

Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: Lynn

Project Title: Barry Park Green Infrastructure Project

Award Year (FY): FY22 & FY23

Grant Award: \$ 476,242.00

Match: \$ 172,830.00

Match Source: Cash and In-kind

One or Two Year Project: Two year

Municipal Department Leading Project: Planning Department

Project Website URL: <https://lynnincommon.com/municipal-vulnerability-preparedness>

Community Overview:

- *What is the population size of your community and where is it located?*
 - 93,700; Approximately 11 miles north of Boston, in Essex County.
- *Do you have any [Environmental Justice](#) or other Climate Vulnerable communities? (Think about both those who live and work in your town.)*
 - Lynn is a Gateway City and an environmental justice community, with over 80% of residents living in Environmental Justice Census Blocks because of household income, race, or lack of English speaking.
- *Other unique traits of your municipality like who the top employers are, geography, history, etc.*
 - Lynn was settled by early colonists in 1629 and relied primarily on farming and fishing. When Lynn developed its major industrial center, much like other municipalities in the late 18th and early 19th centuries, summer estates also began to line the ocean shore by the middle of the 19th century. This gave way to the city being deemed a ‘fashionable Boston resort area.’ High rises soon took over the shore to take advantage of the views of Nahant Bay after Lynn Shore Drive was developed in 1910.
 - Now, the city is a densely populated urban manufacturing and commercial center. Lynn’s largest employer is GE Aviation. In fact, the first jet airplane engine in the U.S. was built in Lynn in 1942. The City is known as the “City of firsts”, in a large part due to innovation exhibited at GE, growth of the shoe industry, and well-known entrepreneurs like Lydia Pinkham. The City is going through a resurgence and building on its reputation for innovation, particularly in the Creative Economy that is settling in and around Lynn’s downtown Cultural District.
 - Lynn is just north of the Saugus River and has harbor and scenic coastline views. It is home to many brooks and ponds woven into its dense development. In the

northwestern part of the city, one quarter of Lynn is covered by the Lynn Woods Reservation.

Project Description and Goals:

- *Where was the project located?*
 - The parking lot for Barry Park, a City owned park property. The parking lot is located off of Batchelders Court.
- *What climate change impacts did the project address?*
 - Flooding from extreme precipitation events was among the five top hazards identified by participants during a February 2019 Community Resilience Building Workshop. Flooding in Lynn occurs as riverine, stormwater, and coastal flooding, which can be caused by various weather events including hurricanes, extreme precipitation, thunderstorms, and nor'easters and winter storms.
 - This project demonstrates the usefulness of low impact development and green infrastructure to reduce the impacts of flooding.
- *What were the specific goals and tasks of the project as stated in your application?*
 - Goals:
 - Deploy Nature Based Solutions and Environmental Co-Benefits
 - Pilot novel Green Infrastructure (GI) elements in the City improving local understanding and capacity in order to support wide-spread use of GI elements throughout the City.
 - Support Environmental Justice and Public/Regional Benefits
 - Provide Opportunities for Public Involvement and Community Engagement
 - Objectives:
 - Construct Nature Based Solutions in Barry Park to reduce peak flows, improve water quality, and convey stormwater runoff from neighboring streets into underground storage systems in the park.
 - Coordinate the Barry Park project with community input and in coordination with other ongoing efforts in this area to ensure efficient implementation and community co-benefits.
- *Did your project meet the goals set forth in your application in terms of:*
 - *Employing nature-based solutions*
 - The designs for Barry Park incorporated green infrastructure solutions such as bioretention, water quality swales, impervious cover removal, and underground storage to provide urban heat island mitigation, promote natural flow, improve water quality, and support groundwater recharge.

