

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_01

Keyport, Borough of

Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Mitigate 95 commercial and residential properties that are in FEMA's flood zone, specifically RL/SRL properties.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2
Risk Reduction:	About half of the Borough of Keyport is susceptible to storm surge, mainly via tidal surges up local streams. 95 homes encountered flood damage from storm tides and surges during Superstorm Sandy, and elevation would mitigate against repeated loss of homes due to flooding. Sea Level Rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	The Borough has the authority to implement this action, on a voluntary basis.
Environmental:	No adverse environmental impact anticipated.
Social:	The improvements will affect the current property owners in a beneficial way, but will not disrupt the community on a whole.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee.
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$2,850,000.00
Priority:	High
Local Planning Mechanism:	Zoning Officer/Planning Board
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; still a priority for the Borough and seeking funding opportunities for home and business elevations. Pending obligation as of 2020 for HMGP for \$2,137,500 for elevation of 95 homes post-Sandy.

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_02

Keyport, Borough of

Describing the Action

Action Name:	Acquire Two Flood Prone Properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Property Acquisition and Structure Demolition
Action Description:	Acquire two flood prone properties and prohibit future building in flood prone areas

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	1, 2, 6
Risk Reduction:	About half of the Borough of Keyport is susceptible to storm surge, mainly via tidal surges up local streams. Sea Level Rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The Borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will affect the current property owners in a beneficial way, but will not disrupt the community on a whole.
Administrative Capability:	The Borough has the administrative capacity to implement and maintain this project.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	12

Implementing the Action

Cost Estimate:	\$3,566,800.00
Priority:	High
Local Planning Mechanism:	Zoning officer/ planning board
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Pending obligation as of 2020 for \$2,675,100 to acquire 7 homes; ongoing action.

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_03

Keyport, Borough of

Describing the Action

Action Name:	Elevate and Replace Bulkheads
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	Increase elevation and replacement of existing bulkheads.

Evaluating the Action

Hazard(s) Addressed:	Flood
Goals:	1, 2, 6
Risk Reduction:	The existing bulkhead system is comprised of both public and private bulkheads, and there are certain areas with no bulkheads. While the bulkhead system, in combination with some roads which have been raised, have worked to protect certain areas, locations where there are breaks in the line of protection are more vulnerable than other areas. Affected properties are both residential and commercial.
Technical:	This action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	Elevation of the height and replacement of the bulkhead will comply with environmental regulations.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Further Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$951,800.00
Priority:	High
Local Planning Mechanism:	Zoning Officer/Planning Board approval
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Partial work has been completed since 2015. Pending obligation as of 2020 for bulkhead improvements (\$713,850).

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_04

Keyport, Borough of

Describing the Action

Action Name:	Elevate and Floodproof Maple Place Pump Station
Action Category:	Mitigation - Risk Reduction
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Structure Elevation
Action Description:	Elevate and harden Maple Place Pump Station through elevating electrical panels, modifications for water tightness, generators to mitigate power loss and surging

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	1, 6
Risk Reduction:	Flooding and damage to the sewer system pump stations (i.e., Maple Place) that can result in overflow of untreated sewage into natural waterways. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$718,900.00
Priority:	High
Local Planning Mechanism:	Sewer System and Roads ordinances
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action; the Borough deems this action necessary and is searching for potential funding. The Borough was awarded HMGP funding for Portable Generators (35 kW) Pump Station: \$97,500 The Borough was awarded FEMA Funding 406 Public Assistance for Maple Street Pump Station Improvements.

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_05

Keyport, Borough of

Describing the Action

Action Name:	Purchase and Install Generators at Pump Stations
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Install generators to ensure proper performance of the sewer pumps in the event of power outage

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	1, 2, 7
Risk Reduction:	Flooding and damage to the sewer system pump stations (i.e. Maple Place) that can result in overflow of untreated sewage into natural waterways. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The Borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Further Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$44,301.00
Priority:	
Local Planning Mechanism:	Sewer System and Roads ordinances
Responsible Party:	Business Administrator
Likely Funding Source(s):	
Timeline:	
Action Status:	Completed
Notes:	The Maple Place Pump Station and Cedar Street Pump Station both received a HMGP grant of \$50,000 for a generator. The Perry Street Water Treatment Plant - Emergency Back-up Generator received a \$538,000 HMGP grant.

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_06

Keyport, Borough of

Describing the Action

Action Name:	Build New Culvert at Green Grove Ave.
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	Road Culvert and Drainage Improvements to increase drainage and curbing.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	2, 7
Risk Reduction:	Insufficient roadway drainage (curbing, culverts, etc) leads to street flooding and flooding of multi-family, residential, and commercial properties. Lack of drainage and subsequent flooding hinder access to the Evacuation Route, and the emergency vehicles access to the roadway. Flooding also hinders access to the pedestrian access bridge.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The Borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Furtheres Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$1,100,000.00
Priority:	High
Local Planning Mechanism:	Sewer System and Roads ordinances
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	The Borough was awarded HMGP funding of \$231,320 for road culvert and drainage improvements post-Sandy.

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_07

Keyport, Borough of

Describing the Action

Action Name:	Increase Size of Stormwater Pipes and Overall Stormwater System in the Borough
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	Provide additional storm sewer piping, a reduction of backwater, and increase the capacity of the stormwater system.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 7
Risk Reduction:	Insufficient capacity of the storm water system results in frequent flooding in residential and commercial areas.
Technical:	This mitigation action is technically feasible
Political:	The project is viewed favorably in the Borough
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$1,102,556.00
Priority:	High
Local Planning Mechanism:	Sewer System and Roads ordinances
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Partial work has been completed since last plan update. Both Beach Park and Beers St Outfalls were awarded HMGP funding for Storm Sewer Outfall Rehabilitation Projects.

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_08

Keyport, Borough of

Describing the Action

Action Name:	Elevate Firemen's Park Bulkhead
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Although the bulkhead has been replaced since Sandy, the bulkhead still needs to be elevated six feet to prevent future flooding of public property and roadways

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 7
Risk Reduction:	The current Firemen's Park bulkhead height is not sufficient to mitigate against high tide and storm related flooding. This has been a repetitive loss area affecting public property and the safe enjoyment of recreational areas as well as safe passage through roadways and access to commercial properties.
Technical:	This mitigation action is technically feasible
Political:	The project is viewed favorably in the Borough
Legal:	The borough has the authority to implement this action.
Environmental:	Elevation of the height of the bulkhead will comply with environmental regulations.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$3,000,000.00
Priority:	High
Local Planning Mechanism:	Zoning officer/ planning board approval
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	<p>This action is carried from the 2009 plan; still a very high priority for the Borough and seeking funding opportunities for the elevation of the bulkhead.</p> <p>The Borough was awarded \$100,000 of FEMA Funding 406 Public Assistance for Firemen's Park Boardwalk and Benjamin Terry Park Bulkhead</p> <p>Pending obligation as of 2020 for the Fireman's Park Bulkhead.</p>

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_09

Keyport, Borough of

Describing the Action

Action Name: Install Tide Valves - Phase II

Action Category: Mitigation - Risk Reduction

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Localized Flood Risk Reduction Projects

Action Description: Install Tide Valves to alleviate blockages and prohibit foreign objects in the outflow pipes

Evaluating the Action

Hazard(s) Addressed: Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge

Goals: 2

Risk Reduction: Blockages and back/low of tidal and storm waters in drainage systems contributes to flooding of roadways, borough, commercial and residential properties.

Technical: This action is technically feasible.

Political: The project is viewed favorably in the Borough.

Legal: The borough has the authority to implement this action.

Environmental: Addition of the valves will comply with environmental regulations.

Social: The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.

Administrative Capability: The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.

Local Champion: Post Sandy Strategic Planning Committee

Other Community Objectives: Furthers Keyport's environmental quality and safety objectives.

STAPLEE Evaluation: 12

Implementing the Action

Cost Estimate: \$150,000.00

Priority: High

Local Planning Mechanism: Sewer System and Roads ordinances

Responsible Party: Business Administrator

Likely Funding Source(s): FEMA HMA

Timeline: 1 year

Action Status: Ongoing

Notes: Contract awarded for Phase I, need more funds to complete phase II

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_10

Keyport, Borough of

Describing the Action

Action Name:	Extend Beach Park Pipe Past Division Street
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	Extend the Beach Park pipe discharging Division Street to prevent flooding due to obstruction of the pipe.

Evaluating the Action

Hazard(s) Addressed:	Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 6
Risk Reduction:	Silting continually blocks the discharge of storm water in several areas of town resulting in flooding , and inhibits the Borough's ability to complete beach restoration projects and future maintenance projects on the beach without risk of obstructing the pipe. (i.e., Beach Park pip discharging Division Street)
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole, and it will not disrupt any residents, neighborhoods, or districts.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Post Sandy Strategic Planning Committee
Other Community Objectives:	Furtheres Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$700,000.00
Priority:	High
Local Planning Mechanism:	Sewer System and Roads ordinances
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Contract awarded through HMGP, construction to commence 9/2019

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_11

Keyport, Borough of

Describing the Action

Action Name:	Purchase and Install Permanent Generators for Emergency Shelters
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Permanent generators for emergency shelters including Center School, Keyport High School and the First Aid Center

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 7
Risk Reduction:	Shelters used during Superstorm Sandy need permanent generators.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to residents of Keyport and surrounding municipalities.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	The First Aid Center and Keyport Central operated as successful shelters during Superstorm Sandy, sleeping 200 people and feeding over 500 people for 12 days (mostly Keyport, Avon, Union Beach).
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$75,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_12

Keyport, Borough of

Describing the Action

Action Name:	Acquire 44 Beer Street and Convert to Open Space
Action Category:	Mitigation - Risk Reduction
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Property Acquisition and Structure Demolition
Action Description:	Acquire 44 Beer Street, a frequently flooded property, and convert to a park

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 6
Risk Reduction:	There is frequent flooding along Beer Street; the Borough would like to acquire the property and convert to open space therefore prohibiting future development from occurring in this flood hazard area.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$1,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_13

Keyport, Borough of

Describing the Action

Action Name:	Dredge Luppatatong Creek
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Assistance with dredging the creek so that the creek can hold more stormwater

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	6
Risk Reduction:	There is storm water backups after rain showers.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Furtheres Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$4,500,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	Municipal Budget
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_14

Keyport, Borough of

Describing the Action

Action Name:	Restore Wetlands at Happy Meadows
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Floodplain and Stream Restoration
Action Description:	Infrastructure (piping and bridges) have been built in an area designated as wetlands, which has disrupted the natural flow of water. The Borough would like to restore the wetlands so it can serve as a drainage basin.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 6
Risk Reduction:	Cliffwood Beach (Aberdeen Township) and the Borough of Keyport are at risk of coastal flooding due to their low-lying locations surrounding Matawan Creek, which flows into Lake Lefferts and Lake Matawan. Extensive Phragmites in the Happy Meadows tidal marsh dominates the creek between Ravine Drive and the mouth of Keyport Harbor.
Technical:	This mitigation action is technically feasible.
Political:	The County and NWS Earle support this action.
Legal:	Project will be completed on public lands owned by the County or Township; NJDEP permits and Soil Erosion and Sediment Control approvals may be required.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole.
Administrative Capability:	The Borough has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan, Raritan/Sandy Hook Bay Coastal Resilience Planning Study
Responsible Party:	Business Administrator, County
Likely Funding Source(s):	New Jersey Corporate Wetlands Restoration Partnership (NJCWRP), FEMA HMA, National Fish and Wildlife Foundatio
Timeline:	1 year
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_15

Keyport, Borough of

Describing the Action

Action Name:	Develop Storm Debris Dumpster Storage Plan
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Develop a regional approach to storm debris dumpster storage.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	7
Risk Reduction:	There is no available space within the Borough for debris dumpster storage for post-disaster recovery and cleanup.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Furtheres Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_16

Keyport, Borough of

Describing the Action

Action Name:	Create Living Shorelines along the Raritan Bay and Install Wave Attenuation Devices in the Bay
Action Category:	Mitigation - Risk Reduction
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Green Infrastructure
Action Description:	Implement dune grass plantings, artificial reefs, oyster castles, and other living technologies as a means of mitigating storm-related tidal, wind and wave action damage.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Coastal Erosion, Hurricane and Tropical Storm, Storm Surge
Goals:	7
Risk Reduction:	Reduces storm related coastal flooding and erosion.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Furthers Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$500,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA, The Nature Conservancy (TNC)
Timeline:	1 year
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_17

Keyport, Borough of

Describing the Action

Action Name:	Implement the Beers Street Neighborhood Plan Recommendations
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Implement the recommendations of the Beers Street Neighborhood Plan including raising Beers Street.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1,7
Risk Reduction:	The Beers Street Neighborhood is susceptible to repetitive flooding.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to residents of Keyport and surrounding municipalities.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Implementing The Beers Street Neighborhood Plan will reduce exposure to storm related damage and clean up.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$5,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_18

Keyport, Borough of

Describing the Action

Action Name:	Implement the Walnut-Oak Street Neighborhood Plan Recommendations
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Implement the recommendations of the Walnut and Oak Street Neighborhood Plan including raising Beers Street

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 7
Risk Reduction:	The Walnut-Oak Street Neighborhood is susceptible to repetitive flooding.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to residents of Keyport and surrounding municipalities.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Implementing The Walnut - Oak Street Neighborhood Plan will reduce exposure to storm related damage and clean up.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$3,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_19

Keyport, Borough of

Describing the Action

Action Name:	Implement the First Street Neighborhood Plan Recommendations
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Implement the recommendations of the First Street Neighborhood Plan including raising Beers Street

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1,7
Risk Reduction:	The First Street Neighborhood is susceptible to repetitive flooding.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to residents of Keyport and surrounding municipalities.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Implementing The First Street Neighborhood Plan will reduce exposure to storm related damage and clean up.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_20

Keyport, Borough of

Describing the Action

Action Name:	Implement the Division Street Neighborhood Plan Recommendations
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Implement the recommendations of the Division Street Neighborhood Plan including raising Beers Street

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1,7
Risk Reduction:	The Division Street Neighborhood is susceptible to repetitive flooding.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to residents of Keyport and surrounding municipalities.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Implementing The Division Street Neighborhood Plan will reduce exposure to storm related damage and clean up.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$3,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 24_21

Keyport, Borough of

Describing the Action

Action Name:	Acquire Olsen's Marina and Convert to Open Space
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Property Acquisition and Structure Demolition
Action Description:	Acquire Olsen's Marina, a waterfront property, and convert to a park.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2,6
Risk Reduction:	Prevent private development in a known Coastal Flood Hazard Area, use property as a storm buffer and open public space.
Technical:	This mitigation action is technically feasible.
Political:	The project is viewed favorably in the Borough.
Legal:	The borough has the authority to implement this action.
Environmental:	This project will comply with environmental regulations, no negative impacts are expected.
Social:	The improvements will be beneficial to the population as a whole.
Administrative Capability:	The community has the capacity to implement and maintain the project, outside contractor assistance will be needed for the action.
Local Champion:	Business Administrator
Other Community Objectives:	Furtheres Keyport's environmental quality and safety objectives.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$1,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Business Administrator
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New

Notes:

CAPABILITY ASSESSMENT WORKSHEET

Name: Stephen Gallo

Title: Borough Administrator

Jurisdiction: Keyport Borough

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	Yes	
Transportation Plan		
Stormwater Management Plan		
Community Wildfire Protection Plan		



CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	<ul style="list-style-type: none"> • Neighborhood Plans for Improvements • Getting to Resilience (2016) Coastal Vulnerability Assessment • Strategic Recovery Planning Reports • Raritan/Sandy Hook Bay Coastal Resilience Planning Study
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance	No	
Natural hazard ordinance (stormwater, steep slope, wildfire)	No	
Flood Insurance Rate Maps	Yes	Obtaining CRS certification
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	Yes	
Real Estate Disclose Ordinance	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	Yes	<ul style="list-style-type: none"> Special Purposes Ordinance Storm damage prevention ordinances and will be adopted shortly Took part in the Monmouth County Debris Management Plan Referendum on school safety and training on CPR
How can the above capabilities be expanded and improved to reduce risk?		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)		
Mutual Aid Agreements	Yes	Discussing shared services: programs are underway
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Emergency Manager	Yes	
Community Planner	Yes	
Civil Engineer	Yes	
Surveyor	Yes	
GIS Coordinator	Yes	
Scientists familiar with the hazards of the community		
Other	Yes	Staff with education or expertise to assess the community's vulnerability to hazards
Technical	Yes/No	Describe capability. Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)		
Hazard Data and Information		
Grant Writing	Yes	Professional Grants Specialist
Hazus Analysis	Yes	
Other	Yes	Marina and Coastal Engineer on staff that helped with FIRM appeals
How can the above capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Improvements to culverts, bridges, and elevation of roadways are multijurisdictional programs.

Cooperation between city and municipalities are needed.



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	Yes	
Fees for Water, Sewer, Gas, or Electric Services	Yes	
Impact Fees for New Development	No	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Withhold spending in hazard-prone areas, Incur Debt through General Obligation Funds, and Incur Debt through Private Activity Bonds
How can these capabilities be expanded and improved to reduce risk?		



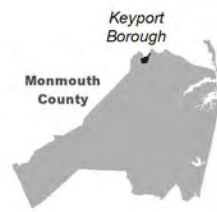
CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		
<p>Spring 2013 Public Awareness Meetings were held prior to adoption of new flood ABFE's.</p>		





Building Classification

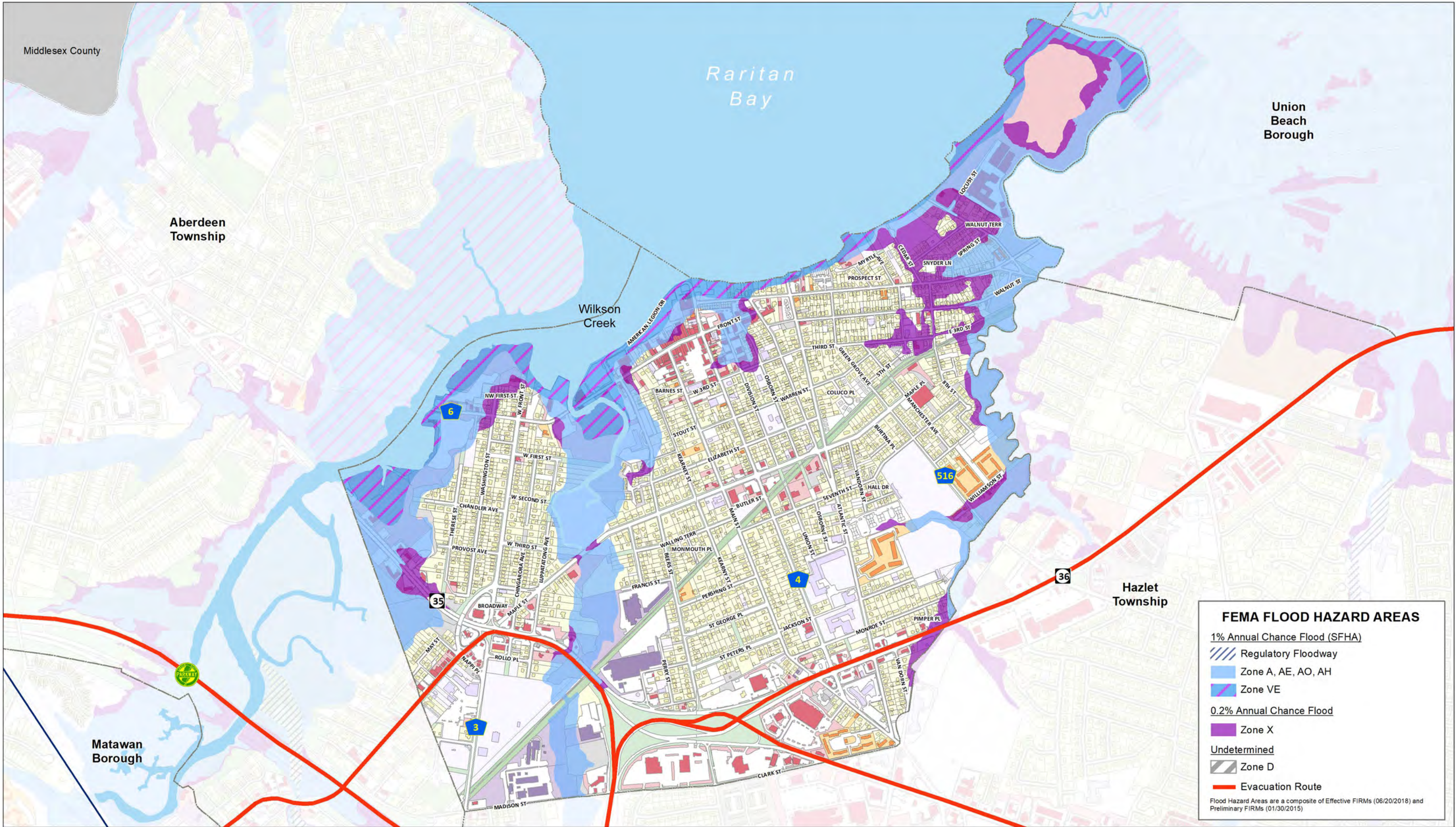
Industrial	Commercial	Apartment	Residential (four families or less)
Farm	Vacant	Civic/Public (Tax Exempt)	Unclassified

Parcel Classification

Industrial	Commercial	Apartment	Residential (four families or less)
Farm	Vacant	Civic/Public (Tax Exempt)	Unclassified
			Open Space

0 500 1,000 Feet

Source: © 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA
Projection: New Jersey State Plane, NAD 1983



FEMA FLOOD HAZARD AREAS

1% Annual Chance Flood (SFHA)

- Regulatory Floodway
- Zone A, AE, AO, AH
- Zone VE

0.2% Annual Chance Flood

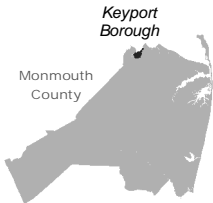
- Zone X

Undetermined

- Zone D

Evacuation Route

Flood Hazard Areas are a composite of Effective FIRMs (06/20/2018) and Preliminary FIRMs (01/30/2015)



Building Classification

Industrial

Farm

Industrial

Farm

Commercial

Vacant

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Residential (four families or less)

Unclassified

Parcel Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Open Space

05001,000

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



POTENTIAL SEA LEVEL RISE (SLR) INUNDATION AREAS

Area Inundated by 1 Foot SLR above MHHW*

Area Inundated by 3 Foot SLR above MHHW*

*Mean Higher High Water

Source: NOAA

SLR Estimates: This map depicts inland extent and relative depth of inundation for 1ft. and 3ft. of SLR using NOAA SRL data with a vertical datum of Mean Higher High Water (MHHW). These inundation ranges are consistent with the Rutgers University's New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report (STAP Report). The STAP Report estimates New Jersey will experience SLR between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions.

Projection: NJ State Plane Feet (NAD83)

Spatial Resolution and Accuracy: The data displayed on this map represents current conditions and does not consider natural processes such as erosion or marsh migration that will be affected by future sea level rise. Due to coarse spatial resolution, the user should not interpret the layers as precise inundation extents.

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



MEETING NOTES

Topic: Keyport- Monmouth County HMP Meeting

Date: April 22, 2019

Time: 5:00 PM- 7:00 PM

Location: Keyport Borough Hall, 70 West Front Street

Attendees: Joe Barris, Assistant Director
Michele Clark, Deputy Clerk
Michael Ferm, Lieutenant
Stephen Gallo, Administrator
Collette Kennedy, Mayor
Ken Krohl, OEM/FA
James Lawson, Deputy OEM Coordinator
Michael Oppegard, Coordinator MC-OEM
Michael Scibetti, Assistant Coordinator
Joe Sheridan, Councilman
Henry Young, Fire Chief
Brittany Ashman, MB Planner
Michael Yaffe, MB Planner

Drafted by: Paige Kaspar

Introductions

Craig explained the hazard mitigation process and the Planning Brochure.

Mike O. would like Monmouth County to be competitive on getting FEMA funding; focus on SRL, RL, regional projects (i.e. the Bayshore), how can the County assist moving resiliency projects forward, prioritize actionable projects,



HMP goals and disaster crosswalk

Introduced mitigation actions, list of critical facilities, and explained the maps

3 RL properties have been raised- there is a plan addressing these elevations

Question on the Mitigation Action on 95 homes- properties not just homes- a lot of the affected areas were commercial.

- 44 Beers St: restaurant wiped out property; going to be replaced with nine elevated homes (but not constructed yet)
- 45 Beers St. Raised and occupied
- 149 W. Front St: restaurant that will be raised

a residential development is going in to a RL property; could use more Blue Acres funding; however this property is too expensive for Blue Acres (wanted more money than the property is worth). Economics don't support it. Would support turning this into a park.

- 340 W. Front: raised already
- 13 Walnut: will be raised

Creek needs to be dredged

Fireman's Park: three-year-old bulkhead washed away; grant funding could only replace what was there; it needed to be 6 feet higher than where it previously was; bulkhead was built at previous height. Issue there.

Maple Place Pump Station happened

Drive one generator back and forth; generators not using full capacity (only backs up 75% of the building)

Successful shelter at Keyport Central needs to be permanent; there are solar panels at the school but it goes to the grid- is it possible to use this energy during a storm; source of electricity not using. 200 sleeping and 500 feeding people were sheltered for 12 days (mostly Keyport, Avon, Union Beach)

Senior Center flooded, wall of bricks came down and crushed gas line

Continuity of Operations Plan?

First Aid Squad, then school for shelters; need to get the First Aid Center handicap accessible; shelters were over capacity

Keyport's Wish List:

Fireman's Park bulkhead raised

Permanent generators for Center School and the First Aid Center (both serve as a shelter);

44 Beers property for a park

Dredging of creeks



Pipes disrupt the wetlands so it can serve as a drainage basin

Bulkhead design ordinance Mike Yaffe

Leisure Bay- 50 Beer St (HUD property for Seniors): significance damage during Sandy and renovations have occurred

Bethany Manor - 500 Board (wall came down, landed on gas line): had to evacuate during Sandy by staircases; how can we get seniors out of there? What do you need to make it smoother for next time.

Could handle the water rising; but not the wave energy. Something is needed out in the water to dissipate wave energy. The wave energy destroyed a lot of buildings. Living shorelines, oyster reefs- however there is a lot of marinas. Need protections.

