

Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: Town of Walpole

Project Title: Integrated Water Infrastructure vulnerability Assessment and Climate Resilience Plan

Award Year (FY): 2019 and FY 2020

Grant Award: \$ 146,496

Match: \$ 56,324.80

Match Source: \$20,000 cash and \$36,324.80 in-kind

One or Two Year Project:

Municipal Department Leading Project: Department of Public Works

Project Website URL: <https://www.walpole-ma.gov/conservation-commission/pages/municipal-vulnerability-preparedness-mvp>

Community Overview:

What is the population size of your community and where is it located? Based on the 2010 US census information the population of Walpole is 24,070 residents. The Town of Walpole is located in Norfolk County southwest of Boston and is bordered by Westwood, Norwood, Sharon, Foxboro, Norfolk and Medfield.

Do you have any [Environmental Justice](#) or other Climate Vulnerable communities? Based on the 2020 draft Open Space and Recreation Plan Walpole does not have any area that meet the criteria as Environmental Justice areas.

The Community Resilience Building (CRB) workshop (January 2019), identified senior residents and school age children as communities of concern particularly to extreme temperature changes, severe weather events and flooding events.

Other unique traits of your municipality like who the top employers are, geography, history, etc.

Walpole has a wealth of water resources which include rivers, streams, ponds and wetlands: The Neponset River flows through the Town from Foxboro to the south and discharges into Norwood to the north. Along the Neponset there are several dams which are in varying conditions: Allan Pond dam, Clarks Pond Dam, Diamond Pond Da, Memorial pond dam, Cobbs Pond Dam, Stetson dam, and Bird Pond dam. Traphole Brook, Spring Meadow Brook, Spring Brook, and Cedar Brook tributaries to the Neponset flow within the boundaries of the town. In addition to the rivers Walpole supports several large wetland areas, Great Cedar Swamp being the largest.

The Town is home to the Norfolk Agricultural School and Siemens Healthcare diagnostics two of the largest employers. The Walpole Mall, the Walpole Industrial Park

South, and the downtown area have multiple business and restaurants that support the town.

Project Description and Goals:

Where was the project located?

- Road/Stream-crossing assessment: included assessing mapped road stream crossings both bridges and culverts throughout the town both in the field and desk-top analysis.
- Comprehensive Green infrastructure Assessment included field review of potential sites throughout Walpole and desk top analysis through GIS.
- Staff meetings and public workshops began in-person at Town hall and then moved to Zoom during the pandemic. The public meeting to present the findings occurred via Zoom on March 24, 2021.

What climate change impacts did the project address?

- Enable the Town to be better prepared for and mitigate the impacts of extreme precipitation events and flooding.
- Protect critical community infrastructure and ability to deliver vital municipal services.
- Promote resiliency measures that consider both infrastructure and nature based solutions, and encourage local decision-makers to think more strategically about using natural systems to enhance flood resiliency while also benefitting water quality and ecological health.

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

- Identify water-related infrastructure at risk of flooding under present day and projected future climate conditions.
- Prioritize at-risk infrastructure
- Recommend site-specific and community wide adaption measures
- Engage municipal staff and the public.

Task 1: Roads Stream Crossing Assessment

Task 2: Green Infrastructure/Low Impact Development Assessment

Task 3: Management Plan Development

Did your project meet the goals set forth in your application in terms of:

- **Employing nature-based solutions** – Yes, the green infrastructure assessment provides the town with information on how to employ green infrastructure to control flooding and improve water quality at several town-owned properties. The Integrated Water Infrastructure Vulnerability Assessment and Climate Resiliency Plan includes proposed green infrastructure retrofit sites (table 5-4,

page 34-35) selected in the field. Solutions for flooding resilience and water quality improvements.

- Recommendations to replace undersized culverts and bridges with larger spans to meet NAACC and Mass. Stream Crossing standards, enhance flood resiliency and aquatic species passage.
- **Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations-** Yes, several of the sites which were chosen for green infrastructure locations are schools and public spaces such as Walpole High School, Jarvis Farm, Town Commons and Old Post Road School.

The high priority road crossing vulnerability assessment and prioritization results summary (page 28 Table 5-2) target several culvers and bridge through-out the town where flooding and extreme flows could be an issue to passage.

- **Providing regional benefits** – Yes, the Neponset River and its tributaries are import regional resources and infrastructure associated with the rivers is important to regional interests.
- **Implementing the public involvement and community engagement plan set forth in your application** – Yes, the Integrated Water Infrastructure Vulnerability Assessment and Climate Resiliency Plan was presented at a public meeting and is posted to Walpole’s MVP website for the public to review. Public involvement was somewhat stunted due to the pandemic and the inability to have in-person public meetings. We did what we could through the website and zoom meetings.
- **Finishing the project on time** – The project was finished on time.

Results and Deliverables:

Describe, and quantify (where possible) project results (e.g. square footage of habitat restored or created, increase in tree canopy coverage, etc.). Report out on the metrics outlined in your application.

Policy and regulatory recommendations were made on page 26 table 5-1 including establishing funding, including priority culverts identified in the project into the hazard mitigation plan, update storm data information in land use regulations, provide training for DPW staff, continue on-going inspections and maintenance.

Top –Ranked priority crossings: road-stream crossing vulnerability assessment and priority results summary Table 5-2 page 28. Eighteen sites through-out the town scored high as priority replacement. See page 29 for recommended Approach for stream crossing replacement.

Green Infrastructure recommendations: Table 5-4 page 34 proposed green Infrastructure retrofit locations ranging from Bio-retention basins, infiltration basins, impervious paver, and subsurface infiltration.

The Integrate Water Infrastructure Vulnerability Assessment and Climate Resiliency Plan includes all the results of the project.

Provide a brief summary of project deliverables with web links, if available.

The Town was provided several deliverables throughout the project. The main reports associated with the project, the Road Stream Crossing Assessment, Green Infrastructure Assessment, and Management Plan are all posted to the Town's website. GIS data layers are available to the public by request.

- <https://www.walpole-ma.gov/conservation-commission/pages/municipal-vulnerability-preparedness-mvp>

Lessons Learned:

What lessons were learned as a result of the project? Focus on both the technical matter of the project and process-oriented lessons learned. There are quite a few areas in town where culverts and bridges should be replaced or modified to plan for climate resiliency. In order to implement the recommendations learned in the management plan the town will require a dedicated financing program.

It is not easy to engage the public in issues such as climate resiliency for long term planning. Many of the projects that are identified in the management plan will take long range planning, financing and maintenance efforts.

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

Town of Walpole –Conservation Commission/MVP webpage or Lhershey@walpole -ma.gov

Review the MVP website

- <https://www.walpole-ma.gov/conservation-commission/pages/municipal-vulnerability-preparedness-mvp>

Partners and Other Support:

- William Guenther, Fuss and O'Neill- Consultant for the project
- Stefan Bengtson, Fuss and O'Neill – Consultant for the project

Project Photos:

- In your electronic submission of this report, please attach (as .jpg or .png) a few high-resolution (at least 300 pixels per inch) representative photos of the project. Photos should not show persons who can be easily identified, and avoid inclusion of any copyrighted, trademarked, or branded logos in the images. MVP may use these images on its website or other promotional purposes, so please also let us know if there is someone who should receive credit for taking the photo.