



January 18, 2024

Conservation Commission

Town of Boxford
7A Spofford Road
Boxford, MA 01921

Re: Notice of Intent (NOI)
20 Endicott Road, Boxford, MA

Dear Members of the Commission,

Pursuant to the Massachusetts Wetland Protection Act (M.G.L. Chapter 131) and the Town of Boxford Wetland Protection Bylaw (Town Code Chapter 192, and regulations Chapter 375), please find enclosed a Notice of Intent (NOI) for the site located at 20 Endicott Road in Boxford Massachusetts (Masconomet Regional High School).

One (1) paper copy of the NOI package with full-size Permit Set drawings are enclosed, additionally an electronic copy of the full package has been submitted to the local agent via email. The titles of all documents enclosed are as follows:

- WPA Form 3 NOI & Wetland Fee Transmittal Form
- Copies of State and Local Filing Fee Checks
- Wetland Delineation and Natural Resources Report
- List of Abutters
- Stormwater Report (under separate cover)
- Permit Set Drawings (under separate cover)

The applicant is proposing to renovate two existing athletic fields on the school property. Improvements will consist of conversion of the varsity and junior varsity fields from turf to a synthetic playing surface, construction of a new concession stand, spectator seating, parking and pedestrian access improvements and associated stormwater management and utilities. Within the project limits, the eastern side of the junior varsity field is located within the jurisdictional buffer zones. Project plans showing the scope of work within the buffer zone are included, along with a stormwater management report which considers the entirety of the project.

There is a wetland resource area adjacent to and on a portion of the property, delineated by Stantec and shown on the project drawings prepared by Stantec Consulting, dated January 18th, 2024. Further detail on the delineation and applicable buffer zones can be found in the wetlands report included with this notice of intent submission.

We kindly request you add this NOI application to the agenda at your next available meeting. Please feel free to contact us should you have any questions.

Regards,

Stantec Consulting Services, Inc.

George Ryan, PE
Senior Associate
(617) 654-6015
George.ryan@stantec.com

Attachments: as listed above



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 #:
eDEP Transaction #:1652386
City/Town:BOXFORD

A.General Information

1. Project Location:

a. Street Address	20 ENDICOTT ROAD		
b. City/Town	BOXFORD	c. Zip Code	01921
d. Latitude	42.62606N	e. Longitude	70.97430W
f. Map/Plat #	43-1-1	g.Parcel/Lot #	20

2. Applicant:

Individual Organization

a. First Name	MICHAEL	b.Last Name	HARVEY
c. Organization	MASCONOMET SCHOOL DISTRICT		
d. Mailing Address	20 ENDICOTT ROAD		
e. City/Town	BOXFORD	f. State	MA
		g. Zip Code	01921
h. Phone Number		i. Fax	
		j. Email	MHarvey@masconomet.org

3.Property Owner:

more than one owner

a. First Name	N/A	b. Last Name	N/A
c. Organization	MASCONOMET SCHOOL DISTRICT		
d. Mailing Address	20 ENDICOTT ROAD		
e. City/Town	BOXFORD	f.State	MA
		g. Zip Code	01921
h. Phone Number		i. Fax	
		j.Email	jsands@masconomet.org

4.Representative:

a. First Name	GEORGE	b. Last Name	RYAN
c. Organization	STANTEC CONSULTING SERVICES		
d. Mailing Address	40 WATER STREET, 3RD FLOOR		
e. City/Town	BOSTON	f. State	MA
		g. Zip Code	02109
h.Phone Number	617-654-6015	i.Fax	
		j.Email	george.ryan@stantec.com

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

a.Total Fee Paid	110.00	b.State Fee Paid	42.50	c.City/Town Fee Paid	67.50
------------------	--------	------------------	-------	----------------------	-------

6.General Project Description:

THE PROJECT COMPRISES OF RENOVATION TO TWO EXISTING ATHLETIC FIELDS, INCLUDING NEW SPECTATOR SEATING, CONCESSION STANDS AND IMPROVEMENTS TO ADJACENT PARKING AND SIDEWALKS. BOTH OF THE FIELDS WILL BE CONVERTED TO SYNTHETIC FIELD TURF, PROPOSED SCOPE OF WORK INCLUDES FIELD UNDERDRAINAGE SYSTEM AND PERIMETER STORMWATER COLLECTION SYSTEM. ONE OF THE FIELDS INCLUDES WORK WITHIN THE LOCAL AND STATE BUFFER ZONES.

7a.Project Type:

- | | |
|---|--|
| 1. <input type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Limited Project Driveway Crossing | 4. <input type="checkbox"/> Commercial/Industrial |
| 5. <input type="checkbox"/> Dock/Pier | 6. <input type="checkbox"/> Utilities |
| 7. <input type="checkbox"/> Coastal Engineering Structure | 8. <input type="checkbox"/> Agriculture (eg., cranberries, forestry) |



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 #:
eDEP Transaction #:1652386
City/Town:BOXFORD

- 9. Transportation
- 10. Other

7b. Is any portion of the proposed activity eligible to be treated as a 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:
- 2. Limited Project

8. Property recorded at the Registry of Deeds for:

a. County: SOUTHERN ESSEX **b. Certificate:** **c. Book:** 35876 **d. Page:** 347

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

1. Buffer Zone & Resource Area Impacts (temporary & permanent):

This is a Buffer Zone only project - 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)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land under Waterbodies and Waterways	1. Square feet	2. square feet
	3. cubic yards dredged	
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	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 type="checkbox"/> Riverfront Area	1. Name of Waterway (if any)	
2. Width of Riverfront Area (check one)	<input type="checkbox"/> 25 ft. - Designated Densely Developed Areas only <input type="checkbox"/> 100 ft. - New agricultural projects only <input type="checkbox"/> 200 ft. - All other projects	
3. Total area of Riverfront Area on the site of the proposed project	square feet	
4. Proposed Alteration of the Riverfront Area:		



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 #:
 eDEP Transaction #:1652386
 City/Town:BOXFORD

- 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)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
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 Beaches	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
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, crea.
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

Restoration/Replacement

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 entered the additional amount here.

- a. square feet of BVW b. square feet of Salt Marsh



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 #:
eDEP Transaction #:1652386
City/Town:BOXFORD

5. Projects Involves Stream Crossings

Project Involves Streams Crossings

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

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 of Endangered Species program (NHESP)?

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

b. Date of map: FROM MAP VIEWER

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18)...

c. Submit Supplemental Information for Endangered Species Review * (Check boxes as they apply)

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

3. Project plans for entire project site, including wetland resource areas and areas outside of wetland 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

c. MESA filing fee (fee information available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html>)

Make check payable to "Natural Heritage & Endangered Species Fund" 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

d. 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, <http://www.mass.gov/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14>; 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.



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 #:
eDEP Transaction #:1652386
City/Town:BOXFORD

a. NHESP Tracking Number

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.

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

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

a. Not applicable - project is in inland resource area only

b. Yes No

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

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

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 S. Rodney French Blvd
New Bedford, MA 02744

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

If yes, it 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.

3. 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 DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC Name

4. 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

5. 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

6. 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, Explain why the project is exempt:

1. Single Family Home



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 #:
 eDEP Transaction #:1652386
 City/Town:BOXFORD

- 1. []
- 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

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 by regular mail delivery.