Mitigation Actions:

1. Elevation of 95 homes: change this to both commercials and residential properties
2. Acquire 2 flood-prone properties: no
3. Increase elevation and replacement of existing bulkhead:
4. Maple Place Pump Station Improvements: yes
5. Install generator: portable generators
6. Green Grove Ave drainage improvements:
7. Storm sewer piping:
8. Fireman's Park bulkhead: still a concern and a high priority
9. Install Tide valves: in pre-construction
10. Bench Park pipe discharge on Division St.: in pre-construction

Monmouth County Debris Management is the only approved FEMA plan

Where are they going to have dumpsters for debris management plan? Permitting will not allow dumpsters to be located on Blue or Green Acres properties. Is it possible to regionalize dumpster placement

Do your codes allow for shore protection?

Had a lot of issues with DCA

First St properties want to be in CRS program; flood insurance is a big push for FEMA; is there a difference with flood insurance properties versus non-insured properties? No they didn't see a big difference in recovery time. There were a lot of issues with flood insurance properties

Capabilities include: professional Grants Specialist, Marina and Coastal Engineer that helped with FIRM appeals

Next Steps:

Send us all your neighborhood plans for capabilities

Are there areas in town that you would like to see properties bought out? Cluster buy out properties- identify properties for buy out or elevation properties and the County will identify funding opportunities



Monmouth County Multi-Jurisdictional Hazard Mitigation Plan Update



Loss in tax revenue- how do you mitigate that?

Just starting the CRS process, aim to be in the program by end of the year

Improve school safety and houses of worship: Keyport just passed a referendum on school safety and training on CPR,

Software for Substance Damage Assessment Process- countywide software

Discussing shared services: programs are underway

Concern over the Army Corp wall in Union Beach - can it be expanded to include Keyport? Cost- Benefit Analysis came back that it wouldn't be beneficial.



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Keyport HMP Date: 04-22-19

Initial	Last Name	First Name	Title	Organization	Email Address
	Yaffe	Michael	Planner	MBI	
	Wenger	Craig	Per	MBI	
	Ashman	Brittany	Planner	MBI	
	CLARK	MICHELE	DEPUTY CLERK	KEYPORT BOROUG	mclark@KEYPORTonline.com
	YOUNG	HENRY	fire chief	Keyport F.D	HANK75KFD@aol.com
	LAWSON	JAMES	Deputy Chief	Keyport	jim.lawson@msn.com
	Gally	Stephen	Administrator	Keyport	sgally@Keyportonline.com
	Sheridan	Joe	Councilman	Keyport	Jsheridan@Keyportonline.com
	Kruly	Ken	O/E M/FA	Keyport	chick@Keyportfirstaid.ny



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Keyport HMP

Date: 04-22-19

Initial	Last Name	First Name	Title	Organization	Email Address
	Kennedy	Collette	Mayor	Keyport Borough	mayor.kennedy@keyportonline.com
	BARRIS	Joe	Asst Director N.C. Planning	N.C.P.S.	JOE.BARRIS@COUNTY.NJ.US
MF	FERN	MICHAEL	LIEUTENANT	Keyport P.D.	MFERM@KEYPORT.PD.NJ
✓	OPPELAND	Michael	Coordinator MC-OEM	MC-OEM	moppe@mc-oem.org
MS	SCIBETTI	MICHAEL	ASS. COORDINATOR Keyport OEM	Keyport OEM	MSCIBETTI@COMCAST.NET

Appendix Vol I.25 Lake Como Borough

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

98 *Polices In-force*

38 *Total Losses*

\$2,399,046 *Total Payments*

2 *Number of RL Properties*

0 *Number Mitigated
RL Properties*

4 *RL - Total Losses*

\$70,255 *RL - Total Paid*

0 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

0 *SRL - Total Losses*

\$0 *SRL - Total Paid*

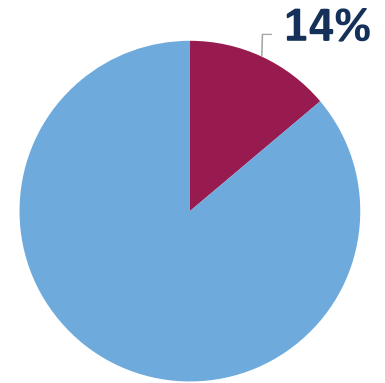


Critical Facilities

5 *Critical Facilities*

0 *Critical Infrastructure*

2 *Historic & Cultural Resources*



Percent Land Area Within SFHA

9

*Total Mitigation
Actions*

0



Education and Awareness Programs

9



Structure and Infrastructure Projects

0



Local Plans and Regulations

0



Natural Systems Protection



0 *SV Population At Risk (2017)*

210 *Population at Risk (2017)*

Lake Como, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
25_01	Construct a New Outfall Pipe and Pump at Lake Como to Allow Water to be Released to the Ocean	Lake Como, Spring Lake, and Belmar are seeking remedies to prevent flooding. Currently implementing a solution to reduce the amount of water in the lake prior to heavy rain events. The outfall pipe and area for pumps has to be designed to allow water to be released to the ocean, but not allow the ocean water to fill in the lake. During heavy rain events the water level fills faster than the water is removed-this is the remedy we must design to prevent future flooding.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Lake Como, Spring Lake & Belmar all responsible	FEMA HMA	\$2,000,000.00	1 year	Ongoing
25_02	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Home elevations to comply with the FEMA flood base guidelines, specifically RL/SRL properties.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	lake Como Construction Official will be the lead person.	FEMA HMA	\$10,000,000.00	3 years	Ongoing
25_03	Water System Improvements	Lining project and replacement to upgrade the distribution of water system.		Structure and Infrastructure Project	Drought		Municipal Engineer	NJ Environmental Infrastructure program; US Department of	\$5,000,000.00		Completed
25_04	Purchase and Install Generator for Emergency Shelter	Purchase a generator for the Emergency Shelter located at Academy Charter High School. The Borough uses the gymnasium as an emergency shelter (1725 Main Street) located across the street from the Office of Emergency Management.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Office of Emergency Management will coordinate with school.	FEMA HMA	\$70,000.00	1 year	Ongoing
25_05	Purchase and Install Generator for OEM Central Command Center	Loss of power is possible during hazard events including flooding, surge, extreme wind, hurricane and tropical storm, nor'easter, extreme temperatures, and lightning. OEM Central Command Center lacks backup power.		Structure and Infrastructure Project	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge		Office of Emergency Management and Administration.		\$80,000.00		Completed
25_06	Purchase and Install Generator for Public Works Building	Purchase a generator for the Public Works Building which is essential during times of emergencies. Located at 790 Seventeenth Avenue.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low	Office of Emergency Management and Administration.	Hazard Mitigation Grant; local funding.	\$40,000.00	1 year	Ongoing
25_07	Purchase and install Generator for First Aid Building	Purchase a generator for the First Aid Building which is the First Response Emergency Center.		Structure and Infrastructure Project	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge		Office of Emergency Management and Administration.		\$40,000.00		Completed

Lake Como, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
25_08	Protect the Emergency Command Center from Wind Damage Through Purchasing and Installing Hurricane Windows and Roof Straps	Installation of hurricane windows and roof straps which will be in the complex location at 1730-1740 Main Street.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Extreme Wind	Medium	Office of Emergency Management and Administration.	Hazard Mitigation Grant; local funding.	\$75,000.00	1 year	Ongoing
25_09	Purchase and Install Generator for Belmar Police	The Belmar Police Station needs a new generator.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Medium	Borough of Belmar and Lake Como	FEMA HMA	\$200,000.00	1 year	New

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_01

Lake Como, Borough of

Describing the Action

Action Name:	Construct a New Outfall Pipe and Pump at Lake Como to Allow Water to be Released to the Ocean
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Lake Como, Spring Lake, and Belmar are seeking remedies to prevent flooding. Currently implementing a solution to reduce the amount of water in the lake prior to heavy rain events. The outfall pipe and area for pumps has to be designed to allow water to be released to the ocean, but not allow the ocean water to fill in the lake. During heavy rain events the water level fills faster than the water is removed-this is the remedy we must design to prevent future flooding.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	3, 5, 6
Risk Reduction:	Lake Como is the primary source of flooding in the Borough. During severe storms, water drains into the Lake but outfall design constraints prevent the water from making its way into the ocean before water overflows the banks and floods back into surrounding areas. The entirety of Lake Como is in mapped storm surge hazard areas. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	Feasible: Need the 3 towns to agree on one firm to engineer the project.
Political:	There is overall public support in Lake Como for this project.
Legal:	No, rely on the 3 towns to agree on the plan.
Environmental:	Will reduce the impact of flooding.
Social:	This action will affect those living in the neighborhoods surrounding and near the lake
Administrative Capability:	All three communities participation will be needed.
Local Champion:	A Lake Planning committee was formed between the 3 communities.
Other Community Objectives:	Yes, this project would affect the other projects if the flooding and storm surge were reduced.
STAPLEE Evaluation:	9

Implementing the Action

Cost Estimate:	\$2,000,000.00
Priority:	High
Local Planning Mechanism:	Committee of three towns will participate and plan
Responsible Party:	Lake Como, Spring Lake & Belmar all responsible
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action; the Borough deems this action necessary and is searching for potential funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_02

Lake Como, Borough of

Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Home elevations to comply with the FEMA flood base guidelines, specifically RL/SRL properties.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Home structure damage as a result of flooding. Flooding of residential structures around Como Lake is a big issue for the Borough. Lake Como is the primary source of flooding in the Borough. During severe storms, water drains into the lake but outfall design constraints prevent the water from making its way into the ocean before water overflows the banks and floods back into surrounding areas. The entirety of lake Como is in mapped storm surge hazard areas. Sea Level Rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	Action is feasible.
Political:	There is overall public support in Lake Como for this project.
Legal:	No, homeowners would have to agree to the home elevations.
Environmental:	Will reduce structural damage to homes in the Special Flood Hazard Area.
Social:	This action will affect those living in the neighborhoods surrounding and near the lake
Administrative Capability:	Borough personnel would work with contractors to implement this action.
Local Champion:	The administrative, planning, building and office of emergency management and all working together to make this happen.
Other Community Objectives:	This action does not further other projects, however has an overall positive affect for the community.
STAPLEE Evaluation:	10

Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	High
Local Planning Mechanism:	Local ordinance has already been adopted reflecting the new Flood Base plan elevations.
Responsible Party:	lake Como Construction Official will be the lead person.
Likely Funding Source(s):	FEMA HMA
Timeline:	3 years
Action Status:	Ongoing
Notes:	Ongoing action; the Borough deems this action necessary and is searching for potential funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_03

Lake Como, Borough of

Describing the Action

Action Name:	Water System Improvements
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Floodplain and Stream Restoration
Action Description:	Lining project and replacement to upgrade the distribution of water system.

Evaluating the Action

Hazard(s) Addressed:	Drought
Goals:	6
Risk Reduction:	Secondary contaminant is causing the brown water and is aesthetically unpleasing. High iron and manganese in testing.
Technical:	Action is Feasible.
Political:	There is overall public support in Lake Como for this project.
Legal:	Yes, authorized by Governing Body.
Environmental:	The Governing Body, administrative, Engineering, legal and Public Works/Water Department all working together to make this happen.
Social:	This project will affect the entire population as we will upgrade the lines in the entire town.
Administrative Capability:	Borough personnel would work with contractors to implement this action.
Local Champion:	The Governing Body, administrative, Engineering, legal and Public Works/Water Department all working together to make this happen.
Other Community Objectives:	This action does not further other projects, however has an overall positive effect for the community.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$5,000,000.00
Priority:	
Local Planning Mechanism:	Engineering is designing plans to complete this project; The Governing Body has approved the capital improvements.
Responsible Party:	Municipal Engineer
Likely Funding Source(s):	NJ Environmental Infrastructure program; US Department of Agriculture; possible mitigation grant; local funding thro
Timeline:	
Action Status:	Completed
Notes:	The Borough was awarded HMGP funding of \$2,025,000 for water distribution center upgrade post-Sandy (pending obligation as of 2020)

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_04

Lake Como, Borough of

Describing the Action

Action Name:	Purchase and Install Generator for Emergency Shelter
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Purchase a generator for the Emergency Shelter located at Academy Charter High School. The Borough uses the gymnasium as an emergency shelter (1725 Main Street) located across the street from the Office of Emergency Management.

Evaluating the Action

Hazard(s) Addressed:	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	7
Risk Reduction:	Loss of power is possible during hazard events including flooding, surge, extreme wind, hurricane and tropical storm, nor'easter, extreme temperatures, and lightning. Academy Charter High School is an Emergency Shelter which lacks backup power.
Technical:	Action is feasible.
Political:	There is overall public support in Lake Como for this project.
Legal:	Yes, authorized by Governing Body.
Environmental:	There are no environmental impacts. This is a planning mechanism to have a facility large enough to accommodate our residents during times of emergencies.
Social:	This project will affect the entire population.
Administrative Capability:	Borough personnel would work with contractors to implement this action.
Local Champion:	The Governing Body, Academy Charter High School administration, administrative, and OEM.
Other Community Objectives:	This action does not further other projects, however has an overall positive effect for the community.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$70,000.00
Priority:	Medium
Local Planning Mechanism:	Office of Emergency Management will coordinate with school.
Responsible Party:	Office of Emergency Management will coordinate with school.
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action; the Borough is still interested in this action and once funds are available, will implement.

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_05

Lake Como, Borough of

Describing the Action

Action Name:	Purchase and Install Generator for OEM Central Command Center
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Loss of power is possible during hazard events including flooding, surge, extreme wind, hurricane and tropical storm, nor'easter, extreme temperatures, and lightning. OEM Central Command Center lacks backup power.

Evaluating the Action

Hazard(s) Addressed:	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	7
Risk Reduction:	Loss of power is possible during hazard events including flooding, surge, extreme wind, hurricane and tropical storm, nor'easter, extreme temperatures, and lightning. OEM Central Command Center lacks backup power.
Technical:	Action is feasible.
Political:	There is overall public support in Lake Como for this project.
Legal:	Yes, authorized by Governing Body.
Environmental:	There are no environmental impacts. This is a planning mechanism to prevent any power outages and have continued services for residents and contact with residents, and state and county agencies.
Social:	This project will affect the entire population.
Administrative Capability:	Borough personnel would work with contractors to implement this action.
Local Champion:	The Governing Body, administrative, and Office of Emergency Management.
Other Community Objectives:	This action does not further other projects, however has an overall positive effect for the community.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$80,000.00
Priority:	
Local Planning Mechanism:	Office of Emergency Management and Administration.
Responsible Party:	Office of Emergency Management and Administration.
Likely Funding Source(s):	
Timeline:	
Action Status:	Completed
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_06

Lake Como, Borough of

Describing the Action

Action Name:	Purchase and Install Generator for Public Works Building
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Purchase a generator for the Public Works Building which is essential during times of emergencies. Located at 790 Seventeenth Avenue.

Evaluating the Action

Hazard(s) Addressed:	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	7
Risk Reduction:	Loss of power is possible during hazard events including flooding, surge, extreme wind, hurricane and tropical storm, nor'easter, extreme temperatures, and lightning. The Public Works Building lacks backup power.
Technical:	Action is feasible.
Political:	There is overall public support in Lake Como for this project.
Legal:	Yes, authorized by Governing Body.
Environmental:	There are no environmental impacts. This is a planning mechanism.
Social:	This project will affect the entire population.
Administrative Capability:	Borough personnel would work with contractors to implement this action.
Local Champion:	The Governing Body, administrative, and Office of Emergency Management.
Other Community Objectives:	This action does not further other projects, however has an overall positive effect for the community.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$40,000.00
Priority:	Low
Local Planning Mechanism:	Office of Emergency Management and Administration.
Responsible Party:	Office of Emergency Management and Administration.
Likely Funding Source(s):	Hazard Mitigation Grant; local funding.
Timeline:	1 year
Action Status:	Ongoing
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_07

Lake Como, Borough of

Describing the Action

Action Name: Purchase and install Generator for First Aid Building

Action Category:

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Generators

Action Description: Purchase a generator for the First Aid Building which is the First Response Emergency Center.

Evaluating the Action

Hazard(s) Addressed: Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge

Goals: 7

Risk Reduction: Loss of power is possible during hazard events including flooding, surge, extreme wind, hurricane and tropical storm, nor'easter, extreme temperatures, and lightning. The First Response Emergency Center lacks backup power.

Technical: Action is feasible.

Political: There is overall public support in Lake Como for this project.

Legal: Yes, authorized by Governing Body.

Environmental: There are no environmental impacts. This is a planning mechanism to have an immediate emergency facility large enough to accommodate our residents during times of emergencies.

Social: This project will affect the entire population.

Administrative Capability: Borough personnel would work with contractors to implement this action.

Local Champion: The Governing Body, administrative, and Office of Emergency Management.

Other Community Objectives: This action does not further other projects, however has an overall positive effect for the community.

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate: \$40,000.00

Priority:

Local Planning Mechanism: Office of Emergency Management and Administration.

Responsible Party: Office of Emergency Management and Administration.

Likely Funding Source(s):

Timeline:

Action Status: Completed

Notes: The First Aid Emergency Shelter received a HMGP grant for a generator of \$75k.

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_08

Lake Como, Borough of

Describing the Action

Action Name:	Protect the Emergency Command Center from Wind Damage Through Purchasing and Installing Hurricane Windows and Roof Straps
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structural Retrofitting of Existing Buildings
Action Description:	Installation of hurricane windows and roof straps which will be in the complex location at 1730-1740 Main Street.

Evaluating the Action

Hazard(s) Addressed:	Extreme Wind
Goals:	7
Risk Reduction:	This action will provide adequate hurricane windows and roof straps to insure the integrity of the Emergency Command Center building during times of hurricanes and large wind and rain events.
Technical:	Action is feasible.
Political:	There is overall public support in Lake Como for this project.
Legal:	Yes, authorized by Governing Body.
Environmental:	There are no environmental impacts. This is a planning mechanism.
Social:	This project will affect the entire population.
Administrative Capability:	Borough personnel would work with contractors to implement this action.
Local Champion:	The Governing Body, administrative, and Office of Emergency Management.
Other Community Objectives:	This action does not further other projects, however has an overall positive effect for the community.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$75,000.00
Priority:	Medium
Local Planning Mechanism:	Office of Emergency Management and Administration.
Responsible Party:	Office of Emergency Management and Administration.
Likely Funding Source(s):	Hazard Mitigation Grant; local funding.
Timeline:	1 year
Action Status:	Ongoing
Notes:	Pending obligation as of 2020 for HMGP funding of \$56,250 for wind retrofit of municipal complex post-Sandy.

Monmouth County Mitigation Action Worksheets

Community Action Number: 25_09

Lake Como, Borough of

Describing the Action

Action Name: Purchase and Install Generator for Belmar Police

Action Category: Maintenance/Response/Recovery

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Generators

Action Description: The Belmar Police Station needs a new generator.

Evaluating the Action

Hazard(s) Addressed: All Hazards

Goals: 1, 2, 7

Risk Reduction: The Belmar Police station services Lake Como, in addition to Belmar. There needs to be back up power at the station so the police can continue operating during a hazard.

Technical: Technically feasible.

Political: No adverse political ramifications are expected.

Legal: No adverse political ramifications are expected.

Environmental: No adverse environmental impact anticipated.

Social: Does not adversely affect any particular social group. Perceived by the public to be a good thing because it prepares residents and officials for emergencies.

Administrative Capability: Borough has sufficient capacity and experience to administer this action.

Local Champion: OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate: \$200,000.00

Priority: Medium

Local Planning Mechanism: Hazard Mitigation Plan

Responsible Party: Borough of Belmar and Lake Como

Likely Funding Source(s): FEMA HMA

Timeline: 1 year

Action Status: New

Notes:

CAPABILITY ASSESSMENT WORKSHEET

Name: Louise A. Mekosh

Title: Borough Clerk/Administrator

Jurisdiction: Borough of Lake Como

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	Working on one plan with Belmar.
Continuity of Operations Plan		
Post-Disaster Recovery Plan	Yes	
Transportation Plan		
Stormwater Management Plan		
Community Wildfire Protection Plan		



CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	No	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance		
Natural hazard ordinance (stormwater, steep slope, wildfire)		
Flood Insurance Rate Maps		
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	Yes	
Real Estate Disclose Ordinance	No	



CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance
How can the above capabilities be expanded and improved to reduce risk?		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	
Mitigation Planning Committee	Yes	Lake Como and Belmar
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)	Yes	
Mutual Aid Agreements	Yes	Police, Fire, First Aid, Code Enforcement, and Court with Belmar
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes	1. PT, Construction Officer 2. Yes 3. Yes 4. Yes
Floodplain Administrator	Yes	1. PT, Construction Officer 2. Yes 3. Yes 4. Yes
Emergency Manager	Yes	1. FT, Belmar and Lake Como 2. Yes 3. Yes 4. Yes
Community Planner	Yes	1. PT 2. Yes 3. Yes 4. Yes



CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes	1. PT 2. Yes 3. Yes 4. Yes
Surveyor	Yes	
GIS Coordinator	No	
Scientists familiar with the hazards of the community	Yes	
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)	Yes	Code Red, Code Blue
Hazard Data and Information		
Grant Writing	Yes	
Hazus Analysis	No	
Other		
How can the above capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	No	
Fees for Water, Sewer, Gas, or Electric Services	Yes	
Impact Fees for New Development	No	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds
How can these capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

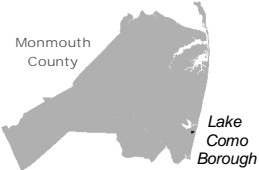
Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		





LAKE COMO BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Parcel Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

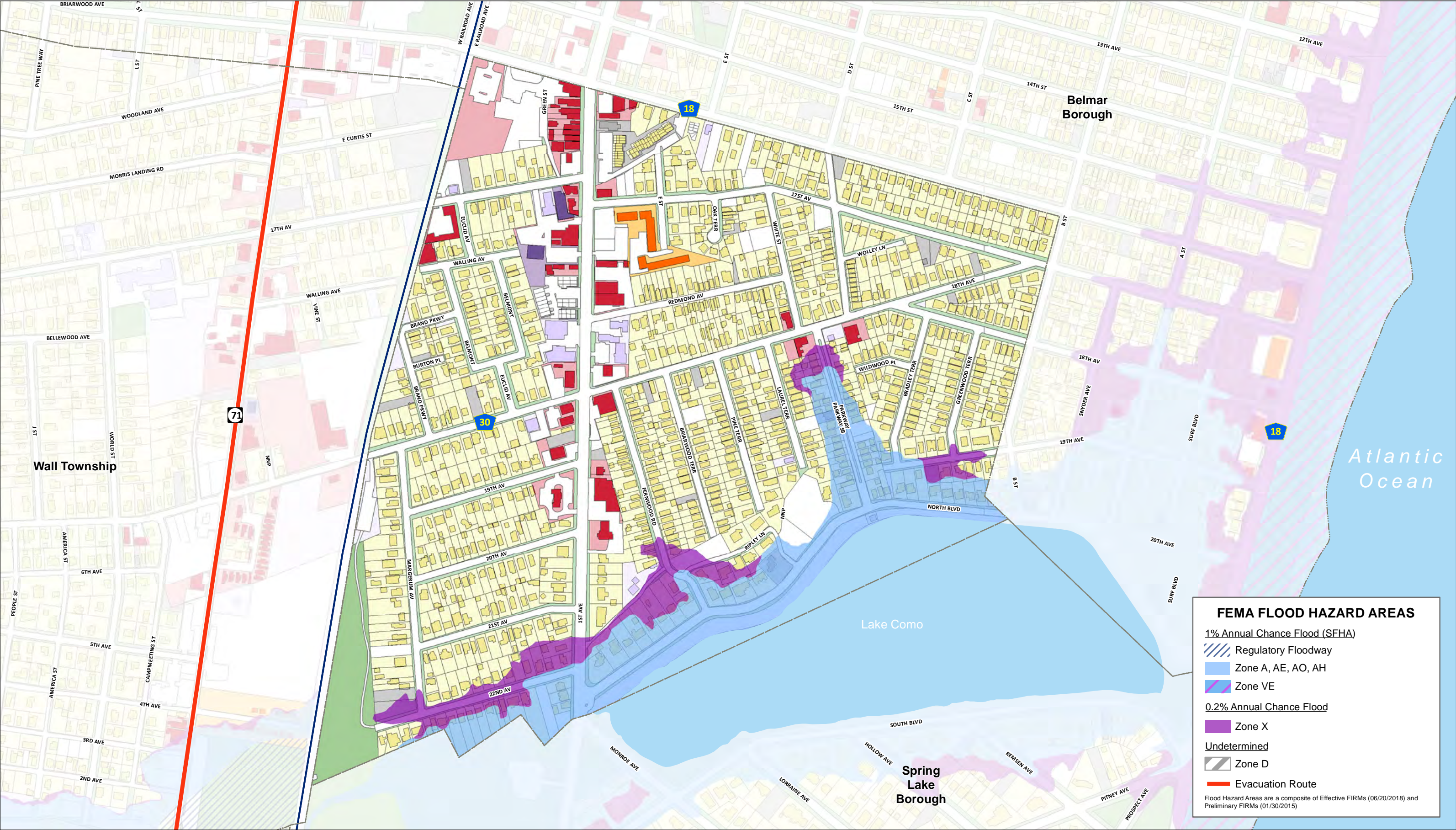
0200400

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



FEMA FLOOD HAZARD AREAS

1% Annual Chance Flood (SFHA)

Regulatory Floodway

Zone A, AE, AO, AH

Zone VE

0.2% Annual Chance Flood

Zone X

Undetermined

Zone D

Evacuation Route

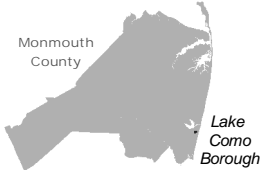
Flood Hazard Areas are a composite of Effective FIRMs (06/20/2018) and Preliminary FIRMs (01/30/2015)

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



LAKE COMO BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Parcel Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Open Space

0200400

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA
Projection: New Jersey State Plane, NAD 1983

**POTENTIAL SEA LEVEL RISE
INUNDATION AREAS**

1 Foot Sea Level Rise (2050)

3 Foot Sea Level Rise (2100)

Evacuation Route

Spatial Resolution and Accuracy: This map depicts inland extent and relative depth of inundation for 1ft. and 3ft. of SLR using NOAA SLR data with a vertical datum of Mean Higher High Water (MHHW). These inundation ranges are consistent with the Rutgers University's New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report (STAP Report). The STAP Report estimates New Jersey will experience SLR between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions. The data displayed on this map represents current conditions and does not consider natural processes such as erosion or marsh migration that will be affected by future sea level rise. Due to coarse spatial resolution, the user should not interpret the layers as precise inundation extents.

