

# *Stoneham High School Wetlands*

## *Conservation Commission Hearing*

*February 26, 2024*

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

Jamie McCarthy, CWS, CESSWI,  
Environmental Scientist



# 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

Stoneham High School Wetlands

## Mystic River Watershed Association

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

## MVP

- **Carolyn Mecklenburg**, Greater Boston Regional Coordinator



# *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 

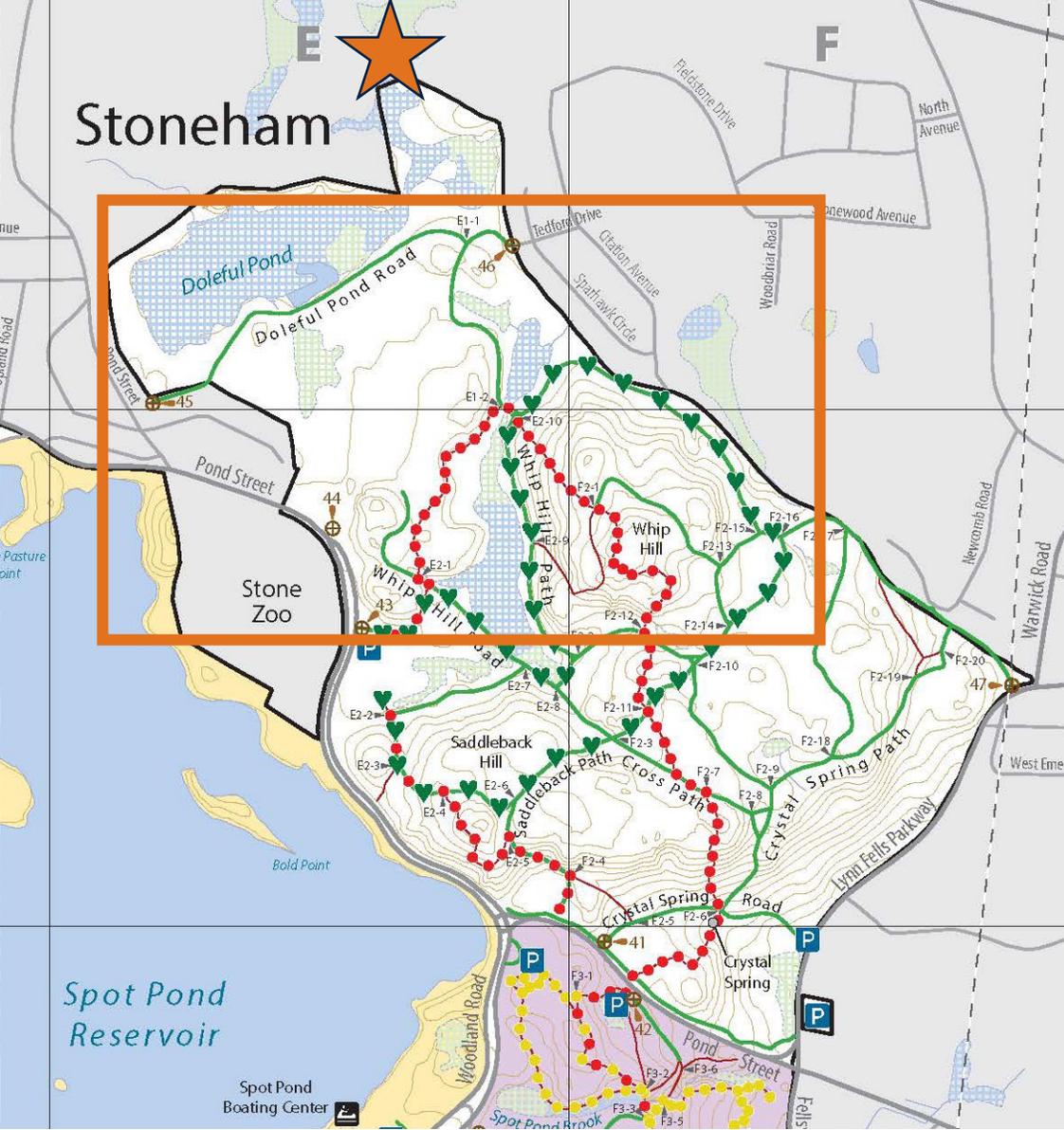
Posted Tue, Aug 30, 2022 at 10:15 pm ET | Updated Wed, Aug 31, 2022 at 12:36 am ET

