

Appendix Vol I.9 Brielle 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

262 *Policies In-force*

214 *Total Losses*

\$11,191,272 *Total Payments*

10 *Number of RL Properties*

2 *Number Mitigated
RL Properties*

26 *RL - Total Losses*

\$773,169 *RL - Total Paid*

0 *Number of SRL Properties*

0 *Number Mitigated SRL
Properties*

0 *SRL - Total Losses*

\$0 *SRL - Total Paid*

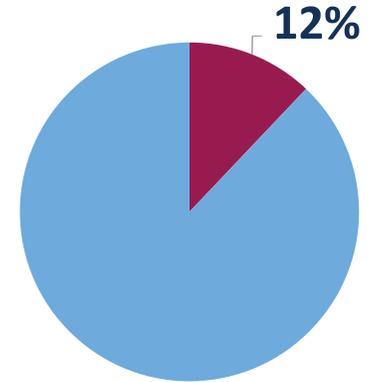


Critical Facilities

11 *Critical Facilities*

0 *Critical Infrastructure*

22 *Historic & Cultural Resources*



Percent Land Area Within SFHA

5

*Total Mitigation
Actions*

0



Education and Awareness Programs

5



Structure and Infrastructure Projects

0



Local Plans and Regulations

0



Natural Systems Protection



0 *SV Population At Risk (2017)*

572 *Population at Risk (2017)*

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
09_01	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 or acquisition for homes within the 100-year flood zone, specifically RL/SRL properties.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough and residents	FEMA HMA	\$18,000,000.00	2 years	Ongoing
09_02	Restore Bulkheads Along the Manasquan River	The Borough is proposing bulkhead upgrades within key right-of-way areas. Multiple Bulkhead restoration projects through the Borough with priority being Ocean Avenue to prevent the end of the roadway from collapsing, which would undermine the adjacent properties and can cause flooding during a period of high tide.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm	High	Low	Borough - Engineer	FEMA HMA	\$750,000.00	1 year	Ongoing
09_03	Fortify Six Pump Stations to Provide Continuity of Operations during a Storm Event	Protect four pump stations that are located along the water and in a flood zone.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough Administrator	FEMA HMA	\$5,000,000.00	2 years	New
09_04	Purchase and Install New Generator for School (Shelter)	New generator for schools that serve as shelters during storms.	Maintenance/Response/Recovery	Structure and Infrastructure Project	All Hazards	Low	High	Borough Administrator	FEMA HMA	\$750,000.00	1 year	New
09_05	Acquire Current Flood-prone Property for a New Dock to House Police Rescue Boat	Acquire a flood-prone property along the Manasquan River and demo the existing house for open space and new dock for police rescue boat	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm	Low	Medium	Borough Administrator	Municipal budget	\$2,000,000.00	2 years	New

Monmouth County Mitigation Action Worksheets

Community Action Number: 09_01

Brielle, 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 or acquisition for homes within the 100-year 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, 3, 5, 6
Risk Reduction:	Flooding of residential structures is a key problem in the community. Much of the town is in mapped floodplains and/or surge hazard areas. Wave action is also an issue in many locations. Approximately, 200 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. 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:	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 it reduces risk for residents.
Administrative Capability:	Borough has the administrative capabilities to resolve this issue.
Local Champion:	
Other Community Objectives:	Flood Damage Prevention Ordinance
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$18,000,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough and residents
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	2 years
Action Status:	Ongoing
Notes:	HMGP of \$18,095,625 for elevation of 225 homes pending obligation as of 2020.

Monmouth County Mitigation Action Worksheets

Community Action Number: 09_02

Brielle, Borough of

Describing the Action

Action Name:	Restore Bulkheads Along the Manasquan River
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Infrastructure Retrofit
Action Description:	The Borough is proposing bulkhead upgrades within key right-of-way areas. Multiple Bulkhead restoration projects through the Borough with priority being Ocean Avenue to prevent the end of the roadway from collapsing, which would undermine the adjacent properties and can cause flooding during a period of high tide.

