

MALDEN RIVER WORKS

FOR WATERFRONT EQUITY + RESILIENCE

WELCOME to the 5th Public Meeting!

- | | |
|---------|--|
| 6:20 pm | Zoom introduction |
| 6:30 pm | Meeting starts & welcome |
| 6:40 pm | Introducing a new phase in the project |
| 7:00 pm | Q&A |
| 7:10 pm | Breakout sessions |
| 7:30 pm | Return to main room |
| 7:35 pm | Close |





Speaker View

 Alice Brown	 Amber, Mystic River ...	 Emma Bird	 Nick Black
 ruthraphael	 Gustavo Q	 Jenny Effron	 Liza
 Nick Iselin	 Gretchen Rabinkin	 cheri ruane	 Richard McGuinness
 Brie Hensold	 Amy Whitesides	 GORDON CARR	 Vivian Ortiz

 Jesse Brackenb...	 Laura Jasinski, C...
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Participants (18)

Find a participant

- AM Amber, Mystic River Waters... (Me)
- Alice Brown (Host)
- RM Richard McGuinness
- NI Nick Iselin
- AW Amy Whitesides
- Brie Hensold
- CP cheri ruane

Invite Unmute Me **Raise Hand**

Zoom Group Chat

To: Everyone

Type message here...

Unmute Stop Video

18

Participants Chat

Share Screen Record Reactions

Leave

Breakout room themes

Add your preferred **theme** to your name:

Design

Learn more about the Concept Design

Engineering

Learn about engineering for climate resilience

Community

Connect with your community

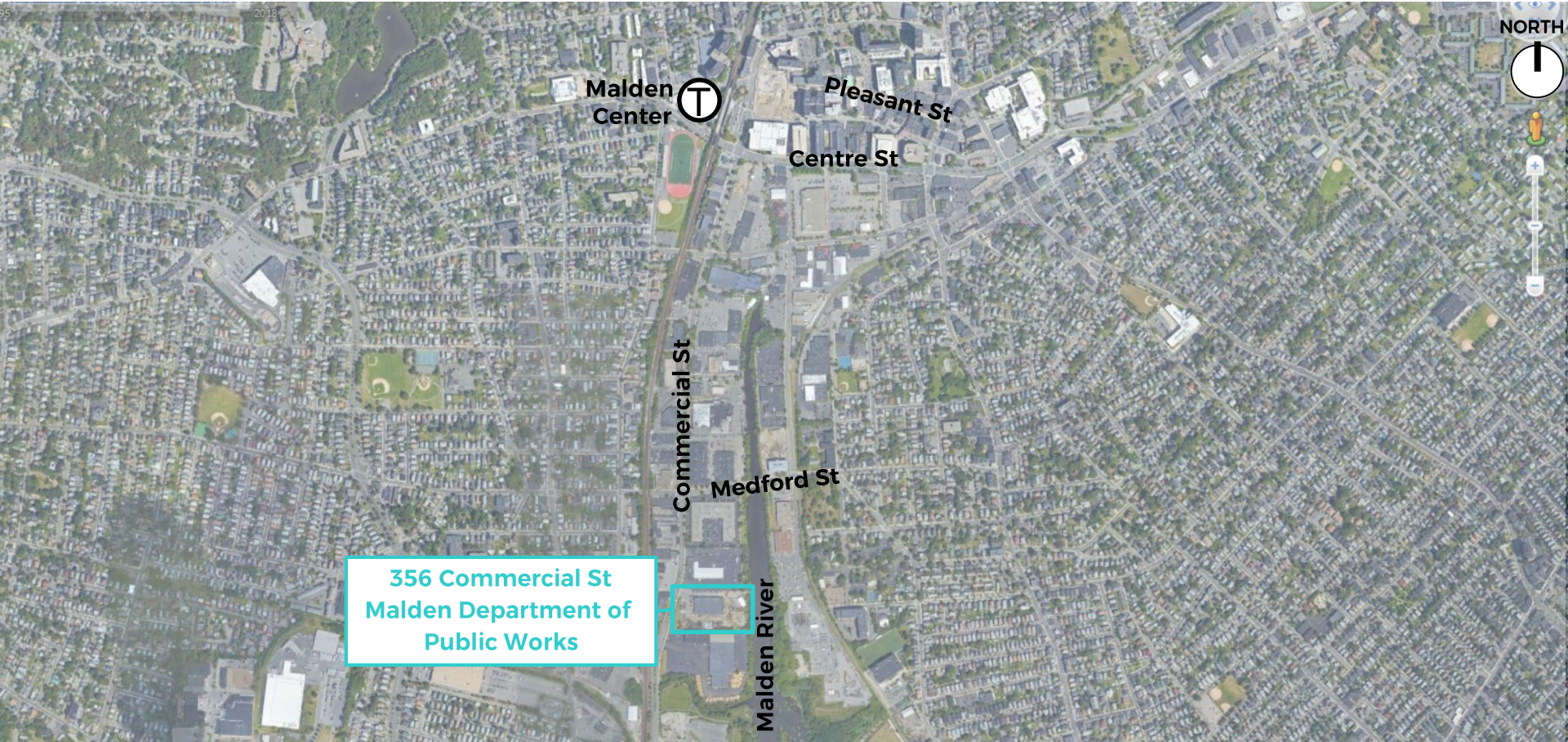
Nature

Learn about plants & animals of the Malden River

Youth

Participate in the youth PhotoVoice project

Malden River Works - Project location



356 Commercial St
Malden Department of
Public Works

356 COMMERCIAL STREET



Parking

Boathouse

Main Building

Malden River

Commercial St

**MVDC
Parcel**

**Materials +
Equipment**



Design process

4 Public Meetings

- October 2019 – 90 attendees
- January 2020 – 85 attendees
- May 2020 – 75 attendees (virtual)
- August 2020 – 55 attendees (virtual)

3 Surveys

- Nearly 700 responses in total

8 Steering Committee Meetings



Design Goals

Flexibility

Accommodate a variety of different uses and types of experiences.

Connectivity

Plan for greenway connections to the north and south along the river. Identify opportunities for better public transportation to the river.

River Access

Make connections visually and physically to the river. Create public boating opportunities.

Inclusivity

Create welcoming and safe access for people of all ages and abilities.

Nature

Incorporate trees and plants, wildlife habitat, create opportunities for learning about natural systems, and create a sense of being in nature.

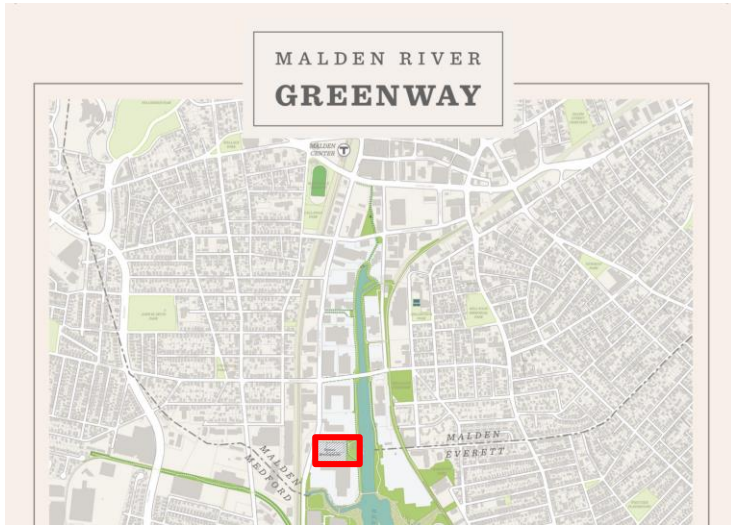
Celebrate Malden

Reflect the communities, stories, and cultures of Malden in the design of the park and the DPW!

