

MEMORANDUM

Date: August 3, 2021

To: Chris Huntress, Huntress Sports

From: Carolyn Gorss, PWS, Epsilon Associates, Inc.

Subject: Wetland Resource Area Delineation Summary Memo, Milton High School Lower Field Project, Milton, Massachusetts.

INTRODUCTION

Epsilon Associates, Inc. (“Epsilon”) is pleased to provide the following Wetland Resource Area Delineation Memo to Huntress Sports for wetland resource areas delineated near the “Gile - Lower Field” at Milton High School in Milton, MA. Epsilon’s Study Area is defined as the area approximately 100 feet around the perimeter of an athletic field (“Study Area”). The southern banks of the Pine Tree River north of the Study Area were also delineated to define the limits of the 200-foot Riverfront Area (“RFA”). This memo describes the resource areas delineated by Epsilon on July 15, 2021. Please refer to Figures 1 and 2 in Attachment A, for additional detail.

EXISTING SITE CONDITIONS

The Study Area is located at the end of an offshoot of Gile Road, in the northwestern portion of the Milton High School campus in Milton Massachusetts. A USGS-mapped perennial river, Pine Tree Brook, flows west to east along the northwestern perimeter of the property. The school is bordered to the north, east, and south by residential neighborhoods and forested uplands. The Blue Hills Parkway is located to the west of the school and connects to Giles Road.

The proposed work involves improvements to an approximately 350-foot by 180-foot athletic field located at the end of an offshoot of Gile Road. The topography north and east of the athletic field slopes gently downhill towards Pine Tree Brook and undeveloped land to the west of Gile Road. The southern perimeter of the site is steeply sloped upwards towards a walking path, driveway, and 2 baseball fields. A walking trail is located parallel to the southern banks of Pine Tree Brook, crosses Pine Tree Brook to the northwest, and connects to Gile Road. A smaller walking trail leads up from the northern corner of the field to the southern banks of Pine Tree Brook, through Wetland Series A.

According to the applicable Federal Emergency Management Agency - Flood Insurance Rate Map ("FEMA-FIRM" Panels 0202E, 0201E, and 0063E effective date July 17, 2012), the Study Area is partially located in Zone X outside the 0.2% annual chance floodplain and outside of Bordering Land Subject to Flooding ("BLSF"), as defined under the applicable wetlands regulations. The limit of BLSF is defined by elevation 35-feet (the base flood elevation). Please refer to Figure 4 in Attachment A, which depicts the limits of FEMA flood areas within the Study Area. According to the Natural Resources Conservation Service ("NRCS") Web Soil Survey, soils in the Study Area are predominantly mapped as loamy Udorthents, while the soils within BVW Series A north of the field also contain Scarboro and Birdsall soils, 0 to 3 percent slopes. Part of Wetland Series B to the west of the field contains Woodbridge fine sandy loam, 3 to 8 percent slopes. Please refer to Figure 5 in Attachment A, which depicts the NRCS soil types within the Study Area.

According to the Natural Heritage and Endangered Species Program (Natural Heritage Atlas, 2021) ("NHESP"), there is mapped NHESP Priority Habitat for rare species adjacent to the western side of the Study Area, across Gile road within Wetland Series B. Priority Habitat is based on the known geographical extent of habitat for all state-listed rare species, both plants and animals, and is codified under the Massachusetts Endangered Species Act ("MESA"). The site, however, does not contain areas of Estimated Habitat. Estimated Habitats are a sub-set of the Priority Habitats and are based on the geographical extent of habitat of state-listed rare wetlands wildlife and is codified under the Wetlands Protection Act ("WPA"), which does not protect plants. State-listed wetland wildlife species are protected under MESA as well as the WPA. Please refer to Figure 5 in Attachment A, which depicts the location of the nearby NHESP Priority habitat.

WETLAND RESOURCE AREA DELINEATION METHODOLOGY

Vegetated wetlands were delineated in accordance with the U.S. Army Corps of Engineers Wetland Delineation Manual (USACE, 1987), the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0" (2012), the Massachusetts Wetlands Protection Act and implementing regulations (310 CMR 10.00), and the Massachusetts Department of Environmental Protection's handbook, Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act (MADEP, 1995) and the Milton Wetlands Bylaw (Chapter 13) (https://www.townofmilton.org/sites/g/files/vyhlif911/f/uploads/wetland_bylaw.pdf). The referenced delineation methodologies generally prescribe a three-parameter approach, where hydrophytic vegetation, hydric soils, and hydrology are reviewed in conjunction with one another when delineating a wetland edge.

