



6.0 MITIGATION STRATEGY

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2021 HMP Update Changes:

- The Goals and Objectives were updated to align with recent FEMA guidance
- The mitigation strategy evaluation and prioritization methodology was updated and expanded.
- Section 6.5 Capability Assessment was moved to its own chapter, 5.0 Capability Assessment
- Revised 6.5.2 Update of Municipal Mitigation Strategies

6.1 INTRODUCTION

This section presents mitigation actions for Warren County to reduce potential exposure and losses identified as concerns in the Risk Assessment section of this 2021 HMP update. The Steering and Planning Committee reviewed the risk assessment to identify and develop these mitigation actions, which are presented herein.

This section includes:

- Background and Past Mitigation Accomplishments
- General Mitigation Planning Approach
- Review and Update of Mitigation Goals and Objectives
- Mitigation Strategy Development and Update

Hazard mitigation reduces the potential impacts of, and costs associated with, emergency and disaster-related events. Mitigation actions address a range of impacts, including impacts on the population, property, the economy, and the environment.

Mitigation actions can include activities such as: revisions to land-use planning, training and education, and structural and non-structural safety measures.

6.2 BACKGROUND AND PAST MITIGATION ACCOMPLISHMENTS

In accordance with the DMA 2000 requirements, a discussion regarding past mitigation activities and an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this HMP update. The County, through previous and ongoing hazard mitigation activities, has demonstrated that it is pro-active in protecting its physical assets and citizens against losses from natural and human-caused hazards of concern included in this plan.

These past and ongoing activities have contributed to the county's understanding of its hazard preparedness and future mitigation activity needs, costs, and benefits. These efforts provide a foundation for the Planning Committee to use in developing this 2021 HMP update.

6.3 GENERAL MITIGATION PLANNING APPROACH

The overall approach used to update the county and local hazard mitigation strategies are based on FEMA and State of New Jersey regulations and guidance regarding local mitigation plan development, including:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning)
- FEMA Local Mitigation Plan Review Guide, October 1, 2011
- FEMA Local Mitigation Planning Handbook, March 2013
- FEMA Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards, January 2013
- FEMA Integrating Hazard Mitigation into Local Planning, March 1, 2013
- FEMA Plan Integration: Linking Local Planning Efforts, July 2015

- FEMA Mitigation Planning How-To Guide #3, Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)
- Rehabilitation of High Hazard Potential Dams Grant Program Guidance, June 2020
- Hazard Mitigation Assistance Mitigation Action Portfolio, August 2020
- Building Community Resilience with Nature-based Solutions: A Guide for Local Communities, 2020

The mitigation strategy update approach includes the following steps that are further detailed later in this section:

- Review and update mitigation goals and develop objectives
- Identify mitigation capabilities, and evaluate their capacity and effectiveness to mitigate and manage hazard risk
- Identify progress on previous county and local mitigation strategies
- Develop updated county and local mitigation strategies
- Prepare an implementation strategy, including the prioritization of projects and initiatives in the updated mitigation strategy.

6.4 REVIEW AND UPDATE OF MITIGATION GOALS AND OBJECTIVES

According to 44 CFR 201.6(c)(3)(i): “*The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*” Further, FEMA mitigation planning guidance recommends establishing objectives to better tie mitigation goals to specific mitigation strategies (e.g. projects, activities, and initiatives).

FEMA defines Goals as general guidelines that explain what should be achieved. Goals are usually broad, long-term, policy statements, and represent a global vision.

FEMA defines Objectives as strategies or implementation steps to attain mitigation goals. Unlike goals, objectives are specific and measurable, where feasible.

FEMA defines Mitigation Actions as specific actions that help to achieve the mitigation goals and objectives.

For the purposes of this HMP update, goals are defined as follows:

Goals are general guidelines that explain what is to be achieved. They are usually broad, long-term, policy-type statements and represent global visions. Goals help define the benefits the HMP is trying to achieve. The success of the HMP, once implemented, should be measured by the degree to which its goals have been met (that is, by the actual benefits in terms of hazard mitigation).

The 2016 HMP goals and objectives were reviewed by the Steering Committee in August 2020. Consideration was given to the following criteria: (1) hazard events and losses since the 2011 HMP, (2) the updated hazard profiles and vulnerability assessment, (3) the goals and objectives established in the updated State of New Jersey HMP, (4) regional, county and local risk management and master plans, as well as (5) direct input on how the Steering Committee (representing the county and participating municipalities) recognized the need to move forward to best manage their hazard risk.

Through facilitated discussion and brainstorming, the Steering Committee decided to roll all the 2016 Goals into this HMP update, while adding one additional goal (Goal #7), per recent FEMA guidance.

The following are the updated goals for the 2021 Warren County HMP update:

1. Protect life

2. Protect property
3. Increase public preparedness and awareness
4. Develop and maintain an understanding of risks from hazards
5. Enhance county and local mitigation capabilities to reduce hazard vulnerabilities
6. Support continuity of operations pre-, during and post-hazard events
7. Mitigate High Hazard Potential Dams (new to this plan)

Warren County HMP goals are compatible with the needs and goals expressed in other available community planning documents as well as the State of New Jersey HMP. Each goal has a number of corresponding objectives that further define the specific actions or implementation steps. Achievement of these goals will define the effectiveness of a mitigation strategy. The goals also are used to help establish priorities.

Objectives are short-term aims which, when combined, form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable. The objectives were developed by the Steering Committee through its knowledge of the local area, review of past efforts, findings of the risk assessment, qualitative evaluations, and identification of mitigation options. The objectives are used to (1) measure the success of the HMP once implemented, and (2) to help prioritize identified mitigation actions. **Table 6-4-1 Warren County Goals and Objectives** presents Warren County’s goals and objectives for the 2021 HMP update.

Table 6.4 - 1 Warren County HMP Goals and Objectives

Goal	Objective
Goal 1: Protect life	1.1: Increase communications and improve warning and emergency communications systems
	1.2: Pursue cost-effective mitigation actions to reduce the impacts of hazards on people, property and vulnerable populations
	1.3: Maintain and enhance local planning and regulatory standards related to future development and investments
Goal 2: Protect property	2.1: Protect/harden/retrofit critical facilities and infrastructure
	2.2: Reduce repetitive and severe repetitive losses
	2.3: Pursue mitigation actions that will preserve or restore the environment’s natural abilities to absorb the impacts of hazards
Goal 3: Increase public preparedness and awareness	3.1: Improve education and outreach efforts regarding potential impacts of hazards, and the identification of specific measures that can be taken to reduce their impact
	3.2: Increase awareness of risks and understanding of the advantages of mitigation to the general public and local government officials
	3.3 Increase local government official awareness regarding funding opportunities for mitigation and participating/contributing to future plan updates
Goal 4: Develop and maintain an understanding of risks from hazards	4.1: Maintain and enhance critical facilities data such that these sites can be prioritized and risk-assessed for possible mitigation actions
	4.2: Improve hazard data available to the county, participating communities and private citizens for use in future planning efforts
	4.3: Improve data collection, use, and sharing to reduce the impacts of hazards
Goal 5: Enhance county and local mitigation capabilities to reduce hazard vulnerabilities	5.1: Provide government officials and local practitioners with educational opportunities and information regarding best practices for hazard mitigation planning, project identification and implementation
	5.2: Support increased participation in the National Flood Insurance Program and Community Rating System
	5.3 Support increased integration of hazard mitigation planning and floodplain management with effective municipal zoning regulation, and effective municipal/county subdivision regulation, site plan regulation and comprehensive planning implementation
Goal 6: Support continuity of operations pre-, during and post-hazard events	6.1: Ensure continuity of operations of essential county and local government services
	6.2: Increase resiliency by facilitating rapid disaster recovery
	6.3: Support and encourage the implementation of back-up and alternative energy sources

Goal	Objective
Goal 7: Mitigate High Hazard Potential Dams (NEW)	7.1: Take advantage of FEMA's Rehabilitation of High Hazard Potential Dams (HHPD) grant program for technical, planning, design, and construction assistance for eligible rehabilitation activities that reduce dam risk and increase community preparedness. (NEW)

6.5 MITIGATION STRATEGY DEVELOPMENT AND UPDATE

As required by FEMA, the County and participating municipalities completed a comprehensive evaluation of the mitigation strategies and actions from the 2016 HMP and reported on the status of each. Their update may be found in each jurisdictional annex under “Notes.” In addition, the County and participating municipalities were provided the opportunity to include new strategies or actions to include in the 2021 HMP update. Actions that are Carried Forward, Ongoing, and New actions are prioritized to ensure they are cost-effective, environmentally sound, and technically feasible using the methodology outlined below.

6.5.1 UPDATE OF MUNICIPAL MITIGATION STRATEGIES

To evaluate progress on local mitigation actions, each municipality with actions in previous DMA 2000 or related plans, including those who participated in the 2011 HMP and the 2016 HMP, was provided with a Mitigation Action Worksheet. Each worksheet was pre-populated with those actions identified for their jurisdiction in the previous plan update. For each action, municipalities were asked to indicate the status of each action as Carried Forward, Ongoing, Completed, or Withdrawn. In addition, the Planning Team worked with each Warren municipality to brainstorm potential new mitigation actions for inclusion in the HMP and provided FEMA’s latest guidance on mitigation actions. Explanations of progress descriptions are listed below:

- **New Action:** new actions identified for this plan update.
- **Ongoing Action:** actions that were started, however not completed and therefore are ongoing.
- **Carried Forward Action:** actions carried forward from the 2010 and/or 2016 plan into this plan update. Jurisdictions modified and expanded the action to promote implementation.
- **Completed Action:** actions that were completed between 2015 and 2020 and now a capability.
- **Withdrawn Action:** mitigation actions found to be impractical, unfeasible, or undesirable. Jurisdictions provided a description as to why the action was withdrawn in the “Notes” section on the Mitigation Action Worksheets.

For this HMP update, Warren County and its 22 municipalities have a total of **280 mitigation actions, with 93 New Actions, 147 Ongoing Actions, 19 Carried Forward Actions, 13 Completed Actions, and 8 Withdrawn Actions.**

Certain continuous or ongoing strategies represent programs that are, or since the 2016 HMP have become, fully integrated into the normal operational and administrative framework of the community. Such programs and initiatives have been identified within the Successes in Capabilities section of each annex and removed from the updated mitigation strategy.

From October through November 2020, the Planning Team held mitigation action workshops via virtual regional meetings with the Planning Committee. The goals of these workshops were to: (1) evaluate progress on previously identified mitigation actions from the 2016 HMP; (2) review and

evaluate a comprehensive range of mitigation strategies for consideration; (3) provide the tools and guide the municipalities on identifying and prioritizing selected mitigation actions; and (4) discuss integration of mitigation activities into daily operations. All municipalities attended these small-scale workshops which began the development of their jurisdictional annexes. All participating municipalities were provided capture tools (Mitigation Action Worksheets) to further assist in assessing the risk, evaluating potential actions/projects (qualitative alternatives analysis), and identifying actions for implementation.

The County and municipalities identified projects that have been submitted to NJOEM for grant funding, including projects for which Letters of Intent (LOI), and grant applications have been submitted under the Hurricane Sandy HMGP. In general, LOI/application-based projects submitted directly by the communities are identified within their updated mitigation strategies. Communities may also have included other LOI/application-based projects submitted by special-purpose districts (e.g., fire or school districts), local utilities, and hospitals and health care entities.

From November 2020 to July 2021, members of the Planning Committee and the Planning Team worked directly with each community (phone, email, virtual meetings) to assist with the development and update of their annex and include mitigation strategies, focusing on identifying well-defined, implementable projects with a careful consideration of benefits (risk reduction, losses avoided), costs, and possible funding sources (including mitigation grant programs). As new additional potential mitigation actions, projects, or initiatives became evident during the plan update process, included as part of the risk assessment update, and as identified through the public and stakeholder outreach process (see Section 3.0), communities were made aware of these either through direct communication or via their draft municipal annexes.

To help support the selection of an appropriate, risk-based mitigation strategy, each annex provides a summary of hazard vulnerabilities identified during the plan update process, either directly by municipal representatives, through review of available county and local plans and reports, or through the hazard profiling and vulnerability assessment process.

6.5.2 MITIGATION ACTION WORKSHEETS

Every mitigation action, regardless of their status, must have a Mitigation Action Worksheet to be part of a HMP. The action worksheets document each jurisdiction's analysis of actions considered to reduce the impacts of hazards identified in the risk assessment. The Mitigation Action Worksheets follow recent FEMA guidance on how an action is evaluated and implemented for future funding. For example, FEMA would like to know the category, evaluation, and priority of each action. Mitigation actions that substantially reduce risk or eliminate an identified hazard area are ranked with the highest priority and are listed first in the table below. **Table 6.5 - 1 Mitigation Action Worksheet Evaluation** explains the evaluation local officials considered when developing their mitigation action worksheets. Refer to Appendices V. I - Jurisdictional Information to see the completed Mitigation Action Worksheets for each action, sorted by municipality.