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

Stoneham High School Wetlands



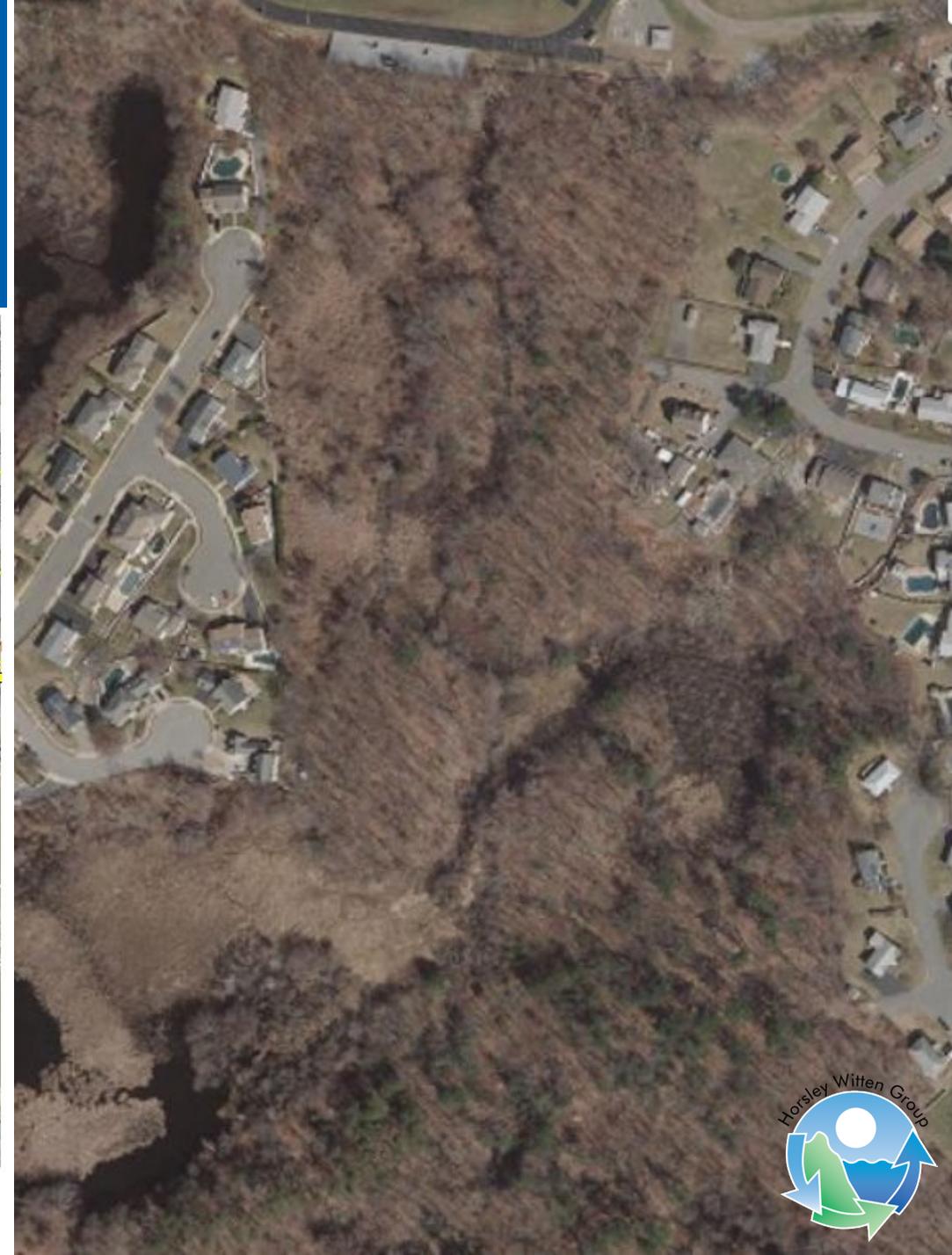
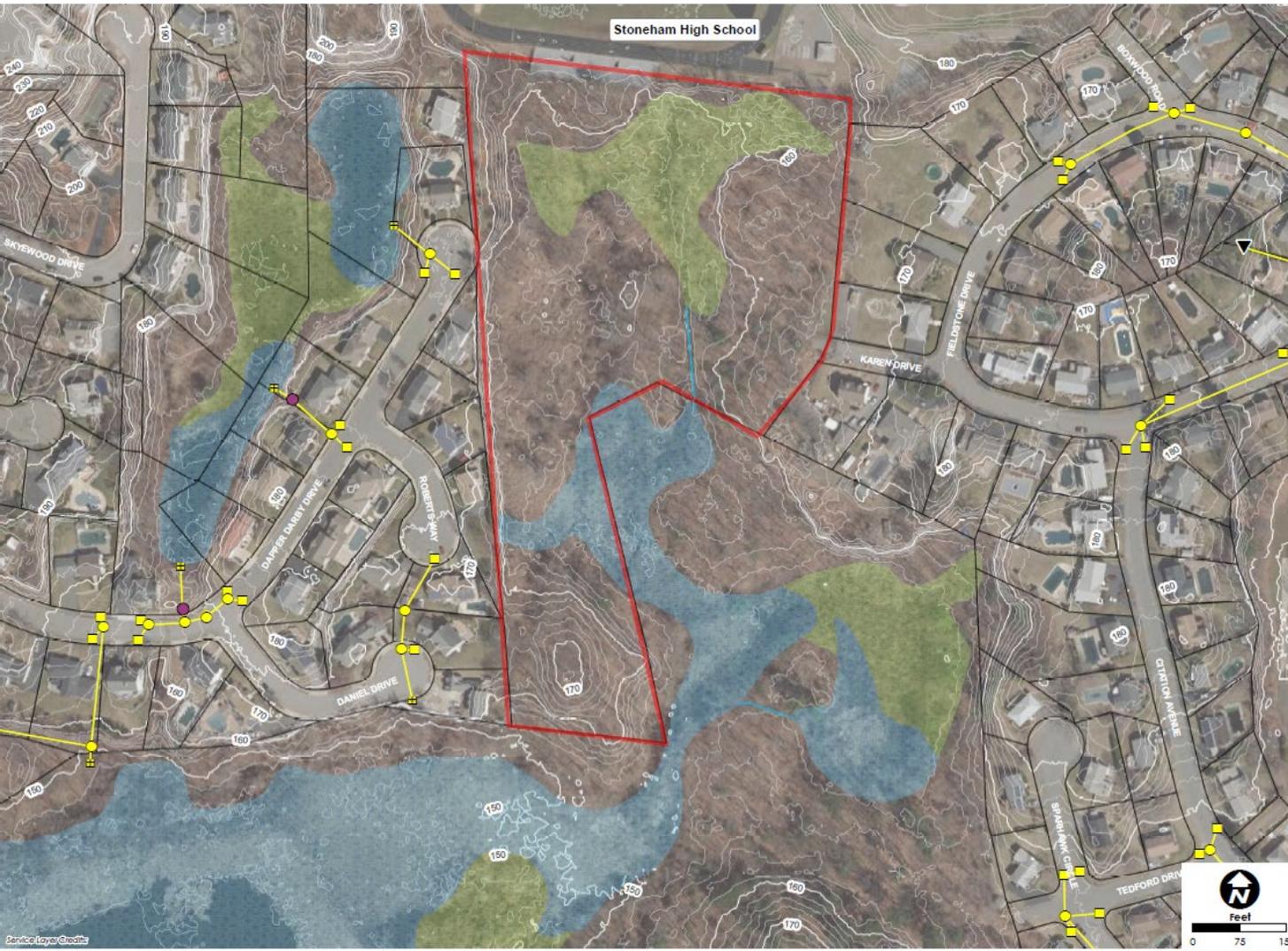




