



9.12 Township of Hope

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

9.12.1 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
Timothy C. McDonough, Mayor and EMC 407 Hope-Great Meadows Road, Hope, NJ 07844 (908) 581-6135 timothymcdonough@embarqmail.com	Mary Patt Quinn, Municipal Clerk 407 Hope-Great Meadows Road, Hope, NJ 07844 (908) 459-5011 ext. 1 townclerk@hopetwp-nj.us

9.12.2 Municipal Profile

Hope Township is located in central Warren County and has a total area of 18.8 square miles. The Township is located within the Highlands Planning Area and bordered to the north by the Townships of Blairstown and Frelinghuysen, to the south by White Township, to the east by Independence Township, to the southeast by Liberty Townships, and to the west by Knowlton Township. There are several unincorporated communities in the Township: Hope, Mount Hermon, Febletown, Swayzes Mills, and Silver Lake. According to the U.S. Census, the 2010 population for Township of Hope was 1,952. Beaver Brook runs through the Township towards White Township to the south. Additional bodies of water include: Muddy Brook, Trout Brook, and Honey Run.

Growth/Development Trends

The Township of Hope 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.

9.12.3 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 is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.12-1. 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	Approximately 530 homes and 10 businesses were without power for two days, from August 27 th to August 28 th . Road closures due to fallen trees and debris were reported on 13 Township roadways. Two large trees were removed on Locust Lane and Osmun Road. The pavement and bridge on Jenny Jump Road was damaged;





Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
				12 catch basins collapsed on three roadways; six drain pipe washouts were reported; and there were shoulder washouts on 10 roads. Rip rap washed out along the pathway at Swayze Mill Park. Public assistance was requested by the Township. Losses to the Township included \$3,000 for debris clearing; over \$15,000 for emergency protective measures; and over \$10,000 for volunteer fire department assistance.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	The remnants of Tropical Storm Lee resulted in nine collapsed catch basins and pavement damage due to flooding on Turpin Road, Kostenbader Road, Lake Just-It Road, and Jenny Jump Road. The lower level of the Hope Community Center was damaged due to flooding. Public assistance was requested by the Township. Losses to the Township included over \$10,000 in debris clearing costs, and assistance from the volunteer fire department to fill sandbags, clear debris and pump out residential basements.
October 29, 2011	Severe Storm	DR-4048	Yes	Damages to the Township included debris which required removal by the Township DPW. Removal costs totaled over \$11,000. There was also emergency protective service costs provided by the DPW and the volunteer fire department for a total of over \$13,000. The Township requested Public Assistance.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	Hurricane Sandy resulted in over \$4,000 in volunteer fire department assistance with emergency protective services and over \$30,000 in debris clearance costs. The volunteer fire department assistance included search and rescue, evacuation, security, pump outs, and temporary use of generators. Damage to the Township included a damaged guardrail due to a fallen tree on Osmun Road (over \$28,000 in damage). Over a half of the Township's residents were without power for up to 15 days. The Township municipal building and school was without power for three days. Debris cleanup was conducted on all Township roadways and two trees were removed from Township-owned lots. One residence was destroyed; 5 residences had major damage; 10 residences had minor damage; a total of 140 residences were affected. The total estimated loss was approximately \$800,000.00. Two businesses had minor damage estimated at \$100,000.00. One family was evacuated and 10 families were displaced.

9.12.4 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 Hope. 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 Hope.

Table 9.12-2. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Dam Failure	Damage estimate not available	Occasional	24	Medium
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$275,333 2,500-Year GBS: \$4,284,294	Occasional	28	Medium
Flood	1% Annual Chance: \$9,568,900	Frequent	18	Medium
Geologic	RCV Exposed to Carbonate Rock Areas: \$65,043,204	Frequent	54	High
Hurricane	100-year MRP: \$93,121.00 500-year MRP: 432910 Annualized: \$6,119.00	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Storm	100-Year MRP: \$93,121 500-year MRP: \$432,910 Annualized: \$6,119	Frequent	48	High
Severe Winter Storm	1% GBS: \$1,291,439 5% GBS: \$6,457,197	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$9,356,900	Occasional	16	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 Hope.

