

City of Easton, Northampton County Annex

Hazard Mitigation Plan Points-of-Contact

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Municipal Profile

With an estimated population of 26,800 (2010 Census), the City of Easton is the smallest of three adjacent cities creating the urban core of the Lehigh Valley, encompassing an area of approximately 4.7 square miles. The City is bordered by Forks Township to the north; Palmer Township around Hackett Park and to the northeast; Wilson Borough and West Easton Borough to the west; Williams Township and Glendon Borough to the south; and the State of New Jersey to the east.

Easton is situated at the confluence of the Lehigh River and Delaware River. The Delaware River forms the city's eastern border with the State of New Jersey. The Lehigh River flows into the city's borders from the southwest and turns east through the city itself. The Bushkill Creek also flows through the city, meandering from the northwest corner eastward to the Delaware River.

Five major roadways serve the City. Interstate 78 passes just south of the city, and is a major expressway in the area. US Route 22 passes east-west through the northern part of the city, and connects Pennsylvania with New Jersey. PA Route 33 passes north-south to the west of the city, though it does cross the city's official borders when it crosses the Lehigh River just north of its interchange with Interstate 78. PA Route 248 (Northampton Street), a major roadway in the Lehigh Valley, enters the city from just north of the midpoint of the city's western border, and terminates after crossing into New Jersey. PA Route 611 (Delaware Drive) travels north-south along the Delaware River, changing names from South Delaware Drive south of the Lehigh River, crossing the Lehigh River as Third Street, continuing north as Larry Holmes Drive, Riverside Drive, and Garden Drive, and becoming North Delaware Drive after crossing the Bushkill Creek.

Lehigh Valley International Airport is located 15 miles west of Easton in Hanover Township, serving as the City's primary airport. Easton is important to Norfolk Southern's rail system, as it is home to three rail bridges between Pennsylvania and New Jersey.

Municipal Participation

1. Identify municipal stakeholders to be involved in the planning process such as, floodplain administrator, public works, emergency management, engineers, planners, etc., and include their specific role in the process.

David Hopkins, Director of Public Works
Role: Implementation

Carl Menges, Chief Planner / Floodplain Administrator
Role: Data gathering

Joe Mauro, City Engineer
Role: Implementation

2. Identify community stakeholders such as; neighborhood groups, religious groups, major employers / businesses, etc., that will be informed and / or involved in the planning process and describe how they will be involved.

Easton Environmental Advisory Council
Lafayette College
Easton Housing Authority
City of Easton Public Works
Police Department
Fire Department
Easton Business Association

The Boys and Girls Club of Easton
Easton Main Street Initiative
Project of Easton
Third Street Alliance
Nurture Nature Center
College Hill Neighborhood Association

3. Describe how the public **will be engaged** in the current planning process examples, newsletters, social media, etc., **and how they were engaged** since the 2013 Hazard Mitigation Plan.

Propose to engage stakeholders through:

Social media
Communication with stakeholders
City website
Announcements with utility bills
Outreach through the city emergency alerts service NIXLE
Public meetings

Compliance with the National Flood Insurance Program (NFIP)

Topic	Identify source of information, if different from the one listed.	Additional Comments
1. Staff Resources		
Is the Community Floodplain Administrator (FPA) or NFIP Coordinator certified?	Community FPA	No
Is floodplain management an auxiliary function?	Community FPA	No
Provide an explanation of NFIP administration services (e.g., permit review, GGIS, education or outreach, inspections, engineering capability)	Community FPA	Zoning application review, GIS
What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	None
2. Compliance History		
Is the community in good standing with the NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, or community records	Yes
Are there any outstanding compliance issues (i.e., current violations)?		No
When was the most recent Community Assistance Visits (CAV) or Community Assistance Contact (CAC)?		??
Is a CAV or CAC scheduled or needed?		No
3. Regulation		
When did the community enter the NFIP?	NFIP Community Status Book	10/17/1978
Are the Flood Insurance Rate Maps (FIRMs) digital or paper? How are residents assisted with mapping?	Community FPA	Digital 2014
Do floodplain regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Community FPA	Yes, updated floodplain ordinance based on FEMA regulations.
Describe the permitting process	Community FPA, State, FEMA NFIP	Floodplain application has to be submitted. Includes an evacuation procedure and how a flood event or warning is monitored. Any new development is inspected to make sure of floodplain compliance.
4. Insurance Summary		
How many NFIP policies are in the community? What is the total premium and coverage?	State NFIP Coordinator or FEMA NFIP Specialist	110
How many claims have been paid in the community? What is the total amount of paid claims? How many substantial damage claims have there been?	FEMA NFIP or Insurance Specialist	41
How many structures are exposed to flood risk within the community?	Community FPA or GIS Analyst	208
Describe any areas of flood risk with limited NFIP policy coverage	Community FPA or FEMA Insurance Specialist	None