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



MEETING NOTES

Topic: Belmar and Lake Como- Monmouth County HMP Meeting

Date: June 12, 2019

Time: 2:30 PM- 3:30 PM

Location: Belmar Boro Hall

Attendees: Louise Mekosh, Lake Como Administrator
Patricia Fagan, Lake Como Deputy Treasurer
Edward Kirschenbaum, Belmar Administrator
April Claudio, Belmar Clerk
Brittany Ashman, MB Planner

Drafted by: Paige Kaspar

Introductions (Brittany):

- What is Hazard Mitigation?
- Matching actions with Goals
- New Hazards
- HMP Pamphlet
- Funding

Mitigation Actions

1. Lake Como Flooding Mitigation→ Ongoing
2. Home Elevations→ Ongoing 2015 action; please update the status on RL properties
3. Water System Improvements→ Complete
4. Generator for Emergency Shelter→ Ongoing 2015 action; the Borough still supports this action and is searching for funding.
5. Generator for OEM Central Command Center→ Complete
6. Generator for Public Works Building→ Ongoing 2015 action; the Borough still supports this action and is searching for funding.
7. Generator for First Aid Building→ Withdrawn; Move generator project to Academy Charter High School (Community Action 25_04)
8. Protect Emergency Command Center→ Ongoing 2015 action; the Borough still supports this action and is searching for funding.



2020 Mitigation Actions (NEW):

1. Generator for Belmar Police → The Belmar Police station services Lake Como, in addition to Belmar. There needs to be back up power at the station so the police can continue operating during a hazard.

Successes

- Elevated generators for library, first aid, and a generator for the senior center elevator



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Lake Como/Belmar HMP

Date: 06-12-19

Initial	Last Name	First Name	Title	Organization	Email Address
	Ashmar	Brihany	Planner	MB	
	Mekash	Louise	Borough Administrator	L.C. (Lake Como)	
	Fagan	Patricia	Deputy Treasurer	LC (Lake Como)	
	Kirschbaum	Edward	Borough Administrator	Belmar	ekirschbaum@aol.com
	Claudio	April	Municipal Clerk	Belmar	acclaudio@belmar.com

Appendix Vol I.26 Little Silver Borough

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

336 *Policies In-force*

394 *Total Losses*

\$33,193,284 *Total Payments*

24 *Number of RL Properties*

1 *Number Mitigated
RL Properties*

60 *RL - Total Losses*

\$4,582,654 *RL - Total Paid*

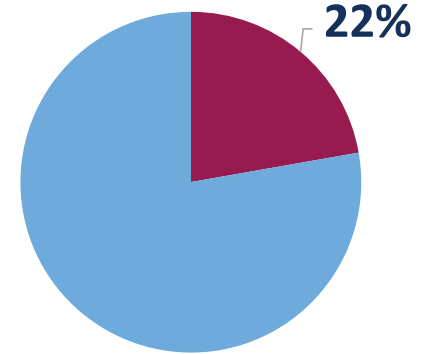


1 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

5 *SRL - Total Losses*

\$148,133 *SRL - Total Paid*



Percent Land Area Within SFHA

9

*Total Mitigation
Actions*

0



Education and Awareness Programs

9



Structure and Infrastructure Projects

0



Local Plans and Regulations

0



Natural Systems Protection

Critical Facilities

10 *Critical Facilities*

1 *Critical Infrastructure*

41 *Historic & Cultural Resources*



0 *SV Population At Risk (2017)*

1,316 *Population at Risk (2017)*

Little Silver, Borough of					Monmouth County HMP Mitigation Action Summary						
Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
26_01	Improve Stormwater Runoff and Drainage by Upgrading Infrastructure and Clean Streams	The Borough improves their stormwater system every year with their yearly roadway program, updating drainage inlets to eco-grates. Develop mitigation steps to reduce damage and losses due to flooding through control of stormwater runoff and more efficient drainage and discharge to three major streams. Stream cleaning reduces sediment/debris within watershed providing better overall volume flow throughout the Borough.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm	High	Borough Engineer	Municipal budget	\$50,000.00	1 year	Ongoing
26_02	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	The Borough is proposing mitigation through house elevation and acquisition for homes within the 100-year flood zone, specifically RL/SRL properties.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Borough Engineer	FEMA HMA	\$24,990,000.00	5 + years	Ongoing
26_03	Repair Outfall Drainage Pipe and Install Tide Flex Valve	The Borough is proposing mitigation of each drainage outfall pipe located within the Borough. The installation of a tide flex valve is proposed to migrate storm surge within the Borough existing storm drain system to help protect during a flooding event.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Storm Surge	High	Borough - Engineer	FEMA HMA	\$200,000.00	1 year	Ongoing
26_04	Install a Regional Dyke Structure along the Sandy Hook Inlet	The Army Corp of Engineers is proposing a regional dyke structure along the Sandy Hook Inlet into the Navesink and Shrewsbury River. The installation of a dyke structure is proposed to mitigate storm surge within the Borough existing storm drain system to help protect during a flooding event.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Storm Surge	High	Army Corp of Engineers	FEMA HMA, Army Corp of Engineers	\$30,000,000.00	1 year	Ongoing
26_05	Purchase and Install Generators for Critical	Purchase and install a generator at Red Bank Regional High School, DPW Annex, Municipal Building, Point Rd. School, Fire/EMS, and the pump house at Fairview Ave.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Low	Borough OEM	FEMA HMA	\$200,000.00	2 years	New
26_06	Target Harden Critical Facilities by Installing Surveillance Cameras, Panic Buttons, and/or Bulletproof Glass	Fortify the Woman's Club; enhance camera system at DPW/Verizon tower, train station platform, sewer pumps; and harden the municipal building through bulletproof glass in entry, portable metal detectors (est. \$7,000), a camera system, panic buttons, and harden the exterior of the building.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Terrorism	Medium	Borough Administration	Homeland Security grants		2 years	New
26_07	Improve Communications between Police Officers	New internet provider (ISP) for police/borough communications to enable responders to communicate with each other and community members.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Medium	Borough Police	Homeland Security grants		1 year	New

Little Silver, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
26_08	Elevate Seven Bridges Rd. Above the Flood Zone	Coordinate with the County to elevate Seven Bridges Rd. above the Flood Zone	Mitigation - Continuity of Functional Use	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County and Borough Engineering	FEMA HMA, County funding, municipal funding	\$10,000,000.00	2 years	New
26_09	Purchase Tree Trimming Equipment	Purchase new tree-trimming equipment, such as a tree shredder.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Wildfire	Medium	DPW	Municipal budget		2 years	New

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_01

Little Silver, Borough of

Describing the Action

Action Name:	Improve Stormwater Runoff and Drainage by Upgrading Infrastructure and Clean Streams
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	The Borough improves their stormwater system every year with their yearly roadway program, updating drainage inlets to eco-grates. Develop mitigation steps to reduce damage and losses due to flooding through control of stormwater runoff and more efficient drainage and discharge to three major streams. Stream cleaning reduces sediment/debris within watershed providing better overall volume flow throughout the Borough.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	2, 3, 5
Risk Reduction:	Streams and ditches do not convey stormwater runoff as efficiently as they should; this results in flooding in several areas.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	Na adverse environmental effects. Will help improve flood control and debris within watershed.
Social:	Borough of Little Silver residents.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Residents of Little Silver, Borough Environmental Commission
Other Community Objectives:	Municipal Stormwater Management Regulation Program
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$50,000.00
Priority:	High
Local Planning Mechanism:	Municipal Stormwater Management Regulation Program
Responsible Party:	Borough Engineer
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; completed the upgrade of drainage inlets to eco grates. Stream cleaning is ongoing.

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_02

Little Silver, Borough of

Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	The Borough is proposing mitigation through house elevation and acquisition for homes within the 100-year flood zone, specifically RL/SRL properties.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5,
Risk Reduction:	Approximately, 98 single family homes are within the 100-year flood zone throughout the Borough. During extreme storm events these properties can experience flooding and property damage.
Technical:	Technically feasible. Will help prevent flood damage to residential homes.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental effects. Will help improve flood loss and mitigate debris entering into the river.
Social:	Will help residents along shoreline area of the Borough within the 100-year flood zone
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Residents along the shoreline.
Other Community Objectives:	Flood Damage Prevention Ordinance
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$24,990,000.00
Priority:	High
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Responsible Party:	Borough Engineer
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Pending obligation as of 2020 for Elevation of 114 homes.

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_03

Little Silver, Borough of

Describing the Action

Action Name:	Repair Outfall Drainage Pipe and Install Tide Flex Valve
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	The Borough is proposing mitigation of each drainage outfall pipe located within the Borough. The installation of a tide flex valve is proposed to migrate storm surge within the Borough existing storm drain system to help protect during a flooding event.

Evaluating the Action

Hazard(s) Addressed:	Storm Surge
Goals:	2, 3, 5, 6
Risk Reduction:	There is back flow of ocean into the Shrewsbury River.
Technical:	Technically feasible. Will help prevent flood damage to residential homes.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental effects.
Social:	Will help residents along shoreline area of the borough and within the lowline areas of the drainage system.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Residents of the Borough
Other Community Objectives:	Flood Damage Prevention Ordinance
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$200,000.00
Priority:	High
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Responsible Party:	Borough - Engineer
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; the tide/flex valves don't work and a new solution is needed to protect the tide/flex valves.

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_04

Little Silver, Borough of

Describing the Action

Action Name:	Install a Regional Dyke Structure along the Sandy Hook Inlet
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	The Army Corp of Engineers is proposing a regional dyke structure along the Sandy Hook Inlet into the Navesink and Shrewsbury River. The installation of a dyke structure is proposed to mitigate storm surge within the Borough existing storm drain system to help protect during a flooding event.

Evaluating the Action

Hazard(s) Addressed:	Storm Surge
Goals:	2, 3, 4, 5, 7
Risk Reduction:	More than 50 percent of Little Silver lies within mapped storm surge hazard areas (tidal waters surging up the Shrewsbury River). New age restricted housing is within the mapped storm surge hazard area. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	Technically feasible. Will help prevent flood damage to residential homes.
Political:	Politically acceptable and encouraged.
Legal:	Inter-local agreements with surrounding municipalities.
Environmental:	No adverse environmental effects. Design must confirm no additional flooding along coast
Social:	Will help residents along shoreline area of the region and within the Jawline areas of the drainage system.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Residents and Municipalities surrounding the Navesink and Shrewsbury
Other Community Objectives:	Flood Damage Prevention Ordinance
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$30,000,000.00
Priority:	High
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Responsible Party:	Army Corp of Engineers
Likely Funding Source(s):	FEMA HMA, Army Corp of Engineers
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; although the Army Corp of Engineers is lead on this project, the Borough supports this action.

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_05

Little Silver, Borough of

Describing the Action

Action Name:	Purchase and Install Generators for Critical Facilities
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Purchase and install a generator at Red Bank Regional High School, DPW Annex, Municipal Building, Point Rd. School, Fire/EMS, and the pump house at Fairview Ave.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 5, 7
Risk Reduction:	Red Bank Regional High School serves as a staging area, the Municipal Building serves as a warming/cooling station, and the Fairview Ave pump house, Fire/EMS station, and DPW Annex service the borough during emergencies; all facilities need backup power.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group. Perceived by the public to be beneficial because the generators will help keep critical local services operational during emergencies.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action
Local Champion:	OEM
Other Community Objectives:	
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$200,000.00
Priority:	Low
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Borough OEM
Likely Funding Source(s):	FEMA HMA
Timeline:	2 years
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_06

Little Silver, Borough of

Describing the Action

Action Name:	Target Harden Critical Facilities by Installing Surveillance Cameras, Panic Buttons, and/or Bulletproof Glass
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Fortify the Woman's Club; enhance camera system at DPW/Verizon tower, train station platform, sewer pumps; and harden the municipal building through bulletproof glass in entry, portable metal detectors (est. \$7,000), a camera system, panic buttons, and harden the exterior of the building.

Evaluating the Action

Hazard(s) Addressed:	Terrorism
Goals:	1, 2, 3, 5, 7
Risk Reduction:	These critical facilities are vulnerable to a terrorist attack or smaller crimes, such as vandalism. These areas need to be monitored and more secure.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group. Perceived by the public to be beneficial because they will be better protected against terrorism.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Police, OEM
Other Community Objectives:	
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Borough Administration
Likely Funding Source(s):	Homeland Security grants
Timeline:	2 years
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_07

Little Silver, Borough of

Describing the Action

Action Name:	Improve Communications between Police Officers
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	New internet provider (ISP) for police/borough communications to enable responders to communicate with each other and community members.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3, 5, 7
Risk Reduction:	There are areas within the borough that have no service for the repeaters, which are used 1,000 times a week.
Technical:	Technically feasible.
Political:	No political obstacles anticipated.
Legal:	No legal barriers expected.
Environmental:	No adverse environmental impacts.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Borough Police
Likely Funding Source(s):	Homeland Security grants
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_08

Little Silver, Borough of

Describing the Action

Action Name:	Elevate Seven Bridges Rd. Above the Flood Zone
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Coordinate with the County to elevate Seven Bridges Rd. above the Flood Zone

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5, 7
Risk Reduction:	Seven Bridges Rd. is an evacuation route and is constantly flooded by Little Silver Creek, a tributary of the Shrewsbury River.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	Must work with Monmouth County, as Seven Bridges is a county bridge.
Environmental:	May require DEP permitting.
Social:	Does not adversely affect any particular social group. Perceived by the public to be beneficial because this is an evacuation route.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action
Local Champion:	OEM, Police, First Aid

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Monmouth County and Borough Engineering
Likely Funding Source(s):	FEMA HMA, County funding, municipal funding
Timeline:	2 years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 26_09

Little Silver, Borough of

Describing the Action

Action Name:	Purchase Tree Trimming Equipment
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Purchase new tree-trimming equipment, such as a tree shredder.

Evaluating the Action

Hazard(s) Addressed:	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Wildfire
Goals:	1, 2, 3, 5, 6
Risk Reduction:	There is a risk of wildfire and trees falling on property and power lines.
Technical:	Technically feasible.
Political:	No political obstacles anticipated.
Legal:	No legal issues anticipated.
Environmental:	No adverse environmental impacts.
Social:	Does not adversely affect any particular social group. Perceived by the public to be beneficial as risk of wildfire and fallen trees may be reduced.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action
Local Champion:	OEM
Other Community Objectives:	
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	DPW
Likely Funding Source(s):	Municipal budget
Timeline:	2 years
Action Status:	New
Notes:	

CAPABILITY ASSESSMENT WORKSHEET

Name: Kimberly A. Jungfer

Title: Administrator/Borough Clerk

Jurisdiction: Little Silver Borough

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	
Capital Improvements Plan	No	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	Yes	
Transportation Plan		
Stormwater Management Plan	Yes	1. 2008
Community Wildfire Protection Plan		



CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	<ul style="list-style-type: none"> Stormwater Pollution Prevention Plan (2019) Getting to Resilience NJFRAMES
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	No	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance	Yes	Flood Damage Prevention Ordinance
Natural hazard ordinance (stormwater, steep slope, wildfire)	Yes	Stormwater Control Ordinance
Flood Insurance Rate Maps		
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	Yes	
Real Estate Disclose Ordinance	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance and Growth Management Ordinance
How can the above capabilities be expanded and improved to reduce risk?		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)	Yes	Upgrade roadway program includes drainage Shade Tree Commission (removes dangerous trees)
Mutual Aid Agreements	Yes	LESO (high water equipment & vehicles) agreement
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator	Yes	
Emergency Manager	Yes	
Community Planner	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes	
Surveyor	Yes	
GIS Coordinator	Yes	
Scientists familiar with the hazards of the community	Yes	
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)	Yes	Code Red Siren fire house
Hazard Data and Information	Yes	Facebook/Borough website
Grant Writing	Yes	
Hazus Analysis	Yes	
Other		
How can the above capabilities be expanded and improved to reduce risk?		
<p>Yes, radio communication, broadband (cellular for police cars), public safety on top on Verizon tower</p>		



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	No	
Fees for Water, Sewer, Gas, or Electric Services	No	
Impact Fees for New Development	No	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds
How can these capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

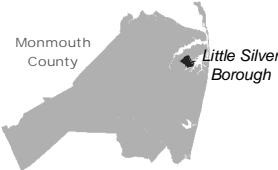
Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		





LITTLE SILVER BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Parcel Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Open Space

06001,200

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983

The map displays the Little Silver Borough area, including parts of Fair Haven, Red Bank, and Rumson. It shows the Shrewsbury River to the east. Flood hazard areas are color-coded: light blue for 1% Annual Chance Flood (SFHA) zones A, AE, AO, AH; purple for 1% Annual Chance Flood zone VE; medium blue for 0.2% Annual Chance Flood zone X; and grey for Undetermined zone D. A red line indicates the evacuation route. Major roads like Highway 11, 138, 520, and 35 are shown. Numerous streets are labeled throughout the area.

FEMA FLOOD HAZARD AREAS

1% Annual Chance Flood (SFHA)

Regulatory FloodwayZone A, AE, AO, AHZone VE

0.2% Annual Chance FloodZone X

UndeterminedZone D

Evacuation Route

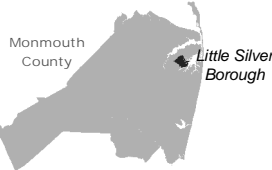
Flood Hazard Areas are a composite of Effective FIRMs (06/20/2018) and Preliminary FIRMs (01/30/2015)

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



LITTLE SILVER BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Parcel Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

06001,200

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



POTENTIAL SEA LEVEL RISE INUNDATION AREAS

1 Foot Sea Level Rise (2050)3 Foot Sea Level Rise (2100)Evacuation Route

Spatial Resolution and Accuracy: This map depicts inland extent and relative depth of inundation for 1ft. and 3ft. of SLR using NOAA SLR data with a vertical datum of Mean Higher High Water (MHHW). These inundation ranges are consistent with the Rutgers University's New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report (STAP Report). The STAP Report estimates New Jersey will experience SLR between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions. The data displayed on this map represents current conditions and does not consider natural processes such as erosion or marsh migration that will be affected by future sea level rise. Due to coarse spatial resolution, the user should not interpret the layers as precise inundation extents.

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



MEETING NOTES

Topic: Little Silver- Monmouth County HMP Meeting

Date: July 2, 2019

Time: 12:00 PM- 1:00 PM

Location: Borough Office, 480 Prospect Ave., Little Silver

Attendees: Gregory Blash, Borough Engineer
Kimberly Jungfer, Administrator
Francis Salerno, OEM Coordinator
Daniel Shaffery, Chief of Police
Brittany Ashman, MB Planner

Drafted by: Paige Kaspar

Introductions (Brittany):

- What is Hazard Mitigation?
- Matching actions with Goals
- New Hazards
- HMP Pamphlet
- Funding

2015 Mitigation Actions

1. Community Action 26_01 Drainage improvements Ongoing
 - Improve stormwater drainage
 - Completed updating drainage inlets to eco grates
 - Stream cleaning is ongoing
2. Community Action 26_02 Raising of structure Ongoing
3. Community Action 26_03 Outfall drainage improvements Ongoing
 - Tide/flex valves don't work
 - Need new solution to tide/flex valve, needs protecting
 - Back flow of ocean in Shrewsbury River
4. Community Action 26_04 Regional drainage improvements Ongoing
 - Dyke structure
 - Army Corp responsible party



2020 Mitigation Action (NEW):

5. Red Bank HS: staging area, needs upgraded to power while building
 - DPW Annex, Birch Ave need new generator
 - Municipal building upgrade heating/cooling system (used as warming/cooling station)
 - Point Rd. school
 - Pump house Fairview Ave
 - Fire/EMS station upgrade generator
6. Harden security
 - Around women's club Fortify building
 - Backup servers
 - DPW enhance cameras, annex new cameras
 - Municipal building - harden entry way (bullet proof), metal detection (portable \$7,000), upgrade cameras at Borough Hall, more panic buttons throughout Borough Hall, harden exterior of building
 - Train station platform needs more cameras
 - Sewer pump house camera & fencing Fairview Ave
 - Camera for Public Works/Verizon Tower
7. Improve communications
 - Mobile repetors black outs in towns for police vehicles (used 1,000 times per week)
 - New internet provider (ISP) for police/boro communications
8. Elevate 7 Bridges Rd. evacuation route
 - a. County road county jurisdiction
9. New tree removal equipment
 - a. Shredder

Successes:

- St. John's Church is an evacuation point from Point Rd. School and has a generator

Question:

- Is Point Road School elevated?



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Little Silver Borough

Date: 7/21/19

Initial	Last Name	First Name	Title	Organization	Email Address
	Ashman	Brittany	Planner	MB	
	Jungfer	Kimberly	Administrator	Little Silver	kjungfer@littlesilver.org
	BASSI	GREGORY	Borough ENGINEER	LSA INC.	gbush@leasaulmaninc.
	SALENO	FRANCIS	DEM COORDINATOR	LITTLE SILVER	f.saleno@littlesilverpolice.org
	Shaffery	Daniel	Chief of Police	Little Silver PD	d.shaffery@littlesilverpolice.org

Appendix Vol I.27 Loch Arbour Village

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

48 *Polices In-force*

87 *Total Losses*

\$2,935,243 *Total Payments*

18 *Number of RL Properties*

1 *Number Mitigated
RL Properties*

40 *RL - Total Losses*

\$931,190 *RL - Total Paid*

0 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

0 *SRL - Total Losses*

\$0 *SRL - Total Paid*

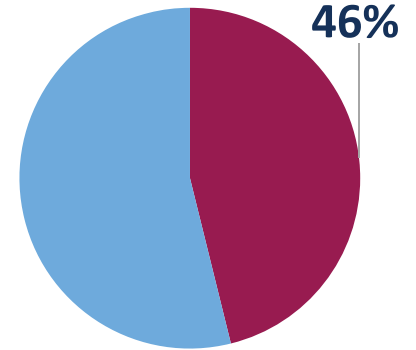


Critical Facilities

0 *Critical Facilities*

0 *Critical Infrastructure*

8 *Historic & Cultural Resources*



Percent Land Area Within SFHA

6

*Total Mitigation
Actions*

0



Education and Awareness Programs

6



Structure and Infrastructure Projects

0



Local Plans and Regulations

0



Natural Systems Protection



0 *SV Population At Risk (2017)*

90 *Population at Risk (2017)*

Loch Arbour, Village of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
27_01	Automatic Flume Gate for Deal Lake	Deal Lake Commission is actively in the process of design for the development of automatic flume gate.		Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge		Deal Lake Commission - Engineer	Army Corp	\$550,000.00		Completed
27_02	Deal Lake Stream Maintenance and Clearing	Reduce the possibility of flood damage by conducting regular stream maintenance and clearing sediment from Deal Lake and surrounding streams in the watershed. Deal Lake Commission is actively installing manufactured treatment devices around key outfall locations to aid in the elimination of trash and debris.		Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge		Deal Lake Commission - Engineer		\$125,000.00		Completed
27_03	Conduct a Study on the Need for Stormwater Basins and Construct New Infrastructure (if needed)	Deal Lake Commission is proposing: (1) a study to research the possibility of building several stormwater basins on DOT land; and (2) construction of stormwater basins.	Administrative	Structure and Infrastructure Project	Flood	Medium	Deal Lake Commission - Engineer, Environmental	Municipal budget	\$1,250,000.00	2 years	Ongoing
27_04	Acquire the Beach Club Property and Protect the Shoreline with Dunes and Living Shorelines	Acquire Block 8 Lot 1 ; Block 7 Lots 1 & 2 and construct a sand dunes and living shorelines along the entire beach frontage.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Coastal Erosion, Nor'easter, Storm Surge	High	Village Engineer	FEMA HMA, The Nature Conservancy (TNC)	\$3,000,000.00	2 years	Ongoing
27_05	Construct an Automatic Tide Gate at Deal Lake	Deal Lake Commission is actively in the process of design for the development of automatic Tide Gate. The tide gate will be inserted within the 5' x 10' flume.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood	Medium	Deal Lake Commission - Engineer	FEMA HMA	\$500,000.00	1 year	Ongoing
27_06	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm	High	Village and Property Owners	FEMA HMA		5 + years	New

Monmouth County Mitigation Action Worksheets

Community Action Number: 27_01

Loch Arbour, Village of

Describing the Action

Action Name: Automatic Flume Gate for Deal Lake

Action Category:

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Localized Flood Risk Reduction Projects

Action Description: Deal Lake Commission is actively in the process of design for the development of automatic flume gate.

Evaluating the Action

Hazard(s) Addressed: Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge

Goals: 2, 3, 5, 6

Risk Reduction: Over 50% of the Village of Loch Arbour is within mapped storm surge hazard areas. Deal Lake continues to be a major source of flooding in the Village. During severe storms, water drains into the lake but outfall design constraints prevent the water from making its way into the ocean. Therefore, water overflows the banks and floods back into surrounding areas. In order to respond quicker to significant rain events and prevent flooding, an automated open and closing mechanism of the flume gates should be installed. During significant storm events when tidal surges occur, it becomes necessary to close the gates quickly to minimize ocean water infiltrating into the lake. The normal level of Deal Lake is only 3.2 feet above mean high tide.

Technical: Technically feasible.

Political: Multiple municipal agencies involved with Deal Lake Commission. Municipalities include Allenhurst, City of Asbury Park, Borough of Deal, Borough of Interlaken, Neptune Township, Ocean Township and Village of Loch Arbour.

Legal: No apparent legal issues.

Environmental: No adverse environmental effects. Will help improve flood control.

Social: Will help residents along shoreline area of the Village and within the Deal Watershed, Deal Lake Commission.

Administrative Capability: Borough has sufficient capacity and experience to administer this action.

Local Champion: Deal Lake Commission, Friends of Deal Lake, Residents within Village and within Deal Watershed

Other Community Objectives: Regional Stormwater Management Plan for Deal Lake Watershed, Municipal Stormwater Management Regulation Program, Flood Damage Prevention Ordinance.

