**Washington Township, Northampton County Annex**

**Hazard Mitigation Plan Points-of-Contact**

|  |  |
| --- | --- |
| **Primary:** | **Alternate:** |
| George Abt  Emergency Management Coordinator  1021 Washington Boulevard, Bangor, PA 18013  610-564-0337 | Robert Smith  Chairman of the Board / Deputy EMC  1201 Washington Boulevard, Bangor, PA 18013  610-588-1524  Bsmith1954@myyahoo.com |

**Municipal Profile**

Washington Township is located in the northeastern part of Northampton County, sharing its northern border with Monroe County. It encompasses an area of approximately 18.1 square miles and has a population of 5,148 (2020 Census). The township is bordered by Plainfield Township to the west; Lower Mount Bethel Township to the southeast; Upper Mount Bethel Township and East Bangor to the east and northeast; and Hamilton Township (Monroe County) to the north. Washington Township encompasses the boroughs of Bangor and Roseto.

Washington Township is in the Delaware River watershed, and is primarily drained by Martins Creek, which runs north-south from Upper Mount Bethel Township through the center of Washington Township and south to the Delaware River. A small area in the southeast of the township is drained by the Delaware River tributary Oughoughton Creek. There are also a few small bodies of standing water in the western part of the township, as well as some smaller streams, which drain by Martins Creek tributary and into the Delaware River.

Washington Township is intersected at its center by two major roadways; PA Route 191 runs north-south from Monroe County through Washington Township as 1st Street, and then Washington Boulevard, before veering southwest into Plainfield Township. PA Route 512 runs east-west from Upper Mount Bethel Township as Erdman Street, then Market Street, and lastly Blue Valley Drive to Plainfield Township and Pen Argyl Borough. South Main Street is another primary route, running north-south to the east of PA Route 191. Springfield Drive and Richmond Road provide the southern-most connection to points east from Washington Township, starting perpendicular to South Main Street in the center of the township.

**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.

|  |  |
| --- | --- |
| Robert Smith, Deputy EMC Role: Primary POC | Tina Serfass, Zoning Officer  Role: Zoning Officer |
| Jeff Ott, Engineer  Role: Township Engineer | George Abt, Emergency Management Coordinator  Role: Emergency Management Coordinator |

1. 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.

Shelter – Washington Township Municipal Building, 1021 Washington Boulevard, Bangor, PA

1. Describe how the public **will be engaged** in the current planning process (examples, newsletters, social media, etc.), **and how they were engaged** since the 2018 Hazard Mitigation Plan.

Department Facebook

69 News

Newspaper – Express Times, Morning Call, Press, Blue Valley Times

**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 | Unknown |
| What are the barriers to running an effective NFIP program in the community, if any? | Community FPA | FEMA’s spot elevation location |
| **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)? |  | Unknown |
| Is a CAV or CAC scheduled or needed? |  | Unknown |
| **3. Regulation** | | |
| When did the community enter the NFIP? | NFIP Community Status Book | 2012 |
| Are the Flood Insurance Rate Maps (FIRMs) digital or paper?  How are residents assisted with mapping? | Community FPA | Both digital and paper |
| Do floodplain regulations meet or exceed FEMA or State minimum requirements?  If so, in what ways? | Community FPA | Meet |
| Describe the permitting process | Community FPA, State, FEMA NFIP | N/A |
| **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 | 25 NFIP’s in community  (2013 Plan) |
| 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 | No repetitive loss properties have been identified. |
| How many structures are exposed to flood risk within the community? | Community FPA or GIS Analyst | 58 structures (2013 Plan) |
| Describe any areas of flood risk with limited NFIP policy coverage | Community FPA or  FEMA Insurance Specialist | While there are 58 structures in the 1% annual chance flood area, there are only 13 policies issues to property owners in this area (2013 Plan) |
| **5. Community Rating System (CRS)** | | |
| Does the community participate in CRS? | Community FPA, State, or FEMA NFIP | Not participating |
| 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.

