TOWN OF MILLIS

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Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: Town of Millis, Massachusetts
Project Title: Millis Flood Resiliency Master Plan
Award Year (FY): 2022
Grant Award: $ 170,000
Match: $ 57,000
Match Source: Town of Millis cash ($30,000) and in-kind ($27,000) match
One or Two Year Project: One, with an addendum creating a two-year project.
Municipal Department Leading Project: Dept of Public Works
Project Website URL: https://www.millisma.gov/home/news/millis-flood-resiliency-plan-information-survey

Community Overview:

- What is the population size of your community and where is it located?
  Pop: 8,500 Millis is located approximately 20 miles west of Boston in the Metro West community.
- Do you have any Environmental Justice or other Climate Vulnerable communities? (Think about both those who live and work in your town.)
  Millis has a high percentage of seniors.
- Other unique traits of your municipality like who the top employers are, geography, history, etc.
  Millis is one of the fastest growing municipalities in the state. Most of the recent new residents are members of over-55 developments.

Project Description and Goals:

- Where was the project located?
  Initially, the project focused on flooding issues town-wide, especially around the stormwater sewer drainage area. Eventually, it became evident that the greatest need for flood resiliency would be where development under the state's new 40A/3A requirement would place more dense housing development.
- What climate change impacts did the project address?
  Flooding in areas' where there are impermeable surfaces, a result of building

development; near culverts and streams that would be overloaded with storm water runoff; where beaver habitat and behavior were impacting the infrastructure and built environment from mitigating runoff; places where the stormwater infrastructure lacked capacity.

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

  To develop a Flood Resiliency Plan that will mitigate current and future flooding problems in the Town. Tasks included collecting past flood reports and related data; develop a model to analyze flood mitigation; assess flood vulnerability; engage the public for analysis input; determine where and to what extent flood mitigation management would be prioritized.

- Did your project meet the goals set forth in your application in terms of:
  - Employing nature-based solutions

    Yes, several options were given. See:"Tech Memo 3 Millis Flood Plan to Client"
  - Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations

    NA
  - Providing regional benefits

    Yes, as this Millis project coincides in many ways with the Charles River Flood Project being conducted in 20 communities along the Charles. Millis is a member of that coalition.
  - Implementing the public involvement and community engagement plan set forth in your application.

    Yes, the project reached out through its Town website and social media channels.
  - Finishing the project on time.

    The project team worked with DEA to create an amendment that would use the next six-month period to complete a new direction pointed out by local circumstances.

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.

Feasibility and appropriateness of flood mitigation project recommendations (including life-cycle costs and benefits)

We did not assess that in this phase of work

Acceptability of flood mitigation project recommendations by the public and regulating bodies

From our discussion with the Select Board, it sounded like they accepted these three high-priority project recommendations and would be interested in pursuing external funding for implementation.

The degree to which the projects provide co-benefits

Each of these projects has flood mitigation and water quality (phosphorus-load reduction) co-benefits. Certain projects also would result in increased groundwater infiltration.

Flood mitigation to the largest number of populations including flood vulnerable populations

Projects were selected based on their impacts to important community assets, but quantifying impacts to flood vulnerable populations was not quantified in this phase of work

Transferability of recommendations to other communities

Other communities in the Charles River watershed are interested in creating a detailed hydraulic and hydrologic model. This approach is applicable to multiple other communities in this and other watersheds.

- Provide a brief summary of project deliverables with web links, if available.
  - *Survey of flood problem areas that is posted on the Town website.*

https://storymaps.arcgis.com/stories/238ade8d39ac427b95b0288dd64d45a8

  - *The Millis Flood Resiliency Plan video, posted on Town website and on Millis Community Media.*

https://drive.google.com/file/d/1rAn6f7RtEnYsbxwulB6oQdrluRO89_3n/view

  - *Millis Select Board packet for its September 26, 2022 meeting contains 10-page PowerPoint* presentation of the Project to the Town and its Board. See pages 25 – 36

https://www.millisma.gov/sites/g/files/vyhlif901/f/agendas/sb_agenda_materials_092622.pdf

  - *The Flood Resiliency Plan (which contains a summary of the field data collection program, modeling and resulting flood maps, the culvert condition assessment, and project alternatives) is the other major deliverable. That report is on EEA's SharePoint and was provided via email.*

- **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.

Quantifying data and providing evidence of flooding areas created an awareness of real climate threats in Millis. But hiring accredited professionals who specialize in in a specific area of study is the most important technical lesson. Hire the right consultants and let them take the lead. Trust the residents who were appointed to your committees.

They have considerable knowledge of problems and understand more facts than one expects.

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

  Millis will share the results of its MVP project with the members of the Charles River Watershed coalition, which managed a coinciding river flooding study. The town will also make available to the public both its final report ("Tech Memo 3 Millis Flood Plan to Client") and the video that we created.

Partners and Other Support:

- Include a list of all project partners and describe their role in supporting/assisting in the project.
  - Town of Millis Select Board: authorization of this project as well as its recognition of the Town's storm water and flood vulnerability over the years and its willingness to provide matching funds.
  - Town of Millis Dept. of Public Works: coordinating street/sewer investigation,
  - Town of Millis Town Administrator's Office, Finance Office, Economic Development and Planning Director: community outreach, budgeting and the many small but important operations.
  - Brown & Caldwell: technical engineering consultants, Andrew Goldberg, Project Manager.
  - Massachusetts Department of Environmental Affairs: funding
  - Millis Community Media: produced the Millis' Flood Resiliency Plan video.
  - Charles River Watershed Association: sharing information they gathered from their study of flooding along the Charles River.
  - Millis Conservation Commission: members who supplied the project with historical and institutional information.
  - Millis Board of Health: provided insight on a number of health issues specifically regarding flooding and beaver activity in the Town.
  - Kleinfelder Engineering: sharing files and information on Millis stormwater.

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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.

"Beaver Defender" at a Millis Culvert

"Beaver Defender", Richardson Pond, Millis, MA

Blocked Culver, Millis, MA

Culvert, Glen Ellen-Orchard St, Millis, MA

Storm Water Sewer Investigation, Debra Lane, Millis, MA