



## 9.1 Warren County

This section presents the jurisdictional annex for the Warren County.

### 9.1.1 Hazard Mitigation Plan Point of Contact

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

Primary Point of Contact	Alternate Point of Contact
Frank E. Wheatley Public Safety Director, OEM Coordinator Warren County Department of Public Safety 1024 Route 57, Washington, NJ 07882 908-835-2050; <a href="mailto:fwheatly@co.warren.nj.us">fwheatly@co.warren.nj.us</a>	William E. Hunt Deputy Public Safety Director / Deputy OEM Coordinator Warren County Department of Public Safety 1024 Route 57, Washington, NJ 07882 908-835-2051; <a href="mailto:whunt@co.warren.nj.us">whunt@co.warren.nj.us</a>

### 9.1.2 County Profile

Please refer to Section 4, Volume I of this Plan for details on Warren County’s population, location, climate, history, growth and development.

### 9.1.3 Natural Hazard Event History Specific to Warren County

Warren County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities.

### 9.1.4 Natural Hazard Risk/Vulnerability Risk Ranking

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



**Table 9.1-1. Hazard Risk/Vulnerability Risk Ranking**

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Dam Failure	Damage estimate not available	Occasional	24	Medium
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$4,783,818 2,500-Year GBS: \$75,408,422	Occasional	28	Medium
Flood	1% Annual Chance: \$275,982,468	Frequent	27	High
Geologic	GBS Exposed to Carbonate Rock Areas: \$8,104,416,260	Frequent	54	High
Hurricane	100-year MRP: \$4,219,120.00 500-year MRP: 30219526 Annualized: \$342,640.00	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$4,219,120 500-year MRP: \$30,219,526 Annualized: \$342,640	Frequent	48	High
Severe Winter Weather	1% GBS: \$72,471,468 5% GBS: \$362,357,340	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$334,404,994	Frequent	24	Medium
Hazardous Materials	Damage estimate not available	Frequent	36	High

Notes:

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

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



### 9.1.5 Capability Assessment

This section summarizes the following capabilities of the County. Refer to Section 6 (Mitigation Strategy – Capability Assessment) for additional details on County programs and capabilities.

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and community classification
- National Flood Insurance Program
- Integration of mitigation planning into existing and future planning mechanisms

#### Planning and Regulatory Capability

The table below summarizes the planning and regulatory tools that are available to Warren County.

**Table 9.1-1. Planning and Regulatory Tools**

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
<b>Planning Capability</b>				
Master Plan	Yes	County, Local	Planning Department	Warren County Strategic Growth Plan, Revised October 2005
Capital Improvements Plan	Yes	County, Local	County Engineering and Department of Public Works	Capital Improvement Budget
Floodplain Management / Basin Plan	No			
Stormwater Management Plan	No			
Open Space Plan	Yes	County	Planning Department	Warren County Open Space and Recreation Plan (1999, update 2008)
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	County	Office of Emergency Management	Emergency Support Function Plan, January 29, 2016
Emergency Response Plan	No			Included in the ESF Plan
Post-Disaster Recovery Plan	No			Included in the ESF Plan
Transportation Plan	Yes	County		Transportation Technical Study
Strategic Recovery Planning Report	No			



**Table 9.1-1. Planning and Regulatory Tools**

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Other Plans:	Yes	County	1. Planning Department 2. Planning Department 3. Morris Land Conservancy and Warren County Agriculture Development Board	1. Strategic Growth Plan (2004, revised 2005) 2. Solid Waste Management Plan (2007) 3. Comprehensive Farmland Preservation Plan
<b>Regulatory Capability</b>				
Building Code	Yes	State, Local		NJAC 5:23-3, 14
Zoning Ordinance	Yes	Local		NJSA 40:55D-1 et seq.
Subdivision Ordinance		Local		NJSA 40:55D-1 et seq.
NFIP Flood Damage Prevention Ordinance	Yes	Local		NJSA 40:55D-1 et seq.
NFIP: Cumulative Substantial Damages	N/A			
NFIP: Freeboard	N/A			
Growth Management Ordinances	N/A			
Site Plan Review Requirements	Yes	County, Local	County Planning Board (Advisory only)	NJSA 40:55D-1 et seq.
Stormwater Management Ordinance	Yes	State	NJDEP	NJDEP Rule N.J.A.C. 7:8
Municipal Separate Storm Sewer System (MS4)	N/A			
Natural Hazard Ordinance	N/A			
Post-Disaster Recovery Ordinance	N/A			
Real Estate Disclosure Requirement	N/A			
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	N/A			

**Administrative and Technical Capabilities**

The table below summarizes potential staff and personnel resources available to Warren County.

**Table 9.1-2. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Warren County Planning Board





Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Mitigation Planning Committee	Yes	Steering Committee established for 2016 Update
Environmental Board/Commission	Yes	Health Department – Environmental Division
Open Space Board/Committee		
Economic Development Commission/Committee	Yes	Economic Development Advisory Council
Maintenance Programs to Reduce Risk		
Mutual Aid Agreements	Yes	
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Planning Department; Engineer’s Office
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Department of Public Works
Planners or engineers with an understanding of natural hazards	Yes	Engineering Department
NFIP Floodplain Administrator	No	
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Planning Department
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Department of Public Safety
Grant Writer(s)	No	Contractors as needed
Staff with expertise or training in benefit/cost analysis	No	Contractors as needed
Professionals trained in conducting damage assessments	No	

**Fiscal Capability**

Mitigation projects and initiatives are largely or entirely dependent on available funding. The table below summarizes financial resources available to Warren County.

**Table 9.1-3. Fiscal Capabilities**

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



### Education/Outreach and Community Classifications

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to Warren County.

Table 9.1-4. Education/Outreach and Community Classifications

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

N/A = Not applicable. NP = Not participating.

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

Criteria for classification credits are outlined in the following documents:

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

### Self-Assessment of Capability

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





**Table 9.1-5. Self-Assessment Capability Assessment**

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability	X – due to staffing and funding restrictions		
Administrative and Technical Capability	X – due to staffing and funding restrictions		
Fiscal Capability	X – due to staffing and funding restrictions		
Community Political Capability	X – due to staffing and funding restrictions		
Community Resiliency Capability	X – due to staffing and funding restrictions		
Capability to Integrate Mitigation into Municipal Processes and Activities.	X – due to staffing and funding restrictions		

**Additional Capabilities**

Please refer to following subsection (Integration of Hazard Mitigation Into Existing and Future Planning Mechanisms) and Section 6 for details on County capabilities.

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

It is the intention of this County to incorporate hazard mitigation planning and natural hazard risk reduction as an integral component of the County’s administrative, regulatory and operational framework. A summary of how the County currently integrates hazard mitigation into daily operations is presented below. In addition, the County identified specific integration activities that will be incorporated into procedures and are included in their updated mitigation strategy.

