9.7 Borough of Chester

This section presents the jurisdictional annex for the Borough of Chester.

9.7.1 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
Ed Windt, OEM Coordinator 50 North Road, Chester NJ 07930 973-479-5408 oem@chesterborough.org	David Jara, Chief of Police 50 North Road, Chester, NJ, 07930 908-879-3660 x2110 djara@chesterborough.org

9.7.2 Municipal Profile

The Borough of Chester is located in southwestern Morris County, at the intersection of State Highway 24 and U.S. Highway 206. The Borough enjoys a flourishing commercial area while most of the land area in the 1.45 square miles of our community is devoted to single family housing. Chester itself was established as a separate political entity in 1799, at which time "Chester" meant the area of both the Township and the downtown Village area which came to be the Borough. The Borough of Chester was incorporated in 1930, and is today a separate municipality surrounded by Chester Township. According to the U.S. Census, the 2010 population for the Borough of Chester was 1,648.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map later in this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.7-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units/Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
None identified.					
Known or Anticipated Development in the Next Five (5) Years					
Mill Ridge Lane	Res.	3 undeveloped lots	Mill Ridge Lane	No	Undeveloped lots in existing residential development

* Only location-specific hazard zones or vulnerabilities identified.

9.7.3 Natural Hazard Event History Specific to the Municipality

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

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

Table 9.7-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	EM-3332 DR-4021	Yes Yes	No significant damages or losses
October 29, 2011	Severe Storm (snow)	DR-4048	Yes	The Borough's Department of Public Loss incurred overtime amounting to $18,411.10, primarily for debris removal.
October 26 – November 8, 2012	Hurricane Sandy	EM-3354 DR-4086	Yes Yes	Hurricane Sandy caused widespread damage throughout the Borough. Utility outages lasting up to 1 week impacted approximately 1,200 people. Residential and commercial properties were without power. Falling trees throughout the Borough caused roof and structural damage to residential and commercial properties. Damage was sustained to the municipal pole barn. The Borough's Police Department and Department of Public Works incurred overtime costs and equipment and material costs totaling $42,632.78

9.7.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Borough of Chester. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Borough of Chester.

Table 9.7-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard [a, c]	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking [b]
Drought	Damage estimate not available	Frequent	27	Medium
Dam Failure	Damage estimate not available	Rare	6	Low
Earthquake	500-year MRP: $402,915 2,500-year MRP: $8,045,882	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	27	Medium
Flood	1% Annual Chance: $0	Rare	6	Low
Geological Hazards	Exposed to Class A and Class B: $0	Rare	6	Low
Severe Storm	100-Year MRP: $258,553 500-year MRP: $2,668,818 Annualized: $15,004	Frequent	48	High
Winter Storm	1% GBS: $7,980,327	Frequent	54	High

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard [a, c]	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking [b]
	5% GBS: $39,901,637			
Wildfire	Estimated Value Exposed to Extreme, Very High and High: $31,675,071	Rare	6	Low

Notes:

a. Building damage ratio estimates based on FEMA 386-2 (August 2001)

b. The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
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 value of contents.

d Loss estimates for the flood and earthquake hazards represent both structure and contents.

e. The HAZUS-MH earthquake model results are reported by Census Tract.

National Flood Insurance Program (NFIP) Summary

The Borough has no mapped floodplains, and does not currently participate in the NFIP.

Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1-and 0.2-percent annual chance flood events.

Table 9.7-4. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent[(1)]
No critical facilities are located in the FEMA 1% and 0.2% Flood Hazard Area.						

Source: HAZUS-MH 2.1

Note (1): HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

NA Not available

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.1

Other Vulnerabilities Identified

The Borough notes the following additional vulnerabilities:

- Municipal Hall (50 North Road), which houses most Borough departments and operations including police and DPW, lacks back-up power. This facility served as a warming/comfort center during Superstorm Sandy.

- The schools have back-up power, however are not currently American Red Cross (ARC) approved shelter.

9.7.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- 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 regulatory tools that are available to the Borough of Chester.

