Brook outlets between flags P-15 and P-16. Species of vegetation observed along the Banks included, but were not limited to, the following:

Common Name	Scientific Name	Indicator Status
Red Maple	<i>Acer rubrum</i>	FAC
Red Oak	<i>Quercus rubra</i>	FACU
White Pine	<i>Prunus strobus</i>	FACU
American Beech	<i>Fagus grandifolia</i>	FACU
White Oak	<i>Quercus alba</i>	FACU
Highbush Blueberry	<i>Vaccinium corymbosum</i>	FACW
Sweet Pepperbush	<i>Clethra alnifolia</i>	FAC
Glossy Buckthorn	<i>Frangula alnus</i>	FAC
Mountain Laurel	<i>Kalmia latifolia</i>	FACU
Cinnamon Fern	<i>Osmunda cinnamomea</i>	FACW
Japanese Barberry	<i>Berberis thunbergii</i>	FACU
Great Laurel	<i>Rhododendron maximum</i>	FAC

According to 310 CMR 10.56(2), land below the Mean Low Water (MLW) of the impoundment is defined as **Land Under Waterbodies**. The pond edges appeared shallow and mostly unvegetated near the dam embankment, although communities of emergent vegetation could be observed along the edges further upstream.

Snake Brook

The uncontrolled spillway at the west end of the dam discharges to Snake Brook, which flows south through a wooded area before crossing a culvert beneath Woodridge Road approximately 400 feet to the south. Snake Brook is shown on the USGS Topographic Quadrangle for the area as a perennial river and therefore has an associated **200-foot Riverfront Area** in accordance with section 10.58 (2) of the WPA Regulations.

The edges of the river are defined in section 10.54 of the Regulations as **Bank**. Flag series R-1 to R-18 and R-100 to R-113 define the east and west Banks of the river, respectively. Both series begin at the southwest side of the impoundment and extend south for a short distance along boulder walls flanking the channel before entering a stone culvert under a footpath between flags R-4 and R-103. Downstream of the culvert, the river extends downslope through a wooded area to the south of the dam. A walled outlet channel, which reportedly connects to the nearby gatehouse, is located between flags R-12 and R-16. The Banks are forested and have a variable understory of shrubs, including several invasive species. Vegetation observed along the Bank included, but was not limited to, the following species:

WETLAND FIELD REPORT

Common Name	Scientific Name	Indicator Status
Red Maple	<i>Acer rubrum</i>	FAC
Yellow Birch	<i>Betula alleghaniensis</i>	FAC
White Pine	<i>Prunus strobus</i>	FACU
American Beech	<i>Fagus grandifolia</i>	FACU
White Oak	<i>Quercus alba</i>	FACU
Burningbush	<i>Ailanthus altissima</i>	NI
Japanese Barberry	<i>Berberis thunbergii</i>	FACU
Sweet Pepperbush	<i>Clethra alnifolia</i>	FAC
Glossy Buckthorn	<i>Frangula alnus</i>	FAC
Mountain Laurel	<i>Kalmia latifolia</i>	FACU
Cinnamon Fern	<i>Osmunda cinnamomea</i>	FACW

Bordering Vegetated Wetlands

Two vegetated wetland areas were identified and delineated in the vicinity of the dam. Both wetlands border on Snake Brook and are therefore classified as **Bordering Vegetated Wetlands (BVWs)** with associated **100-foot Buffer Zones** under section 10.55 of the WPA Regulations. Each of these areas is described below.

Wetland A

A forested wetland occupies a low-lying area to the west of the dam. The wetland is hydrologically connected with both the impoundment and outlet, although an upland berm separates the area from the pond edge immediately northwest of the dam. Flag series A-1 to A-7 defines the eastern edge of this wetland, beginning at Bank flag R-101 and extending north, ending where the pond connects with the wetland at Bank flag P-20. Flag series A-100 to A-104 defines the west edge of the wetland, beginning along a forested slope to the northwest of the dam and ending along Snake Brook at Bank flag R-102. The wetland is forested, with a dense understory of shrubs and a ground cover of ferns. Most of the wetland appears to have a seasonally flooded hydrology that is primarily driven by groundwater. Water staining and drainage patterns at the north end of the wetland bordering the pond indicate that it likely receives overflow from the impoundment during high water. Species of vegetation observed within the wetland included, but were not limited to, the following:

Common Name	Scientific Name	Indicator Status
Red Maple	<i>Acer rubrum</i>	FAC
Yellow Birch	<i>Betula alleghaniensis</i>	FAC
White Pine	<i>Pinus strobus</i>	FACU
Black Birch	<i>Betula lenta</i>	FACU
Glossy Buckthorn	<i>Frangula alnus</i>	FAC
Sweet Pepperbush	<i>Clethra alnifolia</i>	FAC
Highbush Blueberry	<i>Vaccinium corymbosum</i>	FACW
Cinnamon Fern	<i>Osmunda cinnamomea</i>	FACW
Sensitive Fern	<i>Onoclea sensibilis</i>	FACW
Royal Fern	<i>Osmunda regalis</i>	OBL

WETLAND FIELD REPORT

Wetland B

A forested wetland is located to the east of Snake Brook within the wooded area downstream of the dam. Flag series B-1 to B-6 defines the north edge of the BVW, beginning at Bank flag R-17 and extending east along the toe of the slope before turning south, terminating along a stone wall bordering the adjacent residential property. The wetland edges are forested with a dense understory dominated by invasive shrubs, although wetter areas in the wetland interior are more sparsely vegetated and dominated by native shrubs. The wetland appears to have a variable hydrology, ranging from seasonally saturated areas along the upper margins to semipermanently flooded areas at the interior. The wetland appears to be fed by a combination of groundwater and overflow from Snake Brook. Species of vegetation observed within the wetland included, but were not limited to, the following:

Common Name	Scientific Name	Indicator Status
Slippery Elm	<i>Ulmus rubra</i>	FAC
Red Maple	<i>Acer rubrum</i>	FAC
American Beech	<i>Fagus grandifolia</i>	FACU
White Pine	<i>Pinus strobus</i>	FACU
Burningbush	<i>Ailanthus altissima</i>	NI
Japanese Barberry	<i>Berberis thunbergii</i>	FACU
Glossy Buckthorn	<i>Frangula alnus</i>	FAC
Sweet Pepperbush	<i>Clethra alnifolia</i>	FAC
Highbush Blueberry	<i>Vaccinium corymbosum</i>	FACW
Elderberry	<i>Sambucus nigra</i>	FACW
Jewelweed	<i>Impatiens capensis</i>	FACW
Poison Ivy	<i>Toxicodendron radicans</i>	FAC
Cinnamon Fern	<i>Osmunda cinnamomea</i>	FACW
Sensitive Fern	<i>Onoclea sensibilis</i>	FACW
Royal Fern	<i>Osmunda regalis</i>	OBL
Tussock Sedge	<i>Carex stricta</i>	OBL

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Photo 1: Bank along upstream slope of embankment, consisting of maintained grass slope.



Photo 2: View of impoundment, facing north from dam.



Photo 3: Wooded section of bank at upstream right side of dam, facing southeast toward gatehouse.



Photo 4: A-series BVW to the west of the impoundment and outlet.





Photo 5: Uncontrolled spillway with beaver control device at right abutment.



Photo 6: Outlet channel, facing downstream from spillway toward footbridge.





Photo 7: Walled outlet channel downstream of dam, located between flags R-12 and R-15.



Photo 8: B-series BVW within the wooded area downstream of the dam.



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Snake Pond Dam City/County: Wayland Sampling Date: 11/6/2019
 Applicant/Owner: Town of Wayland State: MA Sampling Point: A-3 Wetland
 Investigator(s): Lauren Gluck, P.W.S. - Pare Corporation Section, Township, Range: Wayland
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: 416C - Narragansett silt loam, 8 to 15 percent slopes, very stony NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Butressed trunks evident in trees.	

VEGETATION – Use scientific names of plants.

Sampling Point: A-3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
2. <u>Pinus strobus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3. <u>Betula alleghaniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
4. <u>Fagus grandifolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
5. <u>Betula lenta*</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>90</u>	= Total Cover	

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Clethra alnifolia</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2. <u>Frangula alnus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
3. <u>Pinus strobus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Tsuga canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
5. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
6. <u>Betula alleghaniensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
7. _____	_____	_____	_____
	<u>60</u>	= Total Cover	

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Osmunda cinnamomea</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>
2. <u>Rubus flagellaris</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
3. <u>Lycopodium obscurum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u>60</u>	= Total Cover	

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
* Exhibited buttressed roots

