

## Upper Saucon Township, Lehigh County Annex

### Hazard Mitigation Plan Points-of-Contact

#### Primary:

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#### Alternate:

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### Municipal Profile

Upper Saucon Township is located in the southwestern corner of Lehigh County and encompasses a land area of 24.7 square miles, and has a population of 14,808 (2010 Census). Upper Saucon Township is bordered by; Lower Saucon Township (Northampton County) to the northeast; Bucks County to the southeast; Lower Milford and Upper Milford Townships to the southwest; and Salisbury Township to the west and northwest. Coopersburg Borough is located in the southeastern part of Upper Saucon Township.

Upper Saucon Township is in the Delaware River watershed, and the majority of the township is drained by the Saucon Creek into the Lehigh River. However, a small area in the extreme south of the township is drained by the Unami Creek, which flows into the Perkiomen Creek and then the Schuylkill River. There are many small standing bodies of water scattered throughout the township, mostly located around parks and in the vicinity of the aforementioned streams and creeks.

Interstate 78 runs north-south through the north-central part of the township, before turning east towards Lower Saucon Township (Northampton County). Route 309 is the primary north-south route serving Upper Saucon Township. Route 309 enters the township coming north from Philadelphia, via Quakertown, joins Interstate 78 in the northern part of the township, coming west from New York City, and proceeds towards Allentown. Other north-south routes serving Upper Saucon are Route 145 and 378. Route 145 comes south from Allentown, merging with Rt. 309 at its split with I-78. Route 378 comes from Bethlehem, entering the township from the northeast to meet 309 in the south-central part of Upper Saucon. Primary locale routes include Locust Valley Road, which runs east-west in the lower west part of the township, and Blue Church Road, also in the southwest running east-west north of Locust Valley Road. Limeport Pike runs east-west from Lower Macungie Township on a slight north-east route to the I-78, Rt. 309 intersection in northern Upper Saucon Township, and Oakhurst Drive / Vera Cruz Road follows a similar route further north in the township but then continues southeast through Upper Saucon and into Northampton County. South of Oakhurst Drive, Center Valley Parkway / Saucon Valley Road travels east-west through the center of the township, meeting with Limeport Pike just west of Route 309, and continuing east into Lower Saucon Township, Northampton County.

## 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.

Tom Nicoletti, Police Chief

Role: Review and comment on draft plan

Charles Unangst, Township Engineer

Role: Review and comment on draft plan

Thomas Beil, Township Manager

Role: Provide data and information to the township. Review and comment on draft plan.

Chuck Castetter, Fire Chief

Role: Township representative at planning team meetings. Review and comment on draft plan.

Joseph Geib, Special Projects Coordinator

Role: Alternate Township representative at planning team meetings.

Dane Carroll, Emergency Management Coordinator

Role: Review and comment on draft plan

Trisha Lang, Director of Community Development

Role: Review and comment on draft plan

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.

Major employers:

Olympus Corporation of the Americas

Southern Lehigh School District

Lutron Electronics

The Promenade Shops at Saucon Valley

Dun and Bradstreet Corporation

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.

Information will be posted on Township website.

## Compliance with the National Flood Insurance Program (NFIP)

Topic	Identify source of information, if different from the one listed.	Additional Comments
<b>1. Staff Resources</b>		
Is the Community Floodplain Administrator (FPA) or NFIP Coordinator certified?	Community FPA	No
Is floodplain management an auxiliary function?	Community FPA	Yes
Provide an explanation of NFIP administration services (e.g., permit review, GGIS, education or outreach, inspections, engineering capability)	Community FPA	Enforcement of floodplain provisions of zoning ordinance.
What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	Smaller streams are not identified on FEMA maps.
<b>2. Compliance History</b>		
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)?		Unknown
Is a CAV or CAC scheduled or needed?		No
<b>3. Regulation</b>		
When did the community enter the NFIP?	NFIP Community Status Book	7/26/1974
Are the Flood Insurance Rate Maps (FIRMs) digital or paper? How are residents assisted with mapping?	Community FPA	Both – residents can view paper maps at the Township Building or view digital maps on FEMA's website.
Do floodplain regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Community FPA	Exceed – Township regulates a 500-year floodplain.
Describe the permitting process	Community FPA, State, FEMA NFIP	No permits are issued for encroachments unless applicant successfully appeals to Zoning Hearing Board for relief.