The boundaries of wetland resource areas were delineated in the field by tying brightly colored survey ribbons to woody vegetation or other relatively permanent vegetation. Colored ribbons were placed sufficiently close together to clearly identify wetland edges and to allow survey crews to see adjacent flags

from each other. Flags were labeled sequentially using alpha numeric identifiers and will be located by a licensed survey crew.

FINDINGS

Jurisdictional wetland resource areas delineated by Epsilon include Inland Bank (“Bank”) and Riverfront Area (“RFA”) associated with Pine Tree Brook located north of the Study Area and Bordering Vegetated Wetlands (“BVW”) located north, west, and southeast of the athletic field. The Bank and coincident mean annual high-water line for purposes of delineating RFA along Pine Tree Brook is referred to as Bank Series B. The boundary of two forested wetlands bordering the perennial stream were referred to as BVW Series A and C, and the southern tip of an emergent wetland southeast of the athletic field was referred to as BVW Series D. These resource areas were delineated on June 15, 2021 (see Wetland Sketch in Attachment D). Site Photographs provided in Attachment B depict existing conditions within the Study Area. A set of U.S. Army Corps of Engineers Wetland Determination Data Forms are provided in Attachment C. As noted above, the limits of BLSF is defined by the 35-foot contour, where it extends from the BVW boundary (see 310 CMR 10.57 for additional detail).

Bank Series B (flags B-1 through B-17)

This series delineates the mean annual high water (“MAHW”) that is coincident with the southern Bank of the perennial Pine Tree Brook, located north of the Study Area. Water within the channel flows west to east, towards the Neponset River. A footbridge is located across Pine Tree Brook at flag B-3. An intermittent stream flowed north into the river at flag B-8, creating a hydrologic connection to BVW Series A. The southern banks of the stream were muddy, the channel contained a mucky/sandy substrate, and vegetation along the banks was dense. The channel was approximately 15-20 feet wide with 1-4 feet of swiftly flowing water at the time of inspection. The northwestern portion of the Study Area is located within the RFA. The RFA consists mostly of forested wetland and extends up to the edge of the athletic field.

Dominant Bank vegetation included: elderberry (*Sambucus nigra*), multiflora rose (*Rosa multiflora*), jewelweed (*Impatiens capensis*), green ash (*Fraxinus pennsylvanica*), stinging nettle (*Urtica dioica*), raspberry (*Rubus idaeus*), deer-tongue grass (*Dichanthelium clandestinum*), knotweed (*Fallopia japonica*), American Elm (*Ulmus americana*), Virginia creeper (*Parthenocissus quinquefolia*), climbing nightshade (*Solanum dulcamara*), red maple (*Acer rubrum*), goldenrod (*Solidago sp.*), and poison ivy (*Toxicodendron radicans*). A 100-foot buffer zone is associated with Bank. The RFA extends 200 feet horizontally from the mean annual high-water line.

BVW Series A (flags A-1 to A-26)

This series delineates the southern boundary of a forested BVW which is hydrologically connected to Bank Series A, located in the northern portion of the Study Area. The substrate in this wetland was sandy and

mucky with standing water and disturbed pit-and-mound topography throughout. Soil along the southern boundary of this wetland contained gravel and bits of plastic. A walking trail had been constructed between flags A-5 and A-6, which lead up from the northern corner of the field to the southern banks of Pine Tree Brook, through Wetland Series A.

Dominant vegetation included: stinging nettle, multiflora rose, Virginia creeper, climbing nightshade, red maple, green ash, jewelweed, poison ivy, American elm, skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), Asian bittersweet (*Celastrus orbiculatus*), Jack-in-the-pulpit (*Arisaema triphyllum*) and curly dock (*Rumex crispus*). The uplands adjacent to the wetland contained non-native garlic mustard (*Alliaria petiolata*) and Norway maple (*Acer platanoides*). There is a 100-foot buffer zone associated with BVW.

BVW Series C (flags C-1 through C-19)

This series delineates the eastern boundary of a BVW which is hydrologically connected to Bank Series A, located in the western northern portion of the Study Area. This series is predominantly forested wetland, but transitions to a wet meadow with a ponded cattail marsh between flags C-10 and C-14. A 12-inch concrete culvert which drained water into the wetland is located at flag C-17. The substrate in this wetland was mucky with standing water and evidence of disturbed soil along the edges. Soil along the eastern boundaries of this wetland contained piles of brush and disturbed soil with bits of plastic and chunks of asphalt. This wetland series is congruous with NHESP priority habitat, as shown in Figure 3 of Attachment A.

