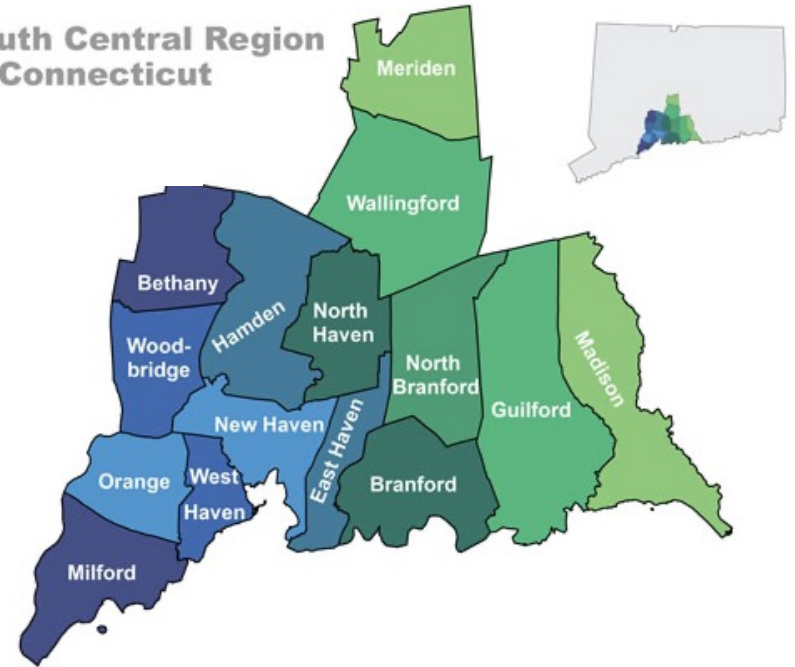


Please add your name, title,  
and organization you  
represent to the chat.

## Municipality Meeting June 2022

### South Central Region of Connecticut



# 2023 SCRCOG Hazard Mitigation Plan Update

# PROJECT TEAM

Jamie Caplan, Project Manager

Darrin  
Punchard,  
Mitigation  
Strategy Lead

David  
Murphy, Risk  
Assessment  
Lead

Scott Choquette, Risk Analysis Lead

Kevin Slover,  
Hazus Lead

Jade Payne,  
Planning  
Assistant

Jillian  
Browning,  
Hazus Analyst

# INTRODUCTIONS



Name



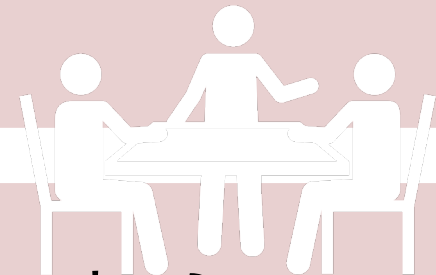
Department/Role



What are you hoping to see in the plan update?



What information / expertise can you contribute?



# AGENDA



Project Introduction



Purpose and Goals of Meeting



Development Updates



Risk Assessment Data Gathering



Mitigation Actions



Public Participation and Next Steps

## SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

May 14, 2018

**Prepared by:**

South Central Regional Council of Governments  
127 Washington Avenue, 4<sup>th</sup> Floor West  
North Haven, Connecticut 06473

