

## *Appendix Vol I.19 Highlands 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

**1,063** *Polices In-force*

**1,731** *Total Losses*

**\$78,726,098** *Total Payments*

**233** *Number of RL Properties*

**57** *Number Mitigated  
RL Properties*

**573** *RL - Total Losses*

**\$23,086,810** *RL - Total Paid*

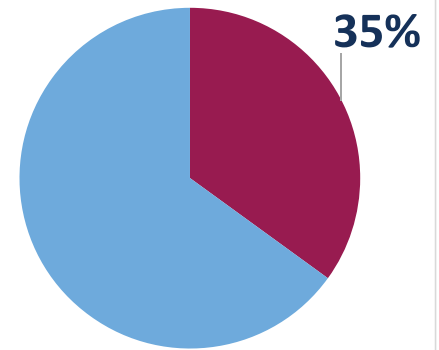


**3** *Number of SRL Properties*

**0** *Number Mitigated SRL  
Properties*

**13** *SRL - Total Losses*

**\$630,201** *SRL - Total Paid*



Percent Land Area Within SFHA

**10**

*Total Mitigation  
Actions*

**0**



*Education and Awareness Programs*

**8**



*Structure and Infrastructure Projects*

**1**



*Local Plans and Regulations*

**1**



*Natural Systems Protection*

## Critical Facilities



**9** *Critical Facilities*

**0** *Critical Infrastructure*

**25** *Historic & Cultural Resources*



**0** *SV Population At Risk (2017)*

**1,707** *Population at Risk (2017)*

Highlands, Borough of					Monmouth County HMP Mitigation Action Summary							
Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Ease of Implementation	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
19_01	Elevate and Floodproof Downtown District	Thorough plan review and guidance to property owners in the downtown area to elevate residences and floodproofing of multifamily and commercial structures.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Floodplain Administrator and Construction Official	FEMA HMA	\$100,000.00	1 year	Ongoing
19_02	Build More Stormwater Pump Stations and Provide Stormwater Infrastructure Improvements along Route 36	This project proposes additional stormwater pump stations to help direct excess water into Sandy Hook Bay. Stormwater infrastructure improvements are proposed along the Route 36 Roadway and in Veterans Memorial Park to capture runoff from higher elevations to the south. The proposed concept further suggests clearing sediment from the Jones Creek channel to help accommodate the increased water volume from Route 36. These stormwater improvements will help reduce flooding in downtown Highlands and on Route 36, which provides access to the NWS Earle Pier Complex.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Governing Body	FEMA Hazard Mitigation Assistance (HMA), NJDEP Blue Acres, Environmental Protection Agency	\$1,300,000.00	1 year	Ongoing
19_03	Protect and Restore Existing Natural Protective Features (the coastline) and Flood Control Infrastructure (i.e. bulkheads)	Routine visual inspection of coastlines and bulkheads, identification of areas of concern, and prompt repairs of troubled areas, with mitigation as needed, to ensure levels of protection afforded by the Borough's beach and bulkhead system.	Mitigation - Continuity of Fuctional Use	Natural Systems Protection	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm	High	Medium	DPW will perform quarterly inspections and will provide reports to the	FEMA HMA	\$3,000,000.00	1 year	Ongoing
19_04	Implement No-Build Ordinances along Landslide-prone Areas and Implement Soil Stabilization Measures	Borough Ordinances have been revised over recent years to make disturbance on or near a steep slope prohibited without seeking variance relief. Implement monitoring mechanisms for areas of concern and apply soil stabilization measures, as needed to prevent impacts to improved property and infrastructure. Revise Ordinances as necessary. Prohibit slope disturbances within specific areas.	Administrative	Local Plans and Regulations	Landslide	High	Low	DPW will perform quarterly inspections or additional inspections as	FEMA HMA	\$2,000,000.00	1 year	Ongoing
19_05	Improve Electrical and Telecommunication Systems at Critical Facilities	Improvements to electrical and telecommunication systems at critical facilities including EOC and local shelters to minimize future damage and system failures, and maximize the borough's ability to perform and maintain critical functions during emergencies. These improvements will include generators and mitigation measures of various features.	Maintenance/Respon se/Recovery	Structure and Infrastructure Project	All Hazards	Medium	Low	Governing Body	FEMA HMA	\$250,000.00	1 year	Ongoing
19_06	Implement Wind Resistant Building Techniques	Installation of hurricane clips and wind shutters on existing Borough facilities including emergency facilities.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Tornado	Medium	Low	Governing Body	FEMA HMA	\$2,000,000.00	1 year	Ongoing