Compliance with the National Flood Insurance Program (NFIP) – *continued*

Topic	Identify source of information, if different from the one listed.	Additional Comments
5. Community Rating System (CRS)		
Does the community participate in CRS?	Community FPA, State, or FEMA NFIP	No
If so, what is the community's CRS Class Ranking?	Flood Insurance Manual (http://www.fema.gov/floodinsurancemanual.gov)	N/A
What categories and activities provide CRS points and how can the Class be improved?		N/A
Does the plan include CRS planning requirements?	Community FPA, FEMA CRS Coordinator, or ISO representative	N/A

Community Assets

Community assets are defined to include anything that is important to the character as well as the function of a community, and can be described in four categories, they are; people, economy, natural environment and built environment. Please identify the community assets and location under each category.

1. People

- Concentrations of vulnerable populations such as the elderly, physically or mentally disabled, non-English speaking, and the medically or chemically dependent.

Harlan House
Walters House
Bushkill House
Easton Home
Safe Harbor

Third Street Alliance
Transitional Housing
Northampton County Prison
Neston Heights Citizen Living
Public Housing Units on Rock, Milton, Union, St. Joseph, and Elm Streets.

- Types of visiting populations where large numbers of people are concentrated such as visitors for special events and students.

Crayola
State Theatre
Hotels

Lafayette College
Government Buildings
Annual Festivals

Community Assets – continued

2. Economy

Major employers, primary economic sectors such as agriculture and commercial centers where losses would have a severe impact on the community.

Lafayette College	City of Easton
City Government	Express Times
Crayola	EPS Financial
Housing Authority	

3. Natural Environment

Those areas / features that can provide protective functions that reduce the magnitude of hazard events such as, wetlands or riparian areas, and other environmental features important to protect.

Lehigh / Delaware Dam
 Chain Dam
 Bushkill Creek Dam
 Riparian buffer along Delaware & Lehigh Rivers

4. Built Environment

- Existing structures such as, concentrations of buildings that may be more vulnerable to hazards based on location, age, construction type and / or condition of use.

Easton Downtown	Route 611
Lehigh Drive	N & S Delaware Drive
Bushkill Drive	N. 3 rd Street, north of Route 22
The Flats including Lynn Street, Winter Street and Buttonwood Street	

- Infrastructure systems such as water and wastewater facilities, power utilities, transportation systems, communication systems, energy pipelines and storage.

Sewage Treatment Plant	Met-Ed
Water Treatment Plant	Lafayette Substation
Intermodal Center	Lehigh Drive Pumping Station

Community Assets – *continued*

- High potential loss facilities such as, dams, locations that house hazardous materials, military and / or civilian defense installations.

Lehigh / Delaware Dam
Chain Dam
Bushkill Creek Dam

- Critical facilities such as, hospitals, medical facilities, police and fires stations, emergency operations centers, shelters, schools and airports / heliports.

Easton Police Department	Lafayette College
South Side Fire Station	Cheston Elementary School
College Hill Fire Station	Paxinosa Elementary School
Central Fire Station	March Elementary School
Safe Harbor	Easton Arts Academy Charter School
Third Street Alliance	

- Cultural / historical resources such as, museums, parks, stadiums, etc.