- 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.
- 3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s)).
- 4. 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.

a. Plan Title:	b. Plan Prepared By:	c. Plan Signed/Stamped By:	c. Revised Final Date:	e. Scale:
OVERALL SITE PLAN (GI - 101)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	1" - 50'
SITE PREPARATION PLAN (LD-101)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	1" = 30'
LAYOUT AND MATERIALS PLAN (LS-101)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	1" = 30'
GRADING PLAN (LG-101)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	1" = 30'
UTILITY PLAN (CU-101)	ANDREW ALLAIN	GEORGE RYAN	1/18/2024	1"=30'
PLANTING PLAN (LP-101)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	1"=30'
SITE PREPARATION DETAILS (LD-501)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	NTS
SITE DETAILS (LS-501)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	NTS
SITE DETAILS (LS-502)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	NTS
SITE DETAILS (LS-503)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	NTS
SITE DETAILS (LS-504)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	NTS
PLANTING DETAILS (LP-501)	SCOTT LEBOEUF	JOSH ATKINSON	1/18/2024	NTS



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 #:
eDEP Transaction #:1652386
City/Town:BOXFORD

UTILITY DETAILS
(CU-501)

ANDREW ALLAIN

GEORGE RYAN

1/18/2024

NTS

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.



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 #:
 eDEP Transaction #:1652386
 City/Town:BOXFORD

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.

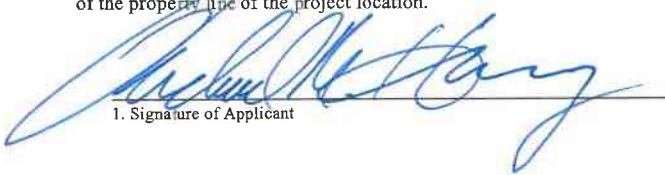
Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

131	1/18/2024
2. Municipal Check Number	3. Check date
132	1/18/2024
4. State Check Number	5. Check date
Joshua	Atkinson
6. Payer name on check: First Name	7. Payer name on check: Last Name

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

1/18/2024
 2. Date

3. Signature of Property Owner(if different)

4. Date

 Digitally signed by Ryan, George
 Date: 2024.01.18 14:13:06-05'00'
 5. Signature of Representative (if any)

1/18/2024
 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 Section C, Items 1-3, 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
WPA Form 3 - Notice of Wetland Fee Transmittal
Form

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

Provided by MassDEP:
 MassDEP File #:
 eDEP Transaction #:1652386
 City/Town:BOXFORD

A. Applicant Information

1. Applicant:

a. First Name	MICHAEL	b. Last Name	HARVEY	
c. Organization	MASCONOMET SCHOOL DISTRICT			
d. Mailing Address	20 ENDICOTT ROAD			
e. City/Town	BOXFORD	f. State	MA	g. Zip Code 01921
h. Phone Number		i. Fax		j. Email MHarvey@masconomet.org

2. Property Owner:(if different)

a. First Name	N/A	b. Last Name	N/A	
c. Organization	MASCONOMET SCHOOL DISTRICT			
d. Mailing Address	20 ENDICOTT ROAD			
e. City/Town	BOXFORD	f. State	MA	g. Zip Code 01921
h. Phone Number		i. Fax		j. Email jsands@masconomet.org

3. Project Location:

a. Street Address	20 ENDICOTT ROAD	b. City/Town	BOXFORD
-------------------	------------------	--------------	---------

Are you exempted from Fee?

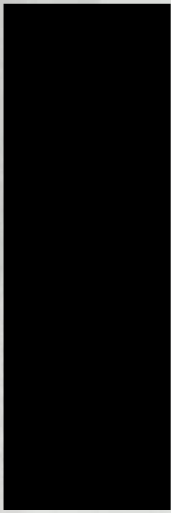
Note: Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than \$100

B. Fees

Activity Type	Activity Number	Activity Fee	RF Multiplier	Sub Total
B.) SITE, WORK WITHOUT A HOUSE;	1	110.00		110.00
		City/Town share of filling fee \$67.50	State share of filing fee \$42.50	Total Project Fee \$110.00



132

53-13/110 MA
26607

1/18/2024

Date

Pay To The
Order Of

COMMONWEALTH OF MASSACHUSETTS

\$ 42.50

FORTY TWO DOLLARS ⁵⁰/₁₀₀

Dollars

BANK OF AMERICA


I'd Rather Be Outdoors 

Photo
Safe
Deposit
Outside on back

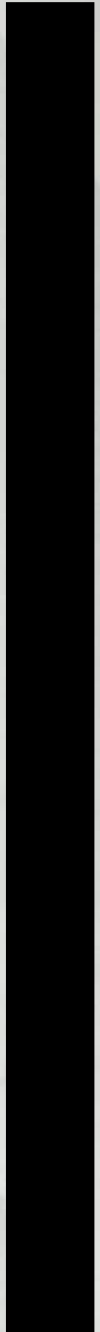


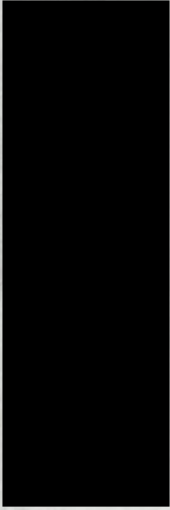
ACH R/T 011000138

For NO1 FILING FEE - STATE

[Handwritten Signature]

MP





131

53-13/110 MA
26607

1/18/2024

Date

Pay To The Order Of TOWN OF BOXFORD

\$ 67.50

SIXTY SEVEN DOLLARS $\frac{50}{100}$

Dollars

BANK OF AMERICA

ACH R/T 011000138

I'd Rather Be Outdoors

For NOI FILING FEE - TOWN



MP

Photo Safe Deposit
Details on back





**Synthetic Turf Fields (Phase 1)
Boxford, Massachusetts**

**Wetland Delineation and Natural
Resources Report**

January 2024

Prepared for:

Masconomet Regional School District,
Boxford, Massachusetts

Prepared by:

Stantec Consulting Services Inc.
300 Crown Colony Drive, Suite 110
Quincy, MA 02169

WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

Table of Contents

1.0	INTRODUCTION	1
2.0	METHODS	2
3.0	RESULTS	3
3.1	GENERAL SITE CONDITIONS	3
3.2	WETLANDS AND SURFACE WATER RESOURCES	4
3.2.1	Bordering Vegetated Wetland (Series A).....	4
3.2.2	Ipswich River- Mean Annual High- Water Line and Inland Bank (Series B).....	4
3.2.3	Culverts and Hydraulic Connections (Series SW).....	5
3.2.4	Bordering Land Subject to Flooding	6
4.0	CONCLUSION	6

LIST OF TABLES

Table 1.	Summary of MassMapper Database Natural Resource Review (July 2023).....	2
----------	---	---

LIST OF APPENDICES

Appendix A	Figures
Appendix B	Representative Photographs
Appendix C	Wetland Determination Forms (MassDEP)



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) conducted a wetlands and waterways delineation and natural resource assessment for regulated resources on behalf of the Masconomet Regional High School at 20 Endicott Road in Boxford, Massachusetts (Project Area; Figure 1). The delineation was done in support of a Notice of Intent (NOI) to be filed under the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, §40) and the Town of Boxford Wetlands Protection Bylaw (“Bylaw”; Town Code chapter 192, and Regulations Chapter 375), for proposed improvements to the existing athletic fields. Additional wetland resource areas were observed to the south, east, north and west of the limit of work associated with the Project area; however, only resource areas that would set a 200’ Riverfront Area or 100’ Buffer Zone within the limit of disturbance associated with the proposed Project presented in the NOI were delineated in the field during the effort described herein.

