

An aerial photograph of the Lynn Waterfront area. The image shows a complex network of waterways, including a large harbor and several smaller inlets. The surrounding land is densely developed with buildings, roads, and industrial structures. A specific area of land, located near the top center of the image, is highlighted in a bright green color. This highlighted area appears to be a small peninsula or a section of the waterfront. The overall tone of the image is somewhat muted, with a mix of blues, greys, and greens.

LYNN WATERFRONT OPEN SPACE MASTER PLAN



ACKNOWLEDGMENTS

This Open Space Master Plan Report was prepared for:

The City of Lynn

Mayor Thomas M. McGee

The Economic Development and Industrial Corporation of Lynn

Jim Cowdell

The Department of Conservation and Recreation

Commissioner Leo Roy

Patrice Kish

This Open Space Master Plan Report was funded by:

The Executive Office of Energy and Environmental Affairs (Gateway City Parks Program)

This Open Space Master Plan Report was prepared by:

Brown, Richardson + Rowe, Landscape Architects + Planners

Clarissa Rowe

Dave Andrews

Althea Northcross

Nina Brown

Stantec Engineering

Jen Ducey

Woods Hole Group

Kirk Bosma

Cover : Impermeable Cover across Metro Boston Coastline

Opposite: Timber Bulkhead Deterioration on Riley Way



TABLE OF CONTENTS

Executive Summary

Executive Summary

Introduction

Project Overview

Goals + Objectives

Project Area

Site History

Public Process

Vision

Vision

Context

Existing Conditions

Land Use

Opportunities + Constraints

Environmental Considerations

Permitting

Framework

Resiliency

Connections

Programming

Promenade

Master Plan Proposal

Open Space Master Plan

Design Guidelines

Public Realm Guidelines

Promenade

Public Parks + Plazas

Street + Pedestrian Path Connections

Site Components

Planting

Implementation

Implementation

Appendices





EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

The purpose of this Lynn Waterfront Open Space Master Plan is to locate public parks, plazas, and a continuous promenade along the waterfront, and to provide enforceable Design Guidelines for all public open spaces within the project area. It is anticipated that the City and other regulatory bodies will compel land owners, developing projects within the project area, to follow the proposals set forth within this Report. The "Master Plan Proposal" and "Design Guidelines" chapters can function as a stand alone document to be used during the development permitting process.

The project area is located east of the Lynnway between the General Edwards Bridge and the Nahant Causeway, in Lynn, MA and contains a number of land uses. The primary land uses are commercial and industrial, with extensive portions of undeveloped land along the water's edge. There is limited public access to the waterfront and often where public access exists, it is in poor condition.

Previous master plans for the waterfront require updating to reflect current real estate and development trends and to address existing sea wall failures. Lynn is experiencing an increase

in residential developments, and a number of residential projects are currently being planned for parcels within the project area. In advance of new developments, improved development standards are sought to ensure that a cohesive and connected public realm is created. As part of the planning for new parks, plazas, and promenades, improvements to the Lynnway and Carroll Parkway are essential to make the waterfront area welcoming, accessible, and to allow the waterfront to function as an extension of downtown.

All projects must seek to improve the resiliency of the Lynn Waterfront. Coastal edge improvements are critical in defending the City against rising tides and increased storm surges resulting from climate change. Coastal resilience strategies such as raising sea walls, creating living shorelines, or designing parks to withstand inundations must be foremost in any project in the Lynn waterfront area.

Open Space Master Plan Approach

In the creation of this Open Space Master Plan, the design team sought to locate parks, plazas, and promenades on land owned by State or City bodies, on land that is subject to Chapter 91 regulations, or on land likely to receive a future Conservation Restriction.

This approach is intended to create an implementable and enforceable open space network. While the exact configuration of the parks, plazas, and promenades might vary from the schematic plans presented herein, their location, programming, and materials are defined by this Open Space Master Plan.

Implementation + Enforcement

Development will likely occur piecemeal, over the course of many years. Each development will be required to implement their respective portion of the public open spaces or promenade. Therefore, it is critical that the City of Lynn and the State have the authority to enforce the proposals contained in this Report.

To obtain the necessary regulatory mechanisms to enforce these design standards for all parks, plazas, and promenades in the project area, it is envisioned that after the City of Lynn formally adopts this Open Space Master Plan, the City will then update their Municipal Harbor Plan and amend their Designated Port Area boundary line. Additionally, active enforcement of the Chapter 91 regulations will provide an essential tool to compel developments within the project area to deliver their portion of the overall Open Space Master Plan and ensure the vision and standards set forth in this Master Plan, are achieved.





INTRODUCTION

PROJECT OVERVIEW

This Lynn Waterfront Open Space Master Plan has been prepared for the City of Lynn, the Department of Conservation and Recreation (DCR), the Economic Development and Industrial Corporation of Lynn (EDIC), and the Executive Office of Energy and Environmental Affairs (EOEEA). The project was funded through the EOEEA's Gateway City Parks Program.

In September 2007, Sasaki Associates prepared a Lynn Waterfront Master Plan Report, and in 2010, they completed the Lynn Municipal Harbor Plan. The 2007 Report established development guidelines for the Lynnway and the waterfront area. Since 2007, development trends and the real estate market have changed. The building heights envisioned in 2007 are not reflected in recent development proposals, and some industrial uses within the waterfront area have expanded, such as alterations to the landfill. Furthermore, the landmark park envisioned within the Sasaki Master Plan was determined to be infeasible.

In addition to the Sasaki Waterfront Master Plan, this Open Space Master Plan builds on other prior planning efforts, notably the Draft Route 1A Lynnway/Carroll Parkway Study in Lynn, prepared by the Boston Region Metropolitan Planning Organization (BRMPO)/MassDOT in 2016, and the Lynn Coastal Resiliency Assessment prepared by Weston and Sampson in 2016. The Draft Route 1A Lynnway/Carroll Parkway Study provides a road map for improving the functionality and safety of the Lynnway and promotes improved connections to the waterfront area. The Lynn Coastal Resiliency Assessment identified the vulnerabilities in the coastal infrastructure and projected potential future flooding and storm surge impacts.

Brown, Richardson, + Rowe (BRR), landscape architects and planners, are leading the design team for this Open Space Master Plan and are supported by Stantec Engineering and the

Woods Hole Group. Feedback received from the extensive public engagement process, undertaken as part of this Open Space Master Plan, has also greatly informed the proposals presented herein.

In 2018, the City of Lynn appointed the planning and architecture firm, Utile, to update the 2007 Lynn Waterfront Master Plan. The updated Lynn Waterfront Master Plan, will provide the regulatory framework for the enforcement of this Open Space Master Plan and will establish a flexible development framework for all future developments in the project area. Additionally, Utile will update the Lynn Municipal Harbor Plan and seek to amend the Designated Port Area boundary line. Collectively, the Lynn Waterfront Open Space Master Plan and the new Lynn Waterfront Master Plan will define the nature, standards, and enforcement mechanisms for all future developments within the project area.

OVERALL PROJECT GOALS

Establish a cohesive vision for connected open spaces along Lynn's waterfront.

Safeguard public access to and along the waterfront from the G. E. Bridge to Nahant.

Provide open space design guidelines for future development along the waterfront to ensure that open spaces are appealing and accessible to all members of the public.

Plan for climate resiliency in all developments.

PROJECT OBJECTIVES

- To enhance existing and provide new direct public access to Lynn Harbor from various points within downtown Lynn and along the coastline.
- To provide public parks, plazas, and a promenade from the General Edwards Bridge to the Nahant Causeway.
- To improve and enhance pedestrian and bicycle connections between the downtown, the promenade, and the water.
- To establish minimum and desired promenade and path widths and other standards.
- To accommodate residents and visitors through high quality, durable design.
- To encourage an appreciation of Lynn's maritime and industrial history.
- To coordinate any new waterfront uses with the Municipal Harbor Plan and the Designated Port Area.
- To recognize navigational requirements that require dredging of deeper channels in a shallow harbor.
- To plan for the effects of climate change in an area of potential inundations.
- To improve environmental conditions in the waterfront.
- To minimize vehicular traffic and parking adjacent to the water.
- To apply the "Complete Streets" concept to waterfront area interior roadways.
- To address brownfield concerns related to previous industrial and other uses.



Inland erosion issues - South Harbor



Inland erosion issues - Central Harbor



NORTHERN
STRAND

LYNN COMMON

CITY HALL

MARKET ST LYNN COMMUTER
RAIL STATION

NSCC

CARROLL PKWY

LYNN SHORE DR

COMMERCIAL ST
SHEPARD ST
SUMMER ST
NEPTUNE BLVD

BLOSSOM ST

V TECH
INSTITUTE

PLEASANT ST

WASHINGTON ST

LYNN HERITAGE
STATE PARK

MARINAS

CLOCKTOWER

FERRY TERMINAL

PRICERITE

LYNNWAY

EXTRA SPACE
STORAGE

ATLANTIC
TOYOTA

GARELICK
FARMS

SEWAGE
TREATMENT
PLANT

INACTIVE
LANDFILL

WALMART

LYNNWAY
MART

GE SITE

FUTURE PUBLIC
RIVERWORKS
RAIL STOP

GEARWORKS
DEVELOPMENT
SITE

CHelsea

LYNNWAY

LYNN HARBOR

NAHANT
BAY

NAHANT CAUSEWAY

SAUGUS RIVER

BOSTON

REVERE
POINT OF PINES

PROJECT AREA

The project area includes the 305 acres to the southeast of the Lynnway between the General Edwards Bridge and DCR's Nahant Beach Reservation. The Lynn waterfront consists almost entirely of filled wetlands. The filled land has been used for numerous industrial purposes over many decades. Current or recent uses include landfills, a municipal water and sewage treatment facility, a National Grid electrical facility, a liquid natural gas storage tank, distribution facilities, a ferry terminal and three marinas.

Two Department of Conservation and Recreation (DCR) properties bracket the Lynn waterfront. On the north end, the Nahant Beach Reservation connects Lynn to Nahant along the Nahant Causeway. This Reservation is a fine example of a beautiful waterfront edge. People walk, jog or bike along a waterfront path and enjoy views of the Atlantic Ocean and the Lynn and Nahant waterfronts. Connecting the Lynn waterfront to this Reservation is a key component of the Lynn Waterfront Open Space Master Plan.

At the south end of the project area are the DCR fishing pier and DCR held parking and access easements. At present, the pier and surrounding area are in poor condition, yet this portion of the waterfront is one of the most visible areas for visitors as they enter Lynn when crossing over the General Edwards Bridge. Recapturing this important visual connection to Lynn Harbor and creating an important destination here would benefit the City. The trail head, design of a parking lot, and waterfront path, consistent with the pending relocation of existing DCR easements are addressed in this Master Plan.

Between these two properties, DCR owns an additional parcel at Lynn Heritage State Park, located towards the northern end of the waterfront, near downtown Lynn. Lynn Heritage State Park has significant ground settlement issues and lacks active maintenance.

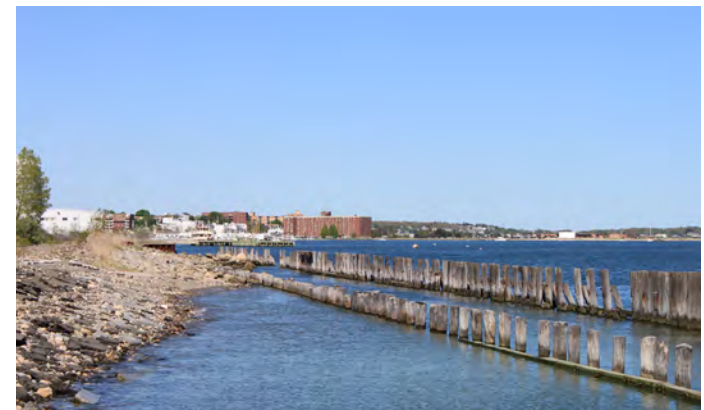
Between the Nahant Beach Reservation and the fishing pier near General Edwards bridge, lies approximately 1.75 miles of coastline. Approximately half of the coastline is underutilized brownfield land or industrial land. Furthermore, much of the sea wall has failed resulting in significant shoreline erosion.



Areas of coastal erosion



Woodland trees and wetlands near the General Edwards Bridge



Deteriorating sea walls



SITE HISTORY

The City now known as Lynn, was largely inhabited by the Naumkeag tribe. The tribe faced significant decline primarily due to a plague that swept through the area in 1617, and European settlers begun settlement of the area in 1629. The City of Lynn is approximately 11 miles northeast of Boston. Lynn was incorporated in 1850 and has grown to a population of approximately 90,000 people.

Industry has a long history in Lynn as it was an early center for tanning and shoe-making. Shoe-making became a hallmark for the City and this trade became a major driver of Lynn's growth. Over the years, increased industrial growth led to the creation of large manufacturing companies like General Electric, which merged with the Lynn-based Houston Electric Company.

The City developed close to the water's edge. Traditionally, the coastline consisted of a series of inlets and marshlands. In the early 1900's, The Metropolitan District Commission (now the Department of Conservation and Recreation), acquired a number of waterfront parcels and began construction of the Lynnway

and Carroll Parkway.

Gradually the harbor was filled, which permitted increased industrial use on the waterfront. In time, the shoreline became a hardened edge reinforced by sea walls and no longer resembled the historical marshlands.

Development along the Lynnway and Carroll Parkway increased, and gradually, the City largely turned away from the water's edge. A series of fires in the late 1970's and early 1980's destroyed many important buildings downtown. The impact of the fires, coupled with an economic downturn, left many downtown buildings or parcels vacant. However, the City has recently seen an increase in residential developments, as well as a plan for a second Commuter Rail station. The City's proximity to Boston has assisted this growth.



C.A. Shaw's home of the Hutchinson Family, 1881



Extent of Lynn's historical industrial waterfront use



PUBLIC PROCESS

Overall Master Plan Engagement Process

As part of this Master Plan process, the Master Plan Team met with representatives from a number of State and City Departments, local interest groups, and the general public to gain insight and to record ideas on how to best provide open spaces and a public waterfront promenade. The Master Plan Team met with The City of Lynn, the EDIC, the EO-EEA, the Executive Office of Housing and Economic Development (EOHED), Coastal Zone Management (CZM), the Department of Environmental Protection (DEP) and DCR to discuss the plans and project progress. Additionally, the Master Plan Team met with the Lynn Economic Area Development Team (LEAD Team). The LEAD Team consists of key members from a number of relevant State Offices and Departments, the City of Lynn Mayor's Office, the EDIC, DCR, State and US Senate Representatives, and local City Councilors.

The Master Plan Team held a series of meetings and site walks with the general public, local business groups, and other local stakeholders. In addition, surveys in English and

Spanish were circulated that sought responses regarding where people currently go to on the waterfront, how people accessed the waterfront, what they currently do on the waterfront, what they would like to do in the future on the waterfront, and what temporary activities would they like to see occur on the waterfront in the summer. The comments shared, ideas generated, and survey responses received were collated and used to inform the Master Plan proposals.

The meetings, walks, and survey responses allowed attendees to become more familiar with the existing waterfront conditions and of the challenges and opportunities the project faced. Critically, however, the meetings, walks, and surveys provided opportunities for honest dialogue and discussion between the public, the City, and the Master Plan Team. The discussions provided necessary feedback regarding what residents and stakeholders want to have on the waterfront, but also their concerns regarding who would own, maintain, and sustain new open spaces. The Master Plan proposals are based on the ideas generated as part of this public engagement process. It is hoped that the proposals reflect the spirited discussions and debates held.

Land-Based Activities

From the public consultation process, we learned that the public has a strong desire to be able to walk, bike, or exercise along the waterfront. They also would like public transportation and free parking along the waterfront. In addition, providing places for food trucks, events, markets, performances or other activities was expressed. Permanent structures that would provide food concessions, cafés, or restaurants were also mentioned. An overarching theme discussed was to ensure that the waterfront felt like a welcoming place for all members of the public without feeling like a private enclave.

Water-Based Activities

A number of ideas regarding the use of the physical surface of the water were expressed. People mentioned the desire for kayak access, improved boat ramps, and better fishing access. The use of the marinas was also discussed. Currently there are two private marinas, and one marina owned by the City. Some people mentioned that it would be a good idea to provide temporary boat slips to attract boaters from the wider region to enjoy the Lynn waterfront.





VISION



VISION

The redevelopment of the Lynn waterfront has the potential to transform the City of Lynn. The overall approach to creating a vibrant public waterfront has been to locate a series of “destinations” on the waterfront that are at the terminus of major connections to the City center, nearby neighborhoods, or other physical connection routes. Each destination takes the form of a public plaza or public space, and will have a variety of uses that attracts a wide audience, by providing different things to do at different times of day. The destinations are then connected to each other by exciting public parks and a waterfront promenade. The public parks are located at strategic locations

along the waterfront, while the promenade is the major connective tissue of the waterfront as it travels through all public parks and plazas.

To activate the waterfront, a program of uses has been developed. The program of uses ensures that, as a whole, the waterfront provides a complete range of activities, while individual parts of the waterfront contain a sufficient range of activities that allows each area to be a destination in and of itself. It is envisioned that the waterfront will be diverse and have unique character at different points of the waterfront.

WATERFRONT VISION

Establish a framework for a vibrant public realm.

Provide a series of destinations that are connected by parks and promenades.

Connect downtown and neighborhoods to the waterfront on well-designed city streets.

Promote development that engages city street edges and promotes public access.

Provide welcoming and exciting public parks, plazas, and promenades that are inviting to all members of the public.

Provide a range of uses to attract a diversity of visitors at different times of day.



Programmed destinations with active edges



Inviting public parks for all ages





CONTEXT



CITY HALL

LYNN COMMON

MARKET ST
LYNN COMMUTER
RAIL STATION

SWAMPSCOTT
WASHINGTON

LYNN SHORE DR

NORTHERN
STRAND

COMMERCIAL ST
SUMMER ST
NEPTUNE BLVD

SHEPARD ST
BLOSSOM ST
V TECH
INSTITUTE

NSCC

CARROLL PKWY

LYNNWAY

NORTH
HARBOR

CENTRAL
HARBOR

SOUTH
HARBOR

NAHANT CAUSEWAY

HANSON ST

GE SITE

FUTURE PUBLIC
RIVERWORKS
RAIL STOP

GEARWORKS
DEVELOPMENT
SITE

CHelsea

BOSTON

REVERE
POINT OF PINES

EXISTING CONDITIONS

Overall Existing Conditions Description

The project area has a variety of conditions, land uses, and level of development. Much of the Lynn waterfront is undeveloped, unmaintained, or inaccessible to the public. Furthermore, much of the coastal edge is in poor or deteriorating condition.

As the harbor was gradually filled, a hard or rigid sea edge was formed using different techniques. The different sea edges have experienced significant deterioration. The past industrial uses have also left a number of contaminated parcels, including three landfills and remnant hazardous materials below grade. Potentially as a result of the industrial waterfront use, the Lynnway has traditionally been a spine of retail and commercial uses. Today the Lynnway/Carroll Parkway is a fast paced multi-laned roadway, that is oriented primarily for vehicles. Therefore, travel and crossings are very difficult for pedestrians or bicyclists.

Waterfront Zones

While this Master Plan conceives of the waterfront area as one cohesive part of the City, the character, land uses, and ownership status across the project area vary. To assist in describing the various parts of the project area, this Master Plan breaks the waterfront area down into three zones: **South Harbor**, **Central Harbor**, and **North Harbor**.



South Harbor: Sea wall and fishing pier



Central Harbor: Waterfront edge at landfill



North Harbor: Lynn Heritage State Park



SOUTH HARBOR

Site Description

The South Harbor Zone runs from the Saugus River to Hanson Street. It is bound by the Lynnway on the west side and the Lynn Harbor on the east. Currently this zone is characterized by large swathes of undeveloped or abandoned land. The only developed use is the Lynnway Mart which runs from the Lynnway almost all the way to the harbor. A number of now unused and overgrown paved parking lots are located within this zone. The remaining area is undeveloped grass and scrub land with some areas of semi mature trees. There is also the DCR-owned fishing pier which is estimated to be approximately 45 years old and has visible deterioration.

The sea edge is generally defined by an aging timber bulkhead sea wall, also approximately 60 years old. The wall has significant deterioration and has failed in some locations with areas of erosion up to 65 feet, landward of the wall. The top of the wall appears to have been constructed to an elevation of 10.0' NAVD88. Adjacent to the General Edwards Bridge abutment, granite slabs were used to reinforce the face of steeply sloped embankment. The

top elevation of the granite walls appear to be 8.0' NAVD88.

The land behind the sea walls is approximately 8.0 feet high near the granite wall and between 8.0 and 9.0 feet high elsewhere along the timber bulkhead wall. Some localized zones near Hanson Street are over 10.0 feet high. Recent storms have shown that the land near General Edwards Bridge is prone to over-topping. Future planning efforts for any development must consider resiliency methods given the flood risk evident in this zone.

Land Ownership

The land is owned by a number of parties. The Lynnway Mart and two adjacent parcels are privately owned. The City of Lynn owns the existing parking lot near the Lynnway. Closer to the water, DCR owns a parcel of land adjacent to the General Edwards Bridge, as well as the fishing pier. DCR also has two easements, one for parking and the other a narrow strip of land that connects their parking easement to the fishing pier. There is also a 200' wide former electrical power line easement, now transferred to the EDIC, which is set back 100' from the shoreline. Finally, the City of Lynn owns the timber bulkhead sea wall.

Public Access

To the average visitor, there is no public access to the waterfront in this area despite DCR holding a parking easement and easement to the fishing pier. The South Harbor Zone is primarily used by people going to fish along the sea wall or on the fishing pier. There are also signs of encampments and some illegal activity.

Current Development Status

Changes to land uses and ownership are occurring within this zone. Housing development plans are currently being prepared for the two most southern parcels of land. This project is currently known as the South Harbor Development. It is also understood that the Lynnway Mart is being developed as housing.

DCR, the City of Lynn, and the South Harbor Developer, are negotiating an easement and land transfer for this site. This agreement would relocate DCR's parking easement to the City-owned parking lot, adjacent and parallel to the Lynnway. DCR would also gain a 75' wide track of land along the back of the sea wall. This easement swap would provide DCR with uninterrupted public access from the new parking lot area to the water's edge, then along

the sea wall to the fishing pier. After completion of this easement relocation and land transfer, DCR will commence working on design and construction plans for a linear park and renovated fishing pier.

As part of this Master Plan process, the land between the 75' easement and the housing development was identified as a potential location of a future park in the area of wetland and undevelopable land. In addition, it is hoped that a 100' wide strip of land, running along the back of the sea wall from the fishing pier northeast to Hanson Street, will be developed into a public park and promenade.



View towards General Edwards Bridge



Wetland and trees inland of DCR's potential 75' easement



Erosion landward of deteriorated timber bulkhead wall







CENTRAL HARBOR

Site Description

Central Harbor consists of the land between Hanson Street and Blossom Street, and between the Lynnway and the Lynn Harbor. Currently this land has a mixture of uses. The Central Harbor is the largest area of land in the waterfront zone and has a long section of frontage along the Lynnway. The Lynnway frontage primarily consists of retail, industrial and commercial units, often set back from the edge of the road. To the rear of the Lynnway businesses and industrial uses, is Circle Avenue, which runs parallel to the Lynnway.

On the south side of Circle Avenue is the City of Lynn Water and Sewer facility, including the large spent ash pile. Adjacent is a small, capped landfill, owned by Garelick Farms, currently used for truck parking. Other uses within this zone are recycling facilities, junk yards, and other industrial uses that are unsightly and that can often create unfavorable smells in the area. In general, the side and internal roads of this area are poorly defined, with few sidewalks and little activity other than industrial uses and vehicle access to the rear of the Lynnway businesses.

Behind the ash pile and Water and Sewer facility is a capped, failing, landfill, owned by South Harbor Realty Trust, and a 300' wide swath of grass and scrub land that continues up to the water's edge, owned by the Massachusetts Electric Company (MEC). At the end of Hanson Street, behind the Walmart, there is a chain at the end of the formal public road. Previously, a road continued into what is now the 300' wide strip of overgrown land, and followed the coastline up to the north end of the landfill to the MEC-owned light industrial land. This road was known as Riley's Way. Significant portions of the road have eroded into the Harbor.

The MEC-owned land on the eastern portion of this zone is typically industrial and includes private businesses and a lobster processing plant. In addition, MEC has some electrical operations on this land. Adjacent is the Boston Gas Company's Liquid Natural Gas Tank (LNG). The MEC and Boston Gas Company land is entirely fenced and allows no public access to the water.

The sea edge varies in condition and type. The portion of the sea edge from Hanson Street to the end of the landfill at the extension of

the Marine Boulevard, has considerable deterioration and failure, with some areas showing up to 85' of landward erosion. This stretch of sea edge is owned by the City of Lynn and is a continuation of the same timber bulkhead wall present in the South Harbor Zone. The sea wall from the end of the landfill/extension of Marine Boulevard is a steel pile bulkhead wall and appears to be in adequate condition, but needs careful assessment. The steel pile bulkhead wall continues up to and through the active MEC site and around the LNG tank up to the boat ramp at the end of Blossom Street.

The elevation of the timber sea wall and steel bulkhead walls is approximately 10.0' NAVD88. Landward of the walls, the land dips frequently to 8.0 and 9.0 feet high. The Lynnway is generally between 8.0 and 9.0 feet high, while the land between the Lynnway and sea wall is generally between 10.0 and 12.0 feet high. However the large landfill and ash piles climb to approximately 48.0 feet high.

Land Ownership

Along the Lynnway, this zone is mostly privately owned land. However, approximately half of the land in this zone is owned by the MEC and South Harbor Realty Trust, gener-

ally between the back of the Lynnway businesses and the harbor. Much of the MEC land appears to be rented out to private companies, primarily housing light industrial uses, though there are two adjacent parcels owned by MEC and the Boston Gas Company that have active public utility/industrial use. There is also a Lynn EDIC-owned parking area and pier. The Designated Port Area (DPA) is almost entirely located within this zone.

Public Access

Public access is generally limited to the Lynnway, though there are some parking lots that extend to the rear of the Lynnway businesses. There is also a City of Lynn compost drop off area near the Lynn Water and Sewer entrance on Circle Avenue. In the abandoned land behind Walmart, there has been considerable illegal dumping, and there are signs of encampments and illegal activity on the 300' wide area of overgrown land. Fisherman fish along the top of the sea wall. This portion of the waterfront experiences much of the same uses and visitors as South Harbor. Any access here is by foot and there are no formal public paths or activities.

Current Development Status

It is envisioned that as current land uses expire, new parcels of land will be sold or reconfigured to permit primarily mixed use development and housing. Lynn EDIC has identified some parcels of land as potential future development sites, such as 51-99 Harding Street. In addition, in the fall of 2018, Garelick Farms ceased operations at their current site and will sell their property, including a large site on the Lynnway that fronts onto Circle Avenue. Garelick Farms also owns a large parcel of land south of Circle Avenue currently used for parking. There are parcels of land within MEC's land ownership that might offer opportunities for future development on the waterfront, once the areas are remediated and hazardous materials removed.

It is also understood that the landfill owners, South Harbor Realty Trust, and the owner of the 300' wide swath of land between the landfill and the water's edge, MEC, gave a permanent lease to Charter Environmental for these parcels of land. Charter will repair the landfill cap and import up to 600,000 cubic yards of material on a tip fee basis, for a period of 2 - 3 years. After this, Charter will cap the landfill and a permanent conservation restriction will be placed on the land.