Dominant vegetation in the forested wetland areas included: American elm, multiflora rose, red maple, jewelweed, sensitive fern, Jack-in-the-pulpit and elderberry. Dominant vegetation in the wet meadow/cattail marsh areas included: purple loosestrife (*Lythrum salicaria*), arrow-leaved tearthumb (*Persicaria sagittata*), narrow-leaved cattail (*Typha angustifolia*), spotted Joe-pye-weed (*Eutrochium maculatum*), and elderberry. A large stand of knotweed was located adjacent to the edges of the wetland nearest to Gile Road. There is a 100-foot buffer zone associated with BVW.

BVW Series D (flags D-1 through D-6)

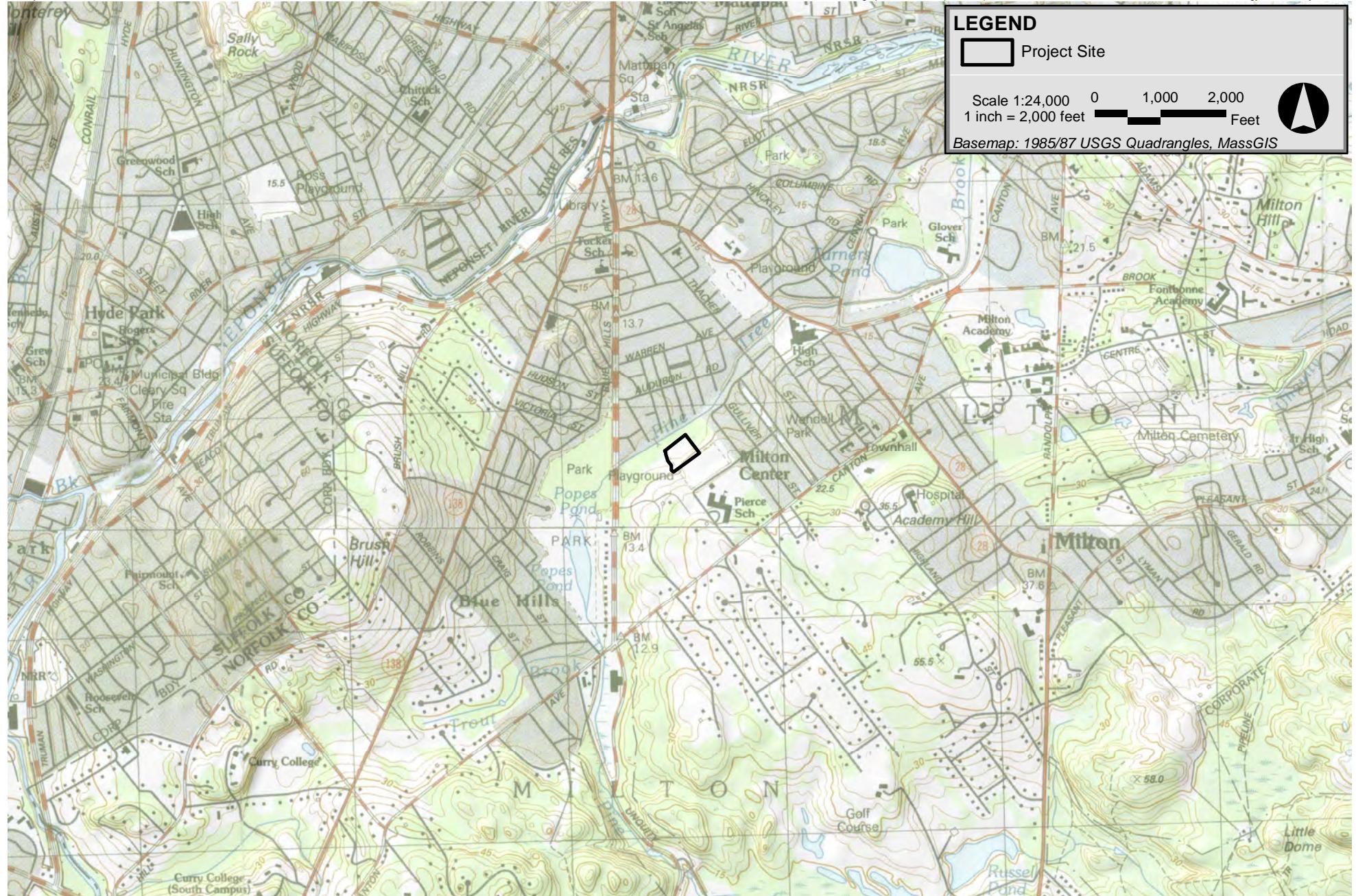
This series delineates the southeastern boundary of a BVW which is hydrologically connected to a wet meadow/shrub swamp northeast of the Study Area, behind the baseball field. This BVW is located in the western northern portion of the Study Area. The wetland is predominantly emergent, with shrubs along the tree line where it is located south of the baseball field. The substrate in this wetland was sandy, with some standing water at the time of delineation, and contained many iron concentrations that indicate prolonged saturation. Parts of this wetland include walkways with manicured grass.

