

SAINT

LOUIS

SPONGE

PARK

Lowell Department of Planning
and Development

April 1, 2024



FORWARD



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INTRODUCTION

A VISION TO TRANSFORM SAINT LOUIS PARK

Saint Louis Sponge Park is a proposal for the phased transformation of an underutilized 6-acre park in Lowell’s Centralville neighborhood into a regional destination and model of climate resiliency. Located in one of the City’s urban heat islands and cut off from the Merrimack River by VFW Highway, Saint Louis Park is tucked away and overlooked by many residents.

PHASE 1 of this project, which is fully funded through a State earmark and the American Rescue Plan Act (ARPA), will upgrade the existing basketball courts and playground and install a new splash pad in 2025.

PHASE 2, which the City intends to fund through a combination of Municipal Vulnerability Preparedness (MVP) Action Grant and Community Development Block Grant (CDBG) funds, will introduce extensive green infrastructure to help mitigate flooding, improve stormwater management, and combat urban heat island effect. The proposal also includes an outdoor classroom, multilingual educational signage, and climate-themed public art.

PHASE 3 will focus on capital improvements such as expansion of parking, the addition of public restrooms and concessions, and a picnic pavilion. This final phase is intended to unlock future opportunities for open space expansion along the north bank of the Merrimack River, where spatial constraints and conservation restrictions would prohibit the inclusion of these critical amenities.



PROJECT GOALS



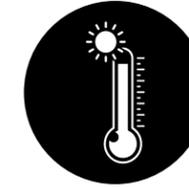
GOAL #1: ENHANCE FLOOD MITIGATION MEASURES

Improve upon the flood levy installed by the Army Corps of Engineers (ACOE) by introducing additional layers of protection such as a bioretention pond and bioswales.



GOAL #2: IMPROVE STORMWATER MANAGEMENT

Install green infrastructure and permeable paving to help slow the infiltration of stormwater runoff and restore natural ecosystem functions.



GOAL #3: COMBAT URBAN HEAT ISLAND EFFECT

Reduce the surface temperature on hot days by planting shade trees and selecting materials with a low albedo. Provide cooling resources for the community such as a splash pad.



GOAL #4: ENGAGE AND EDUCATE THE COMMUNITY

Educate community members, especially those most vulnerable to the impacts of climate change, on potential threats and available solutions.



GOAL #5: IMPROVE PHYSICAL AND MENTAL HEALTH IN THE COMMUNITY

Provide high quality recreational facilities to encourage physical activity as well as restorative open space to alleviate stress associated with the urban environment.



GOAL #6: UNLOCK FUTURE OPEN SPACE OPPORTUNITIES

By expanding parking and providing concessions and restrooms at Saint Louis Park, Lowell can provide the facilities needed to expand and activate waterfront open space on the North bank of the Merrimack River.

CONTEXT

HYDROLOGICAL HERITAGE

Saint Louis Park is a small parcel with the potential to have a big environmental impact. Lowell became the birthplace of the American industrial revolution because of its geographic location at the confluence of the Concord and Merrimack Rivers, where the elevation change and water pressure created the perfect conditions to power the textile mills of the 19th century.

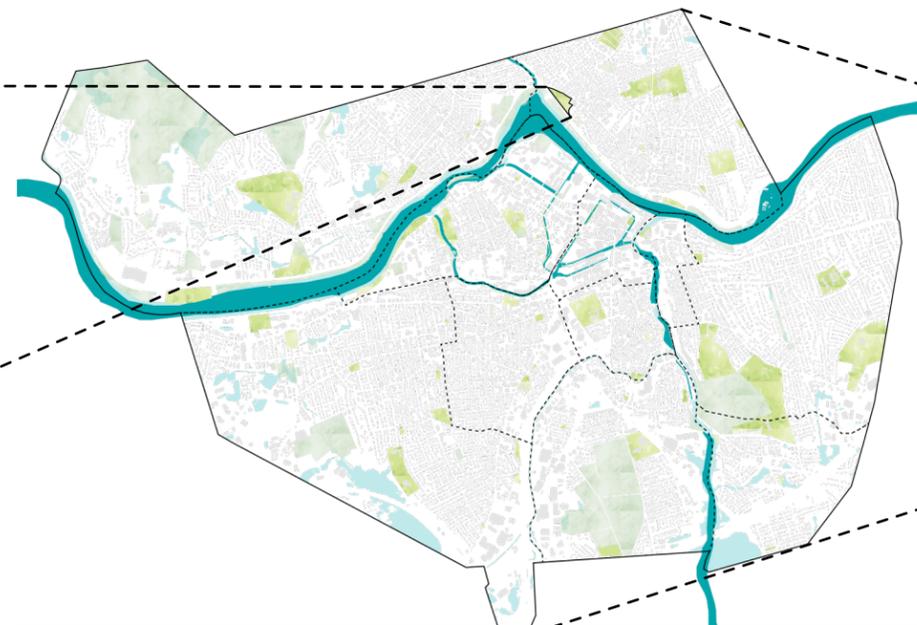
The Merrimack River stretches 117 miles,

drains 5,000 square miles, sustains 2.5 million people, and supplies drinking water to over 600,000 people among 200 Massachusetts and New Hampshire communities. This extensive hydrological system supports vital ecological, recreational, and cultural assets.

