



## SECTION 6. MITIGATION STRATEGIES

This section presents mitigation actions for Washington County to reduce potential exposure and losses identified as concerns in the Risk Assessment portion of this plan. The Steering Committee reviewed the Risk Assessment to identify and develop these mitigation actions, which are presented herein.

This section includes:

1. Background and Past Mitigation Accomplishments
2. General Planning Approach
3. Review and Update of Mitigation Goals and Objectives
4. Capability Assessment
5. Mitigation Strategy Development

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

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

### 6.1 BACKGROUND AND PAST MITIGATION ACCOMPLISHMENTS

In accordance with the requirements of the Disaster Mitigation Act of 2000 (refer to Page 1-1 for more detail on DMA 2000), a discussion regarding past mitigation activities and an overview of past efforts is provided as a foundation for understanding the mitigation goals, objectives, and activities outlined in this plan update. The County, through previous and ongoing hazard mitigation activities, has demonstrated that it is pro-active in protecting its physical assets and citizens against losses from natural hazards. Examples of previous and ongoing actions and projects include the following:

- The County facilitated the development of the original April 2010 “Washington County All-Hazards Mitigation Plan”. The current planning process represents the regulatory five-year plan update process, which includes participation of 21 out of 25 municipal governments in the County, along with key county and regional stakeholders.
- All municipalities participating in this HMP update participate in the National Flood Insurance Program (NFIP), which requires the adoption of FEMA floodplain mapping and certain minimum standards for building within the floodplain.
- The County and municipalities have implemented, or sought to implement through efforts to secure available funding resources, mitigation actions to protect critical facilities and infrastructure throughout the planning area, including:
  - New span bridge on CR46 in Town of Fort Edward
  - Village of Granville - Phase I of Church Street Bridge Rehabilitation, River Valley Drive Pump Station Flood Mitigation, Wellfield Berm Repairs, Sanitary Collection System Inflow and Infiltration Mitigation Project
  - Bridge deck repair/upgrade on CR113 in Town of Easton.
  - Batten Kill River Stabilization Project in Town of Jackson
  - Washington County Sewer District #11 Backup Power System
  - Pike Brook Road bridge replacement in Town of Dresden, damaged during Hurricane Irene
- Municipalities have actively participated in available mitigation grant funding opportunities to implement mitigation projects, as identified in their jurisdictional annexes in Section 9 - Annexes.



- Numerous studies have been conducted by Federal, State, County and local agencies/entities to examine natural hazards affecting Washington County, and have been reviewed and incorporated into this plan update as appropriate (see Section 3 – Planning Process and References).
- Municipalities in Washington County have adopted regulatory standards regarding land-use and zoning that exceed minimum requirements and provide the communities with greater capability to manage development without increasing hazard risk and vulnerability. Examples of these standards are presented in the Capability Assessment subsection later in this chapter.
- The County Department of Public Safety coordinates emergency response activities and resources during hazard events and analyzes the response efforts after hazards to evaluate performance, make improvements and identify additional resources required and opportunities for mitigation action.
- The Washington County Soil and Water Conservation District instructs on topics pertinent to Agricultural Environmental Management and natural resource conservation for public and municipalities. Other trainings that deal with stormwater management to improve water quality and reduce water quantity are offered as well.

## 6.2 GENERAL MITIGATION PLANNING APPROACH

The overall approach used to update the County and local hazard mitigation strategies are based on FEMA and NYS regulations and guidance regarding local mitigation plan development, including:

- DMA 2000 regulations, specifically 44 CFR 201.6 (local mitigation planning)
- FEMA “Local Mitigation Planning Handbook”, March 2013
- FEMA Local Mitigation Plan Review Guide, October 1, 2011
- FEMA “Integrating Hazard Mitigation into Local Planning”, March 1, 2013
- FEMA “Plan Integration: Linking Local Planning Efforts”, July 2015
- FEMA Mitigation Planning How-To Guide #3, Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)
- FEMA “Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards”, January 2013

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

- Review and update mitigation goals and objectives
- Identify mitigation capabilities and evaluate their capacity and effectiveness to mitigate and manage hazard risk
- Prepare an implementation strategy, including:
  - Identification of progress on previous County and local mitigation strategies
  - Development of updated County and local mitigation strategies, and
  - Prioritization projects and initiatives in the updated mitigation strategy

## 6.3 REVIEW AND UPDATE OF MITIGATION GOALS AND OBJECTIVES

This section documents the efforts to develop hazard mitigation goals and objectives established to reduce or avoid long-term vulnerabilities to the identified hazards.



### 6.3.1 Goals and Objectives

According to CFR 201.6(c)(3)(i): “The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.” The mitigation goals have been developed based on the risk assessment results, discussions, research, and input from amongst the committee, existing authorities, polices, programs, resources, stakeholders and the public.

For the purposes of this plan, goals and objectives are defined as follows:

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

**Objectives** are short-term aims which, when combined, form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.

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

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

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

During the 2016-2018 plan update process, the Steering Committee reviewed the goals and objectives established in the 2010 HMP. These goals and objectives were reviewed in consideration of the hazard events and losses since the 2010 plan, the updated hazard profiles and vulnerability assessment, the goals and objectives established in the New York State 2014 HMP, County and local risk management plans, as well as direct input on how the County and municipalities need to move forward to best manage their hazard risk. Amendments include additions/edits to goals and/or objectives to express the planning partnership’s interests in integrating this plan with other planning mechanisms/programs, and to support mitigation through the protection and preservation of natural systems, including particular reference to certain goals and objectives in the NYS 2014 HMP update as identified in the table below.

As a result of this review process, the Goals and Objectives for the 2016-2018 update have been amended, as presented in Table 6-1.

**Table 6-1. Washington County Hazard Mitigation Plan Goals and Objectives**

| Goal   | Objective   |
|--|---|
| <b>Goal 1:<br/>Protect Life<br/>and Property</b> | <i>Objective 1-1:</i> Implement mitigation activities that will assist in protecting lives and property by making homes, businesses, infrastructure, and critical facilities more resistant to hazards.   |
|  | <i>Objective 1-2:</i> Encourage homeowners and businesses to take preventive actions in areas that are especially vulnerable to hazards.  |
|  | <i>Objective 1-3:</i> Build upon past efforts to characterize flood events by conducting additional flood studies and creating flood models (especially in the Town of Salem, which now includes the Village of Salem) ( <i>Modified from the 2010 Washington County Objective 1-3</i> ). |
|  | <i>Objective 1-4:</i> Review existing local ordinances, building codes, safety inspection procedures, and applicable rules to help ensure that they employ the most recent and generally accepted standards for the protection of buildings.  |
|  | <i>Objective 1-5:</i> Ensure that public and private facilities and infrastructure meet established building codes and immediately enforce the codes to address any identified deficiencies.  |



| Goal  | Objective  |
|---|--|
|   | <i>Objective 1-6:</i> Incorporate hazard considerations into land-use planning and natural resource management.  |
|   | <i>Objective 1-7:</i> Encourage homeowners, renters, and businesses to purchase insurance coverage for damages caused by hazards.  |
|   | <i>Objective 1-8:</i> Integrate the recommendations of this plan into existing local and county programs.  |
|   | <i>Objective 1-9:</i> Implement mitigation activities that encourage environmental stewardship and protection of the environment.  |
| <b>Goal 2:<br/>Increase Public Awareness</b>  | <i>Objective 2-1:</i> Develop and implement additional education and outreach programs to increase public awareness of the risks associated with hazards and to educate the public on specific, individual preparedness activities.                    |
|   | <i>Objective 2-2:</i> Provide information on tools, partnership opportunities, funding resources, and current government initiatives to assist in implementing mitigation activities.  |
|   | <i>Objective 2-3:</i> Implement mitigation activities that enhance the technological capabilities of the jurisdictions and agencies in the County to better profile and assess exposure of hazards.  |
|   | <i>Objective 2-4:</i> Enhance the knowledge and skills of local officials responsible for administering and enforcing local floodplain management regulations. <i>(New)</i>  |
|   | <i>Objective 2-5:</i> Build new and strengthen existing County and local floodplain management capabilities. <i>(New)</i>  |
| <b>Goal-3: Encourage Partnerships</b>   | <i>Objective 3-1:</i> Strengthen inter-jurisdiction and inter-agency communication, coordination, and partnerships to foster hazard mitigation strategies and/or projects designed to benefit multiple jurisdictions.                                  |
|   | <i>Objective 3-2:</i> Identify and implement ways to engage public agencies with individual citizens, non-profit organizations, business, and industry to implement mitigation activities more effectively.  |
| <b>Goal 4:<br/>Provide for Emergency Services</b>   | <i>Objective 4-1:</i> Encourage the establishment of policies at the local level to help ensure the prioritization and implementation of mitigation strategies and/or projects designed to benefit essential facilities, services, and infrastructure. |
|   | <i>Objective 4-2:</i> Where appropriate, coordinate and integrate hazard mitigation activities with existing local emergency operations plans.   |
|   | <i>Objective 4-3:</i> Identify the need for, and acquire, any special emergency services and equipment to enhance response capabilities for specific hazards.  |
|   | <i>Objective 4-4:</i> Review and improve, if necessary, emergency traffic routes; communicate such routes to the public and communities.   |
| <b>Goal 5: <i>(new for this update)</i><br/>Encourage the development and implementation of long-term, cost-effective, and resilient mitigation projects to preserve or restore the functions of natural systems.</b> | 5.1: Encourage the use of green and natural infrastructure. <i>(New)</i>   |
|   | 5.2: Provide technical assistance to communities and stakeholders in the application and implementation of mitigation projects that preserve or restore natural systems. <i>(New)</i>  |
|   | 5.3: Maintain and encourage ongoing relationships between state agencies and partners to play an active and vital role in preservation and restoration of vulnerable natural systems. <i>(New)</i>   |



