

Stoneham High School Wetlands

Conservation Commission Informational Presentation

June 12, 2023

Jennifer Relstab, P.E., Senior Water
Resources Engineer



Agenda



- Introductions and Background
- Initial Assessments and Concept (2021)
- Municipal Vulnerability Preparedness (MVP) Grant (FY23/FY24)
- Ongoing Field Assessments and Findings (2023)
- Next Steps

Project Team

Town of Stoneham

- Dennis Sheehan, Town Administrator
- Erin Wortman, Director of Planning and Community Development

Horsley Witten Group

- Jennifer Relstab, Project Manager, Senior Water Resources Engineer
- Amy Ball, Senior Ecologist
- Jamie McCarthy, Environmental Scientist
- Michael Easler, Landscape Architect

Mystic River Watershed Association

- Catherine Pedemonti, Project Manager
- Daria Clark, Engagement Manager

MVP

- Carolyn Mecklenburg, Greater Boston Regional Coordinator



Alewife Stormwater Wetland, the original inspiration

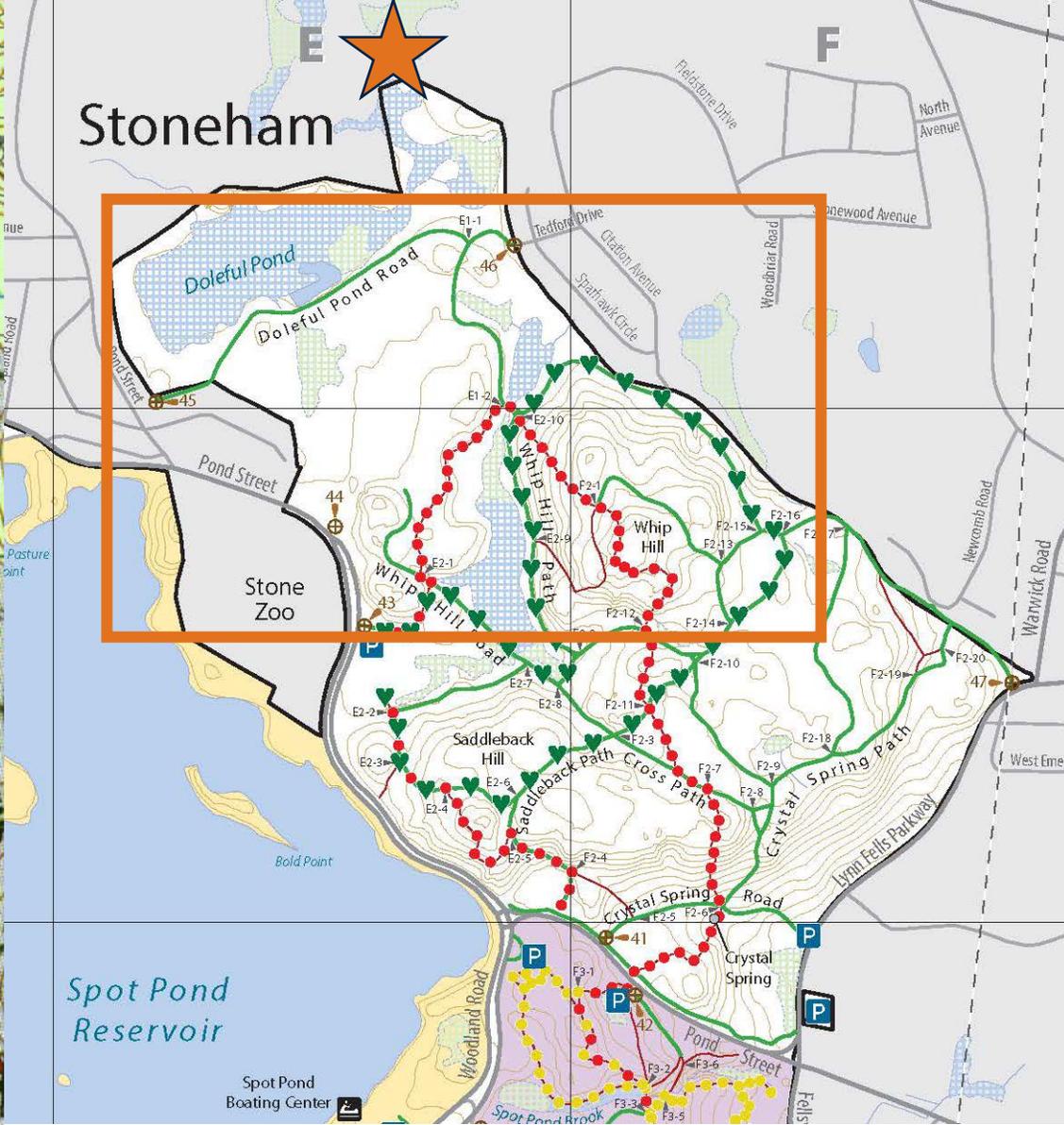
Resilient Mystic Collaborative Upper Mystic Working Group