NORTH HARBOR

Site Description

The North Harbor Zone extends from Blossom Street to the Nahant and Lynn town/city line on the Nahant Causeway. This zone is bound on the north side by the Lynnway/Carroll Parkway and the south side by the Lynn Harbor. At the Blossom Street end of the zone, there are some cases where there is more than one parcel of land between the Lynnway and the water's edge. In other cases, each lot of land extends from the Lynnway to the water.

This zone is primarily well developed with fewer undeveloped sites than the other zones. This zone is also the closest to the City center and is better connected to the neighborhoods further inland. Most land uses are commercial or retail units, with some fronting directly onto the sidewalks of the Lynnway. On the harbor end of Blossom Street, there is an EDIC-owned vacant parcel, a large newly paved parking lot, and the ferry pier. There are also some light industrial uses and a distribution center. Further east along the waterfront and Lynnway, there is the old Beacon Chevrolet site at 254 Lynnway which is currently a vacant site with cracked pavement and overgrown with grass. This site, at 254 Lynnway, will break ground

on an large housing complex soon. The adjacent site is the DCR-owned Lynn Heritage State Park, as well as the Seaport Landing condominiums and apartments which border onto the park. The remaining uses within this zone are the recently closed Porthole Restaurant, two adjacent private marinas, a large condominium and apartment building and finally the DCR-owned sports courts and fields just over the Nahant town line.

There are varying types and conditions of sea wall throughout this zone. Each site should be carefully inspected prior to development. In general the tops of the sea walls range from 8.0 NAVD88 to 11.0 NAVD88. There are some lower lying areas in the 254 Lynnway site and adjacent Clock Tower distribution center with elevations of around 7.0 feet high. The areas of higher elevation in this zone are the Lynn Heritage State Park which is generally between 10.0 to 14.0 feet high, the eastern portions of the Seaport Landing condominiums parcel which has elevations approaching 15.0 feet, and the condominium complex at the rotary which has elevations rising from 8.0 feet at the sea wall to 14.0 feet closer to the Lynnway. However, the general elevation of this zone is between 8.0 and 9.0 feet high.

Land Ownership

The land within this zone is primarily privately owned, except for the EDIC-owned parcel, the Ferry Pier, and the Lynn Heritage State Park which is owned by DCR. DCR also owns the wood boardwalk that is in front of the adjacent condominiums, up to the property line of the former Porthole Restaurant. The ferry pier site is within the DPA zone.

Public Access

At present, this portion of the waterfront area is the most publicly accessible. There is a public parking lot and boat ramp at the ferry pier, which is well used. There is also a completed waterfront path through Lynn Heritage State Park, though this path is in poor condition and needs repair in many locations due to significant ground settlement. There is a wood boardwalk on the south side of Lynn Heritage State Park, but the superstructure may require replacement. The boardwalk then wraps around the harbor-side of the three Seaport Landing condominiums that border the park. This portion of boardwalk has settled significantly and is in very poor condition. The boardwalk continues through the Porthole Restaurant property up to the privately owned marinas. There is no public access past this point, except for

the DCR-owned boat launch in Nahant, located adjacent to the sports courts and fields.

Current Development Status

At present, the EDIC-owned parcel, adjacent to the ferry terminal, is leased for use as a temporary park. In the future the site is reserved for the development of a ferry terminal building. In addition, the retail building at the intersection of Blossom Street and the Lynnway has been noted by EDIC to be a potential development site. The 254 Lynnway site is slated to become apartments with a small retail/commercial unit. Between the ferry terminal site and the future 254 Lynnway development is the back of the Clock Tower distribution facility. As part of their Chapter 91 license obligations, they are required to construct a public path when there are adjacent developed connections in place. Once the 254 Lynnway development is completed, it is understood that this public shoreline path will be constructed. In addition, DCR is investigating the renovation of the Lynn Heritage State Park and also studying the settlement issue of the park and boardwalk. Lastly, it is understood that a new residential development is planned for the former Porthole Restaurant site.



Ferry pier on Blossom Street



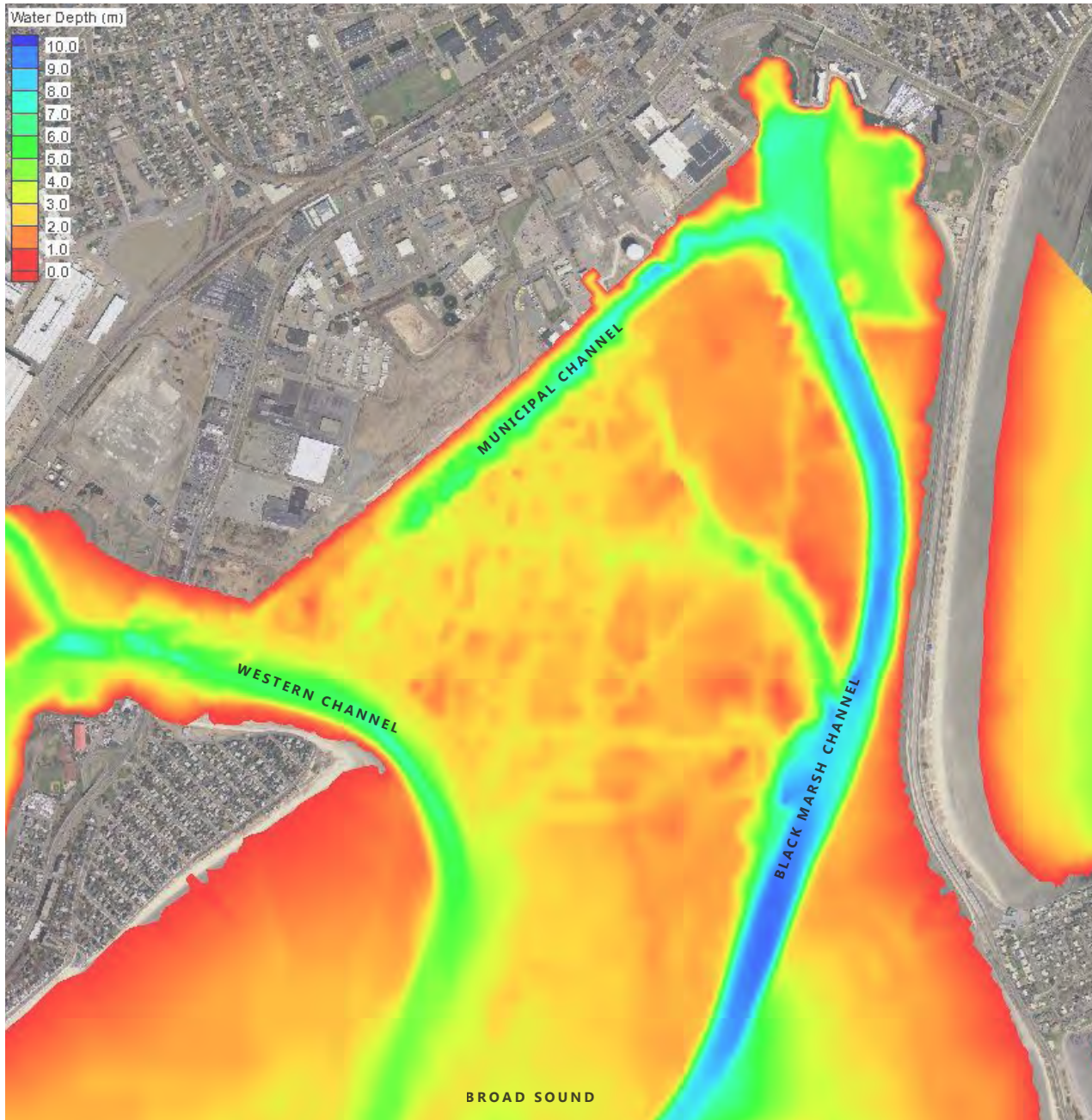
254 Lynnway development next to Lynn Heritage State Park



Lynn Heritage State Park







Lynn Harbor Bathymetry Plan (prepared by Woods Hole Group)

LYNN HARBOR

Site Description

The Lynn Harbor is relatively calm and is protected from ocean swells due to the Nahant Causeway. The south end of the harbor is open to Broad Sound. There are two dredged channels from Broad Sound leading into the harbor. The Western Channel runs along the western edge and leads into the Saugus River. The Black Marsh Channel runs parallel to the Causeway on the eastern side of the harbor. A third dredged channel is the Municipal Channel which runs parallel to the harbor shoreline. The dredged portion of the Municipal Channel does not fully connect to the Western Channel. There is evidence of a fourth channel running through the center of the harbor, though it appears that it is no longer maintained. The remaining portions of the harbor consists of shallow undredged flats which make up the majority of the harbor area.

Depths vary across the harbor from -3.0 feet to -30.0 feet NAVD88. The Black Marsh Channel is the deepest with a maximum depth of -30.0 feet, while the Western Channel has a maximum depth of approximately -20.0 feet.

The Municipal Channel has maximum depths of -25.0 feet though these are closer to its eastern end. Outside of the dredged channels, the water depth is quite shallow.

Due to the protected nature of the harbor, storm events rarely create waves in excess of 2 to 3 feet high. Much of the sediment transfer, caused by the forces of the wave action, occurs perpendicular to the shore, thus there is minor sediment transport parallel to the shoreline.

Two Lynn EDIC-owned piers are located along the Municipal Channel. The westerly-most pier, accessed from Marine Boulevard, was previously used for a casino boat and former ferry boat. The second pier is the newly constructed ferry pier located at the end of Blossom Street. Between these two piers is the wharf associated with the Boston Gas Company's LNG tank.

There are three marinas within the harbor. The Seaport Landing Marina is owned by the City of Lynn, while the Lynn Yacht Club and the Volunteer Yacht Club, are privately owned. Limited transient slips are available for visitors not associated with the marinas.

There are two public boat launches into the harbor. One is located at the ferry pier at the end of Blossom Street, and the second is located at the DCR-owned parcel in Nahant. The DCR-owned fishing pier in the South Harbor zone is the only other public access point to engage with the surface of the water.

Watersheet Activation Potential

The relatively calm, protected waters of the harbor provide an opportunity for an increase in recreational boat use, however, much of the boat traffic is restricted to the dredged channels due to the shallow depths of the flats. It is understood that the Army Corps of Engineers will be increasing the extent of dredged channels and maintaining the channels more regularly going forward.

Furthermore, the limited number of transient boat slips can discourage regional boat traffic from visiting the harbor. Increased dredging and transient boat slips may allow for increased harbor use. Additionally, new access points that allow for new uses, such as kayaks, may also help activate the watersheet. Planning in the waterfront area should seek to activate the watersheet when feasible.



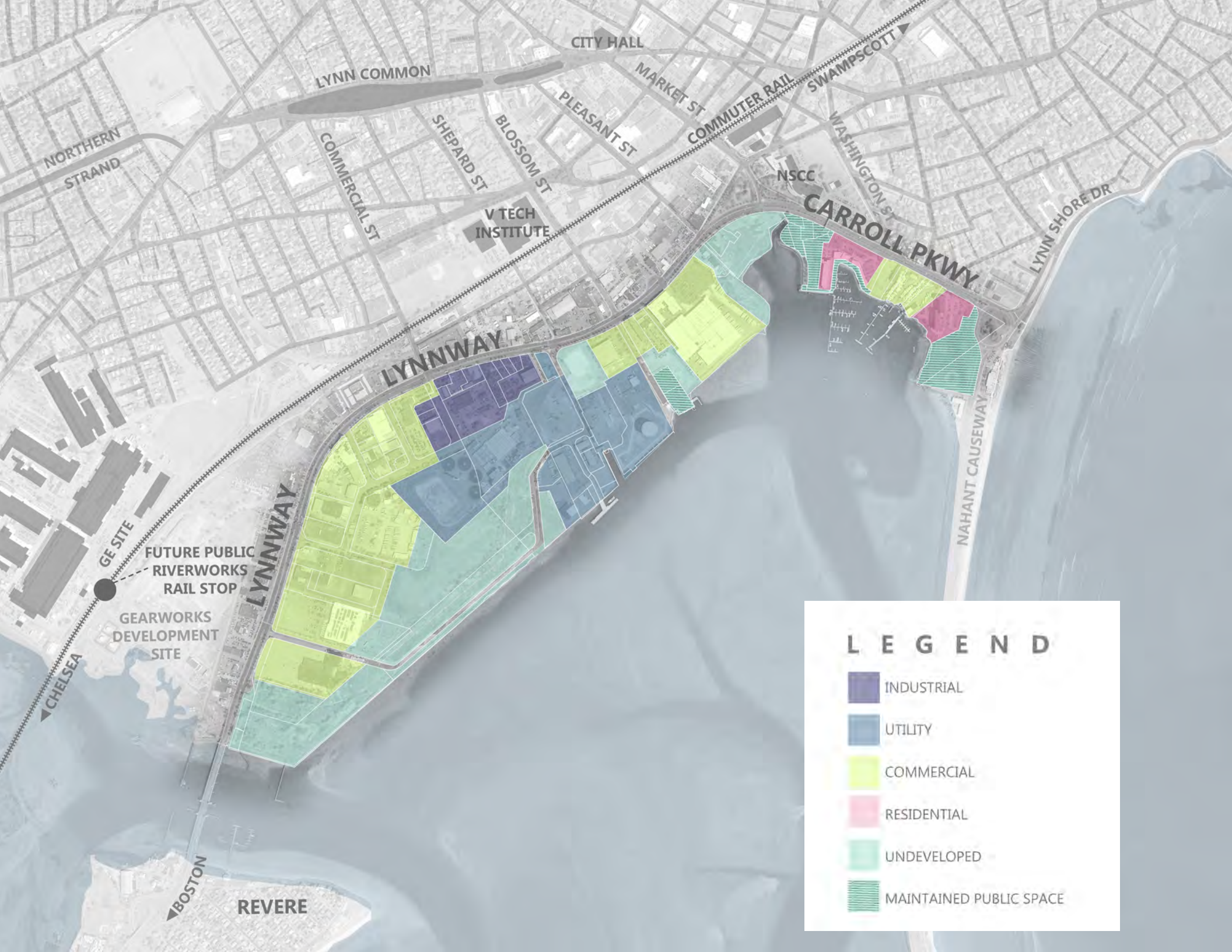
Seaport Landing Marina at Lynn Heritage State Park



Tidal flats at South Harbor fishing pier



Boat ramp at Blossom Street ferry pier



LEGEND

- INDUSTRIAL
- UTILITY
- COMMERCIAL
- RESIDENTIAL
- UNDEVELOPED
- MAINTAINED PUBLIC SPACE

LAND USE

The land uses throughout the project area vary. The dominant land uses that typify the project area are retail and commercial along the Lynnway and industrial uses that are generally located behind the Lynnway businesses. At the north end of the project area, there are some residential apartments and condominiums.

The land ownership also varies across the project area. Coinciding with the retail and commercial uses, much of the land along the Lynnway is privately owned. While some industrial land use is privately owned or run, much of the industrial land is owned by MEC. The residential housing is all privately owned. Finally, some land is publicly owned, such as the DCR easements and land around the fishing pier and Lynn Heritage State Park, and the two Lynn EDIC-owned docks and adjacent parking areas. There are three marinas, one public and two privately owned.



INDUSTRIAL



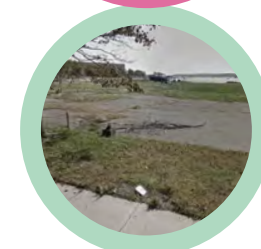
UTILITY



COMMERCIAL



RESIDENTIAL



UNDEVELOPED



MAINTAINED PUBLIC



Undeveloped waterfront with erosion



Potential for repaired sea edge with public access

OPPORTUNITIES + CONSTRAINTS

Overview

The legacy of past industrial uses and deteriorating site conditions present challenges for future development and open spaces. As the City plans for new development in the project area, these existing site constraints need to be addressed. Conversely, by addressing the existing constraints a multitude of opportunities for the waterfront can be realized.

Contamination

Past and present industrial uses have contaminated the ground throughout the project area. This existing site condition must be addressed, as it could deter or slow future development.

Coastal Edge

The sea edge is deteriorating throughout the project area. There is significant erosion that is threatening private land parcels, increasing the opportunity for contamination to spread, and affecting the City's ability to respond to climate change and future sea level rise. However, the repair of the sea wall can help mitigate these threats, potentially also acting as a catalyst for development.

Funding of the sea wall repairs represents a significant hurdle. The sea wall is publicly owned in many locations and its repair will require significant financial investment. Disrepair may deter private development of landward properties, however, there may be potential for land owners to recognize that the repair of the sea edge infrastructure is beneficial to their developments. This intertwined benefit might promote the contribution of private funds toward public sea edge repair.

Land Ownership

The lands proposed for development are owned by a variety of private land owners. Additionally, a significant portion of the project area is owned by public utilities. Without a consortium of land owners acting collectively, collaborative development efforts or mitigation of existing site conditions is difficult. Individual land owners may have different goals or desires for their property, and lack the financial resources to address constraints such as significant ground contamination.

Permitting

Contaminated ground, land use regulations such as the DPA, the MHP, and Chapter 91 obligations require often prescriptive develop-

ment responses and possibly limit future site use potential. Conversely, these regulations, particularly Chapter 91 and/or an amended MHP, can provide the framework for the delivery of a cohesive waterfront vision.

Connections

Crossing the Lynnway is a major impediment to meaningful public access to the waterfront. Businesses, neighborhoods, and the downtown are effectively severed from the waterfront area by the Lynnway due to the difficult street crossings. The poorly defined public streets within the project area further compound the lack of well-designed physical connections to the waterfront. The creation of strong urban design standards that ensure buildings engage the streetscape, the development of a logical street grid, and the implementation of "complete streets" can help provide inviting connections for all residents.

A Continuous Promenade

A variety of impediments to the continuous promenade along the sea edge exist, particularly at the MEC land. The actively used portions of the property, such as the electrical transmission site and LNG tank, restrict public access along the water's edge. In addition,

there are private marinas and developed land that restrict public waterfront access. Where feasible, owners of privately held land subject to Ch. 91 obligations should be required to implement their portion of the waterfront promenade in compliance with these Master Plan Guidelines.

Open Space Opportunities

There is limited land within the project area that is suitable for large public open spaces. Though smaller, the two DCR parcels represent good opportunities for meaningful public waterfront open space. However, the landfill site is the only portion of the waterfront that can provide a large-scale public park. The creation of a park on this property should be a priority.

Water Transportation and Use

Two private marinas and one owned by the City help activate the harbor. The City has plans to renovate its marina. Elsewhere, the addition of temporary tie-up slips to promote boating tourism could be considered. A permanent ferry service would contribute to increased activity on the Lynn Harbor. Other opportunities to activate the watershed, such as a kayak launch, should be explored.



Landfill with potential future park use



Public park on Spectacle Island, former landfill

LEGEND

EXISTING COASTAL STRUCTURES

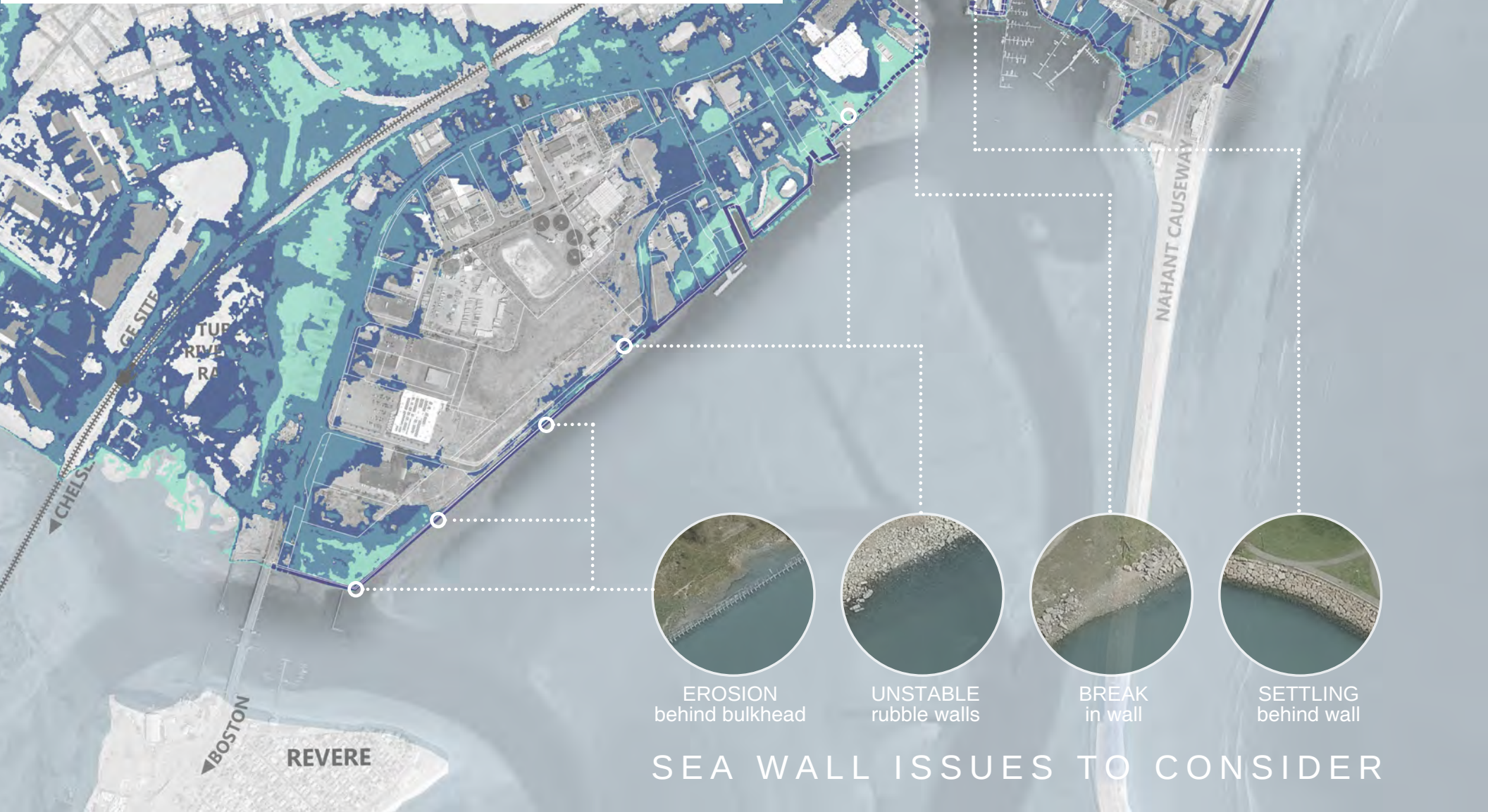
-  BULKHEAD
-  REVETMENT WALL
-  LOOSE RUBBLE

HISTORIC STORM INUNDATIONS

Weston + Sampson Resiliency Report 2016

-  November 2015 King Tide 7.2' NAVD88
-  October 1991 Perfect Storm 8.7' NAVD88
-  Blizzard of 1978 9.5' NAVD88

Flooding simulation models based on elevational data are a good indicator of possible flooding hazards and indicate directional trends, though they may not accurately predict exact flooding patterns. This model suggests that historic (and future) flooding will be particularly severe where elevation does not restrict tidal flooding, notably from the Saugus River and Central Harbor, as well as along much of the failed sea wall edge.



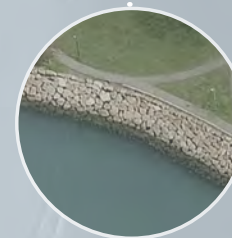
EROSION
behind bulkhead



UNSTABLE
rubble walls



BREAK
in wall



SETTLING
behind wall

SEA WALL ISSUES TO CONSIDER

ENVIRONMENTAL CONSIDERATIONS

Overview

There a number of significant environmental considerations for any future open space or development in the project area such as ground contamination, the deteriorating sea edge, flood zone and rising tide impacts, and unauthorized dumping.

Contamination

Past and present industrial uses have contaminated the ground in a number of locations of the waterfront. Most of the project area is filled tidelands, and the quality of the imported fill is unknown, but it likely contains contaminants in some locations. The presence of capped and open landfills also presents challenges for future projects, particularly with regard to soil and water contamination as well as unpleasant smells.

Deteriorating Sea Edge

The condition of the sea edge is deteriorating in a number of locations. The deterioration of the timber bulkheads, the rip-rap edges, and revetment walls along the waterfront has resulted in erosion of the coastline in a number

of locations. In the Central Harbor Zone particularly, stone, brick and concrete building debris and other types of rubble have been dumped as a storm water protection method. Future over-topping related to increased storm surges and rising tide levels will compound and accelerate the rates of erosion.

Flood Zone + Over-topping

The City has been given extensive recommendations for preparing the coast for sea level rise, as described in detail in the 2016 Lynn Coastal Resiliency Assessment. Proper coastal stabilization investment is critical to prepare for increased storm surges and higher tides. The map on the facing page is a model of past storms that have already caused waterfront flooding, especially from the Saugus River. Anticipating climate change and using the park space to enhance resilience are important strategies in this Master Plan.

Unauthorized Dumping

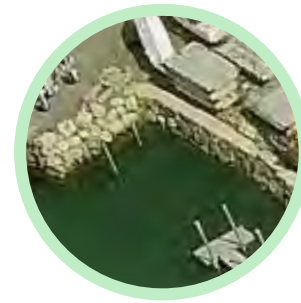
The lack of maintenance or site access controls have led to unauthorized dumping along the water's edge, especially in the South Harbor and Central Harbor Zones.



BULKHEAD
sheet



BULKHEAD
timber



**REVETMENT
WALL**
stone / rubble



**REVETMENT
WALL**
stone block

LEGEND

Information from C2M's MORIS online mapping tool at mass.gov

ORIGINAL LAND MASS (AERIAL MAP)
not subject to chapter 91 jurisdiction

FILLED TIDELANDS
subject to chapter 91 jurisdiction

FILLED TIDELANDS - LANDLOCKED
not subject to chapter 91 jurisdiction

PUBLIC WAY

CHAPTER 91 LINE

DESIGNATED PORT AREA (DPA)



The Colonial Ordinances codified the “public trust doctrine,” a legal principle that dates back nearly 2000 years, which holds that the air, the sea and the shore belong not to any one person, but rather to the public at large.

Historical Precedent for
Chapter 91 Protections

PERMITTING

Overview

The permitting of projects in the waterfront zone will be complex. There are a number of Federal, State, and City level regulations that will need to be addressed.

Municipal Harbor Plan

A Municipal Harbor Plan (MHP) was adopted in 2010 for the project area. The MHP was based on the Master Plan completed by Sasaki in 2007. The MHP established the location of parks and promenades within the project area. The MHP also permitted land owners to increase the parcel building density and the permitted building height, from the standard Chapter 91 regulations.

The approved parks and promenades relied upon proposed Lynnway/Carroll Parkway realignments and proposed building lot reconfigurations. The real estate market was notably poor after the adoption of the MHP, therefore, neither the Lynnway realignments nor development parcel reconfigurations have occurred to date. In response to the lack of implementation of the MHP proposals, the City of Lynn has appointed Utile to update the City's Lynn Waterfront Master Plan.

The new Waterfront Master Plan will define the regulatory mechanisms the City will use to enforce the implementation of the proposed open spaces, public spaces, and promenade route established as part of this Open Space Master Plan process. In addition, the Utile Waterfront Master Plan will update the Lynn MHP.

Chapter 91

Most of the project area is filled tidelands. Chapter 91, the modern descendant of a colonial-era regulation that preserves pedestrian access along the water's edge, as well as water-based access to waterfront property, affects all of the filled tidelands within the project area. Private developments will need to adhere to any relevant setback or building height requirements (or those established as part of the MHP), while also ensuring the public has access to and along the shoreline.

Designated Port Area

A portion of the waterfront is a Designated Port Area (DPA). DPAs are land areas that have been set aside for water-dependent industrial uses such as commercial fishing, shipping, and other water-based activities associated with water-dependent commerce. This

includes manufacturing, processing, and production activities reliant upon marine transportation.