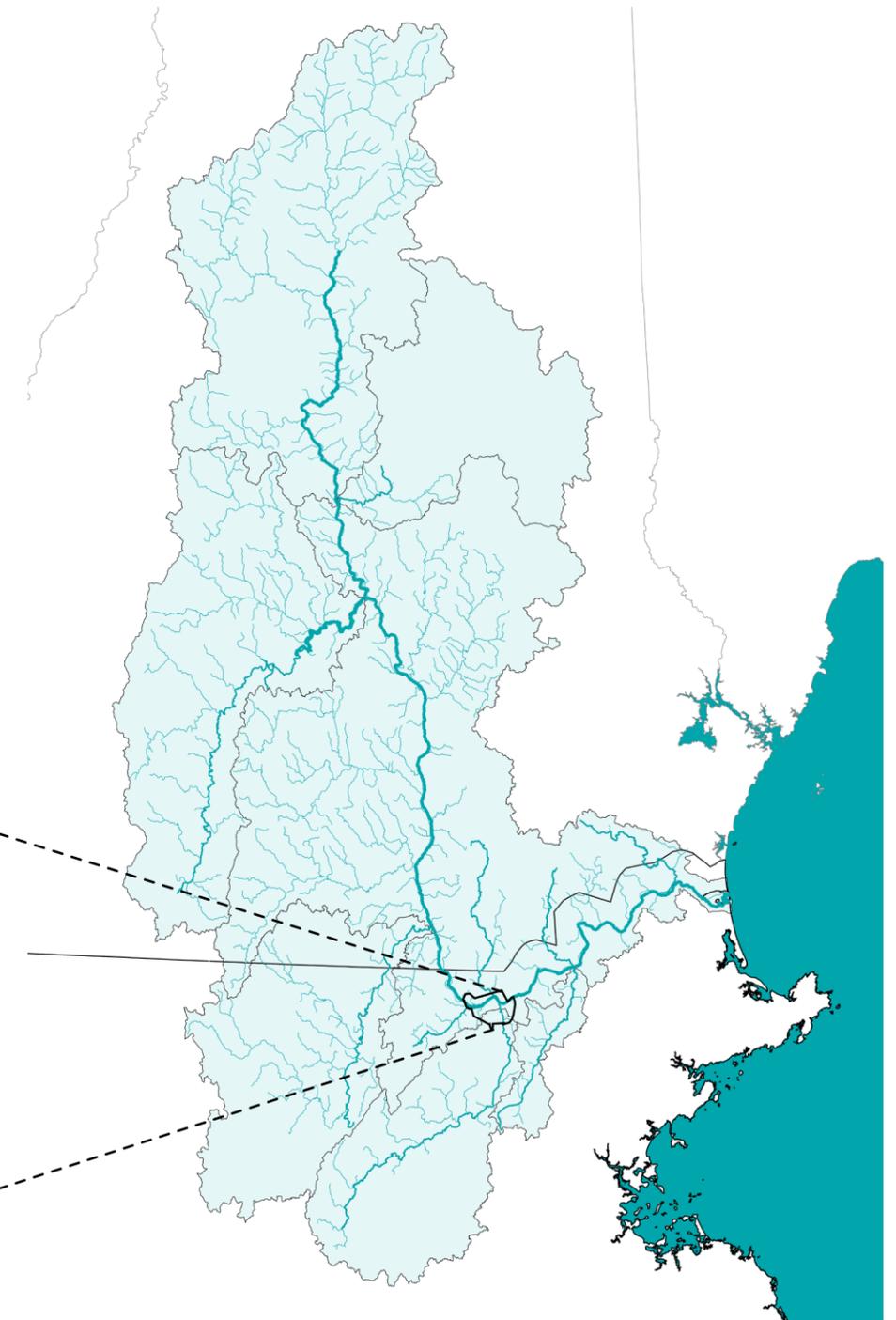
By transforming Saint Louis Park into a regional destination and model of climate resilience, the City hopes to catalyze similar green infrastructure projects to restore ecosystem services along the Merrimack River.



