



## 9.3 City of Poughkeepsie

This section presents the jurisdictional annex for the City of Poughkeepsie.

### 9.3.1 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
Gary E. Beck, Jr. – Building Inspector, NFIP FPA City Hall, 62 Civic Center Plaza, Poughkeepsie, NY (845) 451-4007 <a href="mailto:gbeck@cityofpoughkeepsie.com">gbeck@cityofpoughkeepsie.com</a>	Greg W. Bolner – City Engineer City Hall, 62 Civic Center Plaza, Poughkeepsie, NY (845) 451-4021 <a href="mailto:gbolner@cityofpoughkeepsie.com">gbolner@cityofpoughkeepsie.com</a>

### 9.3.2 Municipal Profile

The City of Poughkeepsie, located about 70 miles north of New York City, is on the western edge of Dutchess County, bordered by the Hudson River on the west and by the Town of Poughkeepsie on the north, east and south. There are two crossings of the Hudson River in Poughkeepsie: the Mid-Hudson Bridge, which offers a crossing for motor vehicles and pedestrians, and the pedestrian Walkway Over the Hudson. The City serves as the county seat of Dutchess County.

According to the United States Census Bureau, the city has a total area of 5.7 sq. mi. (14.8 km<sup>2</sup>). 5.1 sq. mi. (13.3 km<sup>2</sup>) of it is land and 0.23 sq. mi. (0.6 km<sup>2</sup>) of it (9.65%) is water. As of the census of 2010, there were 32,736 people.

Major water bodies include the Hudson River on the City’s western boundary and the Fallkill Creek which traverses through the City’s 1<sup>st</sup>, 3<sup>rd</sup> and 5<sup>th</sup> wards. Steep slopes are present along the riverfront and isolated areas throughout the City.

### 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.

**Table 9.3-1. Growth and Development**

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
<b>Recent Development from 2010 to present</b>					
Poughkeepsie Commons	Residential	72	Parcel Number: 131300-6162-65-579295-0000 Parcel Address - 130 Hudson Ave and Parcel Number: 131300-6162-65-537286-0000 Parcel Address - 131 Hudson Ave	N/A	Completed
High Ridge Gardens	Residential	74	Parcel Number: 131300-6162-65-590267-0000	Small portion of parcel is in	Completed



Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
			Parcel Address - 140-150 Hudson Ave Ext	100 year flood plain.	
<b>Known or Anticipated Development in the Next Five (5) Years</b>					
Dutton Lumber Property	Mixed Residential and Commercial	300	Parcel Number: 131300-6062-59-766443-0000 Parcel Address - 1 Dutchess Ave Poughkeepsie 12601	Floodplain (Hudson River)	This site has been elevated 5-6' in anticipation of development
Queen City Lofts	Mixed Residential and Commercial	72 Apartments and commercial space	Parcel Number: 131300-6062-76-942131-0000 Parcel Address - 178 Main St Poughkeepsie 126010000	None identified	Proposed mixed use development including 72 apartments and commercial space (retail and restaurants, etc.)
PURA 14 Site	Residential	136	Parcel Number: 131300-6061-27-797885-0000 Parcel Address - 36 Pine St Poughkeepsie 12601 And Parcel Number: 131300-6061-27-803922-0000 Parcel Address - Laurel St Poughkeepsie 12601	None identified	Proposed residential development – Luxury Rental Units (Apartments)

\* Only location-specific hazard zones or vulnerabilities identified.

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

Dutchess 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 9.3-2. Hazard Event History**

Dates of Event	Event Type	FEMA Declaration	Dutchess County Designated?	Losses/Damages
January 25-26, 2010	Widespread Flooding	N/A	N/A	Several Tree limbs came down during this event, no flooding complaints
March 30, 2010	Strong Winds	DR-1899	No	Flooding complaints, power outages – temporary stop signs were required at several intersections.
January 25-26, 2010	Widespread Flooding	N/A	N/A	Several Tree limbs came down during this event, no flooding complaints
March 30, 2010	Strong Winds	DR-1899	No	Flooding complaints, power outages – temporary stop signs were required at several intersections.



Dates of Event	Event Type	FEMA Declaration	Dutchess County Designated?	Losses/Damages
September 30 – October 1, 2010	Remnants of Tropical Storm Nicole	N/A	N/A	Heavy rains and flooding, loose leaved covered catch basins, power outages – traffic lights needed to be reset, high winds – trees, poles and overhead wires came down, several trees were damaged and needed to be removed, roof water leaks at City Hall and DPW.
December 26-27, 2010	Severe Winter Storm and Snowstorm / Nor'Easter	DR-1957	Yes	The storm caused disruption to the transportation and public safety systems of the City. The City DPW responded to opening and clearing roads to public facilities. The City had over \$92,000 in overtime, materials and equipment use for this event.
March 11-13, 2011	Heavy Rainfall, Snowmelt, Ice Jams	N/A	N/A	Heavy rainfall and melting, several catch basins collapsed and manhole covers popped off.
August 26 – September 5, 2011	Hurricane Irene	DR-4020	Yes	Several pieces of municipal equipment were damaged during Irene including damage to several police cars and the City's DPW compound was flooded. All vehicles were towed out of the compound. City bus routes were suspended for four days due to flooded streets. The buses were used to evacuate residents from the first ward. One of the Sewer Dept. pumps was damaged during the storm. The Buildings and Grounds office was flooded and they lost a computer, phones and two pairs of boots. The DPW lost 24 barricades and 29 barrels. The City had damage to roadways, catch basins, buildings, etc. Many homes and businesses sustained flood damage.
September 5-8, 2011	Remnants of Tropical Storm Lee	DR-4031	No	Flooding event, combined sewer flooded causing sewer backups. Catch basins overflowed, street flooding, Manhole covers popped off. Sewer department pumps damaged. Trees and limbs came down.
October 29-30, 2011	Nor'Easter, Heavy Snow	N/A	N/A	Numerous downed trees, tree limbs and wires.
October 27 – November 8, 2012	Hurricane Sandy	EM-3351	Yes	Many trees and limbs were knocked down during Sandy. The City performed debris removal on several streets and catch basins.
December 27-28, 2012	Winter Storm	N/A	N/A	The City received numerous requests from residents for snow removal on their streets. Several driveways on Miller Road, South Randolph, and Bancroft were plowed in. Snow and ice needed to be removed from a catch basin on Virginia. Snow and ice accumulated on sidewalks as well.
February 12-13, 2014	Winter Storm	N/A	N/A	Typical snow storm, many plow requests.