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

Topic	Identify source of information, if different from the one listed.	Additional Comments
<b>4. Insurance Summary</b>		
How many NFIP policies are in the community? What is the total premium and coverage?	State NFIP Coordinator or FEMA NFIP Specialist	Unknown
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	Unknown
How many structures are exposed to flood risk within the community?	Community FPA or GIS Analyst	Unknown
Describe any areas of flood risk with limited NFIP policy coverage	Community FPA or FEMA Insurance Specialist	Unknown
<b>5. Community Rating System (CRS)</b>		
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 ( <a href="http://www.fema.gov/floodinsurancemanual.gov">http://www.fema.gov/floodinsurancemanual.gov</a> )	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.

Mount Trexler Manor (personal care home)

Sacred Heart Assisted Living at Saucon Creek (senior care community)

## Community Assets – *continued*

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

DeSales University	Penn State Lehigh Valley
Strayer University	Southern Lehigh High School
Southern Lehigh Middle School	Joseph P. Liberati Intermediate School
Hopewell Elementary School	Southern Lehigh Football Stadium
The Promenade Shops at Saucon Valley (regional shopping center)	
Saucon Valley Country Club (periodically hosts professional golf tournaments with large number of spectators.)	

## 2. Economy

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

Lutron Electronics Headquarters	The Promenade Shops at Saucon Valley (regional shopping center)
Dun and Bradstreet Corporation	Southern Lehigh School District
Olympus Corporation of the Americas Headquarters	

## 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.

Saucon Creek and its tributaries, which include the South Branch of Saucon Creek and Tumble Brook.  
Mest Marsh – Locally significant cattail marsh of several acres with adjoining swampy floodplain along the Saucon Creek.  
Mill Road Wetlands – Expansive series of wetlands adjoining an unnamed tributary of Tumble Brook.  
South Mountain, Applebutter Hill, Flint Hill, Saucon Hill and other areas of high elevation

## 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.

Business impacted by flooding located on North Main Street, Coopersburg

**Community Assets – *continued***

- Infrastructure systems such as water and wastewater facilities, power utilities, transportation systems, communication systems, energy pipelines and storage.
  - Gun Club Municipal Water Supply Well                      South Mountain Water Storage Tank
  - Applebutter Hill Water Storage Tank                      Colonial Crest Municipal Water Supply Well
  - Upper Saucon Wastewater Treatment Plant
  
- High potential loss facilities such as, dams, locations that house hazardous materials, military and / or civilian defense installations.
  - Errickson Fish Pond Dam (DEP No. D39-094)
  
- Critical facilities such as, hospitals, medical facilities, police and fires stations, emergency operations centers, shelters, schools and airports / heliports.
  - Upper Saucon Township Police Department                      Upper Saucon Volunteer Fire Department
  - Upper Saucon Township Municipal Building                      Upper Saucon Wastewater Treatment Plant
  - Upper Saucon Ambulance Corps                      Southern Lehigh Middle School
  - Joseph P. Liberati Intermediate School                      St. Michael’s Elementary School (Limeport)
  - Hopewell Elementary School                      St. Michael’s Middle School
  - FAA Communication Facility
  - DeSales University (identified as mass care center – fixed Nuclear Support Plan for incident at Limerick Generating Station)
  - Southern Lehigh High School (identified as mass care reception center – fixed Nuclear Support Plan for incident at Limerick Generating Station)
  
- Cultural / historical resources such as, museums, parks, stadiums, etc.
  - Southern Lehigh Football Stadium                      Ueberroth Zinc Mine Historic District and President Pump Site
  - Saucon Rail Trail                      Upper Saucon Township Community Park

**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	1985		Upper Saucon Township	Supports	Positive	No	Provide funding	Currently Updating
	Capital Improvement Plan	X	2/15/2017		Upper Saucon Township	Supports	No change	No	Provide funding	Updated Annually
	Economic Development Plan									
	Continuity of Operations Plan	X	2/6/2017		Upper Saucon Township	Supports	Positive	No	Provide funding	Continuity of Operations Plan is generally consistent with 2013 Hazard Mitigation Plan.
	Stormwater Management Plan / Ordinance	X	12/19/2011		Upper Saucon Township	Supports	No change	No	Provide funding	
	Open Space Management Plan (or Parks/Rec., Greenways Plan)	X	10/24/2006		Upper Saucon Township	Neutral	No change	No		Currently Updating 2020-2021
	Natural Resource Protection Plan									
	Transportation Plan									
	Historic Preservation Plan									
	Floodplain Management Plan									
	Farmland Preservation									
	Evacuation Plan									
	Disaster Recovery Plan									
Hazard Mitigation Plan	X	2013		Lehigh County	Supports	No change	N/A		Currently Updating	