Saint Louis Park, Centralville

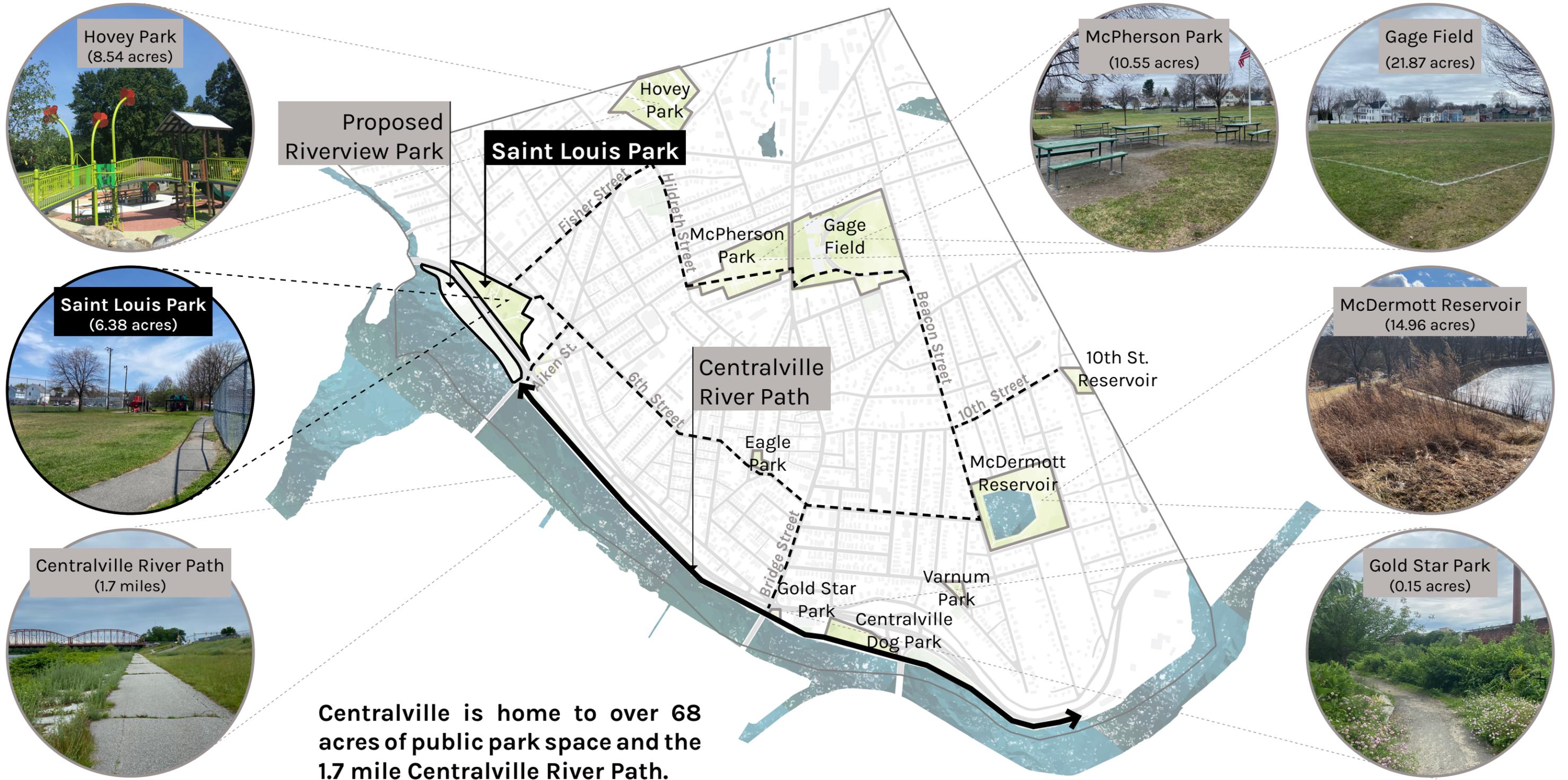


Lowell, Massachusetts



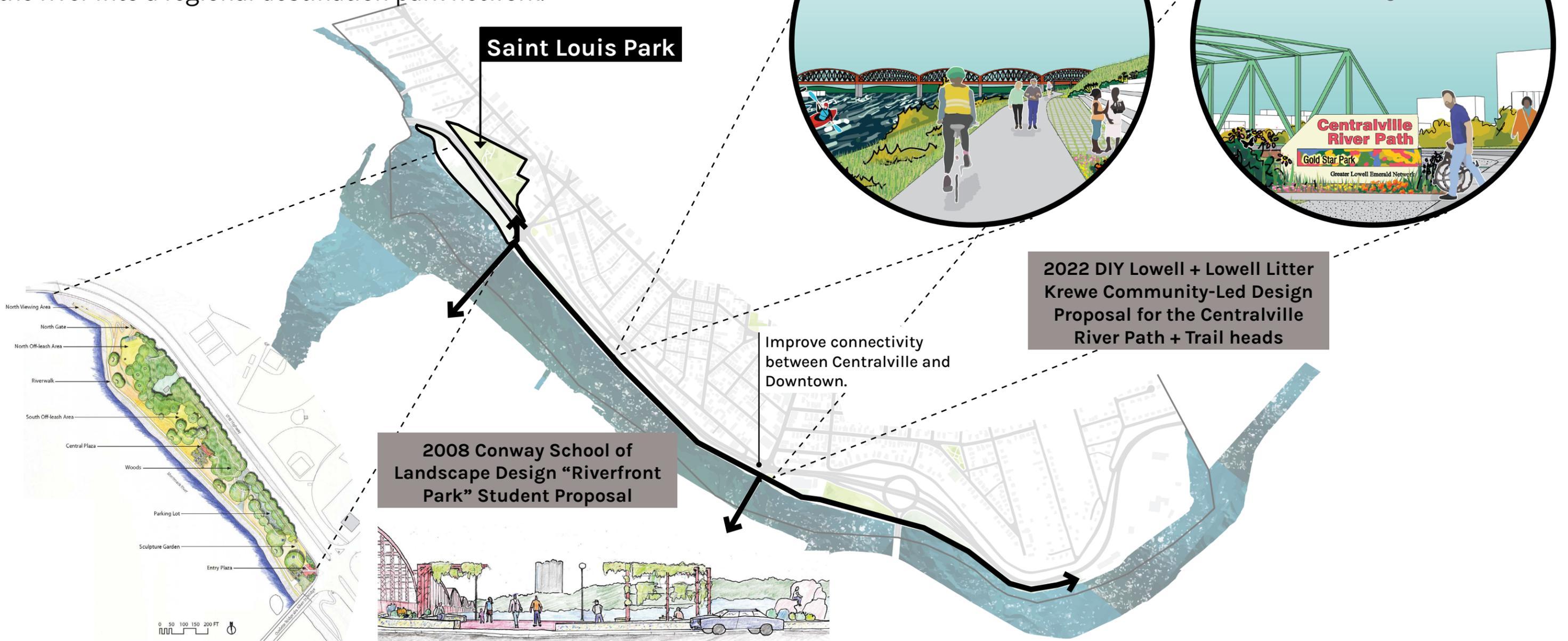
Merrimack River Watershed

CENTRALVILLE OPEN SPACE NETWORK

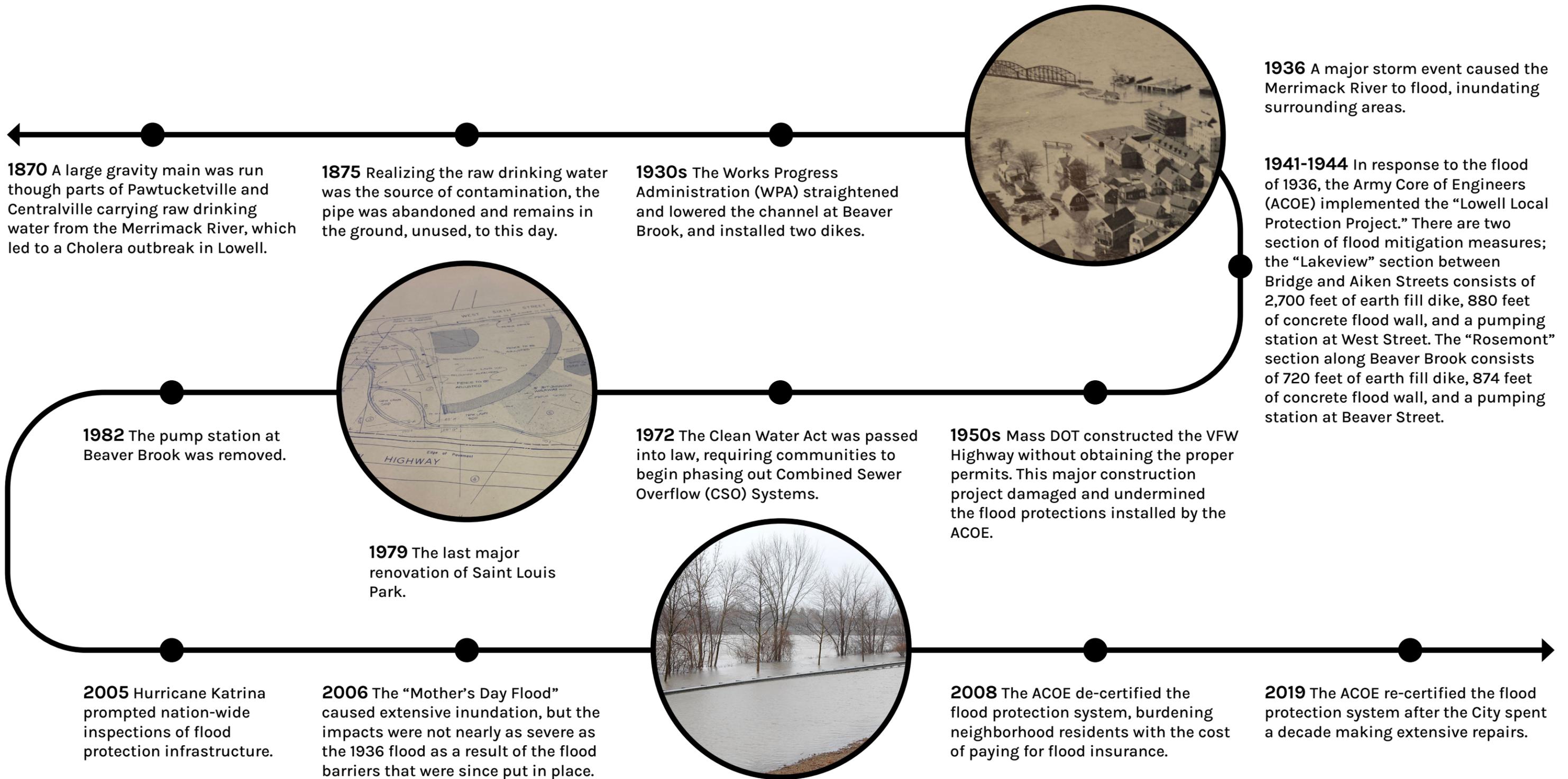


ACTIVATING THE RIVERFRONT

Over the years, a number of different professional and academic planning studies have identified activation of the Merrimack Riverfront as one of Lowell's greatest opportunities. Investing in Saint Louis Park will help catalyze the transformation of the north bank of the river into a regional destination park network.