| Goal   | Objective   |
|--|---|
| <i>(Modified from NYS 2014 HMP – Goal 4 and associated objectives)</i> | 5.4: Promote climate change adaption strategies that protect against long-term effects on the environment. <i>(New)</i> |

## 6.4 CAPABILITY ASSESSMENT

According to FEMA Mitigation Planning How-To Guide #3, a capability assessment is an inventory of a community’s missions, programs and policies; and an analysis of its capacity to carry them out. This assessment is an integral part of the planning process. The assessment process enables identification, review and analysis of local and state programs, policies, regulations, funding and practices currently in place that may either facilitate or hinder mitigation.

During the original planning process, the County and participating municipalities identified and assessed their capabilities in the areas of existing programs, policies, and technical documents. By completing this assessment, each jurisdiction learned how or whether they would be able to implement certain mitigation actions by determining the following:

- Limitations that may exist on undertaking actions;
- The range of local and/or state administrative, programmatic, regulatory, financial and technical resources available to assist in implementing their mitigation actions;
- Actions deemed infeasible as they are currently outside the scope of capabilities;
- Types of mitigation actions that may be technically, legally (regulatory), administratively, politically, or fiscally challenging or infeasible;
- Opportunities to enhance local capabilities to support long term mitigation and risk reduction.

During the plan update process, all participating jurisdictions were tasked with developing or updating their capability assessment, paying particular attention to evaluating the effectiveness of these capabilities in supporting hazard mitigation, and identifying opportunities to enhance local capabilities.

County and municipal capabilities in the Planning and Regulatory, Administrative and Technical, and Fiscal arenas may be found in the Capability Assessment section of each jurisdictional annex in Section 9 - Annexes. Within each annex, participating jurisdictions identified how they have integrated hazard risk management into their existing planning, regulatory and operational/administrative framework (“integration capabilities”), and how they intend to promote this integration (“integration actions”). A further summary of these continued efforts to develop and promote a comprehensive and holistic approach to hazard risk management and mitigation is presented in Section 7 – Plan Maintenance.

A summary of the various federal, state, county and local planning and regulatory, administrative and technical, and fiscal programs available to promote and support mitigation and risk reduction in Washington County are presented below.

### 6.4.1 Planning and Regulatory Capabilities - County and Local

#### Municipal Land Use Planning and Regulatory Authority

The County and municipalities have various land use planning mechanisms that can be leveraged to mitigate flooding and support natural hazard risk reduction. Specific County and local planning and regulatory



capabilities are identified in their jurisdictional annexes in Section 9 - Annexes. The Washington County Planning Department (WCPD), Washington County Department of Code Enforcement (WCDCE) and the Washington County Soil and Water Conservation District (WCSWCD) both provide local land use planning support to the municipalities (see Section 6.4.3).

Section 239 of New York State General Municipal Law (GML) requires the referral of certain local planning actions to the County Planning Board for the examination of possible inter-municipal impacts. The County Planning Department and Planning Board fulfil the requirements under Section 239-M of the law. While WCPD does not have or implement any County-level land use plans, it does provide technical planning assistance for all municipalities within the County. The County Planning Board reviews all aspects of the projects referred to them and often discusses natural hazard risks regarding floodplains as well as stormwater management. A recently hired County Planner specializes in Resiliency and Community Development, and serves as a resource to the Planning Board and municipalities. The Board makes recommendations on local projects to approve, deny, or find matter of local concern – it does not have the authority to make determinations. Municipalities consider County recommendations, but may vote against them a super-majority vote. All municipalities within the County have some form of land use regulations.

WCDCE administers and enforces the New York State Uniform Fire Prevention and Building Codes and the Washington County Sanitary Code, Local Law No. 1 of 1988 within those municipalities within the county which have elected not to enforce the Uniform Code at a local level. In this role, the Department is responsible for the following:

- Investigate reports regarding any issues of noncompliance with either the Uniform Codes or Sanitary Code and issue stop work orders and/or order to remedy violations.
- Issue certificates of occupancy and/or certificates of compliance when compliance with the Uniform Codes and/or Sanitary Code has been fulfilled.
- Perform fire prevention inspections of business and schools as required by the Uniform Codes.
- Perform onsite inspections during various stages of construction.
- Perform property maintenance inspections by request of homeowners and/or tenants.
- Review plans and issue permits for all work that must conform to the Uniform Codes and the Washington County Sanitary Code.

WCDCE staff includes code enforcement officials assigned to specific municipalities within the county where local code enforcement is unavailable. The towns of Putnam, Easton, Cambridge, and Fort Edward conduct building code enforcement with local staff. All other towns and villages in the county rely on WCDCE for building code enforcement. In addition, each town and village has authorized local municipal officers who ensure compliance with any and all local regulations in the municipality that a permit or certificate is being requested.

### **Emergency and Evacuation Plans**

The Washington County Department of Public Safety plays a lead role in planning, mitigation, coordination, and response and recovery for natural disasters such as floods and winter weather storm events. The Department of Public Safety maintains the Washington County Comprehensive Emergency Management Plan (CEMP) which establishes the framework for an effective system to ensure the County and its municipalities will be adequately prepared to respond to an occurrence of natural, manmade, and/or technological related emergencies or disasters. It is updated every three years. The CEMP provides protocol for sheltering and evacuation of residents in the event of an emergency (refer to the Emergency Operations Center guidelines of the CEMP).



### Local Waterfront Revitalization Program

The Waterfront Revitalization of Coastal Areas and Inland Waterways Act offers local governments the opportunity to participate in the State's Coastal Management Program (CMP), on a voluntary basis, by preparing and adopting a Local Waterfront Revitalization Program (LWRP), providing more detailed implementation of the State's CMP through use of such existing broad powers as zoning and site plan review (NYS Department of State 2017).

When an LWRP is approved by the New York State Secretary of State, State agency actions are required to be consistent with the approved LWRP to the maximum extent practicable. When the federal government concurs with the incorporation of an LWRP into the CMP, federal agency actions must be consistent with the approved addition to the CMP. Title 19 of NYCRR Part 600, 601, 602, and 603 provide the rules and regulations that implement each of the provisions of the Waterfront Revitalization of Coastal Areas and Inland Waterways Act including but not limited to the required content of an LWRP, the processes of review and approval of an LWRP, and LWRP amendments (NYS Department of State 2017).

A LWRP is both a plan and a program. It refers to both a planning document prepared by a municipality, as well as a program established to implement the plan. The LWRP may be comprehensive and address all issues that affect a community's entire waterfront or it may address the most critical issues facing a specific portion of its waterfront (NYS Department of State 2017).

A LWRP follows a step-by-step process by which a community can advance community planning from a vision to implementation. NYS Department of State developed two documents to assist communities in preparing their LWRP plan. The documents can be found here: <https://www.dos.ny.gov/opd/programs/WFRevitalization/LWRP.html#approved>

In addition to landward development, water uses are subject to an ever-increasing array of use conflicts. These include conflicts between passive and active types of recreation, between commercial and recreational uses, and between all uses and the natural resources of a harbor. Increases in recreational boating, changes in waterfront uses, coastal hazards what to do with dredged materials, competition for space, climate change, and multiple regulating authorities, all make effective harbor management complex. These conflicts and a lack of clear authority to solve them have resulted in degraded natural and cultural characteristics of many harbors, and their ability to support a range of appropriate uses. As part of an LWRP, a harbor management plan can be used to analyze and resolve these conflicts and issues (NYS Department of State 2017).