The Masconomet Regional School District is proposing to renovate two existing athletic fields on the school property. The proposed project is for Improvements consisting of conversion of the varsity and junior varsity fields from turf to a synthetic playing surface, construction of a new concession stand, spectator seating, parking and pedestrian access improvements and associated stormwater management and utilities (Project).

The jurisdictional resource areas associated with the Project are situated primarily to the east of the existing and proposed infrastructure for the school’s athletic fields and are largely associated with the Whatland-Killam Island Conservation Area owned by the Essex County Greenbelt Association. The Ipswich River lies to the east and south and extends onto the Property in the southern corner. The extent of areas of resource delineation within the Project Area are (partially) depicted on EX-101 – Existing Conditions Plan included with the NOI. The remaining wetland resource areas delineated as part of this effort, including the start of the B-series flags B1 through B7 are located to the south of the view port of Drawing EX-101.

The wetland delineation was conducted to support Project design and permitting to identify regulated resources on site that may be avoided or require local, state, or federal permit authorization for unavoidable impacts. As described below, this study identified one perennial watercourse with a regulated 200’ Riverfront Area, regulated Inland Banks, and Bordering Vegetated Wetlands (BVW) within the Project Area. The Mean Annual High-Water Line (MAHWL), as defined under the Massachusetts Wetlands Protection Act, was demarcated in the field, based on existing indicators. There is also Bordering Land Subject to Flooding (BLSF) associated with the Ipswich River and associated wetlands, which is based on the AE Zone mapped on the current Federal Emergency Management Agency (FEMA) 100-year floodplain.

This study included a desktop review of publicly available online data and an on-site wetlands and watercourse delineation. Database reviews were conducted in July 2023, and the field delineation was conducted by a qualified wetland scientist on August 1, 2023 and August 2, 2023. See Appendix B Representative Photos.



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

2.0 METHODS

Stantec conducted a desktop review using the MassMapper¹ online portal, which provides spatial data from the Massachusetts Geographic Information System (MassGIS), prior to conducting field assessments at the Project Area. Information from the desktop review is summarized in Table 1 below, and the presence or absence determination applies to the Project Area and subject property. Individual resources are described and discussed in more detail in Sections 2 and 3 below.

Table 1. Summary of MassMapper Database Natural Resource Review (July 2023)

Regulated Resource (Mapped)	Present	Absent
Areas of Critical Environmental Concern (ACEC)		X
Outstanding Resource Waters (ORW)		X
Massachusetts Department of Environmental Protection (DEP) Wetlands	X	
National Wetlands Inventory	X	
FEMA 100-Year Floodplain Panel 25009C0263F [effective date: 7/03/2012]	X	
FEMA 500-Year Floodplain 25009C0263F [effective date: 7/03/2012]	X	
Natural Heritage and Endangered Species Program – Priority Habitats of Rare Species		X
Natural Heritage and Endangered Species Program – Estimated Habitats of Rare Wildlife		X
Certified or Potential Vernal Pools		X

In addition to the MassMapper database query, Stantec reviewed soil mapping accessed via the Natural Resource Conservation Service (NRCS) Web Soil Survey and the Federal Emergency Management Agency (FEMA) database for information relating to soils and flood data. The information collected from database reviews was used to assess potential Project effects, assess regulatory requirements, and inform the wetland delineation.

On August 1, 2023 and August 2, 2023, following the desktop review, Michele Simoneaux, PWS, CESSWI, a Stantec wetland scientist, conducted a field delineation and assessment of wetlands and watercourses, and made natural resources observations within the Project Area. Delineation work was conducted subject to the provisions of the Massachusetts Wetlands Protection Act (WPA) and regulations (WPA; M.G.L. Chapter 131 §40, 310 CMR 10.00, respectively) and in accordance with *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act: A Handbook*. Wetland classification was

¹ <https://www.mass.gov/info-details/massmapper-interactive-map>



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

assigned based on the *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee 2013). Observations on stream channel (or other surface waters) conditions were collected, including flow regime and the MAHWL pursuant to the WPA.

MAHWL and Inland Banks were demarcated in the field utilizing consecutively numbered blue and white striped flagging assigned a unique ID. BVW was demarcated in the field using pink flagging labeled "Wetland Delineation" using a sequentially numbered flag naming and unique ID as described below. Wetlands flagging placed by Stantec during the field delineation was located as part of a topographic survey performed by a Massachusetts-licensed professional land surveyor.

The BVW Delineation Forms in circulation as of July/August 2023 were completed for upland and wetland plots associated with the Series A BVW and the information transferred onto the new electronic BVW Determination Forms updated through July 2023 (Appendix C).

3.0 RESULTS

3.1 GENERAL SITE CONDITIONS

The Project Area is on the Masconomet Regional School District campus and is within the Ipswich Watershed, which is 156 square miles. The Project Area, which is in a primarily rural setting, is located to the east of Endicott Road, just off of I-95 and to the west of the Whatland-Killam Island Conservation Area owned by the Essex County Greenbelt Association.

According to NRCS soil mapping, the Project Area includes the following soil map units: (718A) Saco variant silt loam, frequently ponded, 0-1 percent slopes, frequently flooded, which is associated with the wetlands complex to the east of the site and -Urban land complex, and (651) Udorthents, smoothed, which comprises the majority of the Project Area associated with the proposed activity. See NRCS Soils Report in Appendix A of the Stormwater Management Report and Checklist submitted with the NOI.

The closest Natural Heritage and Endangered Species Program (NHESP) Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife (PH 1823) is located >1,200 feet to the south-southwest of the Project Area. It is located on the opposite side of I-95 (Figure 2).

The current FEMA Flood Insurance Rate Map (FIRM) (Panel 25009C0263F [effective date: 7/03/2012]) depicts an established Zone AE (100-year flood hazard area by detailed study methods) and a 0.2% (500-year flood hazard area). The Ipswich River is a Regulatory Floodway (Figure 3).

There is a topographic break between the upland, which is steeply sloped, and the BVW, which is low-lying and generally topographically flat based on observations from upland vantage points.



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

3.2 WETLANDS AND SURFACE WATER RESOURCES

3.2.1 Bordering Vegetated Wetland (Series A)

Series A, represented by Flags A1 through A52, was delineated pursuant to defined jurisdictional limits for BVW in the WPA. Series A is a combination of a Freshwater Emergent Wetland (PEM1E), located just to the east of the Project Area and a Freshwater Forested/Shrub Wetland (PF01E) which surrounds the Freshwater Emergent Wetland on the south, east and north. Both wetland types form a large wetland complex and support a prevalence of hydrophytic vegetation and hydric soils.

