

FY21 MVP Action Grant Manchester-by-the-Sea Case Study Report

Municipality/Nonprofit Organization: Manchester-by-the-Sea

Project Title: Sawmill Brook Central Pond Restoration Project Phase 2: Permitting and Final Design

FY20 Grant Award: \$62,135 /FY21 Grant Award: \$10,250

FY20 Match: \$3,640 /FY21 Match: \$18,900

Community Overview: *Provide a general description of your community as a brief introduction to the project.*

Manchester-by-the-Sea is a small coastal community located in Essex County, approximately 32 miles north of Boston, consisting of approximately 5,000 acres. Sawmill Brook and its tributaries drain rocky uplands, expansive wetlands, and developed impervious areas before discharging to Manchester Harbor through a narrow tide gate. Many areas of the Town along the Brook are subject to flooding during extreme storm events due to the combination of storm surge, hydraulic restrictions from undersized culverts and the tide gate, stormwater runoff from impervious areas, the channelized stream system in the lower portion of the watershed, and poor infiltration conditions.

Restoration of Central Pond and the removal of the tide gate at the mouth of Sawmill Brook was recognized as a critical first step to mitigate flooding and work to implement improvements has been ongoing for over five years. Central Pond restoration is proceeding concurrently with a Massachusetts Department of Transportation (MassDOT) small bridge project at Central Street, involving replacement of the culvert at Central Street and removing the Sawmill Brook tide gate that is currently hindering both adequate drainage of the pond and restricting fish passage.

Joint Massachusetts Environmental Policy Act (MEPA) permitting was completed in January 2020. All required permits for Central Pond were initially filed separately in June 2020. The local Conservation Commission permit and MassDEP Water Quality Certification were issued in June 2020 and March 2021 respectively. The outstanding Army Corps of Engineers Project Construction Notification and Chapter 91 permits were amended to include the Central Street Bridge at the request of the permitting agencies and resubmitted in May 2021. These two permits are currently under review.

Description of Climate Impact: *Address the community's current and potential future vulnerability to climate change impacts. What are the specific threats to the project area/site and reasons for applying to the grant program?*

Impacts from climate change, including increased precipitation and sea level rise, will exacerbate flooding throughout the Sawmill Brook watershed.

Stormwater runoff entering the brook exacerbates flooding and stream bank erosion diminishes flood storage, degrades water quality, and stresses aquatic habitats. Flood-related sedimentation is of particular concern at spawning locations for native rainbow smelt, a diadromous fish listed as a Federal Species of Concern by the National Oceanic and Atmospheric Administration (NOAA). The Fire Station and several residential and business properties surrounding Central Pond are periodically impacted by minor property flooding.

Project Goals: *What were the specific goals of the project?*

The Central Pond Restoration design entails replacing or restoring walls along the sides of the Pond (both hard and soft solutions), restoring the pond interior to a tidal salt marsh, and drainage improvements. The project feasibility and preliminary plans and alternatives analysis were completed as initial phases of the project. The goal for the second phase of the Central Pond Restoration is to obtain the necessary permits and develop the final design and specifications for the Pond Restoration elements in preparation for the third and final phase; construction. Once this project is completed, upland riverine flooding of low-lying properties will be reduced, habitat and water quality will be improved, fish passage will be restored, and the Town will benefit from a restored attractive natural resource area with improved public access.

Approach and Result: *How did the project team implement the project? Describe the methodology or your approach to achieve the project goals. Describe, and quantify (where possible) project results (e.g. square footage of habitat restored or created). Provide web links, if available, to your project deliverables.*

Tasks in FY20 included completing a property line boundary survey of the western shoreline of the Central Pond to locate the boundaries of Town owned land, completing the living shoreline design, and applying for required permits. Tasks in FY21 included responding to agencies requests for additional information, completing a wetlands restoration and operations & monitoring plan and developing the final design documents for bidding. More detail on the specific sub-tasks is provided below:

- **Sub Task 1.1 - Final Comments and Drawings**, Tighe & Bond staff responded to comments from the Mass DEP for the Water Quality Certification, and Chapter 91 Permit and the Army Corps of Engineers for the Section 404 Project Construction Notification. The ACOE required coordination with the US Coast Guard for them to sign off on USCG jurisdiction. Project Drawings were updated to include permit notes, limits of disturbance, construction access and staging. Since final permits will not be available before the end of the FY21 grant cycle, the drawings will be stamped at 90% complete.
- **Sub Task 1.2 - Update OPCC**, Tighe & Bond reviewed the preliminary OPCC from 2020. The OPCC was updated to add all restoration elements and breakout which items will be lump sum or unit price items for bidding.
- **Sub Task 1.3 – Specifications**, draft and final Specifications were prepared including administrative and technical specifications including segmental block walls, restoration design elements and planting plans.
- **Sub Task 1.4. – Finalize Bid Package**, the Project Manual was assembled which includes all permits, the technical and administrative specifications, and the Operation and Maintenance plan.
- **Sub Task 1.5 – Final Progress Meeting**, the final progress meeting was held on June 14th. A meeting agenda, sign-in and summary were prepared.

Lessons Learned: *What lessons were learned as a result of the project? Focus on both technical matter of the project and process-oriented lessons learned.*

The lesson learned on this final phase of the permitting and final design for Central Pond restoration was the continued importance of interagency communications. Coordination between MassDEP, the US Coast Guard, and

the Army Corps of Engineers resolved the issues with amending permits for joint review of the Bridge improvements with the Pond Restoration that will ultimately expedite the entire project.

Partners and Other Support: *Include a list of all project partners and describe their role in supporting/assisting in the project*

Numerous State and Federal agencies are supporting partners in this project and are providing grant funding, technical guidance, and public outreach support. Project partners include the Massachusetts Department of Transportation (MassDOT), the Massachusetts Office of Coastal Zone Management (CZM), the Massachusetts Division of Ecological Restoration (DER), the Massachusetts Environmental Trust (MET), the Massachusetts Division of Marine Fisheries (DMF), and the National Oceanic and Atmosphere Administration (NOAA) Restoration Center. The project is supported by dedicated Town Staff, the Board of Selectmen, the Manchester Coastal Resilience Advisory Group (CRAG), and volunteers through the Manchester Stream Team.

The project team is especially grateful to the guidance provided by Georgeann Keer, DER and Eric Hutchins, NOAA Restoration Center. Georgeann and Eric provided ongoing advice, attended the site visit, progress meetings and provided ongoing critical input to improve the project deliverables.

Project Photos:

Photos below are provided as slides and attached to the report electronic submittal.

