



## 9.5 Township of Blirstown

This section presents the jurisdictional annex for the Township of Blirstown.

### 9.5.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Nick Mohr, OEM Coordinator 106 Route 94, Blirstown, NJ 07825 (973) 271-8617 <a href="mailto:emc@readyblirstown.org">emc@readyblirstown.org</a>	Herman Shoemaker, Mayor 106 Route 94, Blirstown, NJ 07825 (908) 303-2340 <a href="mailto:hshoemaker@blirstowntwp-nj.com">hshoemaker@blirstowntwp-nj.com</a>

### 9.5.2 Municipal Profile

The Township of Blirstown is located in northern Warren County and surrounded to the north and west by Hardwick Township, to the south by the Townships of Knowlton and Hope, and to the west by the Township of Frelinghuysen. Waterbodies located in the Township include: Jacksonburg Creek, Blair Creek, and Paulins Kill. Several unincorporated communities lie within the Township and include: Blirstown, Blair Lake, Cedar Lake, Cooks Pond, Jacksonburg, Kalaroma, Lake Susquehanna, Mount Vernon, Paulina, Vail, and Walnut Valley. According to the U.S. Census, the 2010 population for Township of Blirstown was 5,967.

### Growth/Development Trends

The Township of Blirstown did not note any recent residential/commercial development since 2010 or any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

### 9.5.3 Natural Hazard Event History Specific to the Municipality

Warren County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community.

Information regarding specific damages at the municipal level, is presented in the table below. This summary is based on reference material or local sources. For further details on these and additional events, refer to Volume I, Section 5.0 of this plan.



**Table 9.5-1. Hazard Event History**

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	Hurricane Irene led to evacuations and the opening of a shelter in the Township. There were widespread power outages and road closures throughout. There were roadway damages due to flooding. An emergency berm was placed at Paulina Dam at Footbridge Park where a bank of the river washed away which impacted the footbridge. Additionally, homes and business were flooded in the Township. Public Assistance was requested. Other losses to the Township included police and DPW overtime and debris removal.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	Tropical Storm Lee led to evacuations in the Township. There were road closures, flooding, power outages, and downed wires and trees. The basement of the elementary school flooded, destroying the furnace. There was also debris removal needed. Other losses included overtime for police and DPW.
October 29, 2011	Severe Storm	DR-4048	Yes	This event caused road closures, downed trees and debris. Public assistance was requested. Losses to the Township included overtime for police and DPW.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	Hurricane Sandy caused township-wide power outages and road closures. There were downed trees and wires, and flooding. Evacuations and search and rescues were conducted in the Township. The alarm system at the municipal building was damaged. Many homes had minor damage from fallen tree branches; with some experiencing major damage. Public Assistance was requested. Other losses to the Township included police and DPW overtime, debris removal, and dumpster for residential cleanup.

**9.5.4 Hazard Vulnerabilities and Ranking**

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The risk ranking methodology is presented in Section 5.3. However, each municipality had the opportunity to adjust the final ranking based on municipal feedback. The following summarizes the hazard vulnerabilities and their ranking in the Township of Blirstown. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.



### Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Blairstown.

**Table 9.5-2. Hazard Risk/Vulnerability Risk Ranking**

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Dam Failure	Damage estimate not available	Occasional	24	Medium
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0	Occasional	28	Medium
	500-Year GBS: \$316,035			
	2,500-Year GBS: \$4,661,439			
Flood	1% Annual Chance: \$32,416,660	Frequent	18	High
Geologic	RCV Exposed to Carbonate Rock Areas: \$416,057,276	Occasional	36	High
	100-year MRP: \$229,869.00			
Hurricane	500-year MRP: 863531	Frequent	48	High
	Annualized: \$17,634.00			
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Storm	100-Year MRP: \$229,869	Frequent	48	High
	500-year MRP: \$863,531			
	Annualized: \$17,634			
Severe Winter Storm	1% GBS: \$4,943,197	Frequent	51	High
	5% GBS: \$24,715,984			
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$35,430,250	Frequent	24	Medium
Hazardous Materials	Damage estimate not available	Frequent	36	High

**Notes:**

GBS = General building stock; MRP = Mean return period.

- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. High = Total hazard priority risk ranking score of 31 and above  
 Medium = Total hazard priority risk ranking of 20-30+  
 Low = Total hazard risk ranking below 20
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 2.2 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the geologic and wildfire hazards, the improved value and estimated contents of buildings located within the identified hazard zones is provided.



### National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Blairstown.

**Table 9.5-3. NFIP Summary**

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Blairstown, Township of	58	82	\$1,030,809	13	1	36

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of December 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. Number of claims includes open and closed claims. The number of claims represents claims closed by 12/31/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

Note (5) A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.

### Critical Facilities

The table below presents the number of critical facilities, by type, in the community located in the effective FEMA flood zones (1% and 0.2% annual chance boundaries).

**Table 9.5-4. Number of Critical Facilities in the DFIRM 1% and 0.2% Annual Chance Flood Boundaries**

Municipality	1% Annual Chance					0.2% Annual Chance				
	EOC	EMS	Fire	Gas Station	Shelter	EOC	EMS	Fire	Gas Station	Shelter
Blairstown, Township of	2	1	1	1	1	2	1	1	1	1

Source: Warren County, FEMA 2011

### Other Vulnerabilities Identified by Municipality

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. Further, mitigation projects have been identified that may more specifically detail vulnerabilities in the community. There are no additional vulnerabilities identified at this time.



### 9.5.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

#### Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Blairstown.

**Table 9.5-4. Planning and Regulatory Tools**

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
<b>Planning Capability</b>				
Master Plan	Yes	local	Planning Board	Blairstown Township Master Plan
Capital Improvements Plan	No			
Floodplain Management / Basin Plan	Yes	Local	Land Use Board	Blairstown LDO 19-604
Stormwater Management Plan	Yes	local	Township Engineer	Stormwater Ordinance
Open Space Plan	Yes	Local	Open Space Committee	
Stream Corridor Management Plan	Yes	Local	Board/ Engineering	Blairstown LDO 19-604
Watershed Management or Protection Plan	Yes	Local	Board/ Engineering	Blairstown LDO 19-604
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	County and Local	OEM	Emergency Operations Plan (EOP)
Emergency Response Plan	Yes	Local		Emergency Operations Plan (EOP)
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:				
<b>Regulatory Capability</b>				
Building Code	Yes	State & Local		State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning Officer	Blairstown LDO 19-1002C
Subdivision Ordinance	yes	Local	Land Use Board	Blairstown Land Development Ordinance



**Table 9.5-4. Planning and Regulatory Tools**

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Zoning Officer/CFM	Blairstown Article III
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local		
Growth Management Ordinances	No			
Site Plan Review Requirements	yes	Local	Planning Board	Blairstown LDO
Stormwater Management Ordinance	yes	Local	Township Engineer	Blairstown LDO 19-502
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No			
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	n/a			

**Administrative and Technical Capability**

The table below summarizes potential staff and personnel resources available to the Township of Blairstown.

**Table 9.5-5. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Land Use Board
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Blairstown Township Environmental Commission
Open Space Board/Committee	Yes	Township committee
Economic Development Commission/Committee	Yes	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Blairstown Fire company/ Ambulance Corps
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Professional Services – Township Planner and township Engineer/ Land Use Board Engineer
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Township Engineer and Construction Code Official



**Table 9.5-5. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Planners or engineers with an understanding of natural hazards	Yes	Township Engineer
NFIP Floodplain Administrator	Yes	David Diehl
Surveyor(s)	Yes	Professional Services – Professional Land Surveyor
Personnel skilled or trained in GIS and/or Hazus-MH applications	No	
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Nick Mohr
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	Yes	Township Engineer, Construction Code Official and DPW

**Fiscal Capability**

The table below summarizes financial resources available to the Township of Blairstown.

**Table 9.5-6. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community development Block Grants (CDBG, CDBG-DR)	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	No
User fees for water, sewer, gas or electric service	No
Impact Fees for homebuyers or developers of new development/ homes	No
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	No
Other	

**Education/Outreach and Community Classifications**

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to the Township of Blairstown.