**SCRCOG** SOUTH CENTRAL REGIONAL COUNCIL OF GOVERNMENTS  
*Planning for Our Region's Future*

# HAZARD MITIGATION 101

## Hazard Mitigation

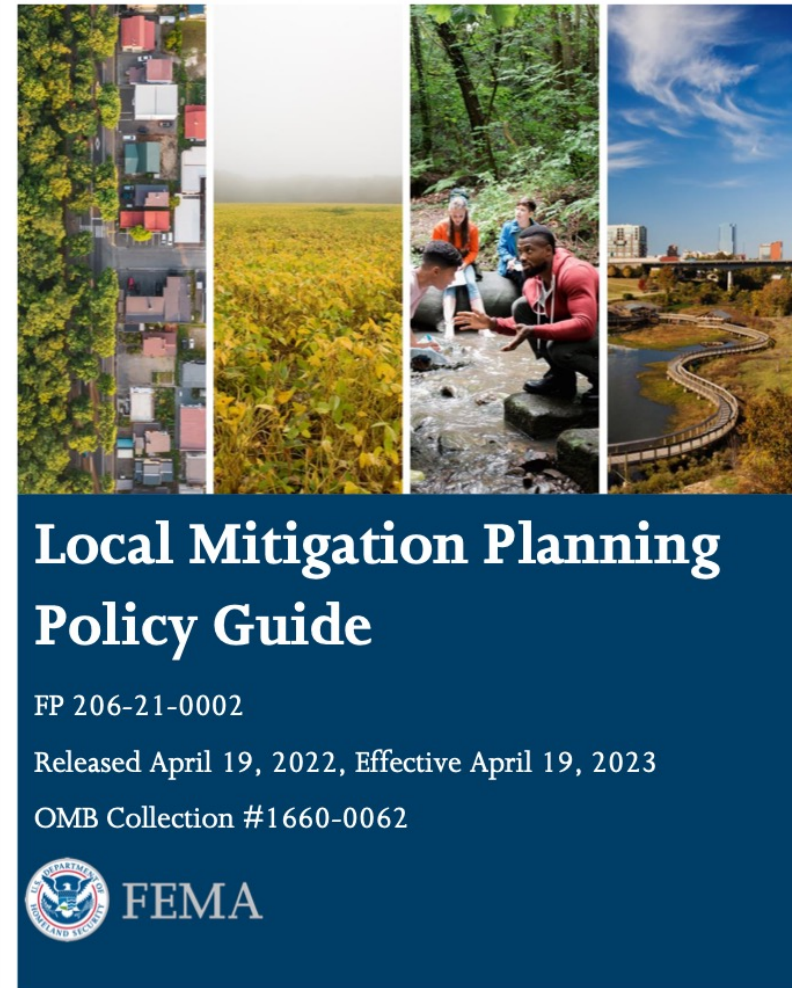
*Any action taken to reduce or eliminate long-term risk to life and property from hazards.*

## Mitigation Planning

- *Engage the community and key stakeholders*
- *Assess hazard risks and mitigation capabilities*
- *Identify mitigation actions that lead to long-term risk reduction*
- *Implement and maintain the plan*

# PROJECT PRIORITIES

- Update for FEMA compliance
  - Reflect current development and priorities
  - Fully integrate NFIP program
  - Mitigation project status
  - Updated data and plans
- Add Value to the Plan




**Local Mitigation Planning  
Policy Guide**

FP 206-21-0002

Released April 19, 2022, Effective April 19, 2023

OMB Collection #1660-0062

 **FEMA**

# HAZARD MITIGATION GRANTS

- Local communities must have a FEMA-approved Hazard Mitigation Plan in place to receive Federal grant funds for hazard mitigation projects
  1. BRIC (Building Resilient Infrastructure and Communities)
  2. HMGP (Hazard Mitigation Grant Program)
  3. HMGP Post Fire
  4. FMA (Flood Mitigation Assistance)
- Other (non-FEMA) funding sources