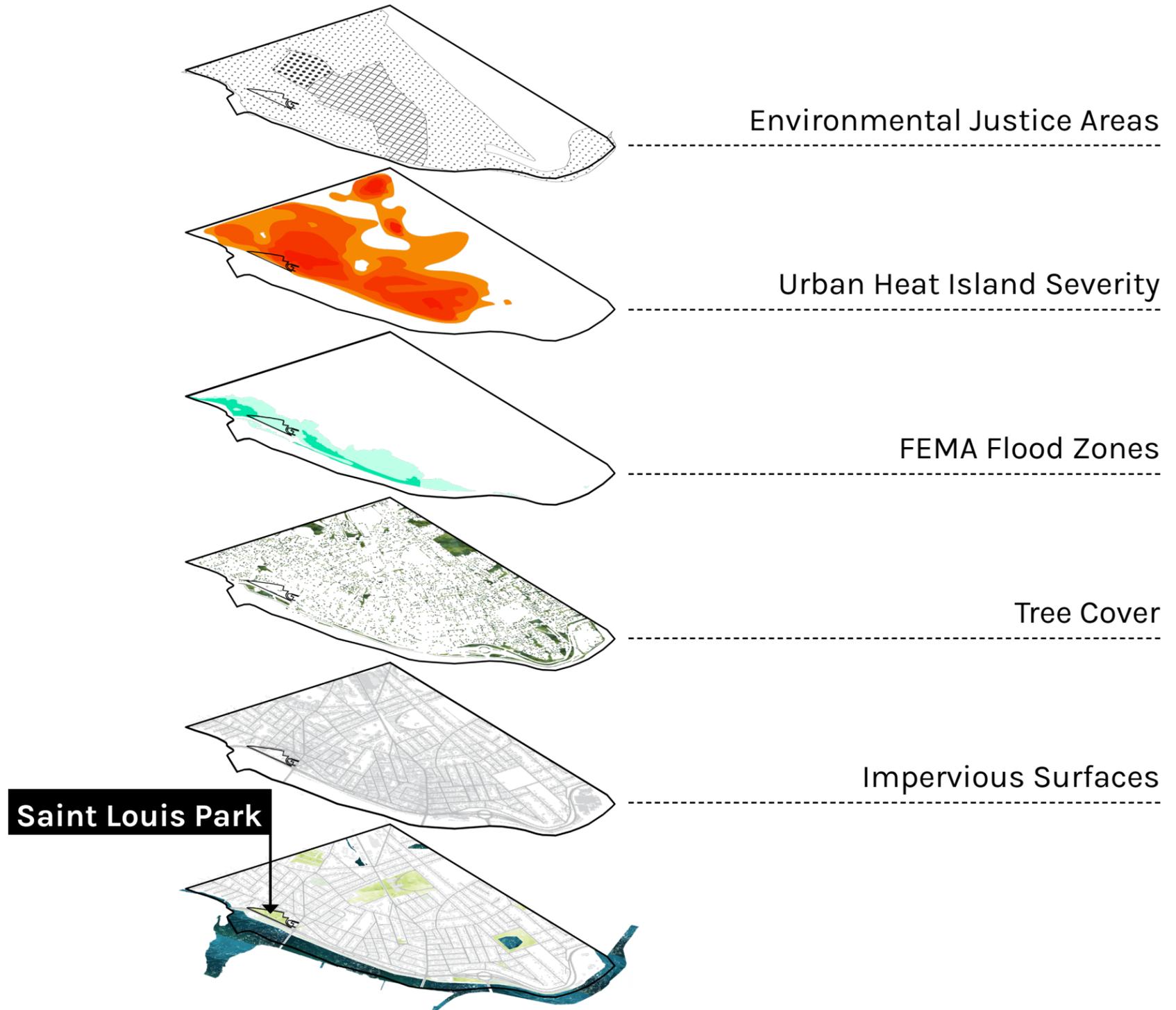
HISTORY



ANALYSIS

ADDRESSING ENVIRONMENTAL JUSTICE VULNERABILITIES

Saint Louis Park is located in an area that is vulnerable to environmental injustice. There is a high percentage of impervious surface and consequentially a low percentage of tree cover, causing it to be one of the hottest urban heat islands in the City. The population in this area meet the Massachusetts environmental justice criteria for minority population, low income, and language isolation. There are many other priority populations living in this area including those with disabilities, single-parent households, families with limited or no internet access, families who rely on public transportation, renters, and those with limited education. Prior to the construction of the ACOE flood levy, this neighborhood was also prone to severe flooding.



EXISTING CONDITIONS



Basketball Courts



Playground



Baseball Field



Multi-use Paths



Desire Line to Beaver Brook



Beaver Brook

EXISTING CONDITIONS



- 1. 3 Basketball Courts
- 2. Playground
- 3. Senior League Baseball Field
- 4. Little League Baseball Field
- 5. Parking