An adopted and approved LWRP provides several benefits to communities:

- Clear direction – a LWRP reflects community consensus. It can significantly increase a community's ability to attract appropriate development that will respect its unique cultural and natural characteristics.
- Technical assistance – a LWRP establishes a long-term partnership among local government, community-based organizations, and NYS. This provides a source of technical assistance to prepare and implement the community's LWRP.
- State and federal consistency – state permitting, funding and direct actions must be consistent, to the maximum extent practicable, with an approved LWRP. Within federally defined coastal areas, federal agencies activities are also required to be consistent with an approved LWRP. This "consistency" provision is a strong tool that helps ensure all government levels work in unison to build a stronger economy and a healthier environment.
- Financial assistance – a LWRP presents a unified vision; it increases a community's chance to obtain public and private funding for projects. Funding for both the development and implementation of



LWRPs is available through grants from the NYS Environmental Protection Fund, among other sources (NYS Department of State 2017).

After a draft LWRP is accepted by the community and DOS as complete, a formal review of the document is initiated by DOS to potentially affected State, federal, and local agencies. After the review process, reviews are made, if necessary, and then prepared for final approval. The approval of a LWRP is a three-tier process involving adoption by the municipality, approval by the Secretary of State, pursuant to the Waterfront Revitalization of Coastal Areas and Inland Waterways Act, and, for municipalities within the state's coastal area, concurrence by OCRM on its incorporation into the CMP (NYS Department of State 2017).

Any village, town or city can prepare a LWRP; however, only communities located along a designated waterway are eligible for grants from the Environmental Protection Fund Local Waterfront Revitalization program for its preparation and implementation. On an annual basis, the Department of State solicits grant applications from local governments for matching grants from the New York State Environmental Protection Fund's Local Waterfront Revitalization Program. Communities receive grant funding, through this program, for economic development (redevelopment, revitalization, etc.), updates of existing LWRPs, update of local codes and ordinances, and educational and outreach programs (NYS Department of State 2017).

Some Washington County communities have utilized these funds to increase public access to waterways, design and construct the waterfront parks, and develop riverfront revitalization strategies. The Town of Fort Edward, Village of Fort Edward, and the Village of Granville have been past recipients of the EPF LWRP grant awards. The Village of Whitehall is currently the only Washington County municipality with an approved LWRP, as identified within the Capability Assessment section of the municipal annexes (Section 9 - Annexes).

## 6.4.2 Planning and Regulatory Capabilities - State and Federal

### National Flood Insurance Program (NFIP)

The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968 (FEMA's 2002 National Flood Insurance Program (NFIP): Program Description). The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Please refer to the Flood Hazard Profile in Section 5.4.2 - Flood for information on recent legislation related to reforms to the NFIP.

There are three components to the NFIP: flood insurance, floodplain management and flood hazard mapping. Communities participate in the NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. Community participation in the NFIP is voluntary. Flood insurance is designed to provide an alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods. Flood damage in the U.S. is reduced by nearly \$1 billion each year through communities implementing sound floodplain management requirements and property owners purchasing flood insurance. Additionally, buildings constructed in compliance with NFIP building standards suffer approximately 80% less damage annually than those not built in compliance (FEMA, 2008).

All municipalities in Washington County actively participate in the NFIP. As of April 30, 2015, there were 160 NFIP policies in Washington County. There have been 98 claims made, totaling approximately \$1.4 million for damages to structures and contents. There are two NFIP Repetitive Loss (RL) property and no Severe Repetitive Loss (SRL) properties in the County. Further details on the County's flood vulnerability may be found in the flood hazard profile in Section 5.4.2 - Flood.



Municipal participation in and compliance with the NFIP is supported at the federal level by FEMA Region II and the Insurance Services Organization (ISO), at the state-level by the New York State Department of Environmental Conservation (NYSDEC) and New York State Office of Emergency Management (NYS DHSES). Additional information on the NFIP program and its implementation throughout the county may be found in the flood hazard profile (Section 5.4.2 - Flood).

The state and municipalities within it may adopt higher regulatory standards when implementing the provisions of the NFIP. Specifically identified are the following:

**Freeboard:** By law, NYS requires Base Flood Elevation plus 2 feet (BFE+2) for all single- and two-family residential construction, and BFE+1 for all other types of construction. Communities may go beyond this requirement, providing for additional freeboard or requiring BFE+2 for all types of construction.

**Cumulative Substantial Improvements/Damages:** The NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements. Over the years, a community may issue a succession of permits for different repairs or improvement to the same structures. This can greatly increase the overall flood damage potential for structures within a community. The community may wish to deem "substantial improvement" cumulatively so that once a threshold of improvement within a certain length of time is reached, the structure is considered to be substantially improved and must meet flood protection requirements.

### NFIP Community Rating System (CRS)

As an additional component of the NFIP, the Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance (FEMA, 2012). Municipalities and the county as a whole could expect significant cost savings on premiums if enrolled in the CRS program.

Currently there are no municipalities in Washington County participating in the CRS program.

### New York State Floodplain Management

There are two departments that have statutory authorities and programs that affect floodplain management at the local jurisdiction level in New York State: the New York State Department of Environmental Conservation (NYSDEC) and the Department of State's Division of Code Enforcement and Administration (DCEA).

The NYSDEC is charged with conserving, improving, and protecting the state's natural resources and environment, and preventing, abating, and controlling water, land, and air pollution. Programs that have bearing on floodplain management are managed by the Bureau of Flood Protection and Dam Safety, which cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion, and dam failures. These objectives are accomplished through floodplain management and both structural and nonstructural means.

The Dam Safety Section is responsible for "reviewing repairs and modifications to dams, and assuring [sic] that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning." The Flood Control Projects Section is responsible for reducing flood risk to life and property through construction, operation, and maintenance of flood control facilities.



The Floodplain Management Section is responsible for reducing flood risk to life and property through management of activities, such as development in flood hazard areas, and for reviewing and developing revised flood maps. The Section serves as the NFIP State Coordinating Agency and in this capacity, is the liaison between FEMA and New York communities that elect to participate in the NFIP. The Section provides a wide range of technical assistance.

### 6.4.3 Administrative and Technical Capabilities - County and Local

#### Washington County Department of Public Safety (WC DPS)

The Washington County DPS has multiple different functions, including operating a 911 communications center, maintaining the countywide emergency communications system, overseeing the County's Hazardous Materials-WMD Team and responses, providing administrative support to the Bureau of EMS and Bureau of Fire, maintaining and managing the Public Emergency Notification System, and conducting all Emergency Management Coordination and Planning in the County. The Department's Director and Deputy Director are responsible for Emergency Management and Planning in accordance with State and Federal guidelines for such situations from the County level down to the individual municipalities. The Department assists County Administration as well as the leaders of the local Towns & Villages, Schools and Businesses, also including the assorted Public Safety agencies that have jurisdiction within Washington County.

Specific emergency management activities include, but is not limited to:

- Emergency Planning - The WC DPS plans for all large-scale emergencies within the County, such as snowstorms, floods, hurricanes, tornadoes, hazardous material incidents, and public health emergencies, as well as any communications related issues that may affect the way people get ahold of services.
- Emergency Operations Center Activation – WC DPS is responsible for activation and operation of the County Emergency Operations Center for long-term, large-scale emergencies to manage the emergency through coordination, communication and sharing of resources, all through the National Incident Management System. WC DPS also has a Mobile Field Communications unit that can deploy to affected regions for multiple uses from a mobile EOC and a Mobile Communications Center.
- Presidential Disaster Declaration – The WC DPS gathers documentation for submission to federal and state governments for monetary disaster relief.
- Weather Alerts for Schools and Public Officials – The DPS relays severe weather alerts to all Washington County municipalities and school campuses and notifies all county agencies, local governments and private organizations during other watches and warnings. Notifications are also sent using the county's mobile phone application, and posted on social media accounts which alert follower of those pages. Washington County is recognized as a NOAA Weather-Ready Nation Ambassador. The County is currently working towards becoming a “StormReady” county, but has not yet had the time and resources to complete the effort.
- Radio Amateur Civil Emergency Services (RACES) – The WC DPS has a robust group of RACES volunteers that meet, train and exercise on a weekly and monthly basis. Tabletop exercises are done each month with emergency management, amateur radio members, and local hospital staff.