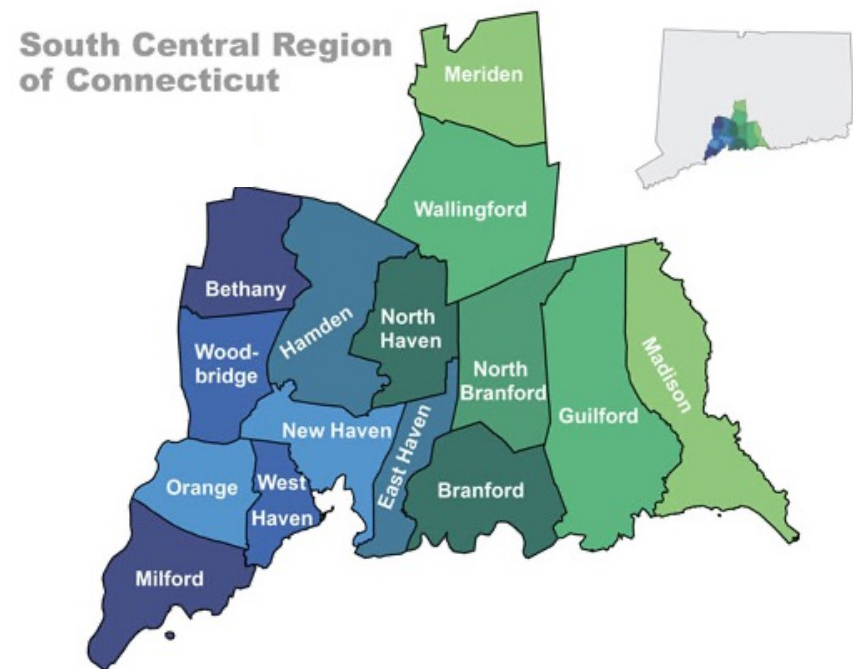


# ROLE OF THE ADVISORY COMMITTEE

Attend	Attend 4 committee meetings
Provide	Provide supporting data/information upon request
Assist in	Assist in the identification and prioritization of mitigation actions
Review and comment on	Review and comment on draft plan
Facilitate	Facilitate public outreach and stakeholder engagement

# REGIONAL PLAN WITH A LOCAL FOCUS

- Local
  - Expectations
  - Priorities
  - Updates



# DEVELOPMENT UPDATES

- Changes in Development and Future Development
- Changes in Local Capabilities
- Changes to Problem Statements
- Experiences/Lessons Learned Since Previous Plan Adopted
- Response to Disasters Since 2018

# CAPABILITY ASSESSMENT

- Purpose:
  - To assess the current local authorities, policies, programs, and other resources available to support hazard mitigation efforts.
- Types of Capabilities:
  - Planning & Regulatory
  - Administrative & Technical
  - Financial
  - Education & Outreach
  - National Flood Insurance Program (NFIP)



# CAPABILITY ASSESSMENT

Capability Type	Description
<b>Planning &amp; Regulatory</b>	Local plans, policies, codes, and ordinances that are relevant to reducing the potential impacts of hazards.
<b>Administrative &amp; Technical</b>	Local human resources and their skills/tools that can be used to support mitigation activities.
<b>Financial</b>	Fiscal resources the community has access to for helping to fund hazard mitigation projects.
<b>Education &amp; Outreach</b>	Local programs and methods already in place that can be used to support mitigation activities.
<b>NFIP Participation &amp; Compliance</b>	Summary of information relevant to the community's participation in the NFIP and continued compliance with NFIP requirements.

# CAPABILITY ASSESSMENT

- Capability Assessment Tables
  - To be updated during draft plan review
- Safe Growth Survey
  - Town Planner
- NFIP Survey
  - Floodplain Administrator

**Hazard Mitigation Planning  
SAFE GROWTH SURVEY**

This survey instrument is designed to capture some general information for purposes of updating your community's *Hazard Mitigation Plan*. It has been adapted from a technique recommended by the American Planning Association and FEMA to help evaluate the extent to which the community is positioned to grow safely relative to its natural hazards. Ideally this survey should be completed by the local community staff member(s) tasked with planning, community development, and related activities (i.e., city/town planner).

First, please provide us with the following information.

Name / Title:	
Jurisdiction:	
Department:	

or disagree with the following statements as they relate to the programs for guiding future growth and development.  
Disagree 3 = Neutral 4 = Somewhat Agree 5 = Strongly Agree

includes a future land use map and hazard areas.	1	2	3	4	5
age development and/or hazard areas.	1	2	3	4	5
provides adequate space for located outside of natural	1	2	3	4	5
s access to natural hazard	1	2	3	4	5
guide future growth and	1	2	3	4	5
igned to function under disaster ability for fire/rescue apparatus,	1	2	3	4	5

**Hazard Mitigation Planning  
National Flood Insurance Program (NFIP) Survey**

First, please provide us with the following information.