Highlands, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Ease of Implementation	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
19_07	Conduct a Study on Borough Facilities and Seek Funding for Mitigation Projects	Conduct a study to determine the year built and level of protection for each borough facility for various hazards (foremost: flooding). Then, seek funding for mitigation projects for those facilities that are not currently designed for an appropriate level of protection. This includes but is not limited to increasing interior drainage and adding an additional stormwater pump station at Jones Creek, rebuilding the North Street Stormwater Pump station to current codes and standards, constructing new Borough facilities to replace the storm damaged, flood prone facilities and/or flood proof existing facilities that can feasibly be repaired and mitigated.	Administrative	Structure and Infrastructure Project	Flood	Medium	Low	No adverse impacts environmentally	Municipal budget	\$12,000,000.00	1 year	Ongoing
19_08	Install Movable Flood Gates along the Raritan Bay	Install movable flood gates to protect residential property and infrastructure.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	High	Engineering	FEMA HMA, Army Corp of Engineers	\$500,000,000.00	5 + years	Ongoing
19_09	Reduce the Amount of Stormwater Flowing from Middletown, which Floods Route 36 and the Borough	Coordinate with NJDEP, DOT, Middletown Township, and the Monmouth Hills Association to mitigate the flooding caused by stormwater runoff.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm	High	Medium	Middletown, Highlands, DEP, DOT	FEMA HMA, DOT, County funds		2 years	New
19_10	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 residents to build to higher standards and elevation that will mitigate impact of flood related hazards while maintaining residents in community.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough and its residents	FEMA HMA		5 + years	New

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_01

Highlands, Borough of

## Describing the Action

Action Name:	Elevate and Floodproof Downtown District
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Thorough plan review and guidance to property owners in the downtown area to elevate residences and floodproofing of multifamily and commercial structures.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5, 6
Risk Reduction:	Structures and property are routinely subject to various damage due to storm related and tidal events. Most of Highlands (from the Bay up to Shore Drive) is in the mapped special flood hazard area. Severe storm events in recent years, particularly Hurricane Sandy, have devastated the Borough. 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:	The mitigated properties see a long term benefit as damages from flooding are greatly reduced.
Political:	The entire Governing Body supports this effort.
Legal:	Legal issues may arise if substantially damaged properties are not mitigated.
Environmental:	No adverse impacts environmentally
Social:	Supported by majority of the Borough as it will assist in stabilizing property values and taxes.
Administrative Capability:	Have been addressing this with current staffing.
Local Champion:	Governing Body
Other Community Objectives:	Supports current objectives within the Borough Master Plan. The mitigated properties can assist in bringing the Borough into compliance with the CRS requirements and the Borough can finally enter the program. Additionally, this will ultimately increase property values
STAPLEE Evaluation:	12

## Implementing the Action

Cost Estimate:	\$100,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Floodplain Administrator and Construction Official
Local Planning Mechanism:	Flood Damage Prevention Ordinance
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	The Borough was awarded HMGP \$39,375 for elevation for Severe Flooding Event 2011. Pending obligation as of 2020 for HMGP funding of \$109,050,000 for the elevation of 918 homes and 152 commercial buildings post-Sandy.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_02