Climate resilience

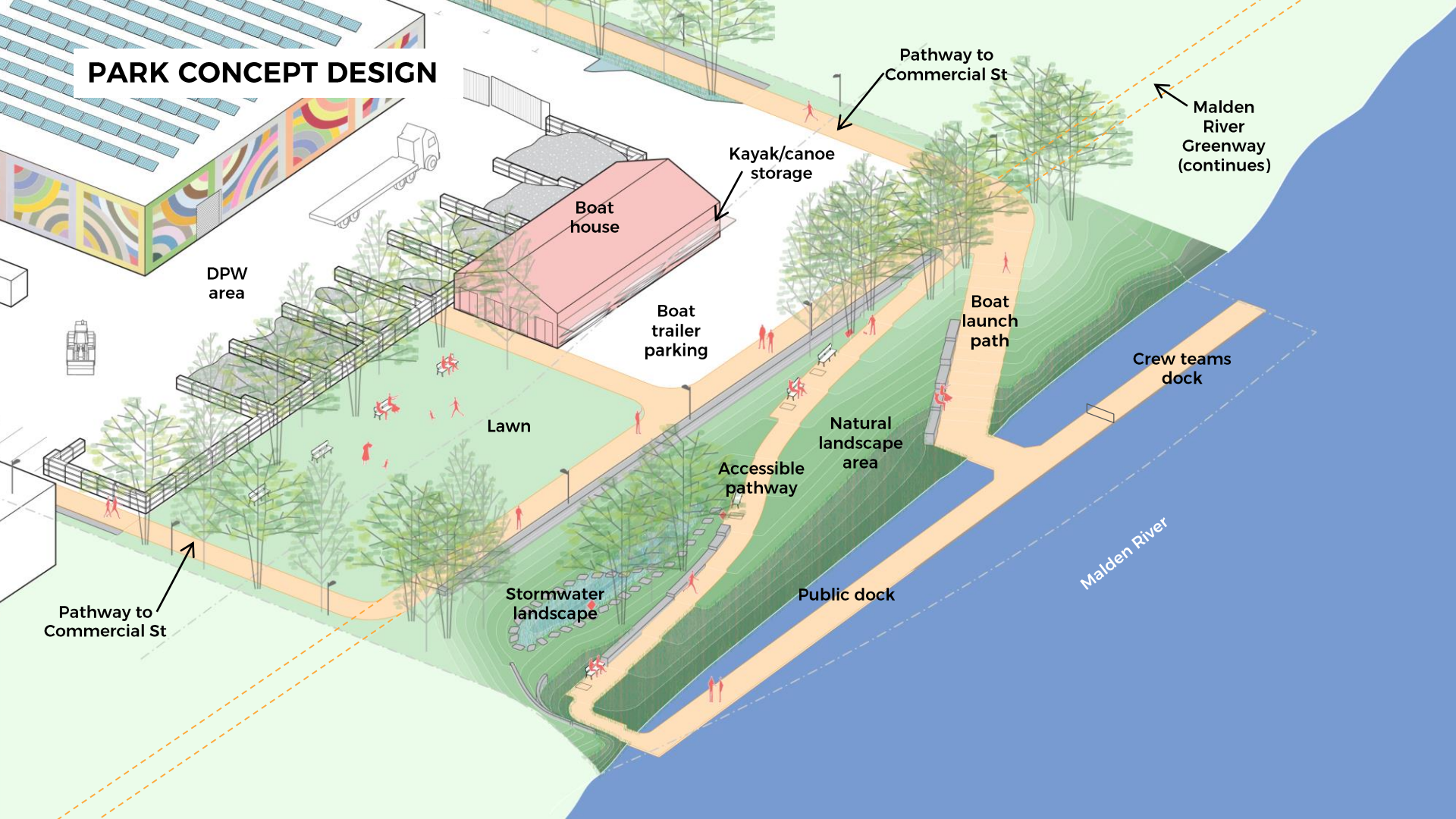
Use the park to improve climate resilience

- For flooding from sea level rise: create a flood resilient Malden River Greenway
- For flooding from storms: Use nature-based processes (plants and soils) to hold and filter stormwater
- For extreme heat: Increase tree and plant coverage to lower local temperatures



Left to right: Malden River Greenway plan, elevated walkway at Hunter's Point South (NYC), nature-based water management in Toronto. See the full Concept Design Report at maldenriverworks.org