State Theatre	Easton Public Library
Riverside Park	Cottingham Stadium
Scott Park	Bachmann Publik House
Hugh Moore Park	Delaware Canal State Park
Northampton County Historical and Genealogical Society (Sigal Museum)	

Capability Assessment

Capability	✓ Regulatory ✓ Tools ✓ Programs	Status			Department / Agency Responsible	Effect on Hazard Loss Reduction: -Supports -Neutral -Hinders	Change since 2013 Plan? + Positive - Negative	Has the 2013 Plan been integrated into the Regulatory Tool/Program ? If so, how?	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		In Place	Date Adopted or Updated	Under Development						
1. Planning & Regulatory	Comprehensive Plan	X	2017		Planning & Codes	Supports	Positive	Waterfront corridors provide information on appropriate design in flood zones		
	Capital Improvement Plan	X			Finance					
	Economic Development Plan	X			Economic Development					
	Continuity of Operations Plan	X			Administration					
	Stormwater Management Plan / Ordinance	X			Planning & Codes					
	Open Space Management Plan (or Parks/Rec., Greenways Plan)	X			Planning & Codes					
	Natural Resource Protection Plan	X			Planning & Codes					
	Transportation Plan	X			Planning & Codes					
	Historic Preservation Plan	X			Planning & Codes					
	Floodplain Management Plan	X			Planning & Codes					
	Farmland Preservation									
	Evacuation Plan	X			Police					
	Disaster Recovery Plan	X			Emergency Management					
Hazard Mitigation Plan	X	3/2019		Planning & Codes						

Capability Assessment – continued

Capability	✓ Regulatory ✓ Tools ✓ Programs	Status			Department / Agency Responsible	Effect on Hazard Loss Reduction: -Supports -Neutral -Hinders	Change since 2013 Plan? + Positive - Negative	Has the 2013 Plan been integrated into the Regulatory Tool/Program ? If so, how?	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		In Place	Date Adopted or Updated	Under Development						
1. Planning & Regulatory	Emergency Operations Plan	X	6/2020		Emergency Management					
	Zoning Regulations	X			Planning & Codes					
	Floodplain Regulations	X	2014		Planning & Codes					
	NFIP Participation	X			Planning & Codes					
	Building Code	X			Codes					
	Fire Code	X			Codes					
	Other									

Capability Assessment – *continued*

Capability	✓ Staff ✓ Personnel ✓ Resources			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		Yes	No				
2. Administrative & Technology	Planners (with land use / land development knowledge)	X		Planning			
	Planners or engineers (with natural and / or human-caused hazards knowledge)	X		Planning / Engineering			
	Engineers or professionals trained in building and / or infrastructure construction practices (including building inspectors)	X		Codes and Fire			
	Emergency Manager	X		Fire & Planning			
	Floodplain administrator / manager	X		Planning			
	Land surveyors		X				
	Staff familiar with the hazards of the community	X		All Departments			
	Personnel skilled in Geographical Information Systems (GIS) and / or FEMA's HAZUS program	X		Planning			
	Grant writers or fiscal staff to handle large / complex grants	X		All Department			
Other							

Capability Assessment – continued

Capability			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
	Yes	No				
3. Financial Resources	Capital improvement programming	X		Finance & Administration		
	Community Development Block Grants (CDBG)	X		Economic Development		
	Special purposes taxes	X		Finance & Administration		
	Gas / Electricity utility fees	X		Finance & Administration		
	Water / Sewer fees	X		Finance & Administration		
	Stormwater utility fees	X		Finance & Administration		
	Development impact fees	X		Finance & Administration		
	General obligation, revenue, and / or special tax bonds	X		Finance & Administration		
	Partnering arrangements or intergovernmental agreements	X		Administration		
	Other					

Capability Assessment – continued

Capability	✓ Program ✓ Organization	Yes	No	Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
4. Education & Outreach	Firewise Communities Certification		X				
	StormReady Certification		X				
	Natural disaster or safety-related school programs	X		Fire	New Program		
	Ongoing public education or information programs such as, responsible water use, fire safety, household preparedness, and environmental education.	X		Fire	New Program		
	Public-private partnership initiatives addressing disaster related issues.		X				
	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Nurture Nature	New program for Environmental Education	They are studying City Vulnerability	
	Other						