Table 9.5-7. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Class I	
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	ISO 1-10	2015
Storm Ready	No		
Firewise	No		
Disaster/Safety Programs in/for Schools			
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	No		
Public-Private Partnerships	No		

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>



### Self-Assessment of Capability

The table below provides an approximate measure of the Township of Blirstown’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.5-8. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability		X	
Administrative and Technical Capability		X	
Fiscal Capability	X Limited resources for funding		
Community Political Capability		X	
Community Resiliency Capability		X	
Capability to Integrate Mitigation into Municipal Processes and Activities.	X No experience in this to date		

### National Flood Insurance Program

#### NFIP Floodplain Administrator (FPA)

David Diehl, CFM, Zoning Officer

#### Flood Vulnerability Summary

The Township does not maintain lists/inventories of properties that have been flooded. During Sandy, there were no structures damaged and Substantial Damage estimates were not made or declared. There is currently one property interested in mitigation in the Township. However, funding sources for this property is not available at this time.

#### Resources

In general, the FPA is the sole person assuming the roles and responsibilities of the Township floodplain administrator. However, the responsibilities do include reaching out to others, including board professionals during site plan review, emergency personnel, and the DPW. NFIP administration services and functions provided to the Township include permit review for new structures, building and use(s) along with relocation verses repair/rebuild. The Township does not really provide any form of education or outreach to the community regarding flood hazards/risk or flood risk reduction. There are barriers to running an effective program that includes personnel, time and money. The FPA indicated that he feels adequately supported and trained to fulfill his role as the FPA. He is a Certified Floodplain Management (CFM) and takes continuing education courses. He would consider attending additional courses and trainings if offered in the County.

#### Compliance History

The Township is currently in good standing with the NFIP. It is unknown when the last compliance audit was conducted.





### Regulatory

The Township's floodplain management regulations/ordinances exceed the FEMA and state minimum requirements. This includes Blirstown LDO 19-304 Critical Area Maps, 19-604F Prohibited Use Floodplain Areas, and Chapter 99 (Earth Removal).

### Community Rating System

The Township of Blirstown does not participate in the Community Rating System (CRS) program. The Township has considered joining and would attend a CRS seminar it offered locally.

### Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

### Planning

The Township has a master plan that incorporates hazard risk/mitigation into the plan. The Township also has a stormwater management plan and ordinance and a transportation plan.

### Regulatory and Enforcement (Ordinances)

The Township has multiple ordinances pertaining to the mitigation of hazards. These ordinances include the NFIP Flood Damage Prevention Ordinance, a stormwater management ordinance, a snow and ice removal ordinance, soil removal ordinance and stream buffer ordinance. When updating the ordinances, hazard mitigation is a priority.

Prior to land use, zoning changes or development permitting, the Township reviews the HMP and other hazard analysis to ensure consistent and compatible land use within the community. The Township encourages consideration for low occupancy, low-density zoning in hazard areas and limits development in high hazard areas. Additionally, the permit review process in the Township includes addressing hazards. Rezoning procedures in the Township also recognize hazard areas as limits on zoning changes.

### Operational and Administration

The Township has established a Land Use Board, Environmental Commission, and Open Space Committee that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features. The Township also has practices in place to protect infrastructure, which includes the following: **CAN THE TWP PROVIDE THESE PRACTICES (This was noted on the planning integration worksheet #5)?**

### Funding

**Have you used any local (capital funds or municipal budget), state or FEMA funds for mitigation projects in the past?**

### Education and Outreach

The Township posts information regarding emergency events on its website homepage.



### 9.5.6 Mitigation Strategy and Prioritization

---

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

#### Past Mitigation Initiative Status

---

The following table indicates progress on the community’s mitigation strategy identified in the 2011 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.