### 9.3.4 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 City of Poughkeepsie. 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 City of Poughkeepsie.





**Table 9.3-3. 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>
Coastal Storm	100-year MRP: \$2,539,054.00 500-year MRP: 16784333 Annualized: \$192,268.00	Frequent	48	High
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$113,044 500-Year GBS: \$3,404,496 2,500-Year GBS: \$38,363,066	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	30	Medium
Flood	1% Annual Chance: \$309,598,289	Frequent	36	High
Severe Storm	100-Year MRP: \$2,539,054 500-year MRP: \$16,784,333 Annualized: \$192,268	Frequent	48	High
Winter Storm	1% GBS: \$39,821,673 5% GBS: \$199,108,365	Frequent	51	High
Wildfire	Estimated Value in the WUI: \$546,052,412	Frequent	33	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. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages. 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 wildfire hazard, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

### National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the City of Poughkeepsie.

**Table 9.3-4. NFIP Summary**

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
City of Poughkeepsie	152	39	\$556,773.10	5	0	103

Source: FEMA Region 2, 2014

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 12/31/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 12/31/14.
- (2) Total building and content losses from the claims file provided by FEMA Region 2.
- (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Notes: FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.  
A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.  
Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude





### 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-percent annual chance flood event.

**Table 9.3-5. 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 <sup>(1)</sup>
City Of Poughkeepsie Fire Department St. 2	Fire	X	X	7.6	10.3	480
Poughkeepsie City Pump #3	Wastewater Pump		X	-	-	-
Poughkeepsie City Pump #4	Wastewater Pump		X	-	-	-

Source: Dutchess County, NYGIS

Note (1): HAZUS-MH 2.2 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.

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.2

### Other Vulnerabilities Identified

The municipality has identified the following vulnerabilities within their community, as indicated on the following Hazards Location Map (Figure 9.3-1):

- Joint Water Pollution Control Plant (WPCP): Frequent stormwater flooding impacts (primarily to administration building, access road and at-grade inlets) from up-gradient sources and development. (Figure 9.3-1, Legend feature 1)
- Need to improve shoreline stabilization along the Hudson River, particularly in the area along the public walkway, Kaal Rock Park and Waryas Park. The sidewalk at Waryas Park is undermined. (Figure 9.3-1, Legend feature 2)
- The Fall Kill Creek was walled through the City about the turn of the century. Some is above ground, some is underground. Areas with walls collapsed, or at grade. (Figure 9.3-1, Legend feature 3)
- The bridge on North White Street has inadequate freeboard, and gets overtopped and causes water to back-up. (Figure 9.3-1, Legend feature 4)
- Flooding at White Street, Winnikee Avenue and west from the Fall Kill Creek – under feet of water during Irene/Lee. (Figure 9.3-1, Legend feature 5)
- Flooding along Oakwood and Parkwood – A flat low-lying area with ponding water in rear yards after rainfall events. Existing storm sewer is undersized, and homeowners have placed yard debris over inlets over course of many years. (Figure 9.3-1, Legend feature 6)
- Hooker and Dwight – backyard flooding due to low lying area receiving parking lot runoff from adjacent apartment complex. (Figure 9.3-1, Legend feature 7)
- Intersection of Kingston and Arnold floods during severe rainfall events. The area is flat with undersized storm sewer. (Figure 9.3-1, Legend feature 8)



- Wilson Street: Storm sewer surcharges behind Deli and Flower Shop behind fire house...floods basement. This is a low-lying area. Would require an engineering analysis to identify projects, but likely not to be cost-effective. (Figure 9.3-1, Legend feature 9)
- Linden Road – Did a survey with preliminary designs. Project would have required a private partnership with tax assessment. (Figure 9.3-1, Legend feature 10)
- Morgan Lake Dam: Owned by the City of Poughkeepsie, the dam is classified as ‘Class C’ - Earth Embankment; High Hazard. (Figure 9.3-1, Legend feature 11) The hazard risk is managed through the following plans and programs:
  - Dam Safety Annual Certification (Through 2015)
  - Emergency Action Plan (2<sup>nd</sup> Revision – 2015)
  - Inspection and Maintenance Plan (2013)
  - Engineering Assessment (2014)
- Marist College Development – continuous development on the Hudson River highlands appear to be exacerbating stormwater flooding down-gradient, which impacts the City WPCP. (Figure 9.3-1, Legend feature 1)