PARK CONCEPT DESIGN



Pathway to Commercial St

Malden River Greenway (continues)

Kayak/canoe storage

Boat house

DPW area

Boat trailer parking

Boat launch path

Crew teams dock

Lawn

Natural landscape area

Accessible pathway

Stormwater landscape

Public dock

Malden River

Pathway to Commercial St

THE FLEXIBLE LAWN



PATHS TO THE RIVER



STORMWATER LANDSCAPE



Concept Design Report

Visit www.maldenriverworks.org
to read the report

MALDEN RIVER WORKS
FOR WATERFRONT EQUITY + RESILIENCE

Concept Design Report
October, 2020

Logos and text from partner organizations include:
 MIT CEHS (Center for Environmental Health Sciences)
 MRC (Malden River Watershed Association)
 Friends of the Malden River
 Malden Redevelopment Authority
 LCAU (Lumina Center for Advanced Urbanism)
 Malden City Seal

Handwritten sticky notes contain various ideas and feedback, such as:
 - "I like the natural boardwalk"
 - "Trees/shade in the walking area"
 - "Add some trees!"
 - "More seating"
 - "Mix of theater + open space"
 - "Open up people walk + bicycle lane"
 - "Trees"
 - "I like the amphitheatre design"
 - "I like the amphitheatre"
 - "PATH OVER WATER"
 - "I like this amphitheatre"
 - "I like this amphitheatre"
 - "I like this amphitheatre"
 - "I like this amphitheatre"

Introducing a new phase

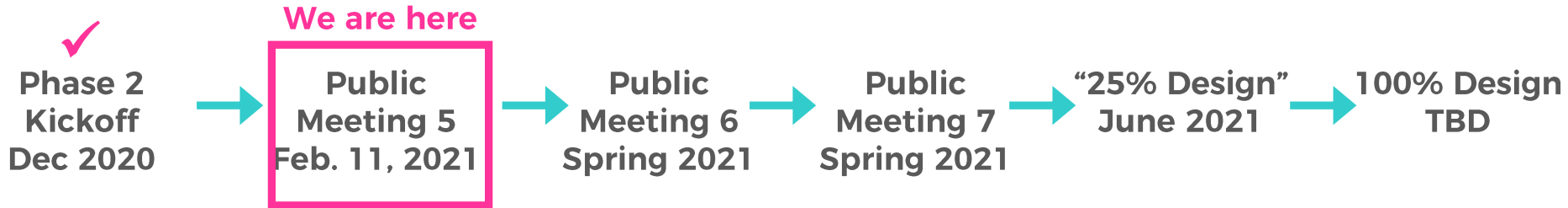
- Goal: Develop the Concept Design to “25% Design”
 - Gather more information about the physical features of the project site
 - Survey: grades, property lines, utilities
 - Evaluate options for historic pollutants
 - Make related updates and adjustments to the design
 - Find out more about permitting requirements and construction budget
- Funding: MVP Action Grant + 25% match
 - MIT Leventhal City Prize and donated staff & volunteer time
 - MAPC & Barr Foundation Accelerating Climate Resiliency Grant

