Incorporating Diversity, Equity, and Inclusion in Infrastructure Projects

Weston & Sampson℠
transform your environment

CITY OF LYNN
COMMONWEALTH OF MASSACHUSETTS
Welcome To The City of Lynn Municipal Website

Panelists

Aaron Clausen
Principal Planning Director

City of Lynn

Deanna Lambert
Engineer III

Weston & Sampson

John Frey
Project Landscape Designer

Weston & Sampson

Presentation Takeaways

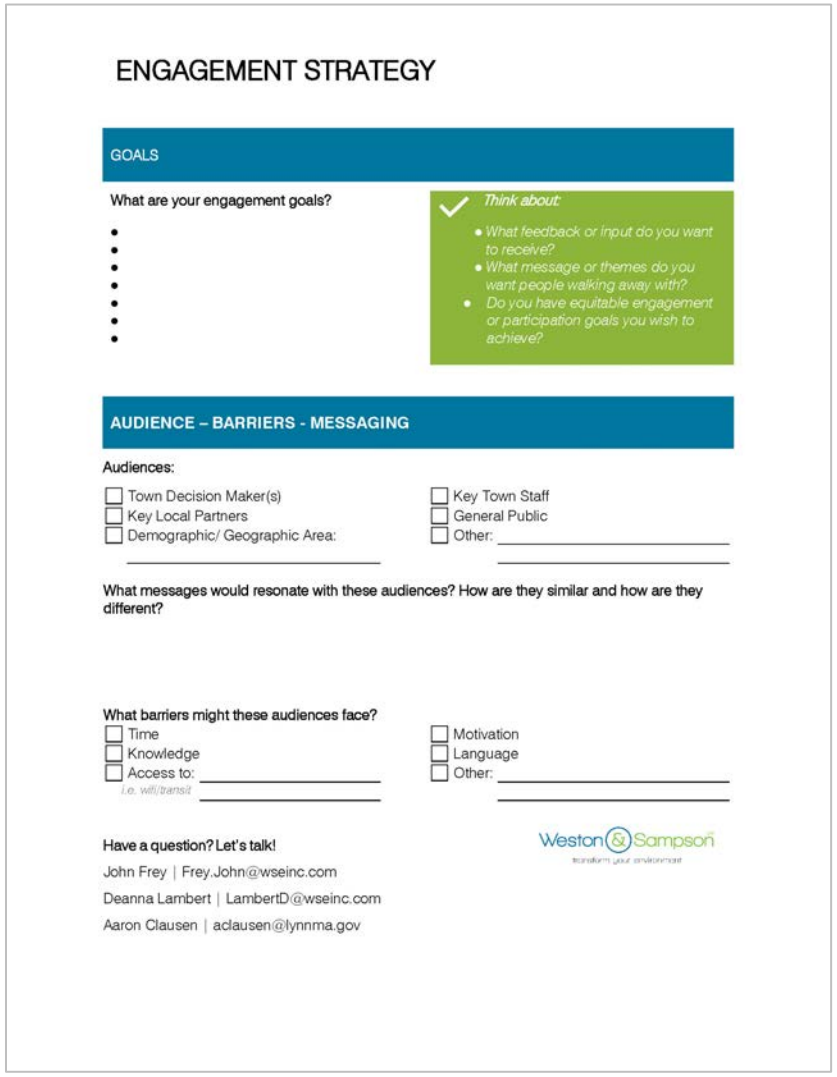
This session will present strategies to **incorporate diversity, equity, and inclusion into infrastructure projects** as part of engagement and prioritization in capital improvement plans.

Early and authentic public engagement can elevate understanding of infrastructural challenges and support for solutions.

Participants will learn about **resources to make their process more accessible, examples of articulating technical information, and strategies to facilitate interactive discussion.**

Presentation Handout

Use our handout to plan your next equitable **outreach and engagement process!**



ENGAGEMENT STRATEGY

GOALS

What are your engagement goals?

-
-
-
-
-
-
-

Think about:

- *What feedback or input do you want to receive?*
- *What message or themes do you want people walking away with?*
- *Do you have equitable engagement or participation goals you wish to achieve?*

AUDIENCE – BARRIERS - MESSAGING

Audiences:

- ☐ Town Decision Maker(s)
- ☐ Key Local Partners
- ☐ Demographic/ Geographic Area: _____
- ☐ Key Town Staff
- ☐ General Public
- ☐ Other: _____

What messages would resonate with these audiences? How are they similar and how are they different?

What barriers might these audiences face?