Slate Belt Nursing & Rehabilitation, Bangor

Lehigh Valley Health Network – Health Center at Bangor, Pen Argyl

Episcopal Apartments of Slate Belt, Bangor

Slate Belt Senior Center, Bangor

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

Washington Elementary School, Bangor

1. **Economy**

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

Numerous food and hardware stores and financial institutions at:

Capital Plaza

Bangor Plaza

Blue Valley Plaza

512 Plaza

1. **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.

Freshwater Forested / Shrub Wetlands:

Approximately 20.87 acres (PF01A) at Locke Heights area

Approximately 17.35 acres (PF01A / SS1A) at Richmond area

1. **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.

None

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

Nestle Waters spring water source, Bangor

Cellular Towers – AT&T, Bangor & Verizon, Bangor

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

Tolino’s Fuel, Bangor

Biospectra, Bangor

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

Bangor Health Center, Pen Argyl

Slate Belt Nursing, Bangor

Washington Township Police / Administration, Bangor

Washington Township Fire Company, Bangor

Washington Elementary School, Bangor

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

None

**Capability Assessment**

| **Capability** | * **Regulatory** * **Tools** * **Programs** | **Status** | | | **Department /**  **Agency**  **Responsible** | **Effect on Hazard Loss Reduction:**  **-Supports**  **-Neutral**  **-Hinders** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **Has the 2018 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 |  |  |  |  |  |  |  |  |  |
| Capital Improvement Plan |  |  |  |  |  |  |  |  |  |
| Economic Development Plan |  |  |  |  |  |  |  |  |  |
| Continuity of Operations Plan |  |  |  |  |  |  |  |  |  |
| Stormwater Management Plan / Ordinance | X | 9/2009 |  |  | Township Engineer |  | N/A |  |  |
| Open Space Management Plan (or Parks/Rec., Greenways Plan) | X | 9/2009 |  |  |  |  | N/A |  |  |
| Natural Resource Protection Plan |  |  |  |  |  |  |  |  |  |
| Transportation Plan |  |  |  |  |  |  |  |  |  |
| Historic Preservation Plan |  |  |  |  |  |  |  |  |  |
| Floodplain Management Plan | X | 10/2011 |  | Zoning |  |  | N/A |  |  |
| Farmland Preservation |  |  |  |  |  |  |  |  | Through Northampton County |
| Evacuation Plan |  |  |  |  |  |  |  |  |  |
| Disaster Recovery Plan |  |  |  |  |  |  |  |  |  |
| Hazard Mitigation Plan | X | 2018 |  |  |  |  | N/A |  |  |
| Emergency Operations Plan | X | 6/2018 |  | Northampton County EMA |  |  | N/A |  |  |
| Zoning Regulations | X | 10/2011 |  | Zoning |  |  | N/A |  |  |
| Floodplain Regulations | X | 10/2011 |  | Zoning |  |  | N/A |  |  |
| NFIP Participation | X | 2001 |  | Zoning |  |  | N/A |  |  |
| Building Code |  |  |  |  |  |  |  |  | Statewide building code, 3rd party |
| Fire Code |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Capability** | * **Staff** * **Personnel** * **Resources** | **Yes** | **No** | **Department / Agency** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **How can these capabilities be expanded and improved to reduce risk?** | **Additional Comments** |
| **2. Administrative & Technology** | Planners (with land use / land development knowledge) | X |  | 3rd party | N/A |  |  |
| Planners or engineers (with natural and / or human-caused hazards knowledge) | X |  | 3rd party | N/A |  |  |
| Engineers or professionals trained in building and / or infrastructure construction practices (including building inspectors) | X |  | 3rd party | N/A |  | Township Engineer does not perform building inspections. |
| Emergency Manager | X |  | Board of Supervisors | N/A |  |  |
| Floodplain administrator / manager | X |  | 3rd party | N/A |  |  |
| Land surveyors | X |  | Board of Supervisors | N/A |  | Township Engineer |
| Staff familiar with the hazards of the community | X |  |  | N/A |  |  |
| Personnel skilled in Geographical Information Systems (GIS) and / or FEMA’s HAZUS program | X |  |  | N/A |  |  |
| Grant writers or fiscal staff to handle large / complex grants |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |
| **3. Financial Resources** | Capital improvement programming |  |  |  |  |  |  |
| Community Development Block Grants (CDBG) |  |  |  |  |  | Township does not qualify. |
| Special purposes taxes |  |  |  |  |  |  |
| Gas / Electricity utility fees |  |  |  |  |  |  |
| Water / Sewer fees |  |  |  |  |  |  |
| Stormwater utility fees |  |  |  |  |  |  |
| Development impact fees |  |  |  |  |  |  |
| General obligation, revenue, and / or special tax bonds |  |  |  |  |  |  |
| Partnering arrangements or intergovernmental agreements |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Capability** | * **Staff** * **Personnel** * **Resources** | **Yes** | **No** | **Department / Agency** | **Change since 2018 Plan?**  **+ Positive**  **- Negative** | **How can these capabilities be expanded and improved to reduce risk?** | **Additional Comments** |
| **4. Education & Outreach** | Firewise Communities Certification |  |  |  | N/A |  |  |
| StormReady Certification |  |  |  | N/A |  |  |
| Natural disaster or safety-related school programs |  |  |  | N/A |  |  |
| Ongoing public education or information programs such as, responsible water use, fire safety, household preparedness, and environmental education. |  |  |  | N/A |  |  |
| Public-private partnership initiatives addressing disaster related issues. |  |  |  | N/A |  |  |
| Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. |  |  |  | N/A |  |  |
| Other |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Capability** |  | **Degree of Capability** | | | **Change since the 2018 Hazard Mitigation Plan?**  **If so, how?** | **Additional Comments** |
| **Limited** | **Moderate** | **High** |
| **5. Self – Assessment** | Planning and Regulatory |  |  | X | No |  |
| Administrative and Technical |  | X |  | No |  |
| Financial | X |  |  | No |  |
| Education and Outreach | X |  |  | No |  |