Name / Title:	
Jurisdiction:	
Department:	
Phone / E-mail:	

1. Please identify your jurisdiction's designated "Floodplain Administrator." Please provide name, title, department, and contact information (if different from above).
2. Please list the regulations that were adopted to meet federal NFIP requirements, including the date and section number, and the current effective date of the Flood Insurance Rate Map. These may include a flood damage prevention ordinance, building codes, subdivision regulations, etc.
3. Please briefly describe the local permitting process to regulate and permit development in special flood hazard areas. This should include who is involved and how substantial improvement/substantial damage provisions are implemented following a flood event.
4. Describe any local "higher standards" that exceed NFIP minimum requirements. These may include higher finished floor elevation requirements ("freeboard"), foundation protection, more stringent building improvement rules, protection of critical facilities, low density zoning for floodplain development, preservation of floodplain storage, higher mapping, and regulatory standards, etc.
5. Describe any additional floodplain management provisions that are integrated into other plans or processes that the community uses to guide development. These may include those integrated with the master plan, small area plans, capital improvements plans, etc.
6. Describe any other floodplain management activities your jurisdiction performs that go beyond FEMA minimum requirements. This includes activities such as drainage system maintenance, flood warning systems, or any public education or outreach activities related to promoting flood risk awareness, risk reduction, and the availability of flood insurance.

# RISK ASSESSMENT UPDATES

## 01

Describe development and redevelopment in general terms but also include specific developments

- Particularly in high-risk areas

## 02

Comment on the effects of:

- Drought of 2016-2017
- Flood of September 2018
- T.S. Isaias of August 2020
- Flashy drought of 2020
- Summer Storms of 2021 (Elsa, Fred, Henri, and Ida)  
– see worksheet

## 03

Provide specific loss estimates for all hazards, including those that can be hard to quantify such as droughts and wildfires

# NEW HAVEN CRITICAL FACILITIES

- Emergency Operations Center      200 Orange Street
- City Hall/Government Center      165 Church Street, 200 Orange Street
- New Haven Health Department      54 Meadow Street
- New Haven School Department      54 Meadow Street
- New Haven Fire Training Academy\*      230 Ella T. Grasso Boulevard
- Hill South Police      410 Howard Avenue
- Department of Police Services      1 Union Avenue
- Dwight-Chapel/West River      150 Edgewood Avenue
- Hill North      90 Hallock Street
- Dixwell      28 Charles Street
- Newhallville/East Rock      596 Winchester Avenue
- Fair Haven      295 Blatchley Avenue
- East Shore/Fair Haven Heights/Quinnipiac East      830 Woodward Avenue
- Beaver Hills/Whalley Avenue      386 Whalley Avenue
- Fire Department Headquarters      952 Grand Avenue
- Dixwell Fire Station      125 Goffe Street
- East Grand Fire Station      73 East Grand Avenue
- Fountain Street Fire Station      105 Fountain Street
- Hill Fire Station      525 Howard Avenue
- Lighthouse Fire Station      510 Lighthouse Road
- Whitney Avenue Fire Station      350 Whitney Avenue
- Woodward Avenue Fire Station      826 Woodward Avenue
- Westside Battalion Chief Fire Station      120 Ellsworth Avenue
- Eastside Battalion Chief Fire Station      412 Lombard Street
- Yale-New Haven Hospital      Yale-New Haven Hospital
- St. Raphael Hospital      St. Raphael Hospital