Dominant vegetation in this wetland included multiflora rose, stinging nettle, climbing nightshade, purple loosestrife, poison ivy, spotted water-hemlock (*Cicuta acuata*), soft rush (*Juncus effusus*), grape vine (*Vitis*

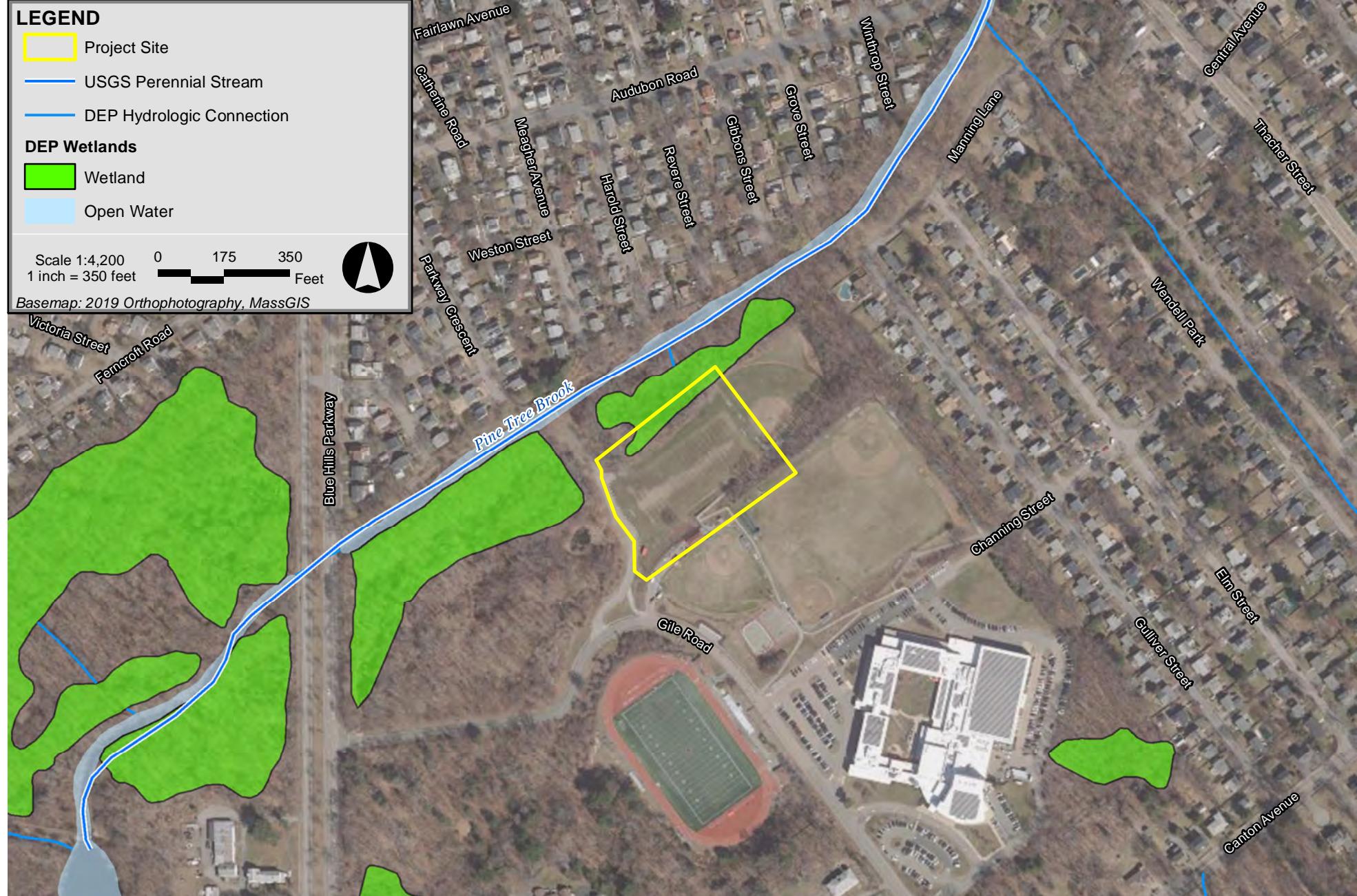
sp.), pokeweed (*Phytolacca americana*), and wrinkle-leaved goldenrod (*Solidago rugosa*), and planted turf grass (*Fescuta sp.*). There is a 100-foot buffer zone associated with BVW.

