

**Orange County, New York**

**Multi-Jurisdictional Multi-Hazard  
Mitigation Plan**

**April 2018**

**Orange County, New York**

**Multi-Jurisdictional Multi-Hazard  
Mitigation Plan**

**April 2018**

**Prepared for:**

Orange County Department of Emergency Services  
Division of Emergency Management  
Emergency Services Center  
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# 1.0 Introduction

## 1.1 Background

### *What is a Hazard?*

A hazard is defined as a situation which poses a level of threat to life, health, property, and/or the environment. A hazard can be natural, technological or human-caused.

### *What is Hazard Mitigation?*

Hazard mitigation is broadly defined as a method for reducing or alleviating property loss, reducing damage to the environment, and reducing the number and severity of injuries that occur from hazard events through long and short-term strategies. Responsibility for implementing mitigation measures runs community wide from individuals to industries, private business and all levels of government.

### *Hazard Mitigation and the Other Phases of Emergency Management*

Hazard mitigation is often considered just one of four phases of emergency management. The other phases include preparedness, response and recovery. Each of these phases relate to and rely upon each other, as illustrated by Figure 1.1a.

Figure 1.1a: The Phases of Emergency Management



The overarching goal of all of these emergency management activities is the prevention or minimizing of loss of life and property in disaster situations. The Orange County Department of Emergency Services (OCDES) serves as the lead local agency in promoting this goal. The Orange County Department of Emergency Services is comprised of five divisions, each of which provides separate services to the public and to the emergency service agencies located within the County. The five divisions of the OCDES include Emergency Communications (911), Emergency Management, Fire Services, Police Liaison Services, and Emergency Medical

Services. The Division of Emergency Management (DEM) leads Orange County in the preparation for, prevention of, response to, and recovery from disaster events.

OCDEM's responsibilities include:

- Provision of public preparedness information, including sharing of such information with citizens, the private sector, municipalities, and non-governmental organizations (NGOs)
- Participate in planning activities of many types and at many levels (keeper of the County's Comprehensive Emergency Plan) in partnership with other agencies involved in emergency responses, and authoring After Action Reports/Improvement Plans that identify best practices as well as areas for improvement.
- Work with local municipalities, private sector representatives, and volunteer organizations across the County to develop disaster preparedness plans and mitigation projects, provide training and exercise activities.
- Coordination of County agency response during emergencies or disaster events
- Liaison to State and Federal resources in times of disasters
- Operation of the County's Emergency Services Center during the time of a disaster/emergency; and
- Coordination of recovery efforts after a disaster and liaison with State and Federal agencies involved in this process.

**It is important to note that this plan relates to several of the emergency management phases, though its focus is mitigation.**

#### *FEMA and Hazard Mitigation*

The Federal Emergency Management Agency (FEMA) provides assistance through the Robert T. Stafford Disaster Relief and Emergency Assistance Act to local governments that are recovering from a hazard event. The Federal Disaster Mitigation Act of 2000 (DMA 2000) recognized the importance and cost-effectiveness of mitigation in specifying that local governments must have a FEMA approved natural hazard mitigation plan to be eligible for mitigation project funding.

DMA 2000 encourages and rewards local and state pre-disaster planning, promotes conservation and sustainability, and seeks to integrate state and local planning with an overall goal of strengthening statewide hazard mitigation planning. As of November 1, 2004, all local governments were required to have a FEMA approved hazard mitigation plan to receive funding through the Hazard Mitigation Grant Program (HMGP) for specified mitigation projects.

## 1.2 Plan Purpose

### *Why Develop a Hazard Mitigation Plan?*

The purpose of this Multi-Jurisdictional Multi-Hazard Mitigation Plan (HMP) is to effectively reduce future disaster damages, public expenditure, private losses, and community hazard vulnerability. This plan update provides an opportunity for Orange County and its municipalities to develop a comprehensive risk assessment and to outline proposed mitigation actions to minimize the costs and impacts of future disaster events.

The intention of this plan update is to meet the New York State and federal hazard mitigation planning requirements established and managed by the New York State Department of Homeland Security and Emergency Services (DHSES) and FEMA. Jurisdictions that are participating in this plan update will benefit from the planning and implementation of the mitigation actions proposed and included within. The Pre-Disaster Mitigation Program (PDM), HMGP, and the Flood Mitigation Assistance (FMA) Program continue to require communities to have an active FEMA-approved multi-hazard mitigation plan in-place prior to requesting project implementation funds. Participating jurisdictions that are granted funds are able to implement and complete beneficial mitigation actions to minimize impacts to their communities and constituents from hazard events. The following resources and regulatory programs are key documents which provided guidance for the preparation of this HMP update:

- Section 404 of Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended, 42 U.S.C. 5121 et seq. (April 2013);
- Federal Disaster Mitigation Act of 2000;
- Hazard Mitigation Grant Program (HMGP), Pre-disaster Mitigation Program, Flood Mitigation Assistance Program, Repetitive Floodplain Claims Program (RFC), Severe Repetitive Loss Program (SRL);
- Code of Federal Regulations (CFR) – 44 Part 201 – Mitigation Planning;
- Hazard Mitigation and Relocation Assistance Act of 1993;
- FEMA – 44 CFR Part 9 – Floodplain Management and Protection of Wetlands and 44 CFR Part 10 – Environmental Considerations;
- New York State Executive Law, Article 2-B, Sections 23 and 28-a;
- Disaster Relief Appropriations Act, 2013 and the Sandy Recovery Improvement Act (SRIA) of 2013;
- New York State Hazard Mitigation Plan (2014);
- Hazard Mitigation Planning Standards (NYS DHSES, June 2014); and
- Orange County Single Jurisdiction Natural Hazard Mitigation Plan (2011).