- ☐ Time
- ☐ Knowledge
- ☐ Access to: _____ *i.e. wifi/transit* _____
- ☐ Motivation
- ☐ Language
- ☐ Other: _____

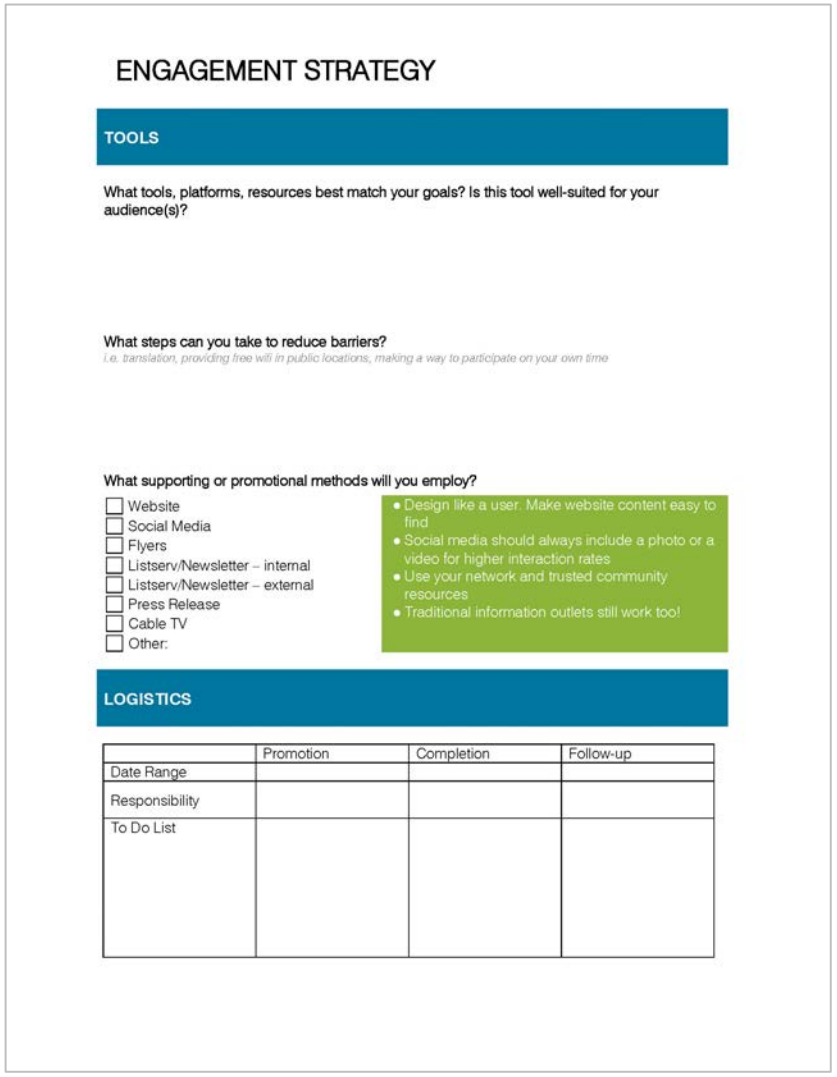
Have a question? Let's talk!

John Frey | Frey.John@wseinc.com

Deanna Lambert | LambertD@wseinc.com

Aaron Clausen | aclausen@lynnma.gov

Weston & Sampson



ENGAGEMENT STRATEGY

TOOLS

What tools, platforms, resources best match your goals? Is this tool well-suited for your audience(s)?

What steps can you take to reduce barriers?

i.e. translation, providing free wifi in public locations; making a way to participate on your own time

What supporting or promotional methods will you employ?

- ☐ Website
- ☐ Social Media
- ☐ Flyers
- ☐ Listserv/Newsletter – internal
- ☐ Listserv/Newsletter – external
- ☐ Press Release
- ☐ Cable TV
- ☐ Other:

- Design like a user. Make website content easy to find
- Social media should always include a photo or a video for higher interaction rates
- Use your network and trusted community resources
- Traditional information outlets still work too!

LOGISTICS

	Promotion	Completion	Follow-up
Date Range			
Responsibility			
To Do List			

Introduction to MVP Projects in Lynn

Aaron Clausen
Principal Planning Director

City of Lynn

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Municipal Vulnerability Preparedness (MVP)

1. MVP Planning Grant
   - Define climate hazards
   - Identify community vulnerabilities and strengths
   - Develop and prioritize adaptation actions
   - Receive MVP designation

2. MVP Action Grant
   - Implement priority adaptation actions identified during the planning process that will enhance the community's resilience

Funded by the Executive Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness (MVP) Program

CLIMATE CHANGE IMPACTS IN LYNN

Climate Change:
A shift in weather patterns and annual trends caused by the increase of greenhouse gases (GHGs) in Earth's atmosphere.