**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	1/2/2018		Township	Supports	Positive	Yes		Updated Annually; EOP was updated in 2018 to reference 2013 Hazard Mitigation Plan
	Zoning Regulations	X	6/9/2009		Township	Supports	No change	No		
	Floodplain Regulations	X	6/9/2009		Township	Supports	No change	No		Floodplain regulations in Zoning Ordinance
	NFIP Participation	X	7/26/1974		FEMA	Supports	No change	No		
	Building Code	X	5/25/2004		Township	Supports	No change	No		Township adopted State-wide Uniform Construction Code which is amended periodically by the State
	Fire Code	X	5/25/2004		Township	Supports	No change	No		Township adopted State-wide Uniform Construction Code which incorporates certain sections of the International Fire Code
	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		Township	No Change		In-House Planning Dept.
	Planners or engineers (with natural and / or human-caused hazards knowledge)	X		Township	No Change		In-House Planning Dept.
	Engineers or professionals trained in building and / or infrastructure construction practices (including building inspectors)	X		Township	No Change		Consultant - Upper Saucon Township contracts with Key codes Inspection Agency for building inspection services.
	Emergency Manager	X		Township	No Change		Township has Emergency Management Coordinator
	Floodplain administrator / manager	X		Township	No Change		Township staff member designated as Floodplain Administrator
	Land surveyors		X	Township			
	Staff familiar with the hazards of the community	X		Township	No Change		Township staff is familiar with hazards of community.
	Personnel skilled in Geographical Information Systems (GIS) and / or FEMA's HAZUS program	X		Township	No Change		Consultant - Township uses Hanover Engineering to maintain its GIS system.
	Grant writers or fiscal staff to handle large / complex grants	X		Township	No Change		Experienced grant writers on Township staff.
	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				
<b>3. Financial Resources</b>	Capital improvement programming		X	Unknown	No change	Provide funding
	Community Development Block Grants (CDBG)	X		Lehigh County	No change	Streamline / simplify application process.
	Special purposes taxes	X		Township	No change	
	Gas / Electricity utility fees		X	UGI / PPL	No change	Gas / electric utilities are outside the Township's control.
	Water / Sewer fees	X		Township	No change	
	Stormwater utility fees	X		Township	New State Law allows Township to charge fee.	
	Development impact fees	X		Township	No change	
	General obligation, revenue, and / or special tax bonds	X		Township	No change	
	Partnering arrangements or intergovernmental agreements	X		Lehigh County	No change	County should do more to promote intergovernmental cooperation.
	Other					

**Capability Assessment – continued**

Capability	✓ Program ✓ Organization			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		Yes	No				
4. Education & Outreach	Firewise Communities Certification		No	Township's Volunteer Fire Department	Education / Outreach not part of 2013 Plan		
	StormReady Certification		No	Township	Education / Outreach not part of 2013 Plan	Provide funding	
	Natural disaster or safety-related school programs		No	Southern Lehigh School District	Education / Outreach not part of 2013 Plan		
	Ongoing public education or information programs such as, responsible water use, fire safety, household preparedness, and environmental education.	Yes		Township and Township's Volunteer Fire Department	Education / Outreach not part of 2013 Plan	Provide funding	Water conservation information provided to all Township water customers. Fire Dept. provides fire prevention instruction to employees working at local businesses and children attending local schools.
	Public-private partnership initiatives addressing disaster related issues.		No	Lehigh County Emergency Management Agency	Education / Outreach not part of 2013 Plan		
	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		No	Lehigh County Emergency Management Agency	Education / Outreach not part of 2013 Plan		
	Other						

**Capability Assessment – continued**

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		No change	
	Administrative and Technical		X		No change	
	Financial		X		No change	
	Education and Outreach		X		No change	