Attachment A

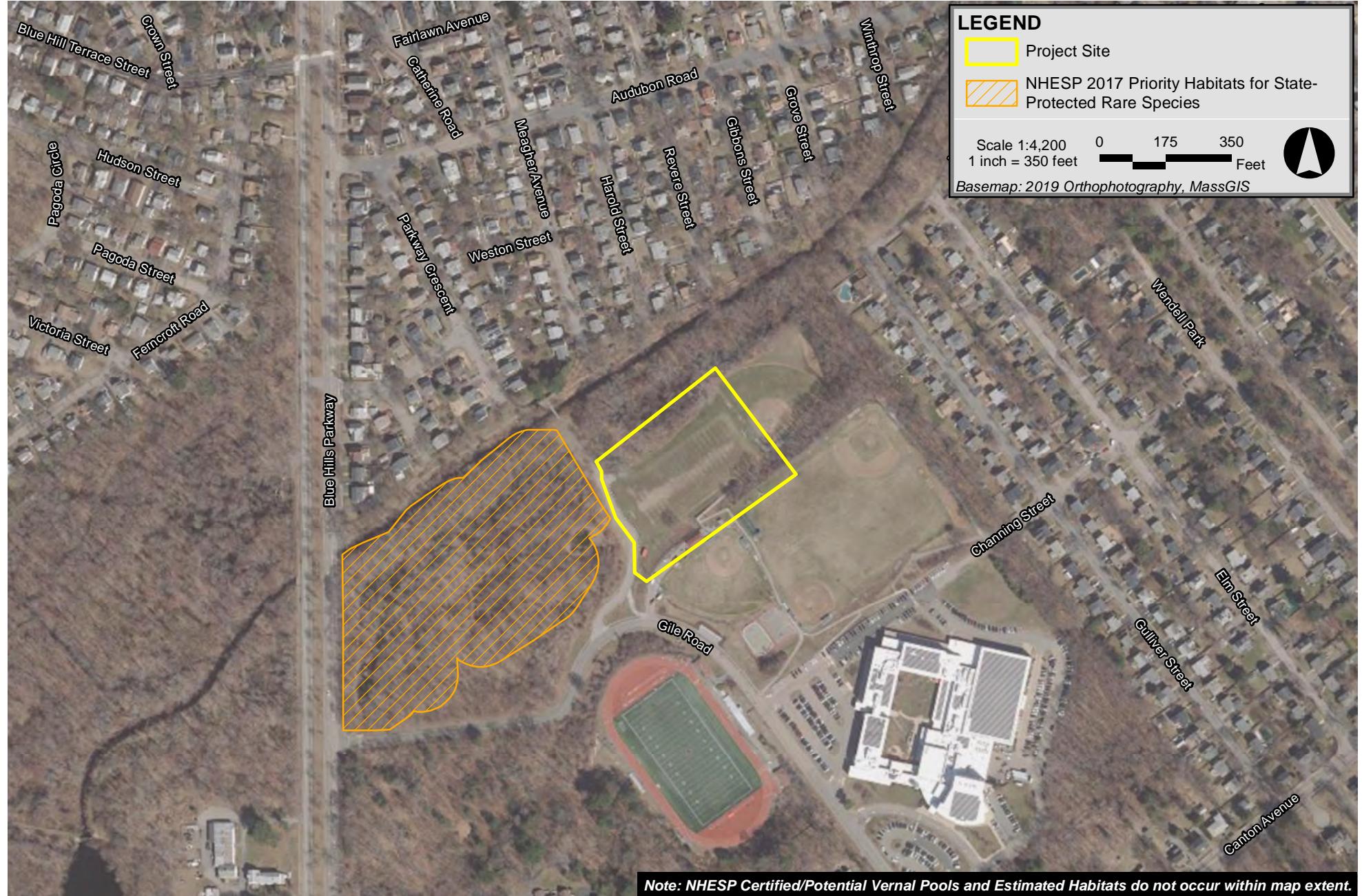
Figures