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate: \$550,000.00

Priority:

Local Planning Mechanism: Flood Damage Prevention Ordinance

Responsible Party: Deal Lake Commission - Engineer

Likely Funding Source(s): Army Corp

Timeline:

Action Status: Completed

Notes: Army Corp grant awarded; under construction

Monmouth County Mitigation Action Worksheets

Community Action Number: 27_02

Loch Arbour, Village of

Describing the Action

Action Name:	Deal Lake Stream Maintenance and Clearing
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Floodplain and Stream Restoration
Action Description:	Reduce the possibility of flood damage by conducting regular stream maintenance and clearing sediment from Deal Lake and surrounding streams in the watershed. Deal Lake Commission is actively installing manufactured treatment devices around key outfall locations to aid in the elimination of trash and debris.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	Sedimentation and debris in Deal Lake and its tributaries impedes flood flows. Will help to eliminate debris from blocking and displacement of stormwater runoff.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental effects. Will help improve flood control and pollutants within the watershed.
Social:	Will help residents along shoreline area of the Village, Deal Lake Commission.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Deal Lake Commission, Friends of Deal Lake, Residents within Village and along shoreline.
Other Community Objectives:	Regional Stormwater Management Plan for Deal Lake Watershed, Municipal Stormwater Management Regulation Program.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$125,000.00
Priority:	
Local Planning Mechanism:	Municipal Stormwater Management Regulation Program
Responsible Party:	Deal Lake Commission - Engineer
Likely Funding Source(s):	
Timeline:	
Action Status:	Completed
Notes:	There is a successful manufactured treatment device by the Asbury Park High School (west side of lake); Loch Arbour would like devices on their side of the lake. Biofilters are in the process of being built. The Borough would like wetlands near the lake to prevent pollution from stormwater runoff. Deal Lake Commission has received a NJDEP 319 grant to construct manufactured treatment device at East Side Asbury Park High School and at Sunset Lake. Sunset Lake will also have Floating Wetlands to address water quality in both lakes. Project is in design stage, awarded by 319 Grant.

Monmouth County Mitigation Action Worksheets

Community Action Number: 27_03

Loch Arbour, Village of

Describing the Action

Action Name:	Conduct a Study on the Need for Stormwater Basins and Construct New Infrastructure (if needed)
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Deal Lake Commission is proposing: (1) a study to research the possibility of building several stormwater basins on DOT land; and (2) construction of stormwater basins.

Evaluating the Action

Hazard(s) Addressed:	Flood
Goals:	2, 5, 6
Risk Reduction:	Presently there are no storm water retention basins with the ability to correctly control the rate, quantity, or quality of runoff generated from any of the State of NJ Highways that transverse the Deal Lake Watershed. As a result, waterfront properties within watershed flood regularly. Sea Level Rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area. Climate change will contribute to more frequent and severe weather events.
Technical:	Technically feasible.
Political:	Multiple municipal agencies involved with Deal Lake Commission. Municipalities include Allenhurst, City of Asbury Park, Borough of Deal, Borough of Interlaken, Neptune Township, Ocean Township and Village of Loch Arbour.
Legal:	Obtain land grants and approval from NJ DOT to properly construct basin.
Environmental:	No adverse environmental effects. Will help improve flood control and pollutants within the watershed.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Deal Lake Commission, Friends of Deal Lake, Residents within Deal Watershed
Other Community Objectives:	Regional Storm water Management Plan for Deal Lake Watershed, Municipal Stormwater Management Regulation Program.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$1,250,000.00
Priority:	Medium
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Responsible Party:	Deal Lake Commission - Engineer, Environmental Consultant and Attorney
Likely Funding Source(s):	Municipal budget
Timeline:	2 years
Action Status:	Ongoing
Notes:	Ongoing 2015 action; the Borough wants to improve the regional basin and is working on coordination and possible funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 27_04

Loch Arbour, Village of

Describing the Action

Action Name:	Acquire the Beach Club Property and Protect the Shoreline with Dunes and Living Shorelines
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Acquire Block 8 Lot 1 ; Block 7 Lots 1 & 2 and construct a sand dunes and living shorelines along the entire beach frontage.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Coastal Erosion, Nor'easter, Storm Surge
Goals:	2, 3, 5, 6, 7
Risk Reduction:	During Superstorm Sandy, the beachfront was eroded away into the surf. The Shoreline was left exposed causing extensive property and roadway infrastructure damage limiting the Village's ability to provide critical emergency services. Ocean Avenue was undermined in the vicinity of an oceanfront tract at its border with Asbury Park. A private beach club on this tract was heavily damaged. The tract is bounded on one side by a Village-owned beach club, and on the south by a parcel that is being considered for open space acquisition. The Village views this property as an ideal location for a shore protection project; it is where the worst flooding of Superstorm Sandy occurred. The ocean come over land into Deal Lake and undermined Ocean Avenue in the vicinity of this property.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Property Acquisition: Block 8 Lot 1 ; Block 7 Lots 1 & 2.
Environmental:	No adverse environmental effects. Will help improve flood control and flooding within Coastal Area.
Social:	Will help residents along shoreline area of the Village.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Deal Lake Commission, Friends of Deal Lake, Residents within Village
Other Community Objectives:	Flood Damage Prevention Ordinance
STAPLEE Evaluation:	12

Implementing the Action

Cost Estimate:	\$3,000,000.00
Priority:	High
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Responsible Party:	Village Engineer
Likely Funding Source(s):	FEMA HMA, The Nature Conservancy (TNC)
Timeline:	2 years
Action Status:	Ongoing
Notes:	Ongoing 2015 action; Village is working on developing winter berms during hurricane season to address hazard. Annual Permit with NJDEP is pending. HMGP pending obligation as of 2020 for Dune System and Upgrade to Public Shoreline.

Monmouth County Mitigation Action Worksheets

Community Action Number: 27_05

Loch Arbour, Village of

Describing the Action

Action Name:	Construct an Automatic Tide Gate at Deal Lake
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Deal Lake Commission is actively in the process of design for the development of automatic Tide Gate. The tide gate will be inserted within the 5' x 10' flume.

Evaluating the Action

Hazard(s) Addressed:	Flood
Goals:	2, 6, 7
Risk Reduction:	Over 50% of the Village of Loch Arbour is within mopped storm surge hazard areas. Deal Lake continues to be a major source of flooding in the Vi/logue. During severe storms, water surges into the Lake but outfall design constraints prevent the water from making its way into the ocean before water overflows the banks and floods back into surrounding areas. In order to respond quicker to significant tidal events and prevent flooding, tidal flood gate with the ability to open and close with automation mechanism should be developed. During significant storm events when tidal surges occur, it becomes necessary to close the gates quickly to minimize ocean water infiltrating into the lake. The normal level of Deal Lake is only 3.2 feet above mean high tide.
Technical:	Technically feasible.
Political:	Multiple municipal agencies involved with Deal Lake Commission. Municipalities include Allenhurst, City of Asbury Park, Borough of Deal, Borough of Interlaken, Neptune Township, Ocean Township and Village of Loch Arbour.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental effects. Will help improve flood control.
Social:	Will help residents along shoreline area of the Village and within the Deal Watershed; Deal Lake Commission
Administrative Capability:	Need at least three people to administer (after technical assistance from the State)
Local Champion:	Deal Lake Commission, Friends of Deal Lake, Residents within Village and within Deal Watershed
Other Community Objectives:	Regional Stormwater Management Pion for Deal Lake Watershed, Municipal Storm water Management Regulation Program, Flood Damage Prevention Ordinance.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$500,000.00
Priority:	Medium
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Responsible Party:	Deal Lake Commission - Engineer
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Same action as 27_01. This project is under construction and will be completed by Spring 2020.

Monmouth County Mitigation Action Worksheets

Community Action Number: 27_06

Loch Arbour, Village of

Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	1, 2, 3, 6
Risk Reduction:	Risk of future destruction and property loss in repetitive flooded areas.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	If structures are elevated, they must be built in compliance with the FEMA flood maps.
Environmental:	Positively impacts the environment by increasing the permeable surface for each homeowner property.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because of repetitive nature of flooding in the project area.
Administrative Capability:	There is sufficient capacity and experience to administer this action.
Local Champion:	OEM
Other Community Objectives:	
STAPLEE Evaluation:	10

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Village and Property Owners
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	New
Notes:	

CAPABILITY ASSESSMENT WORKSHEET

Name: Marilyn Simons

Title: Village Clerk

Jurisdiction: Village of Loch Arbour

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan		
Capital Improvements Plan	Yes	Yes; no specific plan, done with annual budget
Economic Development Plan		
Local Emergency Operations Plan	Yes	Yes, this is handled by the Chief of Police borough of Deal
Continuity of Operations Plan		
Post-Disaster Recovery Plan		
Transportation Plan		
Stormwater Management Plan	Yes	Ord 318, 319, 320, 321, 322, 324
Community Wildfire Protection Plan		



CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Version/Year: NJAC 5:23-3.14 September 21, 2015
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	Ordinance 156
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	Ordinance 156
Subdivision Ordinance	Yes	Ordinance 156
Floodplain Ordinance	Yes	Ordinance 158: An Ordinance Establishing Requirements for Construction Within the Special Flood Hazard Areas
Natural hazard ordinance (stormwater, steep slope, wildfire)	Yes	Ordinance 349-Stormwater
Flood Insurance Rate Maps	Yes	FEMA Map 34025C0322F and 34025C0351F Effective date 09/25/2009
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance		
Real Estate Disclose Ordinance	Yes	NJAC 45:15-16.27 January 2, 1990



CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)		Special Purposes Ordinance
How can the above capabilities be expanded and improved to reduce risk?		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)		
Mutual Aid Agreements		Share Fire w/ Allentown Share Public Works w/ Deal Shares Police w/ Deal & Interlaken Shares equipment w/ Deal & Interlaken Shares broadband & radio reporters w/ Deal & Interlaken Shares solid waste management w/ Allenhurst & Interlaken
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator	Yes	
Emergency Manager	Yes	Chief of Police-Borough of Deal
Community Planner	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes	Peter R. Arckian, PE, PLS Leon S. Arckian, Inc
Surveyor	Yes	Peter R. Arckian, PE, PLS Leon S. Arckian, Inc
GIS Coordinator	Yes	Leon S. Arckian, Inc
Scientists familiar with the hazards of the community	Yes	Stephan J. Sovzc, PhD Clean Water consulting, LLC
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)		
Hazard Data and Information		
Grant Writing	Yes	NJDEP 319 Grant Water Quality Improvements Army Corps Grant for Flume Gate Improvements
Hazus Analysis	Yes	
Other		
How can the above capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes		
Fees for Water, Sewer, Gas, or Electric Services		
Impact Fees for New Development		
Stormwater Utility Fee		
Incur Debt Through Private Activities		
Community Development Block Grant	Yes	
Other Federal Funding Programs		
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)		
How can these capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

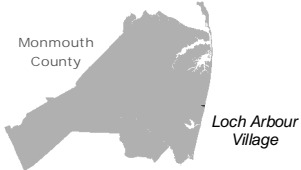
Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.	Yes	Deal Lake Commission chartered in 1974 by the seven shoreline towns. Mission is to provide leadership, guidance and resources to preserve Deal Lake.
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Deal Lake Commission chartered in 1974 by the seven shoreline towns. Mission is to provide leadership, guidance and resources to preserve Deal Lake.
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		





LOCH ARBOUR VILLAGE FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial	Commercial	Apartment	Residential (four families or less)
Farm	Vacant	Civic/Public (Tax Exempt)	Unclassified

Parcel Classification

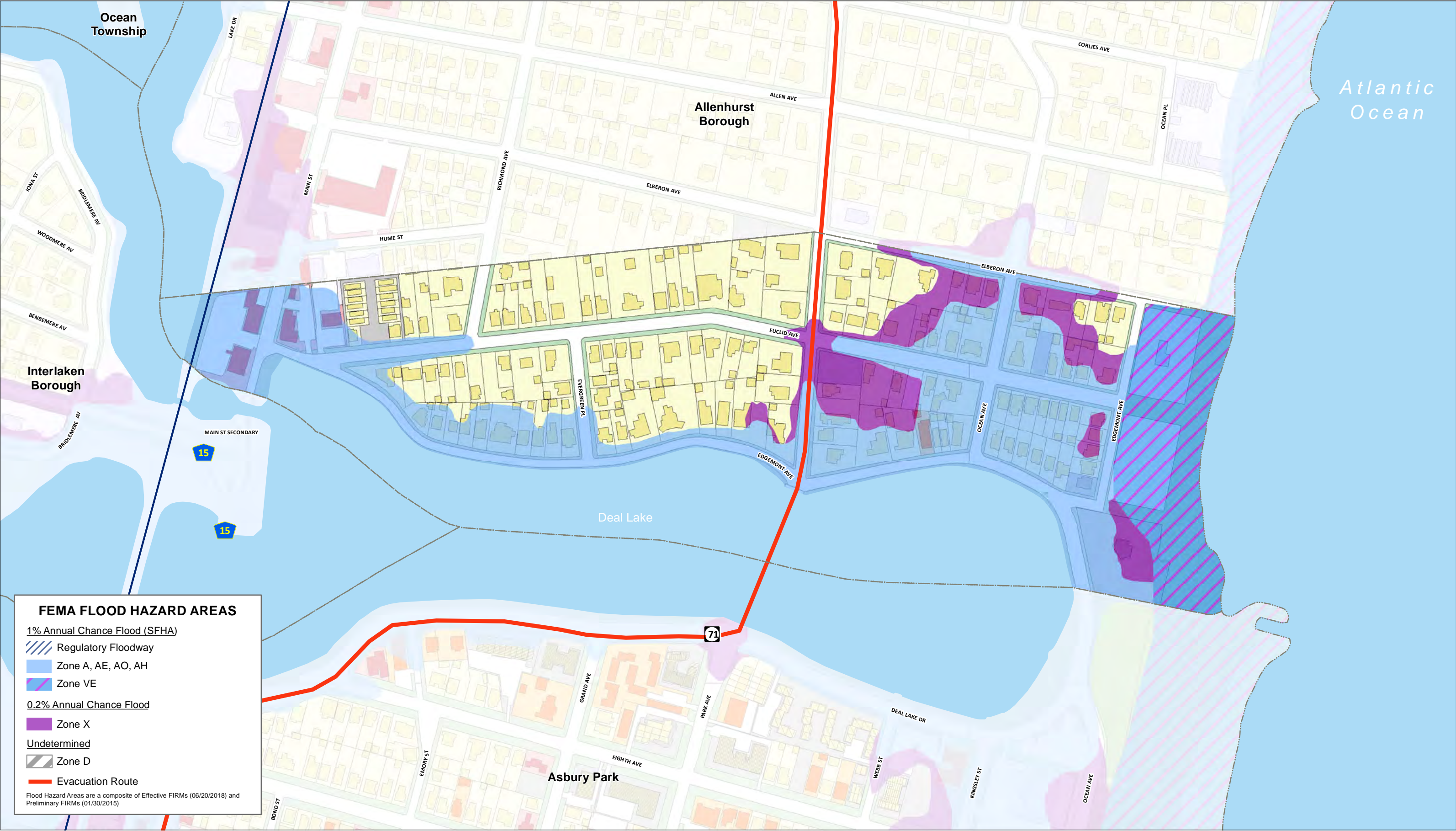
Industrial	Commercial	Apartment	Residential (four families or less)
Farm	Vacant	Civic/Public (Tax Exempt)	Unclassified
			Open Space

0 150 300 Feet

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA
Projection: New Jersey State Plane, NAD 1983

N





FEMA FLOOD HAZARD AREAS

1% Annual Chance Flood (SFHA)

- Regulatory Floodway
- Zone A, AE, AO, AH
- Zone VE

0.2% Annual Chance Flood

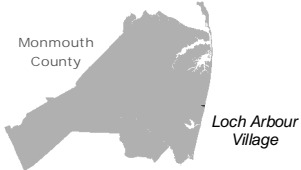
- Zone X

Undetermined

- Zone D

Evacuation Route

Flood Hazard Areas are a composite of Effective FIRMs (06/20/2018) and Preliminary FIRMs (01/30/2015)



Building Classification

Industrial

Farm

Industrial

Farm

Commercial

Vacant

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Residential (four families or less)

Unclassified

Parcel Classification

Industrial

Farm

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Residential (four families or less)

Unclassified

Open Space

0150300

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983





MEETING NOTES

Topic: Deal and Loch Arbour and Interlaken- Monmouth County HMP Update Meeting

Date: June 12, 2019

Time: 11:00 AM- 12:00 PM

Location: Deal Borough Hall 190 Norwood Ave, Deal, NJ 07723

Attendees:

Stephen	Carasia	Borough Clerk/Administrator	Deal Borough
James	Foley	Superintendent of Beaches	Deal Borough
Matthew	Meriano	Engineer	LSA Inc.
Ronen	Neuman	Chief of Police	Deal Borough
Lori	Reibrich	Administrator/Clerk	Interlacken
Matthew	Sharin	OEM Coordinator	Deal Borough
Marilyn	Simons	Village Clerk	Loch Arbour

Drafted by: Paige

Introductions

Britney Intro

- Goals
- Hazards
- Packet:
 - Hazard Mitigation Introduction
 - Funding Available
 - What the state is prioritizing
 - Example mitigation actions

Mitigation Actions (2015):

Deal:

- Drainage Improvements at Norwood Ave & Alymar Ave → Ongoing 2015 action; getting close to funding stage. Norwood Ave.: \$700,000 for new pipes, design plan in process, clean swell, pipe to Ocean Ave, where pipe is larger, currently takes in Ocean Twp. & Deal's stormwater. Alymar Ave.: no design yet, culverts need to enlarge and expected to be \$1,600,000 Cost benefit can't



get over 1; funding is a challenge.

- Seawall Around Sewerage Facility→ Completed
- Elevation and/or Acquisition of Flood-prone Residential Structures→ Ongoing 2015 action; there are two RL properties. One has been demolished and the second will hopefully be mitigated by action Community Action 11_01.

Loch Arbour:

- Drainage Improvements→ Ongoing 2015 action; in the process of going out to bid; funding ends September 2019.
- Deal Lake Stream Maintenance and Clearing→ Ongoing 2015 action; there is a successful manufactured treatment device by the Asbury Park High School (west side of lake); Loch Arbour would like devices on their side of the lake. Biofilters are in the process of being built. The Borough would like wetlands near the lake to prevent pollution from stormwater runoff.
- Study and New Construction of Stormwater Basins→ Ongoing 2015 action; the Borough wants to improve the regional basin and is working on coordination and possible funding.
- Acquisition of Beach Club Property and Shoreline Protection→ Ongoing
- Automatic Tide Gate→ Ongoing; same as action 27_01?

Interlaken:

- Improve Sewer and Stormwater Management Systems→ Ongoing 2015 action; out to bid on automatic tidal valve. Problem with remaining projects in this action is the funding; local budget is only sewer taxes and income from residential taxes, no commercial tax base. New water main in the boroughs by American Water. Looking at manhole project, which is about \$1 million to stop infiltration.
- Elevation and/or Acquisition of Flood-prone Residential Structures→ Ongoing 2015 action; two RL properties still need to be mitigated.



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Deal/Loch Arbour/Interlaken HMP

Date: 06-12-19

Initial	Last Name	First Name	Title	Organization	Email Address
JC	CARRASIA	STEPHAN	Borough Clerk / ADMINISTRATOR	DEAL	ADMINISTRATOR @ DEALBOROUGH.COM
PS	Sharin	Matthew	Dep. OEM Coordinator	Deal Arbour Interlaken	msharin@ Dealpolice.org
AN	NEUMAN	RONEN	CHIEF OF POLICE DEM	DEAL, Interlaken Loch Arbour	RNEUMAN@DEALPOLICE.ORG
ML	MERICANO	Matthew	Engineering Firm	Deal, Loch Arbour Interlaken	MERICANO@leonservices.com
KL	Reibrich	LOU	Administrator / Clerk	Interlaken	lreibrich@interlakenbor.com
AN	Simons	MAREYN	Village Clerk	Loch Arbour	msimons@lochbour.us
FF	Foley	James	Superintendent of Boroughs	Deal	jfoley@DealBorough.com
BA	Ashman	Brian	Planner	MB	

Appendix Vol I.28 Long Branch City

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

2,005 *Polices In-force*

1,347 *Total Losses*

\$52,208,476 *Total Payments*

69 *Number of RL Properties*

8 *Number Mitigated
RL Properties*

200 *RL - Total Losses*

\$8,800,686 *RL - Total Paid*

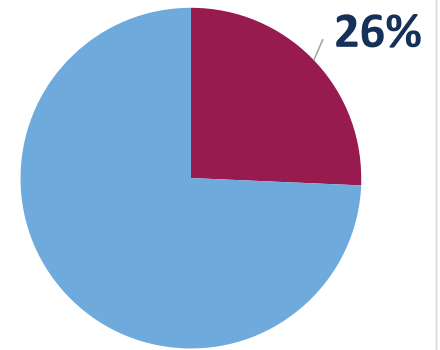


2 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

15 *SRL - Total Losses*

\$447,330 *SRL - Total Paid*



Percent Land Area Within SFHA

18

*Total Mitigation
Actions*

0



Education and Awareness Programs

17



Structure and Infrastructure Projects

1



Local Plans and Regulations

0



Natural Systems Protection

Critical Facilities

44 *Critical Facilities*

2 *Critical Infrastructure*

99 *Historic & Cultural Resources*



820 *SV Population At Risk (2017)*

7,894 *Population at Risk (2017)*

Long Branch, City of Monmouth County HMP Mitigation Action Summary											
Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
28_01	Continue to Enforce Flood Ordinances	Update local ordinances to comply with FEMA's new preliminaries and possibly acquire reductions for residents in flood insurance premiums.	Administrative	Local Plans and Regulations	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low	City of Long Branch	Local Budget		1 year	Ongoing
28_02	Continue to Implement the City-Wide Drainage Master Plan	Installation of improved drainage and stormwater pipe to control flood waters and increase strategic locations to control flow.	Administrative	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low	City of Long Branch	Local Budget	\$113,500.00	1 year	Ongoing
28_03	Upsize the Stormwater Pipe under the New Jersey Transit Rail Line	The stormwater pipe that needs to be upsized under the New Jersey Transit (NJT) Railroad. Replace the piping of the ditch from Morris Ave to the start of the underground piping.	Mitigation - Continuity of Functional Use	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	City of Long Branch	Local Budget, FEMA HMA	\$7,030,000.00	5 + years	Ongoing
28_04	Install Stormwater Control Devices at Lake Takanassee	Install an improved drainage system and stormwater control devices to regulate flood waters and increase strategic locations to control flow.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	Local Budget, FEMA HMA	\$314,000.00	2 years	Ongoing
28_05	Install Improved Stormwater Pipe at the Elberon Trestle	Installation of improved drainage and stormwater pipe to control flood waters and increase strategic locations to control flow. Advanced warning systems to alert motorist of the conditions located overhead and will require significant coordination with New Jersey Transit.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Hurricane and Tropical Storm, Storm Surge	High	City, Ocean Township, Borough of Deal	Local Budget, FEMA HMA	\$1,500,000.00	3 years	Ongoing
28_06	Install Duckbill Check Valves along the Shrewsbury River	Installation of duckbill check valves to control flood waters and increase strategic locations to control flow.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	Local Budget, FEMA HMA	\$136,500.00	3 years	Ongoing
28_07	Construct a New Bulkhead at Bay Ave.	Improvements to existing Bay Avenue bulkhead that has proven to be inadequate after the changes in conditions following Superstorm Sandy.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	FEMA HMA	\$20,000,000.00	3 years	Ongoing
28_08	Elevate Flood-prone Residential Properties Below the BFE, especially Repetitive Loss and Severe Repetitive Loss Properties	Project will consist of the elevation of approximately 150 flood-prone residential structures that are below the approved base flood elevations.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch Emergency Management	FEMA HMA	\$2,178,750.00	5 + years	Ongoing

Long Branch, City of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
28_09	Acquire and demolish/relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	The City will work with private property owners that are on FEMA's Repetitive Loss and Severe Repetitive Loss list on mitigation solutions, including available grants for home elevation or flood-proofing.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Storm Surge	High	City of Long Branch	FEMA HMA	\$2,178,750.00	3 years	Ongoing
28_10	Purchase and Install Portable Flood Diversions	Purchase a portable muscle wall that can is plastic and will lock together and go underground.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Extreme Wind, Hurricane and Tropical Storm	High	City of Long Branch	FEMA HMA		1 year	New
28_11	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, Security Personnel, and/or Bulletproof Glass	Harden municipal buildings, schools, and public spaces when special events occur in the City.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Terrorism	Medium	City of Long Branch	Homeland Security grants	\$1,500,000.00	5 + years	New
28_12	Purchase and Install Back Up Servers at Polling Stations	Back up servers for polling stations.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Cyber Attack	Medium	City of Long Branch	Homeland Security grants	\$800,000.00	5 + years	New
28_13	Purchase Portable Traffic Lights	Portable synchronized traffic lights for evacuation routes, including Route 36, Route 71, and Ocean Ave.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Medium	City of Long Branch	Homeland Security grants	\$50,000.00	1 year	New
28_14	Relocate Police Station out of Flood Hazard Area	Relocate Police Station from Basement of 344 Broadway where flooding occurs during heavy rain, hurricane, high tide.	Mitigation - Continuity of Functional Use	Structure and Infrastructure Project	All Hazards	Medium	City of Long Branch	EMA HMA, Local Budget	\$7,000,000.00	5 + years	New
28_15	Purchase and Install Flood Warning Signs	Purchase flood warning signs and install at four locations: Long Branch Avenue, Elberon Trestle, Route 36 and Florence Ave, and the Atlantic Ave and Edwards Ave intersection.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Medium	City of Long Branch	Local Budget	\$160,000.00	3 years	New
28_16	Replace Bulk Head at Long Branch Promenade	Replace 50-year old bulkhead at Long Branch Promenade. Bulkhead is damaged and is approaching 50 years old.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	FEMA HMA		1 year	New

Long Branch, City of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
28_17	Create Water Retention Areas to Alleviate Flooding	Install retention areas around city where nuisance, riverine, and tidal flooding continue to occur.	Mitigation - Continuity of Functional Use	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	City of Long Branch	FEMA HMA		2 years	New
28_18	Install Flood Gate within Manahasset Creek	Install Flood gate within Manahasset Creek at Sands Point to alleviate the flooding from storm surge throughout Long Branch, Eastern side of Oceanport, and the Northern end of Monmouth Beach.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	City of Long Branch	FEMA HMA		1 year	New

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_01

Long Branch, City of

Describing the Action

Action Name:	Continue to Enforce Flood Ordinances
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Update local ordinances to comply with FEMA's new preliminaries and possibly acquire reductions for residents in flood insurance premiums.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	3, 4, 5 6
Risk Reduction:	Sea Level Rise and climate change will contribute to more frequent and severe flooding and surge events over a larger area.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Homes must be elevated in compliance with the new FEMA flood maps once they are finalized.
Environmental:	Positively impacts the environment by increasing the permeable surface for each homeowner property.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because of repetitive nature of flooding in the project area.
Administrative Capability:	Does not adversely affect any particular social group.
Local Champion:	No
Other Community Objectives:	
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	Low
Local Planning Mechanism:	Codes
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Local Budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; after Superstorm Sandy, the City created an ordinance for two feet of freeboard on new and subdivided properties and adopted all the models from NJDEP and FEMA.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_02

Long Branch, City of

Describing the Action

Action Name:	Continue to Implement the City-Wide Drainage Master Plan
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Installation of improved drainage and stormwater pipe to control flood waters and increase strategic locations to control flow.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Various locations throughout the City flood when local drainage cannot exit the system due to submerged outfalls and associated backflow.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has sufficient capacity and experience to administer this action.
Local Champion:	Public Works Director

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	\$113,500.00
Priority:	Low
Local Planning Mechanism:	City Wide Drainage Master Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Local Budget
Timeline:	1 year
Action Status:	Ongoing

Notes: Ongoing 2015 action; The City created a City Wide Drainage Master Plan and have completed several projects since the last plan update.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_03

Long Branch, City of

Describing the Action

Action Name:	Upsize the Stormwater Pipe under the New Jersey Transit Rail Line
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	The stormwater pipe that needs to be upsized under the New Jersey Transit (NJT) Railroad. Replace the piping of the ditch from Morris Ave to the start of the underground piping.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Areas surrounding City Hall from Broadway to Morris Avenue flood during periods of excess rainfall. The increase in stormwater pipe will help water flow out of the flooded areas.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Must coordinate with New Jersey Transit.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has sufficient capacity and experience to administer this action.
Local Champion:	Public Works Director

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	\$7,030,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Local Budget, FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing 2015 action; the City must wait until New Jersey Transit works on the railroad for any pipe reconstruction to occur.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_04

Long Branch, City of

Describing the Action

Action Name:	Install Stormwater Control Devices at Lake Takanassee
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Install an improved drainage system and stormwater control devices to regulate flood waters and increase strategic locations to control flow.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Flooding and storm surge has historically been an issue in and around Lake Takanassee during severe storms; a lot of water inland drains to the lake.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has sufficient capacity and experience to administer this action.
Local Champion:	Public Works Director

Other Community Objectives:

STAPLEE Evaluation:	10
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Implementing the Action

Cost Estimate:	\$314,000.00
Priority:	High
Local Planning Mechanism:	Codes
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Local Budget, FEMA HMA
Timeline:	2 years
Action Status:	Ongoing

Notes:

The City replaced antiquated timber stops with new aluminum stops; now can lower the lake one ft during storms preventing the lake from overflow and flood. Drainage ongoing.