Figure 9.3-1. City of Poughkeepsie Hazard Area Locations



Source: City of Poughkeepsie Engineering Department, 2015



### 9.3.5 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 City of Poughkeepsie.

**Table 9.3-6. 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/Comprehensive Plan	Yes	Local	Department of Building, Planning and Zoning	Last revised 1998
Capital Improvements Plan	Yes	Local	City Administrator	5 year capital plan
Floodplain Management / Basin Plan	Yes	Local	All departments and agencies in City	Floodplain Management
Stormwater Management Plan	Yes	Federal, State, and Local	Engineering Department and Public Works	City is an MS4 community and maintains a comprehensive Stormwater Management Plan (SWMP)
Open Space Plan	No	Local		
Stream Corridor Management Plan	Yes	Local	Fallkill Watershed Committee	A Watershed Management Plan for the Fallkill, October 2006
Watershed Management or Protection Plan	Yes	Local	Fallkill Watershed Committee	A Watershed Management Plan for the Fallkill, October 2006
Economic Development Plan	Yes	Local	Community Development	Economic Development Plan
Comprehensive Emergency Management Plan	Yes	Local	City Administrator	Comprehensive Emergency Management Plan
Emergency Operation Plan	Yes	Local	City Administrator	Emergency Operation Plan
Post-Disaster Recovery Plan	Yes	Local	City Administrator	Post-Disaster Recovery Plan
Transportation Plan	Yes	Local	Finance	Transportation Development Plan
Strategic Recovery Planning Report	No			
Other Plans:				
<b>Regulatory Capability</b>				
Building Code	Yes	State & Local	Building Dept.	NYS Building Code



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.)
Zoning Ordinance	Yes	Local	Planning Board and Zoning Board of Appeals	Zoning and land use Regulations Chapter 19
Subdivision Ordinance	Yes	Local	Planning Board and Zoning Board of Appeals	Subdivisions Chapter 16
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Department of Building, Planning and Zoning	
NFIP: Cumulative Substantial Damages	No	Local	N/A	
NFIP: Freeboard	Yes	State, Local	Department of Building, Planning and Zoning	State mandated BFE+2 for single and two-family residential construction, BFE+1 for all other construction types
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning Board and Zoning Board of Appeals	Site development plan approval Chapter 19, Section 6.1
Stormwater Management Ordinance	Yes	Federal, State, Local	Engineering Department and Public Works	Chapter 14½, Subchapter 3: SEWERS, STORMWATER Stormwater Management and Erosion and Sediment Control
Municipal Separate Storm Sewer System (MS4)	Yes	Federal, State, Local	Engineering Department and Public Works	City is an MS4 community
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	State		NYS mandate, Property Condition Disclosure Act, NY Code - Article 14 §460-467
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Various departments	Local Waterfront Revitalization Plan (LWRP), adopted 1998

### Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the City of Poughkeepsie.

**Table 9.3-7. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Planning Board and Zoning Board of Appeals
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	Shade Tree Commission, Waterfront Advisory Committee



Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Open Space Board/Committee	Yes	Planning Board, Shade Tree Commission
Economic Development Commission/Committee	Yes	City of Poughkeepsie Industrial Development Agency (IDA)
Maintenance Programs to Reduce Risk	Yes	DPW, MS4 programs
Mutual Aid Agreements	Yes	
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Department of Building, Planning and Zoning; Engineering Department
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Department of Building, Planning and Zoning; Engineering Department
Planners or engineers with an understanding of natural hazards	Yes	Department of Building, Planning and Zoning; Engineering Department
NFIP Floodplain Administrator	Yes	Gary E. Beck, Jr., Building Inspector
Surveyor(s)	Yes	City Engineering has a Nikon Total Station and 2 man survey crew. Surveys requiring a LS stamp must be outsourced.
Personnel skilled or trained in GIS and/or HAZUS-MH applications	Yes	All engineering staff and 1 IT staff members are proficient with ArcGIS.
Scientist familiar with natural hazards	No	
Emergency Manager	No	
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	

**Fiscal Capability**

The table below summarizes financial resources available to the City of Poughkeepsie.

**Table 9.3-8. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes, used with the City
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact Fees for homebuyers or developers of new development/homes	N/A
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



Financial Resources	Accessible or Eligible to Use (Yes/No)
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	CWSRF / DWSRF
Open Space Acquisition Funding Programs	No
Other	N/A

### Community Classifications

The table below summarizes classifications for community program available to the City of Poughkeepsie.

**Table 9.3-9. Community Classifications**

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	2015
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Disaster/Safety Programs in/for Schools	No		
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes	Emergency declarations etc. posted on website	
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 the City of Poughkeepsie’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

**Table 9.3-10. 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

#### NFIP Floodplain Administrator (FPA)

Gary E. Beck, Jr. – Building Inspector, City of Poughkeepsie Department of Building, Planning and Zoning

#### Flood Vulnerability Summary

As of 1/31/2015 there are 164 NFIP policies in force within the community, insuring \$ 40,731,800 of property with total annual insurance premiums of \$ 146,133. Since 1978, 39 NFIP claims have been paid totaling \$556,773. As of 12/31/2014, there are 5 Repetitive Loss and no Severe Repetitive Loss properties in the community.

#### Resources

Responsibility for the oversight of this department is assigned to Gary E. Beck, Jr., Building Inspector. This office administers building regulations, as well as planning and zoning code, it develops and provides staff support for the Planning Board and Zoning Board of Appeals.

Department staff addresses planning, zoning enforcement, zoning variances, zoning issues, Ordinance Enforcement including Construction Codes, Property Maintenance Code and Special Use Permits.