The land uses of some land parcels within the project area's DPA do not adhere to the permitted DPA land uses. There are, however, a number of properties such as the Lynn Water and Sewer facility, lobster distribution facility, the Boston Gas Company's LNG tank, EDIC-owned piers and ferry docks, and future ferry terminal site, that are within the definition of permitted DPA land uses. Currently, any new land use within the DPA boundaries must adhere to the DPA regulations. However, it is understood that the Utile Waterfront Master Plan will amend the DPA boundary, thus permitting the landfill site to be converted to a public park, after the current cap repair and filling operations cease.

Other Potential Permits

Potential permits include a Notice of Intent (wetland determination of applicability) DCR or MassDOT Access Permit, MHC Project Notification Form, MEPA Environmental Notification Form, MassDEP Section 401 Water Quality Certificate, USCG Permits, and Army Corps permits.





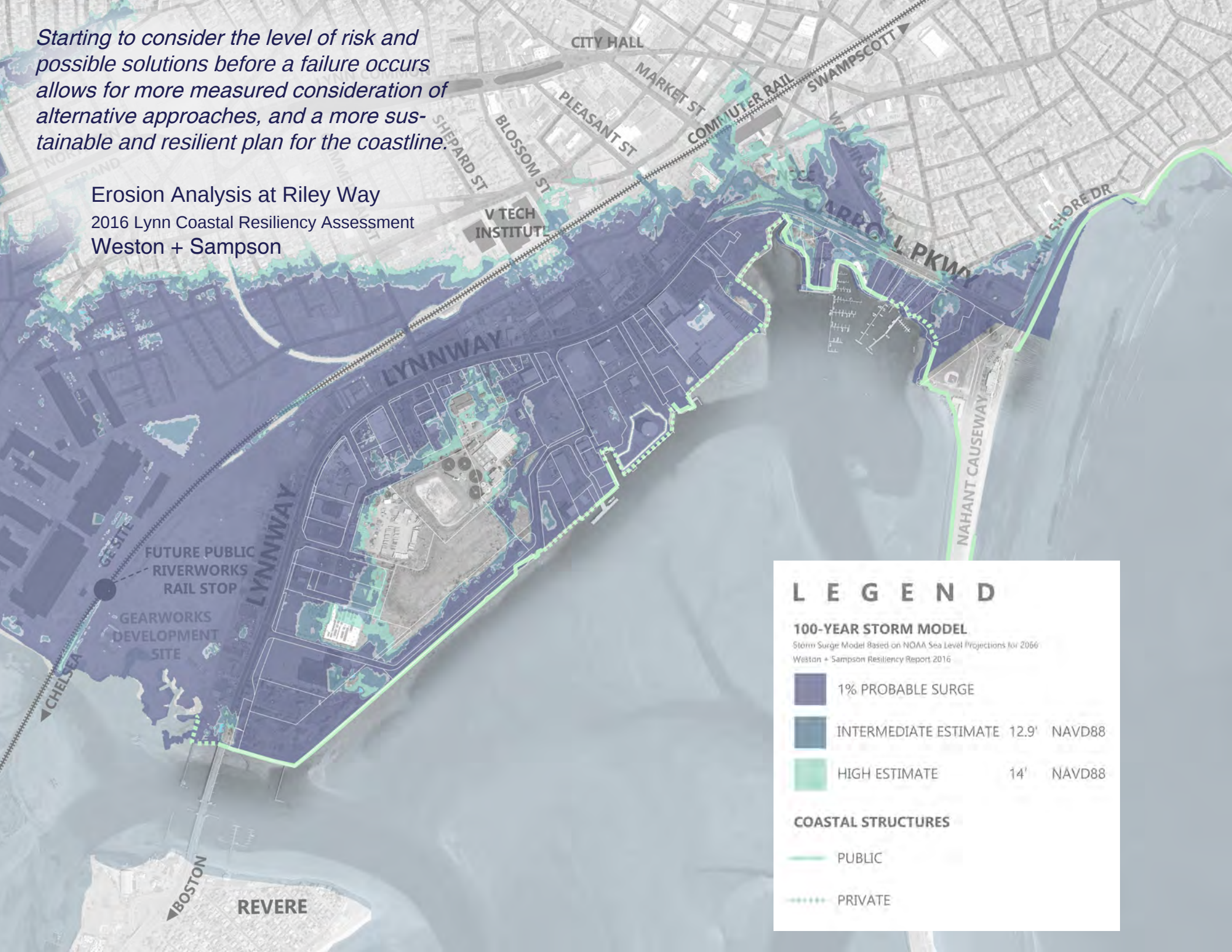
FRAMEWORK

Starting to consider the level of risk and possible solutions before a failure occurs allows for more measured consideration of alternative approaches, and a more sustainable and resilient plan for the coastline.

Erosion Analysis at Riley Way

2016 Lynn Coastal Resiliency Assessment

Weston + Sampson



LEGEND

100-YEAR STORM MODEL

Storm Surge Model Based on NOAA Sea Level Projections for 2066
Weston + Sampson Resiliency Report 2016

	1% PROBABLE SURGE		
	INTERMEDIATE ESTIMATE	12.9'	NAVD88
	HIGH ESTIMATE	14'	NAVD88

COASTAL STRUCTURES

	PUBLIC
	PRIVATE

RESILIENCY

The majority of Lynn's waterfront lies within the project area, and significant portions of the of the sea wall along the shoreline, are in poor condition. Furthermore, nearly the entire waterfront area is within FEMA's AE Zone which identifies areas with a high risk of coastal flooding and increased insurance premiums. The deteriorating sea wall condition and low elevation, mean the City is vulnerable to rising tides and increased storm surges caused by climate change. However, the City has a unique opportunity to use the waterfront park spaces to enhance resilience.

The Lynn project area lies within both the Saugus River and Lynn Harbor floodplains, and recent sea level and storm surge reports indicate the Lynn high tide levels and storm surges are increasing. Because of the waterfront's location, the depth to groundwater is shallow. Additionally, the National Oceanic and Atmospheric Administration (NOAA) is projecting as much as a three foot sea level rise by 2066, which could result in storm surges reaching 14.0' NAVD88.

The Woods Hole Group (WHG), as part of

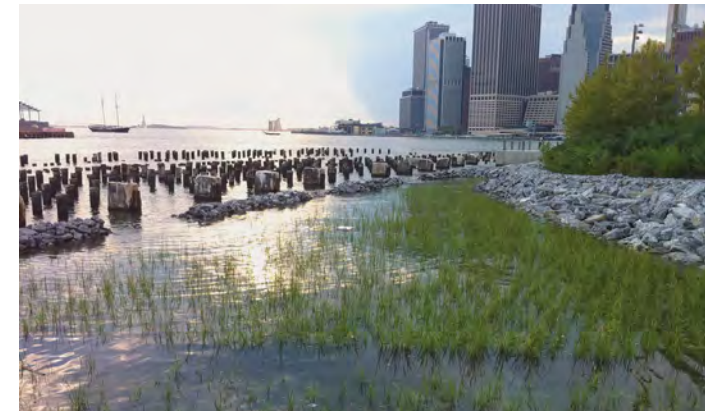
this Master Plan Team, studied the coastal processes for the project area. WHG's coastal modeling found that the dominant forces are perpendicular to coastline and that there were only low levels of sediment movement parallel to the shoreline. The wave height during storm events can increase 2' to 3' high during local storms or ocean swell conditions.

WHG measured wave activity at the mouth of the Saugus River and developed site-specific tide and storm surge projections for the years 2030, 2050, 2070, and 2100. Their figures closely correlate with NOAA's projections and provide the team with detailed figures for planning site improvements in the project area.

Without repairing or replacing the deteriorating sea walls, this coastal erosion will continue. All future coastal infrastructure work including storm water management and sea walls should address climate change and sea level projections. Designers for each project area must seek to improve the resiliency or mitigate against future rising tides and storm surges for each site.



Existing sea edge deteriorating behind Walmart



Hybrid sea edge treatment with stone edge and living shoreline



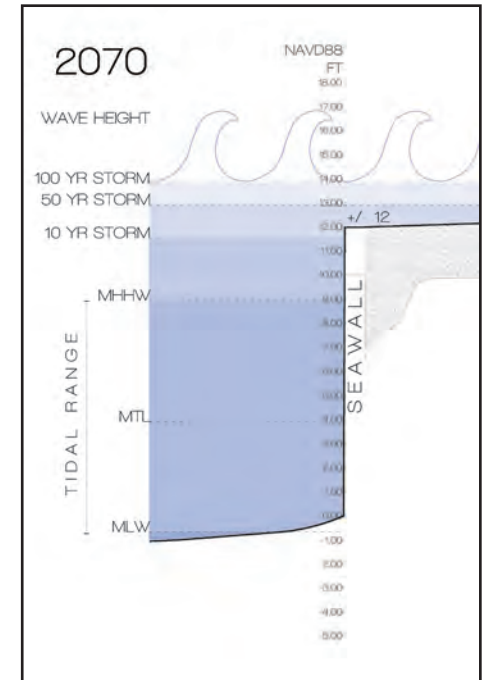
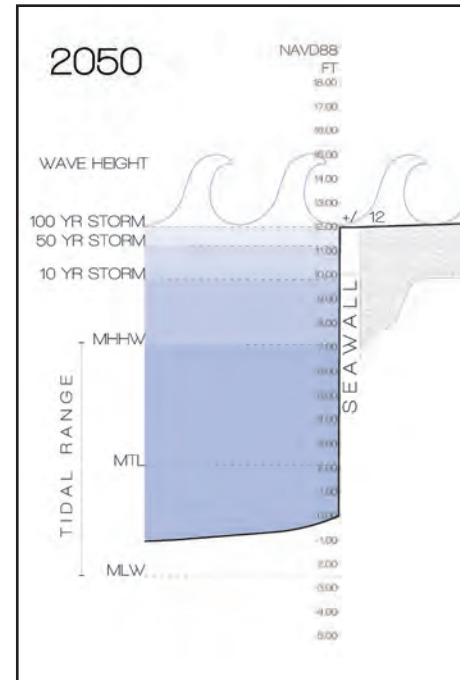
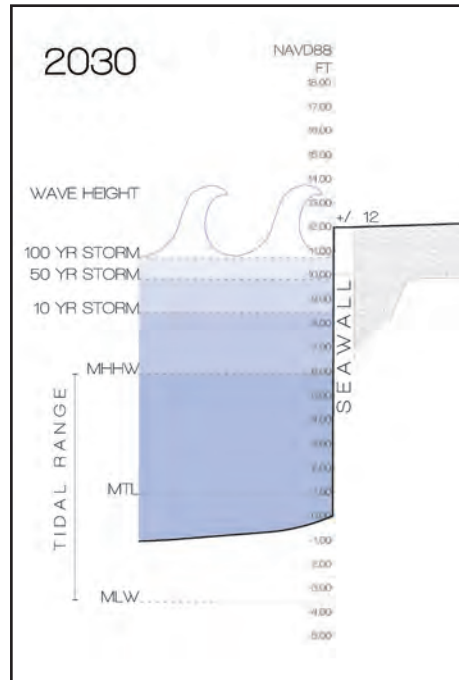
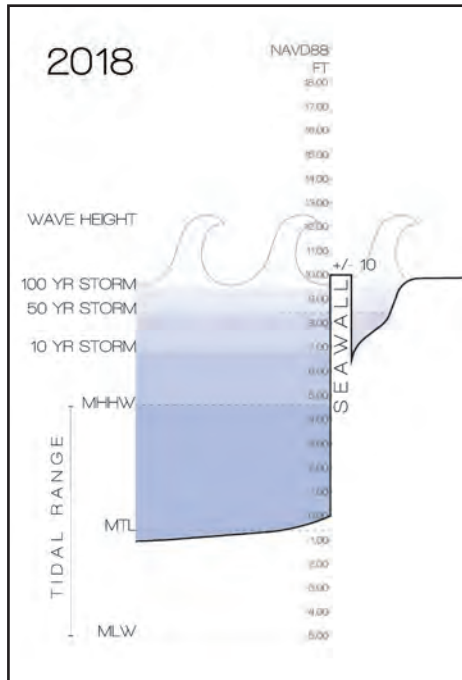
Seasonal color of coastal planting at sea edge

RESILIENCY GOALS

Coastal Edge: Repair, replace, raise, and strengthen the coastal edges, based on updated rising tide and storm surge projections. Construct sea walls to a minimum elevation of 12.0' NAVD88, if possible.

Inundation: Design and construct all parks, plazas, and promenades to withstand coastal inundations.

Public Access: Create waterfront parks that increase use, enjoyment, and awareness of the role that waterfront parks play in mitigating against climate change.



Currently, the timber bulkhead wall is failing, while the remaining sea wall measures are often in poor condition. Significant erosion is occurring in a number of locations. Most seawalls are currently built to +/- 10.0' NAVD88 elevation. Storm surges during 100-year storms can easily over-top the wall.

In 2030, a sea wall built to an elevation of 12.0' NAVD88, will stop the current erosion and protect the shoreline from rising tides and water levels. However, storm surges in 100-year storm events, may still over-top the wall. Parks, plazas, and promenades should be designed to withstand inundation.

By 2050, a 100-year storm water is predicted to reach 12.0' NAVD88. Storm events will continue to over-top the wall and inundation will become more frequent. According to predictions, tide levels should still be contained by the sea wall.

In 2070, the seawall will protect against tide levels, however a 10-year storm is predicted to reach 11.5' NAVD88. Storm surges will frequently over-top the wall. Before this condition occurs, increasing the wall height or other alterations to the coastal edge are recommended.

Projected Sea Wall Sections: 12.0' NAVD88 top of wall elevation *(Projections provided by WHG, refer to Appendix)*

Considering Resiliency

To make the waterfront more resilient, future site improvements within the project area should seek to: 1) improve the physical infrastructure of the coastal edge; 2) prepare for inundation; and 3) improve public access to and along the coastline.

Coastal Edge

The existing sea wall was generally built to an elevation of 10.0' NAVD88, however there are some areas where the top of the wall is lower. WHG's sea level data indicate that a current day 100-year storm is likely to reach an elevation of 9.4' NAVD88. However their future sea level projections predict that in the year 2030, a 100-year storm is likely to reach an elevation of 10.7' NAVD88. Factoring in wave run-up on the face of the sea wall and storm surge, the predictions indicate that waves will likely over-top the existing wall in both scenarios.

While future repairs to the sea wall should increase the height of the wall in response to rising tides and increased storm surges, it is potentially ill-considered and likely cost prohibitive to attempt to build a wall that is higher than the highest sea level rise long term

projections. A balance must be struck with regards to practicability, cost, and public use. In attempt to strike this balance, this Master Plan Report suggests that sea wall repairs increase the wall height to a minimum of 12.0' NAVD88. Based on the WHG projections, an elevation of 12.0' NAVD88 will potentially protect the waterfront parcels from a 100-year storm in the year 2050 and a 10-year storm in the year 2070. While there is added cost to increase the wall height, this elevation will provide increased protection, while facilitating public access and maintaining water views.

Inundation

Despite the added height, inundation from large-scale storm events is inevitable and will become increasingly common. Therefore, all parks, plazas, and promenades should be designed and constructed to allow for periodic salt water inundation, rapid drainage after the water levels have receded, and easy cleaning after such events. Paving and wall materials must be carefully chosen to withstand the pressures from water inundation. Separate electrical circuits for lighting should be provided for lights within inundation zones. Street furniture must be corrosion resistant, and plant materials in close proximity to the water, must be salt tol-

erant.

Public Access

By repairing the coastal edge and preparing for inundation, the public can enjoy new waterfront parks within the City. Inviting and welcoming waterfront parks that increase public use, can potentially transform this previously underused waterfront. Quality design and active public participation in the design process can spark a sense of public ownership of the waterfront spaces, while also providing educational opportunities regarding the role that waterfront parks can play in protecting the City against rising tides and increased storm surges.

Planning for the Future

Rising tide and storm surge projections should be updated every five to ten years and be used to inform ongoing climate change mitigation decisions. Raising the sea wall heights and the park and promenade elevations can assist with near term mitigation against climate change, but more substantial methods of defense may become necessary in the long term.



LEGEND

- STREET WITH SIDEWALK
- STREET WITHOUT SIDEWALK
- LYNNWAY
- PROPOSED CONNECTION
- PROPOSED PROMENADE
- COMPLETED PROMENADE

CONNECTIONS

The physical connections from the neighborhoods and downtown to the waterfront will provide visitors with their first impression of this new area of the City. Improvements to the Lynnway/Carroll Parkway street crossings are vital to the safety of pedestrians, bicyclists, and motorists. The streets, sidewalks, and pedestrian paths should be human-scaled and welcoming. Well-designed streets will ensure that the waterfront becomes an extension of the existing city, rather than a separate enclave.

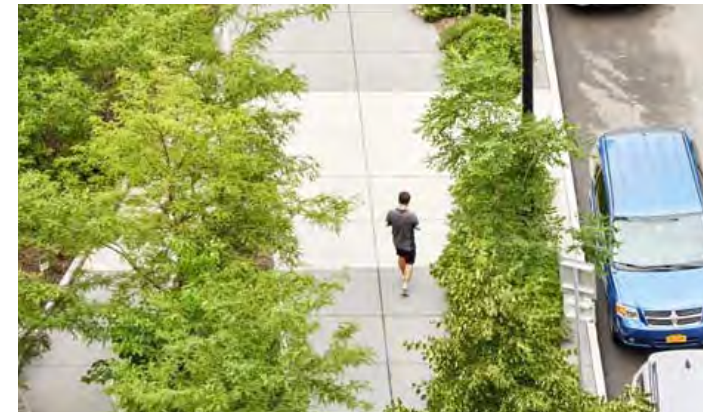
Many streets in the project area need repair. Existing streets often lack sidewalks, are deteriorated, or have crumbling paving. In addition, there are some locations where the connections are incomplete. The connections proposed here will improve the movement of people through the project area, as will an effort on the part of the City, to establish an interconnected street grid rather than disconnected development. All upgrades or new streets should follow the “Complete Streets” principles, where pedestrians, cyclists, and vehicles have equal importance. Green infrastructure should be incorporated into the design of the

streets in an effort to create sustainable transportation corridors.

The City and Utile have begun work on the Lynn Waterfront Master Plan. This Master Plan will also address the Lynnway crossings and make recommendations for improvements. The design of any future roads, Lynnway/Carroll Parkway crossings, or right of way dimensions is outside the scope of this Open Space Master Plan Report. Instead, this Open Space Master Plan Report suggests the character and nature of these street connections. It is intended that these suggested characteristics will influence other Master Plan efforts and any future projects in the project area.



Streets as gateways into the waterfront



Engaging pedestrian zones along key streets



Green Infrastructure incorporated into street design



**WATERFRONT
PROGRAMMING
LEGEND**

- WALKING
- EXERCISE
- NATURE TRAIL
- PARKING
- CONCERT SPACE
- PICNIC
- PLAYGROUND
- RESTROOMS
- FISHING
- RESTAURANT
- CAFE
- FOOD VENDORS
- PERFORMANCES
- OUTDOOR MOVIES
- FERRY SERVICE
- FESTIVAL VENDORS
- KAYAK LAUNCH
- PUBLIC BOAT LAUNCH
- OPEN AREAS FOR PASSIVE RECREATION

NAHANT CAUSEWAY

BOAT LAUNCH LOCATION
EXISTING RAMP

LYNN HERITAGE STATE PARK
FLEXIBLE PROGRAMMING

FERRY TERMINAL
PLAZA + FLEXIBLE PROGRAMMING

HARBORSIDE
PLAZA

CENTRAL HARBOR EAST
PLAZA

CENTRAL HARBOR PARK
OPEN SPACE

CENTRAL HARBOR WEST
PLAZA

SOUTH HARBOR
PROMENADE

LYNNWAY

FUTURE PUBLIC
RIVERWORKS
RAIL STOP

GEARWORKS
DEVELOPMENT
SITE

GE SITE

NORTHERN
STRAND

BOSTON

REVERE

PROGRAMMING

Attracting people of all ages and backgrounds, from near and far, to the Lynn waterfront is a major goal of the project. A robust program of activities is vital to ensuring a well used, welcoming, and engaging public waterfront. The physical spaces are the platform upon which the human activities along the waterfront will take place.

Therefore, the types of uses, the distribution of those uses, and the audience for those uses, must be carefully considered. The Open Space Master Plan seeks to locate a series of destinations along the waterfront that are connected by parks and a promenade. Each destination is designed to have a variety of activities, that attract a wide range of visitors, at different times of day. The range of uses is intended to keep the waterfront active, safe, inviting, and open to the public.

As part of the public engagement process, members of the public helped form a vision of what they wanted to do on the waterfront. The Master Plan Team has created an Activities Plan that locates a variety of uses throughout the project area. Each public plaza or park has

a different context and is suitable for certain activities, but it is important that the primary functions and uses of each space be coordinated across the waterfront. The program of activities addresses both land-based as well as the water-based activities.



Events and markets in the waterfront public spaces



Nighttime activities on the waterfront



Uses to activate the harbor



LEGEND

- PROMENADE 15' - 20' WIDTH
- PROMENADE 20' - 30' WIDTH

PROMENADE

The Context for Master Plan Proposals

The major goal of the Master Plan is to locate a continuous, accessible, public promenade that will connect the waterfront at the General Edwards Bridge to the Nahant Beach Reservation. The promenade will travel through public and private lands, as well as through industrial land owned by MEC. A significant majority of the waterfront parcels lie within filled tideland and are subject to Chapter 91 regulations. Chapter 91 enshrines the right of the public to access the waterfront. Enforcement of Chapter 91 regulations will be used as a tool to compel the construction of the Promenade, in accordance with this Open Space Master Plan.

To date, only Lynn Heritage State Park, the adjacent condominiums, and the Porthole Restaurant site contain completed portions of a waterside promenade. The rest of the waterfront lacks desired public access along the shoreline. DCR owns parcels along the water at South Harbor and Lynn Heritage State Park, as well as the sports fields in Nahant. At South Harbor and Lynn Heritage State Park, DCR is investigating how to enhance and pro-

vide a restored promenade through their land.

Promenade Route

The promenade will start in the west at the South Harbor waterfront zone at the General Edwards Bridge. It will run along the shoreline to the end of the DCR-owned fishing pier, then turn northeast and follow the shoreline up to Hanson Street. The promenade will enter Harbor Park in the Central Harbor Area, and follow the shoreline up to the Harborside Area in the MEC land.

Pending future development, the promenade will run along the steel bulkhead until it arrives at the EDIC-owned parking lot and dock. If a connection on the waterside of the LNG tank is not feasible, then the promenade should turn inland at Marine Boulevard and then continue eastward through a future easement through MEC and private land, where it will meet Blossom Street. The promenade will then cross through the proposed ferry terminal public plaza, and run along the shoreline through the adjacent Clock Tower Business Park.

The promenade will then connect to the 254

Lynnway Development, continue up the shoreline to Lynn Heritage State Park and run through the park southward to the existing timber boardwalk. The boardwalk will pass by the adjacent condominiums and continue up to the end of the Porthole Restaurant site parking lot.

The promenade will connect to the marinas and the open space behind the existing apartment buildings. It will then continue along the shoreline down to the DCR-owned land. Crossing over the Nahant town line, the promenade should continue to the parking area and boat ramp, then turn inland up to the Nahant Causeway, and cross over to the Nahant Beach Reservation.



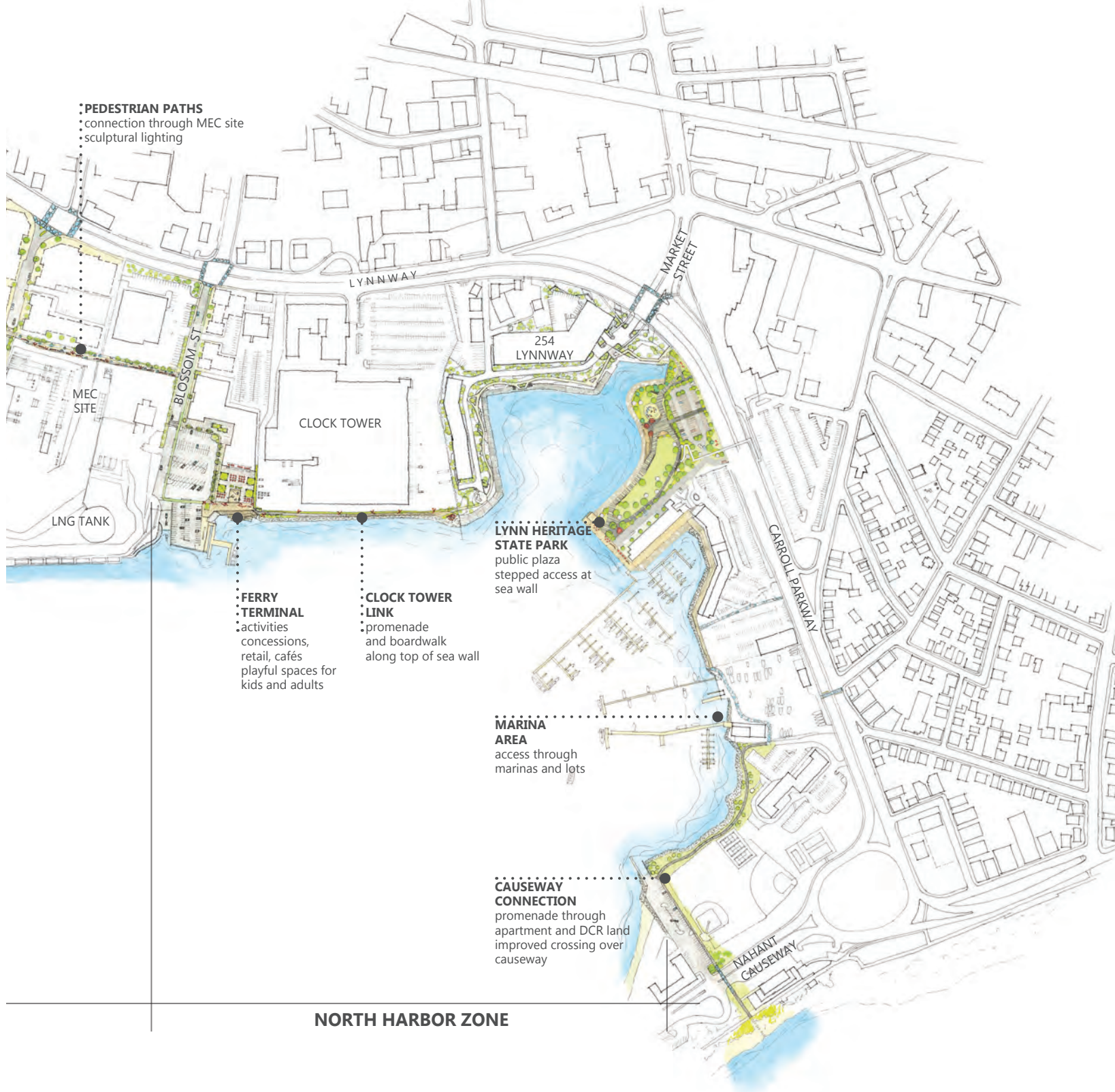
A wide promenade along the water's edge





MASTER PLAN PROPOSAL







CITY HALL

LYNN COMMON

NORTHERN STRAND

COMMERCIAL ST

SUMMER ST

NEPTUNE BLVD

SHEPARD ST

BLOSSOM ST

PLEASANT ST

MARKET ST

LYNN COMMUTER RAIL STATION

WASHINGTON ST

NSCC

CARROLL PKWY

LYNN SHORE DR

LYNNWAY

NORTH HARBOR

CENTRAL HARBOR

SOUTH HARBOR

NAHANT CAUSEWAY

HANSON ST

GE SITE

FUTURE PUBLIC RIVERWORKS RAIL STOP

GEARWORKS DEVELOPMENT SITE

CHELSEA

BOSTON

REVERE

OPEN SPACE MASTER PLAN

An Overall Master Plan for the waterfront area has been developed. The proposed Open Space Master Plan describes and locates all parks and plazas and a waterfront promenade route. The Master Plan is based upon the feedback received during the public engagement process, through the meetings with relevant State and City departments, from the interpretation of site conditions, and from recommendations made in a number of studies conducted regarding the Lynn waterfront.