**Known or Anticipated Future Development / Redevelopment**

Development / Property Name	Type of Development	Number of Structures	Location	Known Hazard Zone	Description / Status
Brinley Court	Residential	217	7535 South Main Street		Under Construction
Old Saucon	Residential	80	4373 Route 378		Under Construction
Strawberry Hill	Residential	23	6807 Blue Church Road South		single family / approved
Locust Valley Golf Course/TOA	Residential	125	5500 Locust Valley Road	floodplain	Under Construction
Kay Landis Mill	Residential	95	5454 Landis Mill Road	floodplain	single family / proposed
Wawa/McDonalds	Commercial	2	Route 309 and Passer Road		Under Construction
Unnamed Mixed Commercial / Residential Development	Mixed Commercial / Residential Development	75	Route 309 & Camp Meeting Road		No longer being considered
Estates at Saucon Valley	Residential	102	Flint Hill Road & Taylor Drive		Under Construction
Spring Valley Estates	Residential	8	Spring Valley Road		Approved/Pending

**Known or Anticipated Future Development / Redevelopment – *continued***

<b>Development / Property Name</b>	<b>Type of Development</b>	<b>Number of Structures</b>	<b>Location</b>	<b>Known Hazard Zone</b>	<b>Description / Status</b>
Good Shepard	Rehab Hospital	1	Center Valley Parkway	Karst Geography	Pending
Saucon Creek Office Park	Commercial Office	1	3900 Saucon Creek		Approved/ Pending Construction
Warehousing - over 1 million sf	Industrial	3-5	Route 309		Pending

**Natural & Non-Natural Event History Specific to Upper Saucon Township**

<b>Type of Event and Date(s)</b>	<b>FEMA Disaster # (if applicable)</b>	<b>Local Damage(s) or Loss(es)</b>
Winter Storm Jonas – 1/2016	DR-4267-PA	Effects of record snowfall; deployment of Township resources to deal with record snowfall.
Pennsylvania COVID-19 Pandemic – 1/2020	DR-4506-PA	Effects of Pandemic; Impact on Township staffing and resources; COVID-19 County Relief Block Grants to be awarded in November 2020
Tropical Storm Isaias – 8/2020	N/A	Effects of record rainfall in a short duration; historic flooding
Tropical Storm Ida 9/1/2021	N/A	Extensive Flooding with significant road closures; PA 309 North & South; Lanark Rd, Kozy Korner Rd; Landis Mill Rd, W Saucon Valley Rd; Center Valley Parkway; W Hopewell Rd; Main St (6301); E Valley Rd,

## 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	Widen Camp Meeting Rd. bridge over Saucon Creek so more water can flow under bridge instead of backing up on to property at 4664 Camp Meeting Road.		X				PennDOT plans to replace bridge in 2018.
2	Property and roadway flooding along East Valley Road between Camp Meeting Road and Courtney Drive at the bridge over the Saucon Creek - Mitigate major street/private property flooding by replacing the existing East Valley Road bridge over the Saucon Creek and improving the upstream and downstream conditions.	X					Funding not available for project.
3	Drainage improvements/detention pond to alleviate flooding at intersection of Rt. 309 and Center Valley Parkway/Saucon Valley Road.		X				PennDOT to start preliminary engineering in 2019.
4	Roadway flooding along Route 309 and Saucon Valley Road intersection - Mitigate major highway flooding by replacing the existing Route 309 bridge over the Saucon Creek and elevate Route 309 and Saucon Valley Road as necessary.	X					Funding not available for project.
5	<del>5895 Glen Road – Mitigate local street/property flooding by installing a small storm sewer system.</del>	X					<del>Completed 7/30/2021</del>
6	5151 West Hopewell Road – Mitigate local street flooding by installing inlets and storm sewer pipes.	X					Funding not available for project.
7	Roadway flooding along Blue Church Road South near the intersection with State Street – Mitigate street flooding by installing properly sized storm sewer pipe and associated inlets beneath Blue Church Road South.	X					Funding not available for project.
8	Property and roadway flooding along Bowood Street between Spring Drive and Hopewell Road – Install storm sewer, replace concrete gutter curb and mil / overlay along Bowood Street and each intersection for improved drainage.				X		Stormwater improvements completed by Township in 2014. Action not carried through to the 2018 Action Plan.
9	Property and roadway flooding along Camp Meeting Road between Preston Lane and Muirfield Road – mitigate street/private property flooding by installing inlets and storm sewer along Camp Meeting Road.	X					Engineering almost completed; stormwater improvements planned in 2019.
10	Roadway flooding along Chestnut Drive from the Lanark Road intersection to the intersections with Orchard Drive and Apple Lane and then along Orchard Drive and Apple Lane to West Hopewell Road - Mitigate significant street flooding with the installation of inlets and storm sewer pipes to convey the stormwater.	X					Funding not available for project.