Middlesex Fells Reservation Trail Map (2018)



# Overview of Project Site





# *Site Conditions*



# Invasive Species

In addition to the prominent species mapped at right, several other invasive species are present throughout the site including:

- Norway Maple
- European Buckthorn
- Glossy Buckthorn
- Privet
- Multiflora Rose
- Japanese Barberry
- Hairy Willow-Herb
- Purple Loosestrife
- Garlic Mustard

- Japanese knotweed, 25%
- Japanese knotweed, 80%
- Porcelain berry, 80%
- Bittersweet, 25%



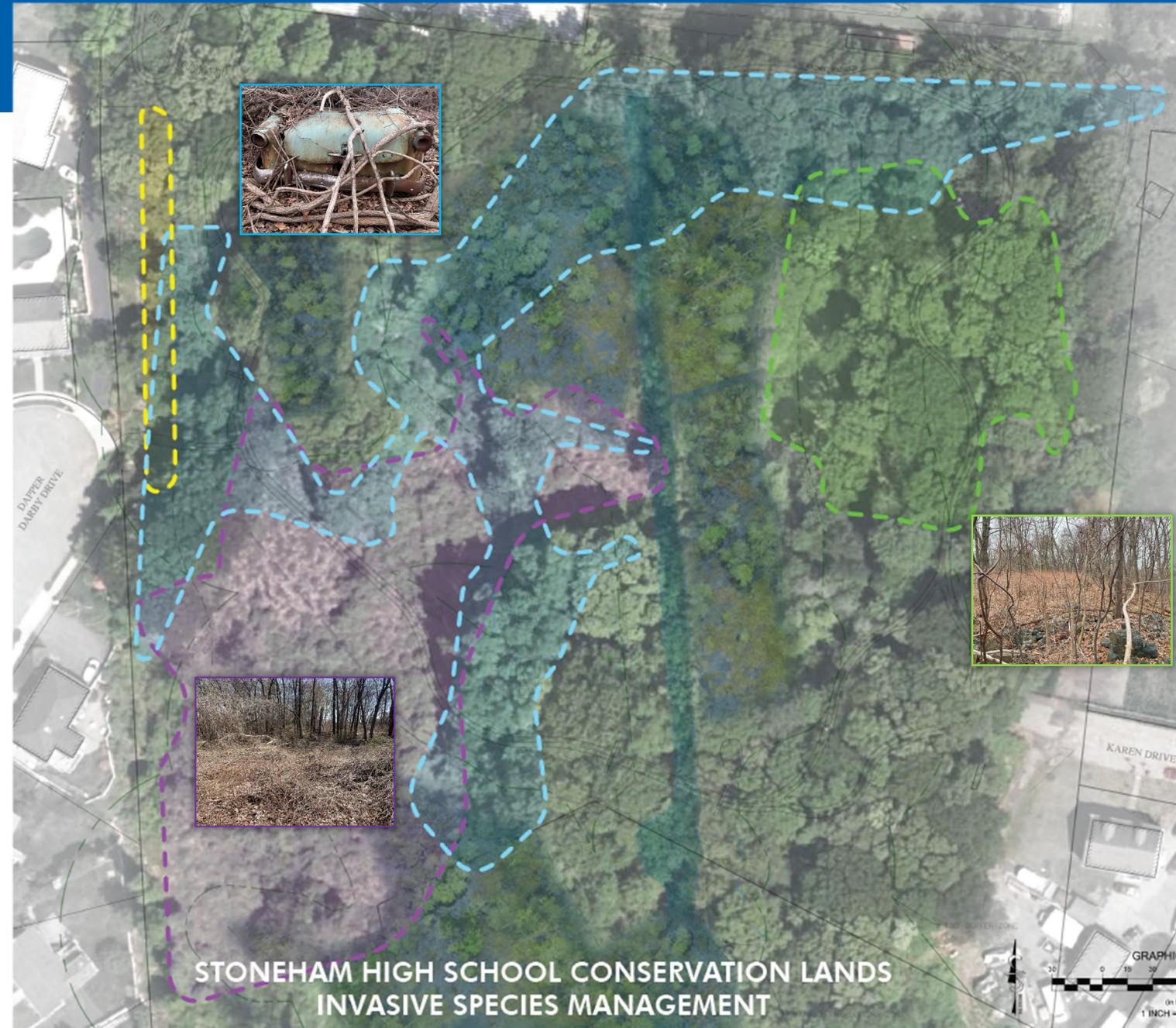
Japanese Knotweed  
*Fallopia japonica*



Oriental Bittersweet  
*Celastrus orbiculatus*



Porcelain Berry  
*Ampelopsis brevipedunculata*



# Site Connectivity



Karen Drive



Dapper Darby Drive



High School

Stoneham High School Wetlands



# *Project Design Priorities*



- Restore wetland hydrology and capacity through removal of debris and trash.
- Improve biodiversity and ecosystem resilience through invasive species management and planting of native species.
- Create accessible pathways for pedestrians that harmonize with the existing environment.
- Provide educational opportunities for students and residents.

# Public Engagement

## Fall 2022

Meetings with Town of Stoneham, DCR and MyRWA

## Spring 2023

Direct mailing (~3900 households), Online surveys (~30 responses) neighborhood door hangers, flyers (library, town hall, town common, etc.)