\* Indicates Shelter



# NEW HAVEN CRITICAL FACILITIES

- |   |                      |  |                      |
|---|----------------------|--|----------------------|
| • Department of Public Works            | 34 Middletown Avenue | • Sports Haven   | 600 Long Wharf Drive |
| • Department of Parks and Recreation    | 720 Edgewood Avenue  | • Yale University Athletic Fields                      | 76 Yale Avenue       |
| • Kathryn Brennan High School Gymnasium | 200 Wilmot Road      | • New Haven Main Library                               | 133 Elm Street       |
| • Hill Career High School*              | 140 Legion Avenue    | • Union Station (rail, bus)                            | 170 Union Avenue     |
| • James Hillhouse High School*          | 480 Sherman Parkway  | • Tier 1 and Tier 2 facilities for United Illuminating |                      |
| • Wilbur Cross High School*             | 181 Mitchell Drive   | • United Illuminating Grand Avenue sub-station         | Grand Avenue         |
| • Nathan Hale School*                   | 480 Townsend Avenue  | • Regional Water Authority                             | 90 Sargent Drive     |
| • Tweed New Haven Airport               | 155 Burr Street      | GNHWPCA  |                      |
| • Southern CT State University          | 501 Crescent Street  | • Plant  |                      |
| • East Shore Park                       | 250 Woodward Avenue  | • 45 Pump Stations                                     |                      |
|   |                      | • Admin Facilities                                     |                      |
|   |                      | • Siphon   |                      |
|   |                      | • Tank   |                      |

\* Indicates Shelter

# NEW HAVEN PROBLEM STATEMENTS

## Primary Hazards of Concern

### Inland and Coastal Flooding

Inland and coastal flooding (including hurricane storm surge) are the primary hazards of concern, especially given that each is anticipated to get worse under future climate conditions. They are identified as the “most common naturally occurring event that disrupts quality of life for many residents.”

### High Winds

The city is particularly susceptible to damage from high winds (and heavy snow loads) due to its heavily treed landscape and high residential density.

### Severe Winter Storms

Severe winter storms present some specific vulnerabilities, including high propensity for traffic accidents and impassable roads which inhibit the ability of emergency responders to reach trouble spots and/or vulnerable populations.

### East Shore (Morris Cove), Fair Haven, Downtown & Wooster Square/Mill River, Long Wharf

The areas that are primarily prone to coastal flooding include the East Shore (Morris Cove) neighborhood, Fair Haven neighborhood, Downtown & Wooster Square/Mill River neighborhood, and the Long Wharf area. The Long Wharf area has large concentrations of commercial/industrial properties and the neighborhood boundary does not include any residential properties.

# NEW HAVEN PROBLEM STATEMENTS

## Geographic Area of Concern

West, Mill, and Quinnipiac Rivers	<p>The areas that are primarily prone to inland flooding include residential properties located adjacent to the West, Mill, and Quinnipiac Rivers. General areas of concern include the following:</p> <ul style="list-style-type: none"> <li>• Upper Middletown Avenue</li> <li>• Lower Middletown Avenue</li> <li>• Hemingway Creek</li> <li>• Quinnipiac Avenue</li> <li>• Downtown and Union Station</li> <li>• Fair Haven</li> <li>• Stiles Street and Port of New Haven</li> <li>• Fort Hale Park and Adjacent Areas</li> <li>• New Haven Flea Market Area (Boulevard at Adeline Street)</li> </ul>
Downtown & other Urban Flooding Areas	<p>Frequent flooding events also occur in areas of the city with insufficient drainage; where conditions may cause localized flash floods, and where tidal influences may exacerbate drainage problems. These inland flooding “hot spots” are illustrated in Figure 3-2 on page 3-9 of the plan. The Downtown area is particularly prone to inland flooding due to excess paved surfaces.</p>
East Haven Town Line, South End Road, Airport	<p>Other flood problems areas include limited conveyance under the railyard, and reduced capacity of outfalls due to sea-level rise and coastal storm surge also the area at the East Haven Town Line and South End Road (mainly during high tides and coastal storms), and the airport area was listed as the area experiencing flash floods by FEMA (area is primarily residential).</p>
Morris Cove, Beverly Road in Westville, Middletown Avenue	<p>The occurrence of sinkholes has been identified by City residents as occurring in the Morris Cove neighborhood, on Beverly Road in Westville, and along Middletown Avenue. The City also maintains a list of specific addresses for past complaints related to settling and sinkholes (see pages 9-1 and 9-2).</p>
East Rock, West Rock, Roosevelt Drive, Myron Street	<p>East Rock, West Rock, and two residential areas (near Roosevelt Drive and Myron Street) are most susceptible to rockslides, though presenting minor geographic risks in terms of loss of buildings or structures, and little to no risk of loss of life.</p>