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
2 - 0"	10 YR 2/2	100%					Hemic	O
0 - 6"	10 YR 2/2	90%	7.5 YR 4/6	10%	C	M	SIL	A
6+ "	10 YR 4/3	80%	10 YR 2/2	10%	D	M	LS	B
			7.5 YR 4/6	10%	C	M		Concentrations and depletions @ 10"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Snake Pond Dam City/County: Wayland Sampling Date: 11/6/2019
 Applicant/Owner: Town of Wayland State: MA Sampling Point: A-3 Upland
 Investigator(s): Lauren Gluck, P.W.S. - Pare Corporation Section, Township, Range: Wayland
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: 416C - Narragansett silt loam, 8 to 15 percent slopes, very stony NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: A-3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>
2. <u>Pinus strobus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3. <u>Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
4. <u>Fagus grandifolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 38% (A/B)

Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Frangula alnus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2. <u>Pinus strobus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Vaccinium corymbosum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Prevalence Index worksheet:

Total % Cover of: 80 = Total Cover

Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Pinus strobus seedling</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Osmunda cinnamomea</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3. <u>Chimaphila maculata</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1/2 - 0"	10 YR 2/2	100%					Hemic	O
0 - 4"	10 YR 2/2	100%					SIL	A
4+"	10 YR 4/4	100%					LS	B

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR R, MLRA 149B)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Snake Pond Dam City/County: Wayland Sampling Date: 11/6/2019
 Applicant/Owner: Town of Wayland State: MA Sampling Point: B-3 Wetland
 Investigator(s): Lauren Gluck, P.W.S. - Pare Corporation Section, Township, Range: Wayland
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: 416B - Narragansett silt loam 3 to 8% slopes, very stony NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: B-3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)	
2. <u>Quercus rubra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Pinus strobus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4. <u>Fraxinus americana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
5. _____					
6. _____					
7. _____					
<u>70</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species _____ x 5 = _____ Column Totals: <u>160</u> (A) <u>550</u> (B) Prevalence Index = B/A = <u>3.44</u>	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Euonymus alata</u>	<u>20</u>	<u>Y</u>	<u>Assume FACU</u>		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Berberis thunbergii</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
4. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Quercus rubra</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6. _____					
7. _____					
<u>50</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Osmunda cinnamomea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
3. <u>Dryopteris marginalis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>40</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____					
2. _____					
3. _____					
4. _____					
<u>0</u> = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet.)

Invasive shrub vegetation (B. thunbergii and E. alata) skew the vegetation composition to falsely indicate upland vegetation. Wetland vegetation is dominant in 50% of plots and better represented in the herb and tree strata. Other wetland vegetation was observed outside of the plot including Clethra alnifolia, Impatiens capensis, Sambucus nigra, and Cornus amomum.

SOIL

Sampling Point: A-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1 - 0"	10 YR 2/1	100%					Hemic	O
0 - 5"	10 YR 2/1	90%					SIL	A, saturated at 4"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input checked="" type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: <u>Bedrock</u></p> <p>Depth (inches): <u>5"</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Snake Pond Dam City/County: Wayland Sampling Date: 11/6/2019
 Applicant/Owner: Town of Wayland State: MA Sampling Point: B-3 Upland
 Investigator(s): Lauren Gluck, P.W.S. - Pare Corporation Section, Township, Range: Wayland
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): LRR Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: 416B - Narragansett silt loam 3 to 8% slopes, very stony NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: B-3

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30'</u>)					
1. <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>17%</u> (A/B)	
2. <u>Pinus strobus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Quercus rubra</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
4. _____					
5. _____					
6. _____					
7. _____					
	<u>60</u>			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)					
1. <u>Euonymus alatus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Berberis thunbergii</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4. _____					
5. _____					
6. _____					
7. _____					
	<u>60</u>			Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot size: <u>5'</u>)					
1. <u>Euonymus alatus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	<u>10</u>				
Woody Vine Stratum (Plot size: <u>30'</u>)					
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
	<u>0</u>			Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Include photo numbers here or on a separate sheet.)					

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
N/A								Bouldery

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR R, MLRA 149B)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Dark Surface (S7) **(LRR K, L)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock/ boulders

Depth (inches): 0"

Hydric Soil Present? Yes No

Remarks:

Extremely bouldery and prominent bedrock outcrops restricted soil sample in the vicinity of the wetland/upland edge.

SECTION 6

Design Basis Report

Bound Separately



SECTION 7

Project Plans
Bound Separately