Highlands, Borough of

## Describing the Action

Action Name:	Build More Stormwater Pump Stations and Provide Stormwater Infrastructure Improvements along Route 36
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	This project proposes additional stormwater pump stations to help direct excess water into Sandy Hook Bay. Stormwater infrastructure improvements are proposed along the Route 36 Roadway and in Veterans Memorial Park to capture runoff from higher elevations to the south. The proposed concept further suggests clearing sediment from the Jones Creek channel to help accommodate the increased water volume from Route 36. These stormwater improvements will help reduce flooding in downtown Highlands and on Route 36, which provides access to the NWS Earle Pier Complex.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5, 6
Risk Reduction:	The downtown area frequently experiences flooding due to storm related and tidal events. Most of Highlands (from the Bay up to Shore Drive) is in the mapped special flood hazard area. Severe storm events in recent years, particularly Hurricane Sandy, have devastated the Borough. The existing drainage system does not accommodate storm water runoff from hill sections; this is exacerbated when coastal waters are high. 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. Addresses majority of Bay Avenue flooding thus minimizing adverse impacts to the business downtown also minimizes nuisance flooding in residential areas
Political:	The entire Governing Body supports this effort.
Legal:	No apparent legal issues.
Environmental:	No adverse impacts environmentally
Social:	Does not adversely impact the Borough. However there will be a tax increase to cover the bonding for the project.
Administrative Capability:	The Borough and Borough Engineer will be working together throughout the project.
Local Champion:	The County, the Borough, NWS Earle, and the Planning Study Technical Advisory Committee
Other Community Objectives:	Addresses longstanding concern of flooding in the business districts and can positively impact revitalization of the business districts.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$1,300,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Governing Body
Local Planning Mechanism:	Raritan/Sandy Hook Bay Coastal Resilience Planning Study, NWS Earle Joint Land Use Study, Monmouth County Mast
Likely Funding Source(s):	FEMA Hazard Mitigation Assistance (HMA), NJDEP Blue Acres, Environmental Protection Agency (EPA), National Ocea
Timeline:	1 year
Action Status:	Ongoing
Notes:	<p>Borough received a CDBG grant for \$650,000 for upgrades of sanitary and stormwater improvements at Stonewall however more money for improvements are needed. Borough received HMGP funding to floodproof two pump stations . This project is one of 11 projects listed in the 2019 Raritan/Sandy Hook Bay Coastal Resilience Planning Study (by Monmouth County) and is supported by the County, the Borough, NWS Earle, and the Planning Study Technical Advisory Committee.</p> <p>The Borough was awarded HMGP funding \$36,000 for the Highlands Flap Valves post-Sandy.</p> <p>The Borough was awarded FEMA Funding 406 Public Assistance for four pump station repairs:</p>

Barberie Storm Water Pumping Station: \$6,664.36  
North Street Storm Water Station: \$6,531.62  
Waterwitch Pumping Station: \$119,748.04  
South Bay Avenue Pumping Station: \$12,157.3

## Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_03

Highlands, Borough of

### Describing the Action

Action Name:	Protect and Restore Existing Natural Protective Features (the coastline) and Flood Control Infrastructure (i.e. bulkheads)
Action Category:	Mitigation - Continuity of Functional Use
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Routine visual inspection of coastlines and bulkheads, identification of areas of concern, and prompt repairs of troubled areas, with mitigation as needed, to ensure levels of protection afforded by the Borough's beach and bulkhead system.

### Evaluating the Action

Hazard(s) Addressed:	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm
Goals:	2, 3, 5
Risk Reduction:	Bulkheads and shorelines are frequently subject to tidal/coastal flooding. Damages from coastal erosion and wave action in recent storms have been significant. Several critical facilities in Highlands are located in one or more mapped hazard areas (including but not limited to flood, surge, and erosion). Several critical facilities in Highlands are located in one or more mapped hazard areas (including, but not limited to: flood, surge, and coastal erosion). 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:	The entire Governing Body supports this effort.
Legal:	Legal issues may arise when a privately-owned slope adversely impacts neighboring and/or publicly owned property.
Environmental:	No adverse impacts environmentally
Social:	Does not adversely impact the Borough.
Administrative Capability:	The Borough DPW performs the visual inspections and solicits the assistance from others as necessary.
Local Champion:	Governing Body
Other Community Objectives:	
STAPLEE Evaluation:	N/A

### Implementing the Action

Cost Estimate:	\$3,000,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	DPW will perform quarterly inspections and will provide reports to the Borough Administrator. The Administrator will
Local Planning Mechanism:	Part of routine inspections performed by the DPW
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	The Borough would like to also add walls around the bulkheads at North St. and Veterans Park, and add the Clam Plant needs a new bulkhead