The City was awarded \$495,481.50 of FEMA Funding 406 Public Assistance for Lake Takanassee Spillway

The City was also awarded \$212,030 of HMGP for Flood Control Project post-Sandy (location not known).

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_05

Long Branch, City of

Describing the Action

Action Name:	Install Improved Stormwater Pipe at the Elberon Trestle
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Installation of improved drainage and stormwater pipe to control flood waters and increase strategic locations to control flow. Advanced warning systems to alert motorist of the conditions located overhead and will require significant coordination with New Jersey Transit.

Evaluating the Action

Hazard(s) Addressed:	Flood, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Flash Flooding occurs around the Elberon Trestle during rain events.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Must coordinate with New Jersey Transit, Borough of Deal, Ocean Township, and private property owners.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has sufficient capacity and experience to administer this action.
Local Champion:	Public Works Director

Other Community Objectives:

STAPLEE Evaluation: 9

Implementing the Action

Cost Estimate:	\$1,500,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City, Ocean Township, Borough of Deal
Likely Funding Source(s):	Local Budget, FEMA HMA
Timeline:	3 years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; pipes have been cleaned out to Elberon and larger pipes installed however the pipe under the New Jersey Transit railroad needs to be larger.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_06

Long Branch, City of

Describing the Action

Action Name:	Install Duckbill Check Valves along the Shrewsbury River
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Installation of duckbill check valves to control flood waters and increase strategic locations to control flow.

Evaluating the Action

Hazard(s) Addressed:	Flood, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	The northern and western areas of the city are susceptible to flooding. Most of North Long Branch was flooded during Superstorm Sandy, from both coastal flooding and backwater flooding from the Shrewsbury River and its tributaries. There was significant damage to public and private property and infrastructure.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has sufficient capacity and experience to administer this action.
Local Champion:	Public Works Director

Other Community Objectives:

STAPLEE Evaluation:	10
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Implementing the Action

Cost Estimate:	\$136,500.00
Priority:	High
Local Planning Mechanism:	Codes
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Local Budget, FEMA HMA
Timeline:	3 years
Action Status:	Ongoing
Notes:	Ongoing action; the City deems this action necessary and is searching for potential funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_07

Long Branch, City of

Describing the Action

Action Name:	Construct a New Bulkhead at Bay Ave.
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	Improvements to existing Bay Avenue bulkhead that has proven to be inadequate after the changes in conditions following Superstorm Sandy.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5, 6
Risk Reduction:	Areas in and around Manahasset Creek Park Complex are susceptible to flooding.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Property is owned by the City.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has sufficient capacity and experience to administer this action.
Local Champion:	Public Works Director

Other Community Objectives:

STAPLEE Evaluation:	9
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Implementing the Action

Cost Estimate:	\$20,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	FEMA HMA
Timeline:	3 years
Action Status:	Ongoing

Notes: Ongoing 2015 action; the recreation center building at the Manahasset Creek Park Complex is destroyed and a new bulkhead is needed. All structures have been removed.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_08

Long Branch, City of

Describing the Action

Action Name:	Elevate Flood-prone Residential Properties Below the BFE, especially Repetitive Loss and Severe Repetitive Loss Properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Project will consist of the elevation of approximately 150 flood-prone residential structures that are below the approved base flood elevations.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5, 6
Risk Reduction:	Several residential structures throughout the community are prone to flooding, with their main floor elevations below current BFEs. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Elevation of homes is technically feasible.
Political:	Residents realize the need to prevent flooding in this area. No group is opposed to this action. Political leadership supports this type project.
Legal:	No apparent legal issues.
Environmental:	Positively impacts the environment by increasing the permeable surface for each homeowner property.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because of repetitive nature of flooding in the project area.
Administrative Capability:	City of Long Branch Office of Emergency Management will manage this project.
Local Champion:	OEM Deputy Coordinator
Other Community Objectives:	
STAPLEE Evaluation:	10

Implementing the Action

Cost Estimate:	\$2,178,750.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch Emergency Management
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action; the City deems this action necessary and is searching for potential funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_09

Long Branch, City of

Describing the Action

Action Name:	Acquire and demolish/relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Property Acquisition and Structure Demolition
Action Description:	The City will work with private property owners that are on FEMA's Repetitive Loss and Severe Repetitive Loss list on mitigation solutions, including available grants for home elevation or flood-proofing.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Storm Surge
Goals:	2, 3, 5, 6
Risk Reduction:	Several residential structures throughout the community are prone to flooding, with their main floor elevations below current BFEs. Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Elevation and acquisition are both technically feasible project types.
Political:	Our political leadership supports this type of project.
Legal:	While the municipality does not own the structures in question, we fully support the homeowners in moving forward
Environmental:	No environmental impacts are anticipated at this time; this would be confirmed as specific homeowners come forward and their property details are reviewed. It is likely that environmental impacts would be positive, as household hazardous wastes are no longer introduced into floodwaters.
Social:	No particular social group in our community is likely to be disproportionately impacted by this project; this would be reevaluated as particular interested homeowners come forward.
Administrative Capability:	Municipality has the administrative capabilities to manage an elevation and/or acquisition project.
Local Champion:	affected homeowners, elected officials
Other Community Objectives:	Improve and protect lifestyles of residents; reduction of costly property damage; resiliency; floodplain management; capital improvements.
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$2,178,750.00
Priority:	High
Local Planning Mechanism:	Homeowners; Mayor; Council; Administrator; Engineer; local ordinance; Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	FEMA HMA
Timeline:	3 years
Action Status:	Ongoing
Notes:	Ongoing action; the City deems this action necessary and is searching for potential funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_10

Long Branch, City of

Describing the Action

Action Name:	Purchase and Install Portable Flood Diversions
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Purchase a portable muscle wall that can is plastic and will lock together and go underground.

Evaluating the Action

Hazard(s) Addressed:	Flood, Extreme Wind, Hurricane and Tropical Storm
Goals:	2, 3, 5, 7
Risk Reduction:	Depending on the hazard, the flooded areas can change therefore a portable wall will mitigate flooding.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Municipality has the administrative capabilities to manage an elevation and/or acquisition project.
Local Champion:	Engineering, OEM

Other Community Objectives:

STAPLEE Evaluation: 10

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_11

Long Branch, City of

Describing the Action

Action Name:	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, Security Personnel, and/or Bulletproof Glass
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Harden municipal buildings, schools, and public spaces when special events occur in the City.

Evaluating the Action

Hazard(s) Addressed:	Terrorism
Goals:	1, 2, 3, 5
Risk Reduction:	Long Branch is a resort community that hosts several large events, such as the 4th of July fireworks and the state marathon. Increasing security will reduce the risk of terrorism.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	City has sufficient capacity and experience to administer this action.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	\$1,500,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Homeland Security grants
Timeline:	5 + years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_12

Long Branch, City of

Describing the Action

Action Name: Purchase and Install Back Up Servers at Polling Stations

Action Category: Maintenance/Response/Recovery

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Miscellaneous/Other

Action Description: Back up servers for polling stations.

Evaluating the Action

Hazard(s) Addressed: Cyber Attack

Goals: 5, 6

Risk Reduction: The polling stations are vulnerable to cyber attacks.

Technical: Technically feasible.

Political: No adverse political ramifications are expected.

Legal: No legal impediments anticipated.

Environmental: No adverse environmental impact anticipated.

Social: Does not adversely affect any particular social group.

Administrative Capability: City has sufficient capacity and experience to administer this action.

Local Champion: Police, OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate: \$800,000.00

Priority: Medium

Local Planning Mechanism: Hazard Mitigation Plan

Responsible Party: City of Long Branch

Likely Funding Source(s): Homeland Security grants

Timeline: 5 + years

Action Status: New

Notes: The City was awarded HMGP funding for Police Department/OEM Command Center Generator (\$45k) post-Sandy.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_13

Long Branch, City of

Describing the Action

Action Name:	Purchase Portable Traffic Lights
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Portable synchronized traffic lights for evacuation routes, including Route 36, Route 71, and Ocean Ave.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	4
Risk Reduction:	During a power outage, there is a need for back-up power for traffic lights along evacuation routes to direct traffic. The backup traffic lights will lessen the emergency responder manpower required at intersections and they can focus on responding to other emergencies.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	This action would require less administrative coordination during an emergency.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	\$50,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Homeland Security grants
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_14

Long Branch, City of

Describing the Action

Action Name:	Relocate Police Station out of Flood Hazard Area
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Relocate Police Station from Basement of 344 Broadway where flooding occurs during heavy rain, hurricane, high tide.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	2, 3, 7
Risk Reduction:	Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	This action would require less administrative coordination during an emergency.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation:	N/A
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Implementing the Action

Cost Estimate:	\$7,000,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	EMA HMA, Local Budget
Timeline:	5 + years
Action Status:	New
Notes:	The Police Station/OEM Command Center received a HMGP grant of \$50,000 for a generator.

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_15

Long Branch, City of

Describing the Action

Action Name:	Purchase and Install Flood Warning Signs
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Purchase flood warning signs and install at four locations: Long Branch Avenue, Elberon Trestle, Route 36 and Florence Ave, and the Atlantic Ave and Edwards Ave intersection.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 3, 7
Risk Reduction:	Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	This action would require less administrative coordination during an emergency.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation:	N/A
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Implementing the Action

Cost Estimate:	\$160,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	Local Budget
Timeline:	3 years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_16

Long Branch, City of

Describing the Action

Action Name:	Replace Bulk Head at Long Branch Promenade
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	Replace 50-year old bulkhead at Long Branch Promenade. Bulkhead is damaged and is approaching 50 years old.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5, 7
Risk Reduction:	Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	This action would require less administrative coordination during an emergency.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation: 10

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_17

Long Branch, City of

Describing the Action

Action Name:	Create Water Retention Areas to Alleviate Flooding
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Install retention areas around city where nuisance, riverine, and tidal flooding continue to occur.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5
Risk Reduction:	Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	Environmental disruption to natural environment; may require additional permitting.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	This action would require less administrative coordination during an emergency.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	FEMA HMA
Timeline:	2 years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 28_18

Long Branch, City of

Describing the Action

Action Name:	Install Flood Gate within Manahasset Creek
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Install Flood gate within Manahasset Creek at Sands Point to alleviate the flooding from storm surge throughout Long Branch, Eastern side of Oceanport, and the Northern end of Monmouth Beach.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 7
Risk Reduction:	Sea level rise and climate change will contribute to more frequent and severe flooding and surge events.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	Environmental disruption to natural environment; may require additional permitting.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	This action would require less administrative coordination during an emergency.
Local Champion:	Police, OEM

Other Community Objectives:

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	City of Long Branch
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New

Notes:

CAPABILITY ASSESSMENT WORKSHEET

Name: Charles F. Shirley Jr.

Title: Lieutenant

Jurisdiction: City of Long Branch

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	<ol style="list-style-type: none"> What is the date/year of the plan? Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	<ol style="list-style-type: none"> Adopted March 16, 2010 Yes; Goal 11 of the Master Plan seeks to manage stormwater, reduce the potential for flood damage and profiles a study on Evacuation Routes. Yes, the Master Plan identified coastal evacuation route improvements as determined by the Monmouth County Coastal Evacuation Routes Study (2009)
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	No	
Transportation Plan		<ol style="list-style-type: none"> A Circulation Plan is included in the 2010 Master Plan
Stormwater Management Plan	Yes	<ol style="list-style-type: none"> Long Branch adopted a revised SWMP and stormwater management ordinance in 2009. Yes, one of its goals is to Reduce flood damage, including to life and property,



CAPABILITY ASSESSMENT WORKSHEET

		3.
Community Wildfire Protection Plan		
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	<ul style="list-style-type: none"> • Beach Management Plan • City-wide Drainage Master Plan • NJ FRAMES
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	No	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance	Yes	Section 345-17 of the Municipal Code: Floodplain flood hazard area regulations Chapter 177 of the Municipal Code: Flood Damage Prevention
Natural hazard ordinance (stormwater, steep slope, wildfire)		
Flood Insurance Rate Maps	Yes	New Preliminary Flood Insurance Rate Maps released 1/31/14



CAPABILITY ASSESSMENT WORKSHEET

Acquisition of Land for Open Space and Public Recreation Uses	Yes	Section 35-2 of the Municipal Code grants the Environmental Commission the right to acquire land for open space.
Post-Disaster Recovery Ordinance	No	
Real Estate Disclose Ordinance	Yes	
Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance
How can the above capabilities be expanded and improved to reduce risk?		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	The City of Long Branch has a Department of Planning & Zoning, Planning Board, and Zoning Board.
Mitigation Planning Committee	Yes	Chapter 32 Emergency Management Council: establishes an Emergency Management Council and with a Chairman/Emergency Management Coordinator
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)		
Mutual Aid Agreements		
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes	Construction Official



CAPABILITY ASSESSMENT WORKSHEET

Floodplain Administrator	Yes	
Emergency Manager	Yes	
Community Planner	Yes	
Civil Engineer	Yes	
Surveyor	Yes	
GIS Coordinator	No	
Scientists familiar with the hazards of the community	No	
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)		
Hazard Data and Information		
Grant Writing	Yes	
Hazus Analysis	No	
Other	Yes	
How can the above capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	No	
Fees for Water, Sewer, Gas, or Electric Services	No	
Impact Fees for New Development	Yes	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds
How can these capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	The City of Long Branch website has an Emergency Preparedness section with links to FEMA information and a Hurricane Survival Guide.
Natural Disaster or Safety Related School Programs		
StormReady Certification	No	
Firewise Communities Certification	No	
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		





- Parcel Classification
- Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

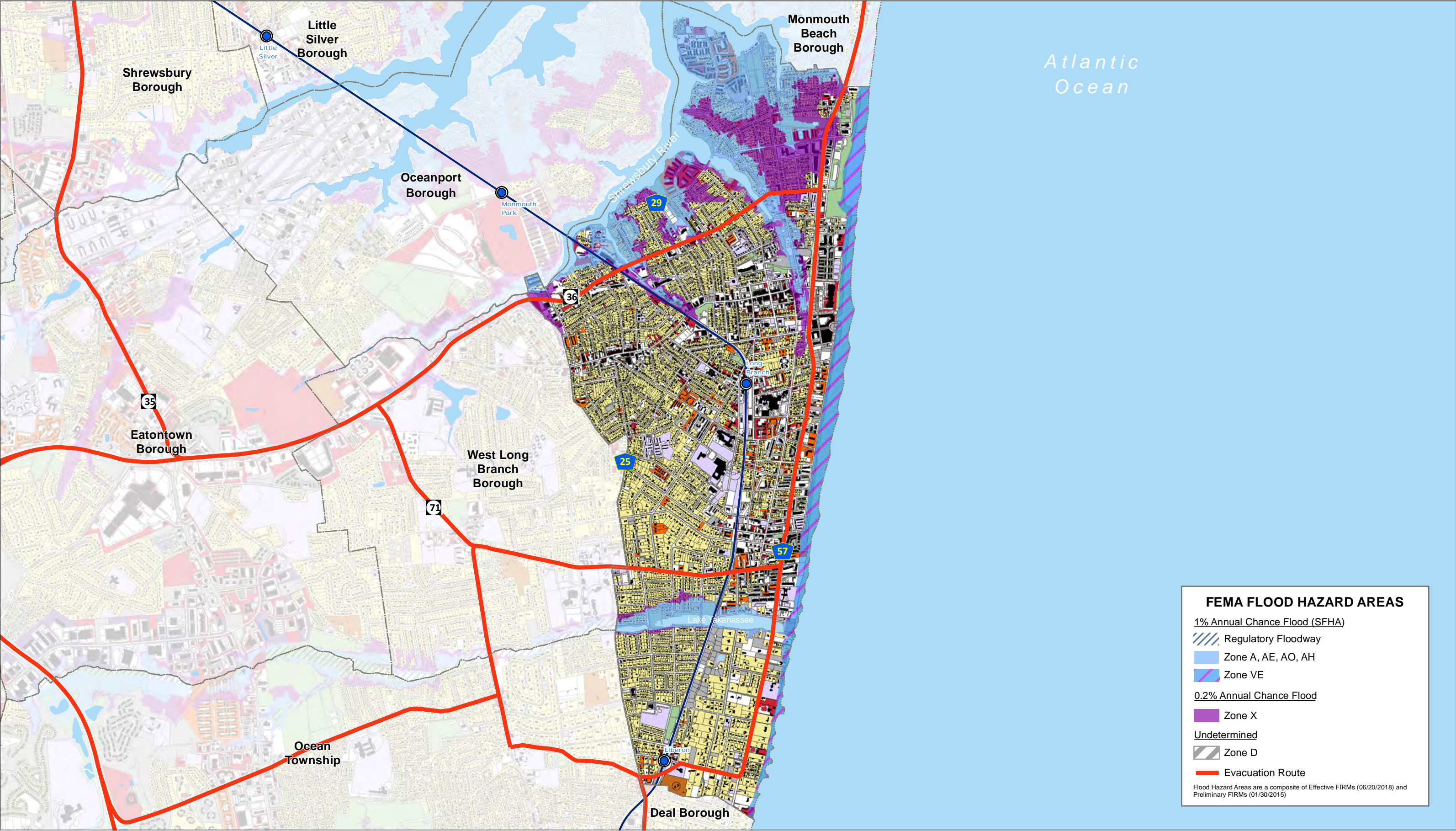
Unclassified

Open Space

01,3502,700

Feet

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA
Projection: New Jersey State Plane, NAD 1983



FEMA FLOOD HAZARD AREAS

1% Annual Chance Flood (SFHA)

Regulatory Floodway

Zone A, AE, AO, AH

Zone VE

0.2% Annual Chance Flood

Zone X

Undetermined

Zone D

Evacuation Route

Flood Hazard Areas are a composite of Effective FIRMs (06/20/2018) and Preliminary FIRMs (01/30/2015)



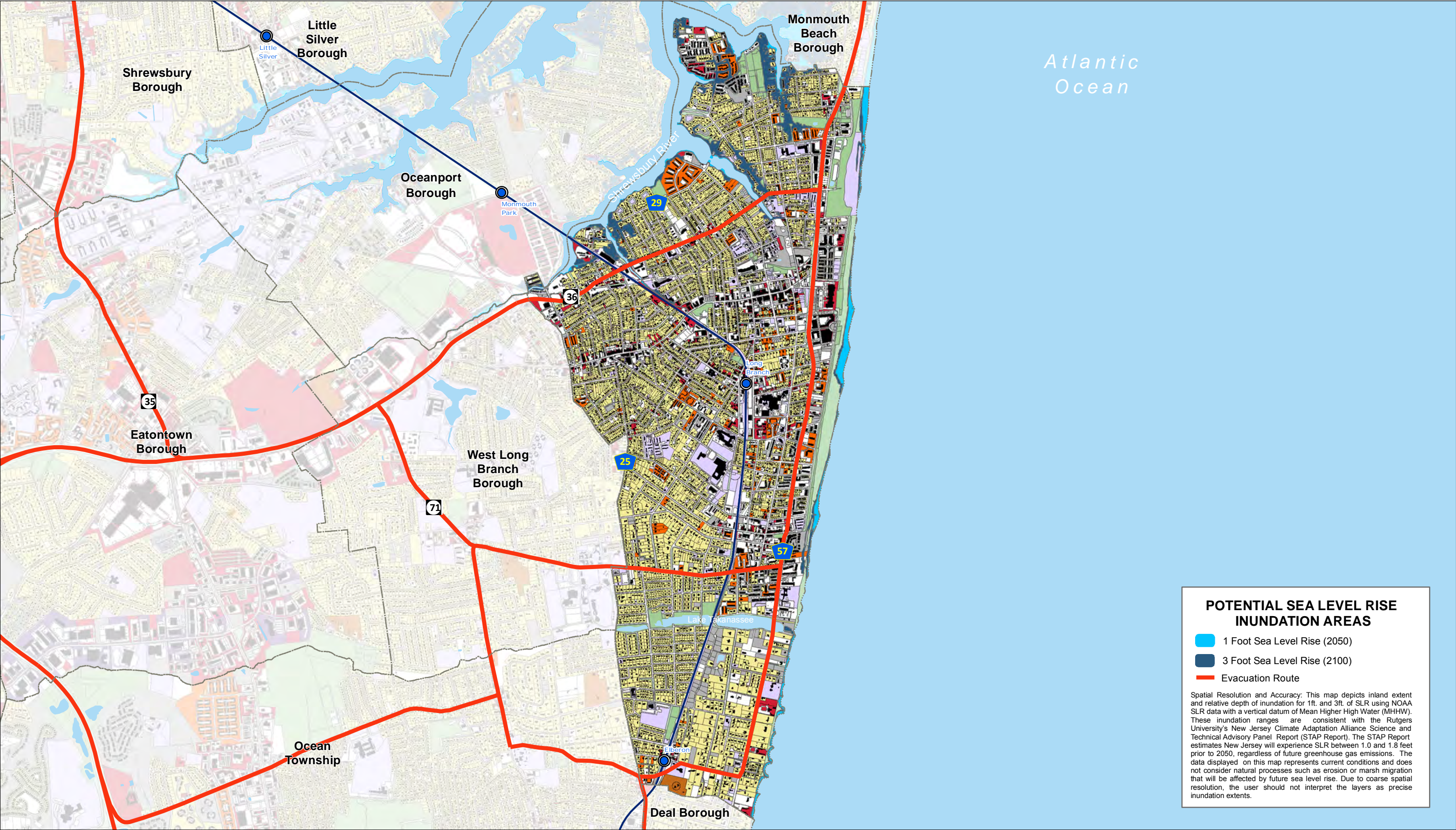
- Parcel Classification
- | | | | |
|------------|------------|---------------------------|-------------------------------------|
| Industrial | Commercial | Apartment | Residential (four families or less) |
| Farm | Vacant | Civic/Public (Tax Exempt) | Unclassified |
| | | | Open Space |

01,3502,700

Feet

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



POTENTIAL SEA LEVEL RISE INUNDATION AREAS

1 Foot Sea Level Rise (2050)

3 Foot Sea Level Rise (2100)

Evacuation Route

Spatial Resolution and Accuracy: This map depicts inland extent and relative depth of inundation for 1ft. and 3ft. of SLR using NOAA SLR data with a vertical datum of Mean Higher High Water (MHHW). These inundation ranges are consistent with the Rutgers University's New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report (STAP Report). The STAP Report estimates New Jersey will experience SLR between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions. The data displayed on this map represents current conditions and does not consider natural processes such as erosion or marsh migration that will be affected by future sea level rise. Due to coarse spatial resolution, the user should not interpret the layers as precise inundation extents.