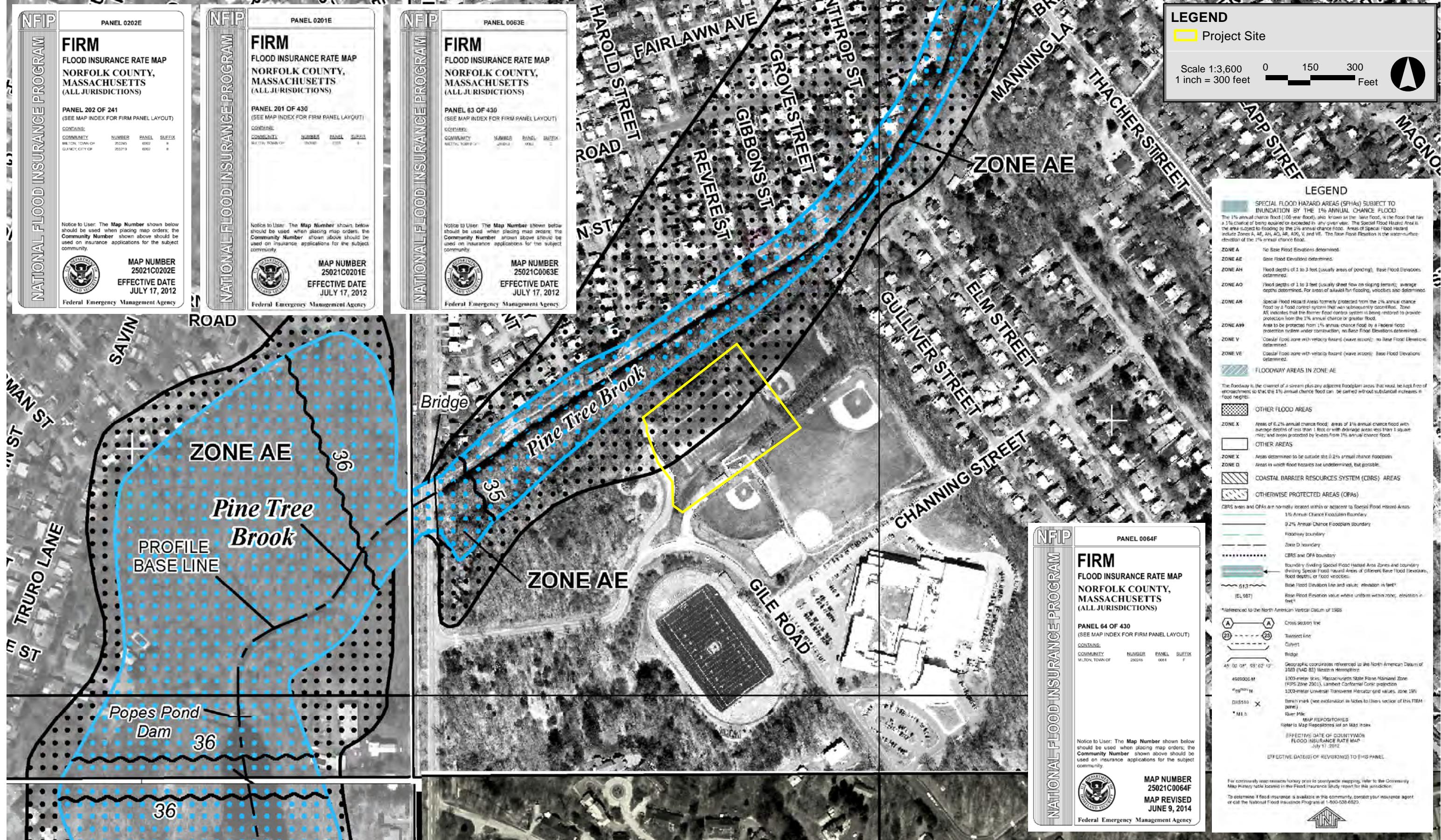
Milton High School Lower Field Milton, Massachusetts