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_04

Highlands, Borough of

## Describing the Action

Action Name:	Implement No-Build Ordinances along Landslide-prone Areas and Implement Soil Stabilization Measures
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Soil Stabilization
Action Description:	Borough Ordinances have been revised over recent years to make disturbance on or near a steep slope prohibited without seeking variance relief. Implement monitoring mechanisms for areas of concern and apply soil stabilization measures, as needed to prevent impacts to improved property and infrastructure. Revise Ordinances as necessary. Prohibit slope disturbances within specific areas.

## Evaluating the Action

Hazard(s) Addressed:	Landslide
Goals:	2, 3, 6
Risk Reduction:	The geography of the Borough of Highlands makes it highly susceptible to landslides and slump blocks; which occur regularly in the borough. Conditions are exacerbated on steepest slopes when soil water content is high and particularly when the ground is being disturbed (i.e. during construction). Slump blocks and slope failures have been experienced in prior storm events.
Technical:	Technically feasible.
Political:	The entire Governing Body supports this effort.
Legal:	Legal issues may arise when a privately-owned slope adversely impacts neighboring and/or publicly owned property.
Environmental:	No adverse impacts environmentally
Social:	Does not adversely impact any known social groups.
Administrative Capability:	The Borough DPW performs the visual inspections and solicits the assistance from others as necessary.
Local Champion:	Governing Body
Other Community Objectives:	Addresses potential safety and property damage concerns.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$2,000,000.00
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	DPW will perform quarterly inspections or additional inspections as needed. They will report findings to the Borough
Local Planning Mechanism:	Part of routine inspections performed by the DPW
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	The areas of concern are King St. and Bayside Dr., as these roads are one of these access points into the borough. Highlands would like to coordinate with Atlantic Highlands on advancing this action.



# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_05

Highlands, Borough of

## Describing the Action

Action Name:	Improve Electrical and Telecommunication Systems at Critical Facilities
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Non-structural Retrofitting of Existing Buildings and Facilities
Action Description:	Improvements to electrical and telecommunication systems at critical facilities including EOC and local shelters to minimize future damage and system failures, and maximize the borough's ability to perform and maintain critical functions during emergencies. These improvements will include generators and mitigation measures of various features.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	2, 7
Risk Reduction:	Various hazards have historically crippled Borough communications and electrical systems for critical facilities including EOC and local shelters.
Technical:	Technically feasible.
Political:	The entire Governing Body supports this effort.
Legal:	Positive legal impacts in that the Borough is maintaining its critical functions.
Environmental:	No adverse impacts environmentally
Social:	Does not adversely impact any known social groups.
Administrative Capability:	Administrative Capability:  The Borough OEM Office and Police Department continuously monitor the electrical and communication facilities and take appropriate action as necessary.
Local Champion:	Governing Body
Other Community Objectives:	Maintains effective communication and vital services for the Borough and general public.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$250,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Governing Body
Local Planning Mechanism:	Dialogue with OEM office and Borough PD
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	The Borough would like to add generators at all five pump stations and elevate North Ave. pump station.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_06

Highlands, Borough of

## Describing the Action

Action Name:	Implement Wind Resistant Building Techniques
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Non-structural Retrofitting of Existing Buildings and Facilities
Action Description:	Installation of hurricane clips and wind shutters on existing Borough facilities including emergency facilities.

## Evaluating the Action

Hazard(s) Addressed:	Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Winter Storm, Tornado
Goals:	2, 7
Risk Reduction:	Some emergency facilities and shelters built before existing codes were adopted are not designed to accommodate high wind loads that could be experienced during severe storms. Most Borough facilities were rendered uninhabitable due to storm damage from Superstorm Sandy. While some of the damages were related to flooding and surge, a large portion was also attributable to wind damages.
Technical:	Technically feasible.
Political:	The entire Governing Body supports this effort.
Legal:	No legal issues are anticipated with this project.
Environmental:	No adverse impacts environmentally
Social:	Does not adversely impact any known social groups.
Administrative Capability:	The Borough and its professionals have the means to implement this project.
Local Champion:	Governing Body
Other Community Objectives:	Maintains effective communication and vital services for the Borough and general public.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$2,000,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Governing Body
Local Planning Mechanism:	Damage assessments and cost benefit analysis from Borough professionals.
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	Ongoing
Notes:	The Borough would like structures to have steel frames and be wind resistant.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_07