Table 9.7-5. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	11/12/2002	Local	Planning Board	Plan was prepared by Banish Associates
Capital Improvements Plan	Updated annually	Local	Governing Body	
Floodplain Management/Basin Plan	No			
Stormwater Management Plan	Updated as needed	Local	Governing Body/Engineer	
Open Space Plan	1/28/2010	Local	Governing Body/Planning Board	
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Recently updated	Local	Chief of Police	
Emergency Response Plan	No			
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				
Building Code	Yes	State &	Building Dept.	State Uniform Construction Code Act

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.)
		Local		(N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Planning Board and Governing Body	Chapter 163 (Land Development and Procedures) Article IX (Zoning – Zoning Requirements)
Subdivision Ordinance	Yes	Local	Planning Board and Governing Body	Chapter 163 (Land Development and Procedures) Article VII (Subdivision of Land)
NFIP Flood Damage Prevention Ordinance	No	Federal, State, Local		The Borough currently does not participate in the NFIP as it has no NFIP mapped floodplains
NFIP: Cumulative Substantial Damages	No	Local		
NFIP: Freeboard	No	State, Local		
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes			
Stormwater Management Ordinance	Yes	Local	Engineering	Chapter 204 Borough of Chester Code. Amended February 7, 2006.
Municipal Separate Storm Sewer System (MS4)	Yes	Local		Chapter 192 (Sewers and Water)
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local		Chapter 197 (Soil Control) Article I (Soil Erosion, Sediment Control and Flood Prevention)

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Borough of Chester.

Table 9.7-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board Secretary
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Committee
Open Space Board/Committee	Yes	Committee-no employees, volunteer positions
Economic Development Commission/Committee	No	Borough is working on developing and Economic Development Committee
Maintenance Programs to Reduce Risk	Yes	The Borough has an MS4 plan, and maintains drainage and stormwater detention infrastructure

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Mutual Aid Agreements	Yes	Red Cross; Fire Mutual Aid (county-wide)
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Professional Services, not employees
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Engineering, professional service
Planners or engineers with an understanding of natural hazards	Yes	Paul Ferriero, Contractor
NFIP Floodplain Administrator	No	Does not participate in NFIP
Surveyor(s)	Yes	Paul Ferriero, Contractor
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Paul Ferriero, Contractor
Scientist familiar with natural hazards	Yes	Paul Ferriero, Contractor
Emergency Manager	Yes	Emergency Management, Emergency Management Coordinator, Emergency Management Dep. Coordinator, Emergency Management Director
Grant Writer(s)	Yes	Paul Ferriero, Contractor
Staff with expertise or training in benefit/cost analysis	Yes	Paul Ferriero, Contractor
Professionals trained in conducting damage assessments	Yes	Paul Ferriero, Contractor

Fiscal Capability

The table below summarizes financial resources available to the Borough of Chester.

Table 9.7-7. Fiscal Capabilities

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

Community Classifications

The table below summarizes classifications for community program available to the Borough of Chester.

Table 9.7-8. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/8B	6/27/2011
Storm Ready	No		
Firewise	No		
Disaster/Safety Programs in/for Schools	No		
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	No		
Public-Private Partnerships	No		

N/A = Not applicable. NP = Not participating. -= Unavailable. TBD = To be determined.

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

Table 9.7-9. Self-Assessment Capability for the Municipality

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

National Flood Insurance Program

The Borough has no mapped floodplains, and does not currently participate in the NFIP. However, the Borough has included an initiative in the updated mitigation strategy to consider joining the NFIP to facilitate property owners to purchase flood insurance voluntarily.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

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

Planning

Land Use Planning: To follow-up with Banish Associates on re-examination of Comprehensive Plan…does it include natural hazard risk areas.

Site Plan Review: All new development in the Borough undergoes a formal site plan review process (Planning Board and Zoning Board), which includes consideration of natural hazard risk. All new development in the Borough is required to underground utilities.

Stormwater Management: The Borough has an MS4 plan, which specifies maintenance of stormwater drainage and detention infrastructure, and includes public outreach and education.

Regulatory and Enforcement

Building Code Updates: The Borough's Construction Official, along with other municipal government officials, update and amend the current municipal building code as needed and appropriate.

National Flood Insurance Program: The Borough has no mapped floodplains, and does not currently participate in the NFIP. However, the Borough has included an initiative in the updated mitigation strategy to consider joining the NFIP to facilitate property owners to purchase flood insurance voluntarily.

Fiscal

Capital Improvements Budget: The Borough has a Capital Improvements Budget that may include projects that have natural hazard mitigation benefits, and will include line-item funding to meet the local match for mitigation grants (e.g., Municipal Hall generator).

Education and Outreach

In conjunction with the County, the Borough is in the beginning stages of developing a public education and outreach program. The purpose of the program is to inform and disseminate information to the public regarding hazard mitigation and preparedness. Further, the Borough has an active public education and outreach program related to its MS4 program.

