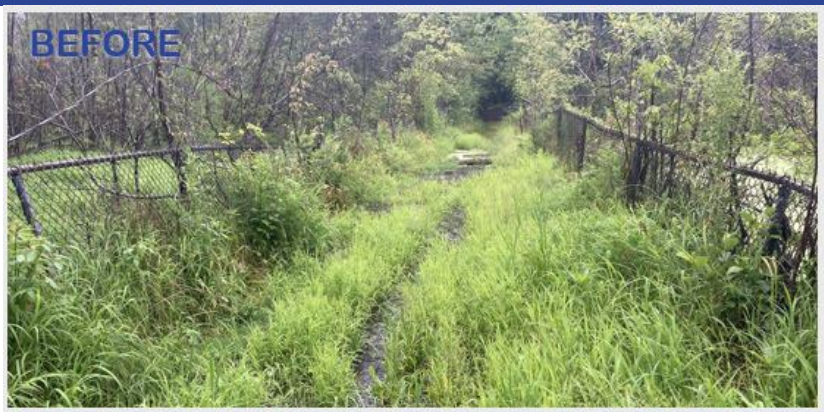
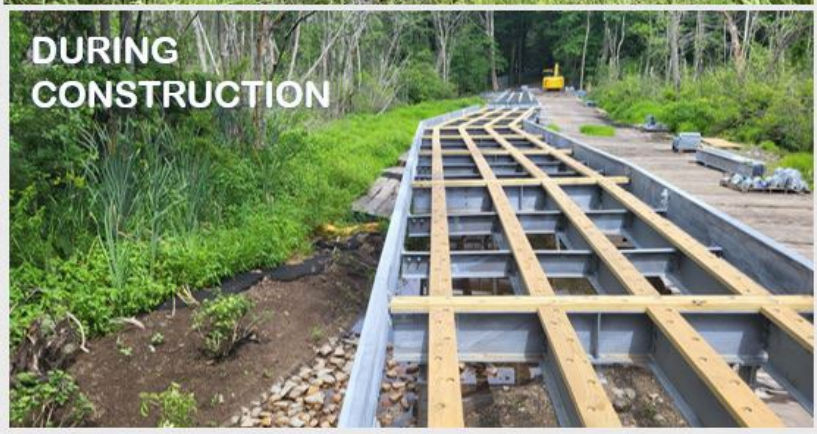
WALNUT STREET FLOOD MITIGATION

City of Framingham | FY25/26 ACTION GRANT
Type 3: Construction and On-the-Ground Implementation





MVP REGION
Greater Boston

GRANT AWARD
$2,070,567.25

MATCH AMOUNT
$673,490.90

MATCH SOURCE
Cash and In-Kind Services

MUNICIPAL DEPARTMENT LEADING PROJECT
DPW

Outcomes
Briefly describe the outcomes of your project:

- Improved walkability as the boardwalk provides safe access connecting area amenities.
- Increased conveyance capacity and flood mitigation through the restoration of wetlands and streams, and removal of the existing earthen berm.
- Improved water quality through the construction of control measures

Core principles exemplified
List the MVP core principles that your project exemplifies.

1. Employing Nature-Based Solutions (NBS)
2. Furthering a community identified priority action to address climate change impacts
3. Conducting robust community engagement and supporting strong partnerships with EJ

focused on providing stormwater treatment.
- Increased awareness about climate change through climate leadership training provided to teens and youth programs.

Community Overview

The current population in the City of Framingham is approximately 72,000. Framingham is located in the MetroWest region of the Greater Boston metropolitan area, bordering Sudbury and Wayland to the north, Natick to the east, Sherborn and Ashland to the south, and Southborough and Marlborough to the west.

There are multiple Environmental Justice (EJ) communities and neighborhoods in Framingham, including the Walnut Street neighborhood, the project focus area. As the EJ designation encompasses both social and economic factors, it speaks to a community's climate vulnerability. Racist systems and institutions have concentrated climate risks in communities of color, and both linguistic isolation and income affect individuals' ability to avoid and/or adapt to climate impacts.

The project area spans two EJ populations. The area on the west meets the EJ minority criteria, meaning that people of color comprise at least 25 percent of the population. The area to the east meets both minority and income criteria. In addition to distinct EJ communities, over 30% of Framingham's population is considered Climate Vulnerable by the American Public Health Association (APHA) due to age. Children and older adults (adults 65 and older) of all races and income levels are considered particularly vulnerable to climate change impacts such as extreme heat, air pollution, flooding, and water contamination.