**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	
11	Roadway flooding and icing along 2097 Black River Road - Mitigate street flooding and road icing by installing a storm sewer system along a section of Black River Road.				X		Twp. re-profiled road to address drainage and icing problems. Project completed in 2017. Action not carried through to the 2018 Action Plan.
12	Property and roadway flooding along Jacoby Road and Suter Road intersection - Mitigate street / private property flooding hazard to local traffic by replacing existing storm sewer pipes with larger pipes and drainage structures.	X					Stormwater improvements planned in 2018.
13	Property and roadway flooding along Jacoby Road at the Tumble Brook culvert - Mitigate street flooding by replacing the Tumble Brook culvert beneath Jacoby Road.		X				Engineering completed; project planned for 2018.
14	Roadway flooding along Kozy Korner Road at the bridge over the Saucon Creek - Replace existing bridge to mitigate street flooding of Kozy Korner Road.	X					Funding not available for project.
15	Roadway flooding along Lanark Road and Saucon Valley Road intersection - Mitigate major road flooding (to the point of road closure) by replacing the Lanark Road Bridge over the Saucon Creek and elevate the bridge road approaches.	X					Funding not available for project.
16	Property flooding along Vera Cruz Road just north of Sescher Lane (private street) - Private property flooding to be mitigated by increasing current storm sewer size beneath Vera Cruz Road.	X					Funding not available for project.
17	Property and roadway flooding along West Hopewell Road - Mitigate street/private property flooding by installing a storm sewer system.	X					No viable solution to correct flooding problem.
18	Property and roadway flooding along the southern section of Whitetail Drive - Mitigate street/private property flooding by installing inlets and storm sewer pipes along Whitetail Drive.				X		Stormwater improvements completed by Township in 2014. Action not carried through to the 2018 Action Plan.
19	Roadway flooding along Route 309 and Hopewell Road intersection - intersection floods during heavy rain events creating a traffic hazard and at times closure of south bound Route 309. Project will install larger drainage structure across Route 309 to mitigate major street flooding.	X					Funding not available for project.

**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	
20	<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"> <li>- 4664 Camp Meeting Road</li> <li>- 4537 East Valley Road</li> <li>- 4569 East Valley Road</li> <li>- 6301 N. Main Street</li> </ul> <p>Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation.</p> <p>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>	X					Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time.
21	<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"> <li>- 4664 Camp Meeting Road</li> <li>- 6301 N. Main Street</li> </ul> <p>Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting.</p> <p>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>	X					Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time.
22	<p>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.</p>	X					Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time.



**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	
23	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				Township working to improve communication and outreach efforts through SNAP program and CodeRED notification system.
24	Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements).	X					Township has already adopted higher standards by regulating the 500-year floodplain.
25	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	X					Community Assistance Visit / Community Assistance Contact not needed at this time.
26	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				Floodplain administrator taking steps to become certified.
27	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					Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time.
28	Archive elevation certificates	X					Additional staff needed to implement mitigation action. Funding not in place to support adding staff at this time.

**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	
29	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0		X				Township supports updating Haz. Mit. Plan.
30	Complete the ongoing updates of the Comprehensive Emergency Management Plans			X			Township updates Emergency Operations Plan each year.
31	Create/enhance/ maintain mutual aid agreements with neighboring communities for continuity of operations.	X					Mutual aid agreements from 2013 remain in place.
32	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					Mitigation action is so vague as to be meaningless. Provide more specifics.
33	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					County should take lead.