Overall goal: Manage precipitation-based flooding

1. Modeling to better understand flooding
2. Identify tools to manage regional flooding
3. Zoom in on constructed wetlands as tool to manage regional flooding
4. Identify potential sites. 425 sites narrowed to 6.
5. Design and permit top 3 sites

Stoneham High School

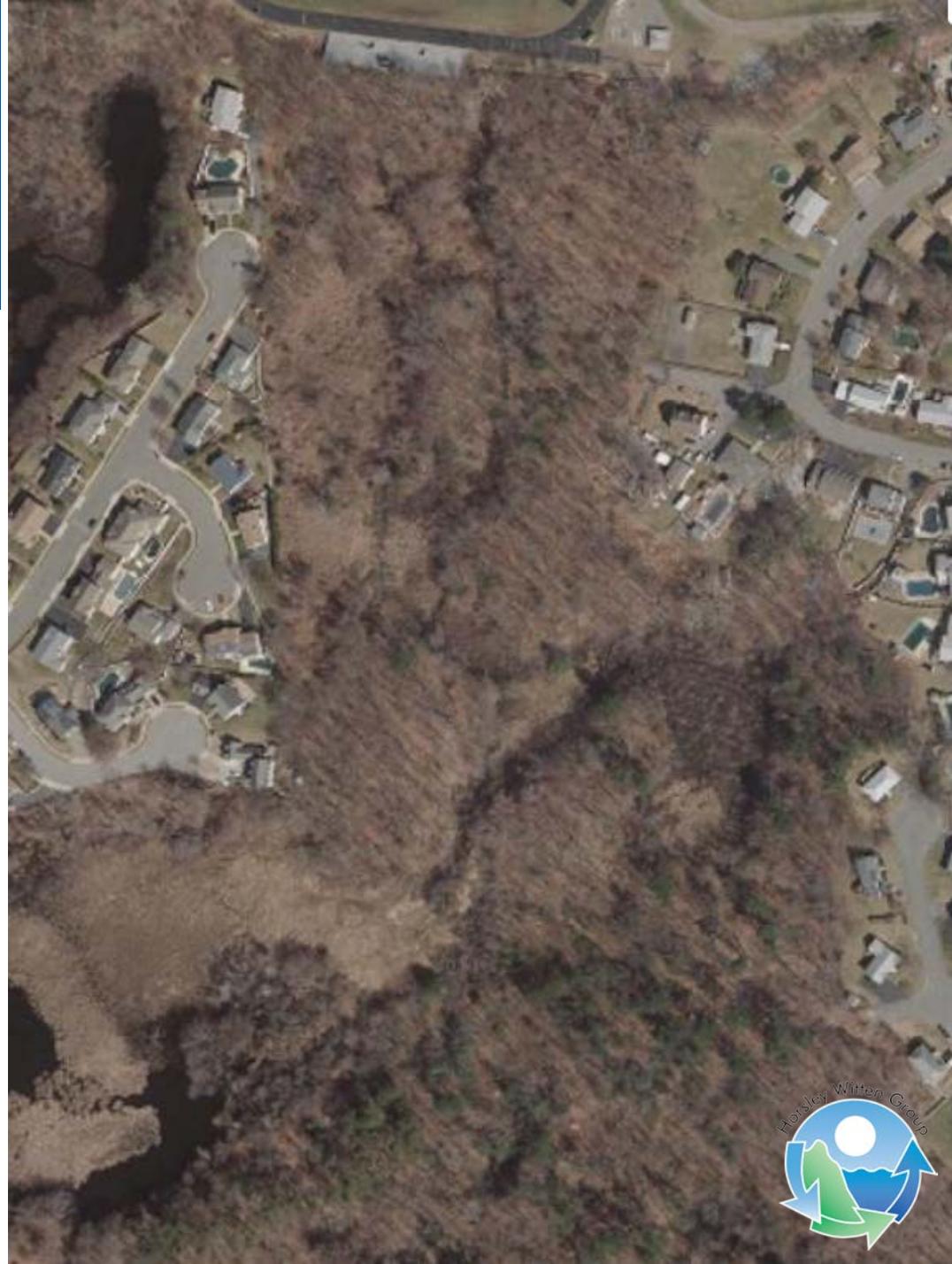
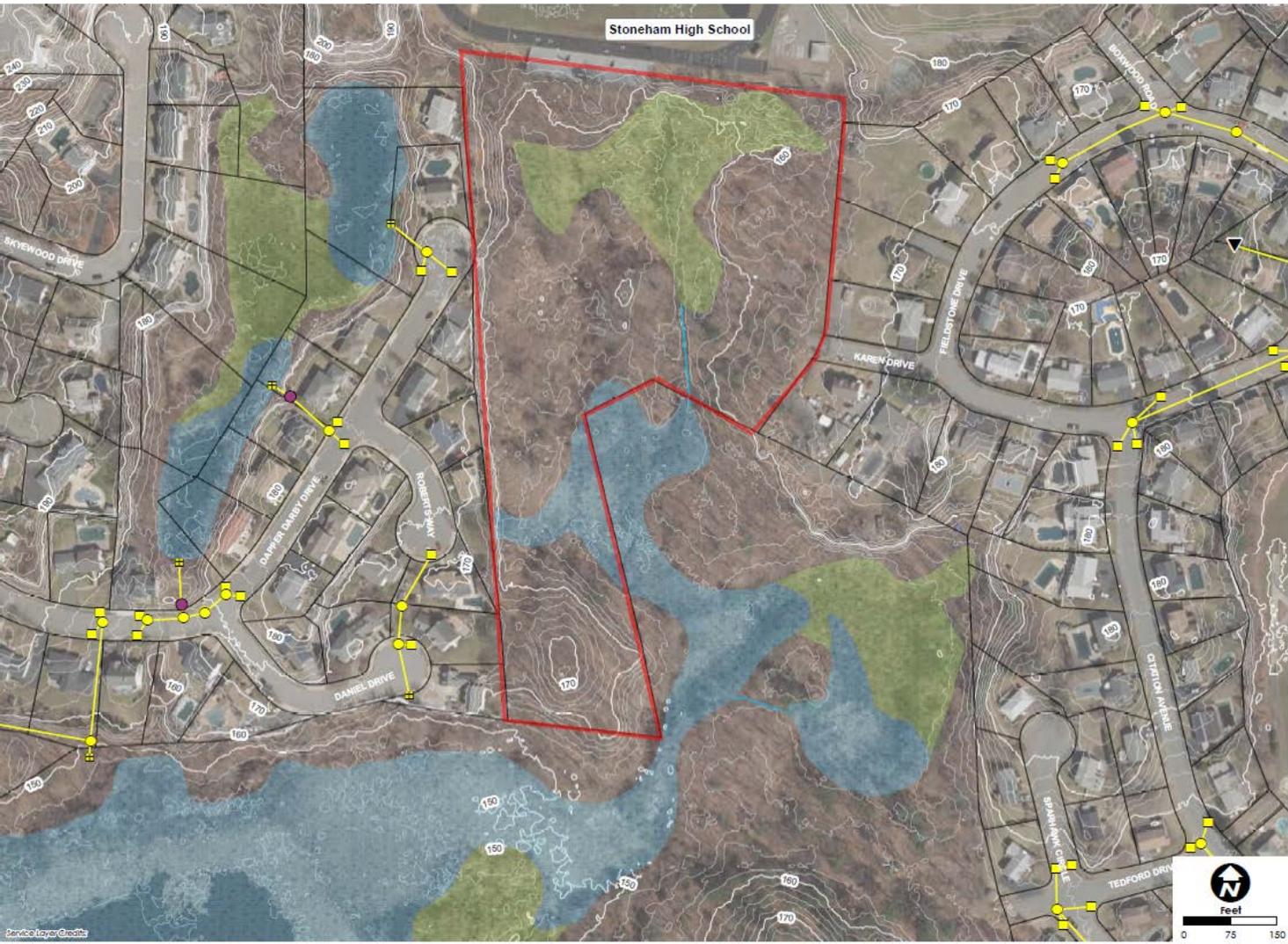