Framingham was incorporated as a town in 1700 and changed to a city form of government on January 1, 2018. City limits encompass 26.4 square miles, of which 1.3 square miles are water. Different industries have played significant roles in the City's economy—from grist mills in the 1700s and larger manufacturing companies in the 1800s. Framingham is home to Framingham State University, which was founded in 1839. The Bose Corporation, Staples, and TJX currently have their corporate headquarters in Framingham and are among the City's largest employers. Framingham today is known for its population and neighborhood diversity, good schools, and numerous recreational opportunities.

Project Description and Goals

The project is centrally located in Framingham in the "Walnut Street neighborhood." Due to the presence of the Sudbury River and large wetland areas, much of the neighborhood is located within the 100-year and 500-year flood zones. The City's Multiple Hazard Mitigation Plan (2017) identified three repetitive flood loss properties, and one severe repetitive loss property located on Walnut Street. Several important public facilities are located within the project area including MEMA headquarters, State Police Barracks, Massachusetts National Guard, Middlesex County Courthouse, MassBay Community College, Fuller Middle School, McCarthy Elementary School, the Framingham public school's administration offices, the City's Bowditch Field Athletic & Cultural Complex, the Callahan Senior Center, Framingham's Learned Pond Bathing Beach and sewer pump stations.

- **What climate change impacts did the project address?**

This project addresses flooding resulting from changing weather and precipitation patterns. The project implemented two of the alternatives for flood reduction identified in the Walnut Street Area Flood Mitigation Study. The City needs to be able to accommodate the anticipated increase in extreme storms and yearly precipitation, which will only exacerbate flooding impacts. Therefore, the project design incorporated projected climate adaptation models for year 2070.

- **What were the specific goals and tasks of the project as stated in your application?**

The specific goals for the Walnut Street Neighborhood Flood Mitigation Construction Project included:

- Continuation of the feasibility, design and permitting efforts funded in MVP FYs 2020, 2022 and 2023.
- Construction of wetland and stream restorations, including the removal of an earthen berm (also known as the "School Path") in the wetlands complex between Walnut Street and Stony Brook Road which impedes flow, creates sediment buildup, and exasperates flooding.
- Construction of an elevated boardwalk to replace the existing earthen berm to provide ADA accessible, safe, and walkable access through an environmental justice neighborhood to connect community amenities.
- Stream channel and streambank restorations to reduce flooding and enhance conveyance capacity in Sucker Brook and an unnamed tributary in the Walnut Street/Sucker Brook Drainage Area.

- Conducting robust public engagement including climate leadership training for teens, youth programs, and targeted outreach to various segments of the community.

The specific tasks for the Walnut Street Neighborhood Flood Mitigation Construction Project were as follows:

- Task 1: Project Kick-Off, Management and Reporting
- Task 2: Public Involvement and Community Engagement FY24
- Task 3: Permitting
- Task 4: Construction Coordination
- Task 5: Project Management and Reporting FY25
- Task 6: Public Involvement and Community Engagement FY25
- Task 7: Construction

The construction project achieved the specific goals set forth for the project through the installation of nature-based solutions that included stream and wetlands restoration and replacement of the "school path" berm with an elevated boardwalk. Public engagement reached numerous populations within Framingham and received positive feedback.

Results and deliverables

The project results are described and quantified below.

Objective	Metrics
Improved walkability	Walking trips to school – Project construction includes improving approximately 360 ft of the "school path" with an elevated boardwalk that was previously impassable.
Restore wetlands and stream	Project construction included restoring approximately 4,500 SF of degraded wetlands, restoring 13,600 CF of flood storage volume, and restoring 1,300 LF of stream banks.
Improved water quality	Construction of stormwater BMP for an 8.3-acre drainage area.
Flood mitigation	Reduction of repetitive loss sites & property damage. Standing water levels have lowered and residents have anecdotally observed less flood risk.
Increase awareness about climate change	Community outreach during this phase of the project included: • Stormwater education with over 100 fifth grade students at local elementary schools. • Supporting an art exhibit created and built by Framingham High School students at the Framingham Mills Art Studio. • Pre-construction neighborhood community meeting • Framingham High School Environmental field trips to Woods Hole, Drumlin Farms, North Shore Nature Program. • Project site visits with community members including smaller groups of high school students, and a larger group of 4th graders that walked from school to the site. Project site visits highlighted activity during construction for participants to observe the changes and impacts to the site.