Table 9.12-3. 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)
Hope, Township of	13	19	\$125,459	1	0	1

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

There are no critical facilities located in the FEMA 1% or 0.2% annual chance boundary.

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.



9.12.5 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 Hope.

Table 9.12-4. 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.)
Planning Capability				
Master Plan	Yes	Local	Planning Board	Hope Township Master Plan
Capital Improvements Plan	No			
Floodplain Management / Basin Plan	No			
Stormwater Management Plan	Yes	Local	Township Engineer & DPW	Chapter 20-20 (Stormwater Management) of the Revised General Ordinances of the Township of Hope
Open Space Plan	Yes	Local	Planning Board	Farmland Preservation Plan Element
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local/ County	Hope EMC	2006 Hope Township Emergency Operating Plan
Emergency Response Plan	Yes	Local/ County	Hope EMC	2006 Hope Township Emergency Operating Plan
Post-Disaster Recovery Plan	No			
Transportation Plan				
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				
Building Code	Yes	State & Local	Construction Code Dept.	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning Officer	Chapter XX (Zoning) of the Revised General Ordinances of the Township of Hope



Table 9.12-4. 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.)
Subdivision Ordinance	Yes	Local	Planning Board	Chapter XIX (Land Subdivision) of the Revised General Ordinances of the Township of Hope
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Township Engineer	Chapter XII (Flood Damage Prevention) of the Revised General Ordinances of the Township of Hope
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local		
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning Board	Chapter XVIII (Site Plan Review) of the Revised General Ordinances of the Township of Hope
Stormwater Management Ordinance	Yes	Local	Township Engineer & DPW	Chapter 20-20 (Stormwater Management) of the Revised General Ordinances of the Township of Hope
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)]	No			

Administrative and Technical Capability

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

Table 9.12-5. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Hope Township Planning Board
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Hope Township Environmental Commission
Open Space Board/Committee	Yes	Hope Township Agriculture Advisory Board
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Warren County Department of Public Safety



Table 9.12-5. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Professional services: Township Planner and Township Engineer/Planning Board Engineer/Zoning Board of Adjustment Engineer
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Township Engineer and Construction Code Official/Building Inspector
Planners or engineers with an understanding of natural hazards	Yes	Township Engineer
NFIP Floodplain Administrator	Yes	Township Engineer
Surveyor(s)	Yes	Professional service: Professional Land Surveyor
Personnel skilled or trained in GIS and/or Hazus-MH applications	No	
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Emergency Management Coordinator
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, Public Works Foreman

Fiscal Capability

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

Table 9.12-6. Fiscal Capabilities

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



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 Hope.

Table 9.12-7. 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	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	No		
Storm Ready	No	NP	N/A
Firewise	No	NP	N/A
Disaster/Safety Programs in/for Schools	No		
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	No		
Public-Private Partnerships	No		

N/A = Not applicable; NP = Not participating

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 Hope’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.12-8. 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; unaware of FEMA mitigation funding sources)		
Community Political Capability		X	
Community Resiliency Capability		X	
Capability to Integrate Mitigation into Municipal Processes and Activities.	X (no experience in this area to date)		

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

N. B. “Ted” Rodman, P.E.

Flood Vulnerability Summary

The Township does not maintain lists/inventories of properties damaged by floods. It is unsure of the number of properties damaged during Hurricane Sandy or other events that impacted the Township. The FPA does not conduct Substantial Damage estimates. It is unknown has to how many properties are interested in mitigation (elevation or acquisition) or how many are currently in the process of mitigation. For those properties, if any, being mitigated, it is unknown has to the source of funding for those projects.