Project Zones + Elements

Proposals have been made for each waterfront zone: South Harbor, Central Harbor, and North Harbor. The proposals describe and locate all public plazas, public parks and promenades.



Waterfront parks with a promenade



Uses to attract visitors to the waterfront at night



Fun activities along the promenade and in open spaces



SOUTH HARBOR

The South Harbor Zone anchors the south end of the overall waterfront and provides the first impression of the waterfront for visitors crossing the General Edwards Bridge. After completion of DCR's easement transfers, DCR plans to develop the land running along the Saugus River into a public linear park.

As part of this Master Plan process, the land behind the sea wall that runs in a northeasterly direction along the Lynn Harbor, from the fishing pier to the end of Hanson Street, was also identified as potential land for a future public park.

Currently, the South Harbor area is difficult to access with no clear parking areas, paved public paths, or amenities. Also, the edges of the Saugus River are very shallow at the confluence of the Lynn Harbor. At low tide the tidal flats extend almost halfway across the river.

The Proposals

As part of this Master Plan process, uses such as walking and exercise, fishing, kayaking, nature observing or interpretation, and passive recreation were suggested for this part of the waterfront. The creation of a public promenade at this location, with these recommended amenities, has the potential to become a catalyst for future waterfront development and will provide a much needed, publicly accessible destination in this part of the waterfront area.

A schematic park plan was prepared for the land immediately behind the sea wall on both the Saugus River and Lynn Harbor waterfront edges. At present, DCR is investigating the repair of the fishing pier and the failing sea wall.

The Schematic Plans present how a welcoming, ADA accessible public waterfront park might look. The Schematic Plan for the South Harbor Linear Park + Fishing Pier proposes the following:

PROPOSAL

- Provide a Gateway to the waterfront and a parking lot with plantings.
- Create tree-lined sidewalks linking the parking lot to the waterfront.
- Provide a space for passive recreation such as a mown lawn with space for BBQ's and picnic tables.
- Create an overlook on the Saugus River.
- Consider a kayak launch on the Saugus River or elsewhere on the waterfront, if possible.
- Locate a 15'-20' wide paved promenade with lighting and seating.
- Consider a raised wood boardwalk through sensitive areas or areas of erosion.
- Provide an overlook and seating area at the beginning of the fishing pier.
- Repair the fishing pier and consider boat tie ups.
- Repair the areas of erosion and sea wall. Consider living shorelines if appropriate.

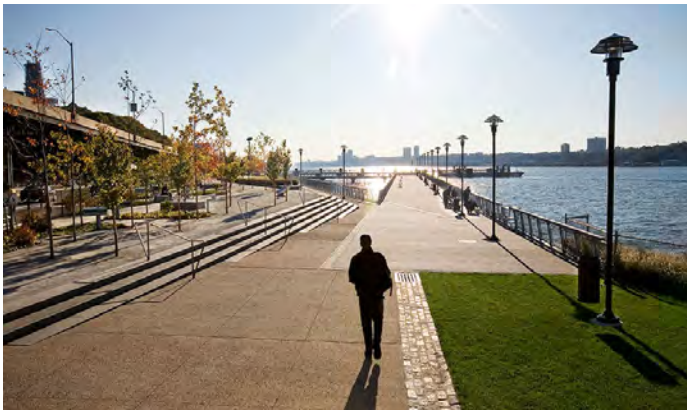




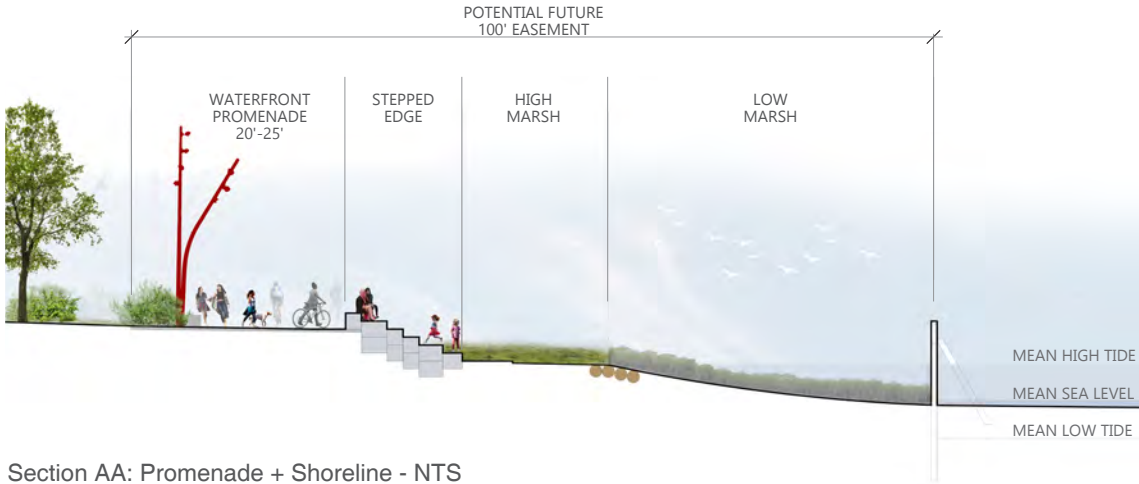
Lawns for passive recreation and gathering



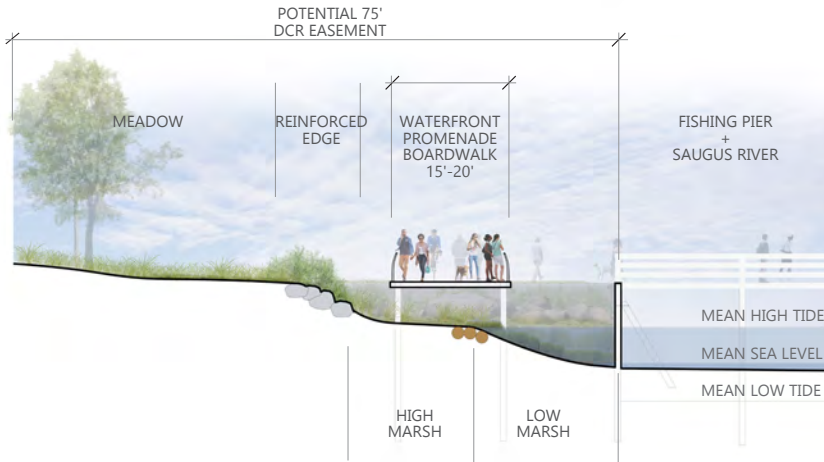
Potential for raised boardwalk over eroded edge



Repaired fishing pier with ADA compliant access



Section AA: Promenade + Shoreline - NTS



Section BB: Promenade + Shoreline - NTS





CENTRAL HARBOR

The Central Harbor Zone is the largest zone within the project area and has a mixture of uses. There is heavy industrial land use, three landfills, MEC property with a substation, and an LNG tank. Prior and current industrial land use suggests thus there will be ground contamination, making redevelopment more complex. Much of the remaining Central Harbor Zone land is privately owned, and is subject to private development interest and market conditions.

The Designated Port Area (DPA) is located primarily within this zone. DPA regulations do not permit public parks and plazas. It is understood that the DPA boundary may be amended after this Open Space Master Plan report, thus it is worth considering future alternative land uses for land currently within the DPA. Some potential future uses in this zone are a park at the landfill site and an urban waterfront development on some of the MEC land and EDIC-owned parking area and pier.

At the time of writing, it is understood that when the landfill cap and repair project is complete, a conservation restriction will be placed on the landfill. A conservation restriction

would permit the creation of a future landmark waterfront park and a promenade on the landfill site, subject to an amended DPA.

The Proposals

The creation of a landmark park on the landfill and adjacent waterfront parcel would enable a cohesive and connected waterfront to occur. The size and location of the parcels subject to the conservation restriction would provide the space for a number of essential waterfront activities. The park would likely extend from Hanson Street and the end of the South Harbor land, up to the end of Marine Boulevard. The Landfill Park is years away but its creation should be a top priority for the City and the Commonwealth.

A decision by MEC to reduce their land holdings by selling land for development purposes, might allow for the creation of an urban waterfront edge. This potential development zone, or Harborside, is located east of Harbor Park, and would occupy both the MEC land and land owned by the EDIC.

Schematic Plans have been created for the Harbor Park and Harborside parcels.

HARBOR LANDFILL PARK

- A large-scale public park with tree planting, lawns for passive recreation, walking and exercise trails, and sports fields if feasible.
- A reshaped landfill with additional fill material will create large mounds 80' higher than the promenade, with excellent harbor views.
- Connections to adjacent developments, City streets, and transportation routes.
- Space for large events, concerts, or attractions for a regional audience.
- A public space at either end of the park (Harbor Park West and Harbor Park East), accessed using public streets.
- Harbor Park West will have uses such as vehicle and bicycle parking, restrooms, concession stand, large-scale playground and splash pad, and public gathering spaces and overlooks.
- Harbor Park East should provide a more urban edge and include vehicle and bicycle parking, sport courts, a dog park, a flexibly designed plaza, space for markets, performances, events, and nighttime uses, as well as cafés and restaurants at the edges.
- A 20'-30' wide promenade with feature lighting and benches should run through the park and the public plazas at either end.
- The park should be designed to handle storm surges and flooding. Bio swales and bio basins should be used to quickly drain paths and surfaces as well as provide natural habitat, but will be on the surface and will not puncture the landfill cap.
- The sea edge will be repaired or replaced and raised, as required. Living shorelines or hybrid methods of sea wall design should be considered if appropriate.





Inviting uses on the waterfront at different times of day



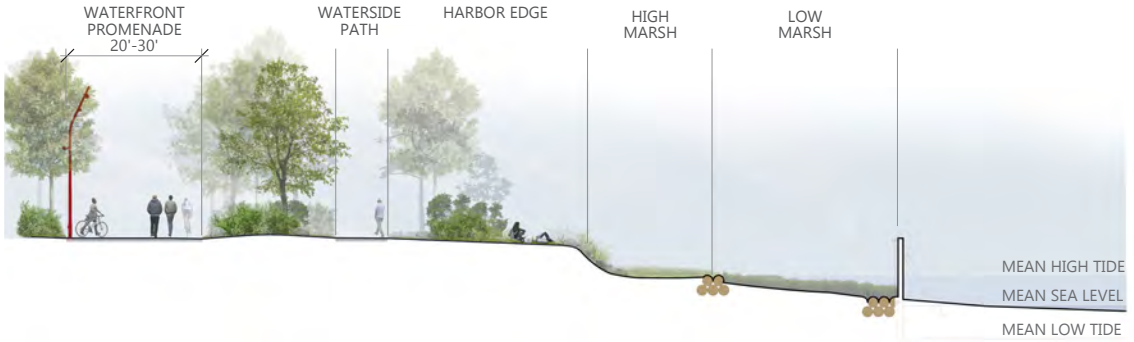
Reshaped landfill for a unique park experience



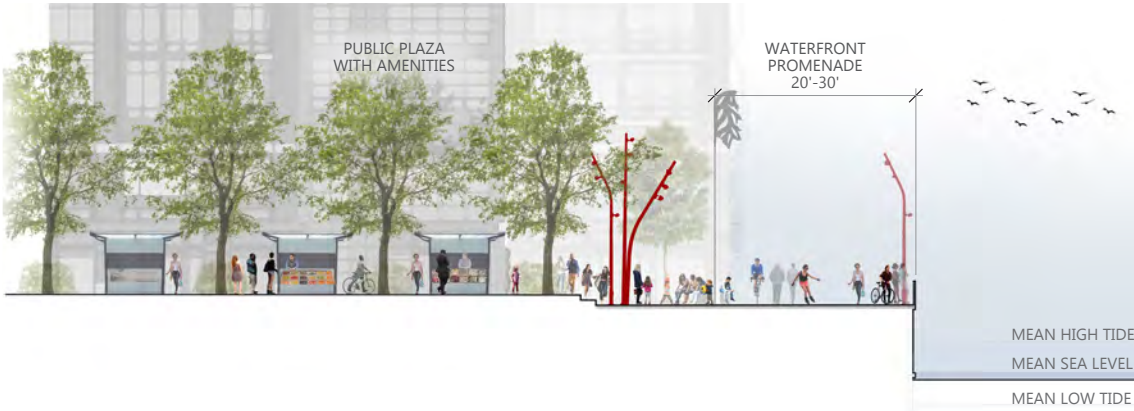
Fun activities for all ages



Section AA: Harbor Park West Promenade + Overlook - NTS



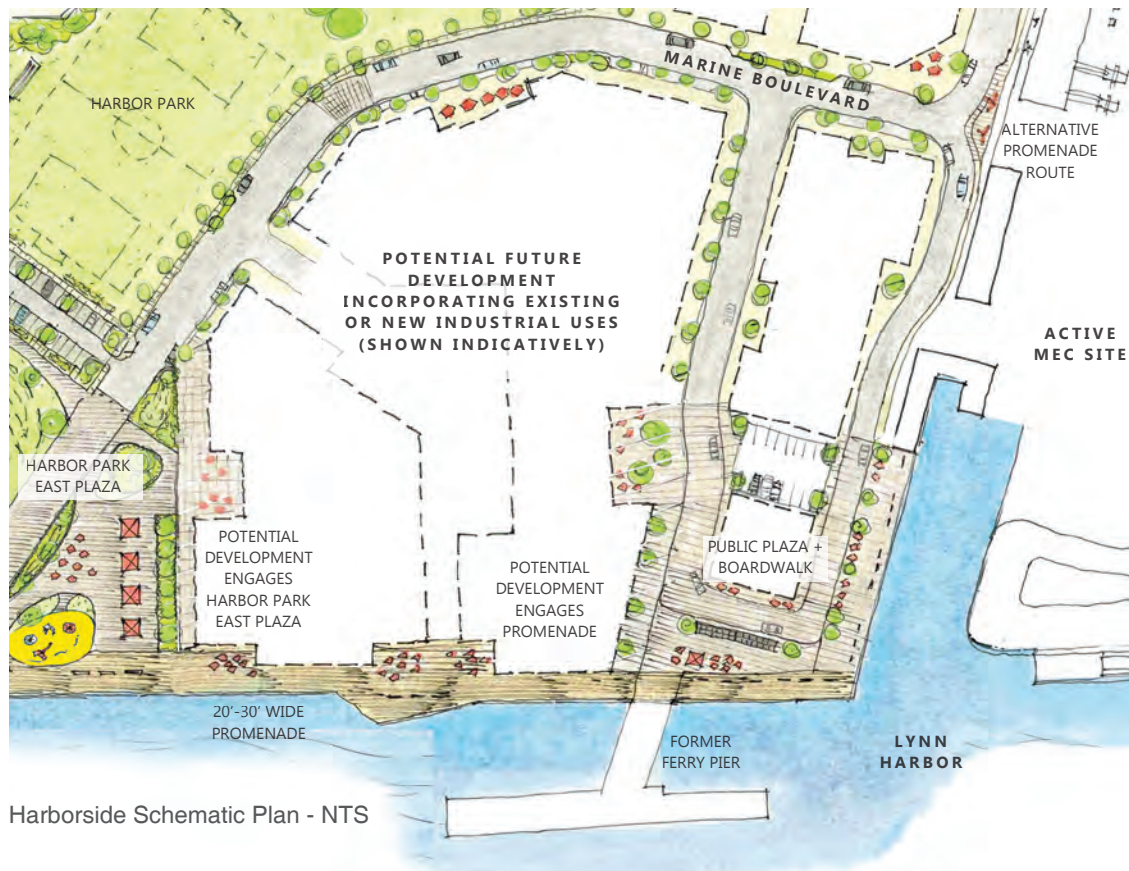
Section BB: Harbor Park Promenade + Shoreline - NTS



Section CC: Harbor Park East Public Plaza - NTS

HARBORSIDE

- Harborside buildings should engage with the public park, plazas, and promenade.
- Retail, cafés, and restaurants should occupy the ground floor and reinforce the edges of the public spaces and plazas.
- Public plazas should be provided at strategic locations with space for food trucks, people viewing, and concessions.
- A 20'-30' wide promenade with feature lighting and benches will be provided.
- If the promenade cannot follow the sea wall on the waterside of the MEC and Boston Gas Company land, then an internal pedestrian path will be provided.
- New or existing industrial uses should be incorporated into future developments.



Harborside Schematic Plan - NTS



Engaging promenade and adjacent uses



NORTH HARBOR

The North Harbor Zone is the most developed portion of the waterfront and benefits from direct connections to the downtown and adjacent neighborhoods. The level of development, proximity to downtown, border with Nahant, and curving geographical landform with southwesterly views, helps create a cohesive, distinct, and recognizable section of the waterfront. Reinforcing this inherent sense of place should help make the North Harbor an exciting anchor to the north end of the Lynn waterfront. Furthermore, this zone is the home of the Lynn ferry terminal and provides the potential to link the Lynn waterfront to the greater region via a permanent ferry and other water transportation services.

The ferry terminal site on Blossom Street has an existing large paved parking lot, ferry dock, and boat ramp. There is an adjacent parcel of land, owned by the EDIC that is slated for a future ferry terminal building. This site is one of the few publicly accessible destinations on the waterfront. In an effort to activate this space, there was an outdoor movie night held in the parking lot in the summer of 2017 that was successful. Currently, a local art-oriented

nonprofit group, Beyond Walls, has leased the undeveloped EDIC ferry terminal land for three years for use as a temporary park. These temporary uses have the potential to help activate this area prior to the development of the future permanent ferry terminal.

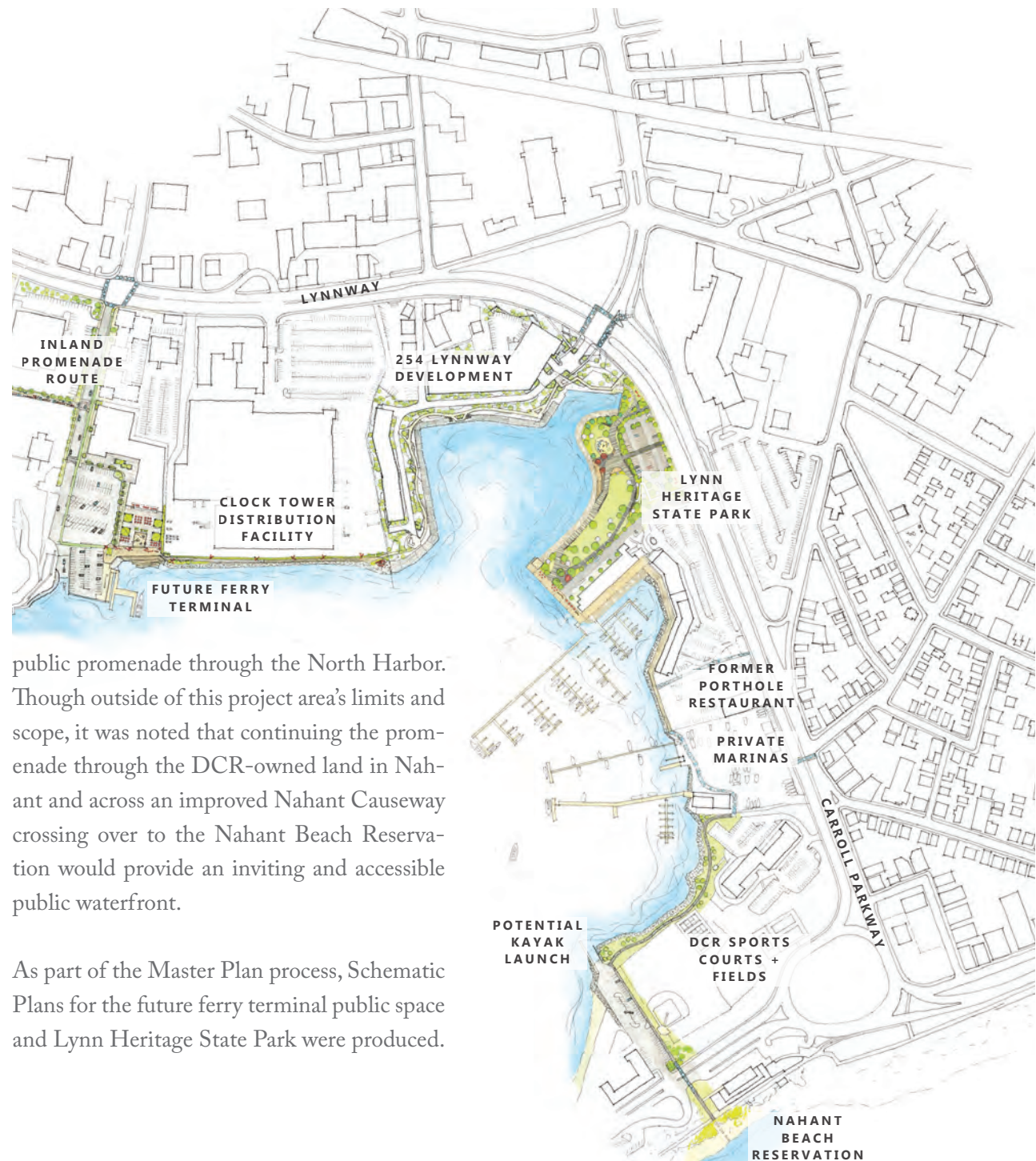
The old Beacon Chevrolet site, 254 Lynnway, is currently nearing the end of its development permit process. These plans will bring new apartments to the waterfront. Recently, the Porthole restaurant site has been purchased and additional waterfront apartments are now proposed. Additionally, DCR plans to begin to renovate the existing Lynn Heritage State Park which will include repairs to the failing sea wall and public promenade. Lynn Heritage State Park is the only public park within this zone of the waterfront. Just over the Nahant town line, there is another DCR owned park, though this open space is primarily dedicated to sports courts and fields. There is also an existing boat launch that could be used for kayaks.

After the construction of the two development projects, the renovations to Lynn Heritage State Park, and the completion of the Chapter 91 mandated waterfront path through the

Clock Tower distribution facility site, there will be a continuous public promenade from the future ferry terminal on Blossom Street to the private marina just north of the former Porthole Restaurant site. The marinas adjacent to the Porthole Restaurant site are currently an impediment to public access to the rest of the waterfront. The City should hold future discussions with the marina owners to seek public access through the site so the public can have a connected and completed public promenade for the entirety of the North Harbor Zone.

The Proposals

This Open Space Master Plan process determined that a future public space on the harbor side of the ferry terminal and renovations to Lynn Heritage State Park were important. It is hoped the Beyond Walls temporary park will be successful. Public feedback from the activities proposed at the temporary park can inform the preferred uses for the future, permanent public space in that location. DCR has committed to beginning renovations to Lynn Heritage State Park. In addition, gaining access through the marinas and other privately owned parcels of land that currently do not have waterfront promenades is identified as a critical piece to completing a continuous



public promenade through the North Harbor. Though outside of this project area's limits and scope, it was noted that continuing the promenade through the DCR-owned land in Nahant and across an improved Nahant Causeway crossing over to the Nahant Beach Reservation would provide an inviting and accessible public waterfront.

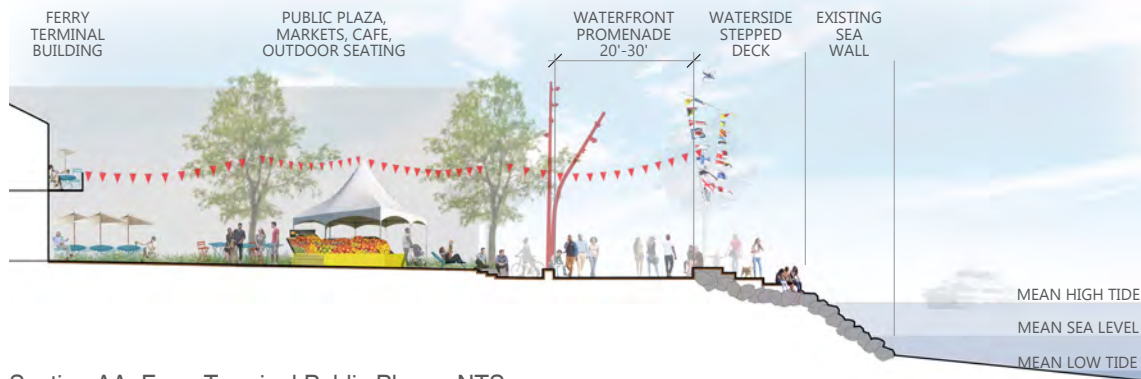
As part of the Master Plan process, Schematic Plans for the future ferry terminal public space and Lynn Heritage State Park were produced.

North Harbor Schematic Plan - NTS



FERRY TERMINAL

- A large, engaging, and active public space on the water side of the future ferry terminal building.
- Outdoor activities such as cafés, bars, concessions stands, and rental facilities for roller-skaters or roller-bladers or other preferred activities.
- A flexibly designed public space that has movable chairs and a play area for all ages to enjoy the space.
- Provision for the 20'-30' wide promenade to traverse through the space.
- A stepped waterside overlook deck to engage people with the harbor.
- A ticket booth for the future ferry or other water transportation services.
- Feature seating and lighting to help activate the area.
- Consider expanding temporary uses at the future ferry terminal site to increase visitors and activate the space, such as movies, markets, and art installations.



Section AA: Ferry Terminal Public Plaza - NTS



Ferry Terminal with public space and attractions



Flexibly designed waterfront public space at Ferry dock

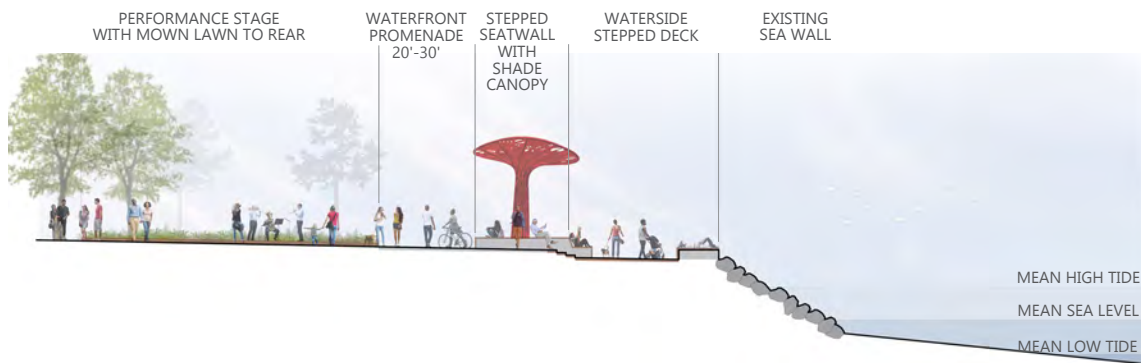


Outdoor cafés, restaurants, and bars for entertainment



LYNN HERITAGE STATE PARK

- Provide an additional vehicular entry into an expanded parking lot and improve pedestrian connections.
- Provide a large, flexibly designed public space for a range of uses including: movable furniture, bird-proof shade structures, performance deck, and ample seating.
- Locate a play area/or and splash pad.
- Promote interaction with the water by providing a stepped overlook deck.
- Locate a 20'-30' wide promenade with feature lighting and furniture.
- Provide a lawn for passive recreation.
- Consider creating a secondary public space at the south end of the park for a concessions stand.
- Provide a new accessible wooden boardwalk with provision for food carts.
- Investigate and mitigate sea wall and structural failures in the area.