MEETING NOTES

Topic: Long Branch- Monmouth County HMP Meeting

Date: July 2, 2019

Time: 12:00 PM- 1:00 PM

Location: Borough Office, 480 Prospect Ave., Little Silver

Attendees: Buzz Balanaza, DPW
Susan Catapano-Moore, CFM
Shirley Charles, OEM
Stanley Dziurma, OEM
George Jackson, Business Administrator
Stan Midose, Construction Official
Brittany Ashman, MB Planner
Paige Kaspar, MB Planner

Drafted by: Paige Kaspar

Introductions (Brittany):

- What is Hazard Mitigation?
- Matching actions with Goals
- New Hazards
- HMP Pamphlet
- Funding

Mitigation Actions

- Community Action 28_01-Update of Hazard Zoning Ordinances-ongoing
 - After SuperStorm Sandy, went with 2ft. of freeboard on new and subdivided properties
 - Adopted all the models from NJDEP and FEMA
 - Can send list of updated ordinances
 - Open to DEP and FEMA ordinances
 - Update language to be open to ordinances
- Community Action 28_02-Improve stormwater drainage system



- Throughout the city
 - There is an entire map of problems-City Wide Drainage Master Plan
 - Directly references map
 - Had engineer go out and identify trouble spots
 - Drainage issues-some paving, some drainage, some outfall
 - Reference map as a project-living document
 - Is there a report that goes with it?
- Community Action 28_03- Stormwater drainage system Improvement-Ongoing
 - City Hall from Broadway to Morris Ave
 - Pipe that needs to be upsized under the railroad
 - Lay it under the tracks of NJTransit?
 - Will let City in there the next time they completely rip it out
- Community Action 28_04-Stormwater drainage system improvements-completed
 - Lake Takanasee
 - Restoration to the outfall, spillway
 - In the spillway we replaced antiquated timber stops and put in new aluminum stops
 - Lake fills, everything drains to the lake, can lower the lake 1 ft during storms, and when everything drains into the lake it won't overflow and flood
 - Based on weather forecasts
- Community Action 28_05-Stormwater drainage system improvements-ongoing
 - Elberon Trestle
 - Another transit issue
 - Pipes cleaned out to Elron and larger pipes installed
 - When the flash flood happens, there is no way to prevent it
 - Water flows from Park Ave. South
 - Need pipes to be larger to go underneath the railroad
 - Have to negotiate with all these people to get the pipe in
 - Must work with Ocean Twp and Deal
 - Private property
 - Low chance of being completed
- Community Action 28_06-Improve stormwater drainage system
 - Shrewsbury River north of town
 - HMGP
 - Going to send list
- Community Action 28_07-Bulkheads-ongoing
 - Intersection of Manahasset Ave and Nannahasset Ave. (site 39 on map)
 - Due to Manahasset Creek
 - Money Issues
 - Building destroyed there-rec building
 - Up to admin to sell property
 - Bay Ave. Park Rec Building
 - Poor lack of maintenance



- Needs completely new bulkhead but will probably sell the property
 - \$20 million project, not \$1,5000
 - No property acquisition because its ours
- Community Action 28_08-Project Structures-**completed**
 - Elevating flood-prone residential properties that are below the base flood elevation
 - Approx. 150 homes
 - This was a Sandy issue
 - State-prevailing wage made it impossible for people to do it
 - In NJ, bid it with prevailing wage; doesn't work in NJ
 - Homeowner would get an allotment through the bank, but people won't accept because prevailing wage for contractors would make it too expensive
 - 80 some homes elevated or demolished/rebuilt-Private
 - Leads to bad things with residents
- Community Action 28_09-Protect Structures
 - RL/SRL
 - All the stuff around Lake Tack you can probably take off at this point

2020 Mitigation Actions (NEW)

- Portable flood diversion with muscle wall
 - Plastic and lock together and go underground
 - Depending on the hazard, could be different areas, so want it to be portable
 - Wind and water
- Target Hardening
 - Resort community-large events- 4th of July, NJ Marathon
 - More protection for municipal buildings
 - Shelters need generators-at schools
- Power failure-buying several portable generators with hook-ups to buildings
 - All of Housing Authorities are rebuilt and need generators (?) and if there were to be power failure during extreme heat or cold, can create hookups and move generators there
 - For Housing Authorities and other identified critical facilities, Fire Stations
- Polling Stations and Cyber Attacks
 - Back-ups
- Portable synchronized traffic lights for evacuation routes-36, 71 and Ocean Ave.

Capabilities

- Debris Management Site, Debris Management Site
- Secure the Shore grant for vehicle impact protection from State Homeland
- Power Failure-pretty good-HMP grant for municipal annex building-Permanent generator
- \$80 million plan for all the municipalities up by Sandy Hook for a floodgate
- NJFRAMES- part of it

Successes-

- From the city-wide Drainage Master Plan



- Improvements needed at the Conrail New York and Long Branch Railroad cannot be done until the railroad agrees
- Improvements at site 48 between Lane St., Washington St. NJ State Highway and Branchport Ave. in progress
- At the intersections of Branchport Ave. and Wardell St./Jay St., pipes were repaired (new drains) but still need to be cleaned (site 42)
- Blockage removed (no enlargement) at Ethel Pl. (Site 20)
- Bubble System Cleaned no Connection at Franklin Ave. and Third Ave (24)
- Only Cleaned, no new drains at Morris Ave. and Second Ave. (19)
- Replaced curb slots with catch basins along Second Ave. (18)
- Repaired system and added inlets at South Bath Ave. and Second Ave. (17)
- Only cleaned, no repair at Second & Eastborne (15)
- Added drain and pipes at Sairs Ave. & Avery Ave. (14)
- Removed bubbler and added inlets at Sairs Ave. (13)
- Reconstructed intersection, curb returned, and drainage at Brighton & Second (9)
- Reconstructed and clean drainage system and constructed drainage surcharge system between End Ct. and Brighton Ave. (49)
- Replaced washout, reconstructed curb and added catch basin along So. Lake Drive (8)
- School under construction drainage runs south, connects to Stratton pl.: System upgraded, cleaned system and replaced CMP along Eaton Terr. (Site 5)
- Takana Lake project partially completed
- Inlet Repair in progress along Westwood (site 10)
- In progress (site 11)
- Replaced 24 RCP and cleaned system along Dale St. and Westbourne Ave. (Site 25)
- Enlarged pipe and replaced curb slots at between Morrell St., Broadway, Morris Ave. and Division St. (Site 26)
- Removed utility crossing and cleaned between Morrell St., Broadway, Morris Ave. and Division St. (Site 27)
- Fixed broken pipe and inlets; cleaned debris and roots on Edwards Ave. and Coleman Ave. (Site 44)
- Cleaned pipes to culvert at Spruce St. (34) and Sixth Avenue (35)
- Added new pipe west to creek at Columbia Ave. (41)
- Replaced pipe outlet covered with silt at So. Broadway (21)
- Improvements completed at Reservoir but not on the headwall (43)
- Work along the City border with the Borough of Deal partially done



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Long Branch HMP Mtg

Date: 05-29-19

Initial	Last Name	First Name	Title	Organization	Email Address
BA	Ashman	Brittany	Planner	MB	Brittany.Ashman@mbakerintl.com
PK	Kaspar	Paige	Planner	MB	Paige.Kaspar@mbakerintl.com
SM	Midose	Sten	Construction Official	City of LB	smidose@longbranch.org
	Shirley	Charles	OEM	LB	cshirley@longbranch.org
	Dziuba	Stanley	OEM	LB	sdziuba@longbranch.org
	Catapano-More	Susan	CFM	LB	smore@longbranch.org
MB	BALANZA		PR	LB	MBALANZA@LB06BRANCH.ORG
BJ	Jackson	George	Business Administrator	Long Branch	GJACKSON@longbranch.org

Appendix Vol I.29 Manalapan Township

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

182 *Polices In-force*

85 *Total Losses*

\$1,267,282 *Total Payments*

7 *Number of RL Properties*

1 *Number Mitigated
RL Properties*

16 *RL - Total Losses*

\$319,360 *RL - Total Paid*

0 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

0 *SRL - Total Losses*

\$0 *SRL - Total Paid*

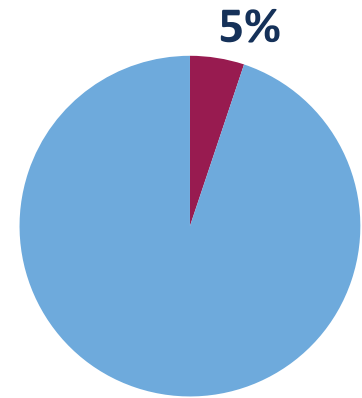


Critical Facilities

47 *Critical Facilities*

0 *Critical Infrastructure*

93 *Historic & Cultural Resources*



Percent Land Area Within SFHA

5

*Total Mitigation
Actions*

0



Education and Awareness Programs

4



Structure and Infrastructure Projects

1



Local Plans and Regulations

0



Natural Systems Protection



0 *SV Population At Risk (2017)*

2,058 *Population at Risk (2017)*

Manalapan, Township of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
29_01	Acquire Flood-prone Properties Along Birmingham Drive	Purchase properties along Birmingham Drive for the purposes of removing the structures which are located in Pine Brook Floodplain.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm	High	Township Administrator and Engineer	FEMA HMA		1 year	Ongoing
29_02	Active Shooter Training and Shelters	Implement an active shooter training at schools and municipal offices and create a shelter for children and staff to take refuge in a moment of crisis.	Maintenance/Response/Recovery	Local Plans and Regulations	Terrorism	Medium	Township Administrator	Homeland Security grants		2 years	New
29_03	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, Security Gates, and/or Bulletproof Glass	Purchase security gates, bulletproof glass, security cameras, and Access Control Systems to target harden against terrorist attack.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Terrorism	Medium	Township Administrator	Homeland Security grants		2 years	New
29_04	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm	High	Township and Property Owners	FEMA HMA		5 + years	New
29_05	Repair, Remove, or Rehabilitate the Millhurst Lake Dam	Repair, remove, or rehabilitate the Millhurst Lake Dam along the Manalapan Brook.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Dam Failure	High		Municipal budget, NJDEP Bureau of Dam Safety and Flood Control	\$0.00	3 years	New

Monmouth County Mitigation Action Worksheets

Community Action Number: 29_01

Manalapan, Township of

Describing the Action

Action Name:	Acquire Flood-prone Properties Along Birmingham Drive
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Property Acquisition and Structure Demolition
Action Description:	Purchase properties along Birmingham Drive for the purposes of removing the structures which are located in Pine Brook Floodplain.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	1, 2, 3, 6
Risk Reduction:	The residential structures on Birmingham Drive are located in a Special Flood Hazard Area. Climate change will contribute to more frequent and severe weather events.
Technical:	The project is technically feasible.
Political:	The residents and governing body are supportive of the project.
Legal:	No legal impediments anticipated; property owners will be willing to sell their property to the Township.
Environmental:	The project would have a positive environmental impact in that it will eliminate obstructions in a flood hazard area.
Social:	The project will improve the quality of life of a specific group of residents along Birmingham Drive whose properties repetitively flood.
Administrative Capability:	Township Administration and Engineering are the lead agencies
Local Champion:	The residents of Birmingham Drive are leading the call for action.
Other Community Objectives:	Open Space Preservation
STAPLEE Evaluation:	12

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Open Space and Flood Plain Management
Responsible Party:	Township Administrator and Engineer
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action; the Township deems this action necessary and is searching for potential funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 29_02

Manalapan, Township of

Describing the Action

Action Name:	Active Shooter Training and Shelters
Action Category:	Maintenance/Response/Recovery
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Implement an active shooter training at schools and municipal offices and create a shelter for children and staff to take refuge in a moment of crisis.

Evaluating the Action

Hazard(s) Addressed:	Terrorism
Goals:	1, 7
Risk Reduction:	Increase frequency of terrorist attacks on schools and municipal offices. Staff, students, and residents should be prepared on what to do if such a hazard occurs.
Technical:	Technically feasible.
Political:	Politically acceptable and encouraged in order to better prepare residents.
Legal:	No legal issues anticipated.
Environmental:	No adverse environmental effects from planning and sheltering.
Social:	Does not adversely affect any particular social group. Perceived by the public to be beneficial because the heightened awareness and frequency of terrorist attacks are inspiring more citizens to seek training and preparation.
Administrative Capability:	Township has sufficient capacity and experience to administer this action.
Local Champion:	Police and OEM
Other Community Objectives:	Protects the life, safety, and general welfare of residents.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Township Administrator
Likely Funding Source(s):	Homeland Security grants
Timeline:	2 years
Action Status:	New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 29_03

Manalapan, Township of

Describing the Action

Action Name:	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, Security Gates, and/or Bulletproof Glass
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Purchase security gates, bulletproof glass, security cameras, and Access Control Systems to target harden against terrorist attack.

Evaluating the Action

Hazard(s) Addressed:	Terrorism
Goals:	1, 2, 7
Risk Reduction:	Township critical facilities are vulnerable to terrorism or vandalism. Increased security will lower the risk of such hazards.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal issues are anticipated.
Environmental:	Does not adversely affect the environment.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for residents.
Administrative Capability:	Township has sufficient capacity and experience to administer this action
Local Champion:	OEM, Police
Other Community Objectives:	Protects the life, safety, and general welfare of residents.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Township Administrator
Likely Funding Source(s):	Homeland Security grants
Timeline:	2 years
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 29_04

Manalapan, Township of

Describing the Action

Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Coordinate with residents to mitigate RL/SRL properties through structure elevation, demolition to open space, or other type of mitigation.

Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	1, 2, 3, 6
Risk Reduction:	Risk of future destruction and property loss in repetitive flooded areas.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	If structures are elevated, they must be built in compliance with the FEMA flood maps.
Environmental:	Positively impacts the environment by increasing the permeable surface for each homeowner property.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because of repetitive nature of flooding in the project area.
Administrative Capability:	There is sufficient capacity and experience to administer this action.
Local Champion:	OEM
Other Community Objectives:	
STAPLEE Evaluation:	10

Implementing the Action

Cost Estimate:	
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Township and Property Owners
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	New
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 29_05

Manalapan, Township of

Describing the Action

Action Name:	Repair, Remove, or Rehabilitate the Millhurst Lake Dam
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Repair, remove, or rehabilitate the Millhurst Lake Dam along the Manalapan Brook.

Evaluating the Action

Hazard(s) Addressed:	Dam Failure
Goals:	1, 2, 3
Risk Reduction:	NJDEP classifies both the Millhurst Lake Dam to be a High-Hazard Potential, meaning failure of the dam may result in probable loss of life and/or extensive property damage.
Technical:	Technically feasible.
Political:	There are no anticipated political implications.
Legal:	May require coordination with NJDEP.
Environmental:	Minor environmental impacts expected.
Social:	No adverse social impact anticipated.
Administrative Capability:	Township has sufficient capacity and experience to administer this action.
Local Champion:	OEM

Other Community Objectives:

STAPLEE Evaluation: 10

Implementing the Action

Cost Estimate:	\$0.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	
Likely Funding Source(s):	Municipal budget, NJDEP Bureau of Dam Safety and Flood Control
Timeline:	3 years
Action Status:	New

Notes: FEMA has a National Dam Safety Program with funding available to High-Hazard Potential Dams, however, the Millhurst Lake Dam does not qualify for funding at the time of this plan update.

CAPABILITY ASSESSMENT WORKSHEET

Name: James Winckowski

Title: Senior Project Manager

Jurisdiction: Manalapan Township

Organization: CME Associates

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	<ol style="list-style-type: none"> What is the date/year of the plan? Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	1. Reexamination in 2009 (with additional amendments in 2012)
Capital Improvements Plan	Yes	
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	Yes	
Transportation Plan	Yes	1. As an element in the 2009 re-examination
Stormwater Management Plan	Yes	1. 2006
Community Wildfire Protection Plan		



CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	Debris Management Plan
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain Ordinance	Yes	Flood Damage Prevention Ordinance
Natural hazard ordinance (stormwater, steep slope, wildfire)		
Flood Insurance Rate Maps		
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	Yes	
Real Estate Disclose Ordinance	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance
How can the above capabilities be expanded and improved to reduce risk?		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)		
Mutual Aid Agreements		
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official		
Floodplain Administrator	Yes	
Emergency Manager	Yes	
Community Planner	Yes	



CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes	
Surveyor	Yes	
GIS Coordinator	Yes	
Scientists familiar with the hazards of the community	No	
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)		
Hazard Data and Information		
Grant Writing	Yes	
Hazus Analysis	Yes	
Other		
How can the above capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	
Authority to Levy Taxes for Specific Purposes	Yes	
Fees for Water, Sewer, Gas, or Electric Services	No	
Impact Fees for New Development	No	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds and Incur Debt through Special Tax and Revenue Bonds
How can these capabilities be expanded and improved to reduce risk?		



CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		





Parcel Classification

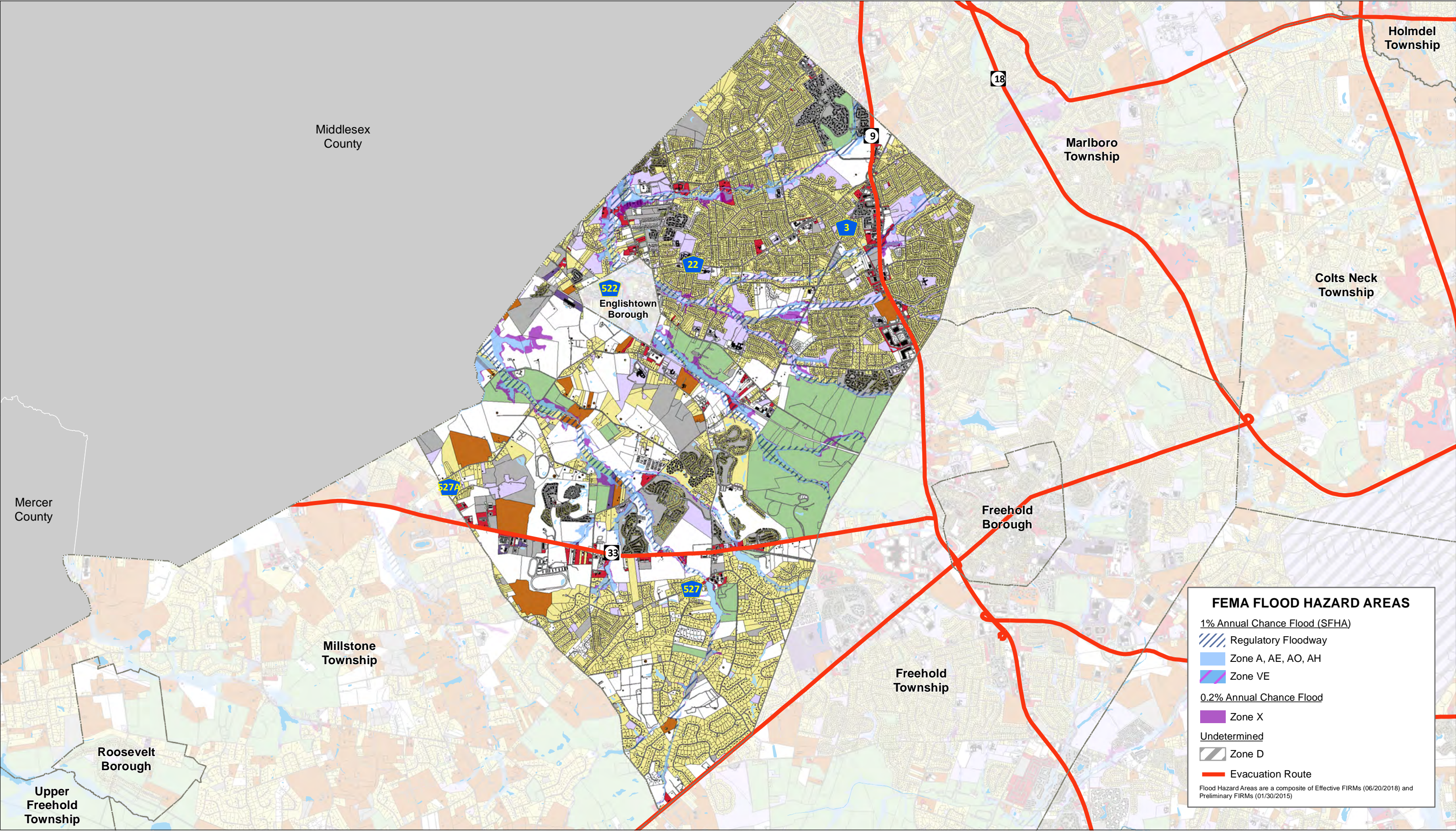
Industrial	Commercial	Apartment	Residential (four families or less)	
Farm	Vacant	Civic/Public (Tax Exempt)	Unclassified	Open Space

02,7505,500

Feet

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA
Projection: New Jersey State Plane, NAD 1983







- Parcel Classification
- Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

02,7505,500

Feet

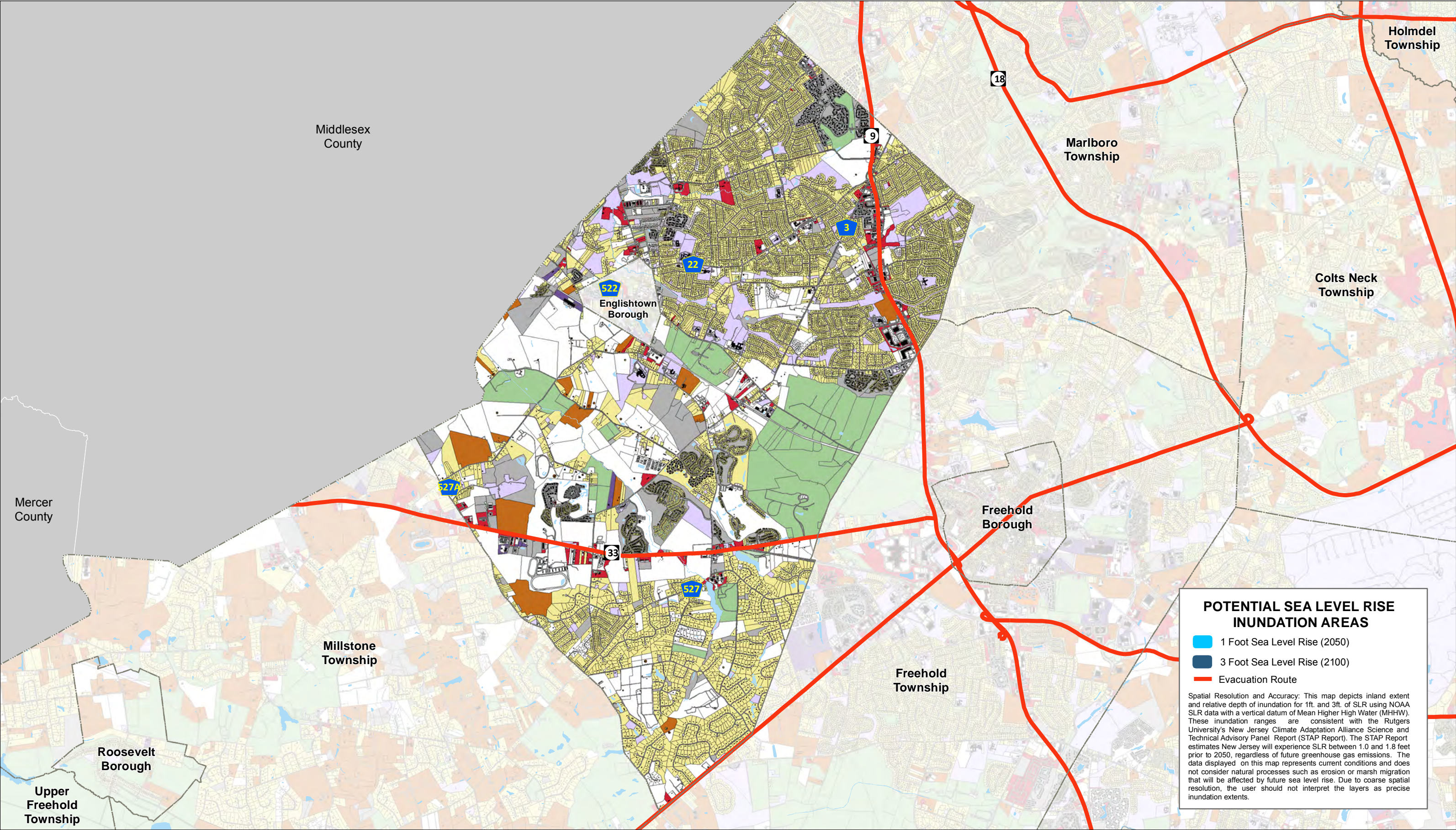
Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



Michael Baker

INTERNATIONAL



POTENTIAL SEA LEVEL RISE INUNDATION AREAS

1 Foot Sea Level Rise (2050)

3 Foot Sea Level Rise (2100)

Evacuation Route

Spatial Resolution and Accuracy: This map depicts inland extent and relative depth of inundation for 1ft. and 3ft. of SLR using NOAA SLR data with a vertical datum of Mean Higher High Water (MHHW). These inundation ranges are consistent with the Rutgers University's New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report (STAP Report). The STAP Report estimates New Jersey will experience SLR between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions. The data displayed on this map represents current conditions and does not consider natural processes such as erosion or marsh migration that will be affected by future sea level rise. Due to coarse spatial resolution, the user should not interpret the layers as precise inundation extents.