Resources

The Township FPA is the sole person responsible for the duties of floodplain administration in the Township. Services provided by the FPA include inspections, damage assessments, and recommendations. The Township does not provide any education or outreach to the community regarding flood hazards/risk, or flood risk reduction through NFIP or mitigation. The FPA indicated that there are barriers to running an effective floodplain management program in the Township that includes time and money and he does not feel adequately supported or trained to fulfill his responsibilities as the FPA. The FPA would consider attending continuing education and/or certification training on floodplain management if offered in the County.

Compliance History

The Township is currently in good-standing with the NFIP; however, it is unknown as to when the most recent compliance audit was conducted.





Regulatory

The Township's floodplain management regulations/ordinances do not exceed the FEMA and state requirements. Additionally, there are no other local ordinances, plans or programs that support floodplain management in the Township. The FPA is not sure if the Township has considered joining the CRS program.

Community Rating System

The Township of Hope does not participate in the Community Rating System (CRS) program.

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 2009 Comprehensive Farmland Preservation details the current state of farmland preservation in the Borough, as well as proposes preservation goals and other mitigation actions. At the time of the Plan's development, the Borough had already preserved approximately 720 acres of farmland; future goals were: 1 year target of 200 additional acres, 5 year target of additional 900 acres and 10 year target of 1,800 additional acres of farmland preservation. Additional goals include minimizing the impact of development on the farming environment and educating residents and businesses about the importance of preservation. The Plan also discusses the importance of preserving and protecting wetlands, floodplains and steep slopes for farmland production and safety.

The Township's master plan incorporates natural hazard risk and mitigation.

The Township has a stormwater management plan, transportation plan, and fire plan. However, the Township does not have a Continuity of Operations (COOP) 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 soil removal and soil importation ordinance, and an environmental impact statement ordinance.

The hazard mitigation plan and other hazard analysis is reviewed prior to land use, zoning changes or development permitting to ensure consistent and compatible land use. During the permit review process, the Township addresses hazards. The Township encourages the consideration of low occupancy, low-density zoning in hazard areas when practical. Additionally, the Township limits development in high hazard areas. Hazard resistant construction standards are incorporated into the design and location of projects. The rezoning procedures of the Township recognizes hazard areas as limits on zoning changes.

Operational and Administration

The Township has established an Environmental Commission and Agricultural Advisory Board that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features.



9.12.6 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.

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Table 9.12-9. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (In progress, No progress, Complete)	<u>Describe Status</u> 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)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
Hope Township 1: Acquisition/elevation of one Repetitive Loss (RL) property on Kostenbader Road.	Twp OEM	No Progress	No funding Secured	Include in the 2016 HMP	
Hope Township 2: Flood-proofing of Hope Elementary School located on Johnsonburg Road.	School Board Administrator	Complete	Sump pumps were installed with generator backup. The work was funded by Hope Board of Education	Discontinue	Project has been completed and will not be included in the 2016 HMP Update.
Hope Township 3: Implement the Fire Wise program throughout the Township.	OEM Coordinator	No Progress		Include in the 2016 HMP	
Hope Township 4: Conduct outreach and solicitation for participation for mitigation of flood prone properties.	OEM Coordinator	No Progress		Include in the 2016 HMP	
Hope Township 5: Conduct all hazards public education and outreach program for hazard mitigation and preparedness.	OEM Coordinator, County OEM	No Progress		Include in the 2016 HMP	



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

There are no additional mitigation projects/activities identified that have also been completed but were not identified in the previous mitigation strategy in the 2011 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