**Known or Anticipated Future Development / Redevelopment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Development /**  **Property Name** | **Type of Development** | **Number of Structures** | **Location** | **Known Hazard Zone** | **Description / Status** |
| N/A |  |  |  |  |  |

**Natural & Non-Natural Event History Specific to Alburtis Borough**

|  |  |  |
| --- | --- | --- |
| **Type of Event and Date(s)** | **FEMA Disaster #**  **(if applicable)** | **Local Damage(s) or Loss(es)** |
| Winter Storm Jonas – 1/2016 | DR-4267-PA | Heavy snow removal – labor, materials, equipment and damage: $15,152.69 |
| Pennsylvania COVID-19 Pandemic – 1/2020 | DR-4506-PA | Emergency Protective measures to combat COVID-19 Pandemic. |
| Remnants of Hurricane Ida | DR-4618-PA | Assistance to eligible individuals and families affected by this disaster. |

**2018 Municipal Action Plan Status**

| **Existing Mitigation Action**  **(from 2018 Hazard Mitigation Plan)** | | **Status** | | | | | **Additional Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No Progress /**  **Unknown** | **In Progress** | **Continuous** | **Completed** | **Discontinued** |
| **1** | 500 Bangor Junction Road Stormwater Upgrades - Install additional storm sewer piping under the abandoned railroad bed to allow downstream flow. This will eliminate the damming causing the flooding condition, which requires closing of the road. Will eliminate flooding the access to 500 Bangor Junction Road. (1 residential). Will reduce the need for Township Road crew to place road closure signs and reduce the need for the Township Police and Fire Department from doing traffic control at this site. | X |  |  |  |  | No progress |
| **2** | 300 Block of American Bangor Road Stormwater Upgrades - Install additional or larger storm sewer piping to allow the storm water to flow to the south side of American Bangor Road without toping over the roadway. Clear vegetation and trees, excavate and clean the roadside swales on the north side of American Bangor Road to allow more volume of water to remain within the swale.  This will eliminate the flooding condition, which requires closing of the road. Will reduce the need for Township Road crew to place road closure signs and reduce the need for the Township Police and Fire Department from doing traffic control at this site. | X |  |  |  |  | No progress |
| **3** | Storm sewers at Elm Avenue; 700 block Rutt Road; 2500 block of Ackermanville Road; and 200 block Oak Road – Install catch basins and storm sewer piping. This will eliminate the need for street clean up and street repair after flooding or sever rain. This will also eliminate the flooding condition specific to 726 Rutt Road. | X |  |  |  |  | No progress |
| **4** | 300 Block of Flicksville Road Stormwater Upgrades - Install catch basins and storm sewer piping to discharge the low-lying area to the Martins Creek. This will eliminate the flooding condition, which requires closing of the road. Will eliminate the flooding of 302, 304 and 311 Flicksville Road (3 residential). Will reduce the need for Township Road crew to place road closure signs and reduce the need for the Township Police and Fire Department from doing traffic control at this site. | X |  |  |  |  | No progress |
| **5** | Riprap installation at 1st block of Brodt Road, and 1st block of Mack Road – These are problem areas with road shoulder wash outs during flooding or sever rain events. This would disperse the energy of the water and eliminate road repairs. | X |  |  |  |  | No progress |