Section AA Public Space + Overlook Deck - NTS



Schematic Perspective of Public Space



Public space adjacent to lawn with seating at edges



Splash pads and playgrounds adjacent to public spaces



Stepped overlook deck at water's edge



An aerial photograph of a coastal area. In the upper left, there's a residential neighborhood with many houses. Below it, a large industrial or commercial area with several large buildings and a prominent white cylindrical tank. To the right of the industrial area is a marina with numerous boat slips. Further right, there's a green area with some buildings and a baseball field. A long, narrow beach runs along the right side of the image, adjacent to a road. The water is a light blue-grey color.

DESIGN GUIDELINES



Landmark waterfront park



Engaging public promenade



Well-designed city streets

PUBLIC REALM GOALS

- Create continuous public access along the waterfront from the South Harbor to the Nahant Causeway.
- Create public parks with a range of passive and active uses that are welcoming and easily maintained.
- Create inviting public plazas that allow for flexible uses, and are appropriate for a variety of ages.
- Create an inviting and welcoming waterfront for all members of the public.
- Provide public access to the waterfront along well-designed City streets, pedestrian/ bicycle ways and a wide paved waterfront promenade.
- Strengthen the views to the water and the ocean.
- Locate parking lots away from the water's edge wherever feasible.
- Provide public parking within walking distance of each public plaza.
- Use resilient, low maintenance materials (paving, site furniture, lighting, and signage) that are appropriate for a marine environment and that can withstand inundation.
- Select salt tolerant plants appropriate for their elevation, proximity to the salt water, public enjoyment, and biodiversity.
- Specify durable materials that can withstand salt spray, periodic flooding, storm surges, and future rising tides.

PUBLIC REALM GUIDELINES

Overview

These Design Guidelines provide the requirements for private landowners and public agencies designing places within the public realm. The public realm guidelines address the 1) **Promenade**, 2) **Public Parks + Public Plazas**, 3) **Street + Pedestrian Path Connections**, 4) **Site Components**, and 5) **Plantings**. A consistent design framework will ensure that the Lynn waterfront evolves in a cohesive way over time. Acknowledging and celebrating the changing character, constraints, and land uses in the various parts of the waterfront is important. These guidelines allow for flexibility, within a unified context, to ensure that the waterfront develops its own identity and feeling.

General Public Realm Guidelines

All developments and improvements to land within the waterfront area must comply with these guidelines. While site conditions and uses will vary, the consistent treatment of the overall framework will ensure a unified identity for the waterfront.

GENERAL GUIDELINES

- Design all paths and connections to be ADA compliant.
- Incorporate resiliency and sustainability in all improvements. The majority of the waterfront consists of low-lying, filled tidelands. The waterfront parks, plazas, and promenade are subject to periodic flooding.
- Design all shoreline treatments to tolerate periodic flooding and to be durable enough to be returned to public use quickly.
- Select high-quality metal materials with appropriate finishes that limit corrosion caused by the coastal conditions.
- Improve the waterfront in ways that can be easily maintained by the property owner, the City, or the State.
- Adhere to applicable City, State and Federal regulations. These guidelines are in addition to existing zoning or other regulations.



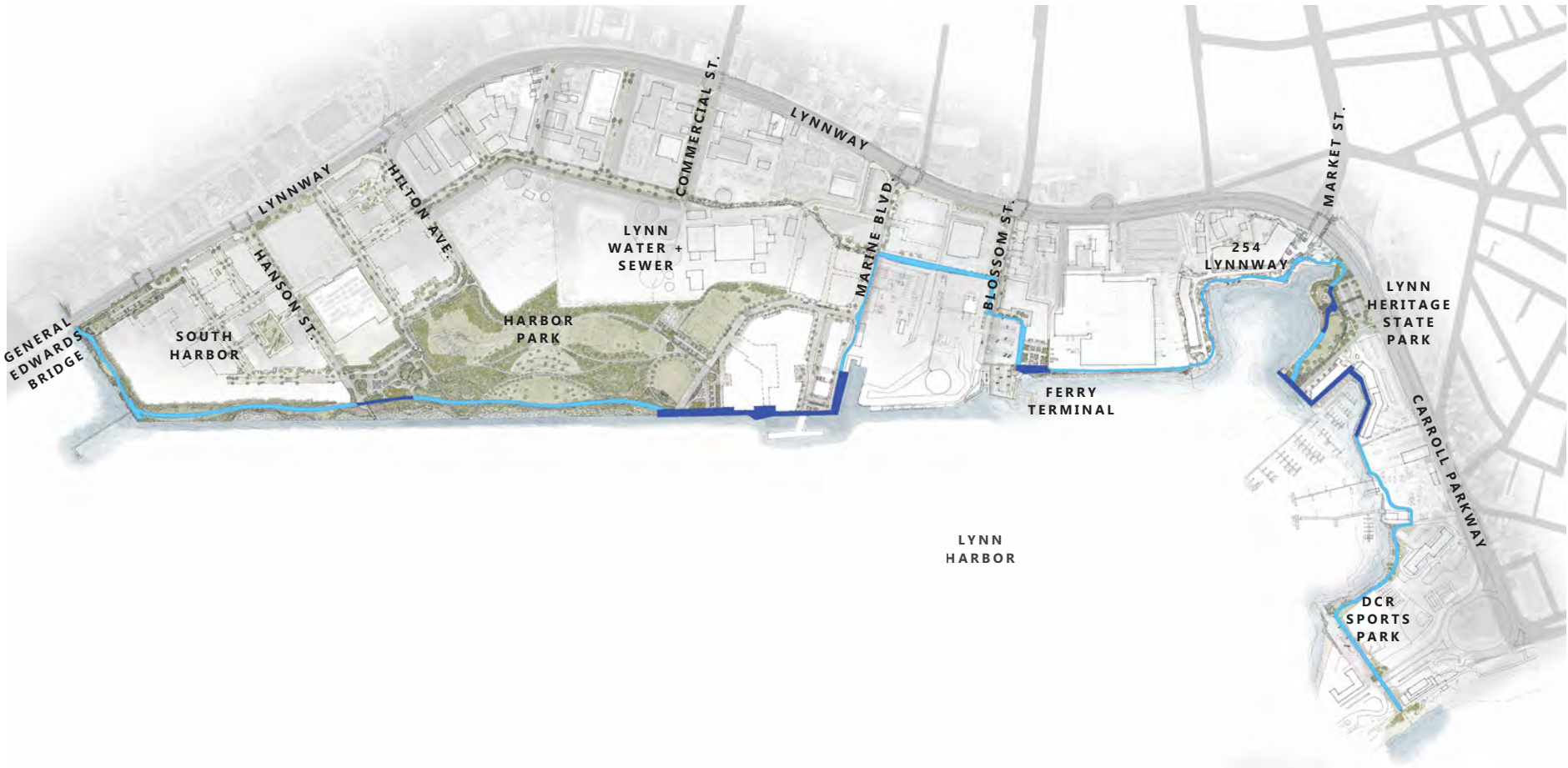
Mixture of parks, plazas, and a promenade at the waterfront



Parks and plazas that engage with the water



Waterfront areas designed to be flooded and returned to use



Promenade Plan: Promenade Route Through Waterfront Area (15'-20' and 20'-30' promenade)

15'-20' promenade
20'-30' promenade

PROMENADE

Overview

Providing a safe, ADA compliant promenade for pedestrian and bicycle access is important. The promenade is the central, unifying element for the parks and plazas in the waterfront zone. The promenade will travel through zones that vary in character and provide access to public parks, plazas, streets and parking lots; however, it must have a cohesive character throughout its length.

Overlooks and small gathering spaces will be located along the promenade. There will be opportunities for exercise, walking, enjoyment of nature such as bird watching and fishing, public gatherings, events, performances, play areas, retail or concessions, restrooms, and social interaction.

The promenade will be built in segments, through phased public projects and private developments as part of Chapter 91 obligations. By following these guidelines, the designers will create a cohesive promenade. Completing the missing portions of this waterfront walkway is of utmost importance.

Promenade Description

The style of the promenade will be consistent for its entire length. The general parameters of the width, layout, and paving design allow for variation based on site conditions, programs, and constraints. Generally, the promenade will vary in width from 15' to 30' depending on site conditions. In some areas, it will be as narrow as 8' to 10' where physically constrained.

When required, the promenade will be a wooden boardwalk. A wooden boardwalk might be used over the wetlands at South Harbor, at Lynn Heritage State Park, and possibly along the Clock Tower link.

Otherwise in the paved sections of the promenade, the paving style and color will be consistent. Adjacent plazas and overlooks may have different characteristics and activities.

The promenade will be 15' to 20' wide for most of the South Harbor Site, the inland portions of the Central Harbor Area promenade, the Clock Tower parcel, the 254 Lynnway development, and the final segments that will pass through the marina and up to the Nahant Causeway. The last segment is private and needs to be embraced and allowed by the private owners.

The promenade will generally be 20' to 30' wide within the Harbor Park, through the Harbor-side Area, the ferry terminal, and Lynn Heritage State Park. The paving design on the 20'-30' promenade will be chosen on a project by project basis, as approved by the City of Lynn.



Provide fun activities along edges of promenade



Provide places to sit along promenade with water views



15'-20' wide promenade with saw cut concrete paving



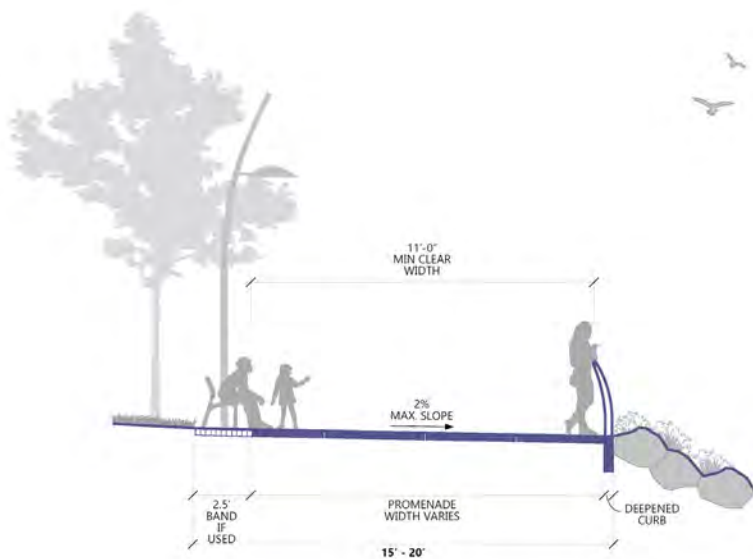
Banding for the 15'-20' wide promenade



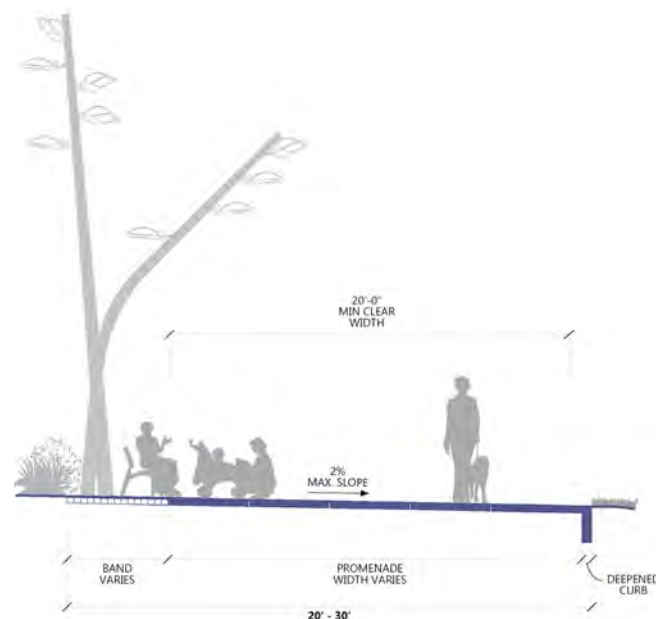
Hardwood wood boardwalk at water's edge

G U I D E L I N E S

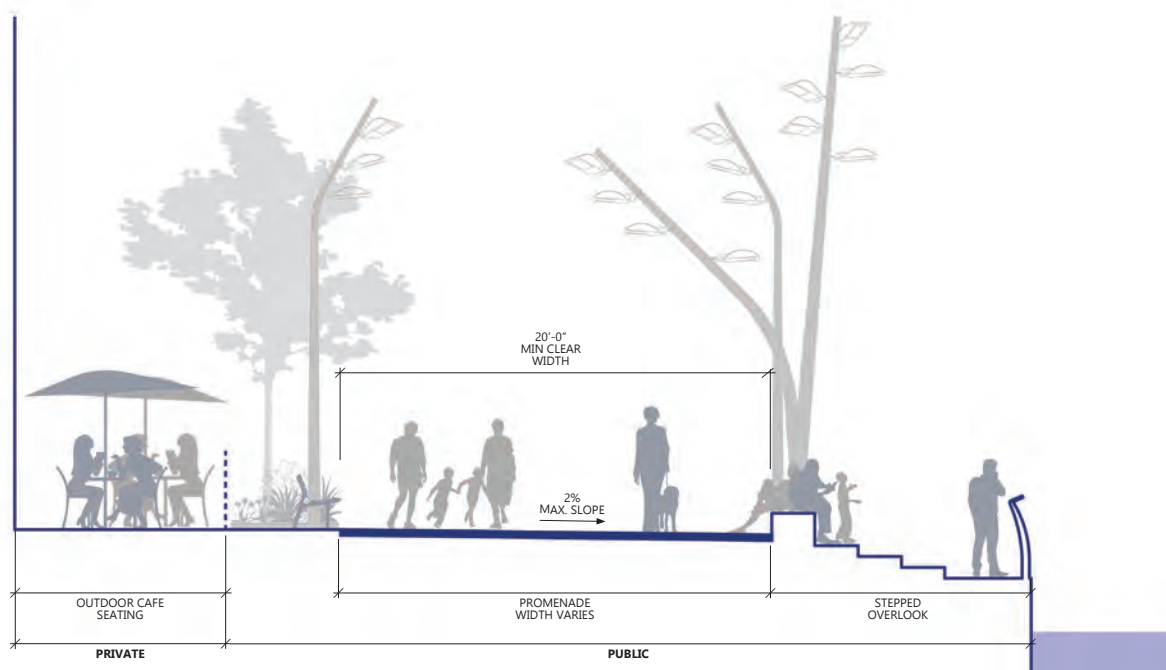
- Connect the promenade to public parks and plazas as well as inland amenities or destinations wherever such connections can occur.
- Ensure that access to the promenade is inviting and welcoming for all members of the public. In no way can private developments restrict, deter, or create unwelcoming access to the promenade.
- Encourage an appreciation of Lynn's maritime and industrial history with interpretive exhibits along the promenade.
- Provide opportunities for people of all ages and mobility levels to enjoy the waterfront and incorporate varied, engaging activities.
- Provide opportunities for food and drink concessions, retail or rental opportunities, restrooms, and parking areas at suitable locations.
- Provide a range of seating options, including benches with and without backs, seat walls that provide water views and stairs or accessible ramps at the edges of the promenade.
- Locate light fixtures along the promenade, using a consistent light fixture from specifications provided along the entire promenade. Provide special feature lights at key locations.
- Locate benches, trash receptacles, bicycle racks, lighting and mile markers all from specifications provided within a consistent zone along one side of the promenade.
- Take advantage of adjacent activity areas such as restaurants or cafés, seating areas or overlooks to create interest and make the promenade an inviting destination in its own right.



Typical 15'-20' Wide Promenade Section



Typical 20'-30' Wide Promenade Section



Typical 20'-30' Wide Promenade Section Through Plaza at Developments



Potential 20'-30' promenade paving



Alternative smaller paver size at the 20'-30' promenade



Alternative band design at the 20'-30' promenade

MATERIALS + LAYOUT GUIDELINES

- Pave the 15' to 20' promenade with cast-in-place concrete, with saw cut joints.
- Locate all site furnishings, lighting, and vertical elements within a paving band, positioned on the landward side of the 15' to 20' wide promenade path. Use a high quality, warm-colored precast paver, in a small unit size for the band. Consider wet-mortar pavers in areas of inundation.
- Provide a flush, deepened granite curb with a concrete base on the seaward-facing edge of the promenade. The deepened edge reduces scouring in cases of inundation.
- Maintain the clear width minimums shown in the sections on the preceding page. The clear width minimum of the promenade must remain free of obstacles.
- Pave the 20' to 30' wide promenade with the same concrete used for the 15' to 20' wide promenade. It is acceptable to use a wider band or swathes of concrete pavers or other suitable paving material to increase visual interest in the 20' to 30' promenade sections. Seek to provide visual continuity between each promenade type by using a similar pattern, style or color of the paving.
- Use paving patterns or changes in paving type, to visually indicate the edges of the minimum clear width zone in the 20'-30' promenade zone.
- Use hardwood decking in cases where a boardwalk is required due to site constraints.
- On the inland portion of the promenade along Marine Boulevard and the future easement through MEC and private land, create an engaging, fun, and interactive path, with creative lighting, through the inland industrial area.
- In cases of a 8' to 10' wide promenade, provide a narrow paver band on both sides, in the same material as the 15' to 20' paver band. The path paving material may vary as required.

NODES + OVERLOOKS GUIDELINES

- Locate small nodes and small seating areas along the promenade and at intersections.
- Locate overlooks along the promenade to take advantage of attractive views and to provide places for people to gather or rest.
- Vary the size, paving, and design at nodes and overlooks.
- Consider the stylistic relationships between nodes or overlooks in the same waterfront zone and use a harmonious choice of materials.
- Establish a hierarchy for the paving of each node or overlook (i.e. the promenade paving can stop at the edges of the node or overlook).
- Adhere to the minimum clear widths required of that portion of the promenade if the node or overlook extends over the promenade.



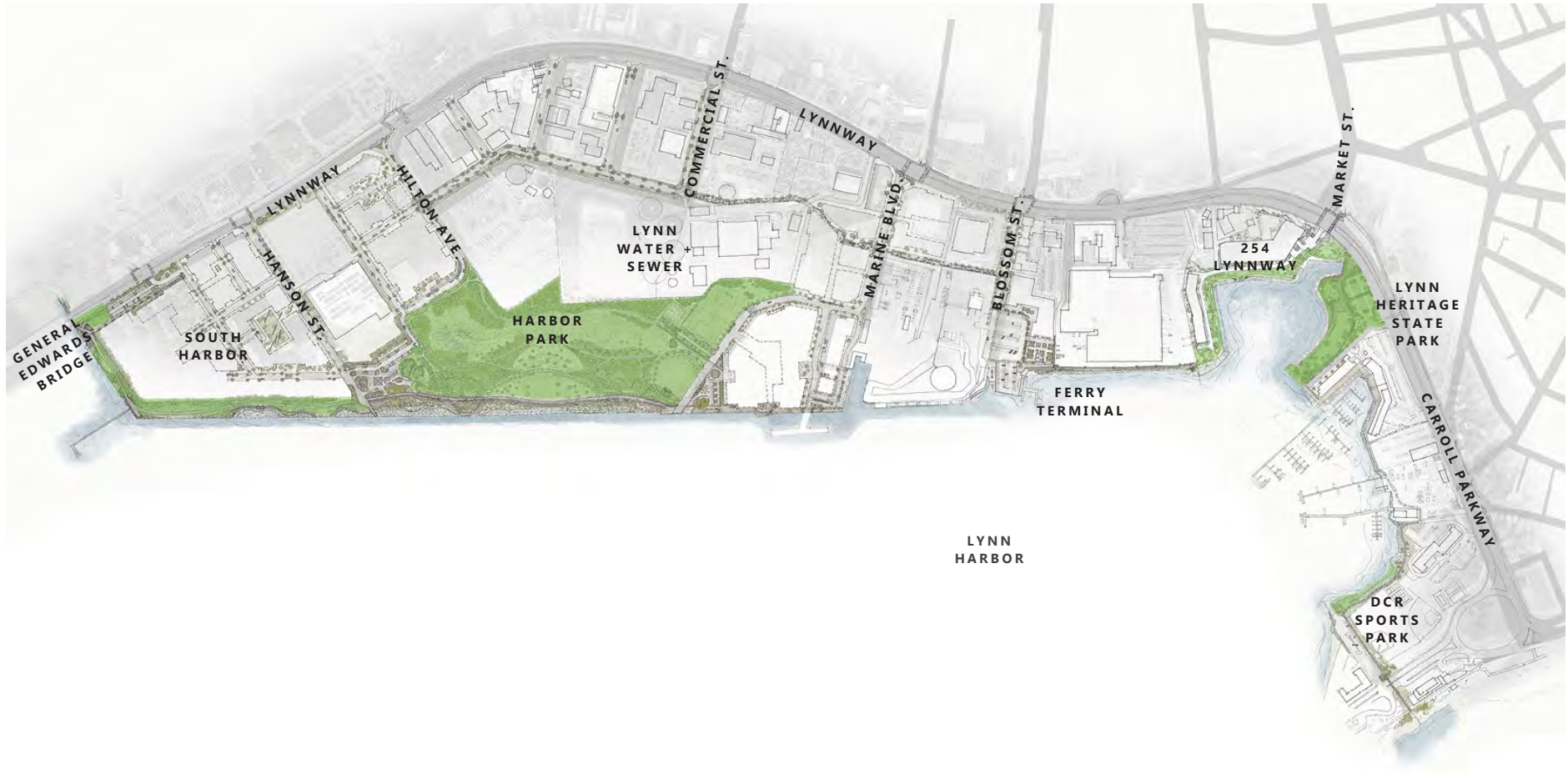
Node paving hierarchy + different seating options



Overlook with views of water



Places to rest along the promenade with lighting



Public Parks Plan: Public Park Locations Within the Waterfront Area

Public Parks

PUBLIC PARKS AND PLAZAS

Overview

The Lynn waterfront will consist of a series of parks and plazas connected by a promenade. Flexibly designed paved plazas will provide places for play or splash pads, markets or events, performances or music, concessions and cafés, and seating. Parks will provide for passive and active recreation, walking and exercise, sightseeing and enjoyment of nature, and large-scale events. The parks and plazas here should be inviting and engaging for all members of the public and provide amenities that are enjoyable at various times of day. This section provides specific guidelines for 1) the **Public Parks** and 2) the **Public Plazas**.

PUBLIC PARKS

Parks are essential components of any successful waterfront redevelopment. They provide much needed semi-natural areas for public enjoyment. They can help defend the waterfront zone and downtown Lynn against storm surges and rising tides by providing temporary water storage after storm events. Because

the Lynn waterfront is located almost entirely within a flood plain, resiliency is a critical design consideration. When waterfront parks are designed in tandem with improvements to the sea edge, they can be an essential part of a City's defense against coastal flooding.

The new public parks proposed in this Open Space Master Plan will provide much needed recreational space for Lynn residents. Their success will derive from the program of uses, ongoing maintenance and the quality and nature of the physical street connections that link existing neighborhoods to the waterfront.

A variety of public parks are proposed here. The largest park will be on the 30 acre landfill. After this site is regraded and recapped in several years, there will be two large public plazas at each end, large lawns, significant new trees, a performance lawn, a network of bio swales and basins to store and treat park runoff and a series of overlooks along this part of the promenade.

Smaller parks are proposed in three parcels controlled by DCR: 1) a linear park at South Harbor, 2) the renovated Lynn Heritage State Park, and 3) the existing land at the end of

the Nahant Causeway. Smaller, incidental open spaces exist at various points along the waterfront, such as behind the apartments adjacent to the North Harbor marina. Privately owned open spaces subject to Chapter 91 will be made open to the public. One example is the waterfront linear park at the 254 Lynnway development.



Large waterfront park with a range of activities



Design parks to be usable after flooding



Performance areas integrated into everyday park experience



Play areas and splash pads incorporated in to park spaces

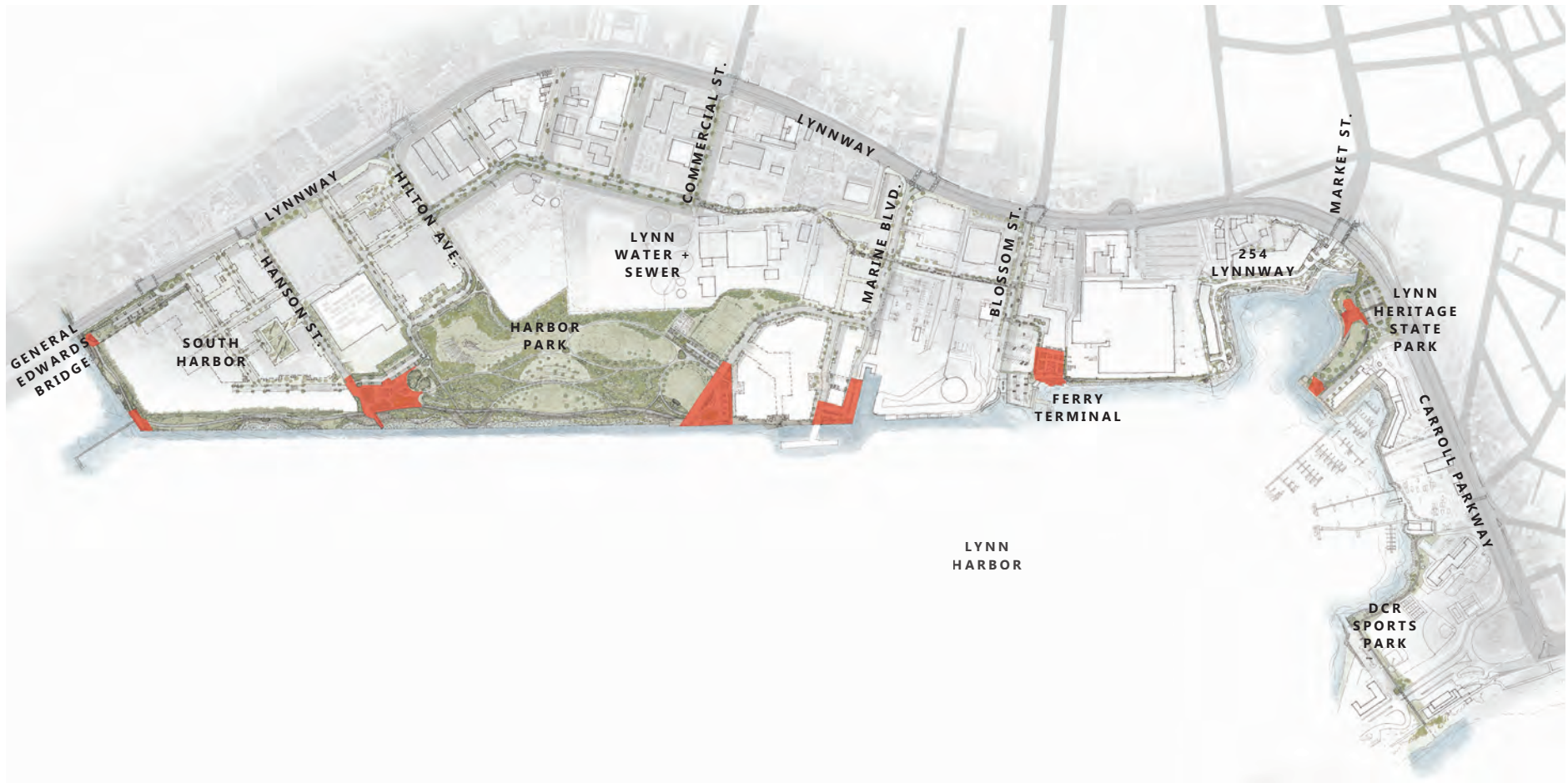


Program of uses to attract a local and regional audience

PUBLIC PARK DESIGN + LAYOUT GUIDELINES

- Adhere to City and State regulations, such as Ch. 91 regulations or DPA boundaries.
- Design adjacent developments to engage with the edges of public parks.
- Invite and welcome all members of the public.
- Provide a range of amenities and activities such as children's play equipment, splash pads, outdoor exercise equipment, and benches and tables for senior citizens.
- Design parks to be easily maintainable by City or State maintenance departments and use specified site furnishings and planting materials.
- Build parks to withstand periodic salt water flooding without significant damage.
- Incorporate closed loops in pathway networks to promote walking and use.
- Connect park pathways to amenities and plazas as well as to the promenade and adjacent circulation systems and connections.
- Plant ample and appropriate trees to provide shade, enclosure and habitat.
- Provide sufficient hardscape to allow for a variety of uses.
- Install a variety of seating options and arrangements that promote both impromptu interaction as well as areas for solitude.