Dominant Vegetation Includes:

Herbaceous layer

Skunk cabbage	(<i>Symplocarpus foetidus</i>)
Joe- Pie Weed	(<i>Eutrochium maculatum</i>)
Sensitive Fern	(<i>Onoclea sensibilis</i>)
Marsh fern	(<i>Thelypteris palustris</i>)
Cinnamon Fern	(<i>Osmunda cinnamomea</i>)
Poison ivy	(<i>Toxicodendron radicans</i>)

Shrub layer

Silky Dogwood	(<i>Cornus amomum</i>)
Highbush blueberry	(<i>Vaccinium corymbosum</i>)

Tree layer

Red Maple	(<i>Acer rubrum</i>)
Green Ash	(<i>Fraxinus pennsylvanica</i>)

Dominant vegetation in the upland includes American Beech (*Fagus grandifolia*), honeysuckle (*Lonicera*), oriental bittersweet (*Celastrus orbiculatus*), and poison ivy (*Toxicodendron radicans*). Mile-a-Minute (*Ipomoea cairica*) was observed in upland and wetlands within this system.

The observed hydrologic connection between the Ipswich River and Wetland Series A supports the determination that this wetland area would be considered BVW in accordance with definitions in the WPA. Accordingly, there is a 100-foot Buffer Zone associated with Series A BVW, which would be subject to regulation under the WPA. The Bylaw has a 25' No Disturb Zone and a 75" Buffer Zone that has activity restrictions within those Buffer Zones. This report does not address specific regulated Buffer Zones or Setbacks, but it is noted where there is a regulatory setback associated with the Bylaw.

3.2.2 Ipswich River- Mean Annual High- Water Line and Inland Bank (Series B)

The Project Area reach of Ipswich River is a perennial waterway shown on US Geological Survey mapping and is therefore identified as a resource with an associated 200' Riverfront Area subject to applicable state regulation under the WPA (310 CMR 10.58). The MAHWL along the Project reach of the Ipswich River and associated drawings depict the MAHWL as "MAHWL/Bank B" along with the 200-foot (measured laterally) Riverfront Area. The Bank and the MAHWL elevation are coincident within the study area.



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

The Inland Bank on the left Bank was observed to be vertical and well-defined in the southern end of the Project Area reach; however, the Ipswich River turns to the east, away from the Project Area and was observed to lose definition and riverine characteristics.

The Inland Bank was determined through professional observation to identify the first topographic break in slope and by recent signs of water flow found throughout the landscape. The section of Bank that was delineated was not found to be associated with a BVW; therefore, pursuant to the Wetlands Protection Act (per 310 CMR 10.54), the limit of the Bank occurs at the mean annual flood level within the channel. The left Bank of the Ipswich River, which could only be observed from an upland vantage point along the river, appears to meet the definition of regulated and jurisdictional resources under the WPA as a “Bank”. As such, a 100-foot Buffer Zone, measured laterally from the upland edge of the Bank is regulated under the WPA and the Bylaw.

The substrate in the channel that could be observed consisted of a firm sandy gravel with occasional cobbles. According to the applicable classification system, this perennial watercourse would be classified as riverine, lower perennial, unconsolidated bottom, permanently flooded.² Areas of undercut Banks were observed along the Bank during the site visit. The undercut banks appear to result from erosion of unconsolidated and non-cohesive soil and show rooting of overlying vegetation. These undercuts may provide adequate habitat for turtles and avian species. No fish or turtles were observed within the Project Area during the wetland delineation effort.

In addition to vegetation, American crow (*Corvus brachyrhynchos*), green frogs (*Lithobates clamitans*) and eastern gray squirrel (*Sciurus carolinensis*) were observed in the Project Area during the wetland delineation effort.

3.2.3 Culverts and Hydraulic Connections (Series SW)

Two hydraulic connections that discharge presumed stormwater from the site, through a culvert, and directly into the BVW were delineated in the field:

- SW 1 through SW7 (south side) and SWW1 through SWW 7 (north side) represents a portion of a hydraulic connection from a stormwater culvert just downgradient of BVW Flags A19 through A21.
- SW 1A through SW 3A (south side) and SWW1A through SWW3A (north side) near BVW Flags A40 through A42.

They are not assumed to be jurisdictional under the WPA or Bylaw but were delineated and surveyed to help inform the Stormwater Management Report and Checklist associated with the Project.

² Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

3.2.4 Bordering Land Subject to Flooding

The Bordering Land Subject to Flooding (BLSF), relevant under the WPA and Bylaw, and the Regulatory Floodway were not delineated in the field. BLSF was determined based on the 100-year flood zones mapped on the FEMA FIRM. As previously noted, the Project Area is depicted on FIRM Panel FEMA 100-Year Floodplain Panel 25009C0263F [effective date: 7/03/2012]. There is a depicted 100-year flood floodplain is identified as Zone AE (base flood elevation determined by detailed study methods). Under the WPA, BLSF does not have a Buffer Zone; however, under the Bylaw, there is a 100' Buffer Zone to BLSF.

4.0 CONCLUSION

Stantec's confirmed that the Project Area contains resources that are anticipated to be subject to local, state and federal regulations. Resources identified include a perennial stream waterway, the Ipswich River, with Inland Bank (Bank) and associated BVW. There is also a 100-year Floodplain associated with the Ipswich River and the associated BVW complex that is regulated as BLSF under the WPA and Bylaw.