**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	Widen Camp Meeting Rd. bridge over Saucon Creek so more water can flow under bridge instead of backing up on to property at 4664 Camp Meeting Road.	Structure & Infrastructure	Flood	Medium	High	FEMA mitigation grant funding; local budget for match	Township Engineering & Public Works, w/ support from the Pidcock Company	Long-term (depending on funding)	Existing
2	Property and roadway flooding along East Valley Road between Camp Meeting Road and Courtney Drive at the bridge over the Saucon Creek - Mitigate major street/ private property flooding by replacing the existing East Valley Road bridge over the Saucon Creek and improving the upstream and downstream conditions.	Structure & Infrastructure	Flood	Medium	High	FEMA mitigation grant funding; local budget for match	Township Engineering & Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
3	Drainage improvements/detention pond to alleviate flooding at intersection of Rt. 309 and Center Valley Parkway/Saucon Valley Road.	Structure & Infrastructure	Flood	High	High	FEMA mitigation grant funding; local budget for match	Township Engineering & Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
4	Roadway flooding along Route 309 and Saucon Valley Road intersection - Mitigate major highway flooding by replacing the existing Route 309 bridge over the Saucon Creek and elevate Route 309 and Saucon Valley Road as necessary.	Structure & Infrastructure	Flood	High	High	FEMA mitigation grant funding; local budget for match	Township Engineering & Public Works, w/ support from the Pidcock Company	Long-term (depending on funding)	Existing
<p><i>*2020 Update: PennDOT has begun engineering &amp; design work to improve the intersection / interchange &amp; address flooding. Subject to PennDOT funding / scheduling.</i></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
5	5895 Glen Road – Mitigate local street/property flooding by installing a small storm sewer system.	Structure & Infrastructure	Flood	Low	Medium	Municipal Budget	Township Engineering & Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Completed 7/30/2021
6	5151 West Hopewell Road – Mitigate local street flooding by installing inlets and storm sewer pipes.	Structure & Infrastructure	Flood	Low	Medium	Municipal Budget	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
7	Roadway flooding along Blue Church Road South near the intersection with State Street – Mitigate street flooding by installing properly sized storm sewer pipe and associated inlets beneath Blue Church Road South.	Structure & Infrastructure	Flood	Low	Medium	Municipal Budget	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
8	Property and roadway flooding along Camp Meeting Road between Preston Lane and Muirfield Road – mitigate street/private property flooding by installing inlets and storm sewer along Camp Meeting Road.	Structure & Infrastructure	Flood	Medium	High	FEMA mitigation grant funding; State highways, local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	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
9	Roadway flooding along Chestnut Drive from the Lanark Road intersection to the intersections with Orchard Drive and Apple Lane and then along Orchard Drive and Apple Lane to West Hopewell Road - Mitigate significant street flooding with the installation of inlets and storm sewer pipes to convey the stormwater.	Structure & Infrastructure	Flood	Medium	High	FEMA mitigation grant funding; local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
10	Property and roadway flooding along Jacoby Road and Suter Road intersection - Mitigate street / private property flooding hazard to local traffic by replacing existing storm sewer pipes with larger pipes and drainage structures.	Structure & Infrastructure	Flood	Low	Medium	Municipal Budget	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
11	Property and roadway flooding along Jacoby Road at the Tumble Brook culvert - Mitigate street flooding by replacing the Tumble Brook culvert beneath Jacoby Road.	Structure & Infrastructure	Flood	Low	High	Municipal Budget	Township Engineering and Public Works, with support from the Pidcock Company	Short-term	Existing
<i>*2020 Update: Jacoby Road culvert funding in proposed 2021 budget. Implementation to move to short-term.</i>									
12	Roadway flooding along Kozy Korner Road at the bridge over the Saucon Creek - Replace existing bridge to mitigate street flooding of Kozy Korner Road.	Structure & Infrastructure	Flood	Medium	High	FEMA HMGP funding; local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	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
<b>13</b>	Roadway flooding along Lanark Road and Saucon Valley Road intersection - Mitigate major road flooding (to the point of road closure) by replacing the Lanark Road Bridge over the Saucon Creek and elevate the bridge road approaches.	Structure & Infrastructure	Flood	High	High	FEMA HMGP funding; State highways, local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
<b>14</b>	Property flooding along Vera Cruz Road just north of Sescher Lane (private street) - Private property flooding to be mitigated by increasing current storm sewer size beneath Vera Cruz Road.	Structure & Infrastructure	Flood	Low	High	FEMA HMGP funding; State highways, local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
<b>15</b>	Property and roadway flooding along West Hopewell Road - Mitigate street/private property flooding by installing a storm sewer system.	Structure & Infrastructure	Flood	Low	Medium	FEMA mitigation grant funding; local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	Long-term (depending on funding)	Existing
<b>16</b>	Roadway flooding along Route 309 and Hopewell Road intersection - intersection floods during heavy rain events creating a traffic hazard and at times closure of south bound Route 309. Project will install larger drainage structure across Route 309 to mitigate major street flooding.	Structure & Infrastructure	Flood	High	High	FEMA mitigation grant funding; State highways, local budget for match	Township Engineering and Public Works, with support from the Pidcock Company	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
17	<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"> <li>- 4664 Camp Meeting Road</li> <li>- 4537 East Valley Road</li> <li>- 4569 East Valley Road</li> <li>- 6301 N. Main Street</li> </ul> <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	Medium-High	High	FEMA Mitigation Grant Programs and local 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
18	<p>Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss &amp; severe repetitive loss properties as priority. Specifically identified are the following:</p> <ul style="list-style-type: none"> <li>- 4664 Camp Meeting Road</li> <li>- 6301 N. Main Street</li> </ul> <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 and local 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
<p><b>19</b> 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.</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**