The Building Department consists of Building Inspector Gary E. Beck, Jr. and deputy inspectors who issue all building permits, performs construction inspection, issues Certificates of Occupancy when appropriate, and enforces the Building Code of New York State, and pertinent sections of the City of Poughkeepsie Code of Ordinances.

Following disasters, engineering staff and DPW staff conduct post disaster inspections. The Engineering Department has prepared Substantial Damage estimates in the past for submission to FEMA, and will do so in the event of further disasters.

#### Compliance History

The City is currently in compliance with the NFIP.





## Regulatory

The City's Building Department issues Floodplain Development Permits.

The City of Poughkeepsie does not participate in the Community Rating System (CRS) program.

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

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

## Planning

**Land Use Planning:** The City has a Planning Board and Zoning Board of Appeals which review all applications for development and consider natural hazard risk areas in their review. Many development activities require additional levels of environmental review, specifically NYS SEQRA and Federal NEPA requirements.

**City of Poughkeepsie Comprehensive Plan 1998:** The City completed a Comprehensive Plan Update, which included the identification of natural hazard risk areas like floodplains, wetlands, and steep slopes, as well as land use and zoning recommendations for managing those risks. The plan focused attention on the waterfront and issues associated with housing and transportation. Some of the recommendations included the following:

1. Repair bulkhead and create riverside promenade

**City of Poughkeepsie Waterfront Revitalization Plan 2014:** The City completed a LWRP, which included the identification of natural hazard risk areas like floodplains, wetlands, and steep slopes, as well as land use and zoning recommendations for managing those risks along the City's Hudson River waterfront. The plan focused attention on the waterfront and issues associated flood plain and slopes. Some of the recommendations included the following:

1. Increase public access to and along the river;
2. Gain net greenspace and usable park land; and
3. Add a variety of new attractions and river views.

The Plan included the identification of the following hazard related issues:

1. Recent major storms have flooded the park, including the Children's Museum pavilion and the Ice House during Hurricane Irene in 2011. Park greenspaces can absorb periodic flooding and be cleaned-up, but any new buildings should be located on higher ground, or in the case of park accessory structures, designed to withstand expected flood events
2. Climate change is leading to more frequent and severe storms, as well as a rise in the base river levels. The Hudson has risen about a foot over the last century and future projections are accelerating—up to another foot by the 2050s and roughly double that rate under rapid ice melt scenarios.

**Waterfront Planning:** The Waterfront Advisory Committee (WAC) was appointed by Mayor and Common Council in 1986, and has served in an advisory capacity to the Mayor, Common Council, Planning Board, and other City officials for all activities and/or developments within the delineated boundaries of the Local Waterfront Revitalization Zone. Planning staff attends all WAC meetings and provides advisory and administrative support.



## Regulatory and Enforcement

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**Flood Damage Prevention Section 19-4.6:** It is the purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
- D. Control filling, grading, dredging and other development which may increase erosion or flood damages;
- E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands; and
- F. Qualify for and maintain participation in the National Flood Insurance Program.

**Zoning and Land Use Code Chapter 19:** Poughkeepsie's zoning code includes districts and standards pertaining to the mitigation of hazards. These sections include the Floodplain regulations, stormwater management & erosion control standards.

**Building and Utility Code Chapter 6:** The building codes are strictly enforced to make new and renovated buildings as prepared as possible for hazard related incidents. The chapter includes a provision to allow the building inspector to make emergency repairs to protect the health safety and welfare of the residents.

## Fiscal

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**Operating Budget:** The City's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

## Education and Outreach

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The Planning Department is a member of the Dutchess County Planning Federation and attends trainings and researches best practices that other communities are implementing. DPW takes classes and implements in hazardous reduction techniques in various capital improvements. The City has planned to budget for training for personal including professional development geared towards health and safety.

## 9.3.6 Mitigation Strategy and Prioritization

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

### Past Mitigation Initiative Status

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The City of Poughkeepsie has no prior mitigation strategy.



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

The City of Poughkeepsie has identified the following as mitigation projects/activities that have been completed, are planned, or on-going within the municipality:

- Morgan Lake Dam – This Class C earthen dam has recently completed their 10-year engineering evaluation, and is in compliance.
- In 2012, a federally funded jobs program was utilized to clear debris, brush and rocks from the stream bed. The rocks were utilized to stabilize the creek banks.

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

The City of Poughkeepsie participated in a mitigation action workshop in May 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 9.3-11 summarizes the comprehensive-range of specific mitigation initiatives the City of Poughkeepsie 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 9.3-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