## Summer 2023

Virtual meeting with Conservation Commission members on June 12

## Fall 2023

Door hangers, email, website updates for on-site public meeting on October 2 (20 attendees). Meeting with HS teachers (November).

## Winter/Spring 2024

Conservation Commission Hearing (February). Two on-site workshops in April for HS students and community members.



# Public Engagement



## Open Space Improvements in the Works!

Location: In the forest and meadow behind the high school

Open space improvements will include:

- Improved walking trails
- Enhanced public green space
- Flood management
- Reduced water pollution
- Improved habitat for birds and wildlife



More info:  
<https://www.stonehamma.gov/1023/HS-Wetlands-Restoration>

Over



## ¡Mejoras en el Espacio Abierto en las Obras!

Lugar: En el bosque y prado detrás de la escuela secundaria

Mejoras de senderos y restauración de humedales:

- Senderos mejorados
- Mejora del espacio verde público
- Gestión de inundaciones
- Reducción de la contaminación del agua
- Mejora del hábitat para las aves y la vida silvestre

Para más información y compartir tu opinión:

**Encuesta en Línea**  
<https://bit.ly/stonehamswetland>

**Paseo por el sitio público**  
Lunes 2 de octubre, 5:30PM  
Reunirse en la entrada principal de la escuela secundaria.

Para más info →



## Melhorias a caminho do espaço aberto!

Localização: Na floresta e na campina atrás da escola

Melhorias de caminhos e restauração de zonas úmidas:

- Melhores trilhas de caminhada
- Espaço público verde ampliado
- Gerenciamento de inundação
- Redução de água poluída
- Melhor habitat para aves e vida selvagem

Saiba mais e compartilhe suas ideias:

**Pesquisa online**  
<https://bit.ly/stonehamswetland>

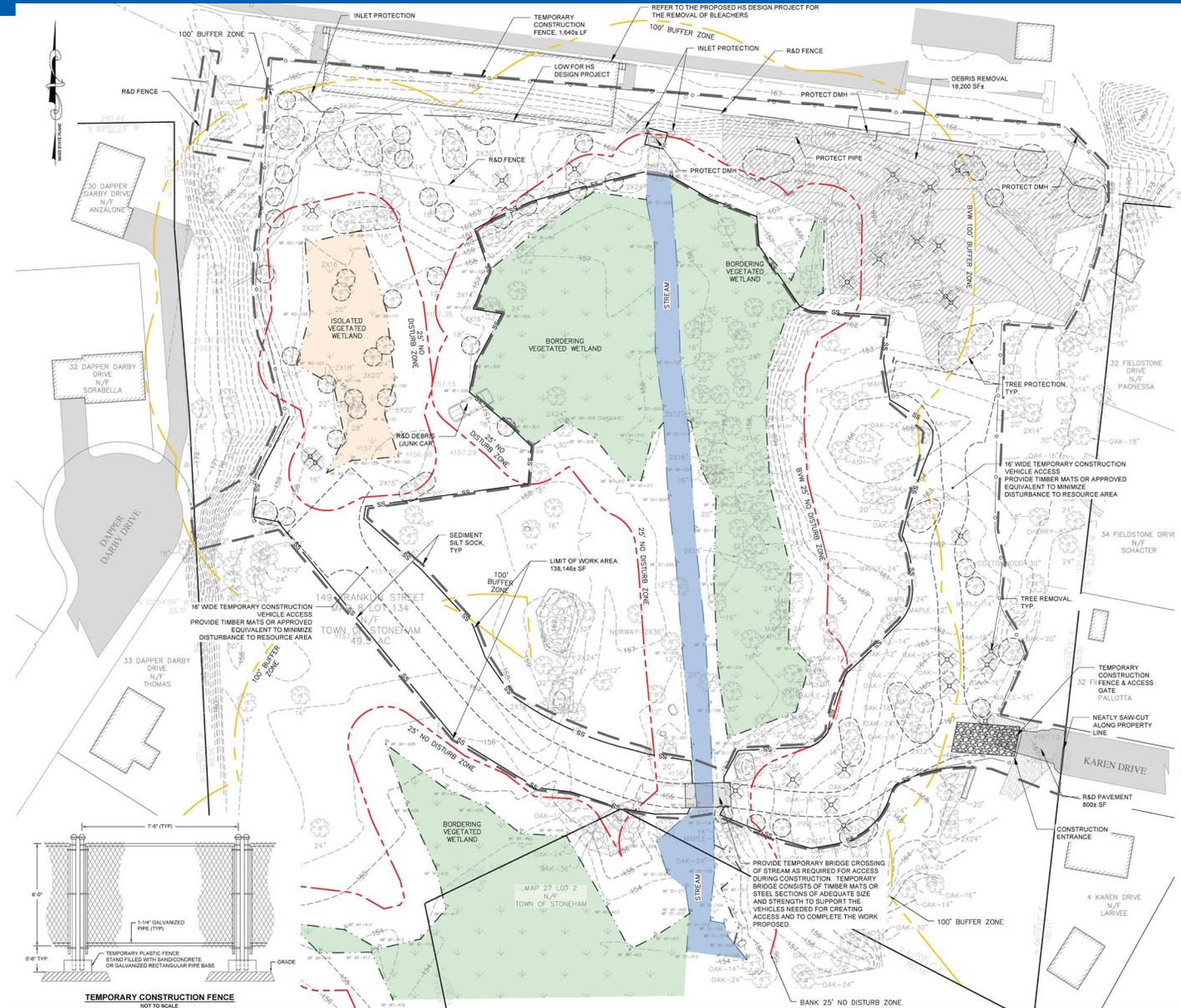
**Caminhada em local público**  
Segunda-feira, 2 de outubro, 17h30  
Encontro na entrada da escola