Public Plazas Plan: Public Plaza Locations Within the Waterfront Area

Public Plazas

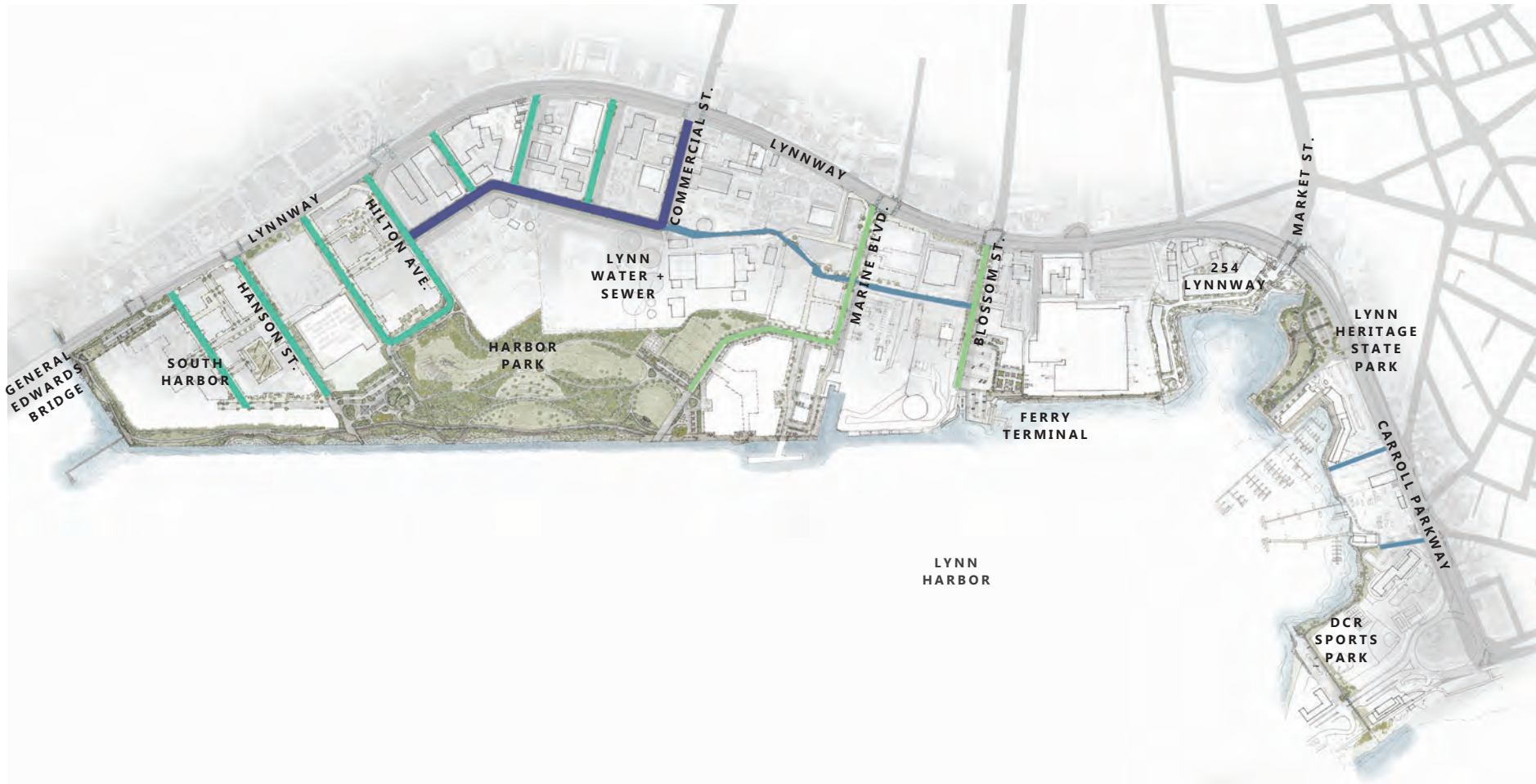
PUBLIC PLAZAS

Public plazas will be major destinations along the Lynn waterfront. Each destination should have a range of activities in order to attract a variety of age groups at different times of day. The plazas should be distributed across the length of the waterfront. Typically, the plazas will be at the terminus of major street connections from the City to the waterfront. Each plaza will be primarily a paved surface, with shade trees, seating, focal points and a diverse program of uses. The plazas will vary in size depending upon their location and site uses. Historic markers and street art or public art will enliven these spaces.

Plazas are proposed in the following locations: 1) adjacent to the General Edwards Bridge, 2) at the beginning of the DCR fishing pier, 3) at the west end of Harbor Park at the terminus of Hanson Street, 4) at the east end of Harbor Park at the end of Marine Boulevard, 4) at the EDIC-owned parcel off of Marine Boulevard, 5) at the future ferry terminal at the end of Blossom Street, 6) at the north end of Lynn Heritage State Park, and 7) at the south end of Lynn Heritage State Park at the beginning of the boardwalk.

PUBLIC PLAZA DESIGN + LAYOUT GUIDELINES

- Site plazas to be accessible from the nearest connection to downtown Lynn.
- Where possible, locate a tall focal point within the plaza that can be seen from a distance from the main promenade.
- Design plazas to be welcoming to all members of the public, provide opportunities for public gathering, sightseeing, and provide views to the harbor and along the shoreline to adjacent waterfront uses.
- Use high-quality salt resistant materials for all waterfront plazas.
- Locate outdoor seating at plaza edges to engage with adjacent restaurants and cafés, and commercial and retail developments.
- Position site furnishings such as trash receptacles, bicycle racks, and seating appropriately to allow for a flexible plaza design that promotes gatherings of people for events like markets or performances.
- Provide shade in the form of trees or shade structures.



Connections Plan: Street and Pedestrian Path Connections Within the Waterfront Area

- Typical Streets
- Wide Streets
- Narrow Streets
- Pedestrian Paths

STREET + PEDESTRIAN PATH CONNECTIONS

Overview

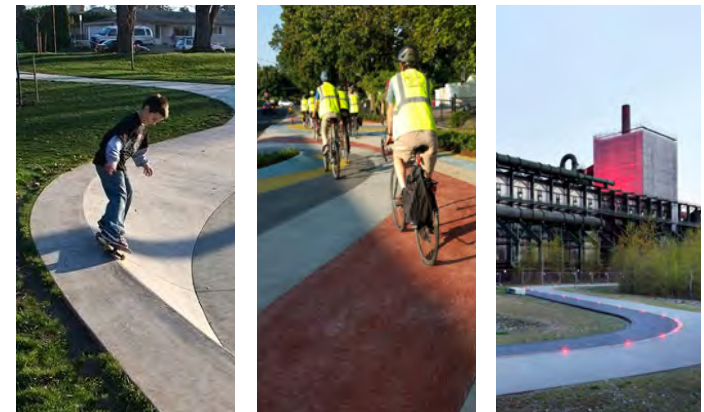
This Master Plan suggests potential new street locations and street hierarchy. The plan also suggests new pedestrian and bicycle-only connections where vehicular traffic is unsuitable or unfeasible. Designers and Engineers should seek to create livable, welcoming, and engaging streetscapes. These guidelines establish recommended dimensions for vehicle travel lanes, parking spaces, bicycle lanes, sidewalks and building setbacks.

CONNECTION GUIDELINES

- Locate all street furniture, lighting, and street tree planting within a consistent band along the roadside edge of the sidewalk. Use a consistent family of light fixtures and street furniture for all streets, as specified; however, flexibility is permitted along pedestrian paths.
- Provide a minimum clear width for pedestrian movement within the sidewalk zone. The minimum clear width varies per street type.
- Create active building fronts that engage the streetscape, particularly at street corners, and locate all parking lots to the rear or within the footprint of all buildings.
- Provide bicycle lanes within the streets when space permits. The minimum bicycle lane width varies per street type.
- Provide separate pedestrian paths when additional connections are required. The design of the paths should relate to the specific site context. Consider creative lighting, colorful paving or site furniture, particularly in industrial areas. Maintain clear widths and ADA accessibility.
- Make existing street upgrades in conjunction with new private developments. Improve streets as part of each individual development review and permitting process.



Streets as livable, sustainable transportation corridors

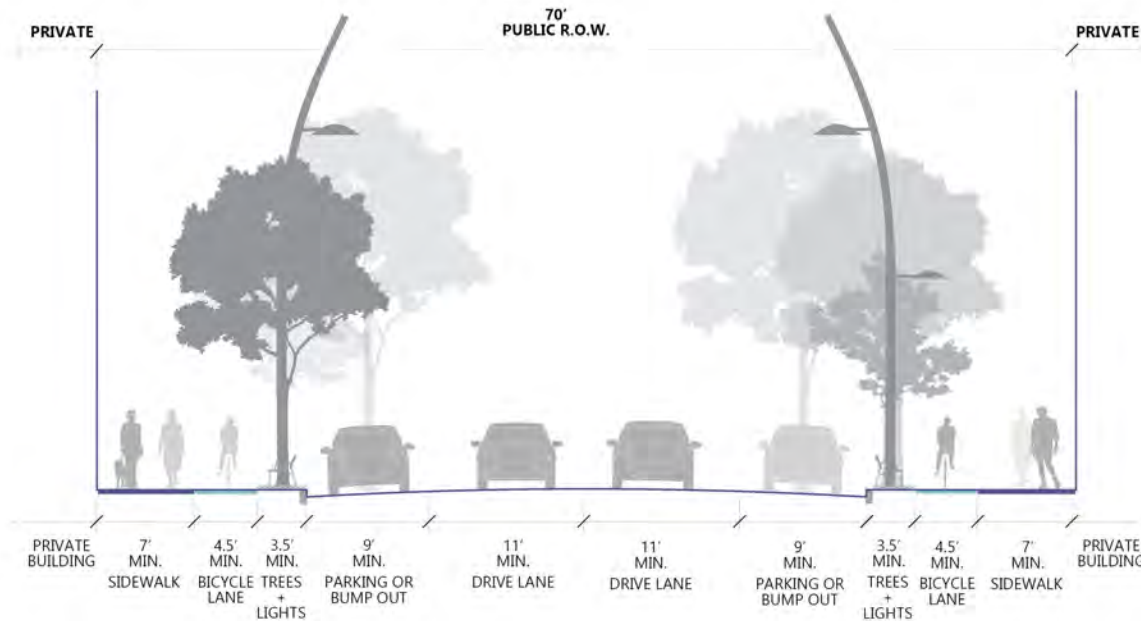


Fun, welcoming, and creatively designed pedestrian paths



Engaging building fronts

“TYPICAL STREET” DESIGN + LAYOUT



Typical Street Section - NTS

GUIDELINES

- If R.O.W. space is insufficient, compatible uses can be combined into one zone.
- Consider locating street crossings at street bump outs to reduce road crossing width.
- Locate street level uses such as entrances to buildings or outdoor seating for cafés/restaurants within the building setback.
- Promote views between the inside and outside of ground floor uses to contribute to an active streetscape.
- Use structural soils, soil cells, and elongated tree pits for tree health and infiltration.
- Use markings and changes in paving treatment to signal differences in bike and pedestrian zones.

Typical Street Dimensions:

- Reduce pavement as much as possible.
- Zero lot building setbacks unless a permitted cafe or public amenity.
- 7' wide sidewalks, minimum.
- 4.5' wide bicycle lanes, minimum.
- 3.5' wide tree planting, lighting, street furniture strip.
- 9' wide parking and planting bump out.
- 11' drive lanes.

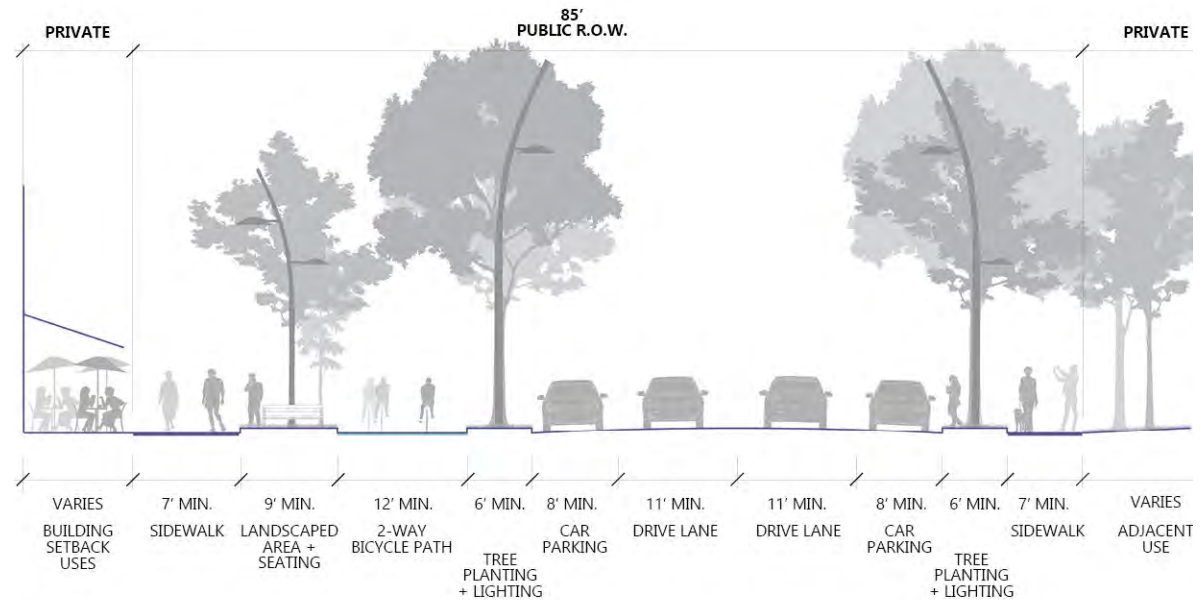
Potential Typical Street Locations:

- South Harbor/Lynnway Mart Development
- Hanson Street
- Harding Street
- Hilton Avenue
- Hersey Street
- Day Street
- Carolyn Road
- Commercial Street

“WIDE STREET” DESIGN + LAYOUT

GUIDELINES

- Provide wide and creatively designed sidewalks next to a planted linear area with seating, lighting, art, and site furniture.
- Promote interaction between pedestrian movement and linear park with active ground floor uses.
- Section assumes development primarily on one side of R.O.W. If development occurs on both sides of R.O.W., consider relocating 2-way bicycle lane to appropriate side, or providing separate, protected on-street bicycle paths.



Wide Street Section - NTS

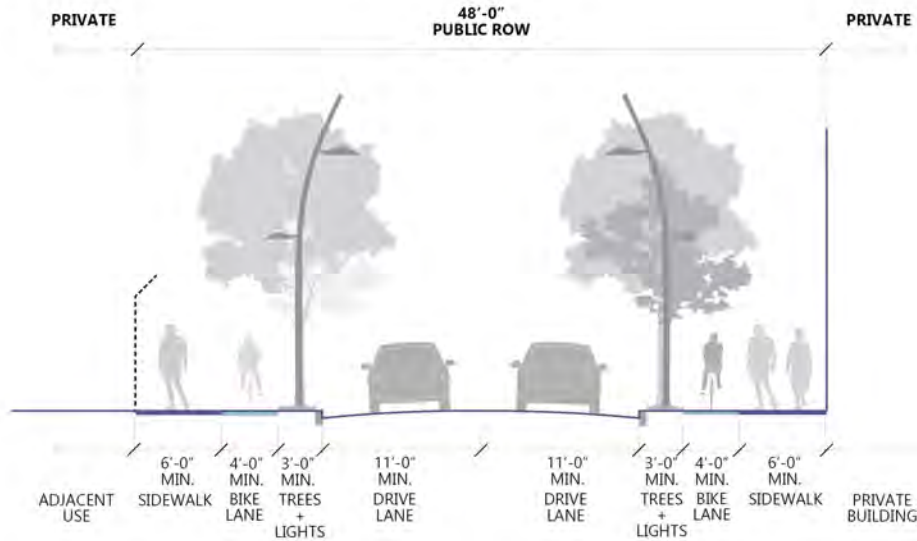
Wide Street Dimensions:

- Reduce pavement as much as possible.
- Zero lot building setbacks unless a permitted cafe or public amenity.
- 7' wide sidewalks, minimum, wider preferred.
- 9' wide landscaped band with planting and furniture, minimum.
- 12' wide, 2-way bicycle path or two 5' wide, protected bike lanes.
- 6' wide band for lighting and tree planting on each side of street.
- 8' wide on-street parking lane, both sides of street.
- 11' drive lanes.

Potential Wide Street Locations:

- Circle Avenue
- Commercial Street

“NARROW STREET” DESIGN + LAYOUT



GUIDELINES

- Locate light poles, trees, and site furnishings in same band.
- Section assumes alternative configurations are feasible, dependent upon site conditions and development locations.
- Use structural soils, soil cells, and elongated tree pits for tree health + infiltration.
- Use markings and changes in paving treatment to signal differences in bike and pedestrian zones.

Narrow Street Section - NTS

Narrow Street Dimensions:

- Building setbacks where appropriate.
- 6' wide sidewalks, minimum.
- 4' wide bicycle lanes, minimum.
- 3' wide band for lighting and tree planting on each side of street.
- 11' wide drive lanes.

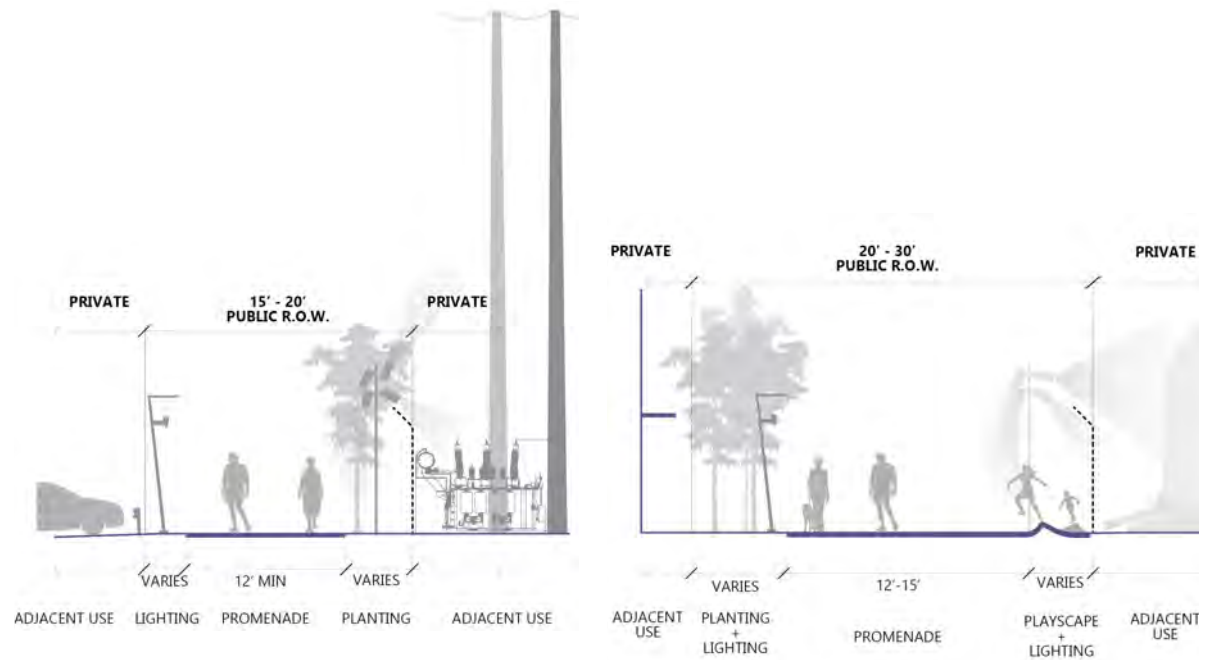
Potential Narrow Street Locations:

- Marine Boulevard
- Blossom Street

“PEDESTRIAN PATH” DESIGN + LAYOUT

GUIDELINES

- Provide pedestrian paths when connections are required, but streets are not feasible.
- As paths may be sited in industrial areas or locations with poor passive surveillance, provide clear sight lines, colorful furniture or paving, and creative lighting of ground and adjacent structures.
- Design paths to be ADA compliant and usable for pedestrians and bicyclists. Consider other amenities to attract users such as skateboarders or roller-bladers.
- Provide access to adjacent uses where appropriate.



Potential Pedestrian Path Sections - NTS

Pedestrian Path Dimensions:

- Building setbacks where appropriate.
- 12' wide pedestrian path, minimum.
- Furniture, lighting, and planting areas vary in width.

Potential Pedestrian Path Locations:

- From Commercial Street/Circle Avenue intersection to Marine Boulevard.
- From Marine Boulevard to Blossom Street.



Custom seating options at edges with views towards the water



Movable furniture where appropriate



Provide a variety of seating options for interaction and viewing

SITE COMPONENTS

Overview

Site components, such as seating, light fixtures, trash receptacles, bollards, and bicycle racks, as well as railings, shade structures, public art, and water features, will all contribute to creating a sense of place and will be integral to the character of the waterfront. These components will be located along the promenade and within the public parks and plazas and should reinforce the design of these spaces. A common style should be used, as specified herein.

Site Furniture Guidelines

Site furniture consists of benches, trash receptacles, bollards, dog waste receptacles, and bicycle racks. These Guidelines describe the specific furnishings to be used along the promenade and provide general guidance on the approach to the site furnishings for the public parks and public spaces. Greater flexibility is permitted for the design of the individual parks and plazas, whereas the promenade must have a cohesive approach for its entire length. Within each area of use, the site furniture should belong to a “family” of furnishings so that each element relates to the others.

SITE FURNITURE GUIDELINES

- Provide metal materials with corrosion-resistant finishes appropriate for a marine environment such as color galvanization.
- Use site furniture with tamper-proof stainless steel fittings that are embedded or anchored into the ground. Movable furniture can be used at areas where the furniture can be stored at night.
- Along the promenade, provide seating for nine people every 150 feet on average. Use benches or seat walls and steps. Use hardwood for the seating surface, if possible.
- Use side-opening trash receptacles that meet City of Lynn Standards.
- Provide bicycle racks at intersections of the promenade and public plazas and parks. The quantity of bicycle racks should be relative to the specific uses in that area.
- Use the specified benches, trash receptacles, and bicycle racks on the promenade.
- Use specified site furnishings, appropriate to the portion of the waterfront or the public park or plaza.
- Arrange seating to promote interaction and provide areas of solitude.
- Maximize views from seating areas of the water and along the shoreline.
- In public parks and public plazas, the seating should generally be permanently fixed, but in City-approved areas, movable furniture may be used if storage is available.
- Locate all site furniture on the 15' to 20' promenade within the paving band on the inland side of the promenade.
- Consider flexible alternative layouts on wider portions of the promenade to maximize engagement between people and with the shoreline.
- Place removable bollards at ends of vehicular access points to restrict unauthorized vehicular traffic from entering the plazas, parks, or promenade. The Bollard type may vary for each public plaza or park.
- Provide Dog Waste Receptacles and Trash Receptacles at main entry points to the promenade in locations readily accessible to maintenance staff.



Seat walls at different angles to provide seating options



Areas for solitude and relaxation



Steps for seating and to engage the water's edge

REQUIRED PROMENADE SITE FURNITURE



BENCH: 69" Neoliviano Series, Landscape Forms (or approved equal)

Acceptable Additional Option: 24" backed bench, 59" backless bench, or 118" Backless Bench

Mounting: Embedded or Surface Mounted

Notes: Exterior hardwood seat surface. Additional seating options are permitted along the wider portions of the promenade.



BICYCLE RACK: Ride Bike Rack from Landscape Forms (or approved equal)

Mounting: Surface Mounted or Embedded

Notes: Powder-coated finish, Mercury Color



TRASH RECEPTACLE: Chase Park Litter Receptacle, Landscape Forms (or approved equal)

Mounting: Surface Mounted or Embedded

Notes: Powder-coated finish, Mercury Color. Coordinate with City of Lynn regarding preference for side loading option and/or provision of recycling option.

DOG WASTE RECEPTACLE: Mutt Mitt (or approved equal)

Mounting: Embedded

Notes: Green Color



BOLLARD: Custom designed, 4' diameter (or approved equal)

Mounting: Removable, with embedded footing.

Notes: Color galvanized and finished steel, light gray color finish. Use at entry points to promenade to prevent unauthorized vehicular access.



PROMENADE COMPONENTS



BARRIER RAIL: Custom designed, curved inward sloping profile with metal top rail

Mounting: Surface Mounted or Embedded

Notes: Color galvanized and finished steel, light gray color finish, not easily climbable, horizontal infill bars on inward sloping profile. Posts have a 5" wide base and a 3" wide top dimension.



Inward sloping barrier rail with horizontal infill bars



Handrails use matching profile to barrier rail

BARRIERS + RAILINGS GUIDELINES

- Provide promenade barrier railings of a consistent design, including locations where the promenade runs through plazas, nodes, or overlooks.
- Use durable materials that are appropriate for a marine environment. Use tamper-resistant stainless steel attachments, and metals with corrosion resistant finishes.
- Meet all code requirements such as climb-ability and head entrapment issues.
- The infill material between each post may vary as appropriate,
- Consider hardwood leaning rails at appropriate locations.

Barriers and Railings

Barrier Railings will be required in various locations along the Lynn waterfront where there is a drop of 30" or greater and as required by the Massachusetts Architectural Access Board (MAAB). Similarly, Railings are required for all stairs and ramps and as specified by the MAAB. The Barrier Railing used along the promenade must be of a consistent type and design in order to create a cohesive appearance along the entire waterfront. Barrier Railings and other Railings within the public parks and plazas may vary.

SHADE STRUCTURE DESIGN GUIDELINES

- Provide shade structures at suitable locations along the waterfront.
- Use a similar design theme for shade structures along the promenade appropriate to their location.
- Locate shade structures within public parks and public plazas that vary in style, design and material, but follow a central theme appropriate to each park or plaza.
- Design and fabricate all shade structures to withstand the marine environment, be able to withstand local coastal wind loads, and be easily maintainable.
- Shade shelters should have bird proof components.

Shade Structure

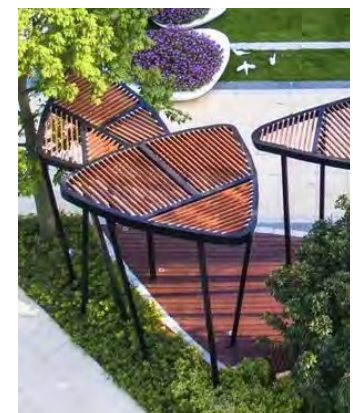
Shade structures should be located in appropriate locations throughout the project area. While trees can provide shade, shade structures may be more appropriate or desired in other locations. In general the shade structures should be durable, attractive, functional and easily maintained. The design of shade structures should relate to their surroundings and use.