| **6** | 600-700 block of Washington Blvd (Route 191) Mitigation - Fill the eroded area on the south side of Washington Blvd (Route 191) caused by the topping over of the Waltz Creek. This will eliminate the flooding condition, which requires closing of the road. Will keep the Waltz Creek within its banks & potentially prevent the flooding of 625, 630 & 636 Washington Blvd. (2 residential and 1 business). Will reduce the need for PennDOT to place road closure signs& reduce / eliminate the need for the Township Police & Fire Department from doing traffic control at this site. Provide for safe travel to the general public.  PennDOT would need to obtain permission from the property owner to place fill on the site. The Township may assist by providing some fill. PennDOT would need to provide equipment & manpower for the final grading and stabilization of the fill. | X |  |  |  |  | No progress |
| **7** | Hahn Road Reconstruction & Stormwater Upgrades - Road reconstruction, replace existing storm sewer piping with larger pipes & install additional catch basins & storm sewer piping to handle the volume of storm water. This will eliminate the erosion & washouts. Will reduce the continuous restoration required by the Twp. Road crew after rain events. | X |  |  |  |  | No progress |
| **8** | 800 Block of Rutt Road Stormwater Upgrades - Installation of larger storm sewer pipes to carry the volume of water, preventing the toping over of the upstream inlet during heavy rain events & washouts within Washington Township & the Borough of Bangor.  This would reduce the potential of flooding of 35+ residential units & 3 businesses & eliminate extensive restoration by the Bangor Borough & Washington Twp. road crews. This will eliminate the flooding condition, which requires closing of the road. Will reduce the need for Bangor Borough & Washington Twp. Road crews to place road closure signs & reduce the need for the Bangor Borough & Washington Twp. Police & Fire Departments from doing traffic control at this site. | X |  |  |  |  | No progress |
| **9** | 1100 block of Mt Pleasant Road Stream Channel Restoration - Will eliminate road flooding due to the stream flow diversion from previous storm events. Restoring all of the stream flow to the existing pipe under the roadway. This will eliminate the flooding condition, which requires closing of the road. Will reduce the need for Twp. Road crew to place road closure signs & clean-up & reduce the need for the Washington Twp. Police & Fire Departments from doing traffic control at this site. | X |  |  |  |  | No progress |
| **10** | 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 |  |  |  |  | No progress |
| **11** | 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 |  |  |  |  | No progress |
| **12** | 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 as below. |  |  | X |  |  |  |
| **13** | 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 |  |  |  |  |  |
| **14** | Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements). | X |  |  |  |  | No progress |
| **15** | Determine if a Community Assistance Visit (CAV) or Community Assistance Contact  (CAC) is needed, and schedule if needed. | X |  |  |  |  | No progress |
| **16** | 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. | X |  |  |  |  | No progress |
| **17** | 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 |  |  |  |  | No progress |
| **18** | Obtain and archive elevation certificates for NFIP compliance. |  |  | X |  |  |  |
| **19** | Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0. |  |  | X |  |  |  |
| **20** | Complete the ongoing updates of the Comprehensive Emergency Management Plans. |  |  | X |  |  |  |
| **21** | Create/enhance/ maintain mutual aid agreements with neighboring communities for continuity of operations. |  |  | X |  |  |  |
| **22** | 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. | X |  |  |  |  | No progress |
| **23** | 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 |  |  |  |  | No progress |

**Notes:**

1. Actions not carried through to the 2023 Action Plan are so noted.
2. To maintain National Flood Insurance Program (NFIP) compliance, actions related to the NFIP were carried through to the 2023 Action Plan even if identified by the municipality as completed.