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Map Unit Symbol	Map Unit Name
1	Water
10	Scarboro and Birdsall soils, 0 to 3 percent slopes
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes
30	Raynham silt loam, 0 to 3 percent slopes
305B	Paxton fine sandy loam, 3 to 8 percent slopes
305C	Paxton fine sandy loam, 8 to 15 percent slopes
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes
312B	Woodbridge fine sandy loam, 3 to 8 percent slopes, extremely stony
31A	Walpole sandy loam, 0 to 5 percent slopes
602	Urban land, 0 to 15 percent slopes
623C	Woodbridge-Urban land complex, 3 to 15 percent slopes
626B	Merrimac-Urban land complex, 0 to 8 percent slopes
628C	Canton-Urban land complex, 3 to 15 percent slopes
653	Udorthents, sandy
654	Udorthents, loamy
655	Udorthents, wet substratum
71B	Ridgebury fine sandy loam, 2 to 8 percent slopes, extremely stony
73A	Whitman fine sandy loam, 0 to 5 percent slopes, extremely stony



Milton High School Lower Field Milton, Massachusetts

Attachment B

Photographs of the Study Area



Photo 1. View of Bank Series B which delineates the southern Mean Annual High-Water limit of Pine Tree Brook, looking northeast from flag B-1.



Photo 2. View of BVW Series A, looking north into the wetland from flag A-1.

Milton, MA



Photo 3. View of walking path located between flags A-5 and A-6, looking north towards Pine Tree Brook.



Photo 4. View of ponding water within BVW Series A, looking north by flag A-9.

Milton, MA



Photo 5. View of forested wetland portion of BVW Series C, looking northwest by flag C-3.



Photo 6. View of emergent marsh/wet meadow portion of BVW Series C between flags C-10 and C-14, looking north.

Milton, MA



Photo 7. View of BVW Series D, looking east by flag D-3.



Photo 8. Representative view of the extent of Gile Road west of the football field, looking north.

Milton, MA



Photo 9. Representative view of the football field, looking northeast by Gile Road.



Photo 10. Representative view the football field, looking southwest by flag A-2

Milton, MA

Attachment C

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Milton High School Lower Field City/County: Milton Sampling Date: 7-15-21
 Applicant/Owner: Huntress Sports State: MA Sampling Point: DP-U-A
 Investigator(s): C. Gorss Section, Township, Range: Norfolk County
 Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): Convex Slope %: 3%
 Subregion (LRR or MLRA): LRR Lat: 42.253778 Long: -71.089721 Datum: NAD83
 Soil Map Unit Name: Loamy Uderthents NWI classification: N/A Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators</u> (minimum of one is required; check all that apply) <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;"><input type="checkbox"/> Surface Water (A1)</td><td style="width: 50%;"><input type="checkbox"/> Water-Stained Leaves (B9)</td></tr> <tr><td><input type="checkbox"/> High Water Table (A2)</td><td><input type="checkbox"/> Aquatic Fauna (B13)</td></tr> <tr><td><input type="checkbox"/> Saturation (A3)</td><td><input type="checkbox"/> Marl Deposits (B15)</td></tr> <tr><td><input type="checkbox"/> Water Marks (B1)</td><td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td></tr> <tr><td><input type="checkbox"/> Sediment Deposits (B2)</td><td><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td></tr> <tr><td><input type="checkbox"/> Drift Deposits (B3)</td><td><input type="checkbox"/> Presence of Reduced Iron (C4)</td></tr> <tr><td><input type="checkbox"/> Algal Mat or Crust (B4)</td><td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td></tr> <tr><td><input type="checkbox"/> Iron Deposits (B5)</td><td><input type="checkbox"/> Thin Muck Surface (C7)</td></tr> <tr><td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td><td><input type="checkbox"/> Other (Explain in Remarks)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td><td></td></tr> </table>		<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators</u> (minimum of two required) <table style="width: 100%; border-collapse: collapse;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>		<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> FAC-Neutral Test (D5)																																		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>																																
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																		

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP-U-A

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>
1. <i>Acer platanoides</i>	5	Yes	UPL
2. <i>Prunus sp.</i>	8	Yes	UPL
3.			
4.			
5.			
6.			
7.			
	<u>13</u>	=Total Cover	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>)			
1. <i>Daucus carota</i>	5	No	UPL
2. <i>Melilotus officinalis</i>	20	No	FACU
3. <i>Hedera helix</i>	5	No	FACU
4. <i>Digitaria sp.</i>	15	No	UPL
5. <i>Trifolium sp.</i>	15	No	UPL
6. <i>Plantago major</i>	10	No	FACU
7. <i>Fescuta sp.</i>	60	Yes	FACU
	<u>130</u>	=Total Cover	
<u>Herb Stratum</u> (Plot size: <u>5'</u>)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		=Total Cover	
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)			
1. <i>Vitis sp.</i>	20	Yes	FAC
2.			
3.			
4.			
	<u>20</u>	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (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: <u>(A)</u>	<u>(B)</u>
Prevalence Index = B/A = <u> </u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