January 18, 2024

APPENDICES



WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

Appendix A FIGURES

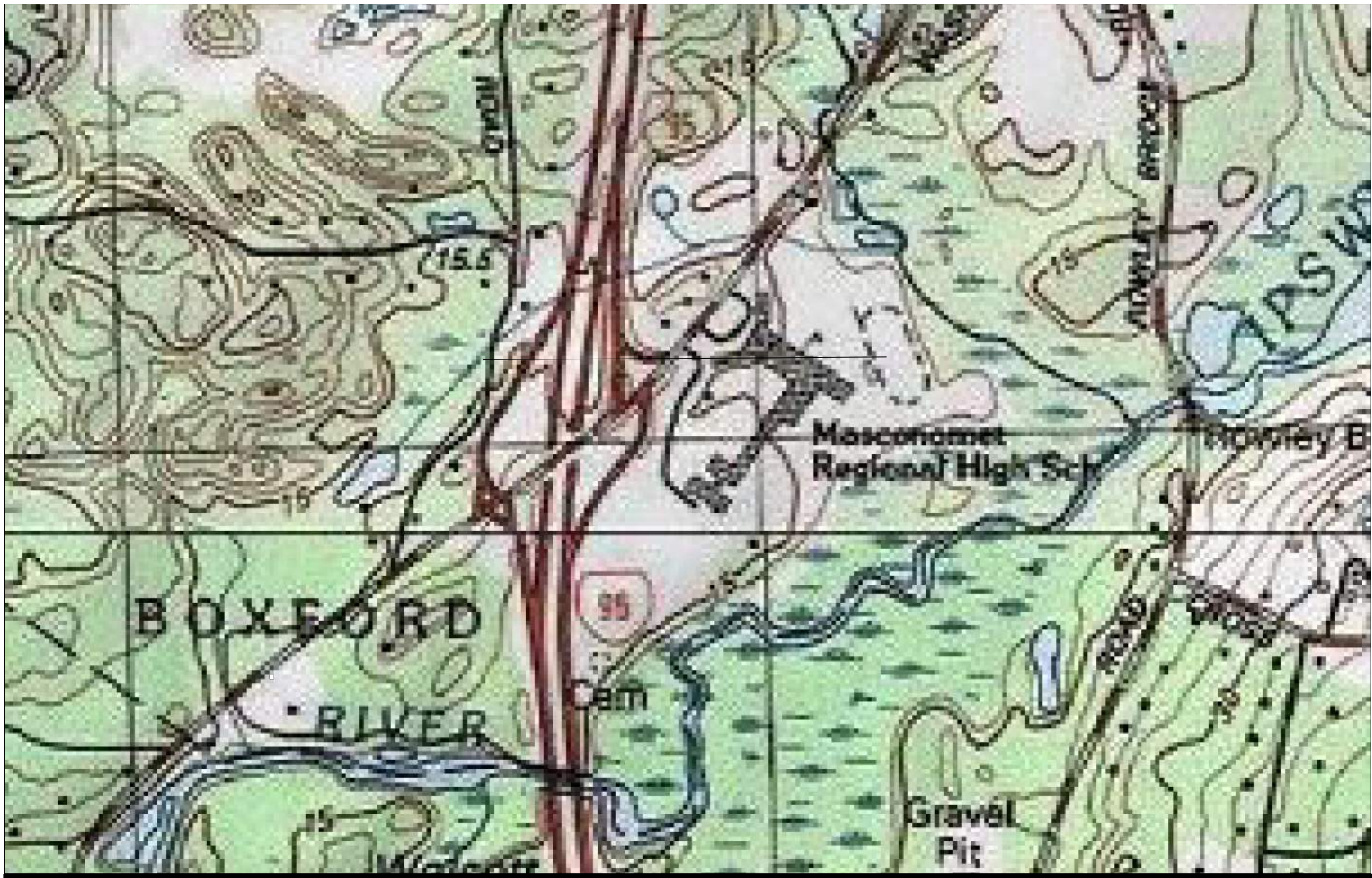
Figure 1: USGS Locus Map

Figure 2: NHESP Map

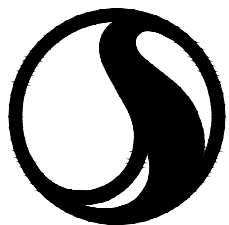
Figure 3: FEMA Firmette

See Stormwater Management Report and Checklist for NRCS Soils Map





Client/Project



Stantec Consulting Services, Inc.

40 Water Street, 3rd Floor

Boston, MA 02109 U.S.A.

Tel. 617.234.3100

Fax. 617.661.7118

www.stantec.com

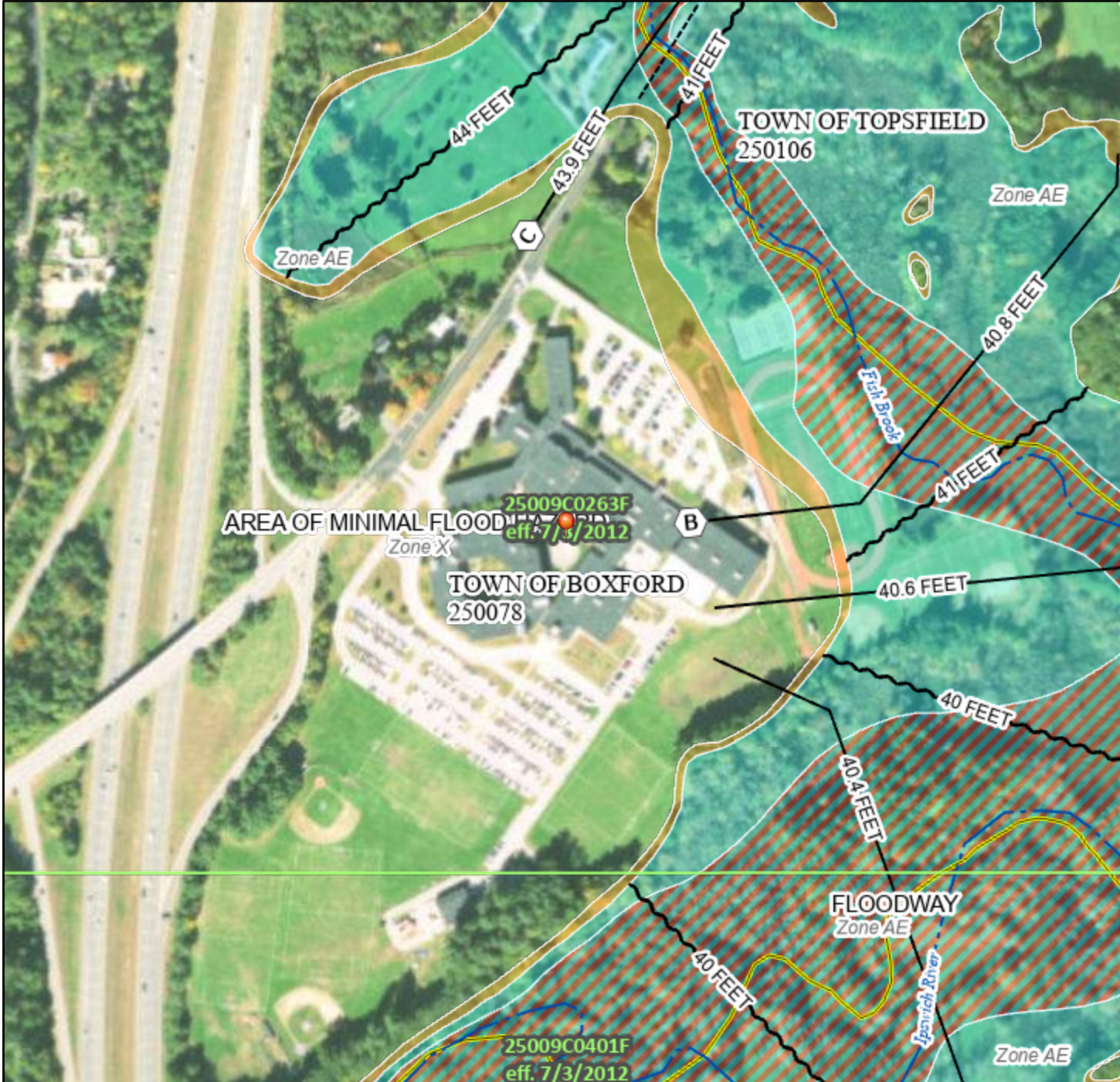
Figure No.