Capability		Degree of Capability			Change since the 2013 Hazard Mitigation Plan? If so, how?	Additional Comments
		Limited	Moderate	High		
5. Self – Assessment	Planning and Regulatory		X			
	Administrative and Technical		X			
	Financial		X			
	Education and Outreach		X			

Known or Anticipated Future Development / Redevelopment

Development / Property Name	Type of Development	Number of Structures	Location	Known Hazard Zone	Description / Status

Natural & Non-Natural Event History Specific to City of Easton

Type of Event and Date(s)	FEMA Disaster # (if applicable)	Local Damage(s) or Loss(es)
Pennsylvania COVID-19 Pandemic – 1/2020	DR-4506-PA	Emergency protective measure to combat COVID-19 Pandemic.
Remnants of Hurricane Ida	DR-4618-PA	Assistance to eligible individuals and families affected by this disaster.

2013 Municipal Action Plan Status

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Additional Comments
		No Progress / Unknown	In Progress	Continuous	Completed	Discontinued	
1	Dam removals from Bushkill Creek			X			
2	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.			X			
3	Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.			X			
4	Maintain compliance with and good standing in the NFIP, including adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified below.			X			

2013 Municipal Action Plan Status – continued

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Additional Comments
		No Progress / Unknown	In Progress	Continuous	Completed	Discontinued	
5	Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction: - Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. - Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. - Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. - Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.			X			
6	Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g., carbonate bedrock standards).			X			
7	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.			X			
8	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.				X		Completed: January 2017
9	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA- DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community's current compliance with the NFIP is established.			X			
10	Archive elevation certificates			X			
11	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			X			
12	Complete the ongoing updates of the Comprehensive Emergency Management Plans			X			

2013 Municipal Action Plan Status – continued

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Additional Comments
		No Progress / Unknown	In Progress	Continuous	Completed	Discontinued	
13	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.			X			
14	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record- keeping			X			
15	Work with regional agencies (i.e. County and PEMA) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g., code officials, floodplain managers, engineers).			X			

Notes:

1. Actions not carried through to the 2018 Action Plan are so noted.
2. To maintain National Flood Insurance Program (NFIP) compliance, actions related to the NFIP were carried through to the 2018 Action Plan even if identified by the municipality as completed.

2018 Mitigation Action Plan

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
1	Dam removals from Bushkill Creek	Structure & Infrastructure	Flood		Medium - High	FEMA Mitigation Grant Programs & Municipal Budget (or Property Owner) for cost share	Engineering / Public Works	Long-term (depending on funding)	Existing
2	<p>Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following:</p> <ul style="list-style-type: none"> - Movement of mechanicals to floors above flood elevations - Strict enforcement of statewide building codes - Flood notifications - Post flood assessments <p>Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>	Structure & Infrastructure	Flood, Windstorm/ Tornado, Earthquake	Medium-High	High	FEMA Mitigation Grant Programs & Municipal Budget (or property owner) for cost share	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Long-term (depending on funding)	Existing

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
3	<p>Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following:</p> <ul style="list-style-type: none"> - Purchase properties by eminent domain - Acquire blighted properties - Prevent inappropriate re-development through zoning & codes <p>Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>	Structure & Infrastructure	Flood	Medium-High	High	FEMA Mitigation Grant Programs & Municipal Budget (or property owner) for cost share	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Long-term (depending on funding)	Existing
4	<p>Maintain compliance with and good-standing in the NFIP including adoption & enforcement of floodplain management requirements (e.g. regulating all new & substantially improved construction in Special Hazard Flood Areas), floodplain identification & mapping, & flood insurance outreach to the community. Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified below.</p>	Local plans & Regulations	Flood	High	Low - Medium	Municipal Budget	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, ISO FEMA	Ongoing	New & Existing