**Planning**

The County currently has a Master Plan, Strategic Growth Plan, and Open Space Plan. These plans identify flood areas, steep slopes and other environmental constrained areas. Additionally, smart growth practices are recommended in the County's Strategic Growth Plan. The County's Open Space Plan discusses practices to protect natural resources throughout Warren County and recommends the acquisition/conservation of hazard areas and not building within these hazard areas.

In Warren County, approximately 171,093 acres of land is located within the Highlands Region. Of the total area within the region, 104,066 acres are in the Planning Area and 67,027 acres are in the Preservation Area. The land areas within the Preservation Area are subject to stringent environmental restrictions. The Highlands Act requires that future land use in the Highlands Region be guided by the Regional Master Plan’s Land Use Capability Map (LUCM) Series which includes tools to identify and protect the natural, scenic and other resources of the region. During cross-acceptance, the local plans and state plan were reviewed and recommendations were made to ensure all aligned.

Currently, the County does not have a stormwater management plan; however, if funding becomes available, one will be developed. The County supports municipal stormwater programs by deferring when they do not affect county facilities.

The Warren County Planning Board approves applications for development and the plans for development must meet County drainage requirements to minimize risk to County drainage facilities.





The County has a Continuity of Operations/Continuity of Government (COOP/COG) plan which is partially complete. The County IT Department was the lead in finishing this plan for all County departments.

The County is developing a regional rail plan for hazardous materials in transit. As of the date of this HMP Update, the regional rail plan will be operational in 1.5 years.

The New Jersey Department of Health has developed a strategic communication plan for medical needs sheltering. They provided a customizable pamphlet that is available through the WCOEM.

The County participates in New Jersey's Radiological Program, per NJOEM's Radiological Program Guidelines.

During four of the County's LEPC meetings, led by WCOEM, the County EOP was reviewed and amended as necessary. Additionally, the County assisted in the development/revision of municipal EOPs and ensured 100% municipal EOP compliance.

WCOEM is privy to hazardous materials and capabilities for response if needed. Plans are being developed with Fire Chiefs in conjunction with NJDEP (mapping) re: HAZMAT in transit/rail.

The County will continue to integrate hazard mitigation into their Capital Improvement Budget.

### Operational and Administration

WCOEM currently maintains relationships with the U.S. Army Corps of Engineers and the Delaware River Basin Commission. These relationships help provide the County with technical information and/or assistance in the identification of hazard areas and risk assessments.

WCOEM and County Planning encourages compliance with floodplain management as it relates to new and existing construction by integrating hazard mitigation practices with zoning, subdivision ordinances, comprehensive planning, and other land use tools at the municipal level.

Warren County is/will be developing a Shelter Task Force that will be used to determine sheltering gaps/needs within the County. The County is working with the New Jersey State Police on this project.

WC Department of Engineering and County Department of Public Works (Roads and Bridges Division) regularly inspect bridges and roads on the County scour watch list for scour and debris post-storm and flood events to ensure structural integrity is being maintained.

WC Department of Engineering and County Department of Public Works coordinate projects based upon assessment of need to include in the annual Capital Improvement Budget. These projects include addressing roads that experience frequent flooding (i.e., roadway design and drainage improvements).

The County HAZMAT maintains effective coordination and information sharing related to hazardous material sites with NJOEM and the Right to Know Network (RTKN).

### Funding

The County has led mitigation grant efforts to secure funding to assist flood-prone residents. In 2015, Warren County, in cooperation with Hunterdon County, developed a FEMA Flood Mitigation Assistance regional grant application to acquire severe repetitive loss properties in both Counties. The application is pending award.



## Education, Outreach and Training

Warren County conducts public outreach regarding hazard mitigation through invitations such as senior facilities, girl scouts, education community, and other community groups, and through CERT workshops. Currently the County uses Facebook and their website to post what is happening (e.g., road closures, shelter openings, warming centers) during events. The County has also started the Warren County Animal Response Team (CART) program. The County has a 2-1-1 telephone number that residents can access for general information. The County also posted hurricane preparedness workshop information on their website to inform residents of an opportunity to participate in a free BRACE for the Storm Workshop in August 2015.

The WCOEM conducts outreach to municipal Floodplain Administrators, departments of planning, public works, engineering, etc., regarding the importance of hazard mitigation planning and provision of municipal plans and data for planning purposes four times a year at the WCOEM's Emergency Managers Coordination Quarterly (EMCQ) meetings. Additionally, WCOEM attends the annual New Jersey Emergency Preparedness Conference in Atlantic City.

The Warren County Department of Planning has GIS capabilities and provides residents assistance upon request.

The WCOEM maintains public-private partnerships with hospitals, NGOs such as American Red Cross, Salvation Army and private corporations such as BASF and Advantor Performance.

The following trainings/exercises have been/will be completed by personnel within Warren County:

- On March 30, 2015, WCOEM hosted a training led by NJOEM to train OEM coordinators and other County employees the roles and responsibilities during a disaster.
- In August 2015, Warren County employees took a Crude by Rail Emergency Preparedness course which was provided by the National Emergency Management Association (NEMA).
- NJDEP Dam Safety gave two presentations to County municipalities regarding dam failure/dam safety and the Cannonsville dam situation.
- In July 2015, the County took part in a medical needs sheltering exercise.
- In the fall 2015, the County participated in a sheltering tabletop exercise with Morris County.
- WCOEM employees participated in the following: dam safety training, Bakken oil seminar, railroad planning training, and numerous meetings and exercises regarding emergency preparedness and mitigation.

### 9.1.6 Mitigation Strategy and Prioritization

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

#### Past Mitigation Initiative Status

For the 2016 plan update, all previous county actions and their status are listed in the table below. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.



Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
Develop <i>All Hazards</i> public education and outreach program for hazard mitigation and preparedness.	WCOEM and municipal OEM	In Progress	Currently the County uses Facebook and their website to post information to inform residents (e.g., road closures, shelter openings, openings and locations of warming centers). This mitigation action will be further enhanced for the 2016 HMP update.	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action to include the following: <ul style="list-style-type: none"> <li>• Register Ready icon will be put on the County OEM website to make it easier to find</li> <li>• Swiftreach (reverse 911) will be put on the County OEM website so residents can register more easily</li> <li>• A Hazard Mitigation icon will be added to the County OEM website for the planning information.</li> </ul>
Initiate a public awareness program on local TV for hazard safety.	WCOEM and municipal OEM	No Progress	No progress because the County does not have the funding and personnel to implement. Channel 69 out of Lehigh; or Cable would do a public service announcement. This mitigation action will be revised for the 2016 HMP update.	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action: Public awareness is successfully conducted using social media and the County website. To further enhance County outreach, the County would like to initiate a public awareness program on local TV regarding hazard safety.
Conduct yearly workshops related to the Federal Emergency Management Agency (FEMA) hazard mitigation grant programs, including Flood Mitigation Assistance (FMA) program, Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) programs, Severe Repetitive Loss (SRL) program, and Repetitive Flood Claim (RFC) program, with a focus on those aspects available to private firms and property owners.	WCOEM, NJOEM	No Progress	WCOEM conducts outreach through invitations such as senior facilities, girl scouts, and other community groups, CERT workshops.  No progress on this specific action because the County has experienced annual disaster declarations where FEMA information was provided as well as training. This mitigation action will be revised for the 2016 HMP update.	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action: Incorporate and discuss FEMA mitigation funding opportunities at our annual HMP maintenance meeting. Refer to the Plan Maintenance section of this update. Incorporate and discuss FEMA mitigation funding opportunities at Emergency Management Coordinator meetings.
Educate the public through New Jersey Office of Emergency Management (NJOEM) and New Jersey Fire Safety outreach programs and hazard mitigation workshops.	CWOEM, NJOEM, NJ Forest Fire Service	Complete	WCOEM conducts outreach through invitations such as senior facilities, girl scouts, and other community groups, CERT workshops.	Discontinue	This is now a capability.
Reach out to municipal Floodplain Administrators, departments of planning, public works, engineering, etc., regarding the	WCOEM and municipal OEM	Complete	Conduct outreach four times per year at our Emergency Managers Coordinators Quarterly meetings	Discontinue	This is now a capability.



**Table 9.1-6. Past Mitigation Initiative Status**

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
importance of hazard mitigation planning and provision of municipal plans and data for planning purposes.					
Develop and maintain relationships with organizations that can provide technical information and/or assistance in the areas of hazard identification and risk assessment.	WCOEM, Rutgers University, New Jersey Geologic Survey (NJGS), National Oceanic Atmospheric Administration (NOAA), and United States Army Corps of Engineers (USACE)	Complete	Maintain relationships with USACE and Delaware River Basin Commission.	Discontinue	This is now a capability.
Undertake site-specific studies to better characterize flood risks to areas with extensive flood loss histories.	WCOEM and municipal OEM	No Progress	No funding or personnel to implement. This will be conducted on a project-specific basis.	Discontinue	
Use best possible flood data, including Digital Flood Insurance Rate Map and Map Mod data, if available, in next plan update. Track implementation of Risk MAP initiative to ensure Warren County and municipalities gain full advantage of opportunities under this program.	WCOEM and municipal OEM	Complete	This action has been completed.		
Bi-annually update and verify status of repetitive loss and severe repetitive loss lists from the National Flood Insurance Program (NFIP).	WCOEM and municipal OEM	Complete	This should be an exercise for the municipalities. This HMP update includes the latest statistics.	Discontinue	
Inventory critical facilities to identify those in geographic areas that may be prone to high ground motion during earthquakes (due to proximity to faults or to soil characteristics), and those with structures that may be at risk during an earthquake.	WCOEM with support from NJGS	Complete	Refer to Earthquake profile in this HMP update.	Discontinue	



Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
Coordinate with state efforts to prioritize critical facilities and conduct more detailed earthquake risk assessments, taking into account the relative importance of the facility and the level of seismic hazard.	WCOEM, FEMA, NJGS	No Progress	No progress due to lack of funding and staff. Refer to Earthquake profile in HMP update	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action.
Work with NJGS to determine soil and shake characteristics at specific sites that the county has identified as priority critical facilities with potential vulnerabilities to earthquake forces, and then work with engineers to develop appropriate projects.	WCOEM and municipal OEM	No Progress	There is no new study in progress. The updated earthquake profile and risk assessment in this HMP update includes any new and best data available for the County.	Discontinue	
Coordinate with NJGS and other county, state, and federal agencies to better identify specific sites in Warren County that may be exposed to the effects of geo-hazards such as landslides, sinkholes, and subsidence.	WCOEM, NJDEP, NJGS, and municipal OEM	Complete	This action is being conducted as part of this HMP update.		
Using a prioritized list of state, county, and local facilities, coordinate with state efforts to survey wind vulnerabilities, based on criteria such as age of the facility, value of operations, proximity to the coast, etc.	WCOEM, NJOEM, with cooperation of other agencies that own and/or operate the facilities; New Jersey State Climatologist	No Progress	A critical facilities list is being compiled as part of this HMP update and a wind VA conducted using HAZUS.  The State has not initiated a survey to collect building information for additional building protection to wind. The County is willing to coordinate with the State on this if a State-led project is implemented.  The County 911 center was built to sustain high winds; all other buildings are in accordance with building code at the time of construction.	Include in 2016 HMP	County OEM is prepared to coordinate and support a wind vulnerability survey when requested by the State. Refer to Table 9.1-8 for the updated mitigation action.
Conduct wind risk assessments on a limited number of high-priority facilities that appear to be vulnerable to high winds. Assessments will use standard FEMA guidelines, procedures, and	WCOEM and municipal OEM	Complete	A critical facilities list is being compiled as part of this HMP update and a wind VA conducted using HAZUS.		



Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
software, including the wind hazard database.					
Coordinate with state efforts to inventory or survey prioritized areas to determine if there is a need for additional study or data collection related to wildfire and/or urban-interface fires. Focus of inventory/study will be on identifying areas where there exist vulnerable populations or built environment and/or areas where fuel loads and other conditions suggest potential for wildfire risk.	WCOEM, NJOEM, municipal OEM, New Jersey Forest Fire Service	Complete	A critical facilities list is being compiled as part of this HMP update and a wildfire exposure assessment is being conducted as part this HMP update.		
Coordinate with state efforts to maintain current information about fuel loads and conditions that may affect potential for fires.	WCOEM, municipal OEM, New Jersey Forest Fire Service	Complete	The best available fuel load data was used in the wildfire vulnerability assessment as part of this HMP update.		
For areas with significant risk from wildfires and urban interface fires, perform detailed studies to objectively determine (1) potential for wildfires, including likely magnitude and (b) vulnerabilities of surrounding populations, built environment and functions.	WCOEM, municipal OEM, New Jersey Forest Fire Service, NJOEM	Complete	Wildfire exposure assessment being conducted as part of this HMP update.		
Coordinate with state efforts to conduct wildfire risk assessments for areas and assets that are determined to have the most hazard (fuel load, etc.) potential, and the most vulnerable structures, populations, or operations.	WCOEM, New Jersey Forest Fire Service, and outside engineering consultants	Complete	Wildfire exposure assessment being conducted as part of this HMP update.		
Maintain effective coordination and information sharing related to hazardous material sites with NJOEM and the Right to Know Network (RTKN).	WCOEM, RTKN, NJOEM	Complete	This is an administrative function of County HAZMAT. WCOEM forwards RTKN to Health Department.	Discontinue	
Complete data collection for Geographic Information System (GIS) analysis and mapping of potential areas of impact related to hazardous material sites.	WCOEM, county agencies	In Progress	Gas/fuel stations have been captured spatially.  This action is in progress. WCOEM just received list of all hazardous materials in commercial establishments. Each municipality	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action.





Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
			will check to see if additional locations need to be added. WCOEM will ensure these sites are in each municipal EOP. Data to be shared with Planning GIS.		
Integrate data about hazardous materials with most current available information about other risk factors, e.g. population, climate, other site-specific characteristics.	WCOEM, RTKN, United States Environmental Protection Agency (US EPA)	Complete	Qualitative assessment was conducted for this HMP update. WCOEM is privy to hazardous materials and capabilities for response if needed. Plan being conducted with Fire Chiefs in conjunction with NJDEP (mapping) re: HAZMAT in transit/rail.		
Complete a detailed analysis of past losses related to winter storms to determine if additional study is indicated.	WC and local agencies with critical facilities	Complete	Updated as part of the HMP		
Undertake a survey of critical facilities to identify and prioritize those that may have structural characteristics that make them vulnerable to excessive snow and ice loads.	WC and local agencies with critical facilities	No Progress	No progress has been made due to lack of funding.	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action.
Work with appropriate agencies to identify specific areas that are vulnerable to storm effects, then inventory assets and populations in these areas as the basis for a risk calculation.	WCOEM, NOAA, USACE, NJDEP, local officials	Complete	Refer to Section 5.4 (Risk Assessment) in this HMP update.		
Work with New Jersey Department of Environmental Protection (DEP) to more fully understand the dam hazard rankings and methodology behind them, particularly regarding high-hazard sites.	WCOEM, NJDEP	Complete	WCOEM has had increased communication with NJDEP Dam Safety regarding dams. Refer to the Dam Failure profile for NJDEP dam rankings.		
Undertake more detailed engineering studies of dams that may pose risks to the county, based on additional data collected from state or federal agencies.	WCOEM, NJOEM, NJDEP	No Progress	<ol style="list-style-type: none"> <li>WCOEM has had increased communication with NJDEP Dam Safety regarding dams. Some dams have been removed from the Musconetcong River by the Musconetcong Watershed Association.</li> <li>The County does not own any dams. They are owned by private individuals.</li> </ol>	Include in 2016 HMP	Revise action: Coordinate with NJDEP Dam Safety to survey of existing dams, meet with owners, updates on their EAPs, and identify dams to be decommissioned. Refer to Table 9.1-8 for the updated mitigation action.
Conduct detailed risk assessments for dams that appear to have vulnerabilities, and where there is	WCOEM, NJDEP, engineering consultants	No Progress	<ol style="list-style-type: none"> <li>Municipal engineers would have updated information.</li> <li>Some dams have been removed from the Musconetcong River.</li> </ol>	Discontinue	





Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
potential for significant damage or loss of life.					
Consolidate and incorporate relevant local data related to hazards, extent, probability, exposure, risk, history, etc.	WCOEM and municipal OEM	Complete	This was conducted as part of this HMP update. Refer to Section 5 (Risk Assessment).		
Work with ongoing county, state, and federal efforts to develop and maintain hazard-specific geospatial data necessary to perform full risk assessments for all relevant hazards in Warren County.	WCOEM	Complete	This was conducted as part of this HMP update. Refer to Section 5 (Risk Assessment).		
Conduct detailed risk assessments for levees which appear to have vulnerabilities, and where there is potential for significant damage or loss of life.	WCOEM, NJDEP, DELO, engineering consultants	No Progress	There are currently no known levees in the County.	Discontinue	
Work with NJDEP and other agencies to compile better information about levees in the state, including inventories, engineering data, and any other studies (in particular those that may discuss or catalog past levee failures).	WCOEM, NJDEP, DELO, engineering consultants	No Progress	There are currently no known levees in the County.	Discontinue	
Conduct a detailed study to identify and map erosion hazard zones.	WCOEM, NJOEM, NJDEP	No Progress	There are ordinances for sinkhole mitigation in the municipal land development ordinances. Studies to identify and map erosion hazard areas will be conducted on a project-specific basis.	Discontinue	
Undertake more detailed engineering studies of levees that may pose risks to the county, based on additional data collected from local, state, or federal agencies.	WCOEM, NJOEM, NJDEP	No Progress.	There are currently no known levees in the County.	Discontinue	
Coordinate with state efforts to undertake detailed vulnerability assessments and develop mitigation options for critical facilities in A and AE zones.	WC and municipal OEM	Complete	This was conducted as part of this HMP update. Mitigation actions regarding critical facilities located in the A and AE zones are considered by the municipalities participating this plan.		
Participate in the Emergency Preparedness Conference and workshops.	WCOEM, NJOEM, municipal OEM, NJ Forest Fire Service	Complete	WCOEM attends annual NJ Emergency Preparedness Conference in Atlantic City		





Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
Develop a database inventory of critical facilities countywide (county-, local-, and privately-owned), including fire and police stations, medical facilities, and major public buildings important for emergency response and recovery, and critical lifeline transportation and utility nodes such as bridges, water treatment plants, wastewater treatment plants, high voltage electric substations, and hazardous materials facilities.	WCOEM and municipal OEM	Complete	This was conducted as part this HMP update. The County Planning Department GIS Coordinator will maintain the spatial layer.		
Prioritize critical facilities and complete Phase 1 site surveys to identify vulnerabilities.	WCOEM and municipal OEM	Complete	This was conducted as part of this HMP update and by municipalities through their EOPs. Refer to mitigation actions identified by municipal participants in Section 9 (Mitigation strategies).		
Continue working with the state, as well as local jurisdictions, to encourage local cooperation in making Repetitive Loss (RL) (and SRL) property mitigation a high priority, and offering municipalities technical support in carrying out the requirements of FEMA mitigation programs as well as current information related to RL and SRL properties.	WCOEM	Complete	This was conducted as part of this HMP update. Refer to Section 5.4.4 (Flood) and Section 9 (municipal annexes).		
Provide grant information, planning tools, training, and technical assistance to increase the number of public and private sector hazard mitigation projects.	WCOEM, NJOEM, FEMA Region II	Complete	WCOEM provides information as requested; this is an administrative capability of the County.		
Conduct direct outreach and education to municipal OEMs and other potential participants in Plan maintenance and future Plan updates.	WCOEM	Complete	This was conducted as part of the HMP update and EMCQ meetings.		
Work with NJOEM and FEMA to incorporate "recommended revisions" per NJOEM and FEMA Region II review of this Plan into future Plan updates.	WCOEM	Complete	This was conducted as part of the HMP update.		



Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
Conduct community outreach, workshops, and training to increase NFIP participation.	WCOEM, NJOEM	Complete	All municipalities participate in the NFIP.		
Encourage municipalities to participate in the Community Rating Survey (CRS) program, including potentially setting up CRS site visits and/or workshops for interested municipalities.	WCOEM, NJOEM	No Progress	No progress due to lack of funding/personnel.	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action. Encourage municipalities to participate in the Community Rating Survey (CRS) program, including potentially setting up CRS site visits and/or workshops for interested municipalities.
Encourage municipalities to include identification and prioritization of actions related to future participation in and compliance with the NFIP.	WCOEM and municipal OEM	Complete	Local NFA is included in the planning process for future actions in this HMP update.		
Encourage enforcement of floodplain management as it relates to new and existing construction by integrating hazard mitigation practices with zoning, subdivision ordinances, comprehensive planning, and other land use tools at the municipal level.	WCOEM, NJDEP, municipal officials	Complete	WCOEM and Planning encourages compliance. This is a capability.		
Coordinate with state efforts to encourage the New Jersey League of Municipalities to become more involved in mitigation activities.	WCOEM, NJOEM, New Jersey League of Municipalities	No Progress	This is a state-level effort and will not be included in this 2016 HMP Update	Discontinue	
Encourage enforcement of floodplain management as it relates to new and existing construction by integrating hazard mitigation practices with zoning, subdivision ordinances, comprehensive planning, other land use tools, and environmental and other regulatory mechanisms via state requirements, reviews, and regulations. Coordinate with the State Planning Commission to integrate the State Development and Redevelopment Plan and the State Hazard Mitigation Plan Update.	WCOEM, NJ Department of Community Affairs, State Planning Commission, municipal building inspectors, zoning boards	No Progress	The County encourages floodplain management enforcement and assists residents with their inquiries and provides guidance and copies of maps. However, this is more of a municipal-led action where the municipalities enforce floodplain management. This is a capability of WC Planning and Engineering. This will be discontinued as an action.	Discontinue	
Develop a simple GIS platform, or build upon an existing platform, to	WCOEM working with	In Progress	All critical infrastructure is inventoried and is continuously updated. The spatial data is	Include in 2016 HMP	



Table 9.1-6. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
maintain and analyze critical facilities inventories and information about hazards.	neighboring counties		continuously updated as changes are made in the inventory. This is considered a County capability.		REVISED - The County is looking to expand their GIS platform to develop secure site to allow other County departments to utilize spatial real-time data via web in a user-friendly format (for non-GIS analysts).
Explore potential for possible regionalization or consolidation of hazard mitigation planning, administration, and/or implementation at the county level.	WCOEM	Complete	This is now a County Plan; a regional plan is no longer needed.		
Increase understanding of the capabilities of municipal mitigation programs by continuing to encourage local coordinators to participate in the Municipal Capabilities Assessment Survey.	WCOEM	Complete	This is part of this HMP update will be conducted as part of future HMP updates.		
Provide regular summaries to neighboring communities re: plan monitoring and update procedures and post updates on Warren County's website for public access to the plan update process.	WCOEM	Complete	WCOEM notifies neighboring counties when the Draft plan is ready for public review and comment. This is part of the County's planning process and therefore will not be continued as an action.		
Coordinate with state efforts to develop and implement a detailed SRL mitigation strategy that will qualify the county and municipalities for 90:10 cost share under the FEMA SRL program.	WCOEM, NJOEM	No Progress	This is a State NJ HMP action. RL and SRL statistics are included in this HMP update.	Discontinue	
Continue working with local and regional jurisdictions to encourage and support their efforts to mitigate RL and SRL properties, either individually through use of cluster solutions and/or basin projects, as appropriate, and offer technical support in carrying out the requirements of FEMA mitigation programs.	WCOEM, NJOEM	No Progress	The County continues to encourage and support the mitigation of flood-vulnerable properties, including RL and SRLs (mitigation actions).	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action.
Implement mitigation projects and programs intended to reduce risk to critical facilities.	WCOEM and municipal OEM	In Progress	This is a goal and objective for this HMP update. The County supports programs and actions at the County and local level to reduce risk.	Discontinue	



**Table 9.1-6. Past Mitigation Initiative Status**

2011 Mitigation Action	Responsible Agency	Status (in progress, no progress or complete)	Description of Status	Next Step (include in 2016 HMP Update or discontinue)	Description of Next Step
Promote acquisition and elevation of repetitive loss and severe repetitive loss structures.	WCOEM, NJOEM	In progress	The County continues to encourage and support the mitigation of flood-vulnerable properties, including RL and SRLs (mitigation actions).	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action.
Implement other mitigation projects and programs as appropriate at the municipal level.	WCOEM, NJOEM	In Progress	The County supports municipal mitigation projects. This is considered a capability.	Discontinue	
Work with NJGS and other county, state, and federal agencies to better identify specific sites in the County that may be exposed to the effects of geo-hazards such as landslides, sinkholes, and subsidence.	WCOEM, NJDEP, NJGS	In Progress	The County supports municipal mitigation projects. This is considered a capability.	Discontinue	
Ensure full and effective enforcement of building codes, floodplain management, zoning, and other risk-reducing regulations.	WCOEM, municipal OEM, and local permitting and planning offices	No Progress	The municipalities enforce building codes.	Discontinue	
Integrate hazard mitigation priorities into Capital Improvement Plans, transportation planning, and other capital planning.	WCOEM, municipal OEM, and local permitting and planning offices	In Progress	There is a County Capital Improvement Plan and it has included projects related to mitigation/recovery (e.g., drainage projects).	Include in 2016 HMP	The County will continue to integrate hazard mitigation projects into their Capital Improvement Plan. Refer to Table 9.1-8 for the updated mitigation action.
Integrate hazard mitigation plan and priorities into floodplain management, zoning, subdivision regulation, and other local regulations as appropriate.	WCOEM, municipal OEM, and local permitting and planning offices	No Progress	This is a municipal level action.	Discontinue	
Harden/bury utility lines affecting the Department of Public Works (DPW) garage on Silver Spring (Silver Lake) Road, Hope, NJ.	County DPW Supervisor - Alex	In Progress	Utilities are underground at the DPW garage. The County is in process of obtaining a generator for backup power at this location.	Include in 2016 HMP	Refer to Table 9.1-8 for the updated mitigation action regarding continuity of operations at critical facilities.
Harden/bury utility lines affecting the DPW garage located in Alpha Township, NJ	County DPW Supervisor	No Progress	County is looking to relocate this garage in the area. No further work to be done at the Alpha site.	Discontinue	
Storm-water management system upgrade and improvement at the DPW Salt Shed located off Washington Avenue, Oxford Township, NJ	County Engineer	No Progress	The County is not aware of any stormwater upgrades needed in this area; the County is considering consolidating DPW facilities and this action may be considered at a later time.	Discontinue	
Retrofit proper grounding for administration building located on Route 519, White Township, NJ.	County DPW Supervisor	Complete	The new County DPW Director does not have knowledge of this retrofit; the building is sufficiently grounded. The installation of a generator for the IT section is complete.	Discontinue	