# NEW HAVEN PROBLEM STATEMENTS

## Vulnerable Community Assets

Historic Assets	140 historic structures are in Special Flood Hazard Areas (SFHAs) and 10 structures are in a 3-foot sea level rise zone. Due to their proximity to a water body, the risk due to flood inundation and damage caused to the structure is high for these properties.
Transportation Infrastructure	Transportation infrastructure in New Haven at risk to adverse effects from sea-level rise includes the railroad station and track yards, the Tweed-New Haven Airport and parts of Interstate-95. Port facilities on the water's edge are also particularly susceptible to sea level rise. There is an electric grid station next to the train station.
Regional Water Authority	The Regional Water Authority's Operations and Administration Building (90 Sargent Drive) is in an identified SFHA. Flood mitigation measures recommended under Mitigation Action 6.
United Illuminating	The United Illuminating Grand Avenue sub-station is within a FEMA flood zone and within surge zones, and has been observed to be vulnerable to flooding. United Illuminating has installed flood barriers, but loss of this station during a flood would mean loss of power to a huge part of the east side of New Haven as well as other parts of the downtown.
Coastal Protective Infrastructure	Many seawalls, bulkheads, and other protective infrastructure assets have been identified for improvement and maintenance for the city, particularly to address flooding and shoreline deterioration in the following areas: Morris Cove; Fort Hale Park and Adjacent Areas; East Shore Park; Port and Terminal Area; Fair Haven and Quinnipiac River Park; Belle Dock Terminal and Long Wharf.
GNHWPCA	GNHWPCA building and infrastructure

# MITIGATION STRATEGY

- Reduce or eliminate risk to people and property from natural hazards.

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Long-term blueprint for reducing the potential losses identified in the risk assessment and opportunities identified in the capability assessment.

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Consistent with municipal priorities and other plans in the region.

# 2018 MITIGATION PLAN GOALS

Goal Categories	SCRCOG Mitigation Plan Goals
<b>Community Planning</b>	Reduce the impact of natural hazards by integrating natural hazard mitigation policies and practices into local community planning.
<b>Flood Hazards</b>	Minimize flood hazards in the region by maintaining continued compliance with the National Flood Insurance Program, adopting higher regulatory standards for new floodplain development, and implementing flood mitigation projects for existing flood prone structures.
<b>Trees</b>	Support proper care of healthy, native trees across the region to increase their resilience to natural hazards including severe storms, flooding, erosion, and extreme heat. Limit the impact of fallen and other hazardous trees by collaborating with utility companies and property owners to cut limbs and remove trees that pose threats to buildings, infrastructure and utility lifelines.
<b>Regional Collaboration</b>	Build capacity for natural hazard mitigation and climate adaptation at the local level through regional collaboration.
<b>Public Awareness and Preparedness</b>	Increase public awareness and preparedness for natural hazards by implementing community-based public education programs across the region.

# MITIGATION ACTIONS

1. Local Planning and Regulations
2. Structure and Infrastructure Projects
3. Natural Systems Protection
4. Education and Awareness Programs