Evaluating the Action

Hazard(s) Addressed:	Flood, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm
Goals:	2, 5, 6, 7
Risk Reduction:	The existing bulkhead system is not sufficient to provide adequate flood protection and protect existing roadways. key location identified is Ocean Avenue where bulkhead mitigation is needed to prevent the end of the roadway from collapsing, which would undermine the adjacent properties and can cause flooding during a period of high tide. Any storm that creates a tidal surge would then pose a severe threat to the area and further undermine Ocean Avenue. 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 control flooding.
Political:	No apparent political issues.
Legal:	No apparent legal issues.
Environmental:	No adverse environmental effects. Will help improve flood control, mitigate debris entering into the river and help minimize scour and erosion of shoreline areas.
Social:	Will help residents along shoreline area of the Borough.
Administrative Capability:	Need at least 3 people to administer.
Local Champion:	Residents along the shoreline.
Other Community Objectives:	Municipal Stormwater Management Regulation Program
STAPLEE Evaluation:	11

Implementing the Action

Cost Estimate:	\$750,000.00
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	Borough -Engineer
Local Planning Mechanism:	Municipal Stormwater Management Regulation Program
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: 09_03

Brielle, Borough of

Describing the Action

Action Name: Fortify Six Pump Stations to Provide Continuity of Operations during a Storm Event

Action Category: Mitigation - Risk Reduction

Action Type: Structure and Infrastructure Project

HMA Eligible Activity: Infrastructure Retrofit

Action Description: Protect four pump stations that are located along the water and in a flood zone.

Evaluating the Action

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

Goals: 2, 5, 6, 7

Risk Reduction: All pump stations are in a Special Flood Hazard Area and at risk of failing due to flooding and power outages.

Technical: Technically feasible. Will help control flooding.

Political: No apparent political issues.

Legal: No apparent legal issues.

Environmental: No adverse environmental effects.

Social: Will keep utilities for residents

Administrative Capability: Borough has the administrative capabilities

Local Champion:

Other Community Objectives:

STAPLEE Evaluation: 9

Implementing the Action

Cost Estimate: \$5,000,000.00

Priority: High

Scale of Ease of Implementation: Medium

Responsible Party: Borough Administrator

Local Planning Mechanism: Hazard Mitigation Plan

Likely Funding Source(s): FEMA HMA

Timeline: 2 years

Action Status: New

Notes: The Borough was awarded HMGP funding of \$72,000 for Brielle (SMRSA) - Pump Improvements to Facility post-Sandy.

Monmouth County Mitigation Action Worksheets

Community Action Number: 09_04

Brielle, Borough of

Describing the Action

Action Name: Purchase and Install New Generator for School (Shelter)
Action Category: Maintenance/Response/Recovery
Action Type: Structure and Infrastructure Project
HMA Eligible Activity: Generators
Action Description: New generator for schools that serve as shelters during storms.

Evaluating the Action

Hazard(s) Addressed: All Hazards
Goals: 1, 3, 5, 7
Risk Reduction: During Superstorm Sandy, the school lost power for 10 days and could not be used as a shelter.
Technical: Technically feasible.
Political: No apparent political issues.
Legal: No apparent legal issues.
Environmental: No adverse environmental effects.
Social: Will allow for school to remain in operation after a storm
Administrative Capability: Borough has the administrative capabilities
Local Champion:
Other Community Objectives:
STAPLEE Evaluation: N/A

Implementing the Action

Cost Estimate: \$750,000.00
Priority: Low
Scale of Ease of Implementation: High
Responsible Party: Borough Administrator
Local Planning Mechanism: Hazard Mitigation Plan
Likely Funding Source(s): FEMA HMA
Timeline: 1 year
Action Status: New

Notes:

Monmouth County Mitigation Action Worksheets

Community Action Number: 09_05

Brielle, Borough of

Describing the Action

Action Name:	Acquire Current Flood-prone Property for a New Dock to House Police Rescue Boat
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	Acquire a flood-prone property along the Manasquan River and demo the existing house for open space and new dock for police rescue boat

Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm
Goals:	1, 7
Risk Reduction:	Currently, the emergency police boat is stored in a private marina. A new dock along the Manasquan River would ensure quicker response time to marine emergencies.
Technical:	Technically feasible.
Political:	No apparent political issues.
Legal:	Will need to coordinate with private property owner on buying property; may require state or federal permitting for dock.
Environmental:	No adverse environmental effects.
Social:	Will help with emergency rescue.
Administrative Capability:	Borough has the administrative capabilities to advance this action.
Local Champion:	OEM, Police
Other Community Objectives:	
STAPLEE Evaluation:	10

Implementing the Action

Cost Estimate:	\$2,000,000.00
Priority:	Low
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Municipal budget
Timeline:	2 years
Action Status:	New
Notes:	

CAPABILITY ASSESSMENT WORKSHEET

Name: Thomas F. Nolan

Title: Borough Administrator

Jurisdiction: Brielle Borough

Organization: Borough of Brielle

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. Master Plan August 2000 Re-Examinations - August 2006 & September 2016 2. No 3. No 4. Yes
Capital Improvements Plan	Yes	1. 2017 2. No 3. No 4. No
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	OEM responsibility. Plan on file
Continuity of Operations Plan	Yes	OEM responsibility Plan on file
Post-Disaster Recovery Plan	No	
Transportation Plan	No	
Stormwater Management Plan	Yes	1. Yes 2. Yes 3. No 4. Yes
Community Wildfire Protection Plan	No	



CAPABILITY ASSESSMENT WORKSHEET

Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	No	
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Version/Year: IRC 2015
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire Department ISO rating		Rating: 5
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	Stormwater Yes Yes
Flood Insurance Rate Maps	Yes	New FEMA Maps Yes Yes
Acquisition of Land for Open Space and Public Recreation Uses	No	
Post-Disaster Recovery Ordinance	No	
Real Estate Disclose Ordinance	No	



CAPABILITY ASSESSMENT WORKSHEET

Other (ie. Special Purposes Ordinance)	No	
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	
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/PT	Yes Yes Yes
Floodplain Administrator	Yes/PT	Yes Yes Yes
Emergency Manager	Yes/PT	N/A Yes YEs
Community Planner	Yes/PT	N/A Yes Yes



CAPABILITY ASSESSMENT WORKSHEET

Civil Engineer	Yes/PT	Yes Yes Yes
Surveyor	Yes/PT	N/A N/A N/A
GIS Coordinator	No	
Scientists familiar with the hazards of the community	No	
Other DPW Director	Yes/FT	Yes Yes Yes
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	Police have Code Red
Hazard Data and Information	Yes	File on Hazardous discharge and right-to-know
Grant Writing	Yes	None at this time
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	Capital Improvements Yes
Authority to Levy Taxes for Specific Purposes	Yes	By Statue
Fees for Water, Sewer, Gas, or Electric Services	Yes	Water & Sewer Only Yes
Impact Fees for New Development	Yes	Possibly, but never used as yet Yes
Stormwater Utility Fee	No	
Incur Debt Through Private Activities	No	
Community Development Block Grant	No	
Other Federal Funding Programs	FEMA	No Yes
State Funding Programs	OEM	No Yes
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds, and Incur Debt through Special Tax and Revenue Bond
How can these capabilities be expanded and improved to reduce risk?		
Actively develop shovel-ready projects		



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	Borough Environmental Commission Yes
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or Safety Related School Programs	No	
StormReady Certification	No	
Firewise Communities Certification	No	
Public-Private Partnership Initiatives Addressing Disaster Related Issues	No	
Other		
How can these capabilities be expanded and improved to reduce risk?		