Highlands, Borough of

## Describing the Action

Action Name:	Conduct a Study on Borough Facilities and Seek Funding for Mitigation Projects
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Conduct a study to determine the year built and level of protection for each borough facility for various hazards (foremost: flooding). Then, seek funding for mitigation projects for those facilities that are not currently designed for an appropriate level of protection. This includes but is not limited to increasing interior drainage and adding an additional stormwater pump station at Jones Creek, rebuilding the North Street Stormwater Pump station to current codes and standards, constructing new Borough facilities to replace the storm damaged, flood prone facilities and/or flood proof existing facilities that can feasibly be repaired and mitigated.

## Evaluating the Action

Hazard(s) Addressed:	Flood
Goals:	2, 3, 6, 7
Risk Reduction:	Most of Highlands downtown area (from the river/bay to Shore Drive) is in the mapped special flood hazard area. Most Borough facilities were rendered uninhabitable due to storm damage from Superstorm Sandy.
Technical:	Technically feasible.
Political:	The entire Governing Body supports this effort.
Legal:	No legal issues are anticipated for this project.
Environmental:	No adverse impacts environmentally
Social:	Does not adversely impact any known social groups.
Administrative Capability:	The Borough and its professionals have the capability to bring these projects to fruition. The interior drainage and pump stations are "shovel ready" projects. The Borough has recently bonded approximately \$6,000,000 towards these projects.
Local Champion:	Governing Body
Other Community Objectives:	Maintains effective communication and vital services for the Borough and general public as well as maintaining services and infrastructure functionality.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$12,000,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	No adverse impacts environmentally
Local Planning Mechanism:	Borough and Bond Ordinances
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
Notes:	The Borough would like to improve Waterwitch Sanitary Pump Station and an additional pump station at Jones Creek/Jackson Street Pump Station.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_08

Highlands, Borough of

## Describing the Action

Action Name:	Install Movable Flood Gates along the Raritan Bay
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Install movable flood gates to protect residential property and infrastructure.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 5 ,6
Risk Reduction:	Flooding occurs during extreme high tides and storm surge, covering property and roadways.
Technical:	Technically feasible; Yes
Political:	Political actions would need to be brought into play from several fronts
Legal:	legal issues could be present as to jurisdictional oversight. Establish Two River
Environmental:	locations under consideration will need environmental review
Social:	No social impact, would actually improve the community.
Administrative Capability:	Project management would be needed
Local Champion:	Council/Public and Engineering
Other Community Objectives:	floodplain management with the towns of Sea Bright, Monmouth Beach, Long Branch, Little Silver, Fair Haven, Rumson, Red Bank, Highlands, Middletown, all in Monmouth County
STAPLEE Evaluation:	7

## Implementing the Action

Cost Estimate:	\$500,000,000.00
Priority:	High
Scale of Ease of Implementation:	High
Responsible Party:	Engineering
Local Planning Mechanism:	Committee consisting Federal/ State/ County/Local officials and engineering
Likely Funding Source(s):	FEMA HMA, Army Corp of Engineers
Timeline:	5 + years
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: 19\_09

Highlands, Borough of

## Describing the Action

Action Name:	Reduce the Amount of Stormwater Flowing from Middletown, which Floods Route 36 and the Borough
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Coordinate with NJDEP, DOT, Middletown Township, and the Monmouth Hills Association to mitigate the flooding caused by stormwater runoff.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm
Goals:	2, 3, 7
Risk Reduction:	Historic Monmouth Hills' stormwater runoff and silt flows onto NJ Route 36 causing closures. Route 36 is a County emergency evacuation route that needs to stay open during storm events.
Technical:	Technically feasible.
Political:	No political ramifications anticipated.
Legal:	Will need to coordinate with Middletown Township, DEP, and DOT to get this project moving forward.
Environmental:	No adverse environmental impacts.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	The Borough as the administrative capabilities to begin planning and permitting for such a project.
Local Champion:	Borough Administrator