**2023 Mitigation Action Plan**

| **Mitigation Action** | | **Mitigation Action Category** | **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** | 500 Bangor Junction Road Stormwater Upgrades - Install additional storm sewer piping under the abandoned railroad bed to allow downstream flow. This will eliminate the damming causing the flooding condition, which requires closing of the road. Will eliminate flooding the access to 500 Bangor Junction Road. (1 residential). Will reduce the need for Township Road crew to place road closure signs and reduce the need for the Township Police and Fire Department from doing traffic control at this site. | 15 | Structure & Infrastructure | Flood | Medium | Low | FEMA  Mitigation  Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **2** | 300 Block of American Bangor Road Stormwater Upgrades - Install additional or larger storm sewer piping to allow the storm water to flow to the south side of American Bangor Road without toping over the roadway. Clear vegetation and trees, excavate and clean the roadside swales on the north side of American Bangor Road to allow more volume of water to remain within the swale.  This will eliminate the flooding condition, which requires closing of the road. Will reduce the need for Township Road crew to place road closure signs and reduce the need for the Township Police and Fire Department from doing traffic control at this site. | 15 | Structure & Infrastructure | Flood | Medium | Medium | FEMA  Mitigation  Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **3** | Storm sewers at Elm Avenue; 700 block Rutt Road; 2500 block of Ackermanville Road; and 200 block Oak Road – Install catch basins and storm sewer piping. This will eliminate the need for street clean up and street repair after flooding or sever rain. This will also eliminate the flooding condition specific to 726 Rutt Road. | 15 | Structure & Infrastructure | Flood | Medium | Medium | FEMA  Mitigation  Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **4** | 300 Block of Flicksville Road Stormwater Upgrades - Install catch basins and storm sewer piping to discharge the low-lying area to the Martins Creek. This will eliminate the flooding condition, which requires closing of the road. Will eliminate the flooding of 302, 304 and 311 Flicksville Road (3 residential). Will reduce the need for Township Road crew to place road closure signs and reduce the need for the Township Police and Fire Department from doing traffic control at this site. | 15 | Structure & Infrastructure | Flood | Medium | Medium | FEMA  Mitigation Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **5** | Riprap installation at 1st block of Brodt Road, and 1st block of Mack Road – These are problem areas with road shoulder wash outs during flooding or sever rain events. This would disperse the energy of the water and eliminate road repairs. | 15 | Structure & Infrastructure | Flood | Medium | Medium | FEMA  Mitigation Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **6** | 600-700 block of Washington Blvd (Route 191) Mitigation - Fill the eroded area on the south side of Washington Blvd (Route 191) caused by the topping over of the Waltz Creek. This will eliminate the flooding condition, which requires closing of the road. Will keep the Waltz Creek within its banks & potentially prevent the flooding of 625, 630 & 636 Washington Blvd. (2 residential and 1 business). Will reduce the need for PennDOT to place road closure signs& reduce / eliminate the need for the Township Police & Fire Department from doing traffic control at this site. Provide for safe travel to the general public.  PennDOT would need to obtain permission from the property owner to place fill on the site. The Township may assist by providing some fill. PennDOT would need to provide equipment & manpower for the final grading and stabilization of the fill. | 15 | Structure & Infrastructure | Flood;  Transportation Accident | Medium | Low | PennDOT | PennDOT,  with support from  Washington Township | Short-term  (depending on funding) | Existing |
| **7** | Hahn Road Reconstruction & Stormwater Upgrades - Road reconstruction, replace existing storm sewer piping with larger pipes & install additional catch basins & storm sewer piping to handle the volume of storm water. This will eliminate the erosion & washouts. Will reduce the continuous restoration required by the Twp. Road crew after rain events. | 15 | Structure & Infrastructure | Flood;  Transportation Accident | Medium | Medium | FEMA  Mitigation Grant  Funding;  Township Budget | Township | Long-term  (depending on funding) | Existing |