Figure 6.5 - 1 Mitigation Action Worksheet Evaluation

Describing the Action	
Action Name:	- What is the name of the mitigation action?
Action Category:	- Is this a Mitigation (Risk Reduction or Continuity of Functional Use), Administrative, or Maintenance/Response/Recovery action?
Action Type:	- What is the category of action (Local Plans & Regulations, Structure & Infrastructure Projects, Natural Systems Protection, or Education & Awareness Programs)
HMA Eligible Activity:	- Yes or No
Action Description:	- What does this action entail?
Hazard (s) Addressed:	- What hazard's risk is reduced or eliminated due to this action?
Goals:	- Which of the Warren County HMP Goals does this action satisfy?
Evaluating the Action	
Risk Reduction:	- What is the risk that is reduced or eliminated?
1. Life Safety:	- How effective will the action be at protecting lives and preventing injuries?
2. Property Protection:	- How significant will the action be at eliminating or reducing damage to structures and infrastructure?
3. Cost Effectiveness:	- Are the costs to implement the project or initiative commensurate with the benefits achieved?
4. Technical:	- Is the mitigation action technically feasible? - Is it a long-term solution?
5. Political:	- Is there overall public support for the mitigation action? - Is there the political will to support it?
6. Legal:	- Does the municipality have the authority to implement the action?
7. Environmental:	- What are the potential environmental impacts of the action? - Will it comply with environmental regulations?
8. Social:	- Will the proposed action adversely affect one segment of the population? - Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
9. Administrative:	- Does the municipality have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
10. Local Champion:	- Is there a strong advocate for the action or project among local agencies that will support the action's implementation?
11. Other Community Objectives:	- Does the action advance other local objectives, such as capital improvements, economic development, environmental quality, or open-space preservation? - Does it support the policies of other plans and programs?
STAPLEE Evaluation:	The Total STAPLEE score is used for project evaluation and prioritization.
Implementing the Action	
Cost Estimate:	- How much do you estimate it will cost to implement the action?
Priority:	- Is this project realistically ready to submit for funding? - How significant is this action?
Local Planning Mechanism:	- Do you have current plans that support this action?
Responsible Party:	- Who is responsible for overseeing and implementing this action?
Likely Funding Sources:	- What are the likely funding sources available to complete this action?

Target Start Date:	- What is the target start date?
Timeline:	- What is the timeline for this action?
Action Status:	- What is the status of this action (New, Completed, Ongoing, Carried Forward, or Withdrawn)?
Notes:	<ul style="list-style-type: none"> - If the action is Completed, when was it finished? How was it funded? - If the action is Ongoing, when was it started? How is it being funded? - If the action is Carried Forward, why has the action been delayed? - If the action is Withdrawn, why?

6.5.3 UPDATE WARREN COUNTY MITIGATION STRATEGIES

The update of the county-level mitigation strategies was very similar to the municipal update. It included a review of progress on the actions/initiatives identified in the 2016 HMP, using a process similar to that used to review municipal mitigation strategy progress. The County, through their various department representatives, was provided with a Mitigation Worksheet Evaluation identifying all of the county-level actions/initiatives from the 2016 HMP. For each action, relevant county representatives were asked to indicate the status of each action (“Carried Forward,” “Ongoing,” “Completed,” or “Withdrawn”), and provide review comments on each.

Projects/initiatives identified as “Complete,” as well as though actions identified as “Withdrawn,” have been removed from this 2021 HMP update. Those actions the county has identified as “Carried Forward” or “Ongoing” are now in this HMP update.

Throughout the course of the 2021 HMP update process, additional regional and county mitigation actions have been identified. These were identified through:

- Review of the results and findings of the updated risk assessment
- Review of available regional and county plans, reports, and studies
- Direct input from county departments, including:
 - Department of Public Safety
 - Department of Public Works - Engineering
 - Department of Planning

6.5.4 COMPREHENSIVE MITIGATION ACTION SUMMARY

Table 6.5-1 Comprehensive Mitigation Action Summary includes every action in the 2021 Warren County HMP, totaling 280 Mitigation Actions.

Table 6.5 - 1 Comprehensive Mitigation Action Summary

Jurisdiction	Community Action #	Action Name	Status
Allamuchy Township	01-01	Construct an Emergency Access Ramp to Interstate 80 to Expedite Emergency Vehicular Response.	Ongoing
Allamuchy Township	01-02	Purchase and Install an Emergency Generator to Ensure Continuity of Operations at the DPW Building/Complex in the Event of a Power Outage.	Ongoing
Allamuchy Township	01-03	Implement the Fire Wise Program for the Township.	Withdrawn
Allamuchy Township	01-04	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Allamuchy Township	01-05	Improve Highway Safety Design with DOT to Mitigate the Risk of Accidents and Release of Hazardous Materials.	New

Jurisdiction	Community Action #	Action Name	Status
Allamuchy Township	01-06	Purchase and Install Security Cameras for Remote Monitoring of Critical Water and Sewer Infrastructure.	New
Allamuchy Township	01-07	Mitigate Vulnerable Structures in Flood-prone Areas Along the Pequest River and Musconetcong River via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Flood Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Allamuchy Township	01-08	Extend Current Vegetated Buffers Along Rivers and Creeks to Mitigate Flooding.	New
Allamuchy Township	01-09	Create Stormwater Detention Ponds and Stormwater Lots with Community Amenities Utilizing Existing Open Space to Mitigate Flooding.	New
Allamuchy Township	01-10	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Alpha Borough	02-01	Upgrade and Improve the Stormwater Management System Along Route 519 near Homa Lane (Estimated 25-year Storm).	Ongoing
Alpha Borough	02-02	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness and Fulfill CERT Requirements.	Ongoing
Alpha Borough	02-03	Provide for Continuity of Operations by Obtaining Backup Power at the Fire House (LOI #860), Municipal Complex and the Elementary School.	Completed
Alpha Borough	02-04	Construct an Additional Bay in the Fire House and Purchase/Acquire Additional Fire or Rescue Truck.	Carried Forward
Alpha Borough	02-05	Mitigate Vulnerable Structures in Flood-prone Areas Near a Tributary to Pohatcong Creek in the Southern Portion of the Borough, via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Alpha Borough	02-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Alpha Borough	02-07	Construct a Green Infrastructure Retention Pond to Gradually Release the Water on Route 519 North of Homa Lane.	New
Belvidere Town	03-01	Mitigate Vulnerable Structures in Flood-prone Areas Along the Delaware River, the Pequest River, and the Pophandusing Brook via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Flood Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Belvidere Town	03-02	Install, Reroute, or Increase the Capacity of the Stormwater Drainage System.	Ongoing
Belvidere Town	03-03	Elevate Utilities and Floodproof Foundations at Flood-prone Properties, Especially at Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties.	Ongoing
Belvidere Town	03-04	Promote Hazard Awareness through Education and Outreach.	Ongoing
Belvidere Town	03-05	Provide for Continuity of Operations of Critical Facilities by Purchasing and Installing Generators.	Completed
Belvidere Town	03-06	Partner with Academic Institutions for Technical Assistance.	Ongoing
Belvidere Town	03-07	Designate Municipal Funding for Hazard Mitigation Projects.	Ongoing
Belvidere Town	03-08	Create a Community Resilience Committee.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Belvidere Town	03-09	Train Municipal Employees and Residents in Hazard Mitigation.	Ongoing
Belvidere Town	03-10	Assess the Vulnerability to Severe Wind by Developing and Maintaining a Database to Track the Inspection and Maintenance of Hazardous Trees and Establish Standards for Tree Pruning.	Ongoing
Belvidere Town	03-11	Plan for and Maintain Adequate Road and Debris Clearing Capabilities.	Ongoing
Belvidere Town	03-12	Establish and Promote Accessible Heating Centers, Specifically for At-Risk Populations, in the Event of Long-Term Power Outages.	Ongoing
Belvidere Town	03-13	Stabilize the Streambanks Along Pophanduysen Creek and the Pequest River. Remove Two Dams on the Pequest River.	Ongoing
Belvidere Town	03-14	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Blairstown Township	04-01	Incorporate Hazard Resistant Construction Standards into the Design and Location of Projects.	Ongoing
Blairstown Township	04-02	Establish Safe Growth Practices within the Township.	Ongoing
Blairstown Township	04-03	Purchase and Install Permanent Generators for Critical Infrastructure in the Township, Including the Municipal Building, to Ensure Continuity of Operations in the Township.	Completed
Blairstown Township	04-04	Mitigate Vulnerable Structures in Flood-prone Areas Near Paulins Kill and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Flood Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Blairstown Township	04-05	Elevate Utilities in 50 Homes and Businesses in Flood-prone Areas: Bridge Street, Main Street, Vail Street, Carhart Street, East Avenue, and Douglas Street.	Carried Forward
Blairstown Township	04-06	Install Backflow Suppressors in Current Stormwater Management System Along Route 94.	Carried Forward
Blairstown Township	04-07	Construct Berm along Paulins Kill River at Paulins Kill Fields.	Withdrawn
Blairstown Township	04-08	Flood-proof the Blairstown Elementary School.	Ongoing
Blairstown Township	04-09	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Blairstown Township	04-10	Repair, Remove, or Rehabilitate the Blair Lake Dam on Blair Creek, Yards Creek Lower Res Main Dam, Yards Creek Upper Res Main (North) Dam, Yards Creek Lower Res Saddle (Auxiliary Dike) Dam, Yards Creek Upper Res East Dike, Yards Creek Upper Res West Dike, Yards Creek Upper Res SW Dike on Yards Creek, and Youngs Pond Dam on Jacksonburg Creek to Reduce Flood Risk.	New
Blairstown Township	04-11	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Franklin Township	05-01	Provide Training on Best Practices for Hazard Mitigation.	Carried Forward
Franklin Township	05-02	Prepare a Continuity of Operations Plan for the Township.	Ongoing
Franklin Township	05-03	Create a Community Resilience Committee and Advisor within the Township.	Carried Forward
Franklin Township	05-04	Create a Mechanism for Funding Hazard Mitigation by Including Line Items for Projects from the Mitigation Plan in the Municipal and Capital Improvement Budgets.	Carried Forward