Status of Previous Actions

Integrating Mitigation Plan into other Planning Mechanisms

New Mitigation Actions

# NEW HAVEN MITIGATION ACTIONS

Action #	Action Title	Action Description	Current Status Description/Explanation
3	Quinnipiac River riprap repairs	Repair of existing riprap and seawall.	Preliminary design is complete; currently identifying funding sources for implementation upon completion of the Grand Avenue Bridge rehabilitation project
4	Lighthouse Point Park Carousel Building Floodproofing.	Floodproof existing Carousel Building to higher elevation in park to eliminate any future flooding of building.	Will be planned after the feasibility study (see action #18 below).
5	City Point Flood Mitigation Measures Implementation.	Implement recommendations of City Point flood mitigation study.	Will be planned after the study (see action #20 below).
6	CSO Clean Water Fund projects	Several projects proposed:	Projects #1, #2, #5, and #6 are completed. Projects #3 & #4 are in final design and moving toward implementation in 2022/23.
		1. Installation of approximately 75 bioswales for CSO reduction within the West River Watershed	
		2. CSO Closure and Regulator Improvements at Quinnipiac/Clifton Street, George/Temple Street, and Mitchell Drive	
		3. Union Street and East Street Pump Station Upgrades	
		4. Yale Campus Trumbull Street Area Sewer Separation Phase 2A	
		5. West River CSO Improvements at Orange Street, Ella T. Grasso Boulevard, and Whalley Avenue	
6. Union Street Downtown Crossing CSO Improvements 2018			



# NEW HAVEN MITIGATION ACTIONS

7	Mill River	Implement recommendations of the Mill River planning study that forecast storm surge and sea level rise within the Mill River Industrial District and then to assess three coastal zone management approaches: natural attenuation, intensive infrastructure investment and a balance of new infrastructure with attenuation.	Evaluating recommendations and seeking funding.
8	Dam failure drill with Regional Water Authority	Work with Regional Water Authority to complete a drill of potential failures of the West River, Whitney, and Maltby Dams which are all located upstream of the City.	Planned for 2020.
9	Implementation of CRS Program for Public Information	The City Plan Department must ensure that the City makes progress in the many action items in the PPI. Emergency Management will coordinate and lead Public Information Meetings at public libraries within Quinnipiac, East Shore and City Point neighborhoods to review the CRS rating system, the city's flood mitigation strategies, and flood preparedness.	Underway
11	River Street Bulkhead	Shoreline stabilization along city property to prevent further erosion along the Quinnipiac River including sections of steel bulkhead and revetments with public access.	Design complete; seeking funding
12	Downtown Stormwater Modeling and Drainage System Improvements Project (Design)	Hydraulic study of the Downtown area including Union Avenue and the Route 34 underpasses. The result of this study will inform the sewer system improvements will be implemented. The recommended alternative will be designed to construction-level documents using a portion of a CDBG-DR Tranche 2 grant (roughly \$1.5 million).	Hydraulic study completed in March 2018. Preliminary design of recommended alternative- which includes a 1185 cfs pump station, a new 10-foot diameter outfall pipe (3,200 linear foot from Union Ave to the Harbor), new outfall structure, and local connections- will be complete June 2022. Seeking funding to complete design and construct portions of the alternative (see action #27)
14	Morris Cove Drainage Improvement Project	Redirection of existing drainage to improve conveyance of stormwater flow.	Design underway.

# NEW HAVEN MITIGATION ACTIONS

15	Fort Hale Park drainage outlet rehabilitation	<p><del>Restoration and silt removal from an existing drainage channel. Requires access to the Armed Forces Reserve Center but would solve a drainage problem for residents near the USCG facility.</del> Restore and enhance existing inland tidal wetlands by restoring tidal flushing, removing invasive species, and grading and replanting with native species. Implement living shoreline practices to prevent further erosion and create new tidal wetlands.</p>	Need identified and feasibility assessed. Design and implementation schedule contingent on funding source (to be determined).
16	East Shore Park shoreline stabilization	<p><del>Living Shoreline solutions are being studied, including: segmented sills with marsh fringe, regrading and vegetating waterfront slopes with armored toe, and improving public access to the waterfront.</del> Living Shoreline solutions are being designed, including: segmented sills with marsh fringe, regrading and vegetating waterfront slopes with armored toe, and improving public access to the waterfront.</p>	Design underway. Funding secured for construction.
17	Criscuolo Park seawall	Install wall along shoreline of park to prevent flooding of park.	Determining feasibility of seawall.
18	Lighthouse Point Park Carousel Building Floodproofing Study.	Conduct feasibility study to floodproof Carousel building to higher elevation in park to eliminate any future flooding of building.	In the process of developing scope of work.
19	Fort Hale Park shoreline stabilization	Install riprap and other shoreline stabilization measures.	In the process of determining project manager to conduct site assessment and develop scope of work (see action #15).

