

Two, if by Sea: A New Resilient Waterfront in One of Boston's Oldest Neighborhoods

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Background/Objectives. The East Boston Waterfront is rapidly transforming. An increasing population and housing shortage are spurring development along one of City's oldest neighborhoods. It's also one of the most vulnerable coastal communities regarding near- and long-term sea level rise projections. In particular, the areas around Carlton Wharf and Lewis Mall were identified as near-term flood pathways through the City of Boston's Climate Ready Boston initiative in 2017.

Approach/Activities. Design options were developed to advance coastal protection along parts of the East Boston waterfront while at the same time ensuring waterfront access and enhancing coastal habitat. The project utilized a collection of public and private spaces to create a continuous, resilient waterfront. The sites, while close in proximity, presented different challenges and served as examples of the varying urban, coastal conditions throughout the City of Boston. Adaptation strategies were prioritized to allow for flexibility, designed to accommodate temporary flooding and incorporated transitional landscapes and vegetation while maintaining various maritime programming. Several schematic design scenarios were developed through review of existing conditions, engagement with neighborhood residents and other stakeholders, and resilience technical analysis. Each design scenario considered a design flood elevation of 22.5 ft that was based upon:

- the most up-to-date coastal model for Massachusetts
- evaluation criteria developed through Climate Ready East Boston
- technical feasibility
- public access and open space along the waterfront

Results/Lessons Learned. The ultimate goal of the project was to develop practicable and replicable solutions that meet resiliency goals despite site constraints and create more equitable access to the waterfront. The practicable designs advanced through this project provide a basis to be continued through design, permitting, and construction. This project is critical to ensuring the East Boston waterfront will continue to serve as an inviting and accessible part of the neighborhood and also provide a buffer to the long-term effects of climate change.