	<b>Mitigation Action</b>	<b>Mitigation Technique Category</b>	<b>Hazard(s) Addressed</b>	<b>Priority (H / M / L)</b>	<b>Estimated Cost</b>	<b>Potential Funding</b>	<b>Lead Agency / Department</b>	<b>Implementation Schedule</b>	<b>Applies to New and / or Existing Structures</b>
<b>20</b>	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.	Education & Awareness	All Hazards	High	Low-Medium	Municipal Budget	Municipality with support from Planning Partners, PEMA, FEMA	Short-term	N/A
<b>21</b>	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	Via Municipal Engineer/NFIP Floodplain Admin. w/ 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
<b>22</b>	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	N/A
<b>23</b>	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	N/A
<b>24</b>	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 PA DEP, PEMA, FEMA	Short-term	N/A
<b>25</b>	Obtain and archive elevation certificates for NFIP compliance.	Local plans & Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	Ongoing	N/A
<b>26</b>	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	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
27	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
28	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.	All Categories	All Hazards	High	Low	Municipal Budget	Municipality w/ support from surrounding municipalities and County	Ongoing	New & Existing
29	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
30	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-term (depending on funding)	N/A
31	Educate residents about hazards of radon. Provide information material and free radon test kits.	Education & Awareness	Radon Exposure	Medium	\$5,000	State grant	Township and local state representative's office	2019	N/A

**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
32	Prepare hazardous materials transportation incident response plan. The purpose of the plan is to develop policies and procedures under which Township emergency response providers will operate in the event of a hazardous materials release due to a traffic / transportation incident along the Interstate 78 and Route 309 corridors.	Local plans & Regulations	Transportation Incident	Medium	\$15,000	State grant and Township funds	Township Emergency Management Coordinator	2019 - prepare plan; 2020 - implement plan; 2021 - training exercises	N/A
33	Coordinate with the County Emergency Management Agency and PA Department of Health, which is responsible for setting up points of distribution and providers for immunizations.	Local plans & Regulations	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality, working with County EMA and PA Department of Health	Ongoing	N/A
34	Devise an employee vaccination and immunization plan to prevent an outbreak within the municipal employee ranks.	Local plans & Regulations	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality	Short-term	N/A
35	Devise a municipal continuity of operations plan to keep essential services running in the event that a significant portion of the workforce is affected.	Local plans & Regulations	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality	Short-term	N/A
36	Devise a public education and outreach plan regarding disease prevention.	Education & Awareness	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality	Ongoing	N/A
37	Provide education and outreach to residents regarding how to prevent the spread of invasive species, including quarantine procedures.	Education & Awareness	Invasive Species	High	Low	Municipal Budget	Municipality	Ongoing	N/A

**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
38	Develop a neighborhood cleanup plan designed to remove discarded tires, trash and other items in which standing water can form.	Education & Awareness	Invasive Species	High	Low	Municipal Budget	Municipality	Short-term	N/A
39	Provide training and education for first responders to ensure effective emergency care.	Local plans & Regulations	Drug Overdose Crisis	High	Low	Municipal Budget	Municipality	Ongoing	N/A
40	Provide education and outreach, especially in K-12, regarding drug abuse prevention.	Education & Awareness	Drug Overdose Crisis	High	Low	Municipal Budget	Municipality/ School District	Ongoing	N/A

**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 reapportionment 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