Shade structures at viewpoints



Mixture of materials in a similar style



Opportunities for color and unique form



Artist's mural in Lynn completed as part of Beyond Walls



Temporary art installation on the Rose Kennedy Greenway



WaterFire installation on the watersheet in Providence, RI

PUBLIC ART GUIDELINES

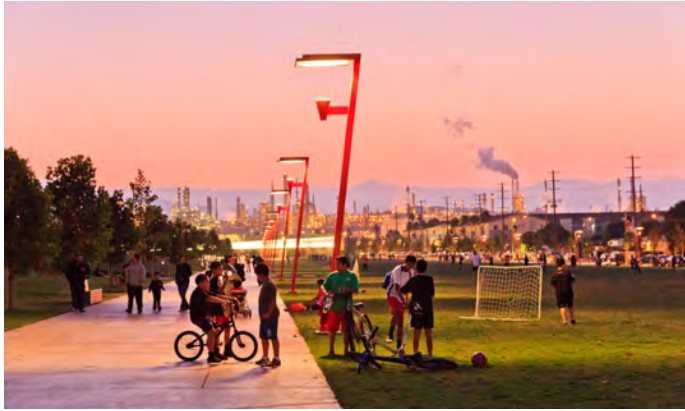
- Provide public art throughout the waterfront area.
- Locate the public art at intersections of key routes, paths, or where it can be seen from a distance.
- Provide art that is durable and suitable for the marine environment and the public realm.
- Consider creative design of public spaces including lighting, water, and materials to create interest and excitement within the public spaces.

Public Art

Public art can take many forms, such as stand alone objects commissioned by artists or playful and creative use of physical objects incorporated into the design of public spaces. The creative use of water and lighting can also provide interest and artistic expression. Public art can be provided both on a permanent basis with objects being fixed to the ground or they can take the form of temporary artistic interventions. Providing a variety of forms of art within the public realm can help create a dynamic and engaging experience.

In appropriate locations, permanently fixed, public art should be provided within the public parks and plazas and along the promenade. These permanent art installations should be located at intervals throughout the waterfront area. In addition, the creative use of materials, water, or lighting should be considered within the public parks, plazas, and promenades. Furthermore, programmed temporary art installations should also be considered in order to provide additional opportunities for the public to engage with art.

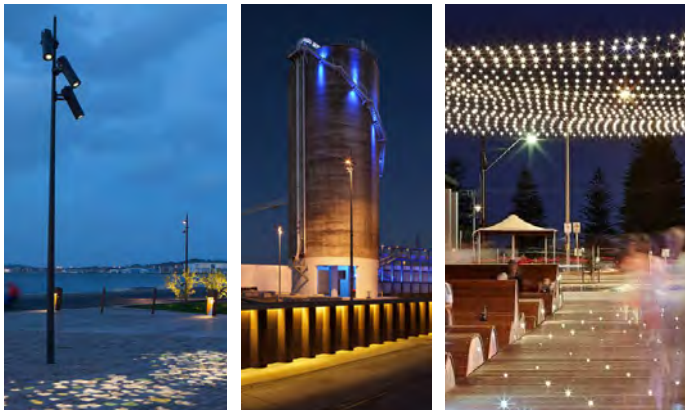




Sensitively lit park spaces



Vary light types



Use lighting to create interest, highlight features, set mood

LIGHTING DESIGN GUIDELINES

- Use the latest LED lights with energy efficient, long lasting bulbs and materials.
- Use lighting to foster a safe and inviting waterfront, to strengthen the visual connections to the waterfront, and to connect different parts of the waterfront.
- Use a consistent light fixtures for easy maintenance and ensure compliance with the City of Lynn standards for lighting.
- Use standardized light fixtures along the promenade to create a cohesive appearance.
- Use a clear hierarchy of lighting appropriate to each location.
- Specify light levels appropriate to the different types of activity, typically with a Kelvin temperature of 3000.
- Select light fixture finishes that are appropriate for an urban and marine environment.
- Minimize light pollution and over-lighting, consider creative use of light, spotlighting, or patterns of light where appropriate and highlight significant objects in the landscape.

Lighting Design

Lighting will affect how the public uses and navigates the waterfront and will contribute to the general waterfront experience. Safe levels of lighting are required along the waterfront streets and pedestrian paths, along the promenade, and within the public parks and public plazas.

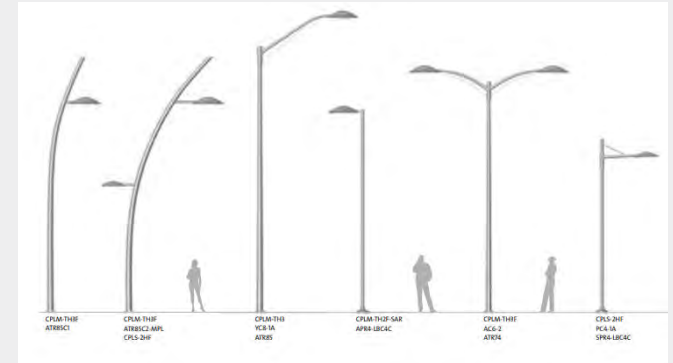
This section provides guidelines for the specific LED light fixtures for the street and pedestrian connections and along the promenade. The lighting at the approaches to the public parks and public plazas will vary at each location. Each project proponent should agree upon the proposed light levels with the relevant overseeing authority.

REQUIRED PROMENADE LIGHTING TYPES

TYPICAL STREET + SIDEWALK LIGHTS: Philips Capella Series (or approved equal)

Location: This range of light types should be used as appropriate for each public street within the project area. Exact locations to be reviewed and agreed by the City of Lynn, per project.

Notes: Additional feature lights can be used to create an inviting streetscape experience.



TYPICAL PROMENADE LIGHTING: Philips Lumec, Domus DMS50 (or approved equal)
Bracket (Arm): MJ-1A; Pole: SPR5V (Steel, Straight, Round, 5" O.D., 0.25" wall thickness);
Luminaire height: 16 ft high; Color: BKTX (Textured Black).

Location: This is the typical light fixture for the whole of the promenade.

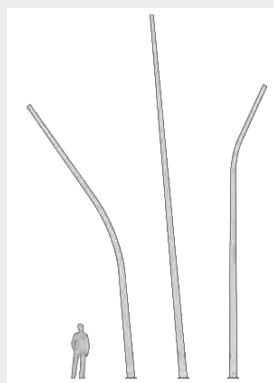
Notes: The light pole spacing will be determined at the time of design for each portion of the promenade in response to specific site requirements, but should typically be 100' on center.



SPECIAL PROMENADE LIGHTING: Structura Reed Series (or approved equal)

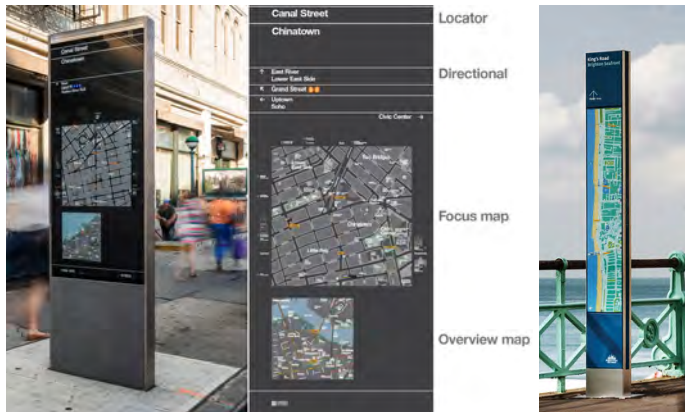
Location: This light pole and fixture should be used along the promenade when it crosses into public plazas, nodes and overlooks.

Notes: The pole color should be a rust color provided by the manufacturer. The light pole height and spacing will be determined at the time of design for each portion of the waterfront promenade and should relate to the specific site requirements.





Examples of clear, concise wayfinding signs



Examples of orientation maps



Use standard AIGA and SEG D recreation symbols

SIGNAGE + WAYFINDING DESIGN GUIDELINES

- Scale all signs appropriately for readability based on their location and intended user. Road sign text shall be larger than pedestrian sign text. Locate road signs on the right side of roadways.
- Locate signs at logical decision making points and provide critical information.
- Group pedestrian signs with site furniture to reduce clutter, particularly on the promenade. Combine signs to reduce pole usage and avoid redundant messaging.
- Locate signs near light fixtures for uniform illumination.
- Use symbols whenever feasible to address language barriers.
- Consider contrasting colors and legibility for night and day time use.

Wayfinding Guidelines

The project area should have a clearly designed, well organized and cohesive wayfinding system. The wayfinding system will help establish the character and improve the usability of the whole of the waterfront. A coordinated wayfinding system should be designed for the whole of the waterfront area, and implemented on a per project basis.

Wayfinding Sign Types

Orientation Signs: Usually contain maps, identify landmarks and destinations, and locate the user within a larger context. Typically contains a “you are here” point.

Directional Signs: Indicate the direction to landmarks. Serve as a guide to the circulation system.

Identification signs: Locate at amenities, landmarks, and destinations to identify and explain site amenities.

Regulatory Signs: Use symbols to indicate rules, regulations, and suggested site use or activities.

YOU ARE AT:



Rymill Park / Murlawirrapurka



Park Lands Trail



1 min



Rundle Street

5 mins

Adelaide

Botanic Gardens

7 mins





Seasonal interest, variety of tree types



Appropriate plants for land subject to flooding



Shade trees and planting in public spaces

PLANTING

Overview

A variety of natural forces will affect the plant choices for public streets, parks, plazas, and the sea edge. The land is generally filled tideland, much of which was home to industrial uses or landfills. Soil contamination is likely across significant portions of the area. Furthermore, the waterfront within the flood zone, is subject

to coastal storm surges, excessive winds and rising tides. Salt spray is another factor that must be addressed in any planting design.

These planting design guidelines include a representative list of appropriate plant types for the waterfront zones provided.

PLANTING DESIGN GUIDELINES

- Select plants that are readily available from regional plant nurseries, are disease resistant and transplant well in 2" to 6" caliper sizes.
- Select plants that will not require irrigation after the 12-month maintenance period and will thrive in an urban coastal environment with minimal maintenance.
- Avoid planting trees in monocultures except when massing.
- Select plants suitable for their specific location and environmental conditions.
- Plant native salt resistant plants, particularly near the sea edge or sensitive areas.
- Use plants to attract wildlife as well as create wildlife habitats as appropriate.
- Select plants that have seasonal interest.
- Use plants to create welcoming spaces for park and plaza visitors.

Tree + Coastal Planting

There are numerous micro-climates and planting conditions within the Lynn waterfront. These guidelines provide only a starting point for designers and do not represent an exhaustive list of potential plants. Two specific categories of planting have been described: tree planting and coastal planting. Tree planting relates to both street trees as well as park trees. Coastal planting addresses plants that are salt resistant and are proven to thrive in areas that are subject to coastal flooding or within the tidal zone.

The possibility of inundation must be considered when choosing trees and other plants for individual sites (see drawing appendix for Weston and Sampson City of Lynn Coastal Resilience Assessment inundation map projections).

Street trees must be able to handle frequent drought, spatial constraints, shallow and compacted soil, and frequent salt application in winter. Park trees typically have more soil volume and more moisture availability. Parks offer opportunities for larger, more slow-growing specimens. Park trees within the waterfront should be able to withstand frequent exposure

to wind and salt spray.

Coastal Zone Categories

The three coastal planting categories, **Tidal Zone**, **Inundation Zone**, and **Salt-Spray Zone**, include plants that can survive in a wide-ranging set of environmental conditions. Some plants will be subject to periodic coastal flooding or be located within the tidal zone.

Within the **Tidal Zone**, there is a low marsh, which exists below the standard high tide mark and gets flooded almost daily. The high marsh areas get inundated during the highest tides, but not consistently on a daily basis. Different grass species inhabit different elevations within these areas. The species listed here are reflective of the major monocultures most often observed in the salt marshes of the Northeast.

The **Inundation Zone** plants will be planted just above the normal Tidal Zone, and have been proven to have a tolerance for soil salt. In nature, these plants can be found across barrier beach communities. For example, plants listed here are commonly found on Plum Island, a barrier beach on the North Shore.



Large scale park planting



Appropriate coastal edge planting



Low maintenance planting approaches



Planting at public gathering areas



Tidal zone planting



Coastal planting

The **Salt-spray Zone** group contains common coastal wind-breaking trees and screening plants. These plants are common fixtures in many shoreline settings for their hearty growth habits, and resistance to salt spray, but are not suited to inundation.

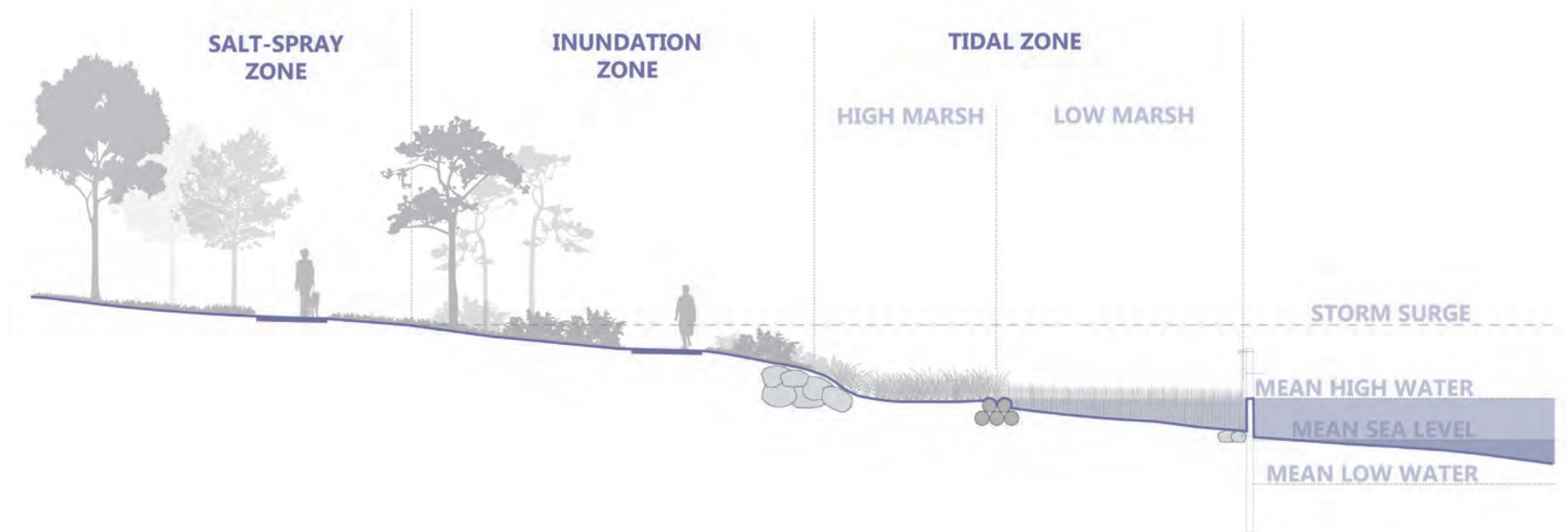
It should be noted that the plants listed here have demonstrated varying degrees of salt tolerance. No plant is truly salt tolerant. Likewise this list is not comprehensive for all available plant species that could be considered. Specific research on salt tolerance should be undertaken on any plant selection within the project area.

One of the most important considerations for plantings is the existing or amended soils that

they grow in. Efforts should be made to make sure that the planting loam gives these plants nutrients to insure their long term growth.

Tree + Planting List

Refer to the Appendix for a complete list of appropriate plant species for use in the project area



Coastal Planting Zones Section - NTS



An active and welcoming promenade



A waterfront connected to the wider region



Inviting public spaces for everyone

IMPLEMENTATION

Overview

The delivery of the proposals within this Open Space Master Plan will be a challenge. The major challenges that exist are: 1) proper City oversight to ensure adherence to the Master Plan and the Design Guidelines over an extended period of time, 2) coordination with adjacent landowners or developers to ensure a coherent waterfront vision is realized, 3) consistent management and maintenance of the waterfront areas, 4) funding for large scale infrastructure repairs like the sea wall, and 5) effective use of zoning and other local regulations.

Open Space Master Plan Enforcement

Updating the Lynn MHP will provide a possible enforcement mechanism for the proposals and Design Guidelines established in this Report. Over the last decade, market conditions did not allow for the density, height, and type of development envisioned in the 2010 MHP. As a result, the recent development proposals within the project area do not resemble the layout, street alignments, and goals originally proposed. As noted, the City and Utile are

currently preparing a revised Waterfront Master Plan. This new Master Plan, will adopt the open space and promenade proposals and Design Guidelines, presented in this Open Space Master Plan. Together, these two new Master Plans will provide the framework for all development within the project area.

Amending the existing MHP will enshrine the proposals of the two plans into one legally enforceable amended Municipal Harbor Plan. Without the ability to require developers to adhere to the Master Plans, the City will have little enforcement powers. Revised waterfront zoning is also essential to the City's ability to enforce a certain type of desired development within the project area.

Coordinated Implementation

Funding and construction of the promenade will likely occur in segments, as each relevant property owner is required to build a waterside public path as part of their Chapter 91 obligations, in adherence with this Master Plan. Private developers are expected to work with the City to determine the extent of public parks, plazas, or promenades that are required to be constructed as part of each development.

It is preferable that the waterfront open spaces and promenade will be developed in concert with adjacent parcels. Coordinated projects might result in a shared approach and agreed interface points between adjacent parcels.

While many of the promenade connections are through privately owned lands, the major public open spaces envisioned are owned by DCR or fall within the landfill site. At the landfill site, after a conservation restriction is placed on the land, it is hoped that a public body or non profit organization will become the steward for the future landfill park.

Consistent Management + Maintenance

Ensuring consistent maintenance, management, and ongoing funding for the waterfront is a critical issue. A range of options exist. One method for delivery of the waterfront open spaces and promenades would involve each land owner funding, designing, constructing, maintaining, and managing their own portion of the waterfront, in agreement with the City. Alternatively, each land owner could fund, design, and construct their portion of the waterfront but transfer the maintenance and management to a third party, such as a City, State,

or non-profit group. A third option might be if the land owner would transfer ownership or improvement rights to a third party in addition to the future maintenance and management.

Because the development potential and ownership rights vary significantly across the whole of the project area, it is likely there will be a combination of approaches used to address the issue of long term management and maintenance. However, a collective approach to managing and maintaining the waterfront area as a whole should be explored.

Various other city's have adopted such an approach, such as the Rose Kennedy Greenway Conservancy in Boston. The Greenway Conservancy is a non-profit entity that maintains, programs, finances, and improves the Rose Kennedy Greenway. They therefore have the ability to raise capital through variety of means, to fund the ongoing open space management and maintenance. This approach might be worth considering for the long term management of the Lynn waterfront open spaces and promenade.

Infrastructure Funding

The sea walls throughout the project area are in poor condition and any improvements to them must carefully consider resiliency. Significant funding for the sea wall repair is a big concern. The sea walls at South Harbor and Lynn Heritage State Park are owned by the City of Lynn and DCR, respectively. DCR will begin the design and renovations at each parcel, however the funding of the two sea wall repairs in these projects areas may become an impediment to the park renovation projects.

APPENDIX

RELEVANT RESOURCES

City of Lynn Coastal Resilience Assessment

Weston and Sampson for EDIC

July 2016

Massachusetts Coastal Infrastructure Inventory and Assessment Report Update - North Shore-South

Bourne Consulting Engineering for DCR

July 2015 Update

Lynn Harbor Waterfront Coastal Assessment

Woods Hole Group for Stantec

May 2018

Lynn Open Space and Recreation Plan

MAPC for City of Lynn

June 2016

Hazard Mitigation Plan

MAPC for City of Lynn

June 2016

Route 1A/Lynnway/Carrol Parkway Study in Lynn

Boston Region Metropolitan Planning Organization for the City of Lynn

June 2016

Lynn Municipal Harbor Plan

Sasaki for the City of Lynn

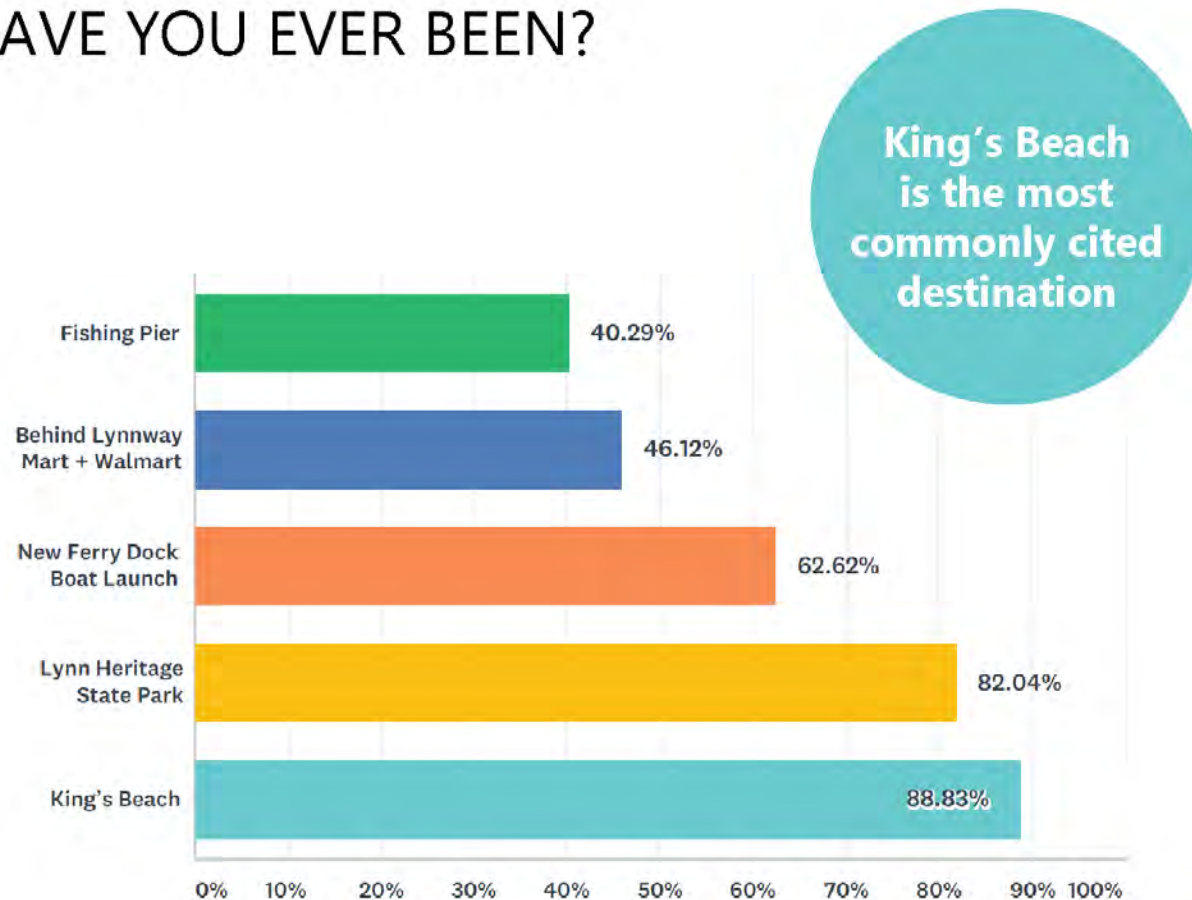
September 2010

PUBLIC PROCESS SURVEY RESULTS

BRR for the City of Lynn - 259 responses

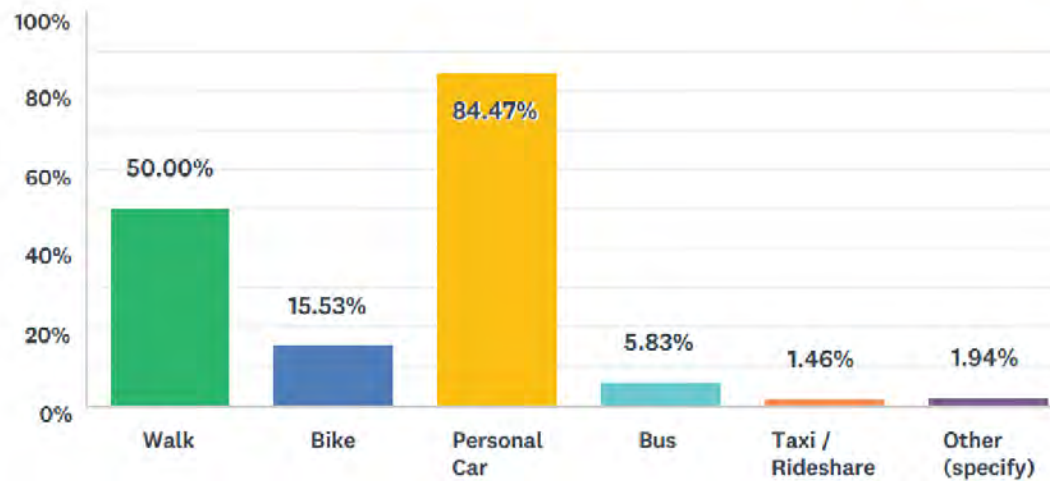
Winter 2017

HAVE YOU EVER BEEN?

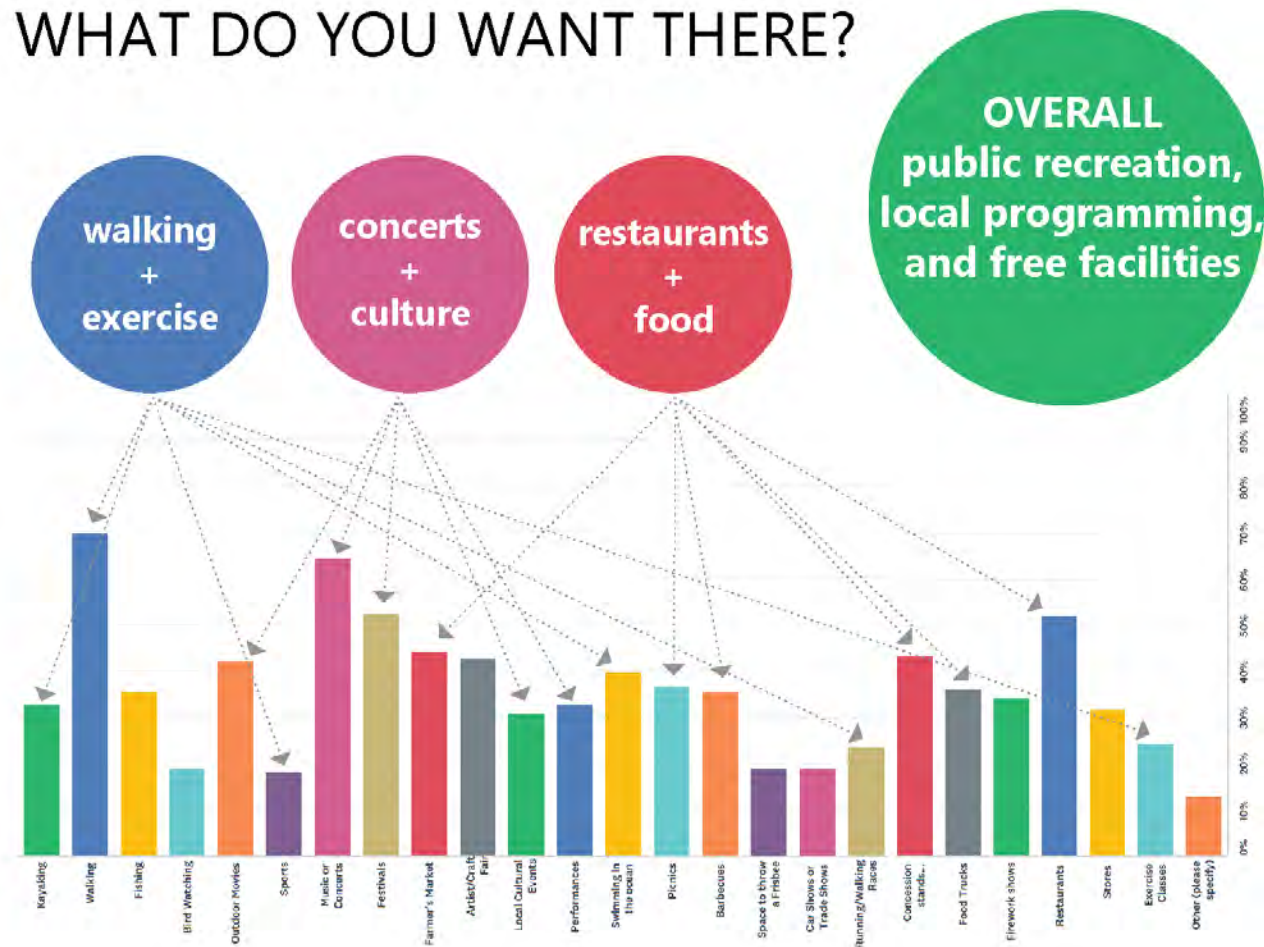


HOW DID YOU GET THERE?