### Proposed Hazard Mitigation Initiatives for the Plan Update

The County hosted and participated in a mitigation action workshops on March 6 and 20, 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013). In May 2015, the County hosted and participated in a second workshop and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.1-7 summarizes the comprehensive-range of specific mitigation initiatives the County would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

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

Table 9.1-8 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
WC-1	Seek additional salt vendors, develop cooperative agreements with other counties for salt, and identify additional salt storage facilities in the County	N/A	Severe Winter Weather	5, 6	County DPW	Medium	Medium	County	Short - DOF	Medium	LPR	PR
WC-2 (LOI #910, 940 and 935)	Support continuity of operations at critical facilities. At time, the purchase and installation of generators is needed at the following critical facilities: <ul style="list-style-type: none"> <li>• Correction Center</li> <li>• Health Department</li> <li>• DPW – Belvidere Garage</li> <li>• Technical School</li> <li>• DPW – Hope Garage</li> </ul>	Existing	All	1, 2, 5, 6	WCOEM	High	High	FEMA HMA; County match	Short – DOF	High	SIP	PP
WC-3	Develop All Hazards public education and outreach program for hazard mitigation and preparedness: <ul style="list-style-type: none"> <li>• Register Ready icon will be put on the County OEM website to make it easier to find</li> <li>• Swiftreach (reverse 911) will be put on the County OEM website so residents can register more easily</li> <li>• Hazard Mitigation icon will be put on the County OEM website regarding updated planning information</li> <li>• Initiate a public awareness program on local TV regarding hazard safety</li> </ul>											
	See above	N/A	All	All	WCOEM and municipal OEM	High	Low	County	Short	High	EAP	PI
WC-4	Incorporate and discuss FEMA mitigation funding opportunities at our annual HMP maintenance meeting and at a quarterly Emergency Managers Coordinators meeting.	N/A	All	All	WCOEM and NJOEM	High	Low	County	Short	High	EAP	PI
WC-5	Coordinate with State efforts to prioritize critical facilities and conduct more detailed earthquake risk assessments, taking into account the relative importance of the facility and the level of seismic hazard.	Existing	Earthquake	2, 4, 6	State Geological Survey; WC Department of Engineering	High	High	Federal, State	Long-term	Medium	SIP	PP





Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
WC-6	Using a prioritized list of state, county, and local facilities, coordinate with state efforts to survey wind vulnerabilities, based on criteria such as age of the facility, value of operations, proximity to the coast, etc. County OEM is prepared to coordinate and support a wind vulnerability survey when requested by the State.	Existing	Hurricane/Tropical Storm, Nor'Easter, Severe Weather	2, 4, 6	WCOEM, NJOEM, with cooperation of other agencies that own and/or operate the facilities	High	High	Federal, State	Long-term	Medium	SIP	PP
WC-7	Complete data collection for Geographic Information System (GIS) analysis and mapping of potential areas of impact related to hazardous material sites. This action is in progress. WCOEM just received list of all hazardous materials in commercial establishments. Each municipality will check to see if additional locations need to be added. WCOEM will ensure these sites are in each municipal EOP. Data to be shared with Planning GIS.											
	See Above	Existing	All	4, 5, 6	WCOEM, County Planning (GIS)	High	Medium	County	Long-term	Medium	LPR	PR
WC-8	Undertake a survey of critical facilities to identify and prioritize those that may have structural characteristics that make them vulnerable to excessive snow and ice loads.	Existing	All	4, 6	WCOEM, WC Department of Engineering	High	Medium	County	Long-term	Medium	LPR	PR
WC-9	Coordinate with NJDEP Dam Safety to survey of existing dams, meet with owners, updates on their EAPs, and identify dams to be decommissioned.	Existing	Dam Failure, Flood, Hurricane/Tropical Storm, Nor'Easter, Severe Weather	2, 4	WCOEM will coordinate with NJOEM and NJDEP	High	High	Federal, State, Local	Long-term	Medium	LPR	PR
WC-10	Encourage municipalities to participate in the Community Rating Survey (CRS) program, including potentially setting up CRS site visits and/or workshops for interested municipalities.	Existing	Flood	3, 4, 5	WCOEM, NJOEM	High	Medium	County, Local	Short DOF	Medium	LPR	PR
WC-11	Expand the County's GIS platform and develop secure site to allow other County departments to utilize spatial real-time data via web in a user-friendly format (for non-GIS analysts).	N/A	All	4, 5, 6	WC Department of Planning GIS	High	Medium	Federal, State, County	Long-term	Medium	LPR	PR





Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
WC-12	Continue working with local and regional jurisdictions to encourage and support their efforts to mitigate RL and SRL properties, either individually through use of cluster solutions and/or basin projects, as appropriate, and offer technical support in carrying out the requirements of FEMA mitigation programs.	Existing	Flood, Hurricane/Tropical Storm, Nor' Easter, Severe Weather	1, 2	WCOEM, NJOEM	High	High	FEMA HMA, Local match	Short DOF	High	SIP	PP
WC-13	The County will continue to integrate hazard mitigation priorities into their Capital Improvement Plan, transportation plan and other capital planning.	Existing	All	1, 2, 4, 5, 6	County Engineering Department, County Department of Public Works (Roads and Bridge Divisions), and County Planning Department	High	Low	County	Short DOF	High	LPR	PR
WC-14	Conduct a Tabletop exercise of a hazardous materials incident derailment	N/A	HAZMAT	4, 5, 6	WCOEM	High	Medium	State, County	Short DOF	High	LPR	PR, ES
WC-15	Conduct a tabletop exercise for high hazard dams in Warren County (NJDEP Dam Safety is the Lead, OEM will support) – coordinated between State and Dam owner (80 high hazard dams in Warren County)	N/A	Dam Failure	4, 5, 6	WCOEM, NJDEP	High	Medium	State, County	Short DOF	High	LPR	PR, ES
WC-16	Develop Regional Homeland security Grant for a Regional Rail emergency plan (Freight and Passenger) – this is a regional action with Sussex / Warren / Somerset / Hunterdon OEMs	N/A	HAZMAT	4, 5, 6	WCOEM, Sussex / Warren / Somerset / Hunterdon OEMs	High	High	State, County	Short DOF	High	LPR	PR, ES