Mais informações →



# Project Design

- Temporary construction access on Karen Drive
- 16' wide temporary construction access onsite (timber mats where necessary)
- Temporary bridge crossing
- Temporary construction fencing and silt socks at limit of work
- Removal of 24 trees (inc. Norway Maples) and tree protection for trees to remain



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Boardwalk



Trail Surface Aggregate



Boardwalk Crossing



Bench



Salvaged Granite Retaining Wall and Entry



Pervious Timber Stairs

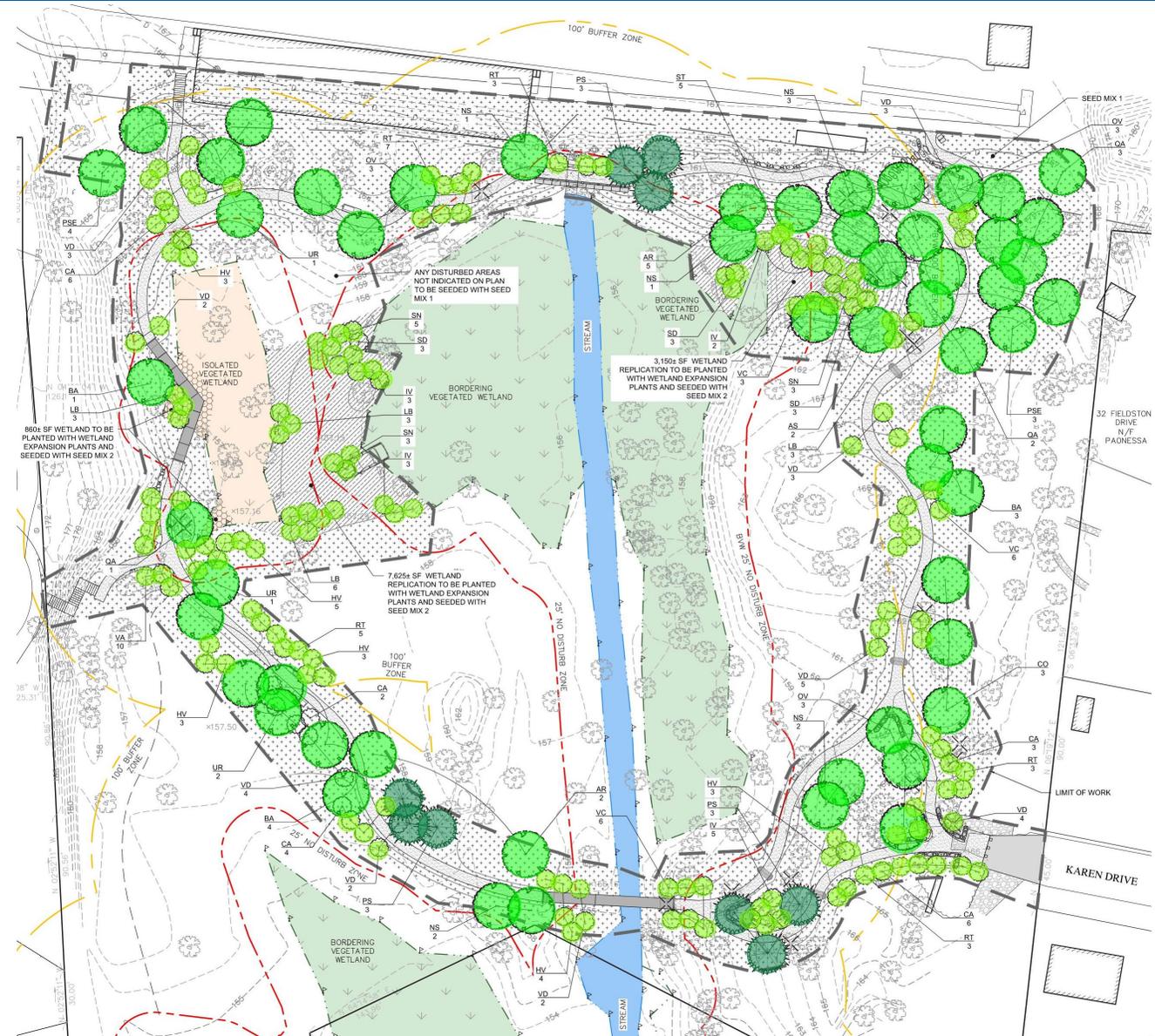


Replanted Native Oak / Maple Bottomland



# Project Benefits

- Invasive species and debris removal throughout project site (~3 ac)
- Revegetation with 64 native trees and 169 shrubs
- Creation of 9,500 SF of additional wetland area
- Creation of 2,000 LF (0.4 miles) of new, accessible paths and boardwalks with 2 accessible entrances



# Resource Areas Present

## Inland Bank 310 CMR 10.54

One intermittent stream flows south from a culvert with well-defined banks.



## Land Under Waterbodies and Water Ways (LUWW) 310 CMR 10.56

LUWW is associated with the streambed, or area between the delineated banks of the stream.



## Bordering Vegetated Wetland (BVW) 310 CMR 10.55

Four BVWs are hydrologically connected to the stream.



## Isolated Vegetated Wetland (IVW) locally protected

One isolated wetland is located in the northwest corner of the survey area.



## Buffer Zones 310 CMR 10.02(2)(b) & local

- WPA & Local:
  - 100-foot buffer zone to BVW & Bank
- Local Only:
  - 25-foot undisturbed zone to BVW, Bank, & IVW
  - 100-foot buffer zone to IVW

# 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
-  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.



# Affected Resource Areas

Table 1. Resource Area Impacts