#### Washington County Soil & Water Conservation District (WC SWCD)

The District's mission is to implement projects and programs to assist agricultural producers, rural landowners and municipalities with the management, conservation and best use of natural resources in Washington County. The SWCD was created in 1945 to develop and carry out a program of soil, water and related natural resource conservation by providing technical assistance and programs to residents, landowners and units of government.



Environmental planners and other WCDP staff provide support to the five-member citizen Board of Directors. The SWCD's highest priorities are to protect the County's soil and water resources while maintaining the viability of agriculture as a preferred land use.

Mitigation related services provided include:

- Technical assistance and site reviews for private and public properties that may include assistance with, but not limited to – erosion and sediment control, habitat improvement, stormwater, forestry, drainage, regulatory permits.
- Water/stormwater management though general assistance and grant programs
- Stream crossing assistance for proper permit requirements
- Agricultural assessments
- Soil survey interpretation and WebSoil survey assistance
- Pond site investigations
- Educational information and outreach on conservation and water quality
- Provide low cost seedlings for the conservation purposes
- The District instructs on the NYSDEC 4 Hour Contractor's Training for Erosion and Sediment Control

The District assists both public and private landowners with identifying and addressing Hazard Mitigation issues through their various programs. The District has directly assisted communities with hazard mitigation through grants to reduce soil migration, stream corridor improvements and stormwater runoff reduction. The District does not have a specific budget item for hazard mitigation projects. Projects that fall under the hazard mitigation umbrella have been funded from current natural resource grants that have been awarded to the SWCD and which are justifiable expenses from the grant requirements.

### **Washington County Department of Planning and Community Development (WCDPCD)**

The WCDPCD provides the following services:

General Planning:

- Planning and administrative support services to the Washington County Planning Board for monthly review meetings
- Providing technical services to and hosts training for local planning and zoning boards for matters related to community master plans, zoning ordinances and related land use regulations
- Design and implementation of planning initiatives involving multiple county communities

Informational Services:

- Provides informational services to county departments, municipalities, consulting firms, not-for-profits and the general public
- Houses public flood hazard and wetland information for Washington County and keeps records of existing town and village comprehensive plans, land use controls, subdivision law, and zoning law if they have been provided by the local municipalities
- Provides assistance to local municipalities regarding the Washington County Planning Board's referral process and acts as an informational center for General Municipal Law §239-M
- Coordinates with continuing education administrators, including the Department of State, New York Municipal Insurance Reciprocal (NYMIR) to provide local board members and municipalities the



opportunity to gain required continuing education credits as well as familiarize themselves with current planning knowledge

- Identifies and communicates grant opportunities that may be constructive to the planning, growth and improvement of our County.

### **Washington County Department of Public Works (WCDPW)**

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WCDPW responsibilities include overseeing all county road, highway, and bridge design and construction, and maintenance of the county's capital facilities, vehicle fleet, and equipment. The department also performs brush cutting, ditching, and tree removals.

Within the DPW, the highway department is responsible for the maintenance of 284 miles of county highways and 123 county bridges. By contract, an additional 100 miles of state highways are maintained during the winter months for snow and ice control. Its construction crews use county and rented equipment to install and maintain culverts throughout the county. The DPW Engineering section inspects catch basins and quantifies amounts of sediment removed at county facilities, and assists in the preparation of the MS4 Annual Reports.

The DPW upholds a working relationship with other county departments as well as all Townships and Villages throughout the county in support of their own individual missions.

Washington County DPW has an Engineering Section that is involved in various activities related to the improvement of highway and bridge infrastructure throughout the County, which includes a Plan of Action for Scour Critical Bridges.

### **Washington County Department of Code Enforcement (WCDCE)**

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This department enforces the New York State Uniform Fire Prevention and Building Codes and the Washington County Sanitary Code, Local Law No. 1 of 1988. Code Enforcement personnel are available 24 hours a day to report to the scene of an emergency involving structural damage to a building by fire, flood, etc.

Other department responsibilities include:

- Investigating reports regarding any issues of noncompliance with either the Uniform Codes or Sanitary Code and issue stop work orders and/or order to remedy violations.
- Issuing certificates of occupancy and/or certificates of compliance when compliance with the Uniform Codes and/or Sanitary Code has been fulfilled.
- Performing fire prevention inspections of business and schools as required by the Uniform Codes.
- Performing onsite inspections during various stages of construction.
- Performing property maintenance inspections by request of homeowners and/or tenants.
- Reviewing plans and issue permits for all work that must conform to the Uniform Codes and the Washington County Sanitary Code.

As part of the local building permit process, a Local Regulation Compliance Certificate (LRCC #1) must be completed, which includes a section where the applicant/municipality must identify if the parcel is within a floodplain.

### **Washington County Department of Public Health and Nursing**

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The Goals of the Washington County Public Health are:

- To prevent epidemics and the spread of disease



- To prevent injuries
- To promote and encourage healthy behaviors
- To respond to disasters and assist communities in recovery
- To provide health care education for the patient, the patients' family, and the community

Washington County has joined forces with New York State Department of Health, creating a Public Health All-Hazards Volunteer Program. This program will train volunteers to assist Public Health efforts in response, mitigation, and recovery for disasters which may pose a threat to human health.

#### 6.4.4 Administrative and Technical Capabilities - State and Federal

##### **New York State Division of Homeland Security and Emergency Services (NYS DHSES)**

For more than 50 years, NYS DHSES (formerly New York State Office of Emergency Management) and its predecessor agencies have been responsible for coordinating the activities of all State agencies to protect New York's communities, the State's economic well-being, and the environment from natural and man-made disasters and emergencies. NYS DHSES routinely assists local governments, voluntary organizations, and private industry through a variety of emergency management programs including hazard identification, loss prevention, planning, training, operational response to emergencies, technical support, and disaster recovery assistance.

NYS DHSES administers the FEMA mitigation grant programs in the state, and supports local mitigation planning in addition to developing and routinely updating the State Hazard Mitigation Plan. NYS DHSES prepared the current State Hazard Mitigation Plan working with input from other State agencies, authorities and organizations. It was approved by FEMA in 2014 and it keeps New York eligible for recovery assistance in all Public Assistance Categories A through G, and Hazard Mitigation assistance in each of the Unified Hazard Mitigation Assistance Program's five grant programs. For example, the 2008-2011 State Mitigation Plan allowed the State and its communities to access nearly \$57 million in mitigation grants to prepare plans and carry out projects. The 2014 New York State HMP was used as guidance in completing the Washington County HMP Update. The State HMP can be found here: <http://www.dhSES.ny.gov/recovery/mitigation/plan.cfm>

##### **New York State Department of Environmental Conservation (NYSDEC) – Division of Water - Bureau of Flood Protection and Dam Safety**

Within the NYSDEC – Division of Water, the Bureau of Flood Protection and Dam Safety (<http://www.dec.ny.gov/about/61432.html>) cooperates with federal, state, regional, and local partners to protect lives and property from floods, coastal erosion and dam failures through floodplain management and both structural and non-structural means; and, provides support for information technology needs in the Division. The Bureau consists of the following Sections:

- Coastal Management: Works to reduce coastal erosion and storm damage to protect lives, natural resources, and properties through structural and non-structural means.
- Dam Safety: Is responsible for reviewing repairs and modifications to dams, and assuring that dam owners operate and maintain dams in a safe condition through inspections, technical reviews, enforcement, and emergency planning.
- Flood Control Projects: Is responsible for reducing flood risk to life and property through construction, operation and maintenance of flood control facilities.



- Floodplain Management: Is responsible for reducing flood risk to life and property through proper management of activities including, development in flood hazard areas and review and development of revised flood maps.

### Department of State's Division of Code Enforcement and Administration (DCEA)

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#### Technical Bulletins for the 2010 Codes of New York State

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The DCEA has published 14 technical bulletins including two recent bulletins with guidance related to flood hazard areas: Electrical Systems and Equipment in Flood-damaged Structures and Accessory Structures. One archived bulletin from January 2003, Flood Venting in Foundations and Enclosures Below Design Flood Elevation, refers to the out-of-date edition of FEMA Technical Bulletin 1 and to American Society of Civil Engineers (ASCE) 24-98, which is not the edition referenced by the current codes.