The County hosted 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, 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 9.12-11 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.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.12-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.12-10. 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
Hope-1 (old Hope Township 1)	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. Phase 1: Identify appropriate candidates and determine most cost-effective mitigation. At this time one repetitive loss property on Kostenbader Road is identified. Phase 2: Work with the property owners to implement selected action based on available funding and local match availability.											
	See above.	Existing	All	1, 2	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
Hope-2 (old Hope Township 3)	Implement the Fire Wise program throughout the Township.	Both	Wildfire	1, 2, 3, 4, 5	OEM Coordinator	High	Low	Local budget	Short – DOF	High	LPR	PR
Hope-3 (old Hope Township 4)	Conduct outreach and solicitation for participation for mitigation of flood prone properties.	NA	Flood, Hurricane/Tropical Storm	3, 4	OEM Coordinator	High	Low	Local budget	Short – DOF	High	EAP	PI
Hope-4 (old Hope Township 5)	Conduct all hazards public education and outreach program for hazard mitigation and preparedness.	NA	All Hazards	3, 4	OEM Coordinator, County OEM	High	Low	Local budget	Short – DOF	High	EAP	PI
Hope-5 (LOI #892)	Support continuity of operations at critical facilities. The following has been identified at this time: purchase and install a backup generator for the Hope Community Center, Hope Township Moravian Grange Hall, and the Township municipal building.	Existing	All	1, 2, 6	Township Committee	High	Medium	HMGP with local cost share	Short Term	High	SIP	PP





Table 9.12-10. 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
Hope-6	Silver Lake Area – increase drainage to reduce flooding	Existing	Flood	1, 2	Hope Township OEM & Dept. of Public Works	Avoid physical property damage & road closures.	High	FEMA Grant Funding	Long Term	High	SIP	PP
Hope-7	36 Smith Street – improve drainage to reduce flooding impacts	Existing	Flood	1, 2	Hope Township OEM & Dept. of Public Works	Avoid physical property damage	Medium	FEMA HMA Grant	Long Term	Low	SIP	PP
Hope-8	Conduct education/outreach to residents along Nightingale Road to clear drains to reduce flooding	Existing	Flood	1, 2	Hope Township OEM & Dept. of Public Works	Avoid physical property damage, road damages & road closures.	High	FEMA HMA grant	Short Term	Medium	EAP, SIP	PP, PI
Hope-9	Cedar Street – increase drainage to reduce flood impacts	Existing	Flood	1, 2	Township Committee and DPW	Avoid physical property damage & road closures	High	FEMA or NJDOT grant funding	Long Term	Low	SIP	PP
Hope-10	Honey Run Road at Swayze Mill Road – improve drainage to reduce flood impacts	Existing	Flood	1, 2	Township OEM and DPW	Avoid physical property damage & road closures	High	FEMA HMA grant	Long Term	Medium	SIP	PP
Hope-11	Jenny Jump Road at Shiloh Road - improve drainage to reduce flood impacts	Existing	Flood	1, 2	Township OEM and DPW	Avoid physical property damage & road closures	High	FEMA HMA grant	Long Term	Medium	SIP	PP

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
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance

N/A	Not applicable
NFIP	National Flood Insurance Program
NJDEP	New Jersey Department of Environmental Protection
NJOEM	New Jersey Office of Emergency Management
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.
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:

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.
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*

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Table 9.12-11. 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
Hope-1 (old Hope Township 1)	Support the mitigation of vulnerable structures	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	High
Hope-2 (old Hope Township 3)	Implement the Fire Wise program throughout the Township.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	High
Hope-3 (old Hope Township 4)	Conduct outreach and solicitation for participation for mitigation of flood prone properties.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	High
Hope-4 (old Hope Township 5)	Conduct all hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	1	1	0	0	0	1	1	0	0	0	8	High
Hope-5 (LOI #892)	Purchase and install a backup generator for the Hope Community Center, Hope Township Moravian Grange Hall, and the Township municipal building.	1	1	1	1	1	1	-1	1	0	1	0	1	1	1	10	High
Hope-6	Silver Lake Area – increase drainage	0	1	1	1	1	1	-1	-1	0	1	1	-1	1	0	5	High
Hope-7	36 Smith Street – improve drainage	0	1	1	1	0	-1	-1	1	0	1	-1	-1	1	-1	1	Low
Hope-8	Nightingale Road outreach	0	1	1	1	1	1	1	1	1	1	1	1	1	0	12	Medium
Hope-9	Cedar Street – increase drainage	0	1	1	1	1	1	-1	0	0	1	1	-1	1	0	6	Low
Hope-10	Honey Run Road at Swayze Mill Road – improve drainage	0	1	1	1	1	1	-1	1	0	1	1	1	1	0	9	Medium
Hope-11	Jenny Jump Road at Shiloh Road - improve drainage	0	1	1	1	1	1	-1	1	0	1	1	1	1	0	9	Medium