**Table 9.3-11. Proposed Hazard Mitigation Initiatives**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
CP-1	Joint WPCP Stormwater and Flood Mitigation: Identify and implement appropriate and cost-effective mitigation projects to protect the Joint Water Pollution Control Plant (WPCP). Facility-specific projects may include flood-proofing the administration building (e.g. flood dams at building openings, elevating critical infrastructure within building), however broader stormwater management projects are needed to address the up-gradient source of the problem which may include a suitably sized stormwater main from the Route 9 and Marist College area to the Hudson River. The plant is owned by both the Town and City of Poughkeepsie (30% and 70%, respectively), however is located in the Town. Implementation of this project, from securing funding through project completion, shall be conducted to provide protection to this facility to the 500-year flood level or "worst case scenario".											
	See above.	Existing	Flood, Severe Storm	2, 6, 7	COP Engineering	Reduce or eliminate chronic flooding at WPCP	Varies depending on final scope	City, Town and private budgets; FEMA HMA grants	Long Term DOF	Medium	SIP	PP
CP-2	Remediation and Hardening of Dutchess Ave. Waterfront Infrastructure: The natural hazard mitigation aspects of this project falls into several areas (see Action Worksheet): 1) Environmental remediation of the floodplain adjacent to the Hudson River which will include capping the site with 2' - 6' of earth, raising the surface out of the floodplain, 2) Installation of stormwater management systems on Dutchess Ave., including appropriate drainage through new curbing and sidewalks, 3) Stormwater management system upgrades on North Water St. including road surface re-design and construction, curbing, drains and sidewalks, 4) Design and construction of storm water management systems for 14 acres of Hudson River waterfront property, 5) Sanitary sewer, water system and new drainage-designed roadways for 14 acres of Hudson River waterfront property, 6) Replacement of pump station with storm-resistant equipment.											
	See above.	Existing	Flood (incl. tidal flooding), Severe Storm	2, 6, 7	COP Engineering	Protection of public property and infrastructure from flood damage, including storm surge; public safety	High (over \$13MM)	Developer and City: FEMA HMA grants as applicable	Ongoing	High (ongoing)	SIP	PP
CP-3	Improve shoreline stabilization along the Hudson River, particularly in the following areas: <ul style="list-style-type: none"> <li>• Kaal Rock Park (piers lying on side)</li> <li>• Waryas Park, where the sidewalk is undermined</li> <li>• See also CP-2</li> </ul>											
	See above.	Existing	Flood, Severe Storm	2, 6, 7	COP Engineering	Protection of public property and infrastructure from flood damage, including storm surge; public safety	Varies depending on final scope	City budget; FEMA HMA grants as available	Long Term DOF	Medium	SIP	PP
CP-4	Emergency Generator Municipal Building/Emergency Command Center: Construction of an emergency generator appropriately sized to keep the municipal building operational. This will enable to keep the police and critical response divisions functional and enable public access to the facility during hazard events.											
	See above.	Existing	All hazards resulting in extended power outages	1, 2, 5, 6	COP Engineering	Maintain critical facility and services during extended power outages; potential life safety	High	City budget; FEMA HMA grants as available	Long Term DOF (applied for Sandy HMGP)	High	SIP; EM*	PP, ES





**Table 9.3-11. Proposed Hazard Mitigation Initiatives**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
CP-5	Family Partnership Center (FPC)-Poughkeepsie Flood Hazard Mitigation Project: Flood hazard mitigation measures necessary to enhance and protect the critical facility utilities, which will enable Family Services and its partners to continue to provide essential services to the local Poughkeepsie community, especially in times of emergency. Implementation of this project, from securing funding through project completion, shall be conducted to provide protection to this facility to the 500-year flood level or "worst case scenario". See Action Worksheet.											
	See above.	Existing	Flood; All hazards resulting in extended power outages	1, 2, 3, 5, 6, 7	Family Services, Inc.	High – flood and other natural hazard (power outage) protection of a critical community facility serving vulnerable populations	High	FEMA HMA (applied for Sandy HMGP funding); facility owner for local match	Long term DOF (Sandy HMGP application submitted)	High	SIP, EM*	PP, ES

*Notes:*

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

EM\* = Emergency Management action; not necessarily mitigation

\*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
- OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

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

Timeline:

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

Costs:

Where actual project costs have been reasonably estimated:

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

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

- Low Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.

Benefits:

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

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

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

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





Costs:

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

Benefits:

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

Mitigation Category:

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

CRS Category:

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



Table 9.3-12. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
CP-1	Joint WPCP Stormwater and Flood Mitigation	0	1	0 (undetermined)	1	1	-1	0	1	1	0	1	0	1	1	7	Medium
CP-2	Remediation and Hardening of Dutchess Ave. Waterfront Infrastructure	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High (ongoing)
CP-3	Improve shoreline stabilization along the Hudson River	1	1	0 (undetermined)	1	1	1	0	1	1	1	1	0	1	1	11	Medium
CP-4	Emergency Generator Municipal Building/Emergency Command Center	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
CP-5	FPC Poughkeepsie Flood Hazard Mitigation Project	0	1	1	1	1	1	0	1	1	1	1	0	1	1	1	High

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



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

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None at this time.