#### Forms and Publications

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The DCEA posts several model reporting forms and related publications on its web page. The Building Permit Application requests the applicant to indicate whether the site is or is not in a floodplain and advises checking with town clerks or NYSDEC. The General Residential Code Plan Review form includes a reminder to “add 2’ freeboard.” Sample Flood Hazard Area Review Forms, including plan review checklists and inspection checklists for Zone A and Zone V, are based on the forms in Reducing Flood Losses through the International Code Series published by International Code Council and FEMA (2008).

### 6.4.5 Fiscal Capabilities – County and Local

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#### Municipal Fiscal Capabilities

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Washington County municipalities are able to fund mitigation projects through existing local budgets, local appropriations (including referendums and bonding), and through a variety of federal and state loan and grant programs. Many municipalities noted throughout the planning process that they are faced with increasing fiscal constraints, including decreasing revenues, budget constraints and tax caps. In an effort to overcome these fiscal challenges, municipalities have continued to leverage the sharing of resources and combining available funding with grants and other sources, and note that plans and inter-municipal cooperation are beneficial in obtaining grants.

### 6.4.6 Fiscal Capabilities – State and Federal

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Refer to Section 4 of the 2014 New York State Hazard Mitigation Plan for information pertaining to the various funding sources available for mitigation projects: <http://www.dhses.ny.gov/recovery/mitigation/documents/2014-shmp/Section-4-Mitigation-Strategy.pdf>

#### Federal Hazard Mitigation Funding Opportunities

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Federal mitigation grant funding is available to all communities with a current hazard mitigation plan (this plan); however most of these grants require a “local share” in the range of 10-25% of the total grant amount. Details about this program and a further description of these opportunities can be found at: <https://www.fema.gov/hazard-mitigation-assistance>. The FEMA mitigation grant programs are described below.



### Hazard Mitigation Grant Program (HMGP)

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The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each Federal disaster declaration. The HMGP can provide up to 75% funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing or elevation to reduce future damage, minor structural improvements and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved Hazard Mitigation Plan (this plan).

Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations or institutions that perform essential government services, and Indian tribes and authorized tribal organizations. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. Applications are submitted to NYS DHSES and placed in rank order for available funding and submitted to FEMA for final approval. Eligible projects not selected for funding are placed in an inactive status and may be considered as additional HMGP funding becomes available.

For additional information regarding HMGP, please refer to: <https://www.fema.gov/hazard-mitigation-grant-program>

### Flood Mitigation Assistance (FMA) Program

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The FMA program combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. The FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is at least 75%. At most 25% of the total eligible costs must be provided by a non-federal source. Of this 25%, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. The FMA funds are distributed from FEMA to the state. The NYS DHSES serves as the grantee and program administrator for the FMA program.

For additional information regarding the FMA program, please refer to: <https://www.fema.gov/flood-mitigation-assistance-grant-program>

### Pre-Disaster Mitigation (PDM) Program

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The PDM program is an annually funded, nationwide, competitive grant program. No disaster declaration is required. Federal funds will cover 75% of a project's cost up to \$3 million. As with the HMGP and FMA, a FEMA-approved local Hazard Mitigation Plan is required to be approved for funding under the PDM program. For additional information regarding the PDM program, please refer to: <https://www.fema.gov/pre-disaster-mitigation-grant-program>

### Federal and State Disaster and Recovery Assistance Programs

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Following a disaster, various types of assistance may be made available by local, state and federal governments. The types and levels of disaster assistance depend on the severity of the damage and the declarations that result



from the disaster event. Among the general types of assistance that may be provided should the President of the United States declare the event a major disaster includes the following:

### Individual Assistance (IA)

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Individual Assistance (IA) provides help for homeowners, renters, businesses and some non-profit entities after disasters occur. This program is largely funded by the U.S. Small Business Administration. For homeowners and renters, those who suffered uninsured or underinsured losses may be eligible for a Home Disaster Loan to repair or replace damaged real estate or personal property. Renters are eligible for loans to cover personal property losses. Individuals may borrow up to \$200,000 to repair or replace real estate, \$40,000 to cover losses to personal property and an additional 20% for mitigation. For businesses, loans may be made to repair or replace disaster damages to property owned by the business, including real estate, machinery and equipment, inventory and supplies. Businesses of any size are eligible. Non-profit organizations such as charities, churches, private universities, etc. are also eligible. An Economic Injury Disaster Loan provides necessary working capital until normal operations resume after a physical disaster. These loans are restricted, by law, to small businesses only. For additional information regarding IA, please refer to: <https://www.fema.gov/individual-disaster-assistance>

### Public Assistance (PA)

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Public Assistance (PA) provides cost reimbursement aid to local governments (state, county, local, municipal authorities and school districts) and certain non-profit agencies that were involved in disaster response and recovery programs or that suffered loss or damage to facilities or property used to deliver government-like services. This program is largely funded by FEMA with both local and state matching contributions required. For additional information regarding PA, please refer to: <https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit>

### Small-Business Administration (SBA) Loans

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Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

Homeowners may apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances – damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations. For additional information regarding SBA loans, please refer to: <https://www.sba.gov/managing-business/running-business/emergency-preparedness/disaster-assistance>

### Social Services Block Grant Program (SSBG)

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To address the needs of critical health and human service providers and the populations they serve, the State of New York will receive a total of \$235.4 million in federal Superstorm Sandy Social Services Block Grant funding. The State will distribute \$200,034,600 through a public and transparent solicitation for proposals. The State is also allocating \$35.4 million in State Priority Projects, using the SSBG funding. Sandy SSBG resources are dedicated to covering necessary expenses resulting from Superstorm Sandy, including social, health and mental health services for individuals, and for repair, renovation and rebuilding of health care facilities, mental hygiene facilities, child care facilities and other social services facilities. For additional information regarding the SSBG program, please refer to: <https://www.acf.hhs.gov/ocs/programs/ssbg>



### Department of Homeland Security

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The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. The FY 2017 HSGP supports efforts to build and sustain core capabilities across the Prevention, Protection, Mitigation, Response, and Recovery mission areas. This includes two priorities: building and sustaining law enforcement terrorism prevention capabilities and maturation and enhancement of state and major urban area fusion centers (HSGP 2017). HSGP is comprised of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration. For additional information regarding HSGP, please refer to: <https://www.fema.gov/homeland-security-grant-program>

### Community Development Block Grants (CDBG)

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CDBG are federal funds intended to provide low and moderate-income households with viable communities, including decent housing, as suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration. Public improvements may include flood and drainage improvements. In limited instances, and during the times of “urgent need” (e.g. post disaster) as defined by the CDBG National Objectives, CDBG funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event. For additional information regarding CDBG, please refer to: <https://www.hudexchange.info/programs/cdbg-entitlement/>

### U.S. Economic Development Administration

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The U.S. Economic Development Administration (USEDA) is an agency of the U.S. Department of Commerce that supports regional economic development in communities around the country. It provides funding to support comprehensive planning and makes strategic investments that foster employment creation and attract private investment in economically distressed areas of the United States. Through its Public Works Program USEDA invests in key public infrastructure, such as in traditional public works projects, including water and sewer systems improvements, expansion of port and harbor facilities, brownfields, multitenant manufacturing and other facilities, business and industrial parks, business incubator facilities, redevelopment technology-based facilities, telecommunications and development facilities. Through its Economic Adjustment Program, USEDA administers its Revolving Loan Fund (RLF) Program, which supplies small businesses and entrepreneurs with the gap financing needed to start or expand their business, in areas that have experienced or are under threat of serious structural damage to the underlying economic base. Please refer to the USED A website (<https://www.eda.gov/>) for additional information.

### Federal Highway Administration - Emergency Relief

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The Federal Highway Administration Emergency Relief is a grant program that may be used for repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of a disaster. NYS is serving as the liaison between local municipalities and FHWA. \$30 Million in funding was released in October-November of 2012 for emergency repair work conducted in first 180 days following Hurricane Sandy. Another \$220 Million in additional funding became available February 2013. For information regarding the FHWA Emergency Relief Program, please refer to: <https://www.fhwa.dot.gov/programadmin/erelief.cfm>



### Federal Transit Administration - Emergency Relief

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The Federal Transit Authority Emergency Relief is a grant program that funds capital projects to protect, repair, reconstruct, or replace equipment and facilities of public transportation systems. Administered by the Federal Transit Authority at the U.S. Department of Transportation and directly allocated to MTA and Port Authority. This transportation-specific fund was created as an alternative to FEMA PA. Currently, a total of \$5.2 Billion has been allocated to NYS-related entities. For information regarding the FTA Emergency Relief Program, please refer to: <https://www.transit.dot.gov/funding/grant-programs/emergency-relief-program/emergency-relief-program>

### Empire State Development

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Empire State Development offers a wide range of financing, grants and incentives to promote business and employment growth, and real estate development throughout the State. Several programs address infrastructure construction associated with project development, acquisition and demolition associated with project development and brownfield remediation and redevelopment. For additional information regarding Empire State Development, please refer to: <https://esd.ny.gov/>

### New York State Department of Transportation (NYSDOT)

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#### Damaged Roads and Signals

High winds, storm tidal surge and flooding caused significant damage to New York State Department of Transportation (NYSDOT) facilities, roads and local transportation infrastructure in the Hudson Valley, Long Island and New York City. Repair and replacement will be necessary for these facilities and infrastructure. In some cases, municipalities will be direct applicants; therefore, not all FEMA-eligible costs are included for damaged infrastructure.