Timeline

Phase 1: The Concept Design Process



Phase 2: The Design Development & Permitting Process



Building the team

- Design & engineering team:
Landing Studio
Horsley Witten Group
Offshoots



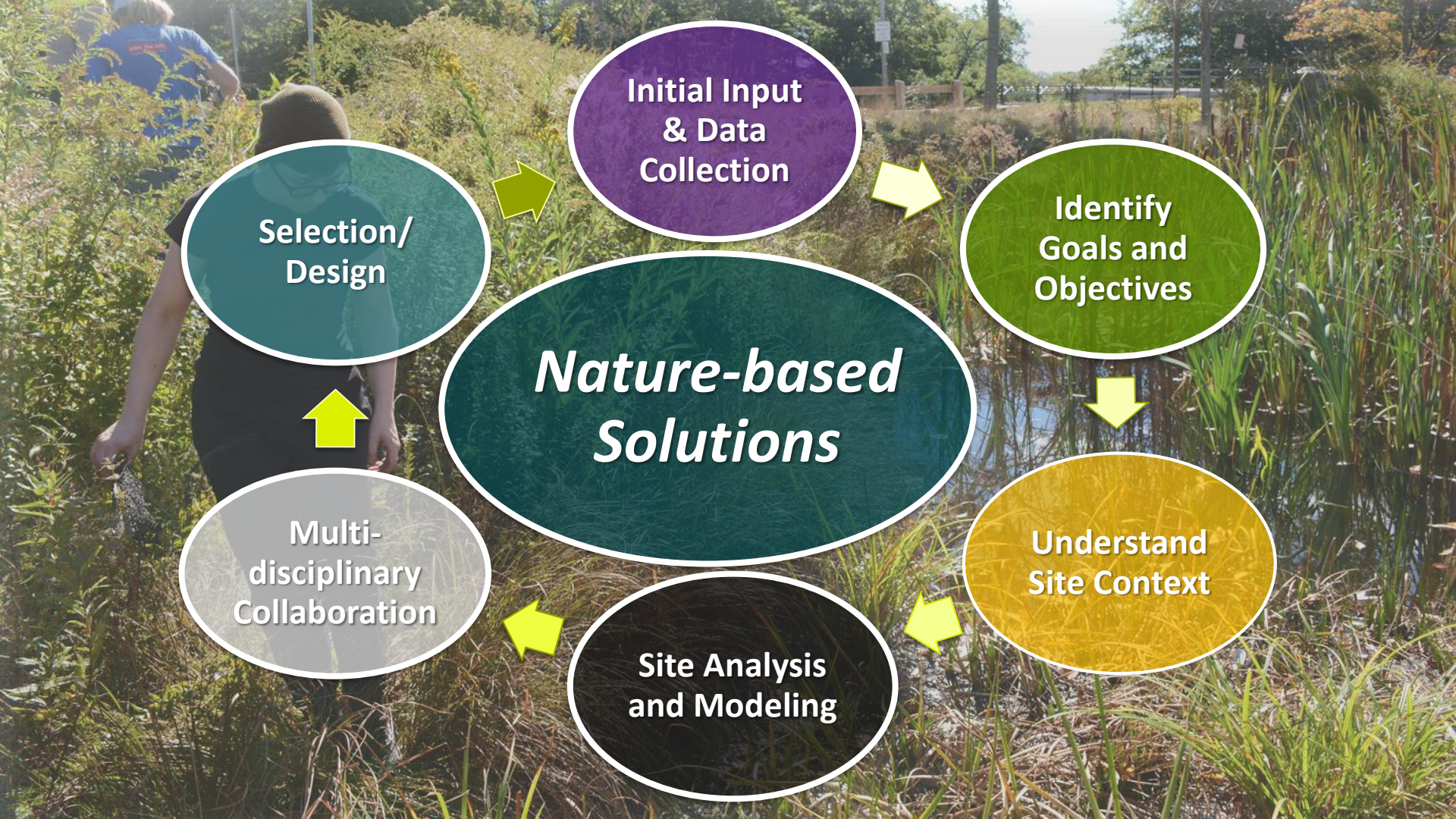
Photo: The team doing a field visit in January

Introduction to the Engineering Team



Brian Kuchar, PE, RLA
Jen Relstab, PE
Kate Kennen, RLA





**Selection/
Design**

**Initial Input
& Data
Collection**

**Identify
Goals and
Objectives**

***Nature-based
Solutions***

**Understand
Site Context**

**Multi-
disciplinary
Collaboration**

**Site Analysis
and Modeling**



What are Nature-based Solutions?

- **Designed with Mother Nature in mind**, using plants and soils to solve ecosystem challenges. Water is a resource, not a problem.
- **Provide economic and social benefits**, such as open spaces and parks, reduced flooding, and more trees that clean our air and cool our waterways!
- **Resilient and sustainable**, using flexible landscapes to allow ecosystems to withstand and adapt to climate impacts.