The following deliverables were developed and submitted:

Task 1. Project Kick-Off, Management and Reporting

- Sub-task 1.1 Kick-off Meeting with City, EEA, and Consultant - *Deliverables: Meeting agenda, notes, sign-in sheet*
- Sub-task 1.2 Monthly Progress Reports FY24 - *Deliverables: Monthly Reports*
- Sub-task 1.3 Project Management FY24 - *Deliverables: Meeting Agendas*

Task 2. Public Involvement and Community Engagement FY24

- Sub-task 2.1 Youth Program – High School - *Deliverables: Program materials from at least 2 events: local environmentally focused field trip and community education event (or equivalent)*
- Sub-task 2.2 Other Youth Programs - *Deliverables: Program materials from project-focused classroom programming, student workshops with community partners and/or equivalent.*
- Sub-task 2.3 Neighborhood Outreach & Website - *Deliverables: Presentation materials, meeting agendas, drafts/final proofs for public signage including translations as needed.*

Task 3. Permitting

- Sub-task 3.1 Notice of Intent (Framingham Conservation Commission) - *Deliverable: Registry Recording of Order of Conditions*
- Sub-task 3.2 Chapter 91 Waterways License/401 Water Quality Certification - *Deliverable: Authorized certificates, Registry of Deeds Recording*
- Sub-task 3.3 Army Corps of Engineers General Permit - *Deliverable: Verification Authorization letter*

Task 4. Construction Coordination

- Sub-task 4.1 Final Bid Documents - *Deliverables: Bid Documents*
- Sub-task 4.2 Bidding Services - *Deliverables: Bid Advertisement, Bid tab*
- Sub-task 4.3 Access Agreements - *Deliverables: N/A*

Task 5. Project Management and Reporting FY25

- Sub-task 5.1 Monthly Progress Reports FY25 - *Deliverables: Monthly Reports*
- Sub-task 5.2 Project Case Study - *Deliverables: Final Case Study Report, PowerPoint Slide, Project Photos*
- Sub-task 5.3 Project Management & Closeout FY25 - *Deliverables: Meeting Agendas, Invoices*

Task 6. Public Involvement and Community Engagement FY25

- Sub-task 6.1 Youth Program – High School - *Deliverables: Deliverables: Program materials from at least 2 events: local environmentally focused field trip and community education event (or equivalent)*
- Sub-task 6.2 Other Youth Programs - *Deliverables: photos*
- Sub-task 6.3 Neighborhood Outreach & Website - *Deliverables: Meeting Presentation materials, participant list, video outline*

Task 7: Construction

- Sub-task 7.1 Construction Mobilization & Site Set Up - *Deliverables: Daily Construction Reports of progress through June 30, 2025*
- Sub-task 7.2 Boardwalk Helical Piles - *Deliverables: Daily Construction Reports of progress through June 30, 2025*
- Sub-task 7.3 Boardwalk Steel Support System - *Deliverables: Photos of progress through June 30, 2025*
- Sub-task 7.4 Stream Restoration - *Deliverables: Photos of progress through June 30, 2025*
- Sub-task 7.5 General Construction - *Deliverables: Daily Construction Reports of progress through June 30, 2025*
- Sub-task 7.6 Stormwater BMP - *Deliverables: Photos of progress through June 30, 2025*
- Sub-task 7.7 Boardwalk Finishes - *Deliverables: contractor invoices*
- Sub-task 7.8 Construction Oversight - *Deliverables: Daily Construction Reports of progress through June 30, 2025*

Partners and Other Support

Framingham Public Schools was an amazing partner for this project. Funding from this grant allowed the Framingham High School Environmental Awareness Club to participate in environmental leadership training through field trips and programming. The students took what they learned and became ambassadors to the community sharing their message at the Framingham Earth Day Festival, creating and teaching environmentally minded lessons to younger students at Framingham elementary schools, exploring climate initiatives through creating, displaying and presenting an art exhibit to the community. They also advocated to the school administration and fellow students. The club's faculty advisors, Rebecca Maynard and Emily Rathmell, were absolutely amazing. The success of this program was due to their commitment of time and effort and because they cared so much about the students. A few students said this program and their teachers' mentorship has inspired them to pursue environmental studies in college.

The administration and education team at McCarthy Elementary went above to assist in creating a walking field trip. Their staff utilized project information to create a

powerpoint that was age appropriate and interesting. The presentation was shared by teachers during class time. Members of City staff overseeing the construction along with school staff supervised a field trip where 4th grade students could see the construction progress and learn about the project. The collaboration will continue as the students will return to the site as 5th graders to see the finished product. We look forward to building on all of the project collaboration to have the High School Students create lessons around this project and lead the field trip in the future.

The local Danforth Art Museum hosted a Climate Exhibit in January 2025. The grant provided assistance to offer free admission to Framingham students and their families. This not only expanded the message of climate resiliency, but exploring it in different lights and collaborating with local resources. Some visitors had never visited the museum.