High Winds and Severe Storms

Sea Level Rise

Heavy Rain

High Temperatures

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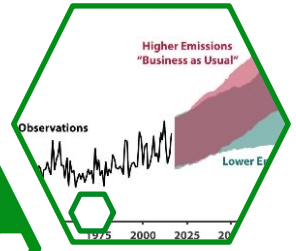
MVP CORE PRINCIPLES

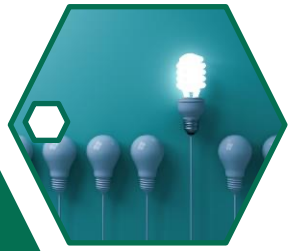
Multiple benefits to a broad cross-section of the community

Community outreach & engagement



Proactive solutions supported by climate data

Prioritize Nature-based Solutions



Think outside the box (& borders)

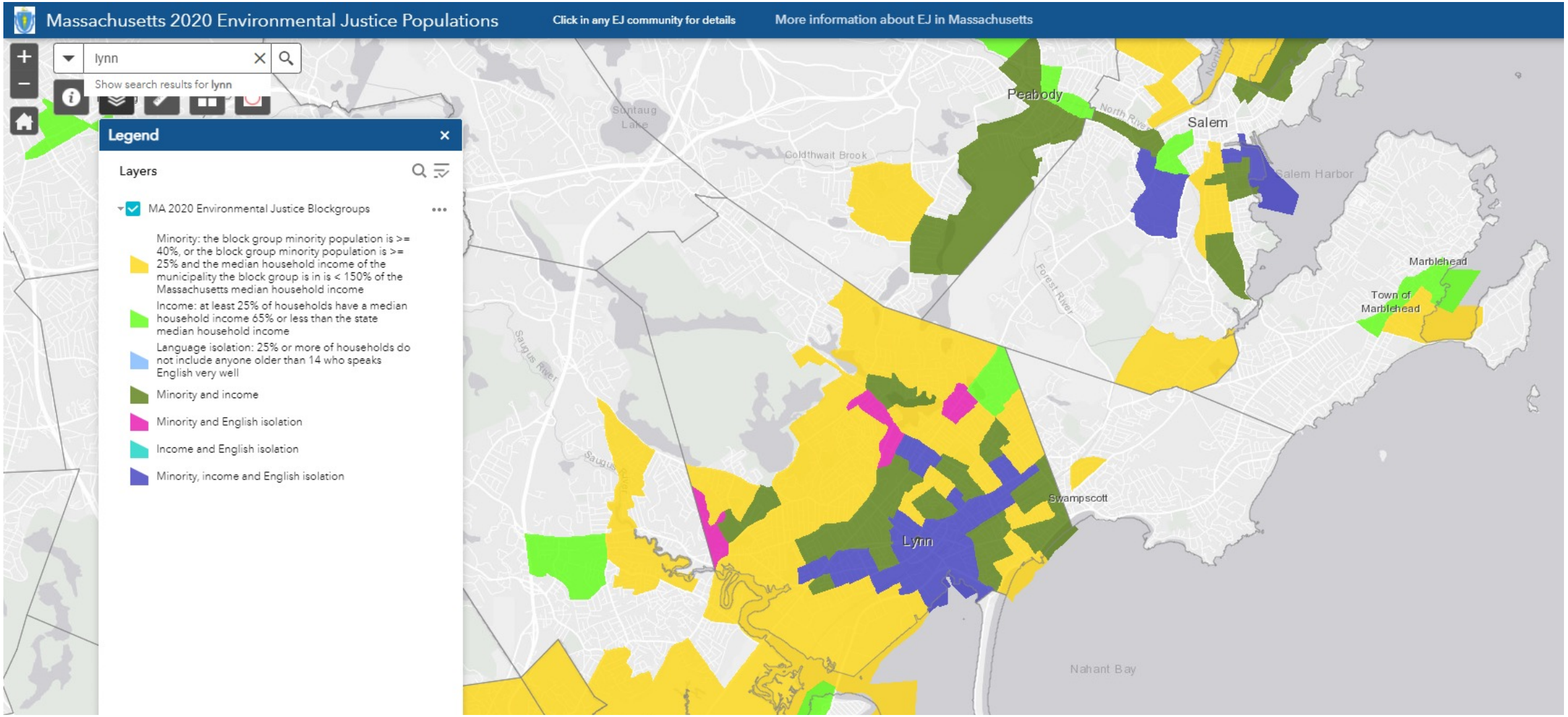
Address identified climate change impacts