#### *Scour Critical/Floodprone Bridge Program*

The Scour Critical/Flood Prone Bridge Program is an initiative developed to harden New York State's at-risk bridges to withstand extreme weather events. In the past three years, the State has suffered nine presidentially declared disasters due to extreme weather, many involving severe flooding (NYSDOT 2014).

For this initiative, 105 scour critical/flood prone bridges ([https://www.dot.ny.gov/main/business-center/cbow/repository/CBOW\\_list\\_2014.pdf](https://www.dot.ny.gov/main/business-center/cbow/repository/CBOW_list_2014.pdf)) throughout New York State were identified as most at-risk from repeated flooding and are located in the Capital District, Long Island, Mid-Hudson, Mohawk Valley, North Country, Finger Lakes, Central/Western and Southern Tier regions. The locations encompass 78 communities within 30 counties across the State (NYSDOT 2014).

All of the bridges included in this program were built to the codes and standards of their time and remain safe and open for everyday traffic. However, due to a variety of natural severe weather events and the increasing frequency of major storms and floods, they are vulnerable to scour and flooding caused by the intensity and velocity of water from extreme natural events. Bridge scour erodes and carries away foundation materials such as sand and rocks from around and beneath bridge abutments, piers, foundations and embankments (NYSDOT 2014).

This program encompasses a variety of bridge improvement work, including upgrading concrete bridge abutments and/or piers by adding steel or concrete pile foundations, increasing the size of waterway openings to meet 100-year flood projections and reducing or eliminating the number of bridge piers in the water to prevent debris and ice jams that can flood surrounding areas. Completion of the program will ensure continual access



to critical facilities and essential personnel during emergency events. Adverse impacts to travel throughout the State will be greatly reduced during severe weather events as well (NYSDOT 2014).

Through HMGP, this program aims to increase the State's resiliency and mitigate the risks of loss and damage associated with future disasters. The total cost of the program, including all 105 bridges across the state, is \$518 million. It will be paid for with a mix of funding from FEMA and the U.S. Department of Housing and Urban Development. No state funding will be required (NYSDOT 2014).

### Emergency Watershed Protection Program

The purpose of the Emergency Watershed Protection Program (EWP) was established by Congress to respond to emergencies created by natural disasters. The EWP Program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, drought, windstorms, and other natural occurrences. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) administers the EWP Program; EWP-Recovery, and EWP-Floodplain Easement (FPE). For additional information regarding the EWP, please refer to: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/>

#### *EWP - Recovery*

The EWP Program is a recovery effort program aimed at relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. Public and private landowners are eligible for assistance, but must be represented by a project sponsor that must be a legal subdivision of the State, such as a city, county, township or conservation district, and Native American Tribes or Tribal governments. NRCS may pay up to 75 percent of the construction cost of emergency measures. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.

EWP work is not limited to any one set of measures. It is designed for installation of recovery measures to safeguard lives and property as a result of a natural disaster. NRCS completes a Damage Survey Report (DSR) which provides a case-by-case investigation of the work necessary to repair or protect a site.

Watershed impairments that the EWP Program addresses are debris-clogged stream channels, undermined and unstable streambanks, jeopardized water control structures and public infrastructures, wind-borne debris removal, and damaged upland sites stripped of protective vegetation by fire or drought.

#### *EWP - Floodplain Easement (FPE)*

Privately-owned lands or lands owned by local and state governments may be eligible for participation in EWP-FPE. To be eligible, lands must meet one of the following criteria:

- Lands that have been damaged by flooding at least once within the previous calendar year or have been subject to flood damage at least twice within the previous 10 years
- Other lands within the floodplain are eligible, provided the lands would contribute to the restoration of the flood storage and flow, provide for control of erosion, or that would improve the practical management of the floodplain easement
- Lands that would be inundated or adversely impacted as a result of a dam breach

EWP-FPE easements are restored to the extent practicable to the natural environment and may include both structural and nonstructural practices to restore the flood storage and flow, erosion control, and improve the practical management of the easement.



Structures, including buildings, within the floodplain easement must be demolished and removed, or relocated outside the 100-year floodplain or dam breach inundation area.

### **New York State Department of Environmental Conservation Climate Smart Communities (CSC) Program**

The Climate Smart Communities (CSC) program is jointly sponsored by the following six New York State agencies: Department of Environmental Conservation; Energy Research and Development Authority; Public Service Commission; Department of State; Department of Transportation; and the Department of Health. The program encourages municipalities to minimize the risks of climate change and reduce long-term costs through actions which reduce greenhouse gas (GHG) emissions and adapt to a changing climate. The program offers free technical support on energy and climate and guidance tailored to New York State communities. As of April 2016, more than 170 communities, representing 6.6 million New Yorkers in every region of the state, have committed to acting on climate through New York State's Climate Smart Communities program.

Benefits of participating in the program include saving taxpayer dollars, improving operations and infrastructure, increasing energy independence and security, demonstrating leadership, and positioning for economic growth. Registered Climate Smart Communities receive notification of state and federal assistance that they can leverage to help adopt low-carbon technologies, and of programs and support for efficiency improvements and energy conservation. Further, they receive an advantage in accessing some state assistance programs. They can call on the help of other local governments that already have adopted climate smart practices and policies, and their climate-smart accomplishments receive statewide recognition. Key elements of the Climate Smart Communities program are described below.

For additional information regarding the CSC program, please refer to: <http://www.dec.ny.gov/energy/50845.html>

#### **Climate Smart Communities Pledge**

Any city, town, village or county in New York can join the program by adopting the Climate Smart Communities Pledge. To become a registered Climate Smart Community, the municipality's governing body must adopt a resolution that includes all ten elements of the Pledge and inform DEC of the passage of the resolution. The required ten elements of the Pledge are as follows:

- Pledge to be a Climate Smart Community.
- Set goals, inventory emissions, plan for climate action.
- Decrease community energy use.
- Increase community use of renewable energy.
- Realize benefits of recycling and other climate-smart solid waste management practices.
- Reduce greenhouse gas emissions through use of climate-smart land-use tools.
- Enhance community resilience and prepare for the effects of climate change.
- Support development of a green innovation economy.
- Inform and inspire the public.
- Commit to an evolving process of climate action.

At the time of this plan update, no Washington County municipalities adopted the Climate Smart Communities Pledge nor have they achieved certification.



### Climate Smart Communities Certification (CSC) Program

The Climate Smart Communities Certification (CSC) program enables high-performing registered communities to achieve recognition for their leadership. Designed around the existing ten pledge elements, the certification program recognizes communities achieving any on over 130 total possible actions through a rating system leading to four levels of award: Certified, Bronze, Silver and Gold. Recertification of completed actions is required every five years. Details of the program and the specific documentation required for each action are described in the CSC Certification Manual at [http://www.dec.ny.gov/docs/administration\\_pdf/certman.pdf](http://www.dec.ny.gov/docs/administration_pdf/certman.pdf).

### Climate Smart Communities Grant Program

In April 2016, DEC announced an expansion of the Environmental Protection Fund to support communities ready to reduce greenhouse gas emissions and prepare for the effects of climate change. Climate Smart Community Implementation grants support mitigation and adaptation projects and range from \$100,000 to \$2 million. Competitive grants ranging from \$25,000 to \$100,000 will also provide support for local governments to become certified Climate Smart Communities. All counties, cities, towns and villages of the State of New York are eligible to receive funding. The CSC grant program will provide 50/50 matching grants for eligible projects in the following categories.