- *Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations*
 - The green infrastructure projects installed at Barry Park will improve health and safety for EJ populations in the neighborhood, through reduced flooding, better air quality, improved urban landscape, a reduction of urban heat island, and better water quality.
- *Providing regional benefits*
 - Construction of stormwater management for Barry Park will result in significant flooding controls, management of future climate impacts and also protecting and improving the water quality of the inputs to Rumney Marsh.
- *Implementing the public involvement and community engagement plan set forth in your application.*
 - We received community feedback on the vision and design for the GI projects at the site through the engagement completed during previous MVP Action Grant phases and received support during the public meeting prior to construction held on 3/29/2023.
- *Finishing the project on time*
 - The project was initially intended to be completed in Fiscal Year 2022 but in coordination with EEA staff, construction was extended to allow for completion in Fiscal Year 2023. All deliverables were completed as scheduled in the amended grant agreement.

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.*
 - The green infrastructure strategies constructed at Barry Park include:
 - **Stormwater Collection in Streets**
 - *Biofiltration along sidewalks*
 - *Conveyance toward underground infiltration chambers*
 - **Underground Infiltration Chambers**
 - *Storage and treatment below parking lot*
 - **Reduction of Pervious Surfaces**
 - *Reduces excess rainwater runoff.*
 - *Porous pavement used in parking spaces.*
 - *Allows for infiltration into underground storage.*

- These strategies will benefit the community because they mitigate flood risks, improve water quality, reduce urban heat, improve public spaces, connect to community paths, and increase planting and vegetation.
- *Provide a brief summary of project deliverables with web links, if available.*
 - We provided detailed design plans and concepts, construction bid documents, and photo documentation of the construction progress.
 - For the stakeholder and public engagement of the project, we provided materials utilized during the public meeting and a link to the recording.

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.*
 - Community Engagement
 - As EEA is aware, a different approach is needed for community engagement for construction projects. Although a number of opportunities for public comment during planning and design phase of the work there was limited participation by the community. We did receive a little more interest at the construction phase of the project. We believe engagement strategies for implementation should focus on education and information sharing on environmental outcomes and co-benefits of the project. The Barry Street project can be used to draw more interest and support for this kind of work.
 - Asking for demographics and asking where people heard about our project helps to ensure participants are representative and test effectiveness of various outreach methods.
 - We provided Spanish translation and interpretation during public meetings, however still suffered from very little involvement from Spanish speaking residents. We are working with the DEI Coordinator to find better ways to engage non-English speaking communities. This will be a work in progress going forward.
 - Technical
 - The project team discovered several incongruities with underground infrastructure that either did not align with existing plans, weren't shown on existing plans or surveys, or were not identified by dig safe. For instance, the location of the Strawberry Brook conduit was not marked out in the field as shown on plans provided by Lynn Water and Sewer Commission. This necessitated design changes, but in other projects could have either prevented the project from advancing or further delayed the project. In highly urban settings, taking time to vet "known" information is critical to project success.

- The project design included underground storage and infiltration in addition to the bioswales. This significantly increased water storage capacity and infiltration. This is beneficial in highly urban contexts where there is less land to work with and maximize flood storage and infiltration.
- *What is the best way for other communities to learn from your project/process?*
 - When introducing new concepts like green infrastructure, communities should use pilot projects to build the coordination channels and awareness within the community. Generating public input into a broader vision throughout implementation can help demonstrate the need for future funding.

Partners and Other Support:

- City of Lynn had support internally from the Community Development Division, Public Works, and Lynn Water and Sewer, but no formal project partners.

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.*
 - See attached photos listed below:
 - LynnFY22MVP_Photo1_VegetatedSwale
 - Vegetated swale at back of parking lot located off Batchelders Court.
 - LynnFY22MVP_Photo2_PorousPavement
 - Finished porous pavement with striping and curb stops.
 - LynnFY22MVP_Photo3_BioretenionBasin
 - One of four bioretention basins installed in the roadway intersection.
 - LynnFY22MVP_Photo4_AsphaltSidewalk
 - New sidewalk connected to community path adjacent to the parking lot.