9.7.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2010 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.7-10. Past Mitigation Initiative Status

Description	Status	Review Comments
Chester Boro 1: Backup power (generator) for Field House (shelter).	Complete	The Borough has installed proper hook-ups for a portable generator to support the needs of this facility.
Chester Boro 2: Backup power (generator) for Chester Area Senior Housing (shelter).	No Progress	This property is not owned by the Borough. Therefore, providing backup power is not the responsibility of the Borough. This initiative will not be carried forward into the updated mitigation strategy.
Chester Boro 3: Building code update.	No Progress	The Construction Code Official is responsible for providing guidance on the update of the municipal building code. This initiative will be incorporated as an integration action item and will not be carried forward into the updated mitigation strategy.
Chester Boro 4: Hardening/retrofitting and burying utility lines for Fairmount Avenue.	No Progress	At this time, funding is unavailable to complete this project. Completing and pursuing this project is still viable for the Borough. This initiative will be carried forward into the updated mitigation strategy.
Chester Boro 5: Hardening/retrofitting and burying utility lines for Grove Street.	No Progress	At this time, funding is unavailable to complete this project. Completing and pursuing this project is still viable for the Borough. This initiative will be carried forward into the updated mitigation strategy.
Chester Boro 6: Hardening/retrofitting, and burying utility lines for Budd Avenue.	No Progress	At this time, funding is unavailable to complete this project. Completing and pursuing this project is still viable for the Borough. This initiative will be carried forward into the updated mitigation strategy.
Chester Boro 7: Hardening/retrofitting and burying utility lines for Main Street.	No Progress	At this time, funding is unavailable to complete this project. Completing and pursuing this project is still viable for the Borough. This initiative will be carried forward into the updated mitigation strategy.
Chester Boro 8: Develop all-hazards public	No Progress	In conjunction with the County, the Borough is

Description	Status	Review Comments
education and outreach program for hazard mitigation and preparedness.		developing an education and outreach focused on hazard mitigation and preparedness. This initiative will be incorporated as an integration action item and will not be carried forward into the updated mitigation strategy.

Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The municipality has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2010 Plan:

- None identified at this time.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Borough of Chester participated in a mitigation action workshop in January 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).

Table 9.7-11 summarizes the comprehensive-range of specific mitigation initiatives the Borough of Chester 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 9.7-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.

Table 9.7-11. 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
CB-1	**Backup Power for Municipal Building:** Install back-up power for the Municipal Building at 50 North Road, which houses Police, DPW and most municipal departments.											
	See above.	Existing	Severe Storm, Severe Winter Storm, Climate Change	3, 4	Engineering, Mayor	High – Reduced vulnerability of critical facility and services to power outages	High – est. $150k	FEMA HMA or other applicable grant programs; Borough budget for local match	Short Term depending on funding availability	High	SIP	PP, ES
CB-2 (former Chester Boro 4, 5, 6, 7)	**Undergrounding Electric Utilities:** Hardening/retrofitting and burying utility lines within the Borough that are identified as particularly vulnerable to power outages, specifically Fairmount Avenue, Grove Street, Budd Avenue and Main Street.											
	See above.	New and Existing	Severe Storm, Severe Winter Storm, Climate Change	3, 4	Engineering, Mayor	Reduced vulnerability to power outages	High	FEMA HMA or other applicable grant programs; Borough budget for local match	Long Term depending on funding availability	Medium	SIP	PP, ES
CB-3	**Evaluate participation in NFIP:** Evaluate the need for and benefits of joining the NFIP, and join the NFIP if found to be worthwhile for the Borough and its constituents.											
	See above.	N/A	Flood	1, 2, 3, 4	Engineer, as supported by the Mayor and Borough government	Ability for constituent to access NFIP insurance coverage	Low-Medium	Local Budget	Short	Medium	LPR	PI

Notes:

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

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

Acronyms and Abbreviations:

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

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
PDM	*Pre-Disaster Mitigation Grant Program*
RFC	*Repetitive Flood Claims Grant Program (discontinued 2015)*
SRL	*Severe Repetitive Loss Grant Program (discontinued 2015)*

Timeline:

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

Acronyms and Abbreviations:

NJOEM *New Jersey Office of Emergency Management*
OEM *Office of Emergency Management*

Potential FEMA HMA Funding Sources:

Timeline:

Costs:

Where actual project costs have been reasonably estimated:

Low *< $10,000*
Medium *$10,000 to $100,000*
High *> $100,000*

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

Low *Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.*
Medium *Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.*
High *Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.*