Focus on Environmental Justice (EJ) Populations

Project monitoring & maintenance for continued success

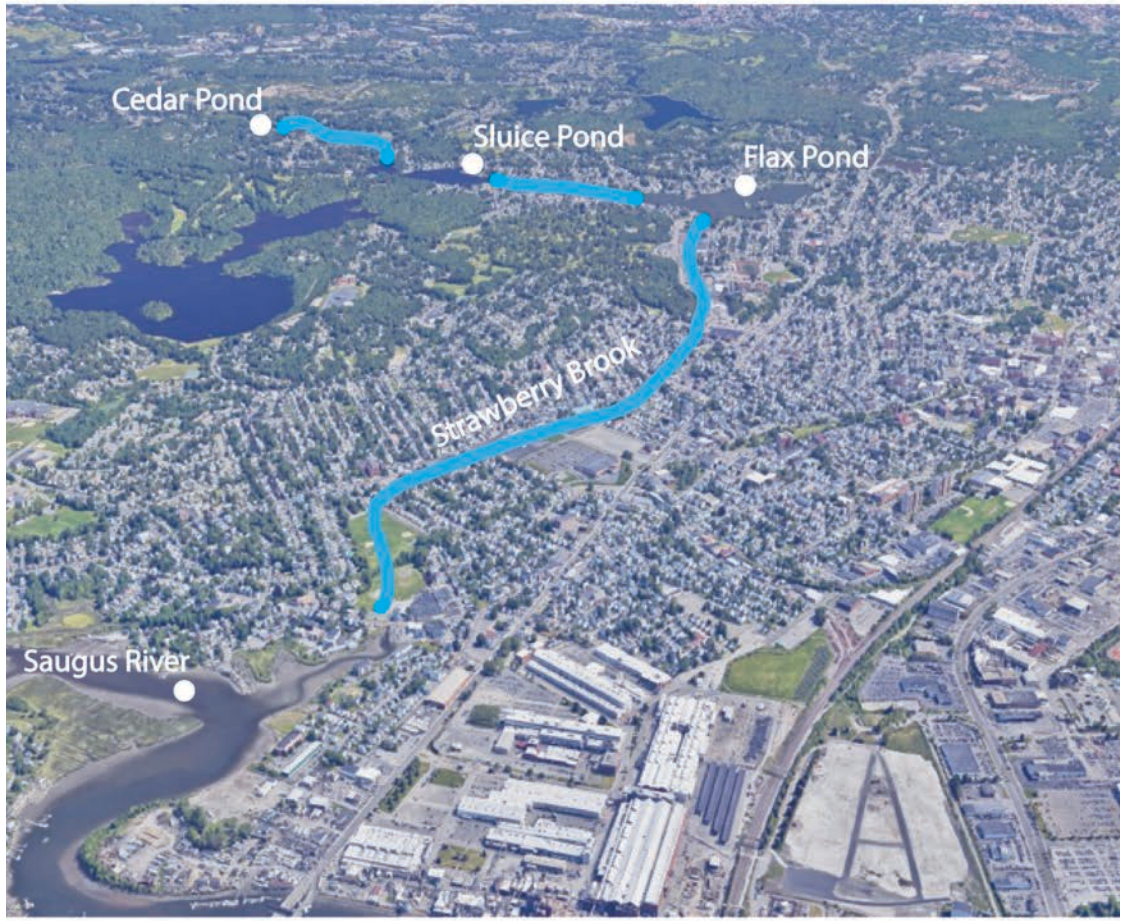
Knowledge Sharing (successes & failures)

Environmental Justice in Lynn



Project Timeline

- 2018: MVP Planning Grant
- 2020: MVP Action Grant, Strawberry Brook
- 2021: MVP Action Grant, Boston Street Green Infrastructure
- 2022: MVP Action Grant, Barry Park



MORE INFO AT:

lynnincommon.com/municipal-vulnerability-preparedness

Municipal Vulnerability Planning | Planificación de Vulnerabilidad Municipal

En Español

In 2018, the City of Lynn became a part of the Massachusetts Executive Office of Energy and Environmental Affairs' Municipal Vulnerability Preparedness (MVP) Grant Program to help communities plan for climate change and take action toward adapting for future impacts.

The first step was to conduct a Community Resilience Building Workshop, which resulted in a Summary of Findings Report. This report outlines several high priority projects, which the City has been actively pursuing grants to fund.

To date, we have been successful in securing funding to:

- Develop the Strawberry Brook Resilient Stormwater Management and Implementation Plan, funded through an MVP Action Grant. (Project complete, see the news feed.)
- Design Green Infrastructure Pilot Projects on Boston Street and in Barry Park/G.E.A.A. Field, funded through an MVP Action Grant. (Project in progress, see below.)

Green Infrastructure Pilot Projects (Updated September 2021)

Who's Listening | Quién está escuchando

Aaron Clausen

Principal Planner
City of Lynn

Phone 781-586-6853

Email aclausen@lynnma.gov

Process | Proceso

Green Infrastructure Design

Design and Engineering for Green Infrastructure Elements on Boston and Grove Street to be completed May 21, 2021.

Barry Park Concept Design

Barry Park/GEAA Fields Green Infrastructure Concept Plan available for comment May 31, 2021.

Final report

The final outcomes of Barry Park / GEAA Green Infrastructure plan are documented here. Stay tuned for additional community engagement.