2018 Mitigation Action Plan – continued

	Mitigation Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
5	<p>Conduct & facilitate community & public education & outreach for residents & businesses to include, but not be limited to, the following to promote & effect natural hazard risk reduction:</p> <ul style="list-style-type: none"> - Provide & maintain links to the HMP website, & regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. - Prepare & distribute informational letters to flood vulnerable property owners & neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, & instructing them on how they can learn more and implement mitigation. - Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. - Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding. 	Education & Awareness	All Hazards	High	Low-Medium	Municipal Budget	Municipality with support from Planning Partners, PEMA, FEMA	Short-term	N/A
6	Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements).	Local plans & Regulations	Flood	High	Low	Municipal Budget	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Short-term	New & Existing

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
7	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	Local plans & Regulations	Flood	Medium	Low	Municipal Budget	NFIP Floodplain Administrator with support from PADEP, PEMA, FEMA	Short-term (year 1)	N/A
8	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM and/or pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	Local plans & Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	Short-term (depending on funding)	N/A
9	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA- DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community's current compliance with the NFIP is established.	Local plans & Regulations	Flood	Medium	Low	Municipal Budget	NFIP Floodplain Administrator with support from PADEP, PEMA, FEMA	Short-term (year 1)	N/A
10	Obtain and archive elevation certificates for NFIP compliance.	Local plans & Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	Ongoing	N/A
11	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	All Categories	All Hazards	High	Low – High (for 5-year update)	Municipal Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Municipality (via mitigation planning point of contacts) w/ support from Planning Partners (through their Points of Contact), PEMA	Ongoing	New & Existing

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
12	Complete the ongoing updates of the Comprehensive Emergency Management Plans	Local plans & Regulations	All Hazards	High	Low	Municipal Budget	Municipality with support from PEMA	Ongoing	New & Existing
13	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.	All Categories	All Hazards	High	Low	Municipal Budget	Municipality with support from Surrounding municipalities and County	Ongoing	New & Existing
14	Develop and maintain capabilities to process FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record keeping.	Education & Awareness	All Hazards	Medium	Medium	Municipal Budget	Municipality with support from County, PEMA, FEMA	Short-term	N/A
15	Work with regional agencies (i.e. County and PEMA) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	Education & Awareness	All Hazards	Medium	Medium	Municipal Budget, FEMA HMA grant programs	Municipality with support from County, PEMA	Short-, long-term (depending on funding)	N/A
16	PA-611 Bushkill Creek Bridge – Continue to petition state DOT to perform necessary mitigation of bridge	Structure & Infrastructure	Flood	High	High	State Infrastructure Budget	State DOT	Long-term (depending on funding)	Existing
17	Cemetery Bridge – Identify appropriate mitigation, secure funding, implement mitigation project	Structure & Infrastructure	Flood	Medium	High	Municipal Budget; Grant funding as available	Engineering / Public Works	Long-term (depending on funding)	Existing

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
18	Hugh Moore Park Bridge– Identify appropriate mitigation, secure funding, implement mitigation project	Structure & Infrastructure	Flood	Medium	High	Municipal Budget; Grant funding as available	Engineering / Public Works	Long-term (depending on funding)	Existing
19	Glendon Bridge– Identify appropriate mitigation, secure funding, implement mitigation project	Structure & Infrastructure	Flood	Medium	High	Municipal Budget; Grant funding as available	Engineering / Public Works	Long-term (depending on funding)	Existing
20	Relocate City Services Center (500 Bushkill Drive) - currently in Bushkill Creek flood area. Studying feasibility and potential relocation sites.	Structure & Infrastructure	Flood		High	Municipal Budget; Grant funding as available	Engineering / Public Works	Long-term (depending on funding)	Existing

2018 Mitigation Action Plan – continued

Mitigation Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
<p>21 Relocate/elevate homes located in the following flood areas: - 14th Street at Lehigh Drive - Lynn Street - Raspberry Street / Leigh Drive area - Peach Street Implement actions and further mitigate these areas through the following: - Zoning: River Corridor & Other Green Areas (restrictive rezoning); enhanced floodplain requirements; - Codes: Enforcement of regulations per statewide building regulations - Outreach: Proactive outreach in advance (Codes), at times immediately pending (Police/Fire), and following (Codes) flood events; outreach for FEMA map updates</p>	<p>Structure & Infrastructure</p>	<p>Flood</p>	<p>High</p>	<p>Low (Enforcement, Outreach); High (Elevation, acquisition)</p>	<p>Municipal Budgets; Grant funding (incl. mitigation grants) as available</p>	<p>Planning; Code Enforcement</p>	<p>Ongoing</p>	<p>Existing</p>