Funding is available for **implementation projects** that advance a variety of climate adaptation and mitigation actions, including the following:

- Construction of natural resiliency measures
- Relocation or retrofit of climate-vulnerable facilities
- Conservation or restoration of riparian areas and tidal marsh migration area
- Reduction of flood risk
- Clean transportation
- Reduction or recycling of food waste

Funding is also available for **certification projects** that advance several specific actions aligned with Climate Smart Communities Certification requirements:

- Right-sizing of government fleets
- Developing natural resource inventories
- Conducting vulnerability assessments
- Developing climate adaptation strategies
- Updating hazard mitigation plans to address changing conditions and reduce climate vulnerability

In scoring grant applications, increasing points are awarded to communities who have already taken the CSC pledge and to those that have achieved certification status. All grant recipients must take the Climate Smart Communities Pledge within the term of their grant contract. For climate mitigation projects, grant recipients must provide a report of estimates of emissions reduction. Certification actions must adhere to the requirements and standards described in the Climate Smart Communities Certification Manual - <http://www.dec.ny.gov/energy/96511.html>. For implementation projects involving property (construction, improvements, restoration, rehabilitation) – if the property is not owned by the grant recipient, they must obtain a climate change mitigation easement.

The round 3 of the Climate Smart Communities Grant Program was available through the NYS Consolidated Funding Application from May 1, 2018 through July 27, 2018. Applications for the third round of funding were due July 27, 2018.



The Climate Smart Communities Toolkit was developed to educate New York communities on recommended practices that will help to reduce greenhouse gas emissions and adapt to the effects of climate change, specifically in the areas of land-use, transportation policy, green buildings, infrastructure investment, green infrastructure, housing policy, and adaptation and resilience. The Climate Smart Communities Guide to Local Action contains overviews of possible community actions, how-to's and case studies to help communities implement the CSC pledge. The Climate Smart Communities Land Use Toolkit allows New York communities to find recommended practices that will help to reduce greenhouse gas emissions in the areas of land use, transportation policy, green building, infrastructure investment, green infrastructure and housing policy.

### **New York State Department of Environmental Conservation (NYSDEC)**

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#### **Water Quality Improvement Project (WQIP) Program**

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The Water Quality Improvement Project (WQIP) program is a competitive, reimbursement grant program that funds projects that directly address documented water quality impairments. The competitive, statewide grant program is open to local governments and not-for-profit corporations. Grant recipients may receive up to 75 percent of the project costs for high priority wastewater treatment improvement, non-agricultural nonpoint source abatement and control, land acquisition for source water protection, aquatic habitat restoration, and municipal separate storm sewer system projects; up to 50% for salt storage projects; and up to 40% for general wastewater infrastructure improvement projects. Eligible activities include:

- Wastewater treatment improvement
- Non-agricultural nonpoint source abatement and control
- Land acquisition for source water protection
- Salt storage
- Aquatic habitat restoration
- Municipal separate storm sewer systems (MS4)

Details regarding this program are available here - <https://www.dec.ny.gov/pubs/4774.html>

#### **New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant (EPG)**

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The New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Environmental Facilities Corporation (EFC), will offer grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects.

The Wastewater Infrastructure Engineering Planning Grant will assist municipalities with the engineering and planning costs of CWSRF-eligible water quality projects. Municipalities with a Median Household Income (MHI) of \$65,000 or less in REDC regions of Capital District, Southern Tier, North Country, Mohawk Valley, Central NY, Finger Lakes, or Western NY OR with a Median Household Income of \$85,000 or less in REDC regions of Long Island, New York City or Mid-Hudson are eligible to apply. Grants with a 20 percent required local match will be provided to finance activities including engineering and/or consultant fees for engineering and planning services for the production of an engineering report.

The goal of the EPG program is to advance water quality projects to construction so successful applicants can use the engineering report funded by the grant to seek financing through the CWSRF program, WQIP program, or other funding entities to further pursue the identified solution. Funding priorities go to projects that are:

- Required by an executed Order on Consent; or
- Required by a draft or final State Pollutant Discharge Elimination System (SPDES) permit; or



- Upgrading or replacing an existing wastewater system; or
- Constructing a wastewater treatment and/or collection system for an area with failing onsite septic systems; or
- Identified in a Total Maximum Daily Load (TMDL) Implementation Plan

Details regarding this program can be found here - <https://www.dec.ny.gov/pubs/81196.html>

## New York State Department of Transportations

### BRIDGE NY

The BRIDGE NY program, administered by the New York State Department of Transportation (NYSDOT), is open to all municipal owners of bridges and culverts. Projects will be awarded through a competitive process and will support all phases of project development. Projects selected for funding under the BRIDGE NY Initiative will be evaluated based on the resiliency of the structure, including such factors as hydraulic vulnerability and structural resiliency; the significance and importance of the bridge including traffic volumes, detour considerations, number and types of businesses served and impacts on commerce; and the current bridge and culvert structural conditions. Information regarding the program can be found here - <https://www.dot.ny.gov/BRIDGENY>

### Community Risk and Resiliency Act (CRRA)

On September 22, 2014, Governor Andrew Cuomo signed bill A06558/S06617-B, the Community Risk and Resiliency Act (CRRA). The purpose of the bill is to strengthen New York's preparedness for climate change by ensuring that certain state monies, facility-siting regulations and permits include consideration of the effects of climate risk and extreme-weather events. The bill's provisions will apply to all applications and permits no later than January 1, 2017.

CRRA includes two key provisions to advance New York's climate change adaptation:

- Applicants to certain State programs must demonstrate that they have taken into account future physical climate risks from storm surges, sea-level rise or flooding.
- DEC must establish official State sea-level rise projections by January 1, 2016. These projections provide the basis for State adaptation decisions and will be available for use by all decision makers.

CRRA applies to specific State permitting, funding and regulatory decisions, including smart growth assessments; funding for wastewater treatment plants; siting of hazardous waste facilities; design and construction of petroleum and chemical bulk storage facilities; oil and gas drilling, and State acquisition of open space.

## 6.5 MITIGATION STRATEGY DEVELOPMENT AND UPDATE

### 6.5.1 Update of Municipal Mitigation Strategies

To evaluate progress on local mitigation actions, each jurisdiction was provided with a Mitigation Action Plan Review Worksheet, pre-populated with those actions identified for their jurisdiction in the prior (2010) plan. For each action, municipalities were asked to indicate the status of each action (“No Progress/Unknown”, “In Progress/Not Yet Complete”, “Continuous”, “Completed”, “Discontinued”) and provide review comments on each. Municipalities were requested to quantify the extent of progress, and provide reasons for the level of



progress or why actions were discontinued. Each jurisdictional annex provides a table identifying their prior mitigation strategy, the status of those actions and initiatives, and their disposition within their updated strategy.

Local mitigation actions identified as “Complete”, and those actions identified as “Discontinued”, have been removed from the updated strategies. Those local actions that municipalities identified as “No Progress/Unknown”, “In Progress/Not Yet Complete” as well as certain actions/initiatives identified as “Continuous”, have been carried forward in their local updated mitigation strategies. Municipalities were asked to provide further details on these projects to help better define the projects, identify benefits and costs, and improve implementation.

At the Kick-Off and during subsequent local-level planning meetings, all participating municipalities were further surveyed to identify mitigation activities completed, ongoing and potential/proposed. As new additional potential mitigation actions, projects or initiatives became evident during the plan update process, including as part of the risk assessment update and as identified through the public and stakeholder outreach process (see Section 3 – Planning Process), communities were made aware of these either through direct communication (local meetings, email, phone) or via their draft municipal annexes.

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

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

Beginning in July of 2016, members of the Steering Committee and contract consultants worked directly with each jurisdiction (phone, email, local support meetings) to assist with the development and update of their annex and include mitigation strategies, focusing on identifying well-defined, implementable projects with a careful consideration of benefits (risk reduction, losses avoided), costs, and possible funding sources (including mitigation grant programs).

Concerted efforts were made to assure that municipalities develop updated mitigation strategies that included activities and initiatives covering the range of mitigation action types described in recent FEMA planning guidance (FEMA “Local Mitigation Planning Handbook” March 2013), specifically:

- Local Plans and Regulations – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project- 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 – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.



- Education and Awareness Programs – 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 the National Flood Insurance Program and Community Rating System, StormReady (NOAA) and Firewise (NFPA) Communities.

In consideration of federal and state mitigation guidance, the Steering Committee recognized that municipalities would benefit from the inclusion of certain mitigation initiatives. These include initiatives to address vulnerable public and private properties, including RL and SRL properties; initiatives to support continued and enhanced participation in the NFIP; improved public education and awareness programs; and initiatives to support countywide and regional efforts to build greater local mitigation capabilities. Municipalities have included such initiatives as appropriate, typically amended with specific details to best meet the needs and interests of their community and promote implementation.