1

Title

AERIAL EXHIBIT

DWL RQD O RRG EPUGDHU)S WWH



FHOG

1) 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

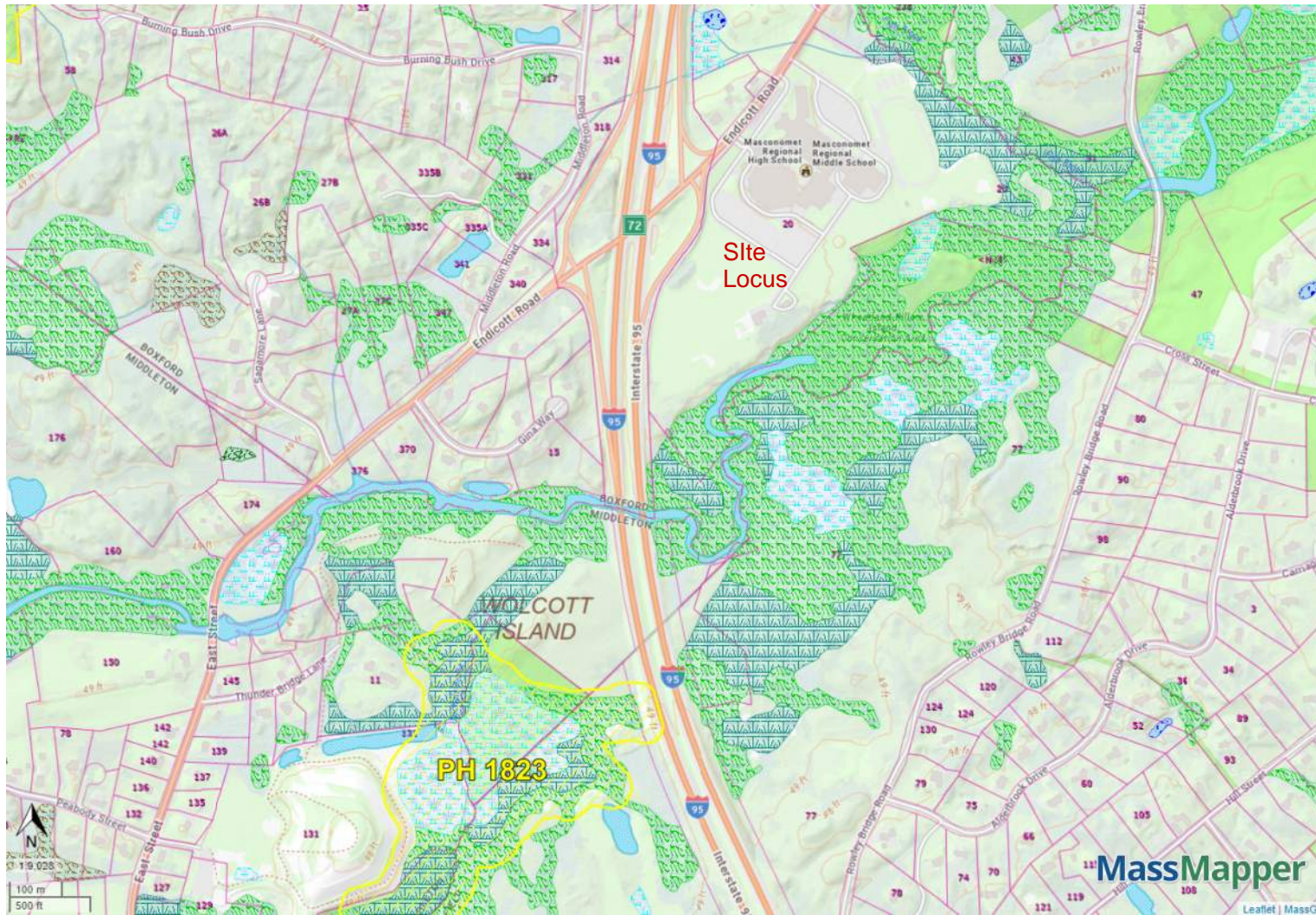
66.52 66.56	<ul style="list-style-type: none"> LWHRW %DHJRRG OHYDMLRQ % =FCH\$ 9 S LWK%RUFBWK =FCH\$ 9 9 9 SHODWRAJRRG
26.52 26.56	<ul style="list-style-type: none"> \$DQD &OHHJRRG EPUG \$HDV/ R DQDQ FROFHJRRG ZWKDHUJH G-SWKOHV WQQRQHRRW RU ZWKGLU DJHDV R OHV WQQRQHVRDUHEOHFCH; XWXH&QJ.VL.RQ/\$DQD &OHHJRRG EPUG =FCH; \$HDZWK&GHHJRRG.LNGHWR HMH GH RVHV =FCH; \$HDZWKJRRG.LNGHWRHMH =FCH;
26.56	<ul style="list-style-type: none"> \$HJR OQ.EO JRRG EPUG =FCH; (HFWL YHJ) \$HJR &GWHUEHGJRRG EPUG =FCH; --- &OQD &OYHUW RU &VRURJZU HMH.LNH RU JRRGDO
26.56	<ul style="list-style-type: none"> --- &VRV &FWLRQ/ ZWKSDQD &OHH --- DVHU &UIDFH OHYDMLRQ --- &DWDQD JUDQHW --- %DHJRRG OHYDMLRQ LQ % --- LEW R &VXG --- XULVL.FVLRQ%&QJEU --- &DWDQD JUDQHW %&HOLQH --- &URLOH%&HOLQH --- &VRUD&L.FJ.DVXUH
66.56	<ul style="list-style-type: none"> LL.WDQ DWD\$D.O.D.EOH RL.L.WDQ DWD\$D.O.D.EOH --- &DSSG
66.56	<ul style="list-style-type: none"> 7KHS.QG.VSD.HGRQWKHBSLV.DQ.DSSURL.BWH SRL.QV.VHOHFWHG.EWKXHU.DQG.GRHV.CRW.UHSH. DQD.WKUL.WDVL.YHSURSH.UW.O.RFDMLRQ

7KLV BSBFBDLHV ZWKJVV WDDQJG/IRU WKHXHR
GLJ.WDQ IO RRGES/LI LW LV GRW YRLGDV GHWL.FHG.EORZ
7KHEDFBSVKRQFBBDLHV ZWKJVV EMBES
DFXUR WDDQJG/

7KHIO RRGKQJGLQRUBMLRQLV GHULYHGGLUHFWO.IURVWK
DWKUL.WDVL.YHJZE.VHUYL.FHV.SURL.G.GE.7KLVBS
ZV.HSRUVHG.RQ DV, 3 DQG.GRHV.CRW
UHOHFW FROQH/RU DQQRQV V&HIXQV/VRWKLV.GDVH.DQG
WLF.7KHJ.DQG.HHFWL.YHLQRUBMLRQBF.FROQRU
E.FFHV&SUVHG.GE.QZDQD.VR.FHU.WLF

7KLVBSLBDLHVYRLGLIWKHQHURU.RUHRWKHIOORZQJBS
HDPQWVGRQW.DSSDUJ.EMBESLBUAIO RRGJQHO.DFHV
OHJG.VDQHEJBSFUHMLRQ.DVH.FRQ.WL.GQV.LL.HVJ
)SSQDQCHEHU.DQG)SHHFWL.YHG.VH.DS.LBH/IRU
XBSG.DQG.XRG.UQJ.GDJHDV.FDQRV.EHXVHGIRU
UHKDWRU.SUSRVH