SAINT LOUIS PARK
406 West 6th Street

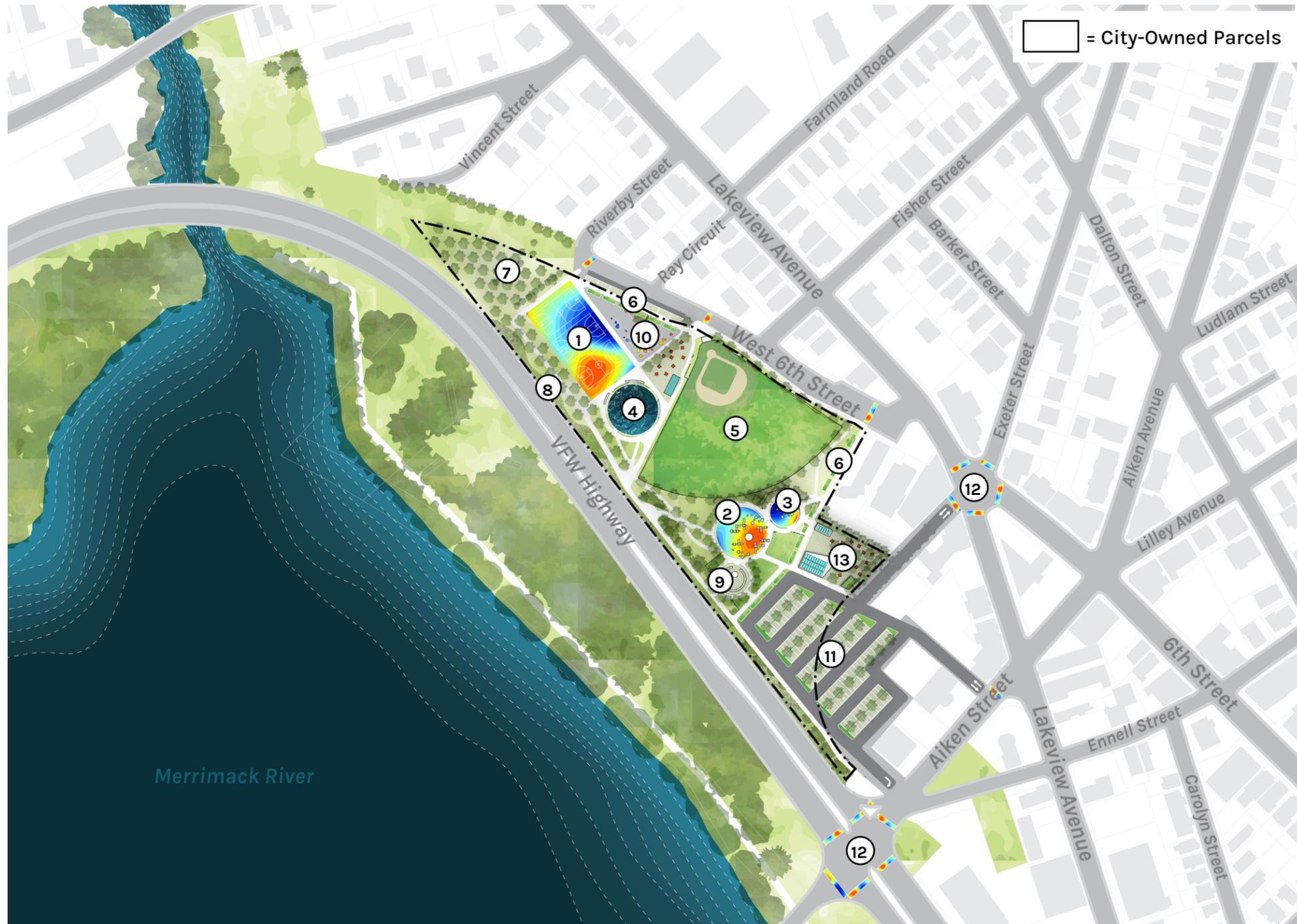
Drawn By: Jesa Wilson
Date: 3/6/2022

Projection: Lambert_Conformal_Conic
Coordinate: NAD_1983_StatePlane_Massachusetts_Mainland_FIPS_2001
Sources: City of Lowell, 2023.

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PROPOSED DESIGN CONCEPT



Phase 1

1. Upgraded low-albedo Basketball Courts
2. Upgraded universally accessible playground
3. Recirculating splash pad

Phase 2

4. Bio-retention Pond
5. Renovated Baseball Field Irrigated with Captured Stormwater Runoff
6. Bio-swales
7. Urban Reforestation
8. Pollinator Habitat
9. Outdoor Classroom
10. Climate-Themed Public Art

Phase 3 +

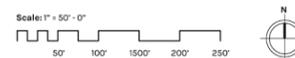
11. Expanded/reconfigured parking with permeable pavers, bioswales, shade trees, and EV charging stations
12. Painted crosswalks at Park entry points
13. Permeable picnic plaza and shade pavilion with a solar-powered concession building/public restrooms and bike storage shed with green roof