BRIELLE BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN



Building Classification

- Industrial (Dark Purple)
- Commercial (Red)
- Apartment (Orange)
- Residential (four families or less) (Light Green)
- Farm (Brown)
- Vacant (Grey)
- Civic/Public (Tax Exempt) (Light Purple)
- Unclassified (White)

Parcel Classification

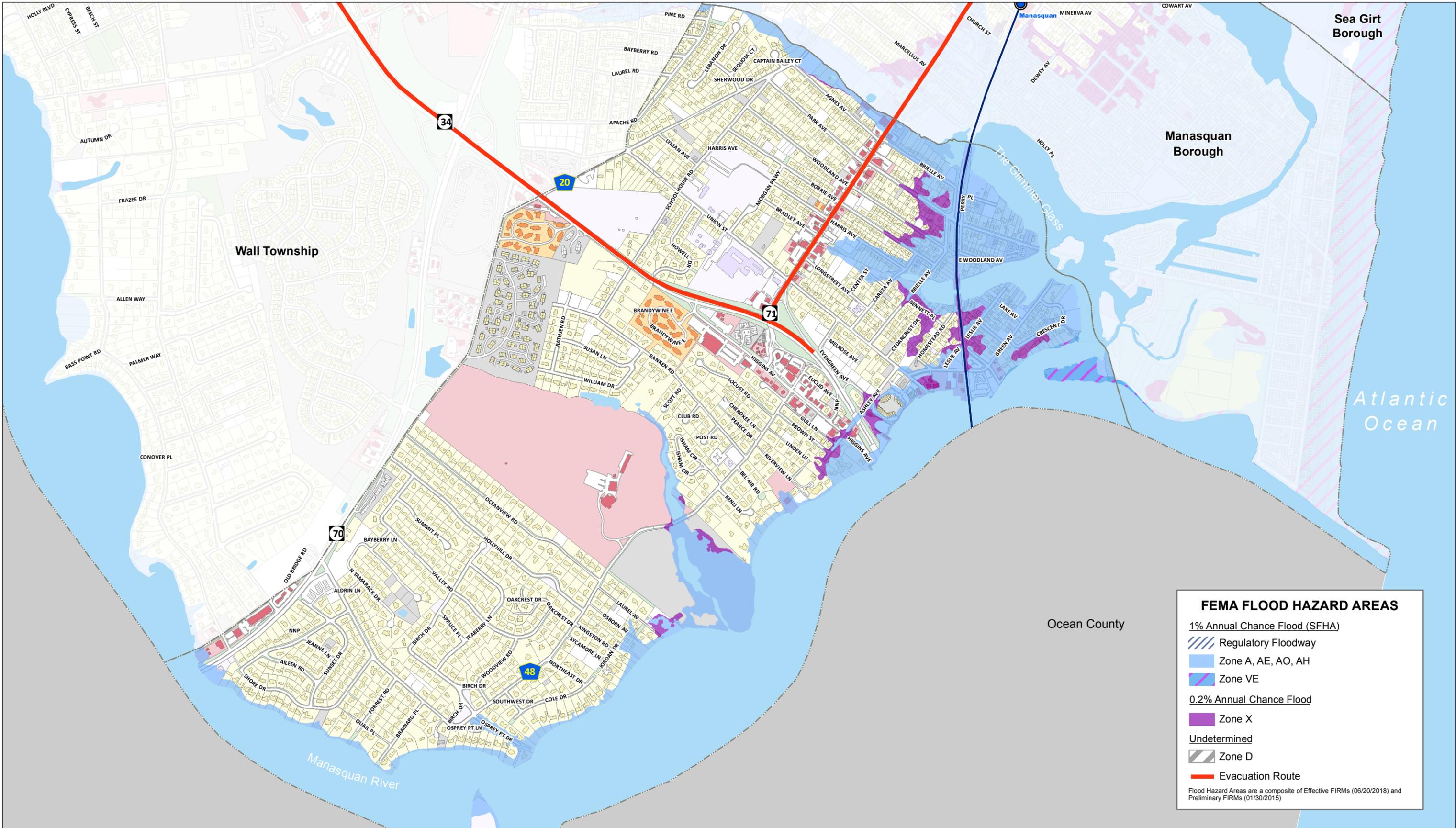
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- Residential (four families or less) (Light Green)
- Farm (Brown)
- Vacant (Grey)
- Civic/Public (Tax Exempt) (Light Purple)
- Unclassified (White)
- Open Space (Light Green)

0 550 1,100 Feet



Michael Baker INTERNATIONAL

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 (Blue hatched)
- Zone A, AE, AO, AH (Light Blue)
- Zone VE (Blue and Purple hatched)

0.2% Annual Chance Flood

- Zone X (Purple)

Undetermined

- Zone D (Grey hatched)

Evacuation Route (Red line)

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.