The Orange County Division of Emergency Management organized and managed the effort to compile and produce this update to the Orange County Single Jurisdiction Natural Hazard Mitigation Plan that was adopted in February 2011. The efforts to update the original plan were made possible by a grant from FEMA that was administered by the Orange County Department of Emergency Services. The five-year plan maintenance period had lapsed on Orange County's 2011 HMP, and Orange County contracted with Barton & Loguidice, D.P.C., hired through a formal request for qualifications (RFQ) process, to assist in the update effort. In addition to the general requirements of updating the plan, Orange County sought to expand the original single jurisdiction document to include the involvement of all 42 jurisdictions in the County. The continued monitoring and evaluation of this updated HMP will be provided by the Orange County Division of Emergency Management, with efforts led by Mr. Craig Cherry, Deputy Commissioner, and Mr. Dominick Greene, Emergency Planner.

The development of a HMP update for Orange County provides the following benefits:

- Maintains eligibility for federal funds to complete pre-disaster mitigation actions;
- Allows for the development of more sustainable and disaster-resistant communities;
- Emphasizes the formation of partnerships that support planning and mitigation efforts;
- Reduces long-term impacts to structures and human-health associated with extreme hazard events, which are in some cases are exacerbated by changing climactic conditions; and
- Increases the understanding of the hazards that could potentially impact the County and its municipalities, and the specific locations within the County that are most vulnerable to damages and impacts as a result of natural hazard events.

Comments or questions about this plan should be addressed to the Orange County Division of Emergency Management at the Emergency Services Center, 22 Wells Farm Road in Goshen, NY 10924. This office can also be reached by phone at (845) 615-0400 and online at Orange County's website: <http://www.orangecountygov.com/content/1164/default.aspx>.

### **1.3 Planning Participants**

The 2018 HMP Update for Orange County includes participation from 41 of the 43 jurisdictions located within, and including, Orange County. Participants include Orange County, 18 towns: Blooming Grove, Chester, Cornwall, Crawford, Deerpark, Goshen, Greenville, Hamptonburgh, Highlands, Minisink, Monroe, Montgomery, Mount Hope, Newburgh, Tuxedo, Wallkill, Warwick, Woodbury; 18 villages: Chester, Cornwall-on-Hudson, Florida, Goshen, Greenwood Lake, Harriman, Highland Falls, Maybrook, Monroe, Montgomery, Otisville, South Blooming Grove, Tuxedo Park, Unionville, Walden, Warwick, Washingtonville, Woodbury; and 3 cities: Middletown, Newburgh, and Port Jervis. The Town of Wawayanda participated in the planning process, however, the Town Board chose not to submit mitigation actions at this time.

The Town of New Windsor has its own existing single jurisdiction hazard mitigation plan. The Town is currently performing their plan update and revision. Therefore, the Town is not participating in the Orange County Hazard Mitigation Plan.

The Village of Kiryas Joel does not have a hazard mitigation plan on file with Orange County at this time. The Village has also decided not to participate in the Orange County Hazard Mitigation Plan.

The future Town of Palm Tree is not yet established. The Town is currently expected to be organized on January 1, 2020. Therefore, the Town of Palm Tree is not included in the Orange County Hazard Mitigation Plan Update.

Figure 1.3a shows the locations of these municipalities within the County limits.

The participation of a large majority of jurisdictions in the HMP Update process fulfills one of the main goals that Orange County had for this effort, and greatly improves the quality and completeness of this planning document. The 2011 HMP included only the County as a participating jurisdiction, though hazard information and damage details were included for jurisdictions within the County, as appropriate. The City of Port Jervis, Town of Wallkill, City of Middletown, Town of Cornwall, Village of Cornwall-on-Hudson, Town of Woodbury, Village of Woodbury, Town of Blooming Grove, Village of South Blooming Grove, Village of Washingtonville, Town of Highlands, Town of Warwick, Village of Florida, Village of Greenwood Lake, and the Village of Warwick independently fulfilled DMA 2000 requirements through the implementation of single and multi-jurisdiction mitigation plans. The historic documentation and risk assessment data included in these single and multi-jurisdiction plans will be incorporated into this 2018 Multi-Jurisdictional Multi-Hazard Mitigation Plan. The single and multi-jurisdiction plans available for review and incorporation into this HMP Update process are as follows:

- Multi-Jurisdictional Multi-Hazard Mitigation Plan – Town of Warwick, Villages of Warwick, Florida, and Greenwood Lake – February 2014
- Natural Hazards Mitigation Plan – Town of Wallkill and City of Middletown – February 2014
- 2013 Joint Hazard Mitigation Plan – Town of Cornwall and Village of Cornwall-On-Hudson – October 2013
- Multi-Jurisdictional All-Hazard Mitigation Plan – Town of Blooming Grove, Villages of South Blooming Grove and Washingtonville – August 2013
- Hazard Mitigation Plan – Town of Deerpark – June 2010
- Multi-Jurisdictional Hazard Mitigation Plan – City of Port Jervis – August 2009
- Hazard Mitigation Plan – Town of Highlands – April 2009
- Hazard Mitigation Plan – Town/Village of Woodbury – August 2008

Municipalities within Orange County were contacted by the DEM to participate in the plan update and were invited to attend a variety of meetings held throughout the planning process.

Each participating jurisdiction provided updated information about the hazards that have historically occurred within their boundaries, with a focus on post-2011 events. Repair costs and damage estimates associated with such hazard events were also provided. Participating jurisdictions reviewed the critical facilities within their boundaries and the risk assessment and vulnerability information provided within this Plan Update. The DEM coordinated data collection and information review with jurisdictions and agencies unable to attend scheduled meetings.

A wide variety of additional resources were utilized to gather information concerning historic and recent occurrences of hazard events within Orange County, vulnerabilities within the County related to future hazard events, and costs and damages likely to occur as a result of a hazard event. The goals and objectives included in the County's 2011 HMP were reviewed and updated, as appropriate. Goals are created to assist in the formulation of potential mitigation actions and strategies that could be implemented to minimize the loss of life, frequency of injuries, damage to property, and/or impacts to the environment as a result of hazard events that affect Orange County.

Representatives from the participating jurisdictions made up the Project Team. An Executive Committee was also assembled by the DEM; this committee consisted of representatives from the following agencies, groups, and entities: Barton & Loguidice (project consultant), Orange County Division of Emergency Management, Orange County Department of Public Works, Orange County Department of Parks and Recreation, Orange County Department of Information Technology, Orange County Planning Department, and Orange County Real Property Services. Executive Committee members were selected and invited to participate in this update process based upon their specialties and fields of interest. Further detail about the Project Team and the Executive Committee is provided in Section 3.0.

## **1.4 Hazard Mitigation Planning Process**

In completing the 2018 HMP update, participating jurisdictions accomplished the following objectives to support the plan update process:

- Established a knowledgeable planning group to represent all participating jurisdictions;
- Assessed numerous natural, technological, and human-caused hazards to determine those that have the greatest possibility of impacting their community;
- Analyzed and profiled selected hazards;
- Incorporated recent planning efforts and new updated scientific information into hazard profiles and mitigation activities;
- Updated critical facility listings for their community;
- Estimated damages and impacts that could occur as a result of various hazard events;
- Developed pre-disaster mitigation strategies and actions for the various types of hazards to which each jurisdiction determined it was vulnerable; and



- Reviewed and revised the plan maintenance procedures associated with this Plan.

DMA 2000 only requires that communities evaluate the impact of natural hazards. Though nine (9) natural hazards are the primary focus of this Plan Update, Orange County and other participants could have also chosen to assess the County's vulnerability to technological hazards and human-caused hazards. However, similar to their 2011 HMP, the County chose to focus on natural hazards for this update effort. Some participating jurisdictions followed this lead and only chose to address natural hazards for their communities, while other jurisdictions chose to profile and discuss a handful of technological hazards in their municipal annex (Section 10). The nine natural hazards identified by Orange County are further described and profiled in Section 5 of this Plan Update.

## **1.5 Document Format Methodology**

Orange County chose a specific format for the 2018 HMP Update that combined the efficiencies of county-wide task scopes and the customization of jurisdictional annexes. The introduction of thirty-nine (39) local municipalities into the County's plan presented logistical hurdles.

As a result, the County decided that the most efficient way to conduct and describe the planning process (Section 3), risk assessment (Section 4), hazard profiles (Section 5), county-wide hazard vulnerabilities (Section 6), over-arching county-wide hazard mitigation goals and objectives (Section 7), National Flood Insurance Program (NFIP) participation (Section 8), and future plan maintenance (Section 9) was to address them at the county-wide perspective and include them in the "main body" of the plan. The main body of the plan constitutes Sections 1-9.

To allow for local jurisdictions to be included in the plan, the County chose to provide a jurisdictional annexes section of the plan (Section 10). The jurisdictional annex format customizes forward looking mitigation strategies and locally relevant natural hazard vulnerabilities to particular municipalities. This strategy accommodates the usage of activities better handled at the County level with municipal-specific strategies and needs.

Completed worksheets prescribed by FEMA to aide in a jurisdiction's understanding of hazard risks, vulnerabilities, and potential mitigation strategies are attached to each annex for their reference in future hazard mitigation planning and capital budgeting. A larger discussion of the composition of Section 10 can be found in Section 10.1 – Background.