Resource Area	Existing Conditions <sup>1</sup> (SF)	Limit of Disturbance <sup>2</sup> (SF)	Permanent Changes <sup>3</sup> (SF)	Jurisdiction
Bordering Vegetated Wetland	45,462	0	0	Local and state
Isolated Vegetated Wetland	6,654	475	4	Local only
Inland Bank	1,086 LF	12 LF	12 LF	Local only
Land Under Water Bodies and Waterways	8,846	68	68	Local only
0-25 foot No-Disturb Zone	66,175	11,449	1,626	Local only
0-100 foot Buffer Zone	237,902	51,065	10,101	Local and state

Notes: SF = square feet; LF = linear feet; resource areas overlap and are not additive

<sup>1</sup>Total SF within the Site

<sup>2</sup>Includes temporary impacts (i.e., construction access and grading) and permanent impacts (i.e., trail and boardwalk installation)

<sup>3</sup>Includes permanent impacts only



# *Invasive Species Strategies*

- Methods:
  - Manual/Mechanical (cutting, pulling, grubbing, covering, etc.)
  - Chemical (foliar spray, cut and dab/drip, etc.)
  - Native species revegetation and monitoring for two years with replacement planting/seeding as necessary
- Schedule:
  - Preconstruction initiation and monitoring for three to five years with follow up treatments as necessary



# *Future Work*

- Pre-construction invasive species management
  - High School and Community Workshops in April
  - Potential Contractor-led application in spring
- Additional soil characterization for the design of the boardwalks
- Final design of site amenities, signage and connections



# *Get Involved*

- Community Workshop: April 13<sup>th</sup>
  - Stay tuned for more details!
- Find out more here:
  - <https://www.stoneham-ma.gov/1023/HS-Wetlands-Restoration>



# *Thank you!*

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

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