Jurisdiction	Community Action #	Action Name	Status
Franklin Township	05-05	Enhance Floodplain Management Standards to Exceed FEMA and State Minimum Requirements.	Ongoing
Franklin Township	05-06	Retrofit Roof to Meet Current Standards for Snow Load on the Area over the Bays and Kitchen at the Franklin Township Fire Department Station 2 Building Located on Second Street.	Completed
Franklin Township	05-07	Conduct All Hazards Public Education And Outreach Program For Hazard Mitigation And Preparedness.	Ongoing
Franklin Township	05-08	Ensure Continuity Of Operations at Critical Facilities. This Includes the Purchase and Installation of Generators at Critical Facilities in the Township such as the Municipal Building, EOC, and Emergency Services Facilities.	Ongoing
Franklin Township	05-09	Mitigate Vulnerable Structures in Flood-prone Areas Near Pohatcong Creek and the Musconetcong River and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Carried Forward
Franklin Township	05-10	Consider Targeted Green Stormwater Infrastructure Solutions on Willow Grove Road near Pohatcong Creek and Partner with Warren County to Consider Green Infrastructure Solutions Along County Route 632.	New
Franklin Township	05-11	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Frelinghuysen Township	06-01	Upgrade and Improve the Culvert Located On Main Street and Mill Road. Conduct a Feasibility Study on Water Infrastructure Improvements Including a Fire Department Standpipe Near River Water Source To Provide Primary Water Supply For Fires In Johnsonburg.	Ongoing
Frelinghuysen Township	06-02	Conduct All Hazards Public Education And Outreach Program For Hazard Mitigation And Preparedness.	Ongoing
Frelinghuysen Township	06-03	Dig a Swale to Lessen the Impact of High Ground Water on South Street.	Ongoing
Frelinghuysen Township	06-04	Utilize the HMP as a Guide During the Next Master Plan Update.	Ongoing
Frelinghuysen Township	06-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Frelinghuysen Township	06-07	Target Harden Critical Facilities by Installing Surveillance Cameras.	New
Frelinghuysen Township	06-08	Install an Emergency Generator in the Township's Elementary School to Allow the Site to be Utilized as a Emergency Shelter.	New
Greenwich Township	07-01	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Greenwich Township	07-02	Incorporate Natural Hazard Risk/Mitigation into the Next Master Plan Update.	Ongoing
Greenwich Township	07-03	Fund Mitigation Projects Through the Municipal/Operating Budget and Capital Improvement Budget.	Ongoing
Greenwich Township	07-04	Create and Identify a Community Resilience Committee and Advisor for the Township.	Ongoing
Greenwich Township	07-05	Train Municipal Employees and Residents in Hazard Mitigation.	Ongoing
Greenwich Township	07-06	Support Continuity of Operations at Critical Facilities by Purchasing an Emergency Generator at the Municipal Building, Police, Fire and EOC.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Greenwich Township	07-07	Dredge and Remove Debris from Merrill Creek.	Ongoing
Greenwich Township	07-08	Address Beattys Road Flooding.	Ongoing
Greenwich Township	07-09	Educate Homeowners on Maintaining Property and Foliage Near the Road to Reduce Risk of Wildfire Impacts.	Ongoing
Greenwich Township	07-10	Mitigate Vulnerable Structures in Flood-prone Areas Near Pohatcong Creek, Merrill Creek, Musconetcong River, and Lopatcong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Greenwich Township	07-11	Demolish Washington St. House.	Ongoing
Greenwich Township	07-12	Remove the Dam on the Musconetcong River Between Greenwich Twp. & Bloomsbury Borough (Hunterdon County).	Ongoing
Greenwich Township	07-13	Relocate or Build a New Municipal Building (Police/OEM).	Ongoing
Greenwich Township	07-14	Remove Trees and Debris in and Alongside the Pohatcong Creek Waterway.	New
Greenwich Township	07-15	Construct Roadside Green Infrastructure Along Roadways in Coordination with Warren County. Plant Vegetated Buffers Along Streams.	New
Greenwich Township	07-16	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Hackettstown Town	08-01	Support the Continuity of Operations at Critical Facilities. At this Time, the Purchase of Emergency Back-up Generators for the Following Critical Facilities in the Town are Identified: High School, Moore Street Firehouse, DPW, Police Department, and EOC.	Completed
Hackettstown Town	08-02	Conduct All Hazards Public Education and Outreach Program For Hazard Mitigation And Preparedness.	Ongoing
Hackettstown Town	08-03	Develop Relationships with Local Colleges and Universities For Technical Assistance With Natural Hazard Mitigation Activities.	Ongoing
Hackettstown Town	08-04	Enforce Floodplain Codes and Standards Beyond the Minimum Set by FEMA and the State.	Ongoing
Hackettstown Town	08-05	Mitigate Vulnerable Structures in Flood-prone Areas Near the Musconetcong River, Trout Brook, Hackery Brook, and Bowers Brook via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Hackettstown Town	08-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Hackettstown Town	08-07	Construct Roadside Green Infrastructure Along Roadways.	New
Hardwick Township	09-01	Investigate Mitigation Alternatives to Reduce/Mitigate Future Flooding from Limestone Geology That Causes Swelling/Flooding at the Township Garage and Happens a Week or Two After a Rainfall (Spring Valley Road).	Withdrawn
Hardwick Township	09-02	Ensure Continuity of Operations at Critical Facilities, Township Utilities and Buildings, and Along Township Roads.	Ongoing
Hardwick Township	09-03	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Hardwick Township	09-04	Flood-proof the Hardwick Township Municipal Building Located on Spring Valley Road.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Hardwick Township	09-05	Protect Utility Lines by Identifying and Removing Potential Hazard-Causing Trees Along 28 miles of Township Roads.	Ongoing
Hardwick Township	09-06	Repair, Remove, or Rehabilitate the Bass Lake Dam on Blairs Creek to Reduce Flood Risk.	New
Hardwick Township	09-07	Mitigate Vulnerable Structures in Flood-prone Areas Near Paulins Kill, Blair Creek and Jacksonburg Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Hardwick Township	09-08	Remove Hazardous Trees Along Public Rights-of-Way. Provide Education and Awareness to Residents Regarding the Location of, and Liability Associate with the Removal of, Infested Ash Trees.	New
Hardwick Township	09-09	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Harmony Township	10-01	Upgrade and Improve of Culverts Passing Under Harmony Station Road Located Near Brainards Road.	Ongoing
Harmony Township	10-02	Review Applicable Building Code Requirements to Ensure that Structures are Designed for Appropriate Wind Loads.	Ongoing
Harmony Township	10-03	Provide Hazard Risk, Preparedness and Mitigation Information via Mailings, Township Website and Information Posted in the Municipal Building.	Ongoing
Harmony Township	10-04	Integrate the HMP Into Land Use, Zoning, and Development Decision-Making Through Revisions to the Master Plan and Ordinances Governing Development and Mitigation in Flood Hazard Areas.	Ongoing
Harmony Township	10-05	Mitigate Vulnerable Structures in Flood-prone Areas Along the Delaware River, Lopatcong Creek and Buckhorn Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Harmony Township	10-06	Repair, Remove, or Rehabilitate the Merrill Creek Res. SE Dike, Merrill Creek Northwest Dike 1 and 2, and Merrill Creek Main Dam on Merrill Creek to Reduce Flood Risk.	New
Harmony Township	10-07	Create Green Stormwater Solutions to Mitigate Flooding.	New
Harmony Township	10-08	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Harmony Township	10-09	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	New
Harmony Township	10-10	Provide for Infectious Disease Control Through Emergency Communication and Temporary Vaccination Station	New
Harmony Township	10-11	Conduct a Citywide Public Communication Campaign to Increase COVID-19 Awareness.	New
Hope Township	11-01	Mitigate Vulnerable Structures in Flood-prone Areas Near Beaver Brook, Trout Brook, Honey Run, Muddy Brook, and Brookaloo Swamp via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Hope Township	11-02	Implement the Firewise Program Throughout the Township.	Ongoing
Hope Township	11-03	Conduct Outreach and Solicitation for Participation for Mitigation of Flood-prone Properties.	Ongoing
Hope Township	11-04	Conduct All Hazards Public Education And Outreach Program For Hazard Mitigation And Preparedness.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Hope Township	11-05	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.	Ongoing
Hope Township	11-06	Increase Drainage to Reduce Flooding at The Silver Lake Area.	Ongoing
Hope Township	11-07	Improve Drainage To Reduce Flooding Impacts at 36 Smith Street.	Ongoing
Hope Township	11-08	Conduct Education/Outreach to Residents Along Nightingale Road to Clear Drains to Reduce Flooding.	Carried Forward
Hope Township	11-09	Increase Drainage To Reduce Flood Impacts at Cedar Street.	Completed
Hope Township	11-10	Improve Drainage to Reduce Flood Impacts at Honey Run Road at Swayze Mill Road.	Completed
Hope Township	11-11	Improve Drainage to Reduce Flood Impacts On Jenny Jump Road at Shiloh Road.	Ongoing
Hope Township	11-12	Repair, Remove, or Rehabilitate the Locust Lake Dam on Muddy Brook to Reduce Flood Risk.	New
Hope Township	11-13	Build a Berm and Wall at 1187 Hope Bridgeville Rd.	New
Hope Township	11-14	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Independence Township	12-01	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Independence Township	12-02	Develop a Continuity of Operations (COOP) Plan for the Township.	Ongoing
Independence Township	12-03	Provide Training and Outreach to the Community in Relation to Grant Applications and Hazards.	Ongoing
Independence Township	12-04	Create a Community Resilience Committee and Appoint an Advisor.	Ongoing
Independence Township	12-05	Create a Line Item in the Municipal/Operating Budget and Capital Improvement Budget for Mitigation Project Funding.	Ongoing
Independence Township	12-06	Fund Mitigation Projects Using the Capital Improvement Budget.	Ongoing
Independence Township	12-07	Develop a Resilient Transportation Plan.	Ongoing
Independence Township	12-08	Maintain Agreements with Neighboring Communities.	Ongoing
Independence Township	12-09	Enhance/Expand Tree Maintenance.	Ongoing
Independence Township	12-10	Develop a Post Event Damage Assessment Program.	Ongoing
Independence Township	12-11	Support Continuity of Operations at Critical Facilities. At this Time the Following Project is Identified: Upgrade the Generator to Supply Power to Entire Building.	Completed
Independence Township	12-12	Support Participation in the NFIP Community Rating System (CRS) Program by Attending CRS Workshop(s) if Offered Within the County. Join the CRS program if Adequate Resources to Support Long Term Participation Can be Dedicated.	Ongoing
Independence Township	12-13	Mitigate Vulnerable Structures in Flood-prone Areas Near the Pequest River and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Independence Township	12-14	Implement Firewise Program throughout the Township.	New

Jurisdiction	Community Action #	Action Name	Status
Independence Township	12-15	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Knowlton Township	13-01	Improve Fire Service: 1. Improve Access to River at Ferry Land and Clover Rest Home. 2. Add Fire Hydrants in Columbia. 3. Install Standpipes at Lake on Countryside Road. 4. Purchase Pumper/Rescue Truck.	Ongoing
Knowlton Township	13-02	Mitigate Vulnerable Structures in Flood-prone Areas Near the Delaware River, Paulins Kill and Knowlton Brook, via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Knowlton Township	13-03	Develop and Implement an Enhanced All-Hazards, Public Outreach, Education, and Mitigation Information Program on Natural Hazard Risks to Educate Residents About What They Can Do in The Way of Mitigation and Preparedness, Including Flood Insurance.	Ongoing
Knowlton Township	13-04	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	Ongoing
Knowlton Township	13-05	Mitigate Erosion from Stony Brook Along Hemlock Rd.	New
Knowlton Township	13-06	Remove Hazardous Trees and Maintain Trees in Public Rights-of-Way to Protect Electrical Power Infrastructure.	New
Liberty Township	14-01	Support Continuity of Operations at Critical Facilities.	Completed
Liberty Township	14-02	Stabilize the Streambank along Mountain Lake Brook by the Intersection of Lake Side Drive North and Lake Side Drive East.	Ongoing
Liberty Township	14-03	Continue to Enhance and Develop the Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Liberty Township	14-04	Encourage the Designated NFIP Floodplain Administrator (FPA) to Become a Certified Floodplain Manager (CFM) Through the Association of State Floodplain Managers (ASFPM) and New Jersey Association for Floodplain Management (NJAFM) and Pursue Relevant Continuing Education Training.	
Liberty Township	14-05	Mitigate Vulnerable Structures in Flood-prone Areas Near the Pequest River and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Liberty Township	14-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Liberty Township	14-07	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	New
Lopatcong Township	15-01	Mitigate Vulnerable Structures Along the Delaware River and Its Tributaries (Including Lopatcong Creek) via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties.	Ongoing
Lopatcong Township	15-02	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Lopatcong Township	15-03	Integrate the HMP Into Land Use Decision-Making by Utilizing the HMP when Updating the Township Master Plan To Ensure Consistent and Compatible Land Use.	Ongoing
Lopatcong Township	15-04	Ensure Continuity of Operations for Both Fire Stations Through Back-Up Electrical Power to Prevent Interruptions During a Disaster That Cause Emergency Response Delays, Communications Outages, and the Inability to House Staff and the Public.	New
Lopatcong Township	15-05	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Mansfield Township	16-01	Implement the Firewise Program throughout the Township.	Ongoing
Mansfield Township	16-02	Continue to Develop and Enhance the Township's All-Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Mansfield Township	16-03	Support Continuity of Operations at Critical Facilities. The Following is Identified at this Time: Purchase and Install Generator for the DPW Facility.	Completed
Mansfield Township	16-04	Mitigate Vulnerable Structures in Flood-prone Areas Near the Musconetcong River and Its Tributaries (Including Hances Brook), Pohatcong Creek and a Pequest River Tributary via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage, with Repetitive Loss and Severe Repetitive Loss Properties as a Priority When Applicable.	Ongoing
Mansfield Township	16-05	Implement Streetside Green Infrastructure to Reduce Stormwater Runoff and Flood Impacts.	New
Mansfield Township	16-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Oxford Township	17-01	Provide for Continuity of Operations at Critical Facilities and Municipal Buildings by Purchasing and Installing Generators at the Following Critical Facilities in the Township: Emergency Operations Center Located at the Municipal Building/EOC/Primary Warming Center and Primary Evacuation Center Located at the Oxford Central School.	Ongoing
Oxford Township	17-02	Retrofit the Foundation Pilings on the Emergency Squad Building Located on Academy Street.	Ongoing
Oxford Township	17-03	Construct a Diversionary Berm around the Lift Station to Prevent Flooding (to the 1% Annual Chance Flood Level) Located on Pequest Road at Shippen Ridge.	Ongoing
Oxford Township	17-04	Implement Firewise USA Program throughout the Township to Encourage the Community to Improve their Resilience to Wildfires.	Ongoing
Oxford Township	17-05	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness. Continue and expand LEPC.	Ongoing
Oxford Township	17-06	Fund Mitigation Projects by Incorporating a Line Item for Hazard Mitigation Project Funding in the Municipal/Operating Budget and Capital Improvement Budget.	Ongoing
Oxford Township	17-07	Repair, Remove, or Rehabilitate the Furnace Brook W.S. number 2 Dam on Furnace Brook to Reduce Flood Risk.	New
Oxford Township	17-08	Mitigate Vulnerable Structures in Flood-prone Areas Near Furnace Brook and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New