### **9.3.8 Hazard Area Extent and Location**

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

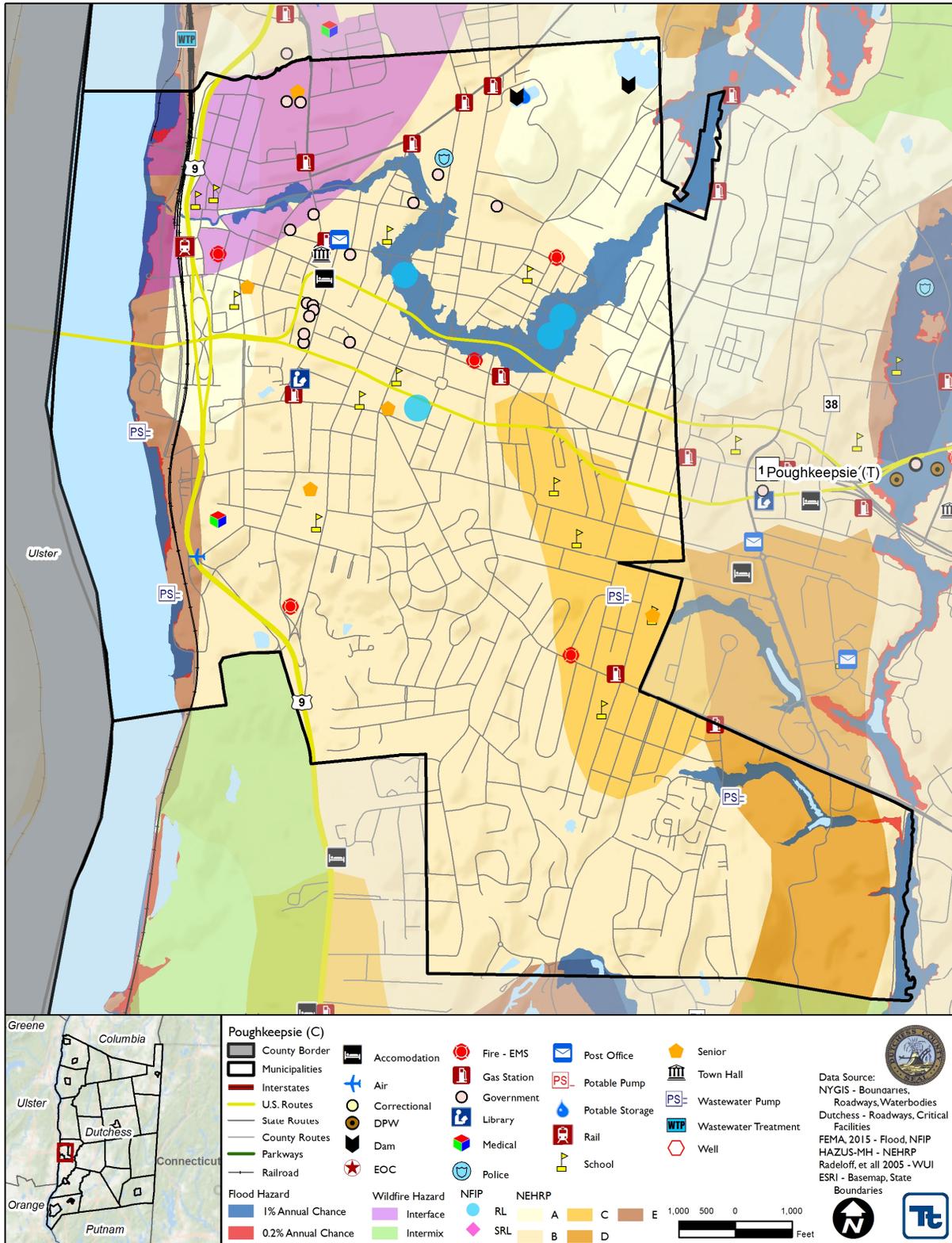
### **9.3.9 Additional Comments**

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None at this time.



Figure 9.3-2. City of Poughkeepsie Hazard Area Extent and Location Map





Action Number:

CP-2

Action Name:

Remediation and Hardening of Dutchess Ave. Waterfront Infrastructure

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood (incl. tidal flooding), Severe Storm
<b>Specific problem being mitigated:</b>	The Hudson River Waterfront floodplain, immediately north of the Walkway Over the Hudson elevator site, is a NYState Brownfields area which is currently undergoing DEC-supervised remediation. The site is slated to provide housing for over 400 semi-detached units and will also include a publicly-owned municipal waterfront passive recreational park. The area, heavily loaded with arsenic from a former lumber pressure-treatment site, is subject to flooding from the Hudson River at tidal events during severe weather. Water, waste water and road infrastructure (key to evacuation from storm surges) has been destroyed or eroded.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	No action will result in continue to expose this area to environmental and natural hazard risks. The below discussions following document a clear process by which options have been considered and an appropriate suite of actions has been identified to manage these risks.
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	The project falls into several areas: 1) Environmental remediation of the floodplain adjacent to the Hudson River which will include capping the site with 2' - 6' of earth, raising the surface out of the floodplain, 2) Installation of stormwater management systems on Dutchess Ave., including appropriate drainage through new curbing and sidewalks, 3) Stormwater management system upgrades on North Water St. including road surface re-design and construction, curbing, drains and sidewalks. 4) Design and construction of storm water management systems for 14 acres of Hudson River waterfront property. 5) Sanitary sewer, water system and new drainage-designed roadways for 14 acres of Hudson River waterfront property. 6) Replacement of pump station with storm-resistant equipment. 7) Design and landscaping of waterfront park.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 6, 7
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	New and Existing
<b>Benefits (losses avoided)</b>	Protection of public property and infrastructure from flood damage, including storm surge; public safety
<b>Estimated Cost</b>	High (over \$13MM)
<b>Priority*</b>	High (ongoing)
Plan for Implementation	
<b>Responsible Organization</b>	City of Poughkeepsie Engineering



<b>Local Planning Mechanism</b>	Comprehensive Plan; Economic Development Plan; MS4 Plan
<b>Potential Funding Sources</b>	Developer and City: FEMA HMA grants as applicable
<b>Timeline for Completion</b>	Ongoing, DOF
<b>Reporting on Progress</b>	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

**\* Refer to results of Prioritization (see next page)**



Action Number:

CP-2

Action Name:

Remediation and Hardening of Dutchess Ave. Waterfront Infrastructure

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Long term life safety issues
Property Protection	1	
Cost-Effectiveness	1	Implicit (environmental and natural hazard risk benefits)
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Most elements of this project are funded.
Environmental	1	Environmental benefits
Social	0	Benefits are limited to the specific area being addressed.
Administrative	1	
Multi-Hazard	1	
Timeline	1	Ongoing project
Agency Champion	1	Engineering
Other Community Objectives	1	Community redevelopment and revitalization
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** CP-4  
**Action Name:** Emergency Generator Municipal Building/Emergency Command Center