# NEW HAVEN MITIGATION ACTIONS

20	City Point Flood Mitigation Study	A study to prepare storm surge and sea level rise model for the City Point area to assess risk and propose protection and resilience strategies.	City Plan and Engineering are collaborating on community engagement and outreach to determine scope of the study.
21	Long Wharf Park Living Shoreline	Living Shoreline solutions are being designed, including: segmented sills with marsh fringe, beach nourishment in front of existing riprap, and improving public access to the waterfront. Construction to follow.	Design underway. Funding secured for construction.
22	Coastal Resilience Plan	Update the City's 2006 Municipal Coastal Plan; Investigate best practices in addressing and mitigating the impacts of sea level rise and climate change; Develop list of adaptation and resilience methods (i.e. infrastructure improvements; shoreline protection; adaptive reuse; flood damage prevention modifications; zoning regulations modifications; allow inland migration; improve ordinance enforcement and inspection; strengthen and consolidate flood plan coordinator role, etc.).	Internal staff team assembled; determining scope
23	Green Ordinance Update	In order to more effectively implement the goals set forth in the New Haven Climate and Sustainability Framework, the City Plan Department is prioritizing updating the standards of existing “green ordinances” in the New Haven Zoning Ordinance (i.e. stormwater management, reflective heat impact, coastal site plan regulations, bike parking criteria, etc.) and incorporating new ordinances to encourage environmentally mindful development (LEED certification incentives; transit-oriented development districts; permitted encroachments for rain barrels; compost piles; alternative energy systems; solar power, etc). Anticipated updates to the existing ordinance include increasing stormwater retention requirements for site plan applications.	Green Ordinance working group assembled; determining scope

# NEW HAVEN MITIGATION ACTIONS

24	2022 Long Term Control Plan (LTCP) Update	Implementation of additional Resiliency Projects identified/recommended in the 2022 LTCP Update.	Study/Update contracted to 3rd party and is currently in process.
25	WW Pump Station Forcemain Resiliency	Build forcemain resiliency for wastewater pumping stations discharges to assure continued services during emergencies.	
26	Wind Borne Debris Region Wind Retrofits	Retrofit critical wastewater facilities located in the Wind Borne Debris Region to meet latest recommendations and building codes.	Planning. Implementation may need to be stretched pending funding
27	Downtown Drainage System Improvements Project- Stage 1 Implementation	Advance preliminary design of new 10-foot diameter outfall pipe, outfall structure, and local drainage connections to final design and construct these improvements	Pending funding, this action to begin after completion of action #12
28	Long Wharf and Morris Cove PS Resiliency	Implement resiliency improvements to reduce flood impacts and risks	Planning. Implementation may need to be stretched pending funding
29	Harbor District Dry Egress	Building off of the Long Wharf Responsible Growth Plan, making improvements to the public ROW to provide dry egress above teh 100 year base flood elevation for this planned district	Design. Improvements in design
NEW	Fair Haven Resiliency Study and Concept Design	Assist CIRCA with execution of the study and concept design	Kicking off in June 2022 with anticipated completion in May 2023

# PUBLIC ENGAGEMENT

Public Opinion  
Survey

2 Regional Public  
Meetings

Draft Plan Review

- Project Fact Sheet
- Press Releases
- Social Media Announcements
- Email Invitations
  
- Municipal Hazard Mitigation Committee
- Engage Environmental Justice Populations
- Engage Public and Private Industry

# NEXT STEPS



Survey Outreach



Mitigation Actions

## For More Information

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203-466-8601

[randreucci@scrcog.org](mailto:randreucci@scrcog.org)

<http://scrcog.org/regional-planning/regional-hazard-mitigation>