**Most drive,
half have crossed
the Lynnway
by foot**



WHAT DO YOU WANT THERE?

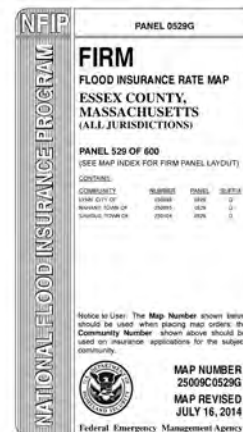


WHAT COULD THE CITY DO RIGHT AWAY?

143 offered ideas
for temporary
events and
installations

Swimming Lynn Activities
Heritage state Park Walking
Festivals Concerts Kayaking
Movies Food Trucks Music
Farmers Market Craft
Fishing Kite Flying

Federal Emergency Management Agency (FEMA) for the Department of Homeland Security



PLANTING LIST - STREET + PARK TREE PLANTING

BRR for the City of Lynn

Scientific Name	Common Name	Location
Acer campestre 'Deborah'	Deborah Hedge Maple	Street
Acer x freemanii 'Celebration'	Celebration Maple	Street
Acer saccharum 'Green Mountain'	Sugar Maple	Street
Acer tataricum	Tatarian Maple	Street
Aesculus x carnea 'Briotti'	Horse Chestnut	Park
Betula nigra 'Heritage'	Heritage River Birch	Park
Carpinus caroliniana	American Hornbeam	Park
Catalpa speciosa	Catalpa	Park
Celtis occidentalis 'Prairie Pride'	Prairie Pride Hackberry	Park
Cercidiphyllum japonicum	Katsura Tree	Street/Park
Cladrastis kentukea	Yellowwood	Park
Gymnocladus dioica	Kentucky Coffee Tree	Park
Liquidambar styraciflua	Sweetgum	Street/Park
Liriodendron tulipifera	Tuliptree	Street/Park
Malus* (many varieties)	Crabapple	Street/Park
Prunus virginiana	Choke Cherry	Street
Ostrya virginiana	American Hophornbeam	Park
Quercus bicolor	Swamp White Oak	Park
Quercus coccinea	Scarlet Oak	Street/Park
Quercus phellos	Willow Oak	Park
Sophora japonica 'Princeton Upright'	Scholar Tree	Street
Sorbus thuringiaca 'Fastigiata'	Upright Oakleaf Mountain Ash	Street
Ulmus parviflora 'Ohio'	Ohio Chinese Elm	Street
Ulmus parviflora 'Pathfinder'	Pathfinder Chinese Elm	Street
Ulmus 'Pioneer'	Pioneer Elm	Street
Zelkova serrata	Zelkova	Street

PLANTING LIST - COASTAL PLANTING

BRR for the City of Lynn

Scientific Name	Common Name	Location	Type
<i>Distichlis spicata</i>	Seashore Saltgrass	Tidal Zone Low Marsh	Herbaceous
<i>Spartina alterniflora</i>	Saltmarsh Cordgrass	Tidal Zone High Marsh	Herbaceous
<i>Spartina patens</i>	Salt hay	Tidal Zone High Marsh	Herbaceous
<i>Amelanchier canadensis</i>	Shadbush	Inundation Zone	Tree
<i>Ammophila breviligulata</i>	American Beachgrass	Inundation Zone	Herbaceous
<i>Arctostaphylos uva-ursi</i>	Bearberry	Inundation Zone	Shrub
<i>Baccharis halimifolia</i>	Groundselbush/Sea Myrtle	Inundation Zone	Shrub
<i>Clethra alnifolia</i>	Sweet Pepperbush	Inundation Zone	Shrub
<i>Iva frutescens</i>	High Tide Bush	Inundation Zone	Shrub
<i>Juniper</i> spp.	Chinese/Common/Shore/Creeping	Inundation Zone	Shrub/tree
<i>Myrica</i> (Morella) <i>pennsylvanica</i>	Northern Bayberry	Inundation Zone	Shrub
<i>Panicum virgatum</i>	Switchgrass	Inundation Zone	Herbaceous
<i>Platanus occidentalis</i>	Sycamore, Buttonwood	Inundation Zone	Tree
<i>Prunus maritima</i>	Beach Plum	Inundation Zone	Shrub
<i>Rosa virginiana</i>	Virginia Rose	Inundation Zone	Shrub
<i>Rhus aromatica</i>	Fragrant Sumac	Inundation Zone	Shrub
<i>Rhus glabra</i>	Smooth Sumac	Inundation Zone	Shrub
<i>Rhus typhina</i>	Staghorn Sumac	Inundation Zone	Shrub
<i>Solidago sempervirens</i>	Seaside Goldenrod	Inundation Zone	Herbaceous
<i>Vaccinium angustifolium</i>	Lowbush Blueberry	Inundation Zone	Shrub
<i>Vaccinium corymbosum</i>	Highbush Blueberry	Inundation Zone	Shrub
<i>Abies balsamea</i>	Balsam Fir	Salt-Spray Zone	Tree
<i>Abies concolor</i>	White Fir	Salt-Spray Zone	Tree
<i>Acer rubrum</i>	Hedge, Striped, Red Maple	Salt-Spray Zone	Tree
<i>Aesculus x carnea</i> 'Brioti'	Horsechestnut	Salt-Spray Zone	Tree
<i>Betula</i> spp.	Sweet, Yellow, River, Gray Birch	Salt-Spray Zone	Tree

PLANTING LIST - COASTAL PLANTING

BRR for the City of Lynn

Buxus microphylla	Japanese Boxwood	Salt-Spray Zone	Shrub
Carya ovata	Shagbark Hickory	Salt-Spray Zone	Tree
Celtis occidentalis	Hackberry	Salt-Spray Zone	Tree
Chamaecyparis thyoides	Atlantic White Cedar	Salt-Spray Zone	Tree
Comptonia peregrina	Sweetfern	Salt-Spray Zone	Shrub
Fagus sylvatica European	Beech	Salt-Spray Zone	Tree
Gymnocladus dioicus	Kentucky Coffeetree	Salt-Spray Zone	Tree
Hydrangea arborescens	Wild Hydrangea	Salt-Spray Zone	Shrub
Hydrangea quercifolia	Oakleaf Hydrangea	Salt-Spray Zone	Shrub

SEA LEVEL RISE + STORM SURGE ELEVATION PREDICTIONS

Woods Hole Group for the City of Lynn

SEA LEVEL RISE PREDICTIONS

Benchmark/ Return Period	Present (ft, NAVD88)	2030 (ft, NAVD88)	2050 (ft, NAVD88)	2070 (ft, NAVD88)	2100 (ft, NAVD88)
MLW	-4.98	-3.69	-2.49	-0.69	2.71
MTL	-0.40	0.89	2.09	3.89	7.29
MHW	4.18	5.47	6.67	8.47	11.87
MHHW	4.62	5.91	7.09	8.91	12.31
10-yr	6.8	8.4	9.8	11.5	14.9
50-yr	8.4	9.8	11.2	12.9	16.3
100-yr	9.4	10.7	12.0	13.8	17.3

WAVE HEIGHT RANGES

Year	Wave Height (ft)	Wave Period (sec)
Present	2.3 to 3.0	5 to 9
2030	2.5 to 3.1	5 to 9
2050	2.7 to 3.2	5 to 9

PHOTO CREDITS

Page 2: Brown, Richardson & Rowe, Inc. Timber Bulkhead – on Riley Way. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 4: Brown, Richardson & Rowe, Inc. Timber Bulkhead – Riley Way View to Nahant. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 8: Aerial of Southern End of Project Area. Digital image. Google Earth. Google, n.d. Web. 18 January 2019.

Page 13: (Top): Brown, Richardson & Rowe, Inc. Inland Erosion Issues – South Harbor. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Bottom): Brown, Richardson & Rowe, Inc. Inland Erosion Issues – Central Harbor. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 15: (Top) Brown, Richardson & Rowe, Inc. Inland Erosion Issues: South Harbor 1. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Middle) Brown, Richardson & Rowe, Inc. Inland Erosion Issues: South Harbor 2. Digital

image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Bottom) Brown, Richardson & Rowe, Inc. Inland Erosion Issues: South Harbor 3. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 17: (Top) C.A. Shaw's Home of the Hutchinson Family, 1881. Digital image. Cleekworks, n.d. Web. 18 January 2019.
(Bottom): Extent of Lynn's Historical Industrial Waterfront Use. Digital image. Cityof-lynnocd.net. City of Lynn, Massachusetts, Department of Community Development, n.d. Web. 18 January 2019.

Page 18: (Top): Brown, Richardson & Rowe, Inc. Mayor McGee Public Meeting #1. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Bottom Left): Brown, Richardson & Rowe, Inc. Public Meeting #2. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Bottom Right): Brown, Richardson & Rowe, Inc. Community Site Walk #1. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 23: (Top): Sava Promenada at the Belgrade Waterfront. Digital image. Swagroup.com. SWA Group, n.d. Web. 18 January 2019.
(Bottom): Lloyd, Andrew. Civic Park Waragul by Fitzgerald Frisby Landscape Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 27: (Top): Brown, Richardson & Rowe, Inc. South Harbor: Sea wall and fishing pier. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Middle): Brown, Richardson & Rowe, Inc. Central Harbor: Waterfront Edge. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Bottom): Brown, Richardson & Rowe, Inc. North Harbor: Lynn Heritage State Park. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 29: (Top): Brown, Richardson & Rowe, Inc. View towards General Edwards Bridge. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Middle): Brown, Richardson & Rowe, Inc. Wetland and trees inland of DCR's 75' Potential Easement. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

PHOTO CREDITS

(Bottom): Brown, Richardson & Rowe, Inc. Erosion landward of deteriorated timber bulkhead wall. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 30: Brown, Richardson & Rowe, Inc. Lynn Sea Wall: Existing Conditions. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 31: Brown, Richardson & Rowe, Inc. Lynn: Existing Conditions. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 34: Brown, Richardson & Rowe, Inc. View of landfill from Riley Way. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 35: Brown, Richardson & Rowe, Inc. View of failing sea wall from Riley Way. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 37: (Top): Brown, Richardson & Rowe, Inc. Ferry pier at Blossom Street. Digital image. Brownrowe.com. N.p., n.d. Web. 18

January 2019.

(Middle): Brown, Richardson & Rowe, Inc. 254 Lynnway development adjacent to Lynn Heritage Park. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

(Bottom): Brown, Richardson & Rowe, Inc. Lynn Heritage State Park. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 38: Brown, Richardson & Rowe, Inc. Blossom Street Ferry Terminal. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 39: Brown, Richardson & Rowe, Inc. Lynn Heritage State Park. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 41: (Top): Brown, Richardson & Rowe, Inc. Seaport Landing Marina at Lynn Heritage State Park. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

(Middle): Brown, Richardson & Rowe, Inc. Tidal flats at South Harbor fishing pier. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

(Bottom): Brown, Richardson & Rowe, Inc.

Boat ramp at Blossom Street ferry pier. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 44: (Top): Undeveloped waterfront with erosion. Digital image. Bing Maps. N.p., n.d. Web. 18 January 2019.

(Bottom): Julian B. Lane Riverfront Park, Tampa Florida. Digital image. Pinterest.com. N.p., n.d. Web. 18 January 2019.

Page 45: (Top): Landfill with Potential Future Park Use. Digital image. Bing Maps. N.p., n.d. Web. 18 January 2019.

(Bottom): Barnes, Christopher. Public Park on Spectacle Island, Former Landfill. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 53: (Top): Brown, Richardson & Rowe, Inc. Existing sea edge deteriorating behind Walmart. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

(Middle): New York City Vulnerable Ecosystems. Digital image. Globalchange.gov. N.p., n.d. Web. 18 January 2019.

(Bottom): Coastal Green Infrastructure Protecting the Shoreline at Brooklyn Bridge Park (NYC Department of City Planning).

PHOTO CREDITS

Digital image. Cornell CALS. N.p., n.d. Web. 18 January 2019.

Page 57: (Top): Mariahilferstrasse Before Image, Bureau B B. Digital image. Landezine.com. N.p., n.d. Web. 18 January 2019.

(Middle): Buffalo Niagara Medical Center. Digital image. Scapestudio.com. SCAPE, n.d. Web. 16 July 2018.

(Bottom): Portland Green Street Project. Digital image. Portlandoregon.gov. The City of Portland Oregon, n.d. Web. 18 January 2019.

Page 59: (Top): Grand Marais Arts Festival. Digital image. Lakesuperior.com. Lake Superior Magezine, n.d. Web. 18 January 2019.

(Middle): Groundswell Design Group Winterfest at Blue Cross RiverRink. Digital image. Landezine.com. N.p., n.d. Web. 18 January 2019.

(Bottom): Altobelli, Lisa. An Urban Escapes Class Teaches Paddleboarding on the Hudson River in New York City. Digital image. ESPN.com. N.p., n.d. Web. 18 January 2019.

Page 61: Barangaroo Reserve: THE FORESHORE PROMENADE 1836 WALL, PWP Landscape Architecture. Digital image.

Pwpla.com. N.p., n.d. Web. 18 January 2019.

Page 67: (Top): Weyer, Julian. Aalborg Waterfront by C.F. Møller. Digital image. Cfmoller.com. C.F. Møller, n.d. Web. 18 January 2019.

(Middle): Groundswell Design Group Spruce Street Harbor Park. Digital image. Landezine.com. N.p., n.d. Web. 18 January 2019.

(Bottom): West Harlem Piers Park. Digital image. Land8.com. Land 8 Landscapes Architects Network, n.d. Web. 18 January 2019.

Page 70: (Top): Perelló Park Manuel Ruisanchez Landscape Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Middle): Westhaven Promenade ASPECT Studios LandLAB NZ. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom): The West Harlem Piers Park W-Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 71: Schlosberg, Leo. Tree Planting on Chicago's Navy Pier. Digital image. Precast.org. National Precast Concrete Association, n.d. Web. 18 January 2019.

Page 74: (Top): Spruce Street Harbor Park Sustained By Univest. Digital image. Delaware River waterfront.com. Delaware River Waterfront, n.d. Web. 18 January 2019.

(Middle): Schenck, Timothy. Governors Island – The Hills West 8. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom): Events at Curtis Hixon Park, Tampa Florida. Digital image. Pinterest.com. Pinterest, n.d. Web. 18 January 2019.

Page 75: Majewski, Tomasz. The Waterfront Promenade at Aker Brygge LINK Landskap. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 79: (Top): MarketFront Pike Place Market Remodel. Digital image. Urbanash.com. Urban Ash, n.d. Web. 18 January 2019.

(Middle): Erie Basin Park. Digital image. Terrain-nyc.net. Terrain, n.d. Web. 18 January 2019.

(Bottom): Tran, Ben. Gehl Makes Philadelphia Porch Swing. Digital image. Gehlpeople.com. Gehl | Making Cities for People, n.d. Web. 18 January 2019.

PHOTO CREDITS

Page 81: (Top): Bennetts, Peter. Elizabeth Quay ARM Architecture Taylor Cullity Lethlean Landscape Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Middle): Splash Pad at Lakeview Park. Digital image. Visitmiddleton.com. Middleton Wisconsin, n.d. Web. 18 January 2019.
(Bottom): Petersen, Torben. Navitas Harbour Front Marianne Levinsen Landskab. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 84: (Top): Zimmerman, Wade. Hunter's Point South Waterfront Park Thomas Balsley Associates WEISS/MANFREDI. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Middle): The Porch Adds Custom Swings from Gehl Studio. Digital image. University-city.org. University City District, n.d. Web. 18 January 2019.
(Bottom): Pollak, Marpillero. Queens Plaza, New York City. Digital image. Ndagallery.cooperhewitt.org. Cooper Hewitt National Design Award, n.d. Web. 18 January 2019.

Page 85: (Top): Obrien, Patrick. Georgetown Waterfront Park | Washington, DC | Wallace

Roberts & Todd. Digital image. Worldlandscapearchitect.com. World Landscape Architect, n.d. Web. 18 January 2019.
(Middle): HafenCity Park, Hamburg Germany. Digital image. Hafencity.com. HafenCity Hamburg, n.d. Web. 18 January 2019.
(Bottom): Hochwasser in Hamburg - Sturmflut. Digital image. Bildarchiv-hamburg.de. N.p., n.d. Web. 18 January 2019.

Page 87: (Top): Washington Park, Cincinnati OH. Digital image. Washingtonpark.org. Washington Park, n.d. Web. 18 January 2019.
(Bottom): Noonan, Sam. Henley Square by Taylor Cullity Lethlean Landscape Architecture Troppo Architect. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 88: (Top): Brown, Richardson & Rowe, Inc. Logan Airport Consolidated Rental Car Facility. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.
(Middle): PUBLIC BENCH / CONTEMPORARY / WOODEN / METAL SAARBRÜCKEN - HIGH. Digital image. Archiexpo.com. Westeifel | Werke, n.d. Web. 18 January 2019.
(Bottom): Westhaven Promenade. Digital im-

age. Landlabblog.wordpress.com. LandLAB_, n.d. Web. 18 January 2019.

Page 90: (Top): Neue Meile Böblingen, Germany. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Middle): Chicago's Century-old Navy Pier Revitalised by James Corner Field Operations and NArchitects. Digital image. Dezeen.com. De Zeen, n.d. Web. 18 January 2019.
(Bottom): Majewski, Tomasz. The Waterfront Promenade at Aker Brygge by Link Landskap. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 91: (Top): Cartwright, Alison. The Edge Park W-Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Middle): Doherty, Barrett. Race Street Pier Field Operations. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Bottom): Groehn, Florian. Cadi Park Wharf. Digital image. Landscapeaustralia.com. Landscape Australia | Design, Urbanism, Planning, n.d. Web. 18 January 2019.

Page 93: (Top): Hudson River Park, Segment 5 by Michael Van Valkenburgh Associates.

PHOTO CREDITS

Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom): Linders, Jannes. Kromhout Barracks Karres Brands. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 94: (Top): Whittaker, David. Prince Arthur's Landing / Brook McIlroy. Digital image. Archdaily.com. Architecture Daily, n.d. Web. 18 January 2019.

(Middle): The CityDeck | Downtown Green Bay. Digital image. Downtowngreenbay.com. Downtown Green Bay, n.d. Web. 18 January 2019.

(Bottom): Wathen, Ted. The Parklands of Floyds Fork WRT. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019. Page 95: Guadalupe Park San Jose, CA. Digital image. Sanjoseparks.org. San Jose Parks, n.d. Web. 18 January 2019.

Page 99: (Top): The Cultural Trail in Indianapolis. Digital image. Cleveland.com. N.p., n.d. Web. 18 January 2019.

(Middle, Right): Wavewalk, Adam Kuby, Pier Park Skate Park, Portland, 2006. Digital image. Play-scapes.com. Play Scapes, n.d. Web. 18 January 2019. (Middle, Left): Dreyse,

Claudia. Zollverein Park Planergruppe Oberhausen. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom) Tan, Wilhelm. Kensington Street Turf Design Studio and Jeppe Aagaard Andersen. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 104: (Top): Roemer, Mike. The CityDeck Stoss Landscape Urbanism. Digital image. Urbannext.net. UrbanNext, n.d. Web. 18 January 2019.

(Middle): Garden Cities Urban Design Group - Detroit. Digital image. Udg.org.uk. Urban Design Group, n.d. Web. 18 January 2019.

(Bottom): Pavilion Backrest Seat. Digital image. Woodscape.co.uk. Woodscape, n.d. Web. 18 January 2019.

Page 105: (Top): Coston-Hardy, Sahar. Chicago Navy Pier, James Corner Field Operations. Digital image. Sustainablesites.org. The Sustainable SITES Initiative, n.d. Web. 18 January 2019.

(Middle): Aalborg Waterfront - C.F. Møller Landscape. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom): Organ Sounding With Sea Waves.

Digital image. Redespress.wordpress.com. ARTESAN NATO, n.d. Web. 18 January 2019.

Page 106: (Top Left): Sants Neighbourhood Barcelona (Spain). Digital image. Santacole.com. Santa & Cole, n.d. Web. 18 January 2019.

(Top Right): Neoliviano Bench by Santa & Cole. Digital image. Landscapeforms.com. Landscape Forms, n.d. Web. 18 January 2019.

(Middle Left): Metro40 Collection by BMW Group Designwork. Digital image. Landscapeforms.com. Landscape Forms, n.d. Web. 18 January 2019.

(Middle Right): Metro40 Collection by BMW Group Designwork. Digital image. Landscapeforms.com. Landscape Forms, n.d. Web. 18 January 2019.

(Bottom Left): Chase Park Litter Receptacle. Digital image. Landscapeforms.com. Landscape Forms, n.d. Web. 18 January 2019.

(Bottom Right): Chase Park Litter Receptacle. Digital image. Landscapeforms.com. Landscape Forms, n.d. Web. 18 January 2019.

Page 107: (Top): Green Dispenser for Mutt Mitts. Digital image. Amleo.com. A.M.Leonard Horticultural Tool and Supply

PHOTO CREDITS

Company, n.d. Web. 18 January 2019.

(Bottom): Brown, Richardson & Rowe, Inc. Brockton City Hall Plaza. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

Page 108: (Middle): HafenCity Hamburg. Digital image. Youtube.com. Youtube, n.d. Web. 18 January 2019.

(Bottom): Halbe, Roland. Public Spaces Hafencity, Hamburg, Germany. Digital image. Area-arch.it. Area, n.d. Web. 18 January 2019.

Page 109: (Top): Coxall, McGregor. How Lizard Log Playground and Park Will Make You Rethink How a Park Is Designed. Digital image. Land8.com. Land 8 Landscapes Architects Network, n.d. Web. 18 January 2019.

(Middle): Wonsek, Ed. Riverside Park Pavilion / Touloukian Touloukian Inc. Digital image. Archdaily.com. Architecture Daily, n.d. Web. 18 January 2019.

(Bottom Left): Arch-Exist. Hefei Wantou & Vanke Paradise Art Wonderland - Phase1 / ASPECT Studios. Digital image. Archdaily.com. Architecture Daily, n.d. Web. 18 January 2019.

(Bottom Right): Plaza del Camisón Urban Landscape, Landscape Plaza. Digital image. Pinterest.com. N.p., n.d. Web. 18 January 2019.

Page 110: (Top): Beyond Walls: Lynn Arts. Digital image. [Http://www.buildingbos.com/blog](http://www.buildingbos.com/blog). Building Boston, n.d. Web. 18 Jan. 2019. (Middle): Aragon, Carolina. High Tide. Digital image. Carolinaaragon.com. Carolina Aragon, n.d. Web. (Bottom): Waterfire Providence. Digital image. Goprovidence.com. Providence Warwick Convention & Visitors Bureau, n.d. Web. 18 January 2019.

Page 111: Beyond Walls: Lynn Arts. Digital image. [Http://www.buildingbos.com/blog](http://www.buildingbos.com/blog). Building Boston, n.d. Web. 18 Jan. 2019.

Page 112: (Top): Kuhner, Craig. Wilmington Waterfront Park / Sasaki Associates. Digital image. Archdaily.com. Architecture Daily, n.d. Web. 18 January 2019.

(Middle): Partners, Overland. Hermann Park Lake Plaza. Digital image. Lampartners.com. Lam Partners, n.d. Web. 18 January 2019. (Bottom Left): Wilkinson Solar Lights @ New Columbia Heights More On The Solar

Panel Tree Things At The. Digital image. Semmy.info. N.p., n.d. Web. 18 January 2019. (Bottom Middle): North Wharf Promenade by Taylor Cullity Lethlean Landscape Architecture WA Landscape Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom Right): Noonan, Sam. Henley Square by Taylor Cullity Lethlean Landscape Architecture Troppo Architect. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 113: (Middle): Woonerf Saint-Pierre. Digital image. Canada.grandquebec.com. N.p., n.d. Web. 18 January 2019.

(Bottom): Cartwright, Alison. The Edge Park W-Architecture. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 114: (Top): Gibson, David. Wayfinding Handbook: Information Design for Public Places. N.p.: Princeton Architectural, 2009. Print. Page 92-93

(Middle): Wayfinding Signage Case Study. Digital image. Anopicfus.pw. N.p., n.d. Web. 18 January 2019.

(Bottom): Navigating Today's Signs: An Interview with Mies Hora. Digital image. Aiga.

PHOTO CREDITS

org. The Professional Association for Design, n.d. Web. 18 January 2019.

Page 115: City of Adelaide: Wayfinding Strategy. Digital image. Studiobinocular.com. Studio Binocular, n.d. Web. 18 January 2019.

Page 116: (Top): Brown, Richardson & Rowe, Inc. Fall in Bremen Street Park. Digital image. Brownrowe.com. N.p., n.d. Web. 18 January 2019.

(Middle): Hargreaves Associates. Queen Elizabeth Olympic Park, Hargreaves Associate ADA Design. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Bottom): Morgan's Pier, Groundswell Design Group. Digital image. Groundswelldesigngroup.com. Groundswell Design Group, n.d. Web. 18 January 2019.

Page 117: (Top): Ar, Martin. Martin Luther King Park by Atelier Jacqueline Osty & Associes. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.
(Middle): Sill with Graded Bank. Digital image. Ccrm.vims.edu. Center for Coastal Resources Management, n.d. Web. 18 January 2019.

(Bottom): Zimmerman, Wade. Hunter's

Point South Waterfront Park Thomas Balsley Associates WEISS/MANFREDI. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

Page 118: (Top): Boulogne – Park, Agence Ter. Digital image. Landezine.com. Landezine, n.d. Web. 18 January 2019.

(Bottom): Sutherland, David. Living Shorelines. Digital image. 2030palette.org. 2030 Palette, n.d. Web. 18 January 2019.

Page 120: (Top): Sava Promenada at the Belgrade Waterfront. Digital image. Swagroup.com. SWA Group, n.d. 18 January 2019.

(Middle): Sava Promenada at the Belgrade Waterfront. Digital image. Swagroup.com. SWA Group, n.d. Web. 18 January 2019. 2018.

(Bottom): Warszawa, UM. Vistula Boulevards by RS Architektura Krajobrazu. Digital image. N.p., n.d. Web. 18 January 2019.