DRAFT



Table 9.5-9. Past Mitigation Initiative Status

2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	Next Step (Include in 2016 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
Blirstown 1: Acquisition/elevation of two Repetitive Loss (RL) properties on Bridge Street.	Township OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured.	Include in 2016 HMP	Acquisition/elevation of two Repetitive Loss (RL) properties on Bridge Street.
Blirstown 2: Acquisition/elevation of two RL properties on Main Street.	Township OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Applied for grant to acquire one of the RL property through HMGP grant included in multi county grant application 2. Acquisition/elevation of one other RL property on Main Street.
Blirstown 3: Acquisition/elevation of one RL property on Carhart Street.	Township OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	
Blirstown 4: Acquisition/elevation of one RL property on East Avenue	Township OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	
Blirstown 5: Acquisition/elevation of one RL property on Vail Street.	Township OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	
Blirstown 6: Conduct inundation study of the Blair Falls Dam located on Blair Academy grounds.	Township OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	The Township does not have the authority to conduct study, it is owned by a private school.
Blirstown 7: Elevate utilities in 50 homes and businesses in flood	Township OEM	No Progress	1. 0% complete	Include in 2016 HMP	1. 2.



2010 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Describe Status 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g, FEMA HMGP grant, local budget)?	Next Step (Include in 2016 HMP? or Discontinue)	Describe Next Step 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
prone areas: Bridge Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.			2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured		
Blairstown 8: Install backflow suppressors in current storm-water management system along Route 94.	Department of Public Works (DPW) Supervisor	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	The Township does not have the authority to install suppressors, it is owned by the State.
Blairstown 9: Berm construction along Paulinskill River at Paulinskill Fields.	DPW Supervisor	No Progress	1. 0% complete 2 Environmental Concerns kept this from moving forward	Discontinue	It is not environmentally practical.
Blairstown 10: Flood-proofing of the Blairstown Elementary School.	School Board Administrator	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Discontinue	The Township does not have the authority to do this, it is owned by the Board of Education.
Blairstown 11: Conduct all hazards public education and outreach program for hazard mitigation and preparedness.	WCOEM, TWP OEM	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	Continue to do outreach and education for hazard mitigation and preparedness.



### **Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy**

The Township has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2011 Plan:

- Moving the Blairstown Ambulance Corps out of the floodplain - Blairstown Township donated the land for the building. Blairstown Ambulance Corps secured donations and mortgage to build the building
- Generator for municipal building and Blairstown Water Utility building – applied for the HMGP grant

### **Proposed Hazard Mitigation Initiatives for the Plan Update**

The Township participated in a mitigation action workshop in March 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013). In May 2015, the Borough participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.5-10 summarizes the comprehensive-range of specific mitigation initiatives the Borough would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ Table 9.5-11 summarizes the evaluation of each mitigation initiative, listed by Action Number.



Table 9.5-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Blirstown-1	Incorporate hazard resistant construction standards into the design and location of projects.	New	All	All	Township Committee	Medium	Low	Municipal Budget	Ongoing	Medium	EAP, LPR	PI, PR
Blirstown-2	Establish safe growth practices within the Township.	N/A	All	All	Township Committee	Medium	Low	Municipal Budget	Ongoing	Medium	EAP, LPR	PI, PR
Blirstown-3	Purchase and install permanent generators for critical infrastructure in the Township, including the municipal building	Existing	All	1, 2, 5, 6	OEM, Engineer	Medium	Medium to High	HMGP with local cost share	Short Term / DOF	High	SIP	PP
Blirstown-4	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable. The areas to concentrate on include: Bridge Street, Main Street, Carhart Street, East Avenue, and Vail Street. Phase 1: Identify appropriate candidates and determine most cost-effective mitigation option (in progress). Phase 2: Work with the property owners to implement selected action based on available funding and local match availability.											
	See above.	Existing	All		Engineering via NFIP FPA with NJOEM, FEMA support	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Ongoing (outreach and specific project identification); Long term DOF (specific project application and implementation)	High	SIP	PP
Blirstown-5	Conduct inundation study of the Blair Falls Dam located on Blair Academy grounds.	Existing	Dam Failure, Flood	1, 2, 3	Township OEM	Medium	Low	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Blirstown-6	Elevate utilities in 50 homes and businesses in flood prone areas: Bridge Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.	Existing	Flood, Severe Weather	1, 2, 5, 6	Township OEM, Engineer	Medium	Medium to High	HMGP with Local Cost Share	Short Term / DOF	Medium	SIP	PP
Blirstown-7	Install backflow suppressors in current storm-water management system along Route 94.	Existing	Flood, Severe Weather, Severe Winter Weather	1, 2, 6	DPW Supervisor, Engineer	Medium	Medium to High	HMGP with Local Cost Share	Short Term / DOF	Medium	SIP	PP