BRIELLE BOROUGH FLOOD VULNERABILITY

MONMOUTH COUNTY HAZARD MITIGATION PLAN

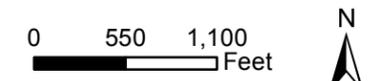


Building Classification

- Industrial (Purple)
- Commercial (Red)
- Apartment (Orange)
- Residential (four families or less) (Yellow)
- Farm (Brown)
- Vacant (Grey)
- Civic/Public (Tax Exempt) (Light Blue)
- Unclassified (White)

Parcel Classification

- Industrial (Purple)
- Commercial (Red)
- Apartment (Orange)
- Residential (four families or less) (Yellow)
- Farm (Brown)
- Vacant (Grey)
- Civic/Public (Tax Exempt) (Light Blue)
- Unclassified (White)
- Open Space (Green)



Michael Baker INTERNATIONAL

Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIS 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.

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MEETING NOTES

Topic: Brielle- Monmouth County HMP Meeting

Date: May 9, 2019

Time: 11:00 AM- 12:00PM

Location: Boro Hall 601 Union Lane Brielle, NJ 08730

Attendees: Elissa Commins, Zoning Officer
Micheal Mechler, Lieutenant
Thomas Nicol, Mayor
Thomas Nolan, Administrator
Gary Olsen, Chief of Police
Tim Shaak, Councilman
Brittany Ashman, MB Planner
Paige Kaspar, MB Planner

Drafted by: Paige Kaspar

Introductions (Brittany):

- Britney and Paige Intro
- Goals
- Hazards
- Packet:
 - Hazard Mitigation Introduction
 - Funding Available
 - What the state is prioritizing
 - Example mitigation actions
- Critical Facilities- Historical Buildings

Repetitive Loss Properties:

- **Eight repetitive loss properties**



Mitigation Actions:

- Raising Single Family Homes → Ongoing
- Will get a list of homes that have been elevated and a list of new applications.
 - ICC Money to elevate homes. Is this an ongoing action? Yes
- Bulkhead Mitigation → ongoing
 - Dealing with the financials of this action
-

2020 Mitigation Actions (NEW):

- **Fortify six pump stations**
 - Pump stations fortifying them for flooding. 5 existing pump stations 1 by sewage authority.
- **New Generators for school**
- **Acquire property for a new dock to house police rescue boat**
 - **Police Boat- somewhere to store the boat for emergencies**
 - **Acquire some land for open space near the water front/ store boat. Down near Higgins Ave. west of 35.**

Successes

- Army Corp Meetings → 3 million dollars going towards infrastructure.

Issues

- Commercial properties in the flood zone. Do they have any plans for mitigating these properties?
- Do we have to come up with 100% of the funds and then get reimbursed?
- RL Properties is it only losses or claims.



Monmouth County
Multi-Jurisdictional Hazard Mitigation Plan Update



Meeting: Brielle

HMP

Date: 05-09-19

Initial	Last Name	First Name	Title	Organization	Email Address
	OLSEN	GARY	CHIEF OF POLICE	BRIELLE PD	golsen golsen@briellepd.org
	Nolan	Thomas	ADMINISTRATOR	Brielle	tomnolan@brielleboro.org
	Commins	Elissa	Zoning Officer	Brielle	ecommins@brielleboro.org
	Mechler	MICHAEL	LIEUTENANT	BRIELLE	mmechler@briellepd.org
	Nicol	THOMAS	MAYOR	BRIELLE	-
	Shaak	TIM	Councilman	Brielle	timshaak@hotmail.com