Table 9.1-7. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
WC-17	Develop a Regional Damage Assessment Plan (3 years to implement) – regional plan post natural event to get damage assessments conducted (OEM Lead)	N/A	All	4, 5, 6	WCOEM	High	High	State, County	Short DOF	High	LPR	PR
WC-18	Conduct a structural analysis of communication towers from high winds	Existing	Severe Weather, Hurricane/Tropical Storm, Nor’ Easter	2, 4, 6	WCOEM	High	High	State, County	Short DOF	High	SIP, LPR	PR, PP
WC-19	Protect existing substructures/foundations/footings of County culverts, bridge and retaining walls against scour and flood conditions	Existing	Flood, Severe Weather, Hurricane/Tropical Storm, Nor’ Easter	1, 2, 6	County Engineering Department, County Department of Public Works (Roads and Bridge Divisions)	High	High	FEMA, NJDOT, County	Short DOF	High	SIP	PP
WC-20	Upgrade the stormwater, sewer, and drainage capacity of County roadways that experience frequent flooding conditions. Specific locations are determined by priority lists and road department input.	Existing	Flood, Severe Weather, Hurricane/Tropical Storm, Nor’ Easter	1, 2	County Engineering Department, County Department of Public Works (Roads and Bridge Divisions)	High	High-Medium	FEMA, NJDOT, County	Short DOF	High	SIP	PP
WC-21	Conduct a geotechnical survey of prioritized known sinkhole- and other geologically vulnerable areas along County roadway, buildings, and critical facilities. These surveys and investigations may also be conducted in conjunction with other improvement projects.	Existing	Geologic	1, 2	County Engineering Department, County Department of Public Works (Roads and Bridge Divisions)	High	High	FEMA, County	Short DOF	High	SIP, LPR	PR, PP





**Table 9.1-7. Proposed Hazard Mitigation Initiatives**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
WC-22	Conduct debris removal on roads and adjacent to structures such as bridges, culverts and retaining walls. Site-specific studies will be conducted as needed to better characterize flood risk.	Existing	Flood, Severe Weather, Hurricane/Tropical Storm, Nor' Easter	1, 2	County Engineering Department, County Department of Public Works (Roads and Bridge Divisions)	High	High	FEMA, State, County	Short DOF	High	SIP, LPR	PR, PP

**Notes:**

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

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

Acronyms and Abbreviations:

- CAV Community Assistance Visit
- CRS Community Rating System
- DPW Department of Public Works
- FEMA Federal Emergency Management Agency
- HMA Hazard Mitigation Assistance
- N/A Not applicable
- NFIP National Flood Insurance Program
- NJDEP New Jersey Department of Environmental Protection
- WCOEM Warren County Office of Emergency Management

Potential FEMA HMA Funding Sources:

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

Timeline:

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

Costs:

Where actual project costs have been reasonably estimated:

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

Where actual project costs cannot reasonably be established at this time:

- Low Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
- Medium Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.

Benefits:

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

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

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

- Low Long-term benefits of the project are difficult to quantify in the short term.
- Medium Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
- High Project will have an immediate impact on the reduction of risk exposure to life and property.





Costs:

High

Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Mitigation Category:

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

CRS Category:

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



Table 9.1-8. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community	Total	High / Medium / Low
WC-1	Seek additional salt vendors, develop cooperative agreements with other counties for salt, and identify additional salt storage facilities in the County	1	1	1	1	1	1	0	0	0	1	0	1	1	0	9	Medium
WC-2 (LOI #910, 940 and 935)	Support continuity of operations at critical facilities. At time, the purchase and installation of generators is needed at the following critical facilities: <ul style="list-style-type: none"> <li>• Correction Center</li> <li>• Health Department</li> <li>• DPW – Belvidere Garage</li> <li>• Technical School</li> <li>• DPW – Hope Garage</li> </ul>	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
WC-3	Develop All Hazards public education and outreach program for hazard mitigation and preparedness	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
WC-4	Incorporate and discuss FEMA mitigation funding opportunities at our annual HMP maintenance meeting and at a quarterly Emergency Managers Coordinators meeting.	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
WC-5	Coordinate with State efforts to prioritize critical facilities and conduct more detailed earthquake risk assessments, taking into account the relative importance of the facility and the level of seismic hazard.	1	1	1	0	1	1	0	1	1	0	0	0	0	0	6	Medium
WC-6	Using a prioritized list of state, county, and local facilities, coordinate with state efforts to survey wind vulnerabilities, based on criteria such as age of the facility, value of operations,	1	1	1	0	1	1	0	1	1	0	0	0	0	0	6	Medium





Table 9.1-8. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community	Total	High / Medium / Low
	proximity to the coast, etc. County OEM is prepared to coordinate and support a wind vulnerability survey when requested by the State.																
WC-7	Complete data collection for Geographic Information System (GIS) analysis and mapping of potential areas of impact related to hazardous material sites.	1	1	1	1	1	1	0	0	0	1	1	0	1	0	9	Medium
WC-8	Undertake a survey of critical facilities to identify and prioritize those that may have structural characteristics that make them vulnerable to excessive snow and ice loads.	1	1	1	1	1	1	0	0	0	1	1	0	1	0	9	Medium
WC-9	Coordinate with NJDEP Dam Safety to survey of existing dams, meet with owners, updates on their EAPs, and identify dams to be decommissioned.	1	1	1	1	1	1	0	0	0	1	1	0	1	0	9	Medium
WC-10	Encourage municipalities to participate in the Community Rating Survey (CRS) program, including potentially setting up CRS site visits and/or workshops for interested municipalities.	1	1	1	1	1	1	0	0	0	1	1	0	1	0	9	Medium
WC-11	Expand the County's GIS platform to develop secure site to allow other County departments to utilize spatial real-time data via web in a user-friendly format (for non-GIS analysts).	1	1	1	1	1	1	0	0	0	1	1	0	1	0	9	Medium
WC-12	Continue working with local and regional jurisdictions to encourage and support their efforts to mitigate RL and SRL properties, either individually	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High





Table 9.1-8. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community	Total	High / Medium / Low
	through use of cluster solutions and/or basin projects, as appropriate, and offer technical support in carrying out the requirements of FEMA mitigation programs.																
WC-13	The County will continue to integrate hazard mitigation priorities into their Capital Improvement Plan, transportation plan and other capital planning.	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
WC-14	Conduct a Tabletop exercise of a hazardous materials incident derailment	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
WC-15	Conduct a tabletop exercise for high hazard dams in Warren County (NJDEP Dam Safety is the Lead, OEM will support) – coordinated between State and Dam owner (80 high hazard dams in Warren County)	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High
WC-16	Develop Regional Homeland security Grant for a Regional Rail emergency plan (Freight and Passenger) – this is a regional action with Sussex / Warren / Somerset / Hunterdon OEMs	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
WC-17	Develop a Regional Damage Assessment Plan (3 years to implement) – regional plan post natural event to get damage assessments conducted (OEM Lead)	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
WC-18	Conduct a structural analysis of communication towers from high winds	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High
WC-19	Protect existing substructures/foundations/footings	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High





**Table 9.1-8. Summary of Prioritization of Actions**

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community	Total	High / Medium / Low
	of County culverts, bridge and retaining walls against scour and flood conditions																
WC-20	Upgrade the stormwater, sewer, and drainage capacity of County roadways that experience frequent flooding conditions. Specific locations are determined by priority lists and road department input.	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High
WC-21	Conduct a geotechnical survey of prioritized known sinkhole- and other geologically vulnerable areas along County roadway, buildings, and critical facilities. These surveys and investigations may also be conducted in conjunction with other improvement projects.	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High
WC-22	Conduct debris removal on roads and adjacent to structures such as bridges, culverts and retaining walls. Site-specific studies will be conducted as needed to better characterize flood risk.	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High

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



---

### **9.1.7 Future Needs To Better Understand Risk/Vulnerability**

---

None at this time.