Table 9.5-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Blairstown-8	Berm construction along Paulinskill River at Paulinskill Fields.	Existing	Flood, Severe Weather	1, 2, 6	DPW Supervisor, Engineer	Medium	Medium to High	HMGP with Local Cost Share	Short Term / DOF	Medium	SIP	PP
Blairstown-9	Flood-proofing of the Blairstown Elementary School.	Existing	Flood, Severe Weather	1, 2, 6	School Board Administrator, Engineer	Medium	Medium to High	HMGP with Local Cost Share	Short Term / DOF	Medium	SIP	PP
Blairstown-10	Conduct all hazards public education and outreach program for hazard mitigation and preparedness.	N/A	All	All	WCOEM, Township OEM	Medium	Low	Municipal Budget	Short Term / DOF	Medium	EAP	PI

**Notes:**

Not all acronyms and abbreviations defined below are included in the table.

\*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

**Acronyms and Abbreviations:**

- |      |                                     |       |   |
|------|-------------------------------------|-------|---|
| CRS  | Community Rating System             | N/A   | Not applicable                                    |
| DPW  | Department of Public Works          | NFIP  | National Flood Insurance Program                  |
| FEMA | Federal Emergency Management Agency | NJDEP | New Jersey Department of Environmental Protection |
| FPA  | Floodplain Administrator            | NJOEM | New Jersey Office of Emergency Management         |
| HMA  | Hazard Mitigation Assistance        | OEM   | Office of Emergency Management                    |

**Potential FEMA HMA Funding Sources:**

- FMA Flood Mitigation Assistance Grant Program
- HMGP Hazard Mitigation Grant Program
- PDM Pre-Disaster Mitigation Grant Program
- HMA Hazard Mitigation Assistance Program

**Timeline:**

- Short 1 to 5 years
- Long Term 5 years or greater
- OG On-going program
- DOF Depending on funding

**Costs:**

Where actual project costs have been reasonably 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.

**Benefits:**

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

- Low= < \$10,000
- Medium \$10,000 to \$100,000
- High > \$100,000

Where numerical project benefits cannot reasonably be established at this time:

- Low Long-term benefits of the project are difficult to quantify in the short term.





Costs:

- 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.

Benefits:

- Medium** Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
- High** Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- **Local Plans and Regulations (LPR)** – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- **Structure and Infrastructure Project (SIP)**- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- **Natural Systems Protection (NSP)** – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- **Education and Awareness Programs (EAP)** – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- **Preventative Measures (PR)** - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- **Property Protection (PP)** - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- **Public Information (PI)** - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- **Natural Resource Protection (NR)** - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- **Structural Flood Control Projects (SP)** - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- **Emergency Services (ES)** - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities



Table 9.5-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Blairstown-1	Incorporate hazard resistant construction standards into the design and location of projects.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Blairstown-2	Establish safe growth practices within the Township.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Blairstown-3	Purchase and install permanent generators for critical infrastructure in the Township, including the municipal building	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
Blairstown-4	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable.	1	1	1	1	0	0	0	0	1	1	1	1	0	0	8	High
Blairstown-5	Conduct inundation study of the Blair Falls Dam located on Blair Academy grounds.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Blairstown-6	Elevate utilities in 50 homes and businesses in flood prone areas: Bridge Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium
Blairstown-7	Install backflow suppressors in current storm-water management system along Route 94.	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium





Table 9.5-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Blirstown-8	Berm construction along Paulinskill River at Paulinskill Fields.	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium
Blirstown-9	Flood-proofing of the Blirstown Elementary School.	1	1	1	1	0	0	0	0	0	1	1	1	0	0	7	Medium
Blirstown-10	Conduct all hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.





---

### 9.5.7 Future Needs To Better Understand Risk/Vulnerability

---

None at this time.

### 9.5.8 Hazard Area Extent and Location

---

Hazard area extent and location maps have been generated for the Township of Blirstown that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Blirstown has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

### 9.5.9 Additional Comments

---

None at this time.