Examples of Nature-based Solutions



**Salt Marsh System – Gray’s Beach,
Kingston MA**



**Floodable Park/Open Space – Veterans
Memorial Park, Peabody, MA**



**Bioretention Area – Parking Lot
Public Library, Sandwich, MA**

Green Stormwater Infrastructure



Shoreline Restoration

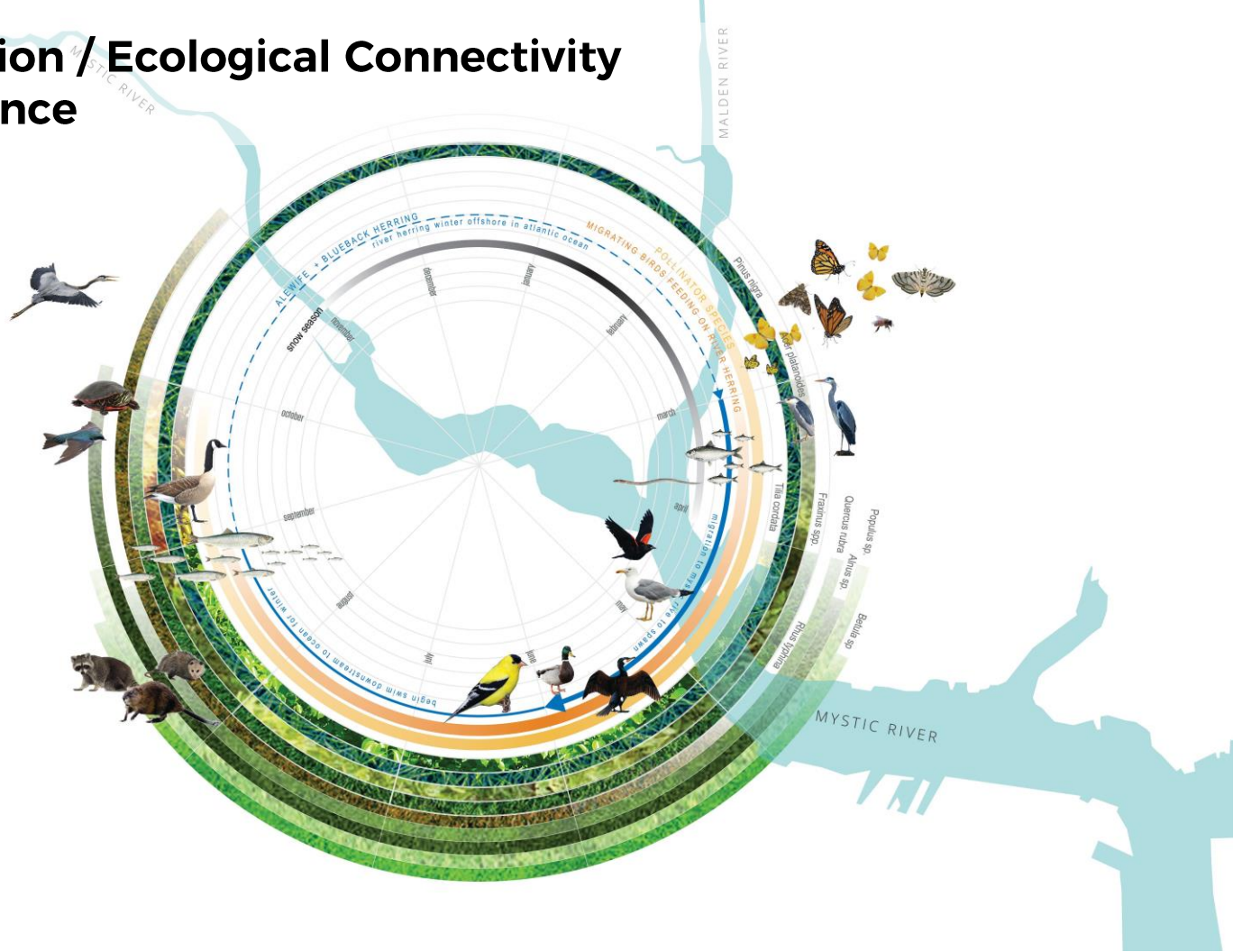