Figure 2: NHESP Priority and Estimated Habitats



NHESP Priority Habitats of Rare Species



NHESP Estimated Habitats of Rare Wildlife



NHESP Certified Vernal Pools



DEP Wetlands Detailed With Outlines

- Barrier Beach System
- Barrier Beach-Deep Marsh
- Barrier Beach-Wooded Swamp Mixed Trees
- Barrier Beach-Coastal Beach
- Barrier Beach-Coastal Dune
- Barrier Beach-Marsh
- Barrier Beach-Salt Marsh
- Barrier Beach-Shrub Swamp
- Barrier Beach-Wooded Swamp Coniferous
- Barrier Beach-Wooded Swamp Deciduous
- Bog
- Coastal Bank Bluff or Sea Cliff
- Coastal Beach
- Coastal Dune
- Cranberry Bog
- Deep Marsh
- Barrier Beach-Open Water
- Open Water
- Rocky Intertidal Shore
- Salt Marsh
- Shallow Marsh Meadow or Fen
- Shrub Swamp
- Tidal Flat
- Wooded Swamp Coniferous
- Wooded Swamp Deciduous
- Wooded Swamp Mixed Trees

Property Tax Parcels

WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

Appendix B REPRESENTATIVE PHOTOGRAPHS



**Masconomet Regional School District – 20 Endicott Street, Boxford, MA
Wetland Delineation August 2023
REPRESENTATIVE PHOTOS**



Photo 1: Overview of Project Area in background. Looking northwest. August 1, 2023



Photo 2: Project Area-. Looking northwest. August 1, 2023

**Masconomet Regional School District – 20 Endicott Street, Boxford, MA
Wetland Delineation August 2023
REPRESENTATIVE PHOTOS**



Photo 3: 100' Buffer Zone- There is a clear topographic break between upland and BVW. Looking northeast. August 1, 2023



Photo 4: Representative 100' Buffer Zone along southern portion of A-series BVW. Looking north. August 1, 2023

Masconomet Regional School District – 20 Endicott Street, Boxford, MA
Wetland Delineation August 2023
REPRESENTATIVE PHOTOS



Photo 5: Inland Bank/Mean Annual High-Water Line of Ipswich River (B-Series). Direction N/A. August 2, 2023



Photo 6: MAHWL/Bank B-8; Ipswich River loses riverine characteristics near this location. August 2, 2023

Masconomet Regional School District – 20 Endicott Street, Boxford, MA
Wetland Delineation August 2023
REPRESENTATIVE PHOTOS



Photo 7: Bordering Vegetated Wetland



Photo 8: BVW in northern portion of BVW with hydrophytic vegetation and hydric soils. Looking northeast. August 1, 2023

Masconomet Regional School District – 20 Endicott Street, Boxford, MA
Wetland Delineation August 2023
REPRESENTATIVE PHOTOS



Photo 9: Emergent portion of BVW, with shrub/forested wetland to east and north. Looking northeast. August 1, 2023



Photo 10: Typical obligate wetland species in BVW. August 2, 2023

Masconomet Regional School District – 20 Endicott Street, Boxford, MA
Wetland Delineation August 2023
REPRESENTATIVE PHOTOS



Photo 11: Culvert that discharges into BVW, flagged as SW Series. Looking northwest. August 1, 2023



Photo 12: BVW in northern portion of wetland system delineated for Turf Field project.

WETLAND DELINEATION REPORT FOR MASCONOMET REGIONAL SCHOOL DISTRICT

January 18, 2024

**Appendix C
(MASSDEP)**

WETLAND DETERMINATION FORMS



BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: 20 Endicott Rd City/Town: Boxford Sampling Date: August 2, 2023
 Applicant/Owner: Masconomet Regional School District Sampling Point or Zone: Series A (near flag A10)
 Investigator(s): Michele Simoneaux, PWS- Stantec Consulting Latitude / Longitude: 42 62 46 0/-70.97 47 1
 Soil Map Unit Name: Saco variant silt loam NWI or DEP Classification: N/A Upland Plot

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? (If yes, explain in Remarks)
 Are Vegetation , Soil , or Hydrology naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydic Soils criterion met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetlands hydrology present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks, Photo Details, Flagging, etc.:			
Upland plot between Flags A10 and A11. There is a distinct topographic break between the upland and wetland with a marginal transition zone. See Photo 3 and 4 in Appendix A of Wetland Report.			

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology <input type="checkbox"/> Water-stained leaves <input type="checkbox"/> Evidence of aquatic fauna <input type="checkbox"/> Iron deposits <input type="checkbox"/> Algal mats or crusts <input type="checkbox"/> Oxidized rhizospheres/pore linings <input type="checkbox"/> Thin muck surfaces <input type="checkbox"/> Plants with air-filled tissue (aerenchyma) <input type="checkbox"/> Plants with polymorphic leaves <input type="checkbox"/> Plants with floating leaves <input type="checkbox"/> Hydrogen sulfide odor	Indicators that can be Reliable with Proper Interpretation <input type="checkbox"/> Hydrological records <input type="checkbox"/> Free water in a soil test hole <input type="checkbox"/> Saturated soil <input type="checkbox"/> Water marks <input type="checkbox"/> Moss trim lines <input type="checkbox"/> Presence of reduced iron <input type="checkbox"/> Woody plants with adventitious roots <input type="checkbox"/> Trees with shallow root systems <input type="checkbox"/> Woody plants with enlarged lenticels	Indicators of the Influence of Water <input type="checkbox"/> Direct observation of inundation <input type="checkbox"/> Drainage patterns <input type="checkbox"/> Drift lines <input type="checkbox"/> Scoured areas <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Surface soil cracks <input type="checkbox"/> Sparsely vegetated concave surface <input type="checkbox"/> Microtopographic relief <input type="checkbox"/> Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u>		Plot size <u>30'</u>			
		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name			
1.	American Beech	Fagus grandifolia	FACU	80.0	Yes No
2.	White Pine	Pinus strobus	FACU	40.0	Yes No
3.					
4.					
5.					
6.					
7.					
8.					
9.					
<u>120.0</u> = Total Cover					
<u>Shrub/Sapling Stratum</u>		Plot size <u>15'</u>			
		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name			
1.	Sassafras	Sassafras albidum	FACU	40.0	Yes No
2.	Glossy Buckthorn	Frangula alnus	FAC	10.0	Yes No
3.	Black Oak	Quercus velutina	FACU	5.0	No No
4.	Highbush Blueberry	Vaccinium corymbosum	FACW	5.0	No Yes
5.					
6.					
7.					
8.					
9.					
<u>60.0</u> = Total Cover					
<u>Herb Stratum</u>		Plot size <u>5'</u>			
		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name			
1.	New York Fern	Thelypteris noveboracensis	FAC	90.0	Yes No
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>90.0</u> = Total Cover					

VEGETATION – continued.

<u>Woody Vine Stratum</u>	Plot size <u>5'</u>				
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
1. No vines within plot					
2.					
3.					
4.					
<u>0.0</u> = Total Cover					

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
		0	
Prevalence Index:		Total % Cover (all strata)	Multiply by:
	OBL species	0	X 1 = 0.00
	FACW species	5	X 2 = 10.00
	FAC species	100	X 3 = 300.00
	FACU species	170	X 4 = 680.00
	UPL species	0	X 5 = 0.00
	Column Totals	(A) 275	(B) 990
Prevalence Index		B/A = 3.60	
			Is the Prevalence Index ≤ 3.0? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland vegetation criterion met? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

SOIL

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	Location ²		
0-1"								leaf litter
2-4"	5Y R 3/3				RM		sandy loam	
4-12"	10 YR 5/6							

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

Hydric Soil Indicators (Check all that apply)		Indicators for Problematic Hydric Soils
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Mesic Spodic (A17)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Other (Include Explanation in Remarks)
<input type="checkbox"/> Stripped Matrix (S6)		
<input type="checkbox"/> Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks: Upland soil plot is positioned upslope/upgradient of the BVW, between Flags A10 and A11. Note data was collected in field based on previous form and based on vegetation.