The grant also afforded the opportunity to provide 5 climate focused books to each of the nine (9) elementary schools in Framingham, two books to support the High School Environmental program, seed and growing kits for students to watch their own ecosystem grow, and binocular kits to be lent out to future student visitors and utilized for programming centered on our connection to the wildlife and environment surrounding out community.

This project was a collaborative effort amongst the City's Department of Public Works, Parks and Recreation Department, Conservation, Planning & Community Development, School Department, and Sustainability Coordinator. This inter-departmental team is key for the future success of this project and other climate resilient efforts.

The City worked with the engineering consulting firm, Weston & Sampson, and their subconsultant, SSV Engineering, to produce the deliverables discussed above.

Throughout the project, the City also engaged with Media Boss to document construction of the project, as well as the public engagement initiatives implemented as part of the project, and the City plans to make the video widely available. This video is one of the best resources that the City has available to share about the tremendous benefits of the project and provide a first-hand look at how the project evolved and its far-reaching impacts.

SumCo was an amazing project partner working with the City to incorporate on the ground enhancements to the project based on their vast experience on similar projects.

Lessons Learned

The City of Framingham learned the following lessons from this project:

- Youth involvement
    - Involve local youth environmental leaders in your projects. By far the most rewarding subtask of this project was working with the students. These future climate leaders are inspiring. They brought so many great ideas to the table and were amazing ambassadors in the community. This investment and benefit is not as easy to quantify as other more technical aspects of this project (as compared to acres of wetlands restoration), but I think it will be one of the most beneficial aspects of the project. It is clear that if we want these projects to be successful, engaging youth now so that they are inspired to take over these projects in the (near) future will be critical.
- Schedule & procurement
    - By far the most challenging part of this project was the 1-year schedule for construction, especially due to contracting and procurement constraints. We lost about 4 months of an already aggressive schedule to administrative tasks. Permitting delays also prevented us from bidding the project earlier, which would have allowed us to also more fully utilize the 1-year period initially planned for construction.
- Go to where the people are
    - We continue to see increased participation by going to meetings, events, and organizations where our residents already congregate. For this project, instead of having stand-alone public meetings, we went to already scheduled local Boards and Commission meetings, made visits during school hours. Not only did this increase attendance, it also increased the variety of perspectives heard. Another successful outreach effort was providing programming via a night meeting at the neighboring elementary school at the start of construction. This public meeting was very well attended.
- Engage the public early in the design process to incorporate their feedback and develop partnerships
    - Too often the public is not engaged until the project has been fully designed at which point it is difficult to make changes. We engaged the public at the preliminary design and got great feedback about what they want included in climate resiliency & recreation projects. For example, we got great feedback about how to increase accessibility and ways to improve the design to meet multi-generational needs (e.g. benches that accommodate wheelchairs & stroller parking).
    - The biggest challenge of engaging the public early is keeping public engagement momentum. We often hear "You asked for our opinion, but then you never did anything with it." Part of the challenge is the big lag between beginning design and completing construction. It is hard to keep the public engaged when we cannot commit to a construction

date since we do not have reliable, predictable funding for climate resiliency projects yet and the amount of time required for administrative tasks. We continue to try to find the best way to keep the public involved throughout the project from conception to construction.

- Higher Bids
  - The bids for the construction contract for this project came in significantly higher than anticipated. These higher bid prices are likely due to labor shortages and increased material costs due to lingering supply chain issues.

- **What is the best way for other communities to learn from your project/process?**

This project has been a 6-year evolution from the initial planning phases through to construction with City staff championing and supporting this project. It wholeheartedly embraces the MVP core principles, and we hope it can serve as a demonstration project to other communities on what is achievable through the MVP Program with the tremendous resources that are available. Our hope is that other communities will want to visit the Walnut Street neighborhood to see the project firsthand and learn about its evolution, and perhaps it will inspire them to pursue a life-changing project in one of their own neighborhoods. The City of Framingham is open and willing to discuss the project with anyone that might be interested and would be happy to provide a tour of the project site. The City is also happy to share the project in a public forum through attendance at local conferences. Throughout the project, the City engaged Media Boss to document construction of the project, as well as the public engagement initiatives implemented as part of the project, and the City plans to make the video widely available. This video will be a compliment to the video produced during an earlier funding round, showing the need for the project. It will be one of the best resources to share the tremendous benefits of the project and provide a first-hand look at how the project evolved and its far-reaching impacts.

Website and additional links

Walnut Street Neighborhood Flood Mitigation Project | City of Framingham, MA Official Website