Other Community Objectives:

STAPLEE Evaluation: N/A

## Implementing the Action

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Middletown, Highlands, DEP, DOT
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA, DOT, County funds
Timeline:	2 years
Action Status:	New

Notes:

# Monmouth County Mitigation Action Worksheets

Community Action Number: 19\_10

Highlands, 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:	Work with residents to build to higher standards and elevation that will mitigate impact of flood related hazards while maintaining residents in community.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	1, 2, 3, 4, 5, 6, 7
Risk Reduction:	Community is at risk to nuisance flooding and storm-related flooding.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
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:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	Borough Administrator
Other Community Objectives:	
STAPLEE Evaluation:	10

## Implementing the Action

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough and its residents
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	5 + years
Action Status:	New
Notes:	

## CAPABILITY ASSESSMENT WORKSHEET

Name: Kim Gonzales

Title: Administrator

Jurisdiction: Highlands 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	1. 2016 Re-examination
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	
Continuity of Operations Plan		
Post-Disaster Recovery Plan	No	
Transportation Plan	Yes	As an element of the 2016 re-examination
Stormwater Management Plan	Yes	1. 2007
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"> <li>Getting to Resilience (2017)</li> <li>NJ FRAMES</li> <li>Strategic Recovery Planning Report</li> <li>Raritan/Sandy Hook Bay Coastal Resilience Planning Study</li> </ul>
<b>Building Code, Permitting, and Inspections</b>	<b>Yes/No</b>	<b>Are codes adequately enforced?</b>
Building Code	Yes	Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating:
Site Plan Review Requirements	Yes	
<b>Land Use Planning and Ordinances</b>	<b>Yes/No</b>	<b>Is the ordinance an effective measure for reducing hazard impacts?</b> <b>Is the ordinance adequately administered and enforced?</b>
Zoning Ordinance	Yes	
Subdivision Ordinance	Yes	
Floodplain 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	No	
Real Estate Disclose Ordinance	Yes	





## CAPABILITY ASSESSMENT WORKSHEET

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

### 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	No	
Emergency Manager	Yes	
Community Planner	Yes	



## CAPABILITY ASSESSMENT WORKSHEET

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



## 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)	No	
<b>How can these capabilities be expanded and improved to reduce risk?</b>		



## 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		
<b>How can these capabilities be expanded and improved to reduce risk?</b>		