| **8** | 800 Block of Rutt Road Stormwater Upgrades - Installation of larger storm sewer pipes to carry the volume of water, preventing the toping over of the upstream inlet during heavy rain events & washouts within Washington Township & the Borough of Bangor.  This would reduce the potential of flooding of 35+ residential units & 3 businesses & eliminate extensive restoration by the Bangor Borough & Washington Twp. road crews. This will eliminate the flooding condition, which requires closing of the road. Will reduce the need for Bangor Borough & Washington Twp. Road crews to place road closure signs & reduce the need for the Bangor Borough & Washington Twp. Police & Fire Departments from doing traffic control at this site. | 15 | Structure & Infrastructure | Flood;  Transportation Accident | Medium | High | FEMA  Mitigation Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **9** | 1100 block of Mt Pleasant Road Stream Channel Restoration - Will eliminate road flooding due to the stream flow diversion from previous storm events. Restoring all of the stream flow to the existing pipe under the roadway. This will eliminate the flooding condition, which requires closing of the road. Will reduce the need for Twp. Road crew to place road closure signs & clean-up & reduce the need for the Washington Twp. Police & Fire Departments from doing traffic control at this site. | 20 | Natural Systems Protection | Flood;  Transportation Accident | Medium | High | FEMA  Mitigation Grant  Funding;  Township Budget | Township | Short-term  (depending on funding) | Existing |
| **10** | 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. | 1 | Structure & Infrastructure | Flood | 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 |
| **11** | 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. | 2 | Structure & Infrastructure | Flood | 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 |
| **12** | 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 as below. | 3 | 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 |
| **13** | 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. | 4 | Education  & Awareness | All Hazards | High | Low-  Medium | Municipal Budget | Municipality with support  from Planning Partners,  PEMA, FEMA | Short-term | N/A |
| **14** | Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements). | 5 | Local plans  & Regulations | Flood | High | Low | Municipal Budget | Municipality  (via Municipal  Engineer/NFIP Floodplain  Administrator) with support from PEMA,  FEMA | Short-term | New &  Existing |
| **15** | Determine if a Community Assistance Visit (CAV) or Community Assistance Contact  (CAC) is needed, and schedule if needed. | 3 | Local plans  & Regulations | Flood | High | Low | Municipal Budget | NFIP  Floodplain  Administrator with support  from PA DEP,  PEMA, FEMA | Short-term | N/A |
| **16** | 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. | 6 | Local plans  & Regulations | Flood | Medium | Low | Municipal Budget | NFIP | Short-term | N/A |
| **17** | 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. | 7 | Local plans  & Regulations | Flood | High | Low | Municipal Budget | NFIP  Floodplain  Administrator with support  from PA DEP,  PEMA, FEMA | Short-term | N/A |
| **18** | Obtain and archive elevation certificates for NFIP compliance. | 8 | Local plans  & Regulations | Flood | Low | Low | Municipal Budget | NFIP  Floodplain  Administrator | Ongoing | N/A |
| **19** | Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0. | 9 | 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)  with support  from Planning  Partners  (through their Points of  Contact),  PEMA | Ongoing | New &  Existing |
| **20** | Complete the ongoing updates of the Comprehensive Emergency Management Plans. | 10 | Local plans  & Regulations | All Hazards | Medium | Low | Municipal Budget | Municipality with support from PEMA | Ongoing | New &  Existing |
| **21** | Create/enhance/ maintain mutual aid agreements with neighboring communities for continuity of operations. | 11 | All  Categories | All Hazards | Medium | Low | Municipal Budget | Municipality with support from  surrounding  municipalities and County | Ongoing | New &  Existing |
| **22** | 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. | 12 | Education  & Awareness | All Hazards | Low | Medium | Municipal Budget | Municipality with support  from County,  PEMA, FEMA | Short-term | N/A |
| **23** | 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). | 13 | 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 |

**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 andCommunities
* **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