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All Hazards
<b>Specific problem being mitigated:</b>	Specific problem is in regard to maintaining electrical power to critical public municipal building. This building houses a county back-up 911 center and Police Departments presently is not set up with full back-up power to maintain municipal operations. These operations include emergency command centers, local government offices, municipal finance offices, engineering, etc. Loss of power will render these divisions unable to operate and will compromise the ability to maintain critical operations during emergencies. The longest power outage took place in 2003 when the building had to be vacated for a period of about two days.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	There are no other viable alternatives to maintain critical operations in the event of an extended power outage.
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Construction of an emergency generator appropriately sized to keep the municipal building operational. This will enable to keep the police and critical response divisions functional and enable public access to the facility during hazard events.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 6
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Maintain critical facility and services during extended power outages; potential life safety
<b>Estimated Cost</b>	High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible Organization</b>	Commissioner of Public Works
<b>Local Planning Mechanism</b>	CEMP; City Budget
<b>Potential Funding Sources</b>	FEMA HMA – Sandy HMGP application submitted
<b>Timeline for Completion</b>	Long Term DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



Action Number:

CP-4

Action Name:

Emergency Generator Municipal Building/Emergency Command Center

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Will allow this critical facility that supports public safety to remain operational during power outages.
Property Protection	1	May protect sensitive property.
Cost-Effectiveness	1	
Technical	1	There are no technical issues associated with this project. With routine maintenance will provide long term protection against power interruptions.
Political	1	This project is supported politically.
Legal	1	The City has full legal authority to implement these projects.
Fiscal	0	The City can fund the local match as grants are 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 City has all administrative and technical resources necessary to implement these projects
Multi-Hazard	1	This project provides protection against multiple hazards.
Timeline	1	This project can be implemented within one year once funding is secured.
Agency Champion	1	
Other Community Objectives	1	This project supports the City's commitment to provide uninterrupted critical services to their constituents, particularly in times of natural disasters and other emergencies.
<b>Total</b>	13	
<b>Priority (High/Med/Low)</b>	High	



Action Number:

CP-5

Action Name:

FPC Poughkeepsie Flood Hazard Mitigation Project

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood, Severe Storm, Coastal Storm
<b>Specific problem being mitigated:</b>	<p>Family Services (FSI) is a 135 year old not-for-profit, human services provider serving Dutchess and Ulster counties. The Family Partnership Center (FPC), our headquarters, is a 100,000+ square foot building, located in a distressed area of the City of Poughkeepsie, immediately contiguous to the flood prone Fall Kill Creek (more information below). We are, in fact, within the flood plain. The FPC is the city’s principal center for human services and, as such, must remain in operation throughout the year and especially in times of critical needs such as storms and other emergencies. Our campus consists of three distinct buildings, all which have been impacted by flood and/or water damage throughout the years.</p> <p>The Family Partnership Center is home to 19 human service, medical, mental health, youth, homeless, educational and cultural agencies and programs, all serving the City of Poughkeepsie and surrounding area. These agencies are primarily funded through government contracts, and are providing mandated government, or government-like, programs, including food and shelter programs, and location of elementary school children in emergency situations. A recent impact assessment study revealed that there are 43,000 client visits to the center each year and 78% of those served by the various agencies and services within the center fall below the poverty line. The critical resources provided at the center must remain in operation regardless of emergency conditions.</p> <p>Unfortunately this was not achievable when the Fall Kill Creek flooded the Partnership Center, pouring 5+ feet of water into the boiler room, causing in excess of \$200,000 in damages, in the fall of 2011 consequent to storms Irene &amp; Lee. While we were able to make significant critical repairs to restore full operations, there remain other significant repairs unaddressed. Routinely our campus facilities require repairs and mold remediation due to water damage, with general costs estimated at \$5,000 to \$10,000 annually. As we are located in the flood plain, it is critical that we take precautionary steps in order to prevent repeat shutdown of services and to ensure the continued operation of the many services here at the Family Partnership Center.</p> <p>The Fall Kill Creek flows approximately 16 miles from its source in Hyde Park and Clinton to the Hudson River. The watershed covers approximately 19.5 square miles (12,476 acres) before discharging to the Hudson River, and is home to approximately 28,500 people. Based on existing zoning, the number of dwelling units in the watershed’s municipalities could increase considerably in the future. The New York State Department of Environmental Conservation (NYSDEC) classifies the creek as a “Class C” stream, suitable for fishing, but not for bathing. In a 2000 report, the NYSDEC listed Fall Kill as a creek with known impaired aquatic life as a result of urban runoff and suspected nutrients. Much of the creek’s run through Poughkeepsie is neglected and isolated from neighborhoods with insufficient public space, and poor water quality threatens the health of Poughkeepsie residents and ecosystems. Storm-water runoff from</p>