Middlesex Fells Reservation Trail Map (2018)



Overview of Project Site





Initial Site Assessment Photos



Initial Assessments

Healthy Forested Wetland and Intermittent Stream

- Red Maple, Elm, speckled alder, sweet pepperbush, glossy buckthorn, skunk cabbage, jewelweed, soft rush and sensitive fern.
- Woody debris, fallen logs and snags to support wildlife.

Invasive Species

- Many trees host to Asiatic bittersweet and porcelain berry vines.
- Japanese knotweed in clustered areas.
- Several other invasive species spread throughout include: Norway maple, European and Glossy buckthorn, privet, multiflora rose, Japanese barberry, hairy willow-herb, purple loosestrife and garlic mustard.

Trash and Debris

- Piles of likely blasted rock closer to existing bleachers.
- Lots of trash and debris including an old car, washer, bed frame and tires.
- Yard debris present along parcel edges.

Initial Assessments

Existing Connectivity

- Existing footpath to Dapper Darby Drive from High School
- Wooden crossing over intermittent stream



Stoneham High School Wetlands

Opportunities

1. Expand the capacity of the existing wetland by removing existing boulders and debris to improve water quality.
2. Improve stream flow and restore aquatic ecosystems.
3. Remove invasive species to increase biodiversity and ecosystem resilience.
4. Create formal pedestrian pathways that connect to local open spaces and regional trails (e.g., Doleful Pond Trail within Department of Conservation and Recreation's (DCR's) Middlesex Fells Reservation)



Connection to DCR's Doleful Pond Trail at Tedford Drive



CREDIT: TIMBER+HOME, LLC
KIOSK



RESTORED WETLAND



CREDIT: NEABSCO CREEK BOARDWALK TRAIL
LOW PROFILE BOARDWALK



CREDIT: ELK RIVER RIDGEWOOD EAST PARK STONE WALL PATH
FORMAL STONE ENTRANCE

- PROPOSED PATH
- PROPOSED BOARDWALK
- EXISTING FOOTPATH
- PROJECT BOUNDARY
- TOWN/DCR PROPERTY BOUNDARY
- EXISTING WETLAND BOUNDARY
- EXISTING WETLAND
- EXISTING UPLAND
- TREE CANOPY



CREDIT: NEABSCO CREEK BOARDWALK TRAIL
OVERLOOK



Municipal Vulnerability Preparedness (MVP) Grant (FY23/FY24)

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Stoneham Gets \$100K For High School Stormwater, Wetlands Project

The funding aims to help Stoneham improve stormwater flow and restore wetlands around the Stoneham High School property.

 Dakota Antelman, Patch Staff 

Posted Tue, Aug 30, 2022 at 10:15 pm ET | Updated Wed, Aug 31, 2022 at 12:36 am ET

- Applied in May 2022
- Award in September 2022
- Grant supports design efforts for climate resiliency
- Two-year grant, ending June 30, 2024



Timeline

Fall 2022

Additional data gathering and site visits, meetings with Town officials

Winter/Spring 2023

Field survey, wetlands delineation, field data collection, initial public engagement

Summer 2023

Advance design, pre-permitting meeting(s) with Conservation Commission members

Fall 2023

Site walk(s) and public engagement, develop permit-ready plans

Winter/Spring 2024

Permitting and final public meeting

Resource Areas

-  Survey Area
-  Parcels
-  Stream
-  25-Foot Undisturbed Buffer to Stream
-  100-Foot Undisturbed Buffer to Stream
-  Vegetated Wetlands
-  25-Foot Undisturbed Buffer to Vegetated Wetlands
-  100-Foot Undisturbed Buffer to Vegetated Wetlands

Date: 4/14/2023
Data Sources: Bureau of Geographic Information (MassGIS), ESRI, Field survey conducted by Horsley Witten Scientists.



Resource Areas

<p><u>Inland Bank</u> 310 CMR 10.54</p>	<p><u>Bordering Vegetated Wetland (BVW)</u> 310 CMR 10.55</p>	<p><u>Isolated Vegetated Wetland (IVW)</u> locally protected</p>	<p><u>Buffer Zones</u> 310 CMR 10.02(2)(b) & local</p>
 <p>One intermittent stream flows south from a culvert with well-defined banks.</p> 	 <p>Four BVWs are hydrologically connected to the stream.</p>	 <p>One isolated wetland is located in the northwest corner of the survey area.</p>	<ul style="list-style-type: none">• WPA & Local:<ul style="list-style-type: none">➤ 100-foot buffer zone to BVW & Bank• Local Only:<ul style="list-style-type: none">➤ 25-foot undisturbed zone to BVW, Bank, & IVW➤ 100-foot buffer zone to IVW



Invasive Species Strategies

Physical/Mechanical

- Cutting, pulling, grubbing, covering
- Pro: Least adverse impacts on adjacent, native plant communities
- Con: Not as effective as other methods

Chemical

- Primarily use of herbicides
- Pro: Selective application can target and control invasive species, while minimizing adverse effects on native species
- Con: Requires licensed applicator(s), use of chemicals in or near resource areas

Biological

- Use of living organisms (e.g., goats!)
- Pro: Effective for certain invasive species and/or in areas of difficult terrain
- Con: Requires setup (shelter/fencing) and can pose an impact to native wildlife



Next Steps

- Fill out a survey here:
 - <https://bit.ly/stonehamhswetland>
- Find out more here:
 - <https://www.stoneham-ma.gov/1023/HS-Wetlands-Restoration>
- Stay tuned for our next meeting (anticipated in September/October 2023)



Thank you!

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