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
22	Mitigate properties impacted by the Lehigh River in the following areas: - Buttonwood between Raspberry and 14th Street - Winter Street in area of Raspberry and 14th Street Implement actions and further mitigate these areas through the following: - Codes: Enforcement of regulations per statewide building regulations - Outreach: Proactive outreach in advance (Codes), at times immediately pending (Police/Fire), and following (Codes) flood events; outreach for FEMA map updates	Structure & Infrastructure	Flood	High	Low (Enforcement, Outreach); High (Elevation, acquisition)	Municipal Budgets; Grant funding (incl. mitigation grants) as available	Planning; Code Enforcement	Ongoing	Existing
23	Mitigate flooding at Eddyside Park (North Delaware Drive and SR 611) through the following: - Zoning: River Corridor & Other Green Areas (restrictive rezoning) - Development: Parks redesigned for flood resilience	Structure & Infrastructure	Flood	High	Low (Zoning); High (structural mitigation)	Municipal Budgets; Grant funding (incl. mitigation grants) as available	Planning; Code Enforcement	Ongoing	Existing

2018 Mitigation Action Plan – continued

Mitigation Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
<p>24 Mitigate flooding from the confluence of the Bushkill Creek and Delaware River in the area of the 100 Block of Bushkill Drive, through the following:</p> <ul style="list-style-type: none"> - Zoning: River Corridor & Other Green Areas (restrictive rezoning); enhanced floodplain requirements; - Codes: Enforcement of regulations per statewide building regulations - Outreach: Proactive outreach in advance (Codes), at times immediately pending (Police/Fire), and following (Codes) flood events; outreach for FEMA map updates • Future: Studying removal of dams on Bushkill Creek 	Structure & Infrastructure	Flood	High	<p>Low (Enforcement, Outreach); High (Elevation, acquisition, structural projects)</p>	Municipal Budgets; Grant funding (incl. mitigation grants) as available	Planning; Code Enforcement; Engineering	Ongoing	Existing
<p>25 Mitigate flooding from the Bushkill Creek and Delaware River to homes and businesses in the area of North Delaware Drive at Bushkill Drive, through the following:</p> <ul style="list-style-type: none"> - Zoning: River Corridor & Other Green Areas (restrictive rezoning); enhanced floodplain requirements; - Codes: Enforcement of regulations per statewide building regulations - Outreach: Proactive outreach in advance (Codes), at times immediately pending (Police/Fire), and following (Codes) flood events; outreach for FEMA map updates - Development: Active engagement of Lafayette College regarding development of Film & Media Center, and past improvements - Future: Studying removal of dams on Bushkill Creek 	Structure & Infrastructure	Flood	High	<p>Low (Enforcement, Outreach); High (Elevation, acquisition, structural projects)</p>	Municipal Budgets; Grant funding (incl. mitigation grants) as available	Planning; Code Enforcement; Engineering	Ongoing	Existing

Notes:

Estimated Costs:

- Where actual project costs have been reasonable estimated: Low = < \$10,000; Medium = \$10,000 to \$100,000; High = > \$100,000;
- Where actual project costs cannot reasonably be established at this time:
 - Low** = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
 - Medium** = Could budget for under existing work plan, but would require a reappropriation of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
 - High** = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Potential Funding (FEMA HMA):

- **BRIC** = Building Resilient Infrastructure and Communities
- **FMA** = Flood Mitigation Assistance Grant Program
- **HMGP** = Hazard Mitigation Grant Program
- **HSGP** = Homeland Security Grant Program
- **EMPG** = Emergency Management Performance Grant

Implementation Schedule:

- **Short Term** = 1 to 5 years
- **Long Term** = 5 years or greater
- **DOF** = Depending on Funding

Applies to New and/or Existing Structures:

- **N/A** = Not Applicable