SAINT LOUIS PARK
406 West 6th Street

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PHASE 1 PRECEDENT IMAGES



Splash Pad



Universally Accessible Playground



Upgraded Basketball Courts

PHASE 2 PRECEDENT IMAGES



Bioretention Pond with "Soft" Edge



Bioswales



Urban Reforestation



Pollinator Habitat



Outdoor Classroom



Climate-Themed Public Art

PHASE 3 PRECEDENT IMAGES



Concessions



Public Restrooms



Picnic Plaza + Pavilion



Solar Power



Green Parking Lot



Bicycle Storage Shed with Green Roof

CASE STUDY

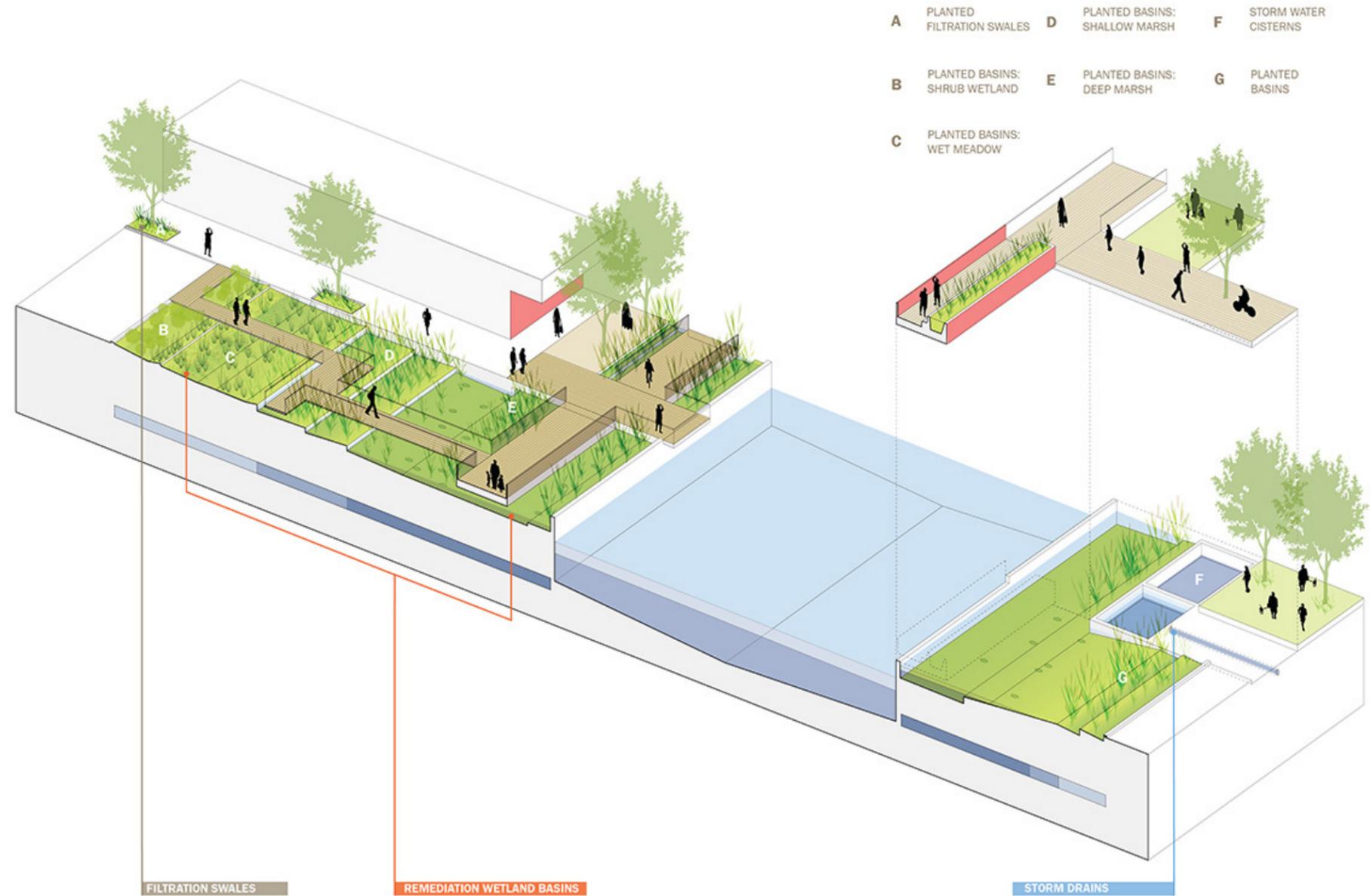
GOWANUS CANAL SPONGE PARK

Gowanus, Brooklyn, NY

DLAND Studio

Completed 2016

“Sponge Park™ re-directs, holds, and treats storm water runoff to minimize the volume of overflows that occur within the canal, reducing raw sewage contamination and thus helping to clean the watershed.”



Source: <https://dlandstudio.com/Gowanus-Canal-Sponge-Park-Pilot>

COMMUNITY ENGAGEMENT PLAN

ACCESSIBLE + TRANSPARENT

The Department of Planning and Development (DPD) is committed to providing all members of the Lowell community opportunities to engage in planning and design processes. DPD strives to offer a range of online and in-person engagement platforms in multiple languages geared toward all ages and abilities. Lowell hosts many popular cultural events throughout the year which allows DPD to meet people where they are to participate in engagement activities. Whenever possible, DPD budgets projects to offer live interpretation services, translated materials, child care or child-friendly activities, and food and water at public events.

Saint Louis Sponge Park Phase 1 scope is based off of previous feedback from the community. As part of the design process for Phase 2, DPD intends to work with a consultant to engage as many neighbors and stakeholders as possible to shape the future phases of improvements at Saint Louis Park and educate the community about the need for climate resilient infrastructure.



Bon Kathen Festival Engagement 11/6/2022



Interactive Model 10/8/2022

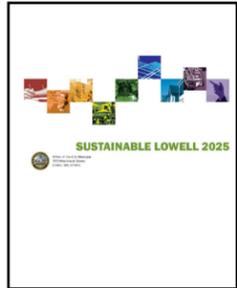


Community Mapping 7/17/2021



Pop-Up Public Meeting 7/17/2021

ALIGNMENT WITH CITY GOALS



SUSTAINABLE LOWELL 2025 MASTER PLAN

Sustainable Neighborhoods

- ▶ **Objective #3:** Prioritize land-use policies that promote walkable, well-networked neighborhoods.

- ▶ **Objective #7:** Ensure the integration of nature, green space, and high quality recreational resources into the urban landscape.
- ▶ **Objective #8:** Celebrate, improve, and activate waterfront resources.

Mobility + Access

- ▶ **Objective #1:** Promote bike and pedestrian mobility.

Vibrant and Unique Urban Hub

- ▶ **Objective #1:** Promote Lowell as a welcoming, safe, and attractive urban hub that serves the needs of residents, business, visitors, and other stakeholders.

Healthy + Sustainable Local Economy

- ▶ **Objective #16:** Repurpose vacant or under-utilized spaces for new, creative uses to eliminate blight that may discourage investment in surrounding properties.

Environmental Resilience

- ▶ **Objective #1:** The City of Lowell will set an example by prioritizing environmentally sustainable policies and practices.
- ▶ **Objective #2:** Develop policies and programs that will build upon the successes of reducing solid waste and increasing recycling citywide.
- ▶ **Objective #3:** Develop programs and policies to reduce the disposal of organic wastes into the waste stream.
- ▶ **Objective #4:** Improve water quality.
- ▶ **Objective #5:** Improve air quality and reduce carbon emissions through energy efficiency enhancements and the adoption of alternative fuels.