DRAFT



Figure 9.5-1. Township of Blairstown Hazard Area Extent and Location Map 1

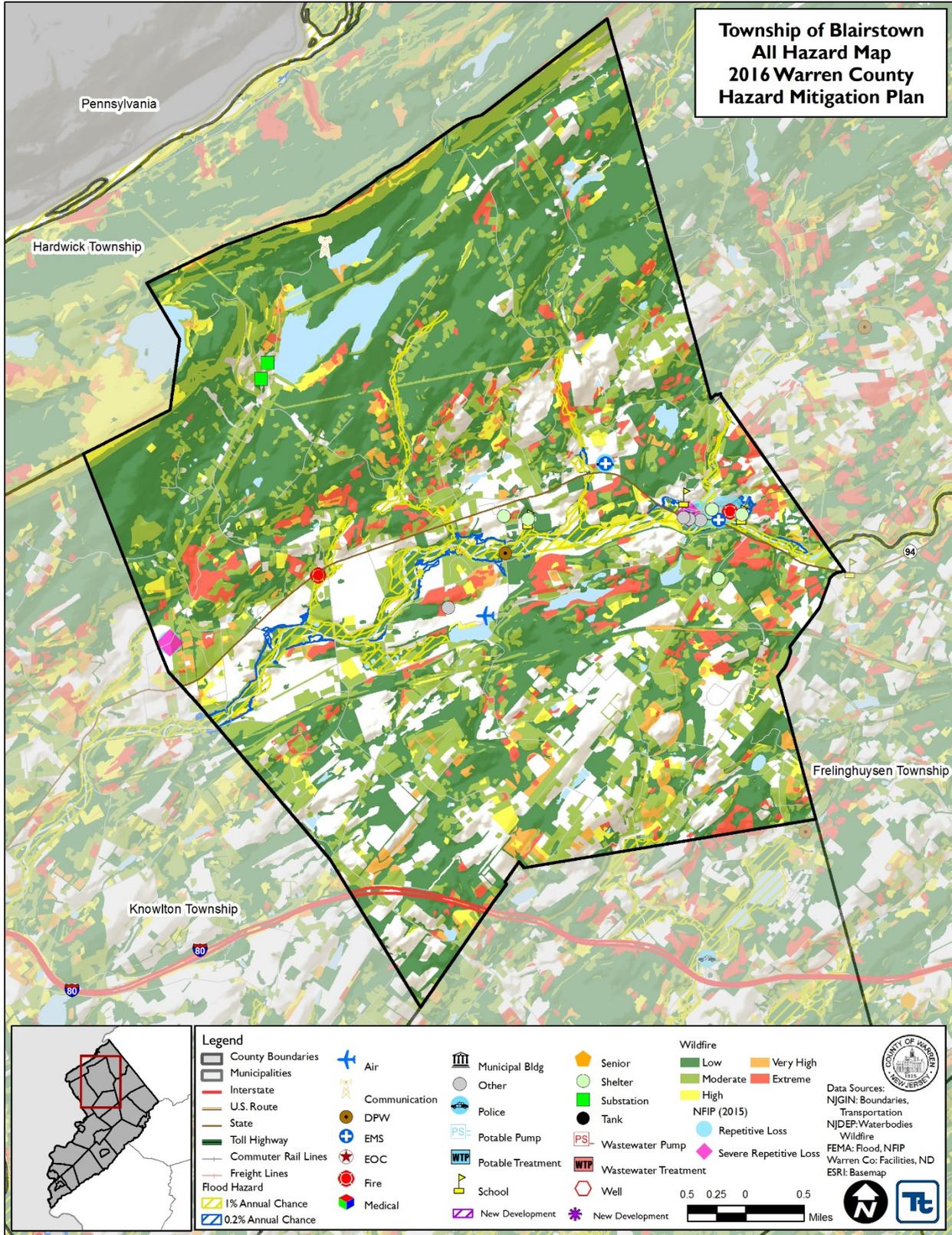
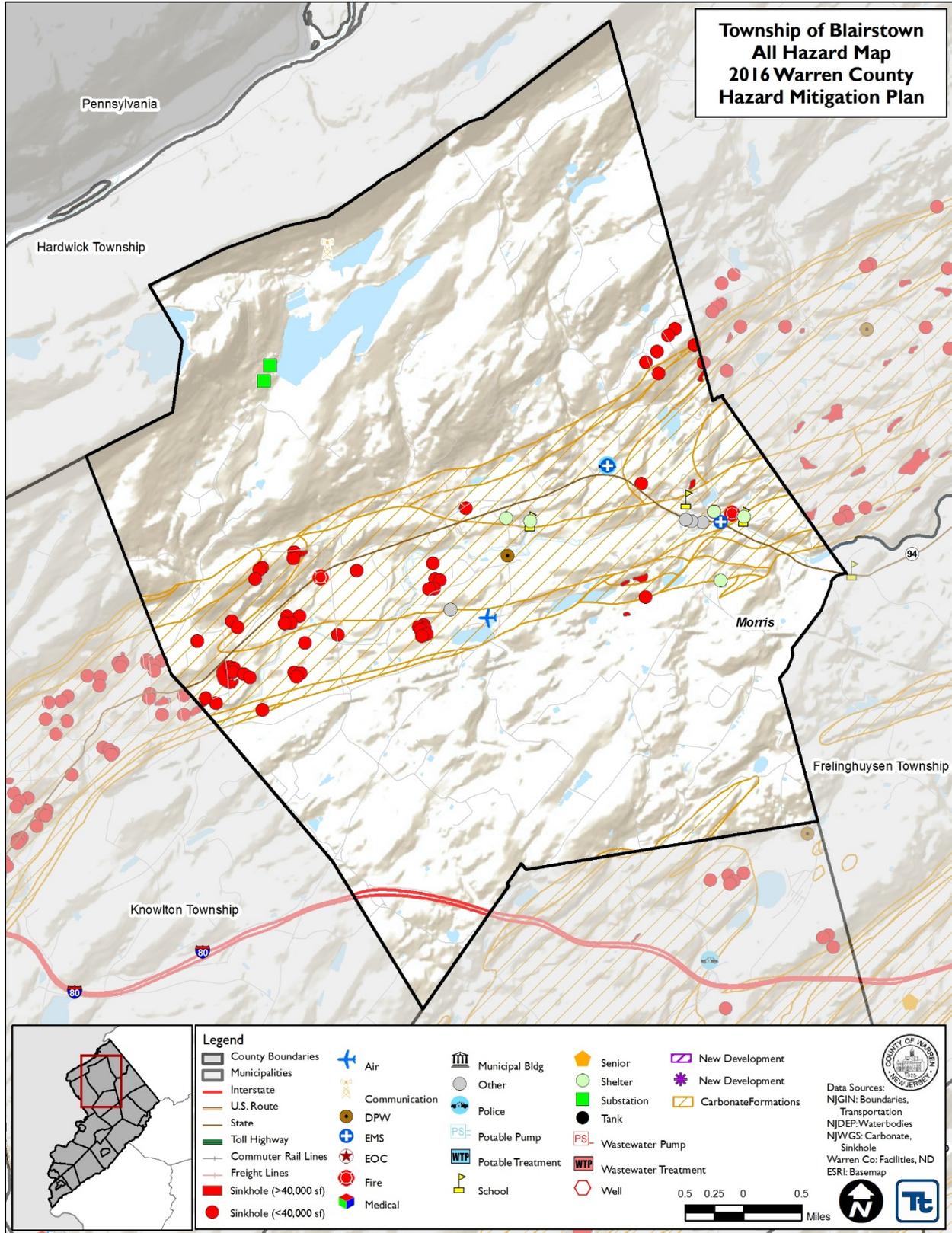