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





9.12.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.12.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Township of Hope 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 Hope has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.12.9 Additional Comments

None at this time.

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Figure 9.12-1. Township of Hope Hazard Area Extent and Location Map 1

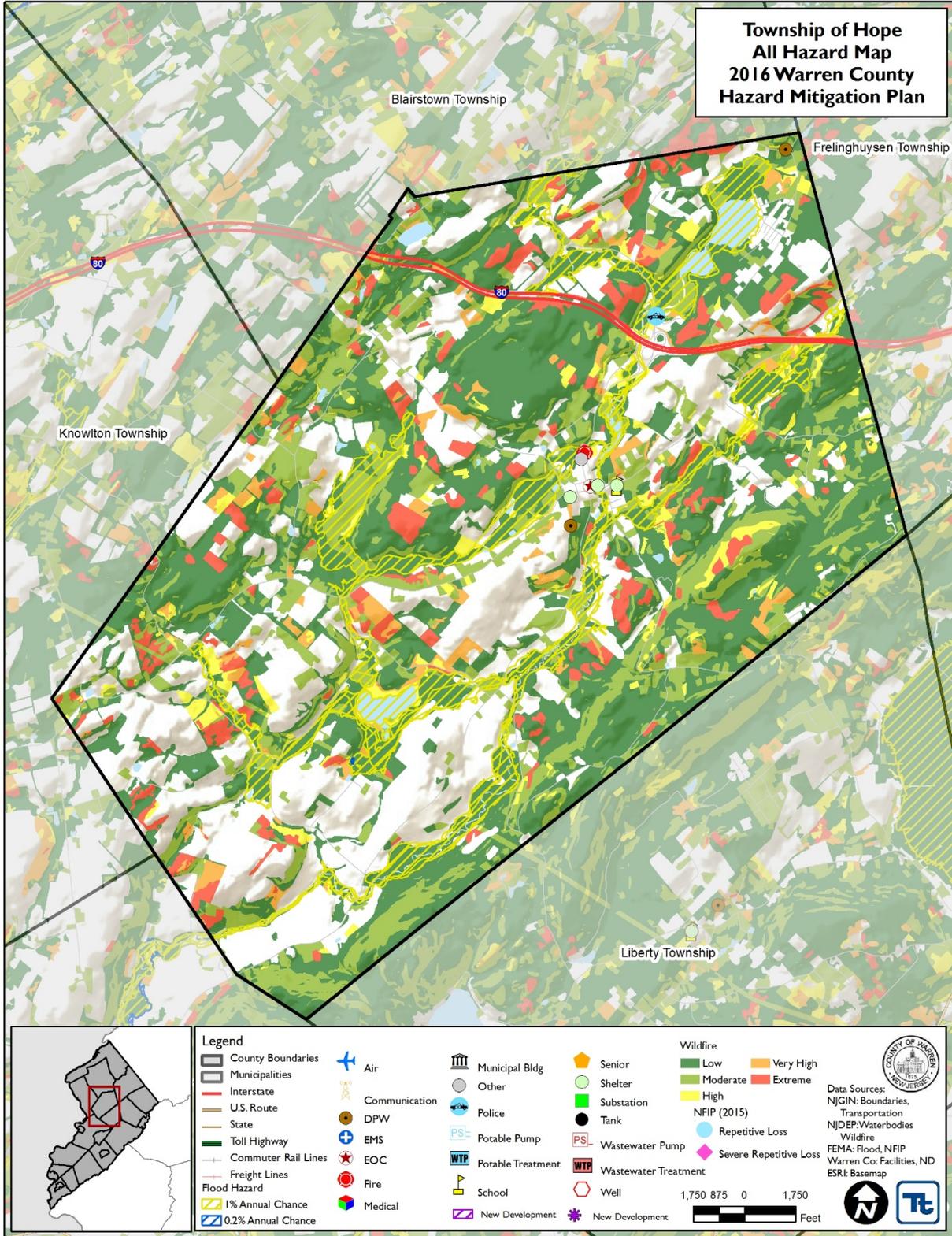
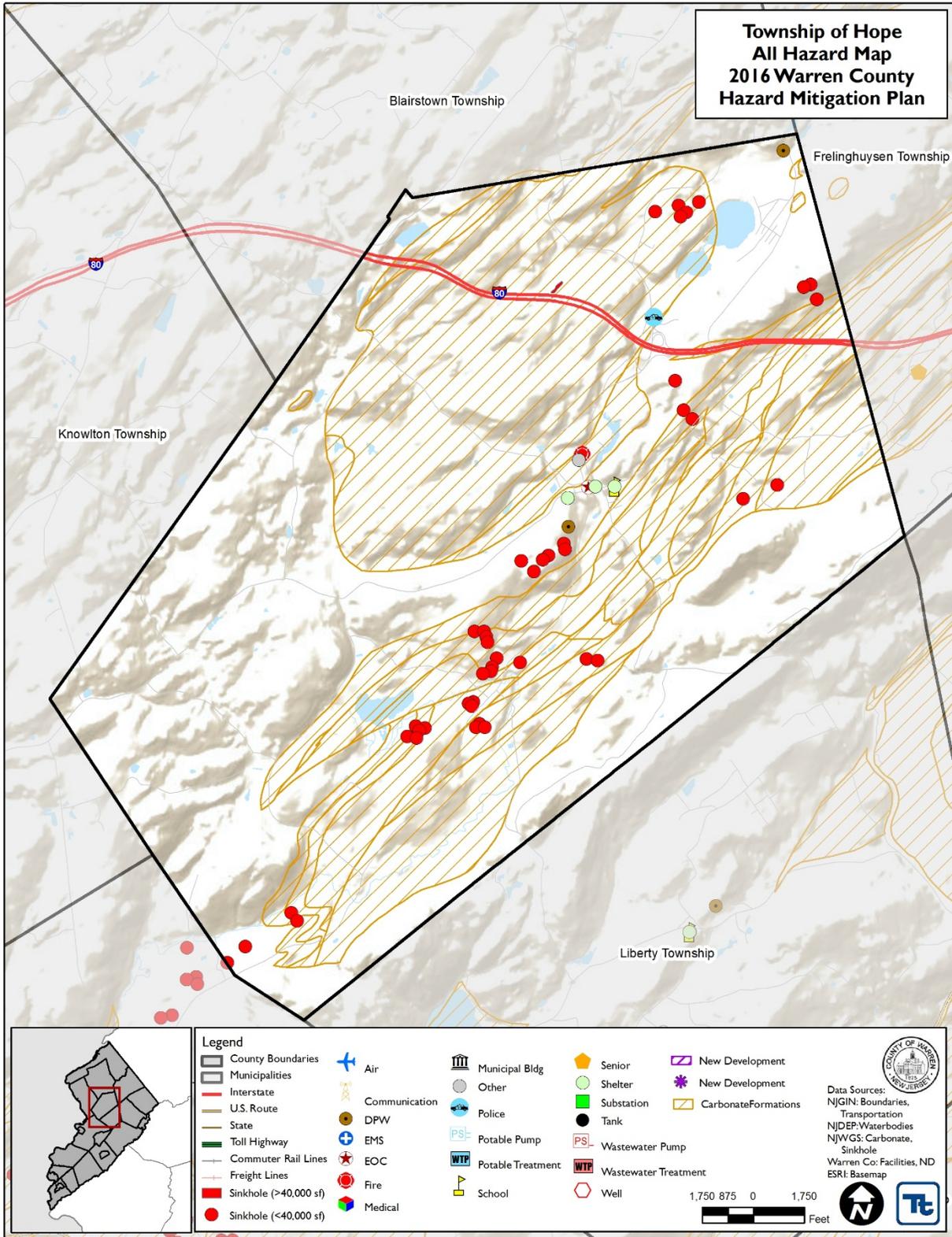