Hydric Soils criterion met? Yes No

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: 20 Endicott Rd City/Town: Boxford Sampling Date: August 2, 2023

Applicant/Owner: Masconomet Regional School District Sampling Point or Zone: Series A (near flag A10)

Investigator(s): Michele Simoneaux, PWS- Stantec Consulting Latitude / Longitude: 42 62 46 0/-70.97 47 1

Soil Map Unit Name: Saco variant silt loam NWI or DEP Classification: N/A Upland Plot

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? (If yes, explain in Remarks)

Are Vegetation , Soil , or Hydrology naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydic Soils criterion met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetlands hydrology present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks, Photo Details, Flagging, etc.:			
Upland plot between Flags A10 and A11. There is a distinct topographic break between the upland and wetland with a marginal transition zone. See Photo 3 and 4 in Appendix A of Wetland Report.			

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology <input type="checkbox"/> Water-stained leaves <input type="checkbox"/> Evidence of aquatic fauna <input type="checkbox"/> Iron deposits <input type="checkbox"/> Algal mats or crusts <input type="checkbox"/> Oxidized rhizospheres/pore linings <input type="checkbox"/> Thin muck surfaces <input type="checkbox"/> Plants with air-filled tissue (aerenchyma) <input type="checkbox"/> Plants with polymorphic leaves <input type="checkbox"/> Plants with floating leaves <input type="checkbox"/> Hydrogen sulfide odor	Indicators that can be Reliable with Proper Interpretation <input type="checkbox"/> Hydrological records <input type="checkbox"/> Free water in a soil test hole <input type="checkbox"/> Saturated soil <input type="checkbox"/> Water marks <input type="checkbox"/> Moss trim lines <input type="checkbox"/> Presence of reduced iron <input type="checkbox"/> Woody plants with adventitious roots <input type="checkbox"/> Trees with shallow root systems <input type="checkbox"/> Woody plants with enlarged lenticels	Indicators of the Influence of Water <input type="checkbox"/> Direct observation of inundation <input type="checkbox"/> Drainage patterns <input type="checkbox"/> Drift lines <input type="checkbox"/> Scoured areas <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Surface soil cracks <input type="checkbox"/> Sparsely vegetated concave surface <input type="checkbox"/> Microtopographic relief <input type="checkbox"/> Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u>		Plot size <u>30'</u>			
		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name			
1.	American Beech	Fagus grandifolia	FACU	80.0	Yes No
2.	White Pine	Pinus strobus	FACU	40.0	Yes No
3.					
4.					
5.					
6.					
7.					
8.					
9.					
<u>120.0</u> = Total Cover					
<u>Shrub/Sapling Stratum</u>		Plot size <u>15'</u>			
		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name			
1.	Sassafras	Sassafras albidum	FACU	40.0	Yes No
2.	Glossy Buckthorn	Frangula alnus	FAC	10.0	Yes No
3.	Black Oak	Quercus velutina	FACU	5.0	No No
4.	Highbush Blueberry	Vaccinium corymbosum	FACW	5.0	No Yes
5.					
6.					
7.					
8.					
9.					
<u>60.0</u> = Total Cover					
<u>Herb Stratum</u>		Plot size <u>5'</u>			
		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name			
1.	New York Fern	Thelypteris noveboracensis	FAC	90.0	Yes No
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>90.0</u> = Total Cover					

VEGETATION – continued.

<u>Woody Vine Stratum</u>	Plot size <u>5'</u>				
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
1. No vines within plot					
2.					
3.					
4.					
<u>0.0</u> = Total Cover					

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
		0	
Prevalence Index:		Total % Cover (all strata)	Multiply by:
	OBL species	0	X 1 = 0.00
	FACW species	5	X 2 = 10.00
	FAC species	100	X 3 = 300.00
	FACU species	170	X 4 = 680.00
	UPL species	0	X 5 = 0.00
	Column Totals	(A) 275	(B) 990
Prevalence Index		B/A = 3.60	
			Is the Prevalence Index ≤ 3.0? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland vegetation criterion met? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

SOIL

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	Location ²		
0-1"								leaf litter
2-4"	5Y R 3/3				RM		sandy loam	
4-12"	10 YR 5/6							

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

Hydric Soil Indicators (Check all that apply)		Indicators for Problematic Hydric Soils
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Mesic Spodic (A17)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Other (Include Explanation in Remarks)
<input type="checkbox"/> Stripped Matrix (S6)		
<input type="checkbox"/> Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks: Upland soil plot is positioned upslope/upgradient of the BVW, between Flags A10 and A11.
 Note data was collected in field based on previous form and based on vegetation.

Hydric Soils criterion met? Yes No

43-01-01, 20 ENDICOTT ROAD, BOXORD MA ABUTTERS LIST
 CONSERVATION COMMITTEE 250' AND PONDS

Parcel ID	Location	Owner	Owner 2	Owner Address	Owner City/Town	Owner State	Zip Code
42-01-26	I95	COMMONWEALTH OF MA		100 CAMBRIDGE ST	BOSTON	MA	02114
29-04-01	I95	COMMONWEALTH OF MA	DEP PUB WORKS	10 PARK PLAZA	BOSTON	MA	02116
40-05-11	7 ENDICOTT RD	JAMES, BRENT AUSTIN WOODWARD	JAMES, KATHLEEN JEANNE O'CONNELL	7 ENDICOTT RD	BOXFORD	MA	01921
41-01-01	8 ENDICOTT RD	SULLIVAN JOHN	HOOVER NORA	8 ENDICOTT RD	BOXFORD	MA	01921
41-01-02	5A ENDICOTT RD	SIDERI STEVEN D SR TR	SIDERI NANCY A TR	5A ENDICOTT RD	BOXFORD	MA	01921
41-01-09	5C ENDICOTT RD	BAPTISTA ELIZABETH M TE	BAPTISTA GEORGE	5C ENDICOTT RD	BOXFORD	MA	01921
42-02-01	15 ENDICOTT RD	WILLIAMSON ROBERT M	WILLIAMSON LYNN R	15 ENDICOTT RD	BOXFORD	MA	01921
42-02-02	21 ENDICOTT RD	TOCCI VALENTINO	TOCCI JOANNE	21 ENDICOTT RD	BOXFORD	MA	01921
42-02-03	KILLAM CEMETARY	TOWN OF BOXFORD		7A SPOFFORD RD	BOXFORD	MA	01921
42-02-04	ENDICOTT RD	ESSEX COUNTY GREENBELT ASSOC		82 EASTERN AVE	ESSEX	MA	01929
43-01-01	20 ENDICOTT RD	MASCONOMET REGIONAL SCHOOL DISTRICT		20 ENDICOTT RD	BOXFORD	MA	01921
43-01-02	ENDICOTT RD	ESSEX COUNTY GREENBELT ASSOCIATION		82 EASTERN AVE	ESSEX	MA	01929

CERTIFIED COPY 1/9/2024

Stacey Fournier