Jurisdiction	Community Action #	Action Name	Status
Oxford Township	17-09	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Oxford Township	17-10	Purchase Light Towers, Variable Message Boards, and Movable Barriers to Assist with Continuity of Operations After a Storm Event.	New
Oxford Township	17-11	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage to Prevent Against Cyber Attacks.	New
Oxford Township	17-12	Build Planting Vegetation Along the Banks of Furnace Brook and its Tributaries to Increase Stormwater Infiltration.	New
Oxford Township	17-13	Construct Green Infrastructure Along Roadways to Increase Stormwater Management.	New
Oxford Township	17-14	Create Stormwater Detention Ponds and Stormwater Lots with Community Amenities Utilizing Existing Open Space to Mitigate Flooding.	New
Oxford Township	17-15	Bury Electrical and Cable Wiring Underground to Reduce Risks of Power Failure.	New
Oxford Township	17-16	Establish Standards for all Utilities Regarding Tree Pruning Around Lines to Reduce the Risk of Power Failure.	New
Oxford Township	17-17	Inspect and Retrofit Roofs to Adequate Standards to Provide Wind Resistance.	New
Oxford Township	17-18	Protect Traffic Lights and Other Traffic Controls from High Winds and the Risk of Power Outages.	New
Oxford Township	17-19	Implement Soil Stabilization Measures Such as Planting Soil-Stabilizing Vegetation on Steep, Publicly Owned Slopes.	New
Oxford Township	17-20	Use Debris-Flow Measures That May Reduce Damage In Sloping Areas, Such As Stabilization, Energy Dissipation, and Flow Control Measures.	New
Oxford Township	17-21	Conduct a Citywide Public Communication Campaign to Increase COVID-19 Awareness.	New
Oxford Township	17-22	Target Harden Critical Facilities by Installing Surveillance Cameras to Reduce the Risk of Terrorism.	New
Phillipsburg Town	18-01	Support the Continuity of Operations at Critical Facilities. At This Time the Following is Identified: Purchase Generators for Emergency Services – Firehouse #94.	Completed
Phillipsburg Town	18-02	Mitigate Vulnerable Structures in Flood-prone Areas Near the Delaware River and Lopatcong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Phillipsburg Town	18-03	Extend 800 feet to Retaining Wall Along Delaware River and Riverside Way.	Ongoing
Phillipsburg Town	18-04	Install Duckbill Valves/Flapper Valves on Lopatcong Creek.	Ongoing
Phillipsburg Town	18-05	Upgrade and Improve the Stormwater Management System with the Addition of Check Valves.	Ongoing
Phillipsburg Town	18-06	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Phillipsburg Town	18-07	Restore Warren Street Detention Basin to Increase Available Storage Capacity for Stormwater Runoff from State Highway Route 22.	Completed
Phillipsburg Town	18-08	Install Backflow Preventers at Key Locations Subject to Frequent Flooding.	Ongoing
Phillipsburg Town	18-09	Review the County HMP and Other Hazard Analysis Prior to Land Use, Zoning Changes or Development Permitting and While Updating Any Ordinances Within The Town.	Ongoing
Phillipsburg Town	18-10	Review and Incorporate the County HMP Into the Next Master / Comprehensive Plan Update for The Town.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Phillipsburg Town	18-11	Provide a Funding Mechanism for Hazard Mitigation by Including a Line Item in the Capital Improvement Plan and Municipal/Operating Budget for Mitigation Project Funding in the Town.	Ongoing
Phillipsburg Town	18-12	Flood-Proof the Mallinckrodt Baker Building Located on Broad Street.	Ongoing
Phillipsburg Town	18-13	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Phillipsburg Town	18-14	Repair/Replace Storm Sewer Lines and Box Culverts on South Main, Mercer, River, Jersey, and Sitgreaves Streets along the Delaware River Park	New
Pohatcong Township	19-01	Flood-Proof the Huntington Fire Company (EOC) Building Located on Maple Avenue.	Completed
Pohatcong Township	19-02	Develop and Implement an Enhanced All-Hazards, Public Outreach, Education, Mitigation Information Program for Natural Hazard Risks to Inform Residents About Mitigation and Preparedness, Including Flood Insurance.	Ongoing
Pohatcong Township	19-03	Mitigate Vulnerable Structures in Flood-prone Areas Near the Delaware River and Musconetcong River via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	Ongoing
Pohatcong Township	19-04	Support Participation in the NFIP Community Rating System (CRS) Program by Attending CRS Workshop(s) if Offered Within the County. Join the CRS Program if Adequate Resources to Support Long Term Participation Can be Dedicated.	Carried Forward
Pohatcong Township	19-05	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is Needed, and Schedule if Needed. This is Part of The Process of Joining CRS (above initiative).	Carried Forward
Pohatcong Township	19-06	Encourage the Designated NFIP Floodplain Administrator (FPA) to Become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers and New Jersey Association for Floodplain Management. Pursue Relevant Continuing Education Training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	Carried Forward
Pohatcong Township	19-07	Create, Enhance, and Maintain Mutual Aid Agreements With Neighboring Communities for Continuity of Operations.	Completed
Pohatcong Township	19-08	Support and Participate in County Led Initiatives Intended to Build Local and Regional Mitigation and Risk-Reduction Capabilities.	Carried Forward
Pohatcong Township	19-09	Develop and Implement a Post-Event Damage Assessment Program.	Carried Forward
Pohatcong Township	19-10	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Pohatcong Township	19-11	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	New
Pohatcong Township	19-12	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage.	New
Washington Borough	20-01	Integrate the HMP Into Land Use, Zoning, and Development Decision-Making to Ensure Consistent and Compatible Land Use.	Ongoing
Washington Borough	20-02	Fund Mitigation Projects by Including a Line Item in the Municipal/Operating Budget and Capital Improvement Budget for Mitigation Project Funding.	Ongoing
Washington Borough	20-03	Adopt and Enforce Codes and Standards Beyond FEMA Minimum Requirements for Floodplain Management.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Washington Borough	20-04	Protect Buildings and Infrastructure in High Hazard Areas.	Ongoing
Washington Borough	20-05	Develop and Implement an Enhanced All-Hazards, Public Outreach, Education, Mitigation Information Program for Natural Hazard Risks to Inform Residents About Mitigation and Preparedness, Including Flood Insurance.	Ongoing
Washington Borough	20-06	Prepare a Continuity of Operations (COOP) Plan for the Borough and Integrate Mitigation into the Plan.	Ongoing
Washington Borough	20-07	Support Continuity of Operations at Critical Facilities by Purchasing and Installing an Emergency Generator for the Shelter and Emergency Operations Center Located at the Washington Borough Municipal Complex Located on Belvidere Avenue.	Ongoing
Washington Borough	20-08	Enhance and Develop the Borough's Public Outreach and Education Program for Hazard Mitigation and Preparedness.	Withdrawn
Washington Borough	20-09	Establish a Program to Conduct Testing of the Radio Communication System Between the OEM, Municipal Clerk, and DPW.	Ongoing
Washington Borough	20-10	Mitigate Vulnerable Structures in Flood-prone Areas Along Shabbecong Creek and Pohatcong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	New
Washington Borough	20-11	Implement Green Infrastructure Solutions Along State Route 57 through Coordination with NJDOT.	New
Washington Borough	20-12	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Washington Borough	20-13	Purchase Light Towers, Variable Message Boards, and Movable Barriers to Assist with Continuity of Operations After a Storm Event.	New
Washington Borough	20-14	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage to Reduce the Risk of Cyber Attacks.	New
Washington Borough	20-15	Utilize Existing Open Space to Create Stormwater Detention Ponds and Stormwater Lots with Community Amenities to Mitigate Flooding.	New
Washington Borough	20-16	Construct Green Infrastructure Along Roadways to Increase Stormwater Management.	New
Washington Borough	20-17	Plant Vegetated Buffers Along Streams to Increase Stormwater Management and Reduce Flooding.	New
Washington Borough	20-18	Bury Electrical and Cable Wiring Underground to Reduce the Risk of Power Failure.	New
Washington Borough	20-19	Establish Standards for All Utilities Regarding Tree Pruning Around Lines to Reduce the Risk of Power Outages.	New
Washington Borough	20-20	Inspect and Retrofit Roofs to Adequate Standards to Provide Wind Resistance.	New
Washington Borough	20-21	Protect Traffic Lights and Other Traffic Controls from High Winds that Cause Power Outages.	New
Washington Borough	20-22	Implement Soil Stabilization Measures Such as Planting Soil-Stabilizing Vegetation on Steep, Publicly Owned Slopes.	New
Washington Borough	20-23	Use Debris-Flow Measures That May Reduce Damage In Sloping Areas, Such As Stabilization, Energy Dissipation, And Flow Control Measures.	New
Washington Borough	20-24	Conduct a Citywide Public Communication Campaign to Increase COVID-19 Awareness.	New
Washington Borough	20-25	Target Harden Critical Facilities by Installing Surveillance Cameras to Reduce the Risk of Terrorism.	New
Washington Township	21-01	Upgrade and Improve the Stormwater Management System Along Mill Pond Road.	Ongoing

Jurisdiction	Community Action #	Action Name	Status
Washington Township	21-02	Raise 200 feet of Embankment an Additional Two Feet in Height Along the Streambank Parallel to Kayhart Lane.	Ongoing
Washington Township	21-03	Stabilize the Streambank at the Bend of Roaring Rock Creek Located Near Meadow Breeze Lane.	Ongoing
Washington Township	21-04	Conduct an Inundation Study for the Dams Located in Roaring Rock Park.	Ongoing
Washington Township	21-05	Floodproof the Good Shepherd Christian School.	Withdrawn
Washington Township	21-06	Conduct an All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Carried Forward
Washington Township	21-07	Mitigate Vulnerable Structures Along the Musconetcong River and its Tributaries, Brass Castle Creek, Pohatcong Creek, Tunnel Brook, and Shabbecong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss (RL) and Severe Repetitive Loss Properties.	Carried Forward
Washington Township	21-08	Remove High Hazard Trees from the Township to Prevent Property Damage and Power Outages During and Reduce Debris After Storms and Severe Weather Events.	Ongoing
Washington Township	21-09	Support the Continuity of Operations at Critical Facilities by Purchasing and Installing a Generator to Use as Backup Power at the Police Headquarters/Municipal Building/Emergency Operations Center (EOC) and Build a Fueling Station at this Location.	Ongoing
Washington Township	21-10	Dredge the Waterways and Runoff Areas Within the Township to Control Flooding.	Carried Forward
Washington Township	21-11	Install a Back-Up Generator at the Parks & Recreation Building to Support Continuity of Operations at this Township Facility.	Carried Forward
Washington Township	21-12	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Washington Township	21-13	Purchase Portable Light Towers and Two (2) Variable Message Boards.	New
White Township	22-01	Pursue Educational Opportunities to Better Understand Hazard Mitigation and Preparedness.	Withdrawn
White Township	22-02	Integrate the HMP Into Land Use, Zoning, and Development Decision-Making to Ensure Consistent and Compatible Land Use.	Ongoing
White Township	22-03	Create and Conduct All Hazards Public Education and Outreach Program to Inform Residents on Hazard Mitigation and Preparedness Within the Township.	Ongoing
White Township	22-04	Fund Mitigation Projects by Including a Line Item in the Municipal/Operating Budget and Capital Improvement Budget for Mitigation Project Funding.	Carried Forward
White Township	22-05	Fund Mitigation Projects Identified in the Hazard Mitigation Plan.	Withdrawn
White Township	22-06	Mitigate Flooding of Rt. 519 North Recreation Area by Increasing Drainage.	Carried Forward
White Township	22-07	Eliminate Stormwater Runoff from the Compost Facility Located at 40 Foul Rift Road.	Withdrawn
White Township	22-08	Acquire and Remove All Severe Repetitive Loss (SRL) Properties Along Rt. 46 West in White Township – Columbia Area Only.	Carried Forward
White Township	22-09	Mitigate Vulnerable Structures via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage, with Repetitive Loss (RL) and Severe Repetitive Loss Properties as a Priority When Applicable.	Ongoing
White Township	22-10	Support Continuity of Operations at Critical Facilities. The Following Project is Identified at this Time: Purchase and Install a Generator for the DPW Building.	Completed