Boston Street Green Infrastructure Pilot Project - Design

The stormwater bio-retention swales proposed as part of the Boston Street Green Infrastructure Pilot

Fieldwork & Modeling in Waltham

Deanna Lambert
Engineer III

Weston & Sampson

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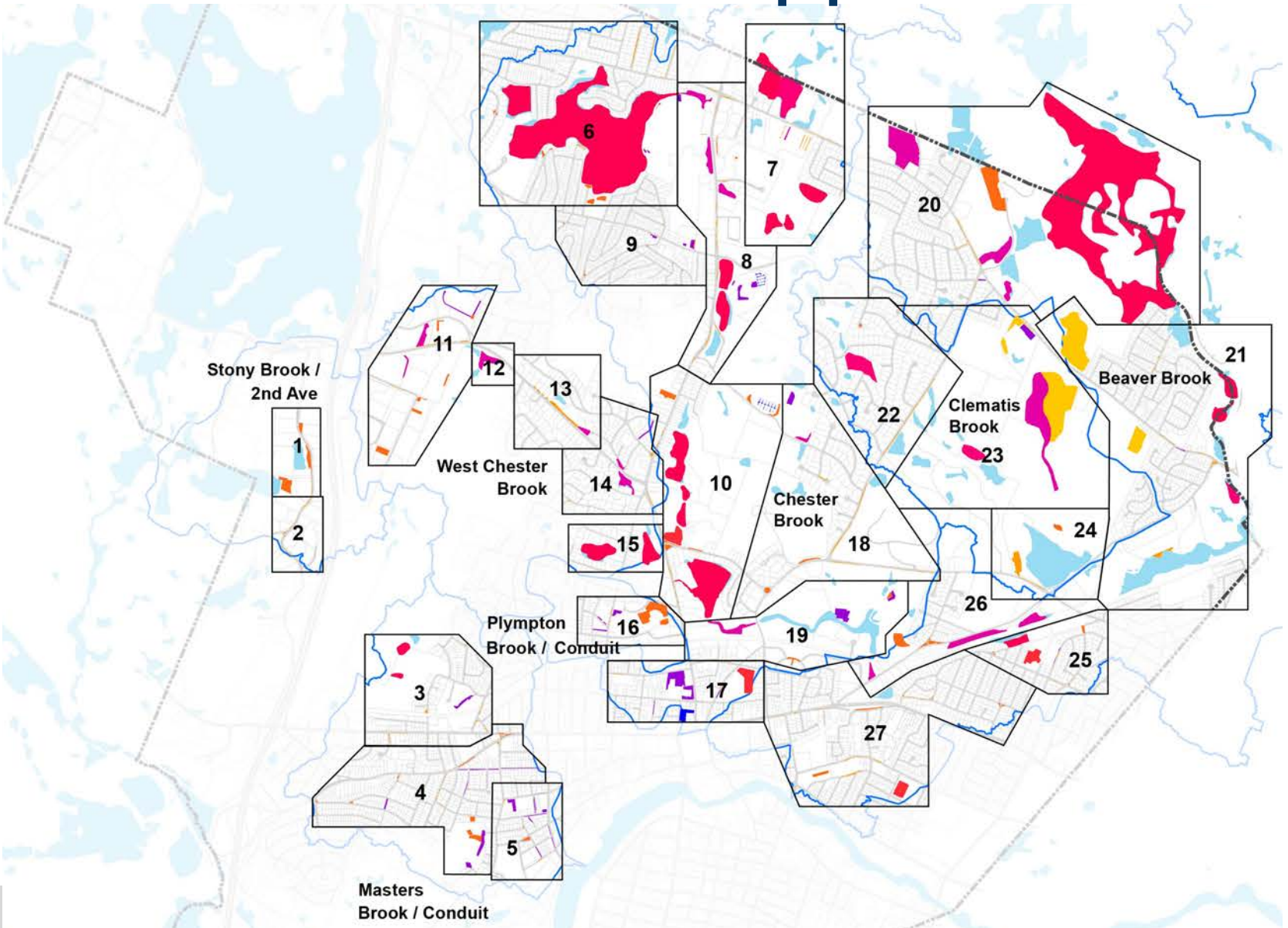
Resilient Stormwater Action and Implementation Plan (RSAIP)

- Methodology began by reviewing available historical information to understand condition of drainage infrastructure.
- Stream and culvert field assessment
- Urban heat island model was developed to identify heat island mitigation projects
- Initial identification of green infrastructure and upland flood storage
- H&H modeling of existing conditions and proposed interventions. Prioritization of results through co-benefits
- Capital Improvement Plan

Stream Data Collected

Subbasins of Interest

Waltham Green Infrastructure Opportunities



Legend

- Major_Watersheds
- City Boundary
- Road
- Open Water
- Wetlands

GI Opportunities

- Reforestation
- Swale
- Bioretention
- Floodable Field
- Storage
- Floodplain Restoration
- Stream Restoration
- Permeable Paving
- Urban Heat Reduction

Green Infrastructure in Lynn & Waltham

John Frey
Project Landscape Designer

Weston & Sampson

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Green Infrastructure is an approach to stormwater management that uses natural solutions to capture rainfall and runoff on the landscape

Tree Box Filter

Permeable Pavement

Biofiltration System

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Nature-Based Solutions use natural systems or mimic natural processes to address natural hazards like flooding, erosion, drought, and heat islands.