Benefits:

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

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

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

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

Mitigation Category:

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

CRS Category:

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

Table 9.7-12. Summary of Prioritization Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High/Medium/Low
CB-1	Backup Power for Municipal Building	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High
CB-2 (former Chester Boro 2-5)	Undergrounding Electric Utilities	1	1	0	1	1	1	-1	1	0	1	1	0	1	1	9	Medium
CB-3	Evaluate participation in NFIP	0	1	1	1	1	1	1	0	1	1	0	1	1	0	10	Medium-High

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

9.7.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.7.8 Hazard Area Extent and Location

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

9.7.9 Additional Comments

None at this time.

Figure 9.7-1. Borough of Chester Hazard Area Extent and Location Map 1

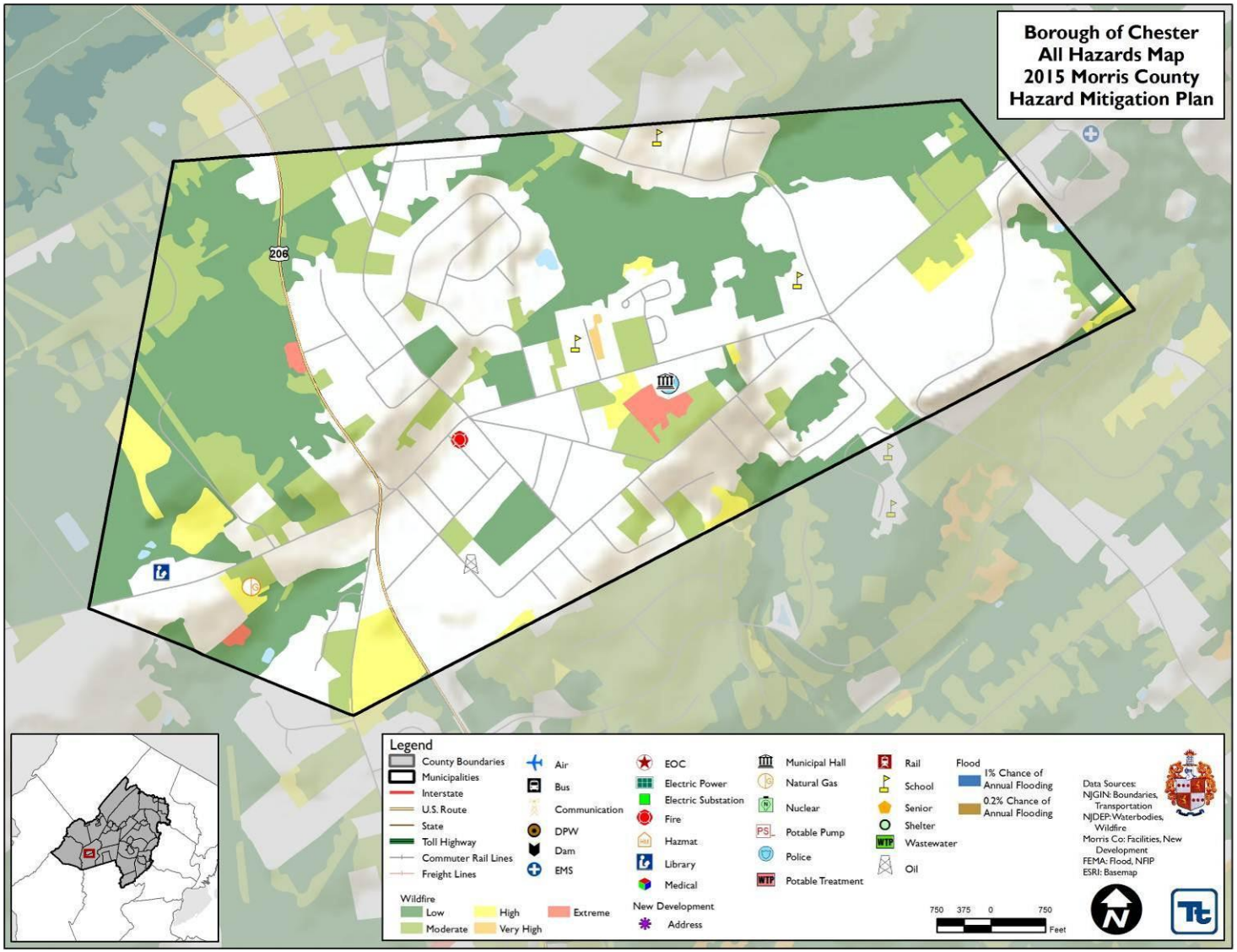
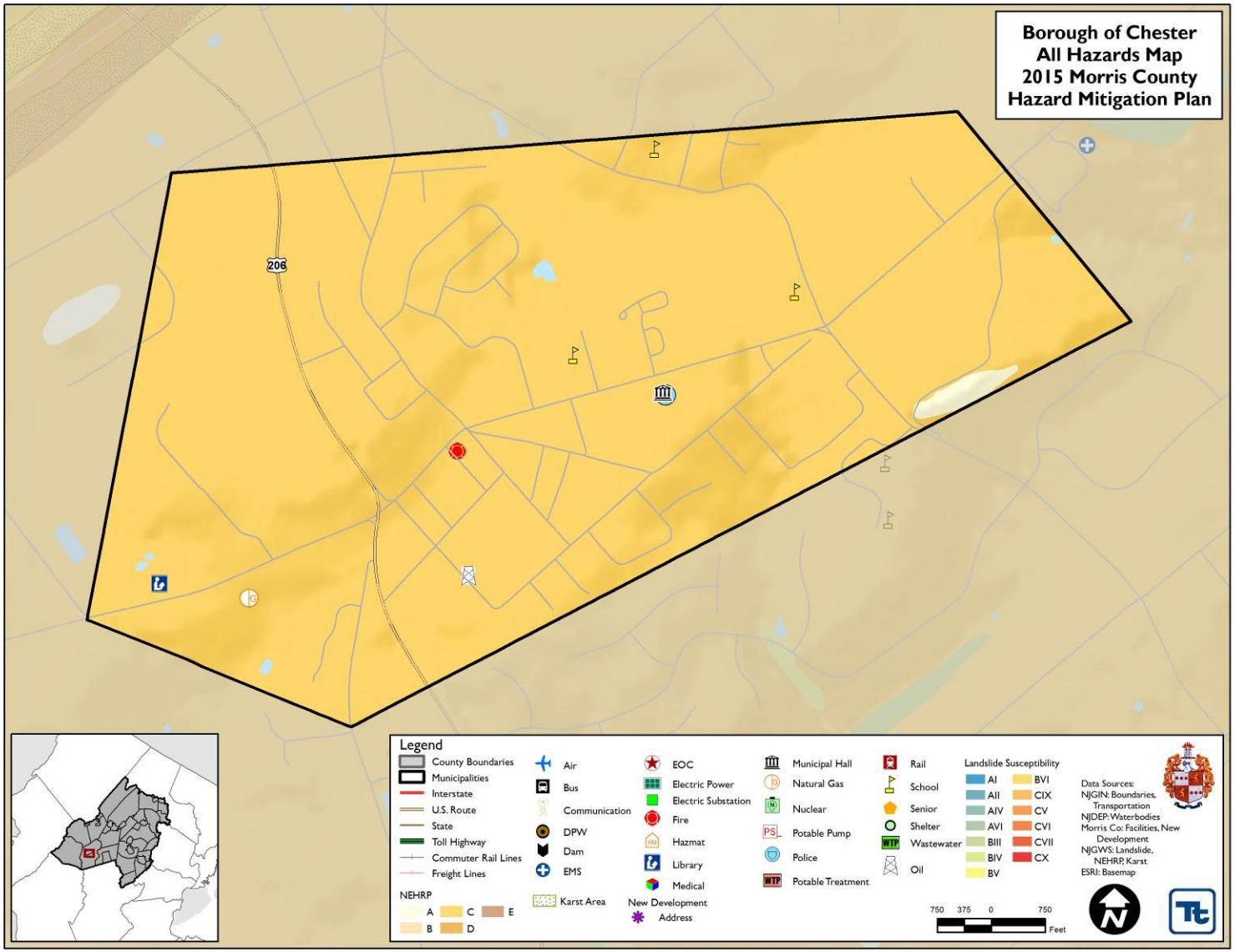