Jurisdiction	Community Action #	Action Name	Status
White Township	22-11	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	New
Warren County	23-02	Purchase and Install Generators at Critical Facilities to Support the Continuity of Operations During Power Failure	Ongoing
Warren County	23-03	Develop All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	Ongoing
Warren County	23-04	Create Opportunities for Regular Discussions of FEMA Mitigation Funding Opportunities.	Ongoing
Warren County	23-05	Conduct More Detailed Earthquake Risk Assessments in Coordination with the State.	Ongoing
Warren County	23-06	Coordinate with State Efforts to Survey Wind Vulnerabilities.	Ongoing
Warren County	23-07	Collect Data for Geographic Information System (GIS) Analysis and Mapping of Potential Hazardous Material Site Impact Areas.	Ongoing
Warren County	23-08	Survey Critical Facilities for Excessive Snow and Ice Load Vulnerability.	Ongoing
Warren County	23-09	Survey Existing Dams with NJDEP Dam Safety.	Ongoing
Warren County	23-10	Encourage Community Rating Survey (CRS) Program Participation.	Ongoing
Warren County	23-11	Expand the County's GIS Platform	Ongoing
Warren County	23-12	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties.	Ongoing
Warren County	23-13	Integrate Hazard Mitigation Priorities into the Capital Improvement Plan, Transportation Plan, and Other Capital Planning Documents.	Ongoing
Warren County	23-14	Simulate a Hazardous Materials Incident Derailment.	Ongoing
Warren County	23-15	Simulate High Hazard Dam Failure.	Ongoing
Warren County	23-16	Develop a Regional Homeland Security Grant for a Regional Rail Emergency Plan.	Ongoing
Warren County	23-17	Develop a Regional Damage Assessment Plan.	Ongoing
Warren County	23-18	Conduct a Structural Analysis of Communication Towers from High Winds.	Ongoing
Warren County	23-19	Protect County Culverts, Bridges and Retaining Walls Against Scour and Flood Conditions.	Ongoing
Warren County	23-20	Upgrade the Stormwater, Sewer, and Drainage Capacity of County Roadways that Experience Frequent Flooding Conditions.	Ongoing
Warren County	23-21	Conduct a Geotechnical Survey of Prioritized Geologically Vulnerable Areas.	Ongoing
Warren County	23-22	Conduct Debris Removal on Roads and Adjacent to Structures.	Ongoing
Warren County	23-24	Digitize Municipal Zoning Maps to Assist the County with Understanding Potential New Development in Hazardous Areas.	New
Warren County	23-23	Geocode Building Permits to Assist the County with Understanding Potential New Development in Hazardous Areas.	New

6.5.5 MITIGATION STRATEGY EVALUATION AND PRIORITIZATION

Section 201.6(c)(3)(iii) of the 44 CFR requires an action plan describing how the identified actions will be prioritized. Similar to the previous HMP, this update prioritizes all New, Carried Forward, and Ongoing Mitigation Actions using the Social, Technical, Administrative, Political, Legal, Economic, and Environmental (STAPLEE) evaluation which uses a set of evaluation criteria suited to the

purposes of hazard mitigation strategy evaluation. This method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action.

In order to align with State HMP, this HMP update uses a set of 11 evaluation criteria to evaluate and prioritize New, Ongoing, and Carried Forward Actions, which are described in **Figure 6.5-1 Mitigation Action Worksheet Evaluation** under “Evaluating the Action.” Participating jurisdictions were asked to use these criteria to assist them in evaluating and prioritizing the mitigation actions identified in the 2016 HMP update (ongoing or carried forward) and the new mitigation actions added to this plan update.

Specifically, for each mitigation action, the jurisdictions were asked to assign a numeric rank (-1, 0, or 1) for each of the 11 evaluation criteria, defined as follows:

- 1 Highly effective or feasible
- 0 Neutral
- -1 Ineffective or not feasible

Further, jurisdictions were asked to provide a brief summary of the rationale behind the numeric rankings assigned, as applicable. The numerical results of this exercise were then used by each jurisdiction to help prioritize the action or strategy as “Low,” “Medium,” or “High.” While this provided a consistent, systematic methodology to support the evaluation and prioritization of mitigation actions, jurisdictions may have additional considerations that could influence their overall prioritization of mitigation actions.

For the 2021 HMP update there has been an effort to develop more clearly defined and action-oriented mitigation strategies. These local strategies include projects and initiatives that have been well-vetted and are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. As such, many of the initiatives in the updated mitigation strategy were ranked as “High” or “Medium” priority, as reflective of the community’s clear intent to implement, available resources notwithstanding. In general, initiatives that would have had “Low” priority rankings were appropriately screened out during the local action evaluation process. **Table 6.5-2 Mitigation Actions Evaluated and Prioritized, by Jurisdiction** lists the prioritization of Ongoing, Carried Forward, and New Mitigation Actions based on the STAPLEE method.

Table 6.5 - 2 Mitigation Actions Evaluated and Prioritized

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Allamuchy Township	01-10	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Allamuchy Township	01-06	Purchase and Install Security Cameras for Remote Monitoring of Critical Water and Sewer Infrastructure.	1	1	1	1	1	1	1	1	1	1	0	New	10
Allamuchy Township	01-07	Mitigate Vulnerable Structures in Flood-prone Areas Along the Pequest River and Musconetcong River via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Flood Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Allamuchy Township	01-08	Extend Current Vegetated Buffers Along Rivers and Creeks to Mitigate Flooding.	1	1	1	1	1	1	1	1	1	1	0	New	10
Allamuchy Township	01-09	Create Stormwater Detention Ponds and Stormwater Lots with Community Amenities Utilizing Existing Open Space to Mitigate Flooding.	1	1	1	1	1	1	1	1	1	1	0	New	10
Allamuchy Township	01-04	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	0	0	Ongoing	8
Allamuchy Township	01-05	Improve Highway Safety Design with DOT to Mitigate the Risk of Accidents and Release of Hazardous Materials.	1	0	1	1	1	0	1	1	0	1	0	New	7
Allamuchy Township	01-01	Construct an Emergency Access Ramp to Interstate 80 to Expedite Emergency Vehicular Response.	1	1	0	1	0	0	0	0	0	1	0	Ongoing	4

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Allamuchy Township	01-02	Purchase and Install an Emergency Generator to Ensure Continuity of Operations at the DPW Building/Complex in the Event of a Power Outage.	0	1	1	0	0	0	0	0	0	1	0	Ongoing	3
Alpha Borough	02-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Alpha Borough	02-05	Mitigate Vulnerable Structures in Flood-prone Areas Near a Tributary to Pohatcong Creek in the Southern Portion of the Borough, via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Alpha Borough	02-07	Construct a Green Infrastructure Retention Pond to Gradually Release the Water on Route 519 North of Homa Lane.	1	1	1	1	1	1	1	1	1	1	0	New	10
Alpha Borough	02-01	Upgrade and Improve the Stormwater Management System Along Route 519 near Homa Lane (Estimated 25-year Storm).	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Alpha Borough	02-02	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness and Fulfill CERT Requirements.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Alpha Borough	02-04	Construct an Additional Bay in the Fire House and Purchase/Acquire Additional Fire or Rescue Truck.	1	1	1	1	1	1	0	0	1	0	0	Carried Forward	7

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Belvidere Town	03-14	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Belvidere Town	03-10	Assess the Vulnerability to Severe Wind by Developing and Maintaining a Database to Track the Inspection and Maintenance of Hazardous Trees and Establish Standards for Tree Pruning.	1	1	1	1	1	1	1	0	1	0	0	Ongoing	8
Belvidere Town	03-03	Elevate Utilities and Floodproof Foundations at Flood-prone Properties, Especially at Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Belvidere Town	03-04	Promote Hazard Awareness through Education and Outreach.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Belvidere Town	03-06	Partner with Academic Institutions for Technical Assistance.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Belvidere Town	03-07	Designate Municipal Funding for Hazard Mitigation Projects.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Belvidere Town	03-11	Plan for and Maintain Adequate Road and Debris Clearing Capabilities.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Belvidere Town	03-12	Establish and Promote Accessible Heating Centers, Specifically for At-Risk Populations, in the Event of Long-Term Power Outages.	1	0	1	1	1	1	0	1	1	0	0	Ongoing	7
Belvidere Town	03-02	Install, Reroute, or Increase the Capacity of the Stormwater Drainage System.	1	1	1	1	1	1	0	0	0	0	0	Ongoing	6
Belvidere Town	03-08	Create a Community Resilience Committee.	1	1	1	1	1	1	0	0	0	0	0	Ongoing	6
Belvidere Town	03-09	Train Municipal Employees and Residents in Hazard Mitigation.	1	1	1	1	1	1	0	0	0	0	0	Ongoing	6

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Belvidere Town	03-01	Mitigate Vulnerable Structures in Flood-prone Areas Along the Delaware River, the Pequest River, and the Pophandusing Brook via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Flood Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	0	0	-1	0	0	Ongoing	5
Belvidere Town	03-13	Stabilize the Streambanks Along Pophanduysen Creek and the Pequest River. Remove Two Dams on the Pequest River.	0	1	1	1	0	0	1	0	1	0	0	Ongoing	5
Blairstown Township	04-11	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Blairstown Township	04-10	Repair, Remove, or Rehabilitate the Blair Lake Dam on Blair Creek, Yards Creek Lower Res Main Dam, Yards Creek Upper Res Main (North) Dam, Yards Creek Lower Res Saddle (Auxiliary Dike) Dam, Yards Creek Upper Res East Dike, Yards Creek Upper Res West Dike, Yards Creek Upper Res SW Dike on Yards Creek, and Youngs Pond Dam on Jacksonburg Creek to Reduce Flood Risk.	1	1	1	1	1	0	0	1	1	1	0	New	8
Blairstown Township	04-04	Mitigate Vulnerable Structures in Flood-prone Areas Near Paulins Kill and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Flood Damage. Prioritize Repetitive Loss	1	1	1	1	0	0	0	1	1	0	0	Ongoing	6