Figure 9.12-2. Township of Hope Hazard Area Extent and Location Map 2





Action Number: Hope-5
 Mitigation Action/Initiative: Purchase and install backup generators for critical facilities in the Township

Assessing the Risk	
Hazard(s) addressed:	Loss of power
Specific problem being mitigated:	Loss of power impedes the officials' from providing assistance to the public
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase and install generators at critical facilities in the Township 2. Do nothing – current problem continues 3. No other feasible option was identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Township Municipal building - Install 20 KW air cooled generator w/200 amp service rated transfer switch. Connect to existing LP tank. Install size appropriate generator at Community Center Hope Township Moravian Grange Hall - Install 20 KW air cooled generator w/200 amp service rated transfer switch. Connect to new LP tank.
Action/Project Category	Structure and Infrastructure Project
Goals Met	Increase public preparedness and awareness
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Provide continuous service and assistance to the public
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible Organization	Hope Township Committee
Local Planning Mechanism	
Potential Funding Sources	State Hazard Mitigation Grant Program
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: 4/15/15 Progress on Action/Project: not completed



Action Number: Hope-5
 Mitigation Action/Initiative: Hope Township Municipal Building - Generator

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	Pending FEMA grant funding
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Action Number: Hope-6
Mitigation Action/Initiative: Silver Lake Area – increase drainage

Assessing the Risk	
Hazard(s) addressed:	Flooding
Specific problem being mitigated:	Silver Lake area – poor drainage
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Do nothing – current problem continues
	2. Increase drainage
	3. No other feasible actions/projects were identified for this action.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Increase/improve overall drainage to eliminate flooding problem.
Action/Project Category	Structure and Infrastructure Project
Goals/Objectives Met	Protect property
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid physical property damage & road closures.
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible/Lead Agency/Department	Hope Township OEM & Dept. of Public Works
Local Planning Mechanism	
Potential Funding Sources	FEMA grant funding
Timeline for Completion	Long Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hope-6

Mitigation Action/Initiative: Silver Lake Area – increase drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	-1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	-1	
Local Champion	1	
Other Community Objectives	0	
Total	5	
Priority (High/Med/Low)	High	



Action Number: Hope-7
Mitigation Action/Initiative: 36 Smith Street – improve drainage

Assessing the Risk	
Hazard(s) addressed:	Flooding
Specific problem being mitigated:	36 Smith Street sustained significant damage due to flooding during Hurricane Sandy.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Increase/improve drainage to eliminate flooding problem.
	2. Elevate home.
	3. Acquisition of property.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Increase/improve drainage to eliminate flooding problem.
Action/Project Category	Structure and Infrastructure Project
Goals/Objectives Met	Protect Property
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid physical property damage
Estimated Cost	Medium
Priority*	Low
Plan for Implementation	
Responsible/Lead Agency/Department	Hope Township OEM, Public Works Department
Local Planning Mechanism	
Potential Funding Sources	FEMA Grant
Timeline for Completion	Long term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hope-7

Mitigation Action/Initiative: 36 Smith Street – improve drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	-1	
Fiscal	-1	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	-1	
Timeline	-1	
Local Champion	1	
Other Community Objectives	-1	
Total	1	
Priority (High/Med/Low)	Low	