# HIGHLANDS 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

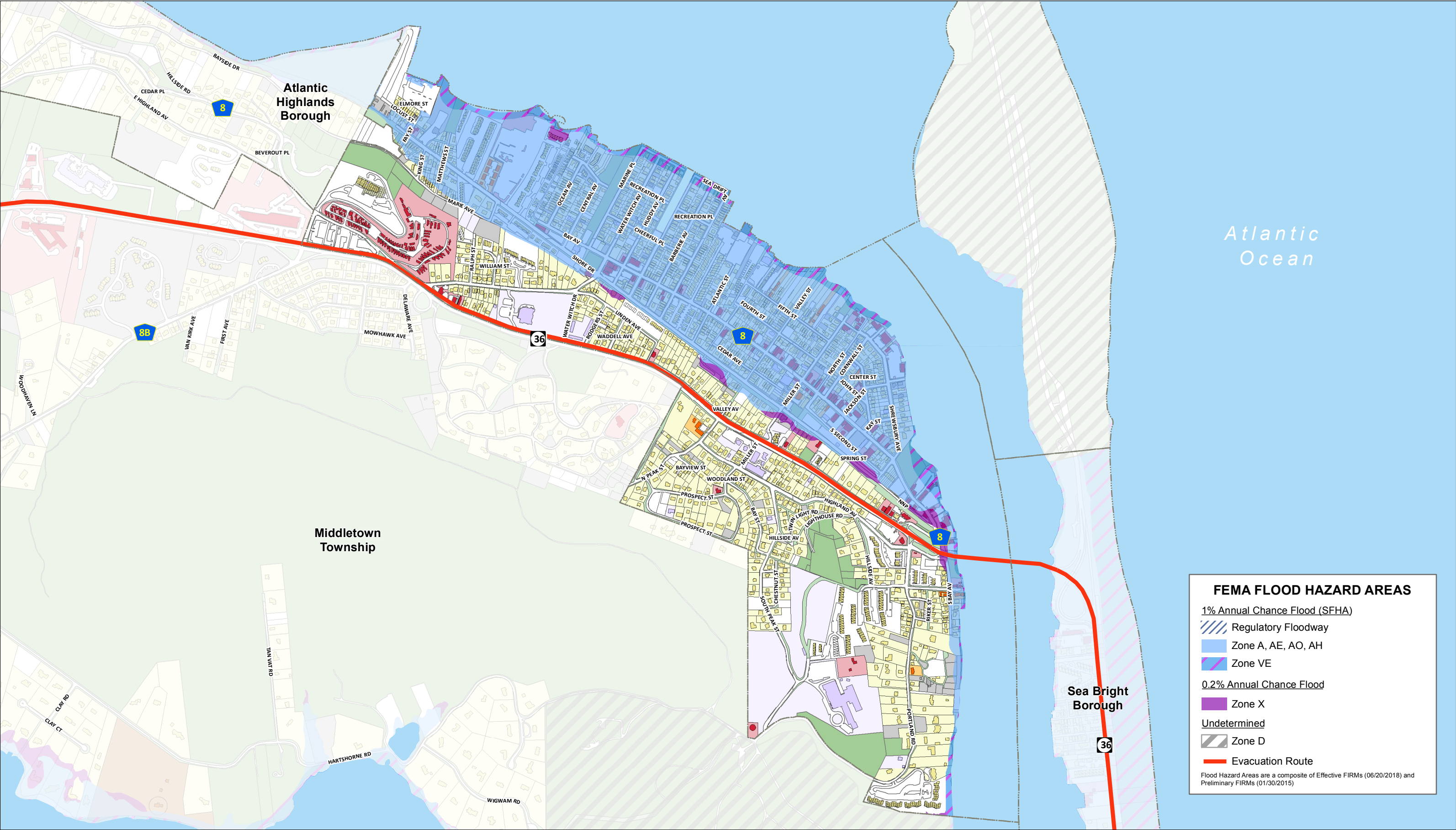
Open Space

0450900

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)

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.





Building Classification

Industrial

Farm

Industrial

Farm

Commercial

Vacant

Commercial

Vacant

Apartment

Civic/Public (Tax Exempt)

Civic/Public (Tax Exempt)

Civic/Public (Tax Exempt)

Residential (four families or less)