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



MEETING NOTES

Topic: Manalapan- Monmouth County HMP Meeting

Date: June 18, 2019

Time: 4:00 PM 5:00 PM

Location: Follow up conference call

Attendees: Tara Lovrich, Township Administrator
Jim Winckowski, Senior Project Manager
Brittany Ashman, MB Planner

Drafted by: Paige Kaspar

Introductions (Brittany):

- What is Hazard Mitigation?
- Matching actions with Goals
- New Hazards
- HMP Pamphlet
- Funding

Mitigation Actions:

- Community Action 29_01 Property Acquisition Ongoing

2020 Mitigation Actions (NEW):

- Target Hardening
- Active Shooter Training at municipal offices, schools, and security staff
- Shelter in place drill

Capabilities

- Debris management plan



Monmouth County Multi-Jurisdictional Hazard Mitigation Plan Update



Meeting: Manalapan HMP Date: 06-18-19

Initial	Last Name	First Name	Title	Organization	Email Address
	Ashman	Brittany	Planner	MB	Brittany.ashman_mbakerintl.com
	Yaffe	Michael	Senior Planner	MB	Michael.Yaffe_mbakerintl.com
	Winckowski	Jim	Senior Project Manager	CME Engineers	JWinckowski_cmeusa1.com
	Lovrich	Tara	Township Administrator	Manalapan Twp.	TLovrich_twp.manalapan.nj.us

Appendix Vol I.30 Manasquan Borough

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

1,493 *Polices In-force*

2,217 *Total Losses*

\$107,217,214 *Total Payments*

167 *Number of RL Properties*

41 *Number Mitigated
RL Properties*

474 *RL - Total Losses*

\$16,101,858 *RL - Total Paid*

5 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

27 *SRL - Total Losses*

\$556,536 *SRL - Total Paid*

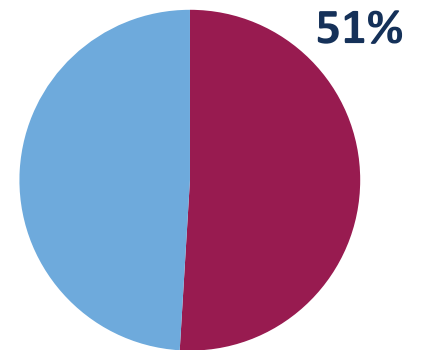


Critical Facilities

11 *Critical Facilities*

1 *Critical Infrastructure*

53 *Historic & Cultural Resources*



Percent Land Area Within SFHA

18

*Total Mitigation
Actions*

2



Education and Awareness Programs

10



Structure and Infrastructure Projects

5



Local Plans and Regulations

1



Natural Systems Protection



0 *SV Population At Risk (2017)*

2,967 *Population at Risk (2017)*

Manasquan, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
30_01	Complete the Borough Risk Assessment for Structures, Facilities, and Equipment in the Borough	Conduct a hazard-specific, community-wide risk assessment of all structures, facilities, and equipment and identify, map, quantify, and rank vulnerable structures for each of the hazards. This will include identifying and mapping high hazard areas for each hazard addressed. This will also include inventorying and evaluating existing at-risk housing stock, commercial buildings, as well as public facilities and equipment and assessing each structure for vulnerabilities to each of the hazards addressed. This action will be a more detailed presentation and assessment of data from what is in the hazard mitigation plan.	Administrative	Local Plans and Regulations	Flood, Wave Action, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightening, Storm Surge, Wildfire, Tornado	High	Office of Emergency Management	FEMA HMA, Community Resiliency Grants	\$150,000.00	2 years	Ongoing
30_02	Establish Funding Mechanism for HMP	Establish a permanent funding mechanism and budget for hazard mitigation planning and mitigation actions.		Local Plans and Regulations	Extreme Temperatures, Flood, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightening, Storm Surge		Office of Emergency Management		\$50,000.00		Completed
30_03	Continue Monitoring the Implementation of the Hazard Mitigation Plan	Monitor the implementation of the hazard mitigation plan and make updates to the plan as required. This includes forming a plan implementation steering committee to monitor progress on local mitigation actions as well as implementation monitoring schedule and outlining responsibilities.	Administrative	Local Plans and Regulations	All Hazards	Low	Office of Emergency Management	Municipal budget	\$5,000.00	1 year	Ongoing
30_04	Implement a Program for Public Information on Hazard Awareness & Mitigation	Implement a comprehensive program for public information that systematically distributes hazard awareness information as well as actions that citizens can take to mitigate those hazards. The program will also promote household disaster preparedness as well as private mitigation efforts. This program will include the formation of a public information steering committee and will include specific public outreach goals, responsibilities and monitoring.		Education and Awareness Programs	All Hazards		Office of Emergency Management	Local Hazard Mitigation Program, Hazard Mitigation Planning Grants,	\$5,000.00		Completed
30_05	Increase Public Warning Capabilities	Increase public warning capabilities through the implementation of FEMA developed IPAWS alerting, upgrade warning siren coverage, implement a Reverse911 system, upgrade electronic warning sign system coverage, and improve use of web-based programs and social media for public warning.	Maintenance/Response/Recovery	Education and Awareness Programs	All Hazards	Medium	Office of Emergency Management	Municipal budget	\$150,000.00	1 year	Ongoing
30_06	Develop a Drought Emergency Plan	Develop a drought emergency plan which includes criteria for drought-related actions, identifying local drought indicators, such as precipitation, temperature, guidance from NJDEP, and institute voluntary and mandatory water conservation measures during drought conditions and emergencies. This includes developing a drought communication plan and early warning system to facilitate timely communication of relevant information to officials, decision makers, emergency managers, and the general public.	Administrative	Local Plans and Regulations	Drought	Low	Office of Emergency Management	Municipal budget	\$5,000.00	1 year	Ongoing

Manasquan, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
30_07	Conduct Seismic Retrofitting of Structures, Facilities, and Equipment	This action item will include conducting seismic retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to bracing of generators, elevators, and other vital equipment, strengthening and retrofitting non-reinforced masonry buildings and non-ductile concrete facilities that are particularly vulnerable to ground shaking, retrofitting building veneers to prevent failure, anchoring rooftop-mounted equipment, and otherwise retrofitting structures and equipment to make earthquake resistant. This will also include reviewing building codes and structural policies to ensure they are adequate to protect older structures from seismic damage. This item will also include requiring or encouraging seismic engineering measures and construction techniques that may include the mitigation actions listed above.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Earthquake	Low	Office of Emergency Management	Municipal budget	\$25,000.00	5 + years	Ongoing
30_08	Provide Back-up Power Generation for Critical Facilities	An inventory of all critical facilities and equipment shall be made and ranked in order of importance. Emergency back-up generators will be provided and maintained at each of the facilities.		Structure and Infrastructure Project	All Hazards		Office of Emergency Management		\$200,000.00		Completed
30_09	Provide Lightning Protection for Critical Facilities	This action item will include conducting lightning protection of these structures based upon rank (most vulnerable) and importance (most critical). This will include installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities, as well as installing and maintaining surge protection on critical electronic equipment.	Maintenance/Response/Recovery	Structure and Infrastructure Project	Lightening	Medium	Office of Emergency Management	Municipal budget	\$100,000.00	2 years	Ongoing
30_10	Provide Erosion and Wave Protection along the Oceanfront by Constructing a Dune and Wall System along the Coastline	Fortify a one-mile portion of coastline with and engineered dune and wall system consisting of high-strength steel wall covered by dune system and vegetation.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Wave Action, Coastal Erosion	Low	Office of Emergency Management	FEMA HMA, Army Corp of Engineers	\$10,000,000.00	5 + years	Ongoing
30_11	Restore Natural Buffers to Mitigate Flooding Borough-Wide	Provide natural resource restoration to existing dunes, salt marshes, coastal wetlands, maritime forests, stream corridors and natural floodplains in order to enhance natural buffers and flood mitigation. This will include developing a comprehensive approach that combines dune, maritime forest, coastal wetlands, salt marsh and stream corridor restoration with potential flood mitigation opportunities and integrated high-water controls in order to reduce both riverine and tidal flooding and protects against sea level rise. The project will restore over 60-acres of coastal wetlands and maritime forest and 6-miles of stream corridors.	Mitigation - Risk Reduction	Natural Systems Protection	Flood, Wave Action, Storm Surge	Medium	Office of Emergency Management	FEMA HMA, EPA, National Fish and Wildlife Foundation (NFWF), NOAA, New	\$7,000,000.00	5 + years	Ongoing

Manasquan, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
30_12	Enforce Compliance with NFIP's CRS Program	Manasquan participates in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). This project will include increased regulatory standards both in and out of the floodplain, including enacting and enforcing regulations that exceed NFIP minimum standards so that more flood protection is provided for any development. Existing ordinances will be reviewed and made more stringent, including requiring buildings to be constructed above the minimum elevation required by NFIP, requiring foundation protection on new buildings, requiring any new critical facilities to be build outside of the flood zone, requiring new development to provide positive drainage away from the structure, updating the definition of substantial improvement ta include accumulation of improvements counted over 10-years, as well as formally adopting the preliminary Flood Insurance Rate Maps (FIRMS). This will also include advising the public about the local flood hazard, flood insurance, and flood protection measures as part of an organize, Program for Public Information (Action Item #4) and increasing our flood warning dissemination and response capabilities (Action Item# 5). This item also includes work included in Action items 13-17, including implementing damage reduction measures for existing buildings such as elevation, acquisition, relocation, retrofitting, and maintenance of drainageways and retention basins.		Local Plans and Regulations	Flood, Wave Action, Storm Surge		Office of Emergency Management	Local Hazard Mitigation Program	\$5,000.00		Completed
30_13	Floodproof Residential and Non-Residential Structures	This action item will include conducting flood proofing of these structures based upon rank (most vulnerable) and importance (most critical). These structures will be protected from flooding by a combination of methods, including, but not limited to wet floodproofing in a basement, wet floodproofing of areas above base flood elevation, using water resistant paints or other materials to allow for easy cleanup after floodwater exposure, and by dry floodproofing non-residential structures by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls to keep water out.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Storm Surge	Medium	Office of Emergency Management	FEMA HMA	\$10,000.00	1 year	Ongoing
30_14	Elevate Residential and Non-Residential Structures & Equipment, especially Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	This action item will include elevating these structures based upon rank (most vulnerable) and importance (most critical). These structures, facilities, and equipment will be elevated at least 1-foot above minimum NFIP base flood elevation requirements to protect from flooding, storm surge & sea level rise.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Storm Surge	High	Office of Emergency Management	FEMA HMA	\$200,000,000.00	5 + years	Ongoing

Manasquan, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
30_15	Relocate Structures, Critical Facilities, and Equipment out of Flood Hazard Areas, especially Repetitive Loss and Severe Repetitive Loss Properties	This action item will include relocating of these structures based upon rank (most vulnerable, importance and most critical. These structures and facilities and equipment will be relocated to low-hazard areas to protect from flooding, wave action, storm surge, and Sea Level Rise. This may include compensating an owner or partial rights, such as easement or development rights, to prevent a property from being developed.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Storm Surge	High	Office of Emergency Management	Community Resiliency Grants, FEMA's HMA Funding	\$500,000,000.00	5 + years	Ongoing
30_16	Elevate and/or Improve Drainage of Roadways in Flood-prone Areas	Critical access roads in these areas will be elevated to protect from flooding and storm surge. Roadway drainage will be improved, one-way tide-flex type valves installed, and vulnerable shoulders will be stabilized using bioengineered bank stabilization techniques. Seawalls or other structures will be constructed to protect critical facilities located on the shoreline. Water and wastewater treatment facilities located in high-hazard areas will be flood-protected. This will include retrofitting structures to elevate them above forecasted sea level rise levels, retrofitting critical facilities to be 1 foot above the 500-year flood elevation (considering wave action) or the predicted sea level rise level, whichever is higher and replacing exterior building components with more hazard resistant materials.	Mitigation - Continuity of Functional Use	Structure and Infrastructure Project	Flood, Storm Surge	High	Office of Emergency Management	Community Resiliency Grants, FEMA HMA funding, Transportation funds.	\$10,000,000.00	1 year	Ongoing
30_17	Construct a Seawall and Flood Gate	This action item includes the construction of a steel seawall along the Atlantic Ocean and a flood gate across the Manasquan Inlet. This project would protect all communities in the Manasquan River floodplain from coastal flooding, storm surge and sea level rise. The steel seawall would be covered in a man-made, vegetated dune and would be tied into high ground on the Sea Girt border to the north and a flood gate across Manasquan Inlet to the south. The same seawall would run the length of Point Pleasant Beach.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Storm Surge	High	Army Corp of Engineers	Federal USACE funds, FEMA HMA	\$150,000,000.00	5 + years	Ongoing

Manasquan, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
30_18	Conduct an Inventory and Retrofit Structures, Facilities, and Equipment to Sustain High Winds	An inventory of public and commercial buildings that are vulnerable to high winds will be identified; this action item will include conducting retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to, installing hurricane shutters or other protective measures, retrofitting gable end walls to eliminate wall failures in high winds, replacing existing non-ductile infrastructure with ductile infrastructure to reduce their exposure to hazardous events, retrofitting buildings with load-path connectors to strengthen the structural frames, reinforcing garage doors, anchoring roof-mounted heating, ventilation, and air conditioning units, retrofitting the emergency operations center to FEMA 361 standards, upgrading of reused buildings that will house critical facilities, and otherwise retrofitting structures and equipment to make wind resistant. This will also include reviewing building codes and structural policies to ensure they are adequate to protect older structures from wind damage. This item will also include requiring or encouraging wind engineering measures and construction techniques that may include structural bracing, straps and clips, anchor bolts, laminated or impact-resistant glass, reinforced pedestrian and garage doors, window shutters, waterproof adhesive sealing strips, or interlocking roof shingles.	Administrative	Structure and Infrastructure Project	Extreme Wind	Low	Office of Emergency Management	Municipal budget	\$2,000,000.00	5 + years	Ongoing

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_01

Manasquan, Borough of

Describing the Action

Action Name:	Complete the Borough Risk Assessment for Structures, Facilities, and Equipment in the Borough
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Conduct a hazard-specific, community-wide risk assessment of all structures, facilities, and equipment and identify, map, quantify, and rank vulnerable structures for each of the hazards. This will include identifying and mapping high hazard areas for each hazard addressed. This will also include inventorying and evaluating existing at-risk housing stock, commercial buildings, as well as public facilities and equipment and assessing each structure for vulnerabilities to each of the hazards addressed. This action will be a more detailed presentation and assessment of data from what is in the hazard mitigation plan.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightening, Storm Surge, Wildfire, Tornado
Goals:	1, 2, 4, 5, 6
Risk Reduction:	Specific structures, facilities, and equipment that are vulnerable to the above hazards have not been identified/quantified.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capacity to implement this action, however outside funding is required.
Local Champion:	Office of Emergency Management will advocate for the project
Other Community Objectives:	This action supports the entire hazard mitigation effort within the municipality
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$150,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	FEMA HMA, Community Resiliency Grants
Timeline:	2 years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; water level risk has been assessed. Borough plans to continue assessing risk for the remaining hazards.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_02

Manasquan, Borough of

Describing the Action

Action Name: Establish Funding Mechanism for HMP

Action Category:

Action Type: Local Plans and Regulations

HMA Eligible Activity: Miscellaneous/Other

Action Description: Establish a permanent funding mechanism and budget for hazard mitigation planning and mitigation actions.

Evaluating the Action

Hazard(s) Addressed: Extreme Temperatures, Flood, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightening, Storm Surge, Wildfir

Goals: 1, 2, 3, 4, 5, 6, 7, 8

Risk Reduction: limited local funding available for hazard mitigation activities

Technical: Technically feasible, easily implemented.

Political: There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.

Legal: There are no apparent legal issues

Environmental: There is no environmental impact

Social: There is no social impact

Administrative Capability: The community has the personnel available but has not secured a permanent annual funding mechanism

Local Champion: Office of Emergency Management will advocate for the project

Other Community Objectives: This action supports the entire hazard mitigation effort within the municipality

STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate: \$50,000.00

Priority:

Local Planning Mechanism: Hazard Mitigation Plan

Responsible Party: Office of Emergency Management

Likely Funding Source(s):

Timeline:

Action Status: Completed

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_03

Manasquan, Borough of

Describing the Action

Action Name:	Continue Monitoring the Implementation of the Hazard Mitigation Plan
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Monitor the implementation of the hazard mitigation plan and make updates to the plan as required. This includes forming a plan implementation steering committee to monitor progress on local mitigation actions as well as implementation monitoring schedule and outlining responsibilities.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3, 4, 5, 6, 7, 8
Risk Reduction:	Hazard mitigation plan must be monitored in order to gauge success and accomplish updates as required.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Monitoring and administering the Hazard Mitigation plan costs are considered low, however, administrative capacity of the Borough is exhausted and outside assistance may be required or the work load of administrative staff reduced in order to absorb the additional requirements of this action.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	This action supports the entire hazard mitigation effort within the municipality.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	Low
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	This action is ongoing from 2015; Manasquan needs assistance with the engineering and detailed elevations.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_04

Manasquan, Borough of

Describing the Action

Action Name:	Implement a Program for Public Information on Hazard Awareness & Mitigation
Action Category:	
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Implement a comprehensive program for public information that systematically distributes hazard awareness information as well as actions that citizens can take to mitigate those hazards. The program will also promote household disaster preparedness as well as private mitigation efforts. This program will include the formation of a public information steering committee and will include specific public outreach goals, responsibilities and monitoring.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	3, 4, 5, 8
Risk Reduction:	The Borough is lacking a comprehensive all-hazards public information program.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning and public outreach.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capability to implement this action.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	Some of these public education activities may be eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	
Local Planning Mechanism:	Hazard Mitigation Plan, floodplain management plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Local Hazard Mitigation Program, Hazard Mitigation Planning Grants, Community Resiliency Grants HMGP funding
Timeline:	
Action Status:	Completed
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_05

Manasquan, Borough of

Describing the Action

Action Name:	Increase Public Warning Capabilities
Action Category:	Maintenance/Response/Recovery
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Increase public warning capabilities through the implementation of FEMA developed IPAWS alerting, upgrade warning siren coverage, implement a Reverse911 system, upgrade electronic warning sign system coverage, and improve use of web-based programs and social media for public warning.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3, 5, 7
Risk Reduction:	The Borough is lacking critical public warning capabilities.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for increased public warning capabilities, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	All of these public warning actions are eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$150,000.00
Priority:	Medium
Local Planning Mechanism:	Emergency Operations Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action from 2015; 90% complete. IPAWS held up at the State. The Borough was awarded \$10,240.99 of FEMA Funding 406 Public Assistance for Flashing Signs and Road Signs.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_06

Manasquan, Borough of

Describing the Action

Action Name:	Develop a Drought Emergency Plan
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Develop a drought emergency plan which includes criteria for drought-related actions, identifying local drought indicators, such as precipitation, temperature, guidance from NJDEP, and institute voluntary and mandatory water conservation measures during drought conditions and emergencies. This includes developing a drought communication plan and early warning system to facilitate timely communication of relevant information to officials, decision makers, emergency managers, and the general public.

Evaluating the Action

Hazard(s) Addressed:	Drought
Goals:	1, 3, 4, 7
Risk Reduction:	The Borough has no plan for dealing with drought emergencies.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly Environmental Commission.
Other Community Objectives:	This action supports the objectives of emergency preparedness and environmental conservation.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	Low
Local Planning Mechanism:	Emergency Operations Plan -Hazardous Weather Annex
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action from 2015; the Borough still priorities a Drought Emergency Plan and is seeking funding.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_07

Manasquan, Borough of

Describing the Action

Action Name:	Conduct Seismic Retrofitting of Structures, Facilities, and Equipment
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	This action item will include conducting seismic retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to bracing of generators, elevators, and other vital equipment, strengthening and retrofitting non-reinforced masonry buildings and non-ductile concrete facilities that are particularly vulnerable to ground shaking, retrofitting building veneers to prevent failure, anchoring rooftop-mounted equipment, and otherwise retrofitting structures and equipment to make earthquake resistant. This will also include reviewing building codes and structural policies to ensure they are adequate to protect older structures from seismic damage. This item will also include requiring or encouraging seismic engineering measures and construction techniques that may include the mitigation actions listed above.

Evaluating the Action

Hazard(s) Addressed:	Earthquake
Goals:	1, 2, 4, 6, 7
Risk Reduction:	The Borough has structures, including critical facilities and equipment, vulnerable to earthquakes.
Technical:	Technically feasible, difficult implementation. Seismic vulnerabilities solved for long term.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly chamber of commerce and home/business owners.
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$25,000.00
Priority:	Low
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; Borough still values an inventory of vulnerable buildings to earthquakes and is seeking potential grants to complete the project. Funding gaps between the planning and engineering costs.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_08

Manasquan, Borough of

Describing the Action

Action Name:	Provide Back-up Power Generation for Critical Facilities
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	An inventory of all critical facilities and equipment shall be made and ranked in order of importance. Emergency back-up generators will be provided and maintained at each of the facilities.

Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 3, 7
Risk Reduction:	The Borough has critical facilities and equipment that are vulnerable to power failure.
Technical:	Technically feasible, easily implemented.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capacity to implement this action, however outside funding is required to implement this action.
Local Champion:	Possibly owners/operators of the critical facilities, OEM and Public Works.
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$200,000.00
Priority:	
Local Planning Mechanism:	Emergency Operations Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	
Timeline:	
Action Status:	Completed
Notes:	The E. Virginia Sewage Lift Station received a \$25k grant (HMGP) for a generator.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_09

Manasquan, Borough of

Describing the Action

Action Name:	Provide Lightning Protection for Critical Facilities
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	This action item will include conducting lightning protection of these structures based upon rank (most vulnerable) and importance (most critical). This will include installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities, as well as installing and maintaining surge protection on critical electronic equipment.

Evaluating the Action

Hazard(s) Addressed:	Lightening
Goals:	2, 3, 5, 6, 7
Risk Reduction:	The Borough has critical facilities and equipment that are vulnerable to damage from lightning strikes.
Technical:	Technically feasible, easily implemented.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly owners/operators of the critical facilities. OEM and Public Works.
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$100,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Municipal budget
Timeline:	2 years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; about 50% complete.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_10

Manasquan, Borough of

Describing the Action

Action Name:	Provide Erosion and Wave Protection along the Oceanfront by Constructing a Dune and Wall System along the Coastline
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Fortify a one-mile portion of coastline with and engineered dune and wall system consisting of high-strength steel wall covered by dune system and vegetation.

Evaluating the Action

Hazard(s) Addressed:	Wave Action, Coastal Erosion
Goals:	2, 3, 6, 7
Risk Reduction:	The Borough has a 1-mile long unprotected coastline exposed to the ocean and storms.
Technical:	Technically feasible.
Political:	There is community resistance to using private property for the project as resistance to a permanent dune system.
Legal:	There may be issues with easements and/or impacts to residents views.
Environmental:	There is significant environmental issues with installing a hardened structure in the coastal zone.
Social:	There is significant resistance among oceanfront homeowners that would have their views negatively impacted.
Administrative Capability:	The Borough has the administrative capacity to implement this action, however outside funding is required.
Local Champion:	None identified.
Other Community Objectives:	This action supports the objectives of community resiliency.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	Low
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	FEMA HMA, Army Corp of Engineers
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; action is not popular among residents however the beach remains vulnerable to future coastal storms.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_11

Manasquan, Borough of

Describing the Action

Action Name:	Restore Natural Buffers to Mitigate Flooding Borough-Wide
Action Category:	Mitigation - Risk Reduction
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Provide natural resource restoration to existing dunes, salt marshes, coastal wetlands, maritime forests, stream corridors and natural floodplains in order to enhance natural buffers and flood mitigation. This will include developing a comprehensive approach that combines dune, maritime forest, coastal wetlands, salt marsh and stream corridor restoration with potential flood mitigation opportunities and integrated high-water controls in order to reduce both riverine and tidal flooding and protects against sea level rise. The project will restore over 60-acres of coastal wetlands and maritime forest and 6-miles of stream corridors.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	The Borough has a significant number of natural buffers including dunes, salt marshes, coastal wetlands, maritime forests, stream corridors and natural floodplains that are in a deteriorated state that can provide significant natural buffers and flood mitigation.
Technical:	Technically feasible.
Political:	There is community resistance to increased local property taxes.
Legal:	There may be issues with easements and/or other impacts to residents.
Environmental:	This is an environmental restoration project and although it has environmental impacts they should be all positive.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly Environmental Commission and the Monmouth County Park System
Other Community Objectives:	This action supports the objectives of community resiliency and environmental quality.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$7,000,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	FEMA HMA, EPA, National Fish and Wildlife Foundation (NFWF), NOAA, New Jersey Corporate Wetlands Restoration
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; the Borough applied for funding but was not selected. However, the parking in Fisherman's Cove is in the process of relocation and a maritime forest will be created on the existing parking lot. There is still a need for funding to cover the remaining natural resource protection.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_12

Manasquan, Borough of

Describing the Action

Action Name:	Enforce Compliance with NFIP's CRS Program
Action Category:	
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	<p>Manasquan participates in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). This project will include increased regulatory standards both in and out of the floodplain, including enacting and enforcing regulations that exceed NFIP minimum standards so that more flood protection is provided for any development. Existing ordinances will be reviewed and made more stringent, including requiring buildings to be constructed above the minimum elevation required by NFIP, requiring foundation protection on new buildings, requiring any new critical facilities to be build outside of the flood zone, requiring new development to provide positive drainage away from the structure, updating the definition of substantial improvement ta include accumulation of improvements counted over 10-years, as well as formally adopting the preliminary Flood Insurance Rate Maps (FIRMS). This will also include advising the public about the local flood hazard, flood insurance, and flood protection measures as part of an organize, Program for Public Information (Action Item #4) and increasing our flood warning dissemination and response capabilities (Action Item# 5). This item also includes work included in Action items 13-17, including implementing damage reduction measures for existing buildings such as elevation, acquisition, relocation, retrofitting, and maintenance of drainageways and retention basins.</p>

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	8
Risk Reduction:	The Borough needs to increase participation in the National Flood Insurance Program's (NFIP) Community Rating System (CRS).
Technical:	Technically feasible.
Political:	There is community resistance to increased regulatory standards.
Legal:	There are no legal issues.
Environmental:	There are no environmental impacts.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capacity to implement this action.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	These activities may be eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	
Local Planning Mechanism:	Hazard Mitigation Plan, Floodplain Management Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Local Hazard Mitigation Program
Timeline:	
Action Status:	Completed
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_13

Manasquan, Borough of

Describing the Action

Action Name:	Floodproof Residential and Non-Residential Structures
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Dry Floodproofing of Non-residential Structures
Action Description:	This action item will include conducting flood proofing of these structures based upon rank (most vulnerable) and importance (most critical). These structures will be protected from flooding by a combination of methods, including, but not limited to wet floodproofing in a basement, wet floodproofing of areas above base flood elevation, using water resistant paints or other materials to allow for easy cleanup after floodwater exposure, and by dry floodproofing non-residential structures by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls to keep water out.

Evaluating the Action

Hazard(s) Addressed:	Flood, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	The Borough has residential, commercial, and public structures and equipment vulnerable to flooding, storm surge, Sea Level Rise.
Technical:	Technically feasible, implementation difficult due to varied structure types and ownership.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	possibly homeowners in flood zone, owners/operators of critical facilities.
Other Community Objectives:	This action supports the objectives of community resiliency.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$10,000.00
Priority:	Medium
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action; the Borough is still interested in this action and once funds are available, will implement.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_14

Manasquan, Borough of

Describing the Action

Action Name:	Elevate Residential and Non-Residential Structures & Equipment, especially Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	This action item will include elevating these structures based upon rank (most vulnerable) and importance (most critical). These structures, facilities, and equipment will be elevated at least 1-foot above minimum NFIP base flood elevation requirements to protect from flooding, storm surge & sea level rise.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	2, 5, 6, 7
Risk Reduction:	The Borough has residential, commercial and public structures and critical facilities and equipment vulnerable to flooding, storm surge, and Sea Level Rise.
Technical:	Technically feasible, implementation difficult due to varied structure types & ownership.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact, as most neighborhoods have already undertaken home elevations.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	possibly homeowners in flood zone, owners/operators of critical facilities.
Other Community Objectives:	This action supports the objectives of community resiliency and these actions are eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	8

Implementing the Action

Cost Estimate:	\$200,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan, NFIP CRS Program, NJOEM, FEMA
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; all two (2) controls and pump stations are elevated however there are more structures, facilities, and equipment that need floodproofing.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_15

Manasquan, Borough of

Describing the Action

Action Name:	Relocate Structures, Critical Facilities, and Equipment out of Flood Hazard Areas, especially Repetitive Loss and Severe Repetitive Loss Properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Property Acquisition and Structure Relocation
Action Description:	This action item will include relocating of these structures based upon rank (most vulnerable, importance and most critical. These structures and facilities and equipment will be relocated to low-hazard areas to protect from flooding, wave action, storm surge, and Sea Level Rise. This may include compensating an owner or partial rights, such as easement or development rights, to prevent a property from being developed.