- ▶ **Objective #6:** Promote urban forestry as a method for improving public health as well as the physical and built environment.
- ▶ **Objective #7:** Produce energy from renewable sources.
- ▶ **Objective #8:** Seek to reduce the adverse impacts and severity of flood events.
- ▶ **Objective #9:** Prepare proactively for heat waves, droughts, ice storms, and other types of natural disasters so as to mitigate their negative impacts.
- ▶ **Objective #10:** Educate the public about the importance and urgency of climate change and carbon emission reduction.

ALIGNMENT WITH CITY GOALS



OPEN SPACE AND RECREATION PLAN 2019 - 2026

Goal #2: Install cycling infrastructure across the City; prioritize non-vehicular modes of travel and recreational opportunities for residents.

- ▶ **Action #5:** Install bike racks throughout neighborhood business districts, all schools and parks.

Goal #3: Increase the types and availability of water-based recreation opportunities for residents.

- ▶ **Action #1:** Build additional splash pads in neighborhoods across the City and continue to maintain public pools accessible to residents.

Goal #4: Prioritize improved maintenance, security, and preservation of parks and open spaces across the City and enhance these spaces with the new amenities requested by residents.

- ▶ **Action #11:** Adopt creative ways to introduce more greenery into municipal projects including the installation of green roofs and green/living walls on appropriate municipal projects.
- ▶ **Action #12:** Increase vegetation and natural landscapes in more densely populated neighborhoods that have limited park spaces.
- ▶ **Action #18:** Install more picnic tables at select park locations to provide more picnic locations at parks across the City.
- ▶ **Action #20:** Provide better restroom facilities at parks.

Goal #5: Streamline communication to the public about parks, open spaces, amenities, and events to increase knowledge of and access to these offerings.

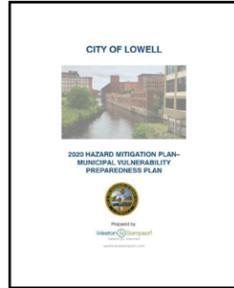
- ▶ **Action #1:** Add signage at parks - explaining the history of location names and background information about the location prior to the park's creation.

- ▶ **Action #5:** Install maps at parks that show the locations of other parks and green spaces in the area and routes to follow to get there.
- ▶ **Action #6:** Translate important signage and information about open space and recreational opportunities into other languages.

Goal #6: Increase recreational opportunities and modify existing parks and open spaces so that all residents regardless of age, ability, and neighborhood of residence can enjoy them.

- ▶ **Action #2:** Work with the Disability Commission to identify appropriate accommodations to existing recreational programming the may provide more access to City residents with disabilities.
- ▶ **Action #4:** Install equipment geared toward older children, teens, and adults such as obstacle courses and climbing walls.

ALIGNMENT WITH CITY GOALS



2020 HAZARD MITIGATION PLAN - MUNICIPAL VULNERABILITY PREPAREDNESS PLAN

Dams + Gate Houses

- ▶ Identify and address vulnerabilities of the earthen dam near Beaver Brook Bridge

Street Trees + City-wide Tree Canopy

- ▶ Create a replacement plan for lost trees along with funding source/ Strengthen tree replacement requirements
- ▶ Public education on benefits of trees

Non-profit Community

- ▶ Create public art related to climate risks

Parks and Public Spaces

- ▶ Evaluate waterside park infrastructure for flood-resistance. Evaluate parks along roadways and waterways to increase LID stormwater management to alleviate flooding.
- ▶ Incorporate educational component
- ▶ Add splash pads, shade trees, etc. to cope with extreme heat events
- ▶ Focus tree planting in environmental justice neighborhoods and public spaces where tree canopy is most scarce.

ANTICIPATED PHASING / BUDGET

Note: Project phasing and budget are subject to change

Funding Source	Funding Source	Funding Amount
PHASE 1: Recreational Upgrades <i>Design, Engineering, Permitting, Community Engagement, and Construction</i>	State Earmark	\$350,000
	ARPA	\$1,275,000
	Total Project Budget	\$1,625,000
PHASE 2: Green Infrastructure <i>Design, Engineering, Permitting, and Community Engagement</i>	MVP	\$750,000
	CDBG or CPA	\$250,000
	Total Project Budget	\$1,000,000
PHASE 2: Green Infrastructure <i>Construction</i>	MVP	\$3,000,000
	TBD (CDBG + CPA?)	\$1,000,000
	Total Project Budget	\$4,000,000
PHASE 3: Capital Improvements <i>Design, Engineering, Permitting, Community Engagement, and Construction</i>	TBD	\$2,000,000
	TBD	\$2,000,000
	Total Project Budget	\$4,000,000
Total Project Cost		\$10,625,000

ANTICIPATED SCHEDULE

Note: Project schedule is subject to change

	FY24	FY25	FY26	FY27	FY28	FY29	FY30
	2024	2025	2026	2027	2028	2029	
PHASE 1: Capital Improvements							
Design, etc.	[Shaded]						
Construction		[Shaded]					
PHASE 2: Climate Resilience / Green Infrastructure							
Secure Funding (MVP + Match)	[Shaded]						
Community Engagement + Design	[Shaded]						
Community Engagement + Permitting			[Shaded]				
Secure Funding (MVP + Match)			[Shaded]				
Construction					[Shaded]		
PHASE 3: Expanded Amenities (Parking, Concessions, etc.)							
Secure Funding (TBD)				[Shaded]			
Design, etc.					[Shaded]		
Construction						[Shaded]	