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Lynn Design Examples

Stormwater Infrastructure Toolbox

Green infrastructure and low impact development are considered climate resilience best management practices. They use surface features including native vegetation, soils, and other natural processes to reduce flooding and improve water quality. These systems collect and store runoff, aiding in infiltration and treatment of the stormwater. Green infrastructure opportunities considered in the evaluation of the Strawberry Brook Watershed are summarized below.

Bioswales / Sunken Planters

Bioswales or sunken planters capture and hold stormwater runoff and allow it to slowly infiltrate through soil media, thus reducing flooding. Roots uptake water as well as nutrients in the runoff. These systems provide water quality benefits by removing pollutants. They can be installed along sidewalks, in medians, and parking lot edges to directly treat runoff from surrounding impervious surfaces. These components can retain stormwater for future use or detain it before it flows back into the drainage system after the storm event.

Floodable Parks

Floodable parks and recreation spaces represent the greatest opportunity for large retention spaces within urban areas. They can be located throughout the watershed and receive stormwater via conveyance systems or adjacent water bodies. They can provide a combination of hydrological services including water quality improvements via retention, detention, and infiltration.

Wet Plazas

Wet plazas or floodable public spaces are another great opportunity for large retention capacity within denser urban environments. Typically hardscapes with some potential vegetation, these spaces collect, detain and retain stormwater to reduce flooding. Additionally, they can incorporate drainage connections to allow the plaza, courtyard, and other spaces to return to normal use quickly.

Pond Restoration

Pond restoration and targeted dredging can help build capacity for stormwater through retention and detention. Restoration can occur through edge transformations, dredging, or outlet structure design. Additionally, redesign of pond or waterfront parks to allow for seasonal and stormwater flooding can reduce downstream flooding in unwanted ares.

Stream Daylighting

Daylighting pipes can involve reopening historic streams, formalizing existing streams, or creating new streams as conveyance connections between other cloudburst elements. Typically smaller in scale, urban creeks can re-establish or create new neighborhood character, increase biodiversity, and social spaces.

Street Tree Planters

Tree planters can be installed on their own, or in conjunction with bioswales. These systems have the potential to contribute significantly to stormwater management, with large capacity to transpire water, intercept rainfall, and treat water quality. They also aid in reducing the urban heat island effect and add character and value to the neighborhood.