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	The Borough has residential, commercial, and public structures and critical facilities and equipment located in high-hazard areas vulnerable to flooding, wave action, storm surge, and Sea Level Rise.
Technical:	Technically feasible, implementation difficult due to varied structure types and ownership issues.
Political:	There is community resistance to increased local property taxes and to retreating from coastal areas.
Legal:	There will be legal issues if property owners are unwilling to relocate.
Environmental:	There is a positive environmental impact for restoring previously developed areas to natural buffers.
Social:	There is a huge social impact in retreating from the coastal zone.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	None
Other Community Objectives:	This action supports the objectives community resiliency and these actions are eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	6

Implementing the Action

Cost Estimate:	\$500,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard mitigation plan, NFIP's CRS Program, Green Acres Fund, Blue Acres Program, NJOEM, FEMA
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Community Resiliency Grants, FEMA's HMA Funding
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; about 5% complete. Relocating lifesaving center to Borough Hall and a plan is underway to relocated beach operations.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_16

Manasquan, Borough of

Describing the Action

Action Name:	Elevate and/or Improve Drainage of Roadways in Flood-prone Areas
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Critical access roads in these areas will be elevated to protect from flooding and storm surge. Roadway drainage will be improved, one-way tide-flex type valves installed, and vulnerable shoulders will be stabilized using bioengineered bank stabilization techniques. Seawalls or other structures will be constructed to protect critical facilities located on the shoreline. Water and wastewater treatment facilities located in high-hazard areas will be flood-protected. This will include retrofitting structures to elevate them above forecasted sea level rise levels, retrofitting critical facilities to be 1 foot above the 500-year flood elevation (considering wave action) or the predicted sea level rise level, whichever is higher and replacing exterior building components with more hazard resistant materials.

Evaluating the Action

Hazard(s) Addressed:	Flood, Storm Surge
Goals:	3, 5, 6, 7
Risk Reduction:	The Borough has roads and infrastructure located in high-hazard areas vulnerable to flooding, storm surge, and Sea Level Rise.
Technical:	Technically feasible, easily implemented.
Political:	There is community resistance to increased local property taxes, however there is community support for flood protection.
Legal:	There are no legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Emergency Response Agencies, MBIA, OEM, homeowners in affected areas.
Other Community Objectives:	This action supports the objectives community resiliency and emergency response.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Community Resiliency Grants, FEMA HMA funding, Transportation funds.
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing action from 2015; about 20% complete. The Borough's focus is to elevate all roads that fall within the minor coastal flood level. Brielle Road was elevated through HMGP funding (\$292,500).

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_17

Manasquan, Borough of

Describing the Action

Action Name:	Construct a Seawall and Flood Gate
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	This action item includes the construction of a steel seawall along the Atlantic Ocean and a flood gate across the Manasquan Inlet. This project would protect all communities in the Manasquan River floodplain from coastal flooding, storm surge and sea level rise. The steel seawall would be covered in a man-made, vegetated dune and would be tied into high ground on the Sea Girt border to the north and a flood gate across Manasquan Inlet to the south. The same seawall would run the length of Point Pleasant Beach.

Evaluating the Action

Hazard(s) Addressed:	Flood, Storm Surge
Goals:	1, 2, 6, 7
Risk Reduction:	A majority of the Borough flooding is from the Manasquan River. A seawall and/or flood gate would mitigate a majority of the flood risks for the Borough.
Technical:	Installing this flood gate would be both technically challenging and technically feasible.
Political:	There is community resistance to increased local property taxes, however there is community support for flood protection especially a large-scale project such as this.
Legal:	There may be significant legal issues regarding easements and homeowners views being blocked by dunes.
Environmental:	There is significant environmental issues with installing a hardened structure in the coastal zone.
Social:	There is significant resistance among oceanfront homeowners that would have their views negatively impacted by a seawall/dune system.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required. This would have to be a joint project undertaken by multiple municipalities, and administered at the State and/or Federal level.
Local Champion:	Emergency Response Agencies, MBIA, OEM, homeowners in affected areas
Other Community Objectives:	This action supports the objectives community resiliency and emergency response
STAPLEE Evaluation:	5

Implementing the Action

Cost Estimate:	\$150,000,000.00
Priority:	High
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Army Corp of Engineers
Likely Funding Source(s):	Federal USACE funds, FEMA HMA
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing from 2015 plan; Army Corp of Engineers is responsible for this project but the Borough strongly supports this project.

Monmouth County Mitigation Action Worksheets

Community Action Number: 30_18

Manasquan, Borough of

Describing the Action

Action Name:	Conduct an Inventory and Retrofit Structures, Facilities, and Equipment to Sustain High Winds
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	An inventory of public and commercial buildings that are vulnerable to high winds will be identified; this action item will include conducting retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to, installing hurricane shutters or other protective measures, retrofitting gable end walls to eliminate wall failures in high winds, replacing existing non-ductile infrastructure with ductile infrastructure to reduce their exposure to hazardous events, retrofitting buildings with load-path connectors to strengthen the structural frames, reinforcing garage doors, anchoring roof-mounted heating, ventilation, and air conditioning units, retrofitting the emergency operations center to FEMA 361 standards, upgrading of reused buildings that will house critical facilities, and otherwise retrofitting structures and equipment to make wind resistant. This will also include reviewing building codes and structural policies to ensure they are adequate to protect older structures from wind damage. This item will also include requiring or encouraging wind engineering measures and construction techniques that may include structural bracing, straps and clips, anchor bolts, laminated or impact-resistant glass, reinforced pedestrian and garage doors, window shutters, waterproof adhesive sealing strips, or interlocking roof shingles.

Evaluating the Action

Hazard(s) Addressed:	Extreme Wind
Goals:	1, 2, 4, 6, 7
Risk Reduction:	The Borough has structures, including critical facilities and equipment, vulnerable to high winds.
Technical:	Technically feasible, difficult implementation. Wind vulnerabilities salved for long term.
Political:	There is community resistance to increased local property taxes. There may be same resistance to increased building code regulations.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly Chamber of Commerce
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$2,000,000.00
Priority:	Low
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Office of Emergency Management
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing action from 2015; wind and seismic risks have been not yet assessed. Funding gaps between the planning and engineering and construction costs.

CAPABILITY ASSESSMENT WORKSHEET

Name: Christopher Tucker

Title: OEM Coordinator

Jurisdiction: Borough of Manasquan

Organization:

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	1. What is the date/year of the plan? 2. Does the plan address hazards? 3. Does the plan identify projects to include in the mitigation strategy? 4. Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	1. Year: Unknown 2. No 3. No 4. No
Capital Improvements Plan	No	n/a
Economic Development Plan	No	n/a
Local Emergency Operations Plan	Yes	1. Year: 2019 2. Yes 3. No 4. No 5.
Continuity of Operations Plan	Yes	1. Year: 2019 2. No 3. No 4. No
Post-Disaster Recovery Plan	Yes	1. Year: 2019 2. No 3. No 4. No
Transportation Plan	No	n/a
Stormwater Management Plan	Yes	1. Year: Expired 2. No 3. No 4. No



CAPABILITY ASSESSMENT WORKSHEET

Community Wildfire Protection Plan	No	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	<ul style="list-style-type: none"> • Drainage System Maintenance Plan • Coastal Evacuation Plan • Public Information Plan
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Version/Year: International Building Code 2015; International Residential Code NJ 2015 Yes Enforced
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score: Residential 4; Commercial 3
Fire Department ISO rating		Rating: 8
Site Plan Review Requirements	Yes	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning Ordinance	Yes	Yes Yes
Subdivision Ordinance	Yes	Yes Yes
Floodplain Ordinance	Yes	Yes Yes
Natural hazard ordinance (stormwater, steep slope, wildfire)	Yes	Yes Yes
Flood Insurance Rate Maps	Yes	Yes Yes
Acquisition of Land for Open Space and Public Recreation Uses	Yes	Yes Yes



CAPABILITY ASSESSMENT WORKSHEET

Post-Disaster Recovery Ordinance	No	
Real Estate Disclose Ordinance	Yes	Yes Yes
Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance
How can the above capabilities be expanded and improved to reduce risk?		
Need ordinance that requires proper drainage in roads when disturbed. Need a minimum bulkhead height ordinance.		

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	
Mitigation Planning Committee	Yes	Utilize LEPC as HM planning Committee and Engineering & Construction Committee as construction committee. Very effective
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)	Yes	Drainage system Maintenance Plan, coordinated by DPW Superintendent. Not very effective
Mutual Aid Agreements	Yes	County Wide Mutual Aid Agreement. Not yet tested.
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes FT	1. Full time 2. Yes 3. Informally 4. Yes
Floodplain Administrator	Yes PT	1. Part time 2. Yes 3. Informally 4. Yes



CAPABILITY ASSESSMENT WORKSHEET

Emergency Manager	Yes	1. Part time 2. Yes 3. Yes 4. Yes
Community Planner	Yes	1. Part time 2. Yes 3. Yes 4. Yes
Civil Engineer	Yes	1. Part time 2. Yes 3. Yes 4. Yes
Surveyor	No	
GIS Coordinator	No	
Scientists familiar with the hazards of the community	Yes	1. Part time 2. Yes 3. Yes 4. Yes
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)	Yes	Electronic Signs (6), AM Radio Station, Outdoor Warning Siren, Reverse911 Yes, utilized & works
Hazard Data and Information	Yes	LIDAR based flood mapping Very useful
Grant Writing	Yes	Grant management too cumbersome and overwhelms existing staff
Hazus Analysis	No	
Other		
How can the above capabilities be expanded and improved to reduce risk?		
Need additional staff for administering grant programs or reduce administrative burden assigned to the grantee.		



CAPABILITY ASSESSMENT WORKSHEET

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	An annual fund was established in 2019 that has been utilized specifically for flood mitigation & drainage improvements
Authority to Levy Taxes for Specific Purposes	Yes	no
Fees for Water, Sewer, Gas, or Electric Services	Yes	no
Impact Fees for New Development	No	
Stormwater Utility Fee	No	
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	Application pending for drainage / flood mitigation project
Other Federal Funding Programs	No	
State Funding Programs	No	
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds and Incur Debt through Special Tax and Revenue Bonds
How can these capabilities be expanded and improved to reduce risk?		
Need a federal grant program specifically to address flood mitigation. This should include planning, engineering & construction costs.		



CAPABILITY ASSESSMENT WORKSHEET

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non-Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.	Yes	Manasquan Beach Improvement Association strongly supports emergency preparedness, mitigation & environmental conservation. Yes
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Formal public information program for emergency & flood preparedness. Yes
Natural Disaster or Safety Related School Programs	No	
StormReady Certification	Yes	Community StormReady certified since 2003. No
Firewise Communities Certification	No	
Public-Private Partnership Initiatives Addressing Disaster Related Issues	No	
Other	n/a	
How can these capabilities be expanded and improved to reduce risk?		
Improve / expand upon existing programs		





MANASQUAN BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Parcel Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

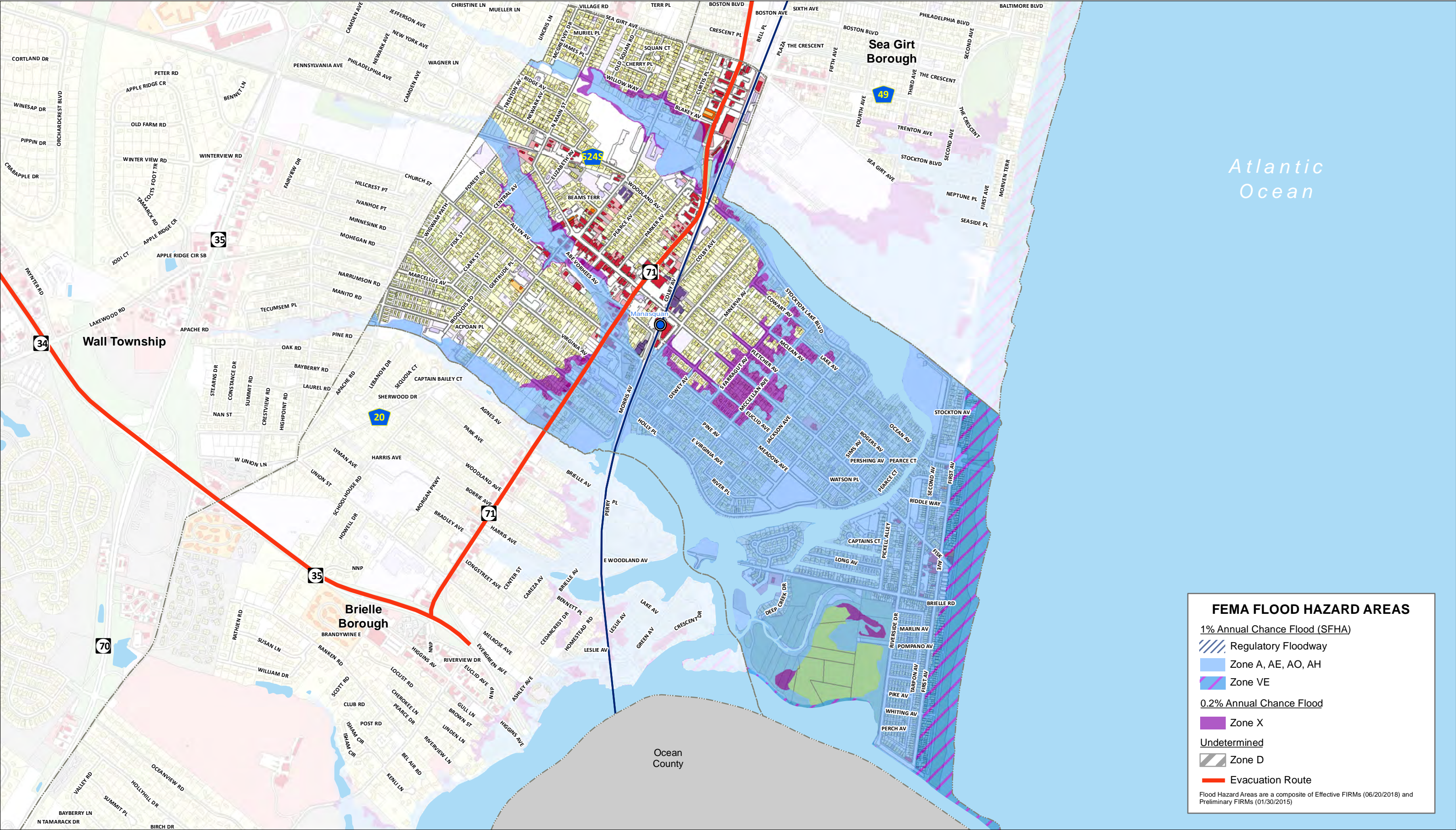
06001200

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



FEMA FLOOD HAZARD AREAS

1% Annual Chance Flood (SFHA)

Regulatory Floodway

Zone A, AE, AO, AH

Zone VE

0.2% Annual Chance Flood

Zone X

Undetermined

Zone D

Evacuation Route

Flood Hazard Areas are a composite of Effective FIRMs (06/20/2018) and Preliminary FIRMs (01/30/2015)

This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



MANASQUAN BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Parcel Classification

Industrial

Commercial

Apartment

Residential (four families or less)

Farm

Vacant

Civic/Public (Tax Exempt)

Unclassified

Open Space

06001,200

Feet

N

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA

Projection: New Jersey State Plane, NAD 1983



This map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of New Jersey makes great effort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.



MEETING NOTES

Topic: Manasquan- Monmouth County HMP Meeting

Date: May 8, 2019

Time: 2:00 PM- 3:00 PM

Location: Borough Hall (2nd Floor) 201 East Main Street, Manasquan, NJ 08736

Attendees: Frank DiRoma, Supervisor, Constr. Code Planning Zoning
Edward Donovan, Mayor
Thomas Flarity, Administrator
Tom Schofield, Deputy Chief Fire Department
Chris Tucker, Engineer
Nick Tumminello, Captain Police Department
Brittany Ashman, MB Planner

Drafted by: Paige Kaspar

Introductions (Brittany):

- What is Hazard Mitigation?
- Matching actions with Goals
- New Hazards
- HMP Pamphlet
- Funding

Mitigation Actions:

1. Rank vulnerable structures→ Ongoing action from 2015; water level risk has been assessed. Borough plans to continue assessing risk for the remaining hazards.
2. Establish Funding Mechanism→ Completed
3. Monitor Mitigation Plan Implementation→ Ongoing This action is ongoing from 2015; Manasquan needs assistance with the engineering and detailed elevations.
4. Implement a Program for Public Information on Hazard Awareness & Mitigation→ Completed
5. Increase Public Warning Capabilities→ Ongoing action from 2015; 90% complete. IPAWS held up at the State.



6. Develop a Drought Emergency Plan→ Ongoing action from 2015; the Borough still priorities a Drought Emergency Plan and is seeking funding.
7. Retrofit Existing Structures, Facilities & Equipment to Make Resistant to Seismic Loading→ Ongoing action from 2015; Borough still values an inventory of vulnerable buildings to earthquakes and is seeking potential grants to complete the project. Funding gaps between the planning and engineering costs.
8. Provide Back-up Power Generation for Critical Facilities and Equipment→ Completed
9. Provide Lightning Protection for Critical Facilities and Equipment→ Ongoing action from 2015; about 50% complete.
10. Provide Erosion and Wave Protection along the Oceanfront→ Ongoing action from 2015; action is not popular among residents however the beach remains vulnerable to future coastal storms.
11. Natural Resource Restoration→ Ongoing action from 2015; the Borough applied for funding but was not selected. However, the parking in Fisherman's Cove is in the process of relocation and a maritime forest will be created on the existing parking lot. There is still a need for funding to cover the remaining natural resource protection.
12. Increased Compliance with NFIP/CRS Program→ Complete
13. Provide Floodproofing for Residential and Non-Residential Structures & Equipment→ Ongoing
14. Elevate Residential and Non-residential Structures & Equipment→ Ongoing action from 2015; all (2) controls and pump stations are elevated;
15. Relocate Structures, Critical Facilities & Equipment→ Ongoing action from 2015; about 5% complete. Relocating lifesaving center to Borough Hall and a plan is underway to relocate beach operations.
16. Protect Roads and Infrastructure→ Ongoing action from 2015; about 20% complete. The Borough's focus is to elevate Brielle Rd. and Stockton Lake Blvd.
17. Construct a Seawall and Flood Gate→ Ongoing from 2015 plan; Army Corp of Engineers is responsible for this project but the Borough strongly supports this project.
18. Retrofit Existing Structures, Facilities & Equipment→ Ongoing action from 2015; wind and seismic risks have been assessed. Funding gaps between the planning and engineering costs.

2020 Mitigation Actions (NEW):

- Top priority: flooding of roads. Need to elevate roads (crown of roads)
- Need to elevate infrastructure (pump stations, control tide vales, and drainage)

Problems:

- Application process hard on small staff; OEM grant software is hard to use

Successes:

- However, the parking in Fisherman's Cove is in the process of relocation and a maritime forest will be created on the existing parking lot.
- All (2) controls and pump stations are elevated
- Relocating lifesaving center to Borough Hall and a plan is underway to relocate beach operations.
- No watershed management plan but county is working on this- county hazard mitigation action



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Michael Baker
INTERNATIONAL

Meeting: Manasquan HMP

Date: 05-08-19

Initial	Last Name	First Name	Title	Organization	Email Address
JB	BARRIS	Joe	Asst Director	MCJB	JOE.BARRIS@CO. MANASQUAN.NJ.US
TS	Scerifeld	Tom	Dep. Chief FD	MFD	tschofie@equinity. distribution.com
MY	DiYaffe	Mike	Planner	MOB	Michael.Yaffe@crakerwater.com
BA	Ashman	Brittany	Planner	MB	Brittany.Ashman@mbakerinc.com
TF	flarity	Thomas	Planner	MB	tflarity@manasquan-nj.gov
CT	Tucker	Chris	Engineer	Manasquan	ctucker@manasquan-nj.gov
NT	Tamm, nelli	Nick	Captain P.D	Manasquan	NTammnelli@manasquanpd.com
ED	DONOVAN	EDWARD	MAYOR	MANASQUAN	EDONOVAN@MANASQUAN-NJ.GOV
FD	DiRoma	FRANK	Superior Cost. Cons Planning Zoning	Manasquan	FDiROMA@MANASQUAN-NJ.GOV

Appendix Vol I.31 Marlboro Township

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



NFIP Statistics

167 *Polices In-force*

86 *Total Losses*

\$450,902 *Total Payments*

7 *Number of RL Properties*

0 *Number Mitigated
RL Properties*

16 *RL - Total Losses*

\$97,718 *RL - Total Paid*

0 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

0 *SRL - Total Losses*

\$0 *SRL - Total Paid*

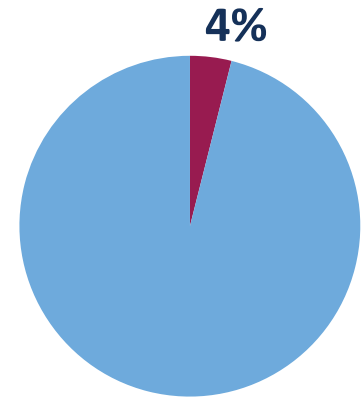


Critical Facilities

52 *Critical Facilities*

0 *Critical Infrastructure*

177 *Historic & Cultural Resources*



Percent Land Area Within SFHA

8

*Total Mitigation
Actions*

2



Education and Awareness Programs

5



Structure and Infrastructure Projects

0



Local Plans and Regulations

1



Natural Systems Protection



0 *SV Population At Risk (2017)*

1,588 *Population at Risk (2017)*

Marlboro, Township of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
31_01	Provide Awareness and Readiness Information on Hazards and Preparedness	Distribute timely awareness and readiness information regarding seasonal atmospheric hazards and personal preparedness and readiness guidelines.		Education and Awareness Programs	Extreme Temperatures, Flood, Drought, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Wildfire		Administration and Office of Emergency Management		\$15,000.00		Completed
31_02	Provide Public Information on Emergencies	Use all forms of print and social media to provide advanced warning and notification of impending severe weather events and all incidents jeopardizing public safety (including but not limited to Reverse 911, Twitter, and Facebook accounts to provide alerts and update information regarding hurricanes and severe weather events).		Education and Awareness Programs	Extreme Temperatures, Drought, Nor'easter, Hurricane and Tropical Storm, Wildfire, Winter Storm		Administration and Office of Emergency Management		\$10,000.00		Completed
31_03	Purchase and Install Generator at Tennent Rd. Water Treatment Plant and Pump Station	Installation of a generator at the Tennent Road Water Treatment Plant and Pump Station.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Medium	Engineering	FEMA HMA	\$500,000.00	1 year	Ongoing
31_04	Purchase and Install Generator at the Harbor Rd. Water Treatment Plant	Installation of a stand-by generator for Water Utility wells 3 and 4 at the Harbor Road Water Treatment Plant.		Structure and Infrastructure Project	All Hazards		Engineering	Capital Funds; Grants; Loans	\$300,000.00		Completed
31_05	Purchase and Install Generator at Recreation Center	Installation of a generator at the Recreation Center which serves as a shelter.		Structure and Infrastructure Project	All Hazards		Engineering	Capital Funds; Grants; Loans	\$300,000.00		Completed
31_06	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Work with property owners on grants available to mitigate Repetitive Loss properties. There are seven RL properties that still need mitigation.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Construction Official	FEMA HMA		5 + years	Ongoing
31_07	Desnag and Clean Stream Corridors within the Township	Desnagging and cleaning four streams the Township.	Maintenance/Response/Recovery	Natural Systems Protection	Flood, Hurricane and Tropical Storm	High	Township	Municipal budget		5 + years	New
31_08	Construct Flood Measure (e.g. floodwalls or small berms) along Deep Run	Use minor structural projects that are smaller and more localized (e.g., floodwalls or small berms) along Deep Run.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Hurricane and Tropical Storm	High	Township Engineering	FEMA HMA		3 years	New

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
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Monmouth County Mitigation Action Worksheets

Community Action Number: 31_01

Marlboro, Township of

Describing the Action

Action Name:	Provide Awareness and Readiness Information on Hazards and Preparedness
Action Category:	
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Distribute timely awareness and readiness information regarding seasonal atmospheric hazards and personal preparedness and readiness guidelines.

Evaluating the Action

Hazard(s) Addressed:	Extreme Temperatures, Flood, Drought, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Wildfir
Goals:	1, 2, 3, 4
Risk Reduction:	Improve resident awareness of local hazards of all types; preparedness to respond to events of all types; resilience to return to normalcy after an event. The general public's understanding of natural hazards and mitigation possibilities could be improved. The community's overall level disaster resistance would increase if a greater number of households undertook low-cost or no-cost, small-scale mitigation activities.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Action is legal and information has been provided in this way many times.
Environmental:	No environmental impacts.
Social:	Provides information to all socio-economic groups.
Administrative Capability:	Administrative cost is low and requires minimal management.
Local Champion:	Police Department; Emergency Management
Other Community Objectives:	Builds public trust and confidence in Township administration
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$15,000.00
Priority:	
Local Planning Mechanism:	Hazard Mitigation Plan
Responsible Party:	Administration and Office of Emergency Management
Likely Funding Source(s):	
Timeline:	
Action Status:	Completed
Notes:	

Monmouth County Mitigation Action Worksheets

Community Action Number: 31_02

Marlboro, Township of

Describing the Action

Action Name:	Provide Public Information on Emergencies
Action Category:	
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Use all forms of print and social media to provide advanced warning and notification of impending severe weather events and all incidents jeopardizing public safety (including but not limited to Reverse 911, Twitter, and Facebook accounts to provide alerts and update information regarding hurricanes and severe weather events).

Evaluating the Action

Hazard(s) Addressed:	Extreme Temperatures, Drought, Nor'easter, Hurricane and Tropical Storm, Wildfire, Winter Storm
Goals:	1, 2, 3, 4
Risk Reduction:	There is a need for improving the timeliness and accuracy of information being provided to resident to allow them to ensure preparedness and allow them to make educated decisions regarding their own health and safety and property protection/mitigation measures.
Technical:	Technically feasible.
Political:	No Political issues.
Legal:	Action is legal and information has been provided in this way many times.
Environmental:	No environmental impacts.
Social:	Provides information to all socio-economic groups.
Administrative Capability:	Township staff can manage activities; outside resources may be developed to provide information.
Local Champion:	Administration
Other Community Objectives:	Builds public trust and confidence in the local administration.
STAPLEE Evaluation:	N/A

Implementing the Action

Cost Estimate:	\$10,000.00
Priority:	
Local Planning Mechanism:	Plans and procedures will be developed outlining means and methods of providing information.
Responsible Party:	Administration and Office of Emergency Management
Likely Funding Source(s):	
Timeline:	
Action Status:	Completed
Notes:	