1 Indicators 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 X

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

SOIL

Sampling Point DP-U-A

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

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

²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1) P
- Histic Epipedon (A2)
- Black Histic (A3) T
- Hydrogen Sulfide (A4) H
- Stratified Layers (A5) L
- Depleted Below Dark Surface (A11) L
- Thick Dark Surface (A12) D
- Sandy Mucky Mineral (S1) R
- Sandy Gleyed Matrix (S4) D
- Sandy Redox (S5) R
- Stripped Matrix (S6) M
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- 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)
- Marl (F10) (**LRR K, L**)

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**)
- 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 (F22)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Dense Gravel

Hydric Soil Present? Yes No X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Milton High School Lower Field City/County: Milton Sampling Date: 7-15-21
 Applicant/Owner: Huntress Sports State: MA Sampling Point: DP-W-A
 Investigator(s): C.Gorss Section, Township, Range: Norfolk County
 Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): Concave Slope %: 1%
 Subregion (LRR or MLRA): LRR Lat: 42.253807 Long: -71.089759 Datum: NAD83
 Soil Map Unit Name: Scarboro and Birdsall soils, 0 to 3 percent slopes NWI classification: PFO
 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 X 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>Wetland Series A</u>
Remarks: (Explain alternative procedures here or in a separate report.) Located 2 feet north of Flag A-7	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators</u> (minimum of one is required; check all that apply)		<u>Secondary Indicators</u> (minimum of two required)	
<u>X</u> Surface Water (A1) <u>X</u> High Water Table (A2) <u>X</u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Sparsely Vegetated Concave Surface (B8)	<u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)	<u> </u> Surface Soil Cracks (B6) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u>X</u> Microtopographic Relief (D4) <u> </u> FAC-Neutral Test (D5)	

Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Ponded areas comprise approximately 50% of the wetland.

VEGETATION – Use scientific names of plants.

 Sampling Point: DP-W-A

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</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>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.1%</u> (A/B)	
1. <i>Acer rubrum</i>	50	Yes	FAC		
2. <i>Ulmus americana</i>	5	No	FACW		
3. <i>Populus deltoides</i>	15	No	FAC		
4. <i>Acer saccharum</i>	20	Yes	FACU		
5.					
6.					
7.					
	<u>90</u>	=Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</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 = _____	
1. <i>Rosa multiflora</i>	10	Yes	FACU		
2. <i>Fraxinus pennsylvanica</i>	8	Yes	FACW		
3. <i>Cornus amomum</i>	2	No	FACW		
4. <i>Acer rubrum</i>	2	No	FAC		
5.					
6.					
7.					
	<u>22</u>	=Total Cover			
<u>Herb Stratum</u> (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>3</u> - Prevalence Index is $\leq 3.0^1$ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)	
1. <i>Urtica dioica</i>	30	Yes	FAC		
2. <i>Toxicodendron radicans</i>	18	Yes	FAC		
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
	<u>48</u>	=Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u>15'</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.	
1. <i>Parthenocissus quinquefolia</i>	8	Yes	FACU		
2.					
3.					
4.					
	<u>8</u>	=Total Cover			
Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____			

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

SOIL

Sampling Point DP-W-A

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

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

—	Histosol (A1)	—	P
—	Histic Epipedon (A2)	—	
—	Black Histic (A3)	—	T
—	Hydrogen Sulfide (A4)	—	H
—	Stratified Layers (A5)	—	L
—	Depleted Below Dark Surface (A11)	—	L
—	Thick Dark Surface (A12)	—	D
—	Sandy Mucky Mineral (S1)	—	X
—	Sandy Gleyed Matrix (S4)	—	D
—	Sandy Redox (S5)	—	R
—	Stripped Matrix (S6)	—	M
—	Dark Surface (S7)	—	

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- X Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

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**)
- 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 (F22)
- 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:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)



Photo 1. View of wetland data plot DP-W-A, looking north by flag A-7.



Photo 2. View of wetland soil profile for data plot DP-W-A, by flag A-7.

Shrewsbury, MA



Photo 3. View of upland data plot area for DP-U-A, approximately 10' south of flag A-7 and A-8.



Photo 4. View of upland soil profile for data plot DP-U-A, south of flag A-7 and A-8.

Shrewsbury, MA

Attachment D

Wetland Resources Sketch Map



Pink flags delineate wetland lines
Blue flags delineate river bank