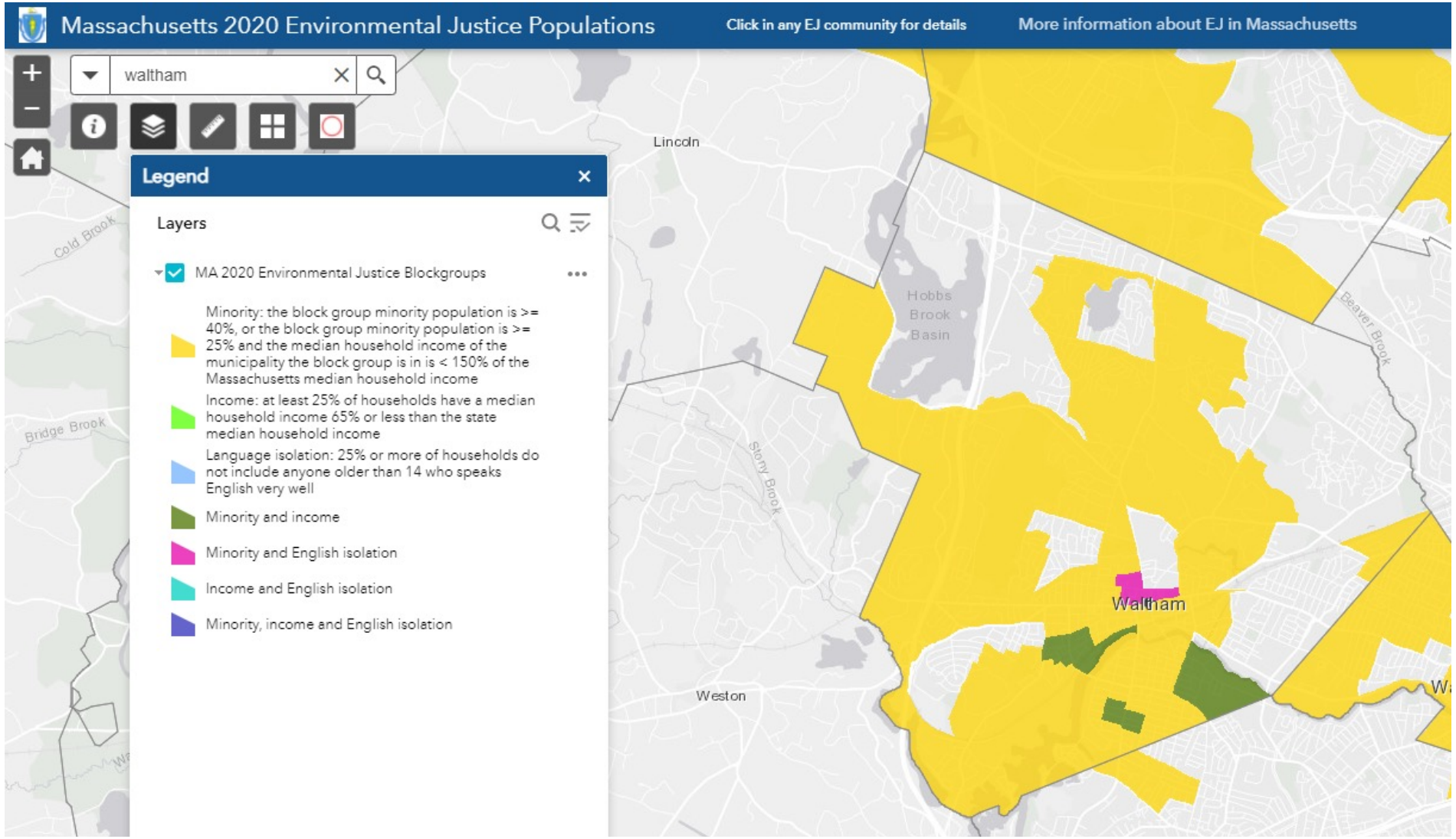
Permeable Pavement

Roadways and sidewalks are big contributors to stormwater runoff. Replacing impervious surfaces with permeable pavement allows for reduced runoff and slower infiltration back into the ground or stormwater system. Permeable pavement can be used where stable, hard surfaces are needed along streets, sidewalks and in parking areas and can be used in conjunction with underground storage.

Underground Storage

Designed to store large volumes of stormwater underground, storage chambers can be used for reuse, retention, detention, or controlling the flow of on-site stormwater runoff. They can be implemented with various depths and forms, i.e. chambers, vaults.