	<p>developed areas within the watershed reaches the creek unimpeded and untreated, creating flooding conditions and extensive damage to property during major storm events.</p> <p>By implementing an extensive program of GI practices along the corridor, these adverse conditions can be dramatically improved while simultaneously enhancing human and ecological habitat opportunities, and benefiting water quality in the Hudson River.</p> <p>The scope of work we are pursuing at this time includes the following</p> <ul style="list-style-type: none"> <li>• Move critical utilities to a higher floor in the main building or protect from flooding conditions (boilers, electrical, water/sewer/sprinkler/natural gas control access).</li> <li>• Same as above for contiguous Annex building</li> <li>• Provide backup power (generator) for loss of power situations</li> <li>• Asbestos abatement to allow access to utilities remaining in subterranean level</li> <li>• Provide perimeter foundation improvements to our building located at 50 North Hamilton</li> <li>• Implement an improved storm water management system</li> </ul>
<b>Evaluation of Potential Actions/Projects</b>	
<p><b>Actions/Projects Considered (name of project and reason for not selecting):</b></p>	<p>The discussion below documents the level of consideration given to the development of this mitigation approach.</p>
<b>Action/Project Intended for Implementation</b>	
<p><b>Description of Selected Action/Project</b></p>	<p>This request proposes flood hazard mitigation measures necessary to enhance and protect the critical facility utilities, and will enable Family Services and its partners to continue to provide essential services to the local Poughkeepsie community, especially in times of emergency.</p> <p>The Mitigation Plan includes a six (6) prong approach as follows: a. Protect utilities from flooding and install dehumidification within the subterranean area of the main building. These utilities include; drinking water, hot water, sanitary sewer, storm drainage, electrical services, sprinkler system, natural gas system, and heating systems ; b. Raise and relocate central heating units and hot water heaters out of the flood hazard zone in both the main building and the annex building; c. Provide an emergency generator to maintain essential services to the main building in an emergency when the community is most in need ; d. Complete asbestos abatement within the mechanical rooms on the subterranean level of the main building allowing safe access to remaining utility systems; e. Excavate around the entire perimeter of the 50 North building foundation, to apply water proofing to the foundation and install a positive drainage system near the building and around the site; this effort will keep the mold/mildew conditions in check and improve the ‘health of the building’. f. Install a storm-water harvesting and reuse program to capture the roof runoff and other impervious areas from and near the main building (0.25 acre). The implementation of a sustainable storm-water practice encompasses the 3 R’s of recycling, Reduce/Reuse/Recycle. The intercept of the roof runoff waters will decrease the flow to the City’s combined sewers and reduce potable water usage by storing and using this water (up to 100,000 gals. annually) at the existing site.</p>



	<p>Detailed Mitigation Measures include;</p> <ol style="list-style-type: none"> <li>1. Mitigation: These utilities connections shall include select fittings replacement to ensure water tightness within the flood prone areas, and include the relocation of all electrical controls, panels and wiring to an elevation above the max. flood level. Presently all metal components are being negatively impacted by the dampness in the basement, and thus the project will also install a dehumidification system with continuous discharge to the drain lines.</li> <li>2. Mitigation; The central heating units (boilers) and the hot water heaters are presently located in the subterranean level mechanical room. The Boilers shall be replaced and new units relocated to areas above at or above the ground level. The hot water heaters (replaced 2011) shall be elevated within the mechanical room or with the boilers at or above the ground floor.</li> <li>3. Mitigation: Supply and install a new Emergency Generator to an elevated exterior location, generally protected from the elements and the flooding from the creek with screening and noise attenuation, in order to supply uninterrupted electricity for all critical services to those portions of the building which must remain open, especially in an emergency situations requiring food and shelter.</li> <li>4. Mitigation: The mechanical areas (basement) have been evaluated and an Asbestos Abatement Plan has been developed for the clean-up and correction of these areas. The asbestos in these rooms were contained, however, 2011 floods have disturbed the existing conditions now requiring staff take the necessary training and safety precautions when entering these areas. The Abatement Plan will be implemented to allow FSI personnel and utility contractors, the proper, safe and healthy access to these work areas.</li> <li>5. Mitigation: This building has been evaluated with respect to the condition of the annual weeping of rain/ground water into the lower level, which in turn causes mold and mildew within the building, which will be corrected with the application of a waterproofing membrane to the foundation exterior and drainage containment and collection system with positive runoff piping to the area drainage facilities along North Hamilton Street.</li> <li>6. Mitigation: The main building roof will involve the task of reconfiguring the roof collection drainage system and the creation of a Cistern storage and delivery system, with a slightly elevated storm-water storage tank, to temporarily contain the collected runoff, and also provide a solar operated pump to lift the water for delivery to the existing and/or expanded gardens on site.</li> </ol>
<b>Mitigation Action/Project Type</b>	SIP, EM*
<b>Goals Met</b>	1, 2, 3, 5, 6, 7
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High – flood and other natural hazard (power outage) protection of a critical community facility serving vulnerable populations
<b>Estimated Cost</b>	High
<b>Priority*</b>	High



Plan for Implementation	
<b>Responsible Organization</b>	Family Services, Inc.
<b>Local Planning Mechanism</b>	NFIP FDPO
<b>Potential Funding Sources</b>	FEMA HMA (applied for Sandy HMGP funding); facility owner for local match
<b>Timeline for Completion</b>	Long term DOF (Sandy HMGP application submitted)
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

**\* Refer to results of Prioritization (see next page)**



Action Number:

CP-5

Action Name:

FPC Poughkeepsie Flood Hazard Mitigation Project

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Will protect a vital community critical facility
Cost-Effectiveness	1	As identified in HMGP application
Technical	1	Grant will support appropriate technical resources
Political	1	
Legal	1	
Fiscal	0	Requires grant funding
Environmental	1	No Environmental constraints
Social	1	Benefits all populations; benefits vulnerable populations
Administrative	1	Grant will support appropriate administrative resources
Multi-Hazard	1	
Timeline	0	Requires grant funding
Agency Champion	1	
Other Community Objectives	1	
<b>Total</b>	11	
<b>Priority (High/Med/Low)</b>	High	