Figure 9.7-2. Borough of Chester Hazard Area Extent and Location Map 2



Action Number: CB-1

Mitigation Action/Initiative: Backup Power for Municipal Building

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm, Climate Change
Specific problem being mitigated:	Municipal Hall (50 North Road), which houses most Borough departments and operations including police and DPW, lacks back-up power. This is a critical facility in the Borough, and additionally served as a warming/comfort center during Superstorm Sandy.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. No action – critical facility and operations remain vulnerable to power outages
	2. Underground all utilities within the Borough – prohibitively expensive, does not address general grid failures
	3. Install back up power.
Action/Project Intended for Implementation	
Description of Selected Action/Project	Install backup power (generator) at Municipal Hall.
Action/Project Category	SIP
Goals/Objectives Met	3, 4
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	High – Reduced vulnerability of critical facility and services to power outages
Estimated Cost	High – est. $150k
Priority*	High
Plan for Implementation	
Responsible/Lead Agency/Department	Engineering, with support of the Mayor and municipal government
Local Planning Mechanism	Comprehensive Emergency Management Plan, Capital Improvement Plan
Potential Funding Sources	FEMA HMA or other applicable grant programs; Borough budget for local match
Timeline for Completion	Short Term depending on funding availability
Reporting on Progress ***(Do not complete – this will be used for the 2020 Update)***	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

*** Refer to results of Prioritization (page 2)**

Action Number: CB-1

Mitigation Action/Initiative: Backup Power for Municipal Building

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility to remain operational during power outages.
Property Protection	0	Does not reduce damage to structure.
Cost-Effectiveness	1	Project is considered highly cost-effective
Technical	1	There are no technical issues associated with the project, and with routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported both publically and politically.
Legal	1	The municipality has full legal authority to implement this project.
Fiscal	0	The town can currently fund the local match if a grant were awarded.
Environmental	1	There are no environmental constraints associated with this project.
Social	1	This project benefits all sectors of the community equally.
Administrative	1	The Borough has all administrative and technical resources necessary to implement this project
Multi-Hazard	1	This project provides protection against multiple hazards (severe storm, severe winter storm).
Timeline	1	The project can be implemented within one year once funding is secured.
Local Champion	1	The Borough Engineer, Mayor and other government officials are the leads for this critical project.
Other Community Objectives	1	This project supports the Borough's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	12	
Priority (High/Med/Low)	High	

Action Number: CB-2

Mitigation Action/Initiative: Undergrounding Electric Utilities

Assessing the Risk	
Hazard(s) addressed:	Severe Storm, Severe Winter Storm, Climate Change
Specific problem being mitigated:	Several major streets in the Borough are particularly vulnerable to power outages as a result of downed tree limbs. Despite utility and local efforts to manage threatening vegetation, these areas are still prone to outages which has public safety implications in particular. These streets include Fairmount Avenue, Grove Street, Budd Avenue and Main Street.
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Remove all trees in these areas – not practical, legal or environmentally suitable 2. Install backup power for all structures in these areas – not cost-effective, and generally serves private property 3. Underground utilities
Action/Project Intended for Implementation	
Description of Selected Action/Project	Hardening/retrofitting and burying utility lines within the Borough that are identified as particularly vulnerable to power outages, specifically Fairmount Avenue, Grove Street, Budd Avenue and Main Street.
Action/Project Category	SIP
Goals/Objectives Met	3, 4
Applies to existing and/or new development; or not applicable	New and Existing
Benefits (losses avoided)	Reduced vulnerability to power outages, potential life-safety
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Engineering, as supported by Mayor and governing body
Local Planning Mechanism	Comprehensive Emergency Management Plan, Capital Improvement Plan
Potential Funding Sources	FEMA HMA or other applicable grant programs; Borough budget for local match
Timeline for Completion	Long Term depending on funding availability
Reporting on Progress (Do not complete – this will be used for the 2020 Update)	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

*** Refer to results of Prioritization (page 2)**

Action Number: CB-2

Mitigation Action/Initiative: Undergrounding Electric Utilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect public from downed power lines
Property Protection	1	
Cost-Effectiveness	0	Cost-effectiveness not determined, project(s) is considered expensive
Technical	1	Borough has the technical resources to implement
Political	1	Borough government supports the project
Legal	1	Borough has full legal authority to implement
Fiscal	-1	Expensive, and Borough lacks the funding to implement
Environmental	1	No environmental constraints; would preserve street trees
Social	0	Would only benefit residents/businesses in the specific project areas
Administrative	1	Borough has the administrative resources to implement
Multi-Hazard	1	Addresses multiple hazards
Timeline	0	Implementation dependent on available outside funding sources
Local Champion	1	The Borough Engineer and Mayor are the leads for these projects
Other Community Objectives	1	This project supports the Borough's commitment to provide uninterrupted critical services to their residents, particularly in times of natural disasters and other emergencies.
Total	9	
Priority (High/Med/Low)	Medium	