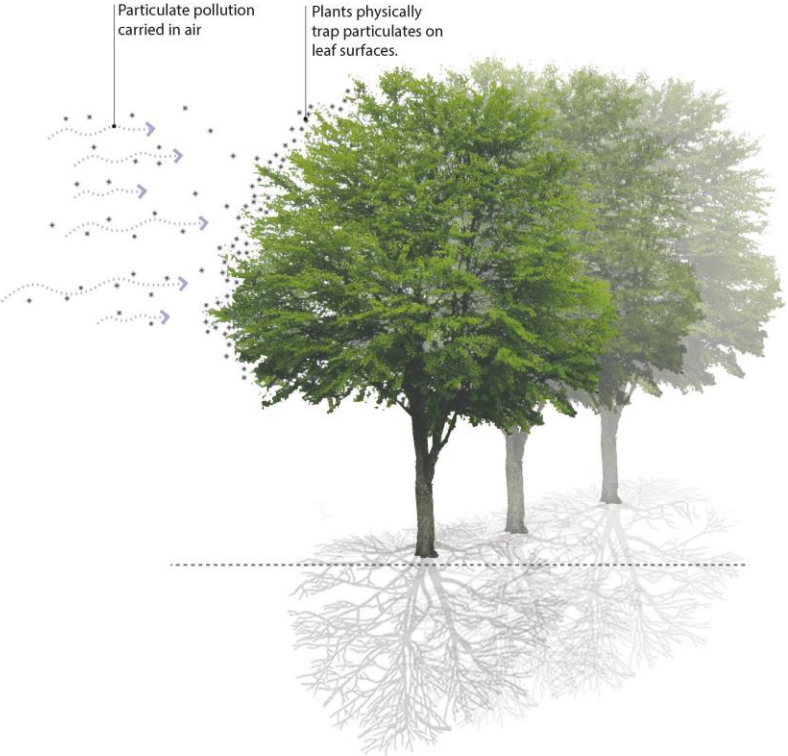
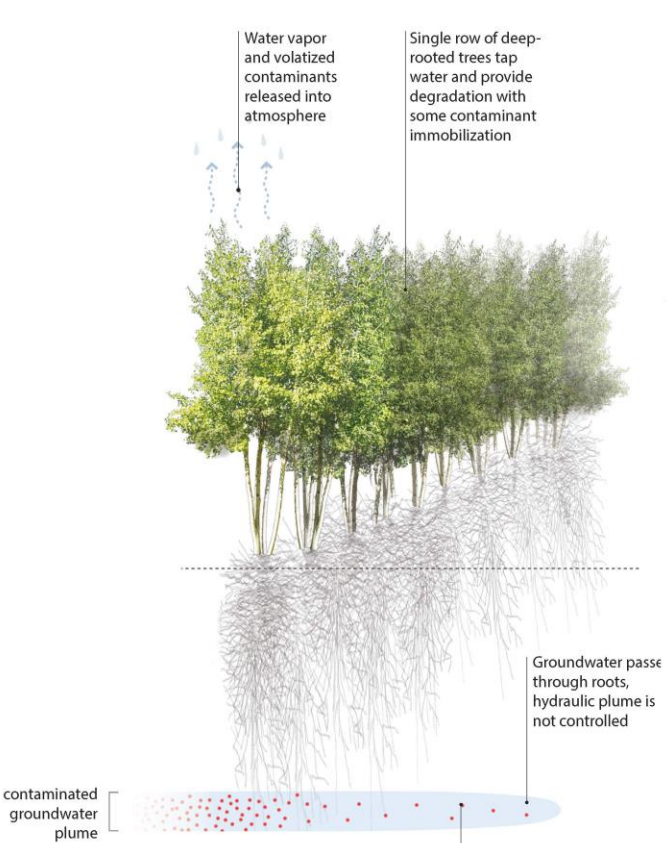
Spontaneous Urban Vegetation/ Mix of Native and Non-Native Species



Native Vegetation / Ecological Connectivity Climate Resilience



Phytoremediation



Existing Site Photos: 11.09.20



Where are we at... and where are we going?