Figure 9.5-2. Township of Blairstown Hazard Area Extent and Location Map 2





**Action Number:** Blairstown-3  
**Mitigation Action/Initiative:** Generators for critical infrastructure

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All that may lead to power outages
<b>Specific problem being mitigated:</b>	Loss of power to critical infrastructure in the Township, causing a disruption in day-to-day and emergency operations
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Purchase and install permanent generators for critical facilities in the Township</li> <li>2. Purchase portable generators to use – not feasible for long-term power outages</li> <li>3. Do nothing – current problem continues</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase and install permanent generators for critical facilities in the Township: <ul style="list-style-type: none"> <li>• Municipal Building</li> </ul>
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 5, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	OEM, Engineer
<b>Local Planning Mechanism</b>	Emergency Operations
<b>Potential Funding Sources</b>	HMGP funding with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Blirstown-3

**Mitigation Action/Initiative:** Generators for critical infrastructure

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provide power to residents during power outages
Property Protection	1	Allow municipal building to function during power outages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	<b>High</b>	



**Action Number:** Blairstown-6

**Mitigation Action/Initiative:** Elevate utilities in 50 homes and businesses in flood prone areas

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather
<b>Specific problem being mitigated:</b>	The utilities in these parts of the municipality are prone to flood damage. This increases the risk of utility failures in the Township.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	Elevate utilities in 50 homes and businesses in flood prone areas: Bridge Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.
	1. Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.
	2. Do nothing - current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Elevate utilities in 50 homes and businesses in flood prone areas: Bridge Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 5, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Township OEM, Engineer
<b>Local Planning Mechanism</b>	Emergency Management
<b>Potential Funding Sources</b>	HMGP with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Blairstown-6

**Mitigation Action/Initiative:** Elevate utilities in 50 homes and businesses in flood prone areas

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents and business owners
Property Protection	1	Prevent utility outages to the buildings in this area of the municipality
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	7	
<b>Priority (High/Med/Low)</b>	<b>Medium</b>	



**Action Number:** Blairstown-7  
**Mitigation Action/Initiative:** Install backflow suppressors in current storm-water management system along Route 94.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather, Severe Winter Weather
<b>Specific problem being mitigated:</b>	This part of Route 94 in the Township tends to flooding due to the current stormwater system.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Install backflow suppressors in current storm-water management system along Route 94.
	2. Do nothing - current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Install backflow suppressors in current storm-water management system along Route 94.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	DPW Supervisor, Engineer
<b>Local Planning Mechanism</b>	Stormwater Management
<b>Potential Funding Sources</b>	HMGP with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Blirstown-7  
**Mitigation Action/Initiative:** Install backflow suppressors in current storm-water management system along Route 94.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents in this area from flooding
Property Protection	1	Protect stormwater system from damages
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather, Severe Winter Weather
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	7	
<b>Priority (High/Med/Low)</b>	<b>Medium</b>	



**Action Number:** Blairstown-8

**Mitigation Action/Initiative:** Berm construction along Paulinskill River at Paulinskill Fields.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather
<b>Specific problem being mitigated:</b>	The berm along the Paulinskill River is old and at risk of failing which would lead to flooding of the Paulinskill Fields and surrounding areas.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Berm construction along Paulinskill River at Paulinskill Fields.
	2. Do nothing - current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Berm construction along Paulinskill River at Paulinskill Fields.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	DPW Supervisor, Engineer
<b>Local Planning Mechanism</b>	Emergency Management
<b>Potential Funding Sources</b>	HMGP with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Blairstown-8

**Mitigation Action/Initiative:** Berm construction along Paulinskill River at Paulinskill Fields.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect residents that live in this area
Property Protection	1	Keep berm from further damage
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	7	
<b>Priority (High/Med/Low)</b>	<b>Medium</b>	



**Action Number:** Blairstown-9

**Mitigation Action/Initiative:** Flood-proofing of the Blairstown Elementary School.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather
<b>Specific problem being mitigated:</b>	The elementary school is at risk to flood damage.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Flood-proofing of the Blairstown Elementary School.
	2. Do nothing - current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Flood-proofing of the Blairstown Elementary School.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	School Board, Engineer
<b>Local Planning Mechanism</b>	Emergency Management
<b>Potential Funding Sources</b>	HMGP with local cost share
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Blairstown-9

**Mitigation Action/Initiative:** Flood-proofing of the Blairstown Elementary School.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protect students and teachers from flood damage
Property Protection	1	Protect school from flood damage
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	Need to seek grant funding for this project
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather
Timeline	1	
Local Champion	0	
Other Community Objectives	0	
Total	7	
<b>Priority (High/Med/Low)</b>	<b>Medium</b>	