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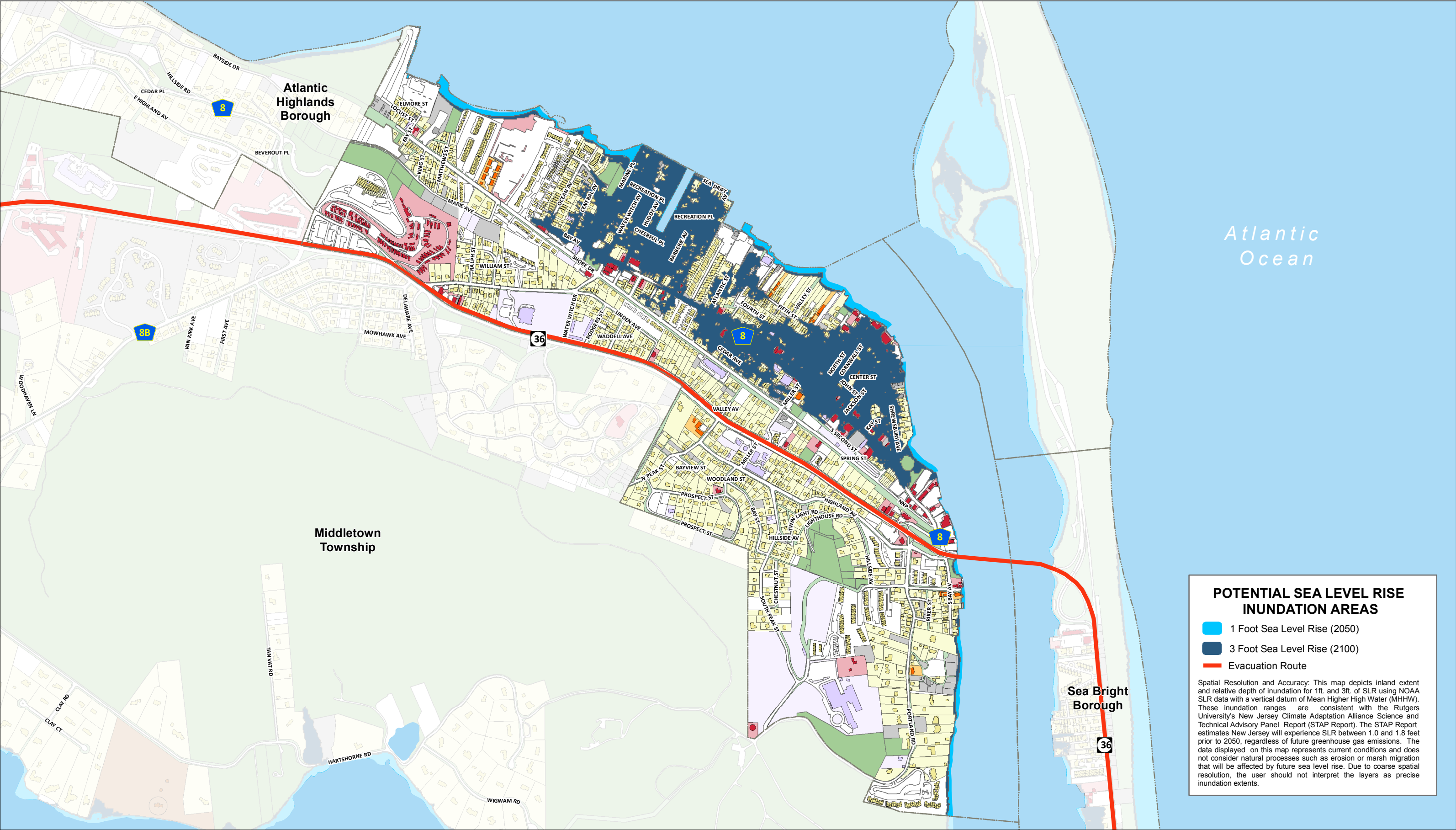
Open Space

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## MEETING NOTES

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**Topic:** Highlands- Monmouth County HMP Meeting

**Date:** May 1, 2019

**Time:** 5:45 PM- 7:30 PM

**Location:** 42 Shore Dr/22 Snug Harbor; Highlands, NJ

**Attendees:** Joe Barris, Monmouth County Planning

Joe Blewitt, Fire Chief

Kim Gonzales, Borough Administrator

Pat Mason, Highlands OEM

Michael McGlennon, Deputy Coordinator

David Milmoe, Public Works Superintendent

David Milmoe

Richard O'Neil, Mayor

Doug Rohmeyer, Borough Engineer

Bill Siegle, Police

Craig Wenger, MB Engineer/ Project Manager

Brittany Ashman, MB Planner

**Drafted by:** Paige Kaspar

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### Introductions (Craig):

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



**2015 Mitigation Actions:**

1. Elevation and floodproofing → Completed
2. Infrastructure improvements and upgrades → Ongoing
3. Protection and restoration of existing natural protective features (coastlines) and flood control measures (bulkheads) → Ongoing
4. Manage development in landslide hazard areas through ordinances; and implement monitoring mechanisms and apply soil stabilization measures as needed → Ongoing
5. Protect infrastructure and critical facilities → Ongoing
6. Implementation of wind resistant building techniques → Ongoing
7. Conduct a study on each borough facility and seek funding for mitigation projects to protect structures → Ongoing
8. Protection of residential property and infrastructure by movable flood gate → Ongoing



Sign in

PREPARED BY

DATE

5/1/2018

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