Action Number: Hope-8

Mitigation Action/Initiative: Education and Outreach to Nightingale Road Residents regarding Drainage

Assessing the Risk	
Hazard(s) addressed:	Flooding
Specific problem being mitigated:	Driveway drains are not cleared of debris on a regular basis
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Do nothing – current problem continues
	2. Increase/intensify resident education on clearing their driveway drains.
	3. No other feasible actions/projects were identified for this action.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Conduct education to private residents that they need to clear driveway drains will eliminate flooding on roadway.
Action/Project Category	Education and Awareness Programs
Goals/Objectives Met	Protect property
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid physical property damage, road damage and road closures
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Hope Township OEM & Dept. of Public Works
Local Planning Mechanism	
Potential Funding Sources	
Timeline for Completion	Short
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hope-8

Mitigation Action/Initiative: Nightingale Road Drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	12	
Priority (High/Med/Low)	Medium	



Action Number: Hope-9
Mitigation Action/Initiative: Cedar Street – increase drainage

Assessing the Risk	
Hazard(s) addressed:	Flooding
Specific problem being mitigated:	Minimal drainage on Cedar Street leads to flooding of roadway
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Increase/improve drainage on East side of Cedar Street
	2. Install drainage on West side of Cedar Street (there is none presently)
	3. Do nothing – current problem continues
Action/Project Intended for Implementation	
Description of Selected Action/Project	Increase/improve drainage to eliminate flooding problem.
Action/Project Category	Structure and Infrastructure Project
Goals/Objectives Met	Protect property
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	Avoid physical property damage & road closures
Estimated Cost	High
Priority*	Low
Plan for Implementation	
Responsible/Lead Agency/Department	Hope Township Committee and DPW
Local Planning Mechanism	
Potential Funding Sources	FEMA or NJDOT grant funding
Timeline for Completion	Long Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hope-9

Mitigation Action/Initiative: Cedar Street – increase drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	No funding at this time
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	-1	
Local Champion	1	
Other Community Objectives	0	
Total	6	
Priority (High/Med/Low)	Low	



Action Number: Hope-10
Mitigation Action/Initiative: Honey Run Road at Swayze Mill Road - drainage

Assessing the Risk	
Hazard(s) addressed:	Flooding
Specific problem being mitigated:	Poor drainage on Honey Run Road at Swayze Mill Road
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Increase/improve drainage
	2. Do nothing – current problem continues
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Increase/improve drainage to eliminate flooding problem.
Action/Project Category	Structure and Infrastructure Project
Goals Met	Protect property
Applies to existing and or new development, or not applicable	Existing
Benefits (losses avoided)	Avoid physical property damage & road closures
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible Organization	Hope Township OEM & Dept. of Public Works
Local Planning Mechanism	
Potential Funding Sources	FEMA grant funding
Timeline for Completion	Long term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hope-10
Mitigation Action/Initiative: Honey Run Road at Swayze Mill Road - drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	Medium	



Action Number: Hope-11
Mitigation Action/Initiative: Jenny Jump Road at Shiloh Road - drainage

Assessing the Risk	
Hazard(s) addressed:	Flooding
Specific problem being mitigated:	Poor drainage on Jenny Jump Road at Shiloh Road
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Increase/improve drainage
	2.
	3.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Increase/ improve drainage to eliminate flooding problem.
Action/Project Category	Structure and Infrastructure Project
Goals Met	Protect property
Applies to existing and or new development, or not applicable	
Benefits (losses avoided)	Avoid physical property damage & road closures
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible Organization	Hope Township OEM & Dept. of Public Works
Local Planning Mechanism	
Potential Funding Sources	FEMA grant funding
Timeline for Completion	Long term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hope-11
Mitigation Action/Initiative: Jenny Jump Road at Shiloh Road - drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	-1	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	Medium	