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
		and Severe Repetitive Loss Properties.													
Blairstown Township	04-01	Incorporate Hazard Resistant Construction Standards into the Design and Location of Projects.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Blairstown Township	04-02	Establish Safe Growth Practices within the Township.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Blairstown Township	04-05	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	1	0	0	Carried Forward	5
Blairstown Township	04-06	Install Backflow Suppressors in Current Stormwater Management System Along Route 94.	1	1	1	1	0	0	0	0	1	0	0	Carried Forward	5
Blairstown Township	04-08	Flood-proof the Blairstown Elementary School.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Blairstown Township	04-09	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Franklin Township	05-07	Conduct All Hazards Public Education and Outreach Program For Hazard Mitigation And Preparedness.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11
Franklin Township	05-08	Ensure Continuity of Operations at Critical Facilities. This Includes the Purchase and Installation of Generators at Critical Facilities in the Township such as the Municipal Building, EOC, and Emergency Services Facilities.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11
Franklin Township	05-11	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Franklin Township	05-09	Mitigate Vulnerable Structures in Flood-prone Areas Near Pohatcong Creek and the Musconetcong River and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	0	1	1	1	1	Carried Forward	10
Franklin Township	05-10	Consider Targeted Green Stormwater Infrastructure Solutions on Willow Grove Road near Pohatcong Creek and Partner with Warren County to Consider Green Infrastructure Solutions Along County Route 632.	1	1	1	1	1	0	1	1	0	1	0	New	8
Franklin Township	05-02	Prepare a Continuity of Operations Plan for the Township.	1	1	1	1	0	1	0	0	1	0	1	Ongoing	7
Franklin Township	05-05	Enhance Floodplain Management Standards to Exceed FEMA and State Minimum Requirements.	1	1	1	1	0	1	1	0	1	0	0	Ongoing	7
Franklin Township	05-01	Provide Training on Best Practices for Hazard Mitigation.	1	1	1	1	0	1	0	0	0	0	0	Carried Forward	5
Franklin Township	05-03	Create a Community Resilience Committee and Advisor within the Township.	1	1	1	1	0	1	0	0	0	0	0	Carried Forward	5
Franklin Township	05-04	Create a Mechanism for Funding Hazard Mitigation by Including Line Items for Projects from the Mitigation Plan in the Municipal and Capital Improvement Budgets.	1	1	1	1	0	1	0	0	0	0	0	Carried Forward	5
Frelinghuysen Township	06-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Frelinghuysen Township	06-07	Target Harden Critical Facilities by Installing Surveillance Cameras.	1	1	1	1	1	1	1	1	1	1	0	New	10
Frelinghuysen Township	06-01	Upgrade and Improve the Culvert Located on Main Street and Mill Road. Conduct a Feasibility Study on Water Infrastructure Improvements Including a Fire Department Standpipe Near River Water Source to Provide Primary Water Supply For Fires In Johnsonburg.	1	1	1	1	1	1	1	1	1	0	0	Ongoing	9
Frelinghuysen Township	06-03	Dig a Swale to Lessen the Impact of High Ground Water on South Street.	1	1	1	1	1	1	1	1	1	0	0	Ongoing	9
Frelinghuysen Township	06-05	Mitigate Vulnerable Structures in Flood-prone Areas Near Bear Creek and Paulins Kill via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	0	1	1	0	1	1	New	9
Frelinghuysen Township	06-02	Conduct All Hazards Public Education and Outreach Program For Hazard Mitigation And Preparedness.	1	1	1	1	0	1	1	1	1	0	0	Ongoing	8
Frelinghuysen Township	06-04	Utilize the HMP as a Guide During the Next Master Plan Update.	1	1	1	1	0	1	1	1	1	0	0	Ongoing	8
Frelinghuysen Township	06-08	Install an Emergency Generator in the Township's Elementary School to Allow the Site to be Utilized as a Emergency Shelter.	1	-1	1	0	1	1	1	1	1	1	0	New	7
Greenwich Township	07-16	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Greenwich Township	07-10	Mitigate Vulnerable Structures in Flood-prone Areas Near Pohatcong Creek, Merrill Creek, Musconetcong River, and Lopatcong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	0	1	1	0	1	1	Ongoing	9
Greenwich Township	07-01	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	0	0	1	1	1	1	1	0	Ongoing	8
Greenwich Township	07-05	Train Municipal Employees and Residents in Hazard Mitigation.	1	1	1	0	0	1	1	1	1	1	0	Ongoing	8
Greenwich Township	07-06	Support Continuity of Operations at Critical Facilities by Purchasing an Emergency Generator at the Municipal Building, Police, Fire and EOC.	1	1	1	1	1	1	0	1	0	1	0	Ongoing	8
Greenwich Township	07-09	Educate Homeowners on Maintaining Property and Foliage Near the Road to Reduce Risk of Wildfire Impacts.	1	1	1	0	0	1	1	1	1	1	0	Ongoing	8
Greenwich Township	07-15	Construct Roadside Green Infrastructure Along Roadways in Coordination with Warren County. Plant Vegetated Buffers Along Streams.	1	1	1	1	1	0	1	1	0	1	0	New	8
Greenwich Township	07-02	Incorporate Natural Hazard Risk/Mitigation into the Next Master Plan Update.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Greenwich Township	07-03	Fund Mitigation Projects Through the Municipal/Operating Budget and Capital Improvement Budget.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Greenwich Township	07-04	Create and Identify a Community Resilience Committee and Advisor for the Township.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Greenwich Township	07-08	Address Beattys Road Flooding.	0	1	1	1	1	0	1	1	0	0	1	Ongoing	7
Greenwich Township	07-11	Demolish Washington St. House.	1	1	0	1	1	0	1	0	0	1	1	Ongoing	7

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Greenwich Township	07-14	Remove Trees and Debris in and Alongside the Pohatcong Creek Waterway.	1	1	1	1	1	0	1	1	-1	1	0	New	7
Greenwich Township	07-12	Remove the Dam on the Musconetcong River Between Greenwich Twp. & Bloomsbury Borough (Hunterdon County).	1	1	0	1	1	1	0	0	-1	1	0	Ongoing	5
Greenwich Township	07-13	Relocate or Build a New Municipal Building (Police/OEM).	1	1	0	1	0	0	0	0	0	0	0	Ongoing	3
Greenwich Township	07-07	Dredge and Remove Debris from Merrill Creek.	0	1	-1	-1	0	-1	0	0	-1	0	0	Ongoing	-3
Hackettstown Town	08-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Hackettstown Town	08-05	Mitigate Vulnerable Structures in Flood-prone Areas Near the Musconetcong River, Trout Brook, Hackery Brook, and Bowers Brook via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Hackettstown Town	08-07	Construct Roadside Green Infrastructure Along Roadways.	1	1	1	1	1	0	1	1	0	1	0	New	8
Hackettstown Town	08-02	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation And Preparedness.	1	1	1	1	1	1	0	1	0	0	0	Ongoing	7
Hackettstown Town	08-03	Develop Relationships with Local Colleges and Universities For Technical Assistance With Natural Hazard Mitigation Activities.	1	1	1	1	1	1	0	1	0	0	0	Ongoing	7

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Hackettstown Town	08-04	Enforce Floodplain Codes and Standards Beyond the Minimum Set by FEMA and the State.	1	1	1	1	1	1	0	1	0	0	0	Ongoing	7
Hardwick Township	09-09	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	1
Hardwick Township	09-07	Mitigate Vulnerable Structures in Flood-prone Areas Near Paulins Kill, Blair Creek and Jacksonburg Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Hardwick Township	09-08	Remove Hazardous Trees Along Public Rights-of-Way. Provide Education and Awareness to Residents Regarding the Location of, and Liability Associate with the Removal of, Infested Ash Trees.	1	1	1	1	1	1	1	1	1	1	0	New	10
Hardwick Township	09-03	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	0	0	Ongoing	8
Hardwick Township	09-06	Repair, Remove, or Rehabilitate the Bass Lake Dam on Blairs Creek to Reduce Flood Risk.	1	1	1	1	1	0	0	1	1	1	0	New	8
Hardwick Township	09-04	Flood-proof the Hardwick Township Municipal Building Located on Spring Valley Road.	1	1	1	0	0	1	0	0	1	1	1	Ongoing	7
Hardwick Township	09-05	Protect Utility Lines by Identifying and Removing Potential Hazard-Causing Trees Along 28 miles of Township Roads.	1	1	1	0	0	1	0	0	1	1	1	Ongoing	7

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Hardwick Township	09-02	Ensure Continuity of Operations at Critical Facilities, Township Utilities and Buildings, and Along Township Roads.	0	1	1	0	0	0	0	0	0	1	0	Ongoing	3
Harmony Township	10-08	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Harmony Township	10-07	Create Green Stormwater Solutions to Mitigate Flooding.	1	1	1	1	1	1	1	1	1	1	0	New	10
Harmony Township	10-06	Repair, Remove, or Rehabilitate the Merrill Creek Res. SE Dike, Merrill Creek Northwest Dike 1 and 2, and Merrill Creek Main Dam on Merrill Creek to Reduce Flood Risk.	1	1	1	1	1	0	0	1	1	1	0	New	8
Harmony Township	10-09	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	1	-1	1	1	1	1	1	1	1	1	0	New	8
Harmony Township	10-11	Conduct a Citywide Public Communication Campaign to Increase COVID-19 Awareness.	1	-1	1	1	1	1	1	1	1	1	0	New	8
Harmony Township	10-10	Provide for Infectious Disease Control Through Emergency Communication and Temporary Vaccination Station	1	-1	1	0	1	1	1	1	1	1	0	New	7
Harmony Township	10-02	Review Applicable Building Code Requirements to Ensure that Structures are Designed for Appropriate Wind Loads.	1	1	1	1	1	1	0	0	0	0	0	Ongoing	6
Harmony Township	10-03	Provide Hazard Risk, Preparedness and Mitigation Information via Mailings, Township Website and Information Posted in the Municipal Building.	1	1	1	1	1	1	0	0	0	0	0	Ongoing	6

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Harmony Township	10-05	Mitigate Vulnerable Structures in Flood-prone Areas Along the Delaware River, Lopatcong Creek and Buckhorn Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	0	1	1	1	1	1	0	0	1	0	0	Ongoing	6
Harmony Township	10-04	Integrate the HMP Into Land Use, Zoning, and Development Decision-Making Through Revisions to the Master Plan and Ordinances Governing Development and Mitigation in Flood Hazard Areas.	0	1	1	1	0	1	0	0	0	0	0	Ongoing	4
Harmony Township	10-01	Upgrade and Improve of Culverts Passing Under Harmony Station Road Located Near Brainards Road.	-1	1	0	1	0	1	1	0	1	-1	-1	Ongoing	2
Hope Township	11-14	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Hope Township	11-05	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.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Hope Township	11-13	Build a Berm and Wall at 1187 Hope Bridgeville Rd.	1	1	1	1	1	1	1	1	1	1	0	New	10
Hope Township	11-08	Conduct Education/Outreach to Residents Along Nightingale Road to Clear Drains to Reduce Flooding.	0	1	1	1	1	1	1	1	1	1	0	Ongoing	9

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Hope Township	11-11	Improve Drainage to Reduce Flood Impacts on Jenny Jump Road at Shiloh Road.	0	1	1	1	1	1	1	0	1	1	0	Ongoing	8
Hope Township	11-12	Repair, Remove, or Rehabilitate the Locust Lake Dam on Muddy Brook to Reduce Flood Risk.	1	1	1	1	1	0	0	1	1	1	0	New	8
Hope Township	11-01	Mitigate Vulnerable Structures in Flood-prone Areas Near Beaver Brook, Trout Brook, Honey Run, Muddy Brook, and Brookaloo Swamp via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Hope Township	11-02	Implement the Firewise Program Throughout the Township.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Hope Township	11-03	Conduct Outreach and Solicitation for Participation for Mitigation of Flood-prone Properties.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Hope Township	11-04	Conduct All Hazards Public Education and Outreach Program For Hazard Mitigation And Preparedness.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Hope Township	11-06	Increase Drainage to Reduce Flooding at The Silver Lake Area.	0	1	1	1	1	1	-1	0	1	1	0	Ongoing	6
Hope Township	11-07	Improve Drainage to Reduce Flooding Impacts at 36 Smith Street.	0	1	1	1	0	-1	1	0	1	1	-1	Ongoing	4
Independence Township	12-08	Maintain Agreements with Neighboring Communities.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11
Independence Township	12-15	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Independence Township	12-01	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	1	1	Ongoing	10
Independence Township	12-10	Develop a Post Event Damage Assessment Program.	0	1	1	1	1	1	1	1	1	1	1	Ongoing	10
Independence Township	12-13	Mitigate Vulnerable Structures in Flood-prone Areas Near the Pequest River and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Independence Township	12-14	Implement Firewise Program throughout the Township.	1	0	1	1	1	1	1	1	1	1	0	New	9
Independence Township	12-02	Develop a Continuity of Operations (COOP) Plan for the Township.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Independence Township	12-03	Provide Training and Outreach to the Community in Relation to Grant Applications and Hazards.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Independence Township	12-04	Create a Community Resilience Committee and Appoint an Advisor.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Independence Township	12-05	Create a Line Item in the Municipal/Operating Budget and Capital Improvement Budget for Mitigation Project Funding.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Independence Township	12-06	Fund Mitigation Projects Using the Capital Improvement Budget.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Independence Township	12-07	Develop a Resilient Transportation Plan.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Independence Township	12-12	Support Participation in the NFIP Community Rating System (CRS) Program by Attending CRS Workshop(s) if Offered Within the County. Join the CRS program if Adequate Resources to Support Long Term Participation Can be Dedicated.	1	1	1	1	1	1	0	0	0	0	0	Ongoing	6
Independence Township	12-09	Enhance/Expand Tree Maintenance.	1	1	0	0	0	0	1	0	0	1	1	Ongoing	5