In September 2016, a mitigation strategy workshop was conducted by FEMA Region II representatives for all participating jurisdictions to support the identification, evaluation and prioritization of local mitigation strategies, as well as how to present and document this process within the plan. Based on FEMA’s guidance and recommendations provided at this workshop and otherwise, the following significant modifications to the mitigation strategy identification and update process and documentation was made:

- An overarching effort has been made to better focus local mitigation strategies to clearly defined, readily actionable projects and initiatives that meet the definition or characteristics of mitigation. Broadly defined mitigation objectives have been eliminated from the updated strategy unless accompanied by discrete actions, projects or initiatives.
- Certain continuous or ongoing strategies that represent programs that are, or since prior and existing plans have become, fully integrated into the normal operational and administrative framework of the community have been identified within the Capabilities section of each annex, and removed from the updated mitigation strategy.
- Where applicable, physical mitigation projects have been documented with an Action Worksheet, based on FEMA’s Action Worksheet templates and recent guidance documents.

FEMA Action Worksheets have been included for projects identified by the County and participating municipalities.

As discussed within the hazard profiles in Section 5.4, the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including flood, severe storm, severe winter storm and wildfire. By way of addressing these climate change-sensitive hazards within their local mitigation strategies and integration actions, communities are working to evaluate and recognize these long-term implications and potential impacts, and to incorporate in planning and capital improvement updates.

Municipalities included mitigation actions to address vulnerable critical facilities. These actions have been proposed in consideration of protection against 500-year events, or worst-case scenarios. It is recognized, however, that in the case of projects being funded through Federal mitigation programs, the level of protection may be influenced by cost-effectiveness as determined through a formal benefit-cost analysis. In the case of “self-funded” projects, municipal discretion must be recognized. Further, it must be recognized that the County and municipalities have limited authority over privately-owned critical facility owners with regard to mitigation at any level of protection.



### 6.5.2 Update of County Mitigation Strategy

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The update of the county-level mitigation strategies included a review of progress on the actions/initiatives identified in the 2010 HMP, using a process similar to that used to review municipal mitigation strategy progress. The County, through their various department representatives, was provided with a Mitigation Action Plan Review Worksheet identifying all of the county-level actions/initiatives from the 2010 plan. It should be noted that general county-wide actions were provided for Washington County and all communities. The County and each municipality reviewed each action and provided progress. For each action, relevant county representatives were asked to indicate the status of each action (“No Progress/Unknown”, “In Progress/Not Yet Complete”, “Continuous”, “Completed”, or “Discontinued”), and provide review comments on each.

Projects/initiatives identified as “Complete”, as well as though actions identified as “Discontinued”, have been removed from this plan update. Those actions the county has identified as “No Progress/Unknown”, “In Progress/Not Yet Complete” or “Continuous” have been carried forward in the County’s updated mitigation strategy.

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

- Review of the results and findings of the updated risk assessment;
- Review of available regional and county plans, reports and studies;
- Direct input from County departments and other county and regional agencies, including:
  - Washington County Soil and Water Conservation District (WC SWCD)
  - Washington County Department of Code Enforcement
  - Washington County Department of Public Safety (WCDPS)
  - Washington County Planning Department (WCPD)
  - Washington County Department of Real Property Tax Service
  - Washington County Department of Public Works
  - Washington County Board of Supervisors
- Input received through the public and stakeholder outreach process.

As discussed within the hazard profiles in Section 5.4, the long-term effects of climate change are anticipated to exacerbate the impacts of weather-related hazards including flood, severe storm, severe winter storm and wildfire. As such, the Steering Committee added Objective 5.4: “Promote climate change adaption strategies that protect against long-term effects on the environment” to the updated mitigation planning goals and objectives to support recognition and consideration of this risk throughout the plan update process. Further, the County has included mitigation actions and initiatives, including continuing and long-term planning and emergency management support, to address these long-term implications and potential impacts.

Various County departments and agencies have included mitigation actions to address vulnerable critical facilities. These actions have been proposed in consideration of protection against 500-year events, or worst-case scenarios.

It is recognized, however, that in the case of projects being funded through Federal mitigation programs, the level of protection may be influenced by cost-effectiveness as determined through a formal benefit-cost analysis.



In the case of “self-funded” projects, local government authority must be recognized. Further, it must be recognized that the County has limited authority over privately-owned critical facility owners with regard to mitigation at any level of protection.

### 6.5.3 Mitigation Strategy Evaluation and Prioritization

Section 201.c.3.iii of 44 CFR requires an action plan describing how the actions identified will be prioritized.

Recent FEMA planning guidance (March 2013) identifies a modified STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) mitigation action evaluation methodology that uses a set of 10 evaluation criteria suited to the purposes of hazard mitigation strategy evaluation. This method provides a systematic approach that considers the opportunities and constraints of implementing a particular mitigation action. The mitigation workshop presented by FEMA representatives further amplified these evaluation criteria, and indicated that communities may want to consider other factors.

Based on this guidance, the Steering Committee applied an action evaluation and prioritization methodology which includes an expanded set of fourteen (14) criteria to include the consideration of cost-effectiveness, availability of funding, anticipated timeline, and if the action addresses multiple hazards.

The fourteen (14) evaluation/prioritization criteria used in the 2016/2017 update process are:

1. Life Safety – How effective will the action be at protecting lives and preventing injuries?
2. Property Protection – How significant will the action be at eliminating or reducing damage to structures and infrastructure?
3. Cost-Effectiveness – Are the costs to implement the project or initiative commensurate with the benefits achieved?
4. Technical – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
5. Political – Is there overall public support for the mitigation action? Is there the political will to support it?
6. Legal – Does the municipality have the authority to implement the action?
7. Fiscal - Can the project be funded under existing program budgets (i.e., is this initiative currently budgeted for)? Or would it require a new budget authorization or funding from another source such as grants?
8. Environmental – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
9. Social – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
10. Administrative – Does the jurisdiction have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
11. Multi-hazard – Does the action reduce the risk to multiple hazards?
12. Timeline - Can the action be completed in less than 5 years (within our planning horizon)?
13. Local Champion – Is there a strong advocate for the action or project among the jurisdiction’s staff, governing body, or committees that will support the action’s implementation?
14. Other Local Objectives – Does the action advance other local objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of other plans and programs?



Participating jurisdictions were asked to use these criteria to assist them in evaluating and prioritizing mitigation actions identified in the 2017 update. Specifically, for each mitigation action, the jurisdictions were asked to assign a numeric rank (-1, 0, or 1) for each of the 14 evaluation criteria, defined as follows:

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

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

It is noted that jurisdictions may be carrying forward mitigation actions and initiatives from prior mitigation strategies that were prioritized using a different, but not inherently contrary, approach. Mitigation actions in the prior (2010) Washington County HMP were “qualitatively evaluated against the mitigation goals and objectives and other evaluation criteria. They were then prioritized into three categories: high, medium, and low.”

At their discretion, jurisdictions carrying forward prior initiatives were encouraged to re-evaluate their priority, particularly if conditions that would affect the prioritization criteria had changed. Where communities have determined that their original priority ranking for “carry forward” initiatives remained valid, their earlier priority ranking is indicated on the prioritization table, however the plan update criteria ratings are indicated with a null “-“ marking.

For the plan update there has been an effort to develop more clearly defined and action-oriented mitigation strategies. These local strategies include projects and initiatives that have been well-vetted, and are seen by the community as the most effective approaches to advance their local mitigation goals and objectives within their capabilities. As such, many of the initiatives in the updated mitigation strategy were ranked as “High” or “Medium” priority, as reflective of the community’s clear intent to implement, available resources notwithstanding. In general, initiatives that would have had “low” priority rankings were appropriately screened out during the local action evaluation process.

#### 6.5.4 Benefit/Cost Review

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

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

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

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



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

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

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

Where quantitative estimates of costs and/or benefits were not available, qualitative ratings using the following definitions were used:

Table 6-2. Qualitative Cost and Benefit Ratings

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

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-effective.

For some of the Washington County initiatives identified, the planning partnership may seek financial assistance under FEMA’s Hazard Mitigation Assistance (HMA) programs. These programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed when funding applications are prepared, using the FEMA BCA model process. The planning partnership is committed to implementing mitigation strategies with benefits that exceed costs. For projects not seeking financial assistance from grant programs that require this sort of analysis, the planning partnership reserves the right to define “benefits” according to parameters that meet its needs and the goals and objectives of this plan.