- ✓ **Completed our site surveys**, including grading and vegetation.
- ✓ **Completed a survey of Malden River** to capture river depths and underwater features.
- ✓ **Reviewed historical reports on soil and groundwater conditions** to begin to understand site pollutants and contamination risks.
- ❑ **Identify site appropriate nature-based solutions** and begin the modeling and sizing of green stormwater infrastructure.
- ❑ **Collaborate** with the City and community groups to vet the designs.
- ❑ **Develop design details and estimate costs** for the preferred concept design.

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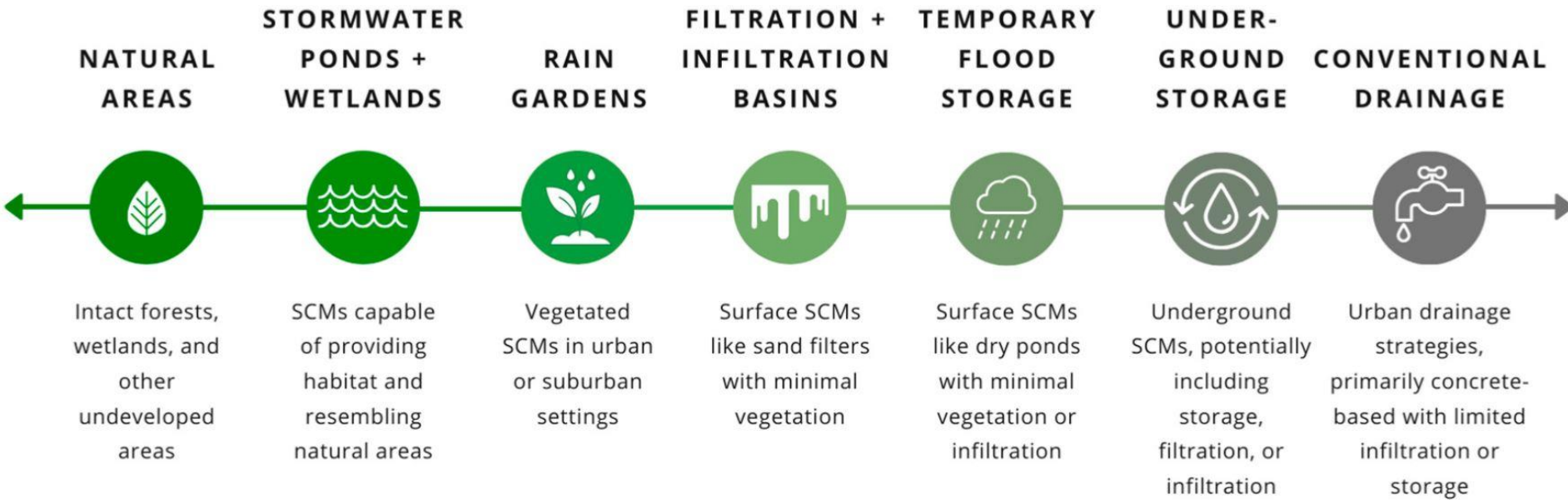
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Additional Slides

"GREEN" INFRASTRUCTURE

"GRAY" INFRASTRUCTURE



Living Shorelines



LIVING SHORELINES SUPPORT RESILIENT COMMUNITIES

Living shorelines use plants or other natural elements—sometimes in combination with harder shoreline structures—to stabilize estuarine coasts, bays, and tributaries.



One square mile of salt marsh stores the carbon equivalent of **76,000 gal of gas** annually.



Marshes trap sediments from tidal waters, allowing them to **grow in elevation** as sea level rises.



Living shorelines improve **water quality**, provide fisheries **habitat**, increase **biodiversity**, and promote **recreation**.



Marshes and oyster reefs act as natural **barriers** to waves. **15 ft** of marsh can **absorb 50%** of incoming wave energy.



Living shorelines are **more resilient** against storms than **bulkheads**.



33% of shorelines in the U.S. will be **hardened** by **2100**, decreasing fisheries habitat and biodiversity.



Hard shoreline structures like **bulkheads** prevent natural marsh migration and may create seaward **erosion**.