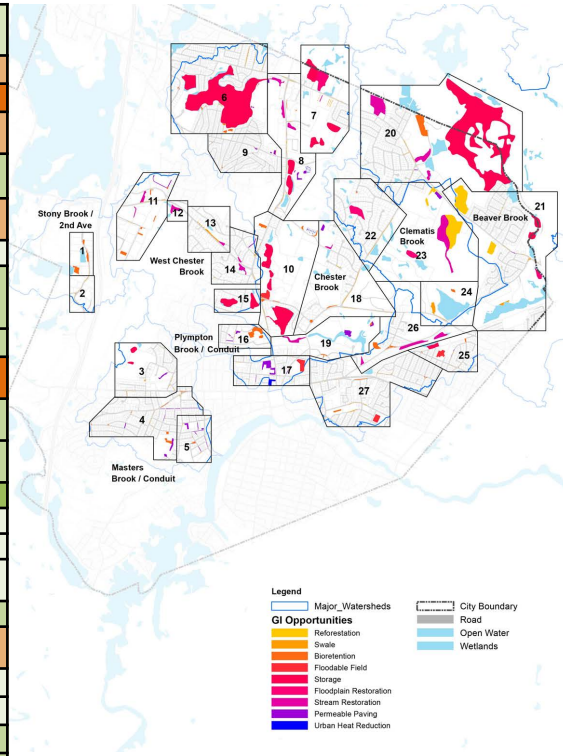
Environmental Justice in Waltham



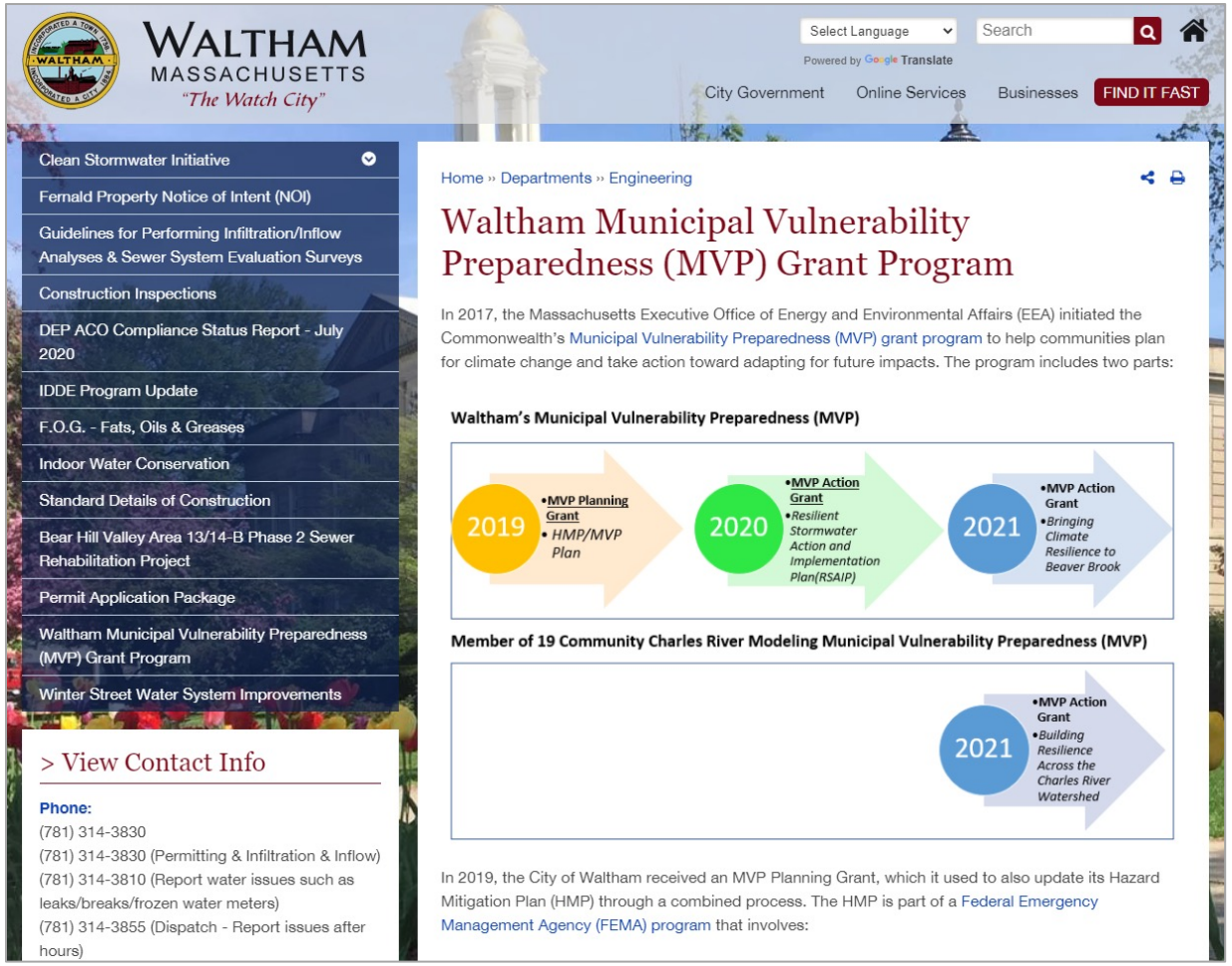
Waltham Green Infrastructure Co-Benefits

Co-Benefit Prioritization and Rank

Scenario	Community Resilience Factor	Environmental Justice Neighborhood	Reduction of Urban Heat	Placemaking	Pedestrian Improvements	Biodiversity
Scenario 1 – Northern Second Ave	2	5	2	2	3	2
Scenario 2 – Southern Second Ave	1	5	1	2	3	1
Scenario 3 – Upper Masters/Sibley Brook	1	5	2	2	2	2
Scenario 4 – Middle Masters/Sibley Brook	2	3	2	4	4	4
Scenario 5 – Lower Masters/Sibley Brook	3	3	2	2	3	2
Scenario 6 – Hardy Pond	4	4	1	2	1	3
Scenario 7 – Falzone Memorial Park and Shady's Pond Conservation Area	1	3	1	3	2	4
Scenario 8 – Upper Chester Brook	4	5	2	3	5	4
Scenario 9 – Lake Street Neighborhood	4	5	1	1	3	1
Scenario 10 – Middle Chester Brook	1	2	2	4	2	4
Scenario 11 – Upper West Chester Brook	2	5	3	3	4	4
Scenario 12 – Prospect Hill Park	3	1	3	5	4	5
Scenario 13 – Totten Pond Road	1	1	1	1	3	3
Scenario 14 – Pond End Road	1	1	2	2	1	3
Scenario 15 – Lexington and Bacon St	3	1	1	2	1	3
Scenario 16 – Plympton Brook	3	4	2	4	3	4
Scenario 17 – Lexington and Church St	1	5	4	3	3	2
Scenario 18 – North of Lyman Pond	1	2	2	2	5	3
Scenario 19 – Lower Chester Brook	3	5	2	2	1	3
Scenario 20 – Upper Beaver Brook	5	2	4	4	2	4
Scenario 21 – Middle Beaver Brook	3	1	5	5	4	4
Scenario 22 – Upper Clematis Brook	1	1	3	3	3	3
Scenario 23 – Fernald Campus	5	1	5	5	2	5
Scenario 24 – Lower Clematis Brook	1	1	1	2	2	2
Scenario 25 – Warrendale	1	1	2	4	3	4
Scenario 26 – Waverly Oaks and Linden	5	3	2	4	4	4
Scenario 27 – Lower Beaver Brook	3	3	3	2	4	2



Engagement in Waltham



Thank you for watching!

Keep the conversation going!

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