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Knowlton Township	13-04	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11
Knowlton Township	13-06	Remove Hazardous Trees and Maintain Trees in Public Rights-of-Way to Protect Electrical Power Infrastructure.	1	1	1	1	1	1	1	1	1	1	0	New	10
Knowlton Township	13-03	Develop and Implement an Enhanced All-Hazards, Public Outreach, Education, and Mitigation Information Program on Natural Hazard Risks to Educate Residents About What They Can Do in The Way of Mitigation and Preparedness, Including Flood Insurance.	1	1	1	1	1	0	0	0	1	0	0	Ongoing	6
Knowlton Township	13-05	Mitigate Erosion from Stony Brook Along Hemlock Rd.	1	1	1	0	0	0	1	1	-1	1	0	New	5
Knowlton Township	13-01	Improve Fire Service: 1. Improve Access to River at Ferry Land and Clover Rest Home. 2. Add Fire Hydrants in Columbia. 3. Install Standpipes at Lake on Countryside Road. 4. Purchase Pumper/Rescue Truck.	1	1	1	0	0	0	0	0	0	0	0	Ongoing	3
Knowlton Township	13-02	Mitigate Vulnerable Structures in Flood-prone Areas Near the Delaware River, Paulins Kill and Knowlton Brook, via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	0	0	0	0	0	0	0	0	Ongoing	3
Liberty Township	14-03	Continue to Enhance and Develop the Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Liberty Township	14-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Liberty Township	14-05	Mitigate Vulnerable Structures in Flood-prone Areas Near the Pequest River and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Liberty Township	14-07	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	1	-1	1	1	1	1	1	1	1	1	0	New	8
Liberty Township	14-02	Stabilize the Streambank along Mountain Lake Brook by the Intersection of Lake Side Drive North and Lake Side Drive East.	0	1	1	1	1	1	1	0	0	0	0	Ongoing	6
Liberty Township	14-04	Encourage the Designated NFIP Floodplain Administrator (FPA) to Become a Certified Floodplain Manager (CFM) Through the Association of State Floodplain Managers (ASFPM) and New Jersey Association for Floodplain Management (NJAFM) and Pursue Relevant Continuing Education Training.	0	0	1	1	1	1	0	0	1	0	0	Ongoing	5
Lopatcong Township	15-05	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management	1	1	1	1	1	1	1	1	1	1	1	New	11

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
		Rules at N.J.A.C. 7:8, Adopted March 2, 2020.													
Lopatcong Township	15-04	Ensure Continuity of Operations for Both Fire Stations Through Back-Up Electrical Power to Prevent Interruptions During a Disaster That Cause Emergency Response Delays, Communications Outages, and the Inability to House Staff and the Public.	1	1	1	1	1	1	1	1	0	1	1	New	10
Lopatcong Township	15-02	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	0	0	Ongoing	8
Lopatcong Township	15-03	Integrate the HMP Into Land Use Decision-Making by Utilizing the HMP when Updating the Township Master Plan to Ensure Consistent and Compatible Land Use.	1	1	1	1	1	1	0	1	1	0	0	Ongoing	8
Lopatcong Township	15-01	Mitigate Vulnerable Structures Along the Delaware River and Its Tributaries (Including Lopatcong Creek) via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties.	1	1	1	1	1	1	0	1	0	0	0	Ongoing	7
Mansfield Township	16-06	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Mansfield Township	16-02	Continue to Develop and Enhance the Township's All-Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	1	0	Ongoing	9
Mansfield Township	16-04	Mitigate Vulnerable Structures in Flood-prone Areas Near the Musconetcong River and Its Tributaries (Including Hances Brook), Pohatcong Creek and a Pequest River Tributary via Retrofit (e.g. Elevation, Floodproofing) 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	1	1	0	0	1	1	0	Ongoing	8
Mansfield Township	16-05	Implement Streetside Green Infrastructure to Reduce Stormwater Runoff and Flood Impacts.	1	1	1	1	1	0	1	1	0	1	0	New	8
Mansfield Township	16-01	Implement the Firewise Program throughout the Township.	1	1	1	1	0	0	1	0	1	0	0	Ongoing	6
Oxford Township	17-08	Mitigate Vulnerable Structures in Flood-prone Areas Near Furnace Brook and its Tributaries via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	1	New	11
Oxford Township	17-09	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Oxford Township	17-04	Implement Firewise USA Program throughout the Township to Encourage the Community to Improve their Resilience to Wildfires.	1	1	1	1	1	1	1	1	1	1	0	Ongoing	10
Oxford Township	17-21	Conduct a Citywide Public Communication Campaign to Increase COVID-19 Awareness.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-22	Target Harden Critical Facilities by Installing Surveillance Cameras to Reduce the Risk of Terrorism.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-10	Purchase Light Towers, Variable Message Boards, and Movable Barriers to Assist with Continuity of Operations After a Storm Event.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-11	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage to Prevent Against Cyber Attacks.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-12	Build Planting Vegetation Along the Banks of Furnace Brook and its Tributaries to Increase Stormwater Infiltration.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-13	Construct Green Infrastructure Along Roadways to Increase Stormwater Management.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-14	Create Stormwater Detention Ponds and Stormwater Lots with Community Amenities Utilizing Existing Open Space to Mitigate Flooding.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-17	Inspect and Retrofit Roofs to Adequate Standards to Provide Wind Resistance.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-18	Protect Traffic Lights and Other Traffic Controls from High Winds and the Risk of Power Outages.	1	1	1	1	1	1	1	1	1	1	0	New	10
Oxford Township	17-19	Implement Soil Stabilization Measures Such as Planting Soil-Stabilizing Vegetation on Steep, Publicly Owned Slopes.	1	1	1	1	1	0	1	1	1	1	0	New	9

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Oxford Township	17-20	Use Debris-Flow Measures That May Reduce Damage in Sloping Areas, Such as Stabilization, Energy Dissipation, and Flow Control Measures.	1	1	1	1	1	0	1	1	1	1	0	New	9
Oxford Township	17-16	Establish Standards for all Utilities Regarding Tree Pruning Around Lines to Reduce the Risk of Power Failure.	1	1	1	1	1	0	1	1	1	1	0	New	9
Oxford Township	17-15	Bury Electrical and Cable Wiring Underground to Reduce Risks of Power Failure.	1	1	1	1	1	0	1	1	1	1	0	New	9
Oxford Township	17-03	Construct a Diversionary Berm around the Lift Station to Prevent Flooding (to the 1% Annual Chance Flood Level) Located on Pequest Road at Shippen Ridge.	0	1	1	1	1	1	0	0	1	1	1	Ongoing	8
Oxford Township	17-05	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness. Continue and expand LEPC.	1	1	1	1	1	1	0	0	1	0	1	Ongoing	8
Oxford Township	17-07	Repair, Remove, or Rehabilitate the Furnace Brook W.S. number 2 Dam on Furnace Brook to Reduce Flood Risk.	1	1	1	1	1	0	0	1	1	1	0	New	8
Oxford Township	17-01	Provide for Continuity of Operations at Critical Facilities and Municipal Buildings by Purchasing and Installing Generators at the Following Critical Facilities in the Township: Emergency Operations Center Located at the Municipal Building /EOC/Primary Warming Center and Primary Evacuation Center Located at the Oxford Central.	0	1	1	1	0	1	0	0	1	1	1	Ongoing	7
Oxford Township	17-06	Fund Mitigation Projects by Incorporating a Line Item for Hazard Mitigation Project Funding in the Municipal/Operating Budget and Capital Improvement Budget.	1	1	1	1	0	0	1	0	1	0	0	Ongoing	6

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Oxford Township	17-02	Retrofit the Foundation Pilings on the Emergency Squad Building Located on Academy Street.	1	0	1	0	1	1	0	0	1	0	0	Ongoing	5
Phillipsburg Town	18-13	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Phillipsburg Town	18-14	Repair/Replace Storm Sewer Lines and Box Culverts on South Main, Mercer, River, Jersey, and Sitgreaves Streets along the Delaware River Park	1	1	1	1	1	1	1	1	1	1	1	New	11
Phillipsburg Town	18-08	Install Backflow Preventers at Key Locations Subject to Frequent Flooding.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Phillipsburg Town	18-02	Mitigate Vulnerable Structures in Flood-prone Areas Near the Delaware River and Lopatcong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	0	1	1	1	1	1	1	0	1	1	0	Ongoing	8
Phillipsburg Town	18-06	Conduct All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	0	0	Ongoing	8
Phillipsburg Town	18-09	Review the County HMP and Other Hazard Analysis Prior to Land Use, Zoning Changes or Development Permitting and While Updating Any Ordinances Within the Town.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Phillipsburg Town	18-10	Review and Incorporate the County HMP Into the Next Master / Comprehensive Plan Update for The Town.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Phillipsburg Town	18-11	Provide a Funding Mechanism for Hazard Mitigation by Including a Line Item in the Capital Improvement Plan and Municipal/Operating Budget for Mitigating Project Funding in the Town.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Phillipsburg Town	18-03	Extend 800 feet to Retaining Wall Along Delaware River and Riverside Way.	1	1	1	1	1	0	0	0	1	0	0	Ongoing	6
Phillipsburg Town	18-04	Install Duckbill Valves/Flapper Valves on Lopatcong Creek.	1	1	1	1	1	0	0	0	1	0	0	Ongoing	6
Phillipsburg Town	18-05	Upgrade and Improve the Stormwater Management System with the Addition of Check Valves.	1	1	1	1	1	0	0	0	1	0	0	Ongoing	6
Phillipsburg Town	18-12	Flood-Proof the Mallinckrodt Baker Building Located on Broad Street.	1	1	1	1	0	0	0	0	0	0	0	Ongoing	4
Pohatcong Township	19-03	Mitigate Vulnerable Structures in Flood-prone Areas Near the Delaware River and Musconetcong River via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11
Pohatcong Township	19-08	Support and Participate in County Led Initiatives Intended to Build Local and Regional Mitigation and Risk-Reduction Capabilities.	1	1	1	1	1	1	1	1	1	1	1	Carried Forward	11
Pohatcong Township	19-09	Develop and Implement a Post-Event Damage Assessment Program.	1	1	1	1	1	1	1	1	1	1	1	Carried Forward	11
Pohatcong Township	19-02	Develop and Implement an Enhanced All-Hazards, Public Outreach, Education, Mitigation Information Program for Natural Hazard Risks to Inform Residents About Mitigation and Preparedness, Including Flood Insurance.	1	1	1	1	1	1	1	1	1	1	0	Ongoing	10

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Pohatcong Township	19-04	Support Participation in the NFIP Community Rating System (CRS) Program by Attending CRS Workshop(s) if Offered Within the County. Join the CRS Program if Adequate Resources to Support Long Term Participation Can be Dedicated.	1	1	1	1	1	1	1	1	1	1	0	Carried Forward	10
Pohatcong Township	19-05	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is Needed, and Schedule if Needed. This is Part of The Process of Joining CRS (above initiative).	1	1	1	1	1	1	1	1	1	1	0	Carried Forward	10
Pohatcong Township	19-06	Encourage the Designated NFIP Floodplain Administrator (FPA) to Become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers and New Jersey Association for Floodplain Management. Pursue Relevant Continuing Education Training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	1	1	1	1	1	1	1	1	1	1	0	Carried Forward	10
Pohatcong Township	19-10	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	0	New	10
Pohatcong Township	19-12	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage.	1	1	1	1	1	1	1	1	1	1	0	New	10
Pohatcong Township	19-11	Purchase Light Towers, Variable Message Boards, and Movable Barriers.	1	-1	1	1	1	1	1	1	1	1	0	New	8

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Washington Borough	20-12	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Washington Borough	20-10	Mitigate Vulnerable Structures in Flood-prone Areas Along Shabbecong Creek and Pohatcong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss and Severe Repetitive Loss Properties.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-20	Inspect and Retrofit Roofs to Adequate Standards to Provide Wind Resistance.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-14	Obtain Back-up Servers for Municipal and Police Department and Provide Off-site Data Storage to Reduce the Risk of Cyber Attacks.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-15	Utilize Existing Open Space to Create Stormwater Detention Ponds and Stormwater Lots with Community Amenities to Mitigate Flooding.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-16	Construct Green Infrastructure Along Roadways to Increase Stormwater Management.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-17	Plant Vegetated Buffers Along Streams to Increase Stormwater Management and Reduce Flooding.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-22	Implement Soil Stabilization Measures Such as Planting Soil-Stabilizing Vegetation on Steep, Publicly Owned Slopes.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-24	Conduct a Citywide Public Communication Campaign to Increase COVID-19 Awareness.	1	1	1	1	1	1	1	1	1	1	0	New	10