---

### **9.1.8 Hazard Area Extent and Location**

---

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

---

### **9.1.9 Additional Comments**

---

None at this time.

DRAFT



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-2 (LOI #910, 940 and 935)  
**Mitigation Action/Initiative:** Support continuity of operations - Purchase generators for critical facilities

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All (power outages caused by the hazards)
<b>Specific problem being mitigated:</b>	There is no back-up power at select critical facilities in the County to support continuity of operations.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Do nothing – current problem continues</li> <li>2. Purchase and install generators</li> <li>3. Construct a co-generation facility</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Support continuity of operations at critical facilities. At this time, the purchase and installation of generators is needed for the following critical facilities: <ul style="list-style-type: none"> <li>Correction Center – 175 Route 519 S, Belvidere</li> <li>Health Department – 700 Oxford Road, Oxford</li> <li>DPW – Belvidere Garage – 185 County Route 519 S, Belvidere</li> <li>Technical School – 1500 Route 57, Washington</li> <li>DPW – Hope Garage – 414 Silver Lake Road, Hope</li> </ul>
<b>Action/Project Category</b>	SIP, PP
<b>Goals/Objectives Met</b>	1, 2, 5, 6
<b>Applies to existing, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	WCOEM
<b>Local Planning Mechanism</b>	
<b>Potential Funding Sources</b>	FEMA HMA, County match
<b>Timeline for Completion</b>	Short DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-2 (LOI #910, 940 and 935)  
**Mitigation Action/Initiative:** Support continuity of operations – Purchase and install generators at critical facilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	FEMA HMA funding is needed to implement this action
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	WCOEM
Other Community Objectives	0	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-12  
**Mitigation Action/Initiative:** Work with local and regional jurisdictions to mitigate flood-prone properties

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	There are buildings in the County that repetitively flood including severe repetitive loss (SRL) and repetitive loss (RL) properties that need to be mitigated.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Do nothing – current problem continues</li> <li>2. Acquire/elevate SRL and RL properties</li> <li>3. Address localized drainage issues; reroute waterways</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Continue to work with local and regional jurisdictions to encourage and support their efforts to mitigate RL and SRL properties, either individually through use of cluster solutions and/or basin projects, as appropriate, and offer technical assistance and support in carrying out the requirements of the FEMA mitigation programs. Support regional applications for FEMA HMA assistance to implement these actions.
<b>Action/Project Category</b>	SIP, PP
<b>Goals/Objectives Met</b>	1, 2,
<b>Applies to existing, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	WCOEM, Municipalities
<b>Local Planning Mechanism</b>	
<b>Potential Funding Sources</b>	FEMA HMA, Private match if needed
<b>Timeline for Completion</b>	Short DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-12  
**Mitigation Action/Initiative:** Work with local and regional jurisdictions to mitigate flood-prone properties

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	FEMA HMA funding is needed to implement this action
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	WCOEM, Municipalities with SRLs
Other Community Objectives	1	
<b>Total</b>	13	
<b>Priority (High/Med/Low)</b>	High	



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-19  
**Mitigation Action/Initiative:** Protect existing substructures/foundations/footings of County culverts, bridges and retaining walls against scour and flood conditions

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather, Hurricane/Tropical Storm, Nor'Easter
<b>Specific problem being mitigated:</b>	As a result of rain/flood events, County infrastructure incurs damages and needs to be protected and hardened to mitigate future losses
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Do nothing</li> <li>2. Protect existing substructures/foundations/footings of County culverts, bridges and retaining walls against scour and flood conditions</li> <li>3.</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Protect existing substructures/foundations/footings of County culverts, bridges and retaining walls against scour and flood conditions. Conduct studies (if needed), pursue funding, and implement actions to protect County infrastructure.
<b>Action/Project Category</b>	SIP, PP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	WC Engineering and DPW
<b>Local Planning Mechanism</b>	
<b>Potential Funding Sources</b>	FEMA, NJDOT, County
<b>Timeline for Completion</b>	Short DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-19  
**Mitigation Action/Initiative:** Protect existing substructures/foundations/footings of County culverts, bridges and retaining walls against scour and flood conditions

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Outside funding may be needed to implement this action
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-20  
**Mitigation Action/Initiative:** Upgrade the stormwater, sewer, and drainage capacity of County roadways that experience frequent flooding.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather, Hurricane/Tropical Storm, Nor'Easter
<b>Specific problem being mitigated:</b>	Frequent flooding along roadways due to insufficient stormwater/sewer/drainage capacity; leads to road closures; economic loss; public safety hazards
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Do nothing</li> <li>2. Upgrade the stormwater, sewer, and drainage capacity of County roadways that experience frequent flooding</li> <li>3. Elevate roads</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Upgrade the stormwater, sewer, and drainage capacity of County roadways that experience frequent flooding. Specific locations are determined by priority lists and road department input.
<b>Action/Project Category</b>	SIP, PP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	WC Engineering and DPW
<b>Local Planning Mechanism</b>	
<b>Potential Funding Sources</b>	FEMA, NJDOT, County
<b>Timeline for Completion</b>	Short DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-20  
**Mitigation Action/Initiative:** \_\_\_\_\_

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Outside funding may be needed to implement this action
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-22  
**Mitigation Action/Initiative:** Conduct debris removal on roads and adjacent to structures such as bridges, culverts and retaining walls.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Weather, Hurricane/Tropical Storm, Nor'Easter
<b>Specific problem being mitigated:</b>	Public safety hazard and economic loss when debris collects; infrastructure incurs damages; roads/bridges close
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Conduct debris removal 2. Develop a regional plan with the four counties (Sussex, Warren, Hunterdon and Somerset) to enhance debris removal procedures 3.
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Conduct debris removal on roads and adjacent to structures such as bridges, culverts and retaining walls.
<b>Action/Project Category</b>	SIP, PP
<b>Goals/Objectives Met</b>	1, 2
<b>Applies to existing, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	WC Engineering and DPW
<b>Local Planning Mechanism</b>	
<b>Potential Funding Sources</b>	FEMA, NJDOT, County
<b>Timeline for Completion</b>	Short DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Name of Jurisdiction:** Warren County  
**Action Number:** WC-22  
**Mitigation Action/Initiative:** Conduct debris removal on roads and adjacent to structures such as bridges, culverts and retaining walls.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Outside funding may be needed to implement this action
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	