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Washington Borough	20-25	Target Harden Critical Facilities by Installing Surveillance Cameras to Reduce the Risk of Terrorism.	1	1	1	1	1	1	1	1	1	1	0	New	10
Washington Borough	20-04	Protect Buildings and Infrastructure in High Hazard Areas.	1	1	1	1	1	1	1	1	1	0	0	Ongoing	9
Washington Borough	20-05	Develop and Implement an Enhanced All-Hazards, Public Outreach, Education, Mitigation Information Program for Natural Hazard Risks to Inform Residents About Mitigation and Preparedness, Including Flood Insurance.	1	1	1	1	1	1	1	1	1	0	0	Ongoing	9
Washington Borough	20-06	Prepare a Continuity of Operations (COOP) Plan for the Borough and Integrate Mitigation into the Plan.	1	1	1	1	1	1	1	1	1	0	0	Ongoing	9
Washington Borough	20-07	Support Continuity of Operations at Critical Facilities by Purchasing and Installing an Emergency Generator for the Shelter and Emergency Operations Center Located at the Washington Borough Municipal Complex Located on Belvidere Avenue.	1	1	1	1	1	1	1	0	1	1	0	Ongoing	9
Washington Borough	20-09	Establish a Program to Conduct Testing of the Radio Communication System Between the OEM, Municipal Clerk, and DPW.	1	1	1	1	1	1	1	1	1	0	0	Ongoing	9
Washington Borough	20-02	Fund Mitigation Projects by Including a Line Item in the Municipal/Operating Budget and Capital Improvement Budget for Mitigation Project Funding.	1	1	1	1	1	1	1	0	1	0	0	Ongoing	8
Washington Borough	20-11	Implement Green Infrastructure Solutions Along State Route 57 through Coordination with NJDOT.	1	1	1	1	1	0	1	1	0	1	0	New	8
Washington Borough	20-13	Purchase Light Towers, Variable Message Boards, and Movable Barriers to Assist with Continuity of Operations After a Storm Event.	1	0	1	1	1	1	1	1	1	1	0	New	9
Washington Borough	20-18	Bury Electrical and Cable Wiring Underground to Reduce the Risk of Power Failure.	1	1	1	1	1	1	0	1	1	1	0	New	9

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Washington Borough	20-19	Establish Standards for All Utilities Regarding Tree Pruning Around Lines to Reduce the Risk of Power Outages.	1	1	1	1	1	1	0	1	1	1	0	New	9
Washington Borough	20-21	Protect Traffic Lights and Other Traffic Controls from High Winds that Cause Power Outages.	1	1	1	1	1	1	0	1	1	1	0	New	9
Washington Borough	20-23	Use Debris-Flow Measures That May Reduce Damage in Sloping Areas, Such as Stabilization, Energy Dissipation, And Flow Control Measures.	1	1	1	1	1	1	0	1	1	1	0	New	9
Washington Borough	20-01	Integrate the HMP Into Land Use, Zoning, and Development Decision-Making to Ensure Consistent and Compatible Land Use.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Washington Borough	20-03	Adopt and Enforce Codes and Standards Beyond FEMA Minimum Requirements for Floodplain Management.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
Washington Township	21-12	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
Washington Township	21-13	Purchase Portable Light Towers and Two (2) Variable Message Boards	1	1	0	1	1	1	1	1	1	1	1	New	10
Washington Township	21-06	Conduct an All-Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	0	0	Carried Forward	8
Washington Township	21-08	Remove High Hazard Trees from the Township to Prevent Property Damage and Power Outages During and Reduce Debris After Storms and Severe Weather Events.	1	1	1	1	1	1	0	1	1	0	0	Ongoing	8

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Washington Township	21-01	Upgrade and Improve the Stormwater Management System Along Mill Pond Road.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Washington Township	21-02	Raise 200 feet of Embankment an Additional Two Feet in Height Along the Streambank Parallel to Kayhart Lane.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Washington Township	21-03	Stabilize the Streambank at the Bend of Roaring Rock Creek Located Near Meadow Breeze Lane.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Washington Township	21-04	Conduct an Inundation Study for the Dams Located in Roaring Rock Park.	1	1	1	1	0	0	0	0	1	0	0	Ongoing	5
Washington Township	21-07	Mitigate Vulnerable Structures Along the Musconetcong River and its Tributaries, Brass Castle Creek, Pohatcong Creek, Tunnel Brook, and Shabbecong Creek via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage. Prioritize Repetitive Loss (RL) and Severe Repetitive Loss Properties.	1	1	1	0	0	0	0	1	1	0	0	Carried Forward	5
Washington Township	21-09	Support the Continuity of Operations at Critical Facilities by Purchasing and Installing a Generator to Use as Backup Power at the Police Headquarters/Municipal Building/Emergency Operations Center (EOC) and Build a Fueling Station at this Location.	1	1	1	0	0	0	0	1	1	0	0	Ongoing	5
Washington Township	21-10	Dredge the Waterways and Runoff Areas Within the Township to Control Flooding.	1	1	1	0	0	0	0	1	1	0	0	Carried Forward	5
Washington Township	21-11	Install a Back-Up Generator at the Parks & Recreation Building to Support Continuity of Operations at this Township Facility.	1	1	1	0	0	0	0	1	1	0	0	Carried Forward	5

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Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
White Township	22-11	Update Municipal Stormwater Control Ordinance Based on Appendix D: Model Stormwater Control Ordinance for Municipalities of the New Jersey Stormwater Best Management Practices Manual to Reflect Amendments to the Stormwater Management Rules at N.J.A.C. 7:8, Adopted March 2, 2020.	1	1	1	1	1	1	1	1	1	1	1	New	11
White Township	22-02	Integrate the HMP Into Land Use, Zoning, and Development Decision-Making to Ensure Consistent and Compatible Land Use.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
White Township	22-03	Create and Conduct All Hazards Public Education and Outreach Program to Inform Residents on Hazard Mitigation and Preparedness Within the Township.	1	1	1	1	1	1	0	0	1	0	0	Ongoing	7
White Township	22-04	Fund Mitigation Projects by Including a Line Item in the Municipal/Operating Budget and Capital Improvement Budget for Mitigation Project Funding.	1	1	1	1	1	1	0	0	1	0	0	Carried Forward	7
White Township	22-06	Mitigate Flooding of Rt. 519 North Recreation Area by Increasing Drainage.	0	1	1	1	1	1	1	-1	1	1	-1	Carried Forward	6
White Township	22-09	Mitigate Vulnerable Structures via Retrofit (e.g. Elevation, Floodproofing) or Acquisition/Relocation to Protect Structures from Future Damage, with Repetitive Loss (RL) and Severe Repetitive Loss Properties as a Priority When Applicable.	1	1	1	1	0	0	0	1	1	0	0	Ongoing	6
White Township	22-08	Acquire and Remove All Severe Repetitive Loss (SRL) Properties Along Rt. 46 West in White Township – Columbia Area Only.	1	1	-1	-1	-1	-1	0	-1	-1	-1	-1	Carried Forward	-6
Warren County	23-12	Acquire, Elevate, or Floodproof Structures in Flood-prone Areas, with a Focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties.	1	1	1	1	1	1	1	1	1	1	1	Ongoing	11

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Warren County	23-13	Integrate Hazard Mitigation Priorities into the Capital Improvement Plan, Transportation Plan, and Other Capital Planning Documents.	1	1	1	1	1	1	0	1	1	1	1	Ongoing	10
Warren County	23-14	Simulate a Hazardous Materials Incident Derailment.	1	1	1	1	1	1	0	1	1	1	1	Ongoing	10
Warren County	23-15	Simulate High Hazard Dam Failure.	1	1	1	1	1	1	0	1	1	1	1	Ongoing	10
Warren County	23-16	Develop a Regional Homeland Security Grant for a Regional Rail Emergency Plan.	1	1	1	1	1	1	0	1	1	1	1	Ongoing	10
Warren County	23-17	Develop a Regional Damage Assessment Plan.	1	1	1	1	1	1	0	1	1	1	1	Ongoing	10
Warren County	23-18	Conduct a Structural Analysis of Communication Towers from High Winds.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Warren County	23-19	Protect County Culverts, Bridges and Retaining Walls Against Scour and Flood Conditions.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Warren County	23-20	Upgrade the Stormwater, Sewer, and Drainage Capacity of County Roadways that Experience Frequent Flooding Conditions.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Warren County	23-21	Conduct a Geotechnical Survey of Prioritized Geologically Vulnerable Areas.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Warren County	23-22	Conduct Debris Removal on Roads and Adjacent to Structures.	1	1	1	1	1	1	1	0	1	1	1	Ongoing	10
Warren County	23-23	Geocode Building Permits to Assist the County with Understanding Potential New Development in Hazardous Areas.	1	1	1	1	1	1	1	1	1	1	0	New	10
Warren County	23-02	Purchase and Install Generators at Critical Facilities to Support the Continuity of Operations During Power Failure	1	1	1	1	1	1	0	1	1	1	0	Ongoing	9
Warren County	23-03	Develop All Hazards Public Education and Outreach Program for Hazard Mitigation and Preparedness.	1	1	1	1	1	1	0	1	1	1	0	Ongoing	9
Warren County	23-04	Create Opportunities for Regular Discussions of FEMA Mitigation Funding Opportunities.	1	1	1	1	1	1	0	1	1	1	0	Ongoing	9

6.0 MITIGATION STRATEGY

Jurisdiction	Community Action #	Action Description	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Action Status	STAPLEE Evaluation
Warren County	23-01	Ensure Adequate Salt Supply and Storage Capacity in Preparation for Severe Winter Weather.	1	1	1	1	1	1	0	0	1	1	0	Ongoing	8
Warren County	23-07	Collect Data for Geographic Information System (GIS) Analysis and Mapping of Potential Hazardous Material Site Impact Areas.	1	1	1	1	1	1	0	0	1	1	0	Ongoing	8
Warren County	23-08	Survey Critical Facilities for Excessive Snow and Ice Load Vulnerability.	1	1	1	1	1	1	0	0	1	1	0	Ongoing	8
Warren County	23-09	Survey Existing Dams with NJDEP Dam Safety.	1	1	1	1	1	1	0	0	1	1	0	Ongoing	8
Warren County	23-10	Encourage Community Rating Survey (CRS) Program Participation.	1	1	1	1	1	1	0	0	1	1	0	Ongoing	8
Warren County	23-11	Expand the County's GIS Platform	1	1	1	1	1	1	0	0	1	1	0	Ongoing	8
Warren County	23-24	Digitize Municipal Zoning Maps to Assist the County with Understanding Potential New Development in Hazardous Areas.	0	0	1	1	1	1	1	1	1	1	0	New	8
Warren County	23-05	Conduct More Detailed Earthquake Risk Assessments in Coordination with the State.	1	1	1	0	1	1	1	1	0	0	0	Ongoing	7
Warren County	23-06	Coordinate with State Efforts to Survey Wind Vulnerabilities.	1	1	1	0	1	1	1	1	0	0	0	Ongoing	7

6.5.6 BENEFIT/COST REVIEW

Section 201.6(c)(3)(iii) of the 44 CFR requires the prioritization of the action plan to emphasize the extent to which benefits are maximized according to a benefit/cost review of the proposed projects and their associated costs. Stated otherwise, cost-effectiveness is one of the criteria that must be applied during the evaluation and prioritization of all actions comprising the overall mitigation strategy.

The benefit/cost review applied for the evaluation and prioritization of projects and initiatives in this 2021HMP update process was qualitative; that is, it does not include the level of detail required by FEMA for project grant eligibility under the Hazard Mitigation Assistance grant programs. For all actions identified in the local strategies, jurisdictions have identified both the costs and benefits associated with a project, action, or initiative.

Costs are the total cost for the action or project, and may include administrative costs, construction costs (including engineering, design and permitting), and maintenance costs.

Benefits are the savings from losses avoided attributed to the implementation of the project, and may include life-safety, structure and infrastructure damages, loss of service or function, and economic and environmental damage and losses.

When available, jurisdictions were asked to identify the actual or estimated dollar value for project costs and associated benefits. Having defined costs and benefits allows a direct comparison of benefits versus costs, and a quantitative evaluation of project cost-effectiveness. Often, however, numerical costs and/or benefits have not been identified or may be impossible to quantitatively assess.

For the purposes of this planning process, jurisdictions were tasked with evaluating project cost-effectiveness with both costs and benefits assigned to “High,” “Medium,” and “Low” ratings. Where quantitative estimates of costs and benefits were available, ratings/ranges were defined as:

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

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the definitions presented in **Table 6-5.2 Qualitative Cost and Benefit Ratings** were used.

Figure 6.5 - 2 Qualitative Cost and Benefit Ratings

Costs	
High	Existing funding levels are not adequate to cover the costs of the proposed project, and implementation would require an increase in revenue through an alternative source (e.g., bonds, grants, and fee increases).
Medium	The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
Low	The project could be funded under the existing budget. The project is part of or can be part of an existing, ongoing program.
Benefits	
High	Project will have an immediate impact on the reduction of risk exposure to life and property.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Low	Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly. The action plan was prioritized according to the benefit/cost analysis, funding availability and the immediacy of the need for each project (CRS Step 8).

For some of the Warren County initiatives identified, the Planning Committee may seek financial assistance under FEMA's HMGP or HMA programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA benefit/cost analysis model process. The Planning Committee is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Planning Committee reserves the right to define "benefits" according to parameters that meet its needs and the goals and objectives of this HMP.