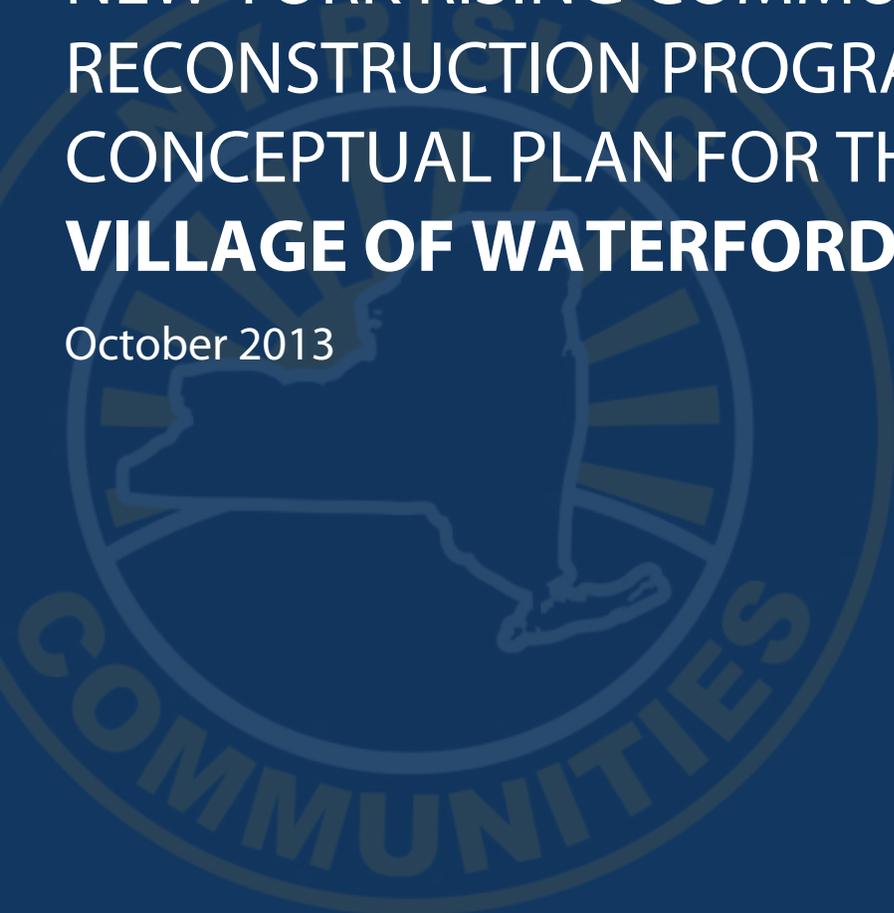




# NEW YORK RISING COMMUNITY RECONSTRUCTION PROGRAM CONCEPTUAL PLAN FOR THE **VILLAGE OF WATERFORD**

October 2013



This document was developed by the Village of Waterford Planning Committee as part of the NY Rising Community Reconstruction (NYRCR) Program within the Governor's Office of Storm Recovery. The NYRCR Program is supported by NYS Homes and Community Renewal, NYS Department of State, and NYS Department of Transportation. Assistance was provided by the following consulting firms: Ecology and Environment, Inc; The LA Group, Landscape Architecture and Engineering, P.C.



## **FOREWORD**

The New York Rising Community Reconstruction (NYRCR) program was established by Governor Andrew M. Cuomo to provide additional rebuilding and revitalization assistance to communities damaged by Superstorm Sandy, Hurricane Irene, and Tropical Storm Lee. This program empowers communities to prepare locally-driven recovery plans to identify innovative reconstruction projects and other needed actions to allow each community not only to survive, but also to thrive in an era when natural risks will become increasingly common.

The NYRCR program is managed by the Governor's Office of Storm Recovery in conjunction with New York State Homes and Community Renewal and the Department of State. The NYRCR program consists of both planning and implementation phases, to assist communities in making informed recovery decisions.

The development of this conceptual plan is the result of innumerable hours of effort from volunteer planning committee members, members of the public, municipal employees, elected officials, state employees, and planning consultants. Across the state, over 102 communities are working together to build back better and stronger.

This conceptual plan is a snapshot of the current thoughts of the community and planning committee. The plans will evolve as communities analyze the risk to their assets, their needs and opportunities, the potential costs and benefits of projects and actions, and their priorities. As projects are more fully defined, the potential impact on neighboring municipalities or the region as a whole may lead to further modifications.

In the months ahead, communities will develop ways to implement additional strategies for economic revitalization, human services, housing, infrastructure, natural and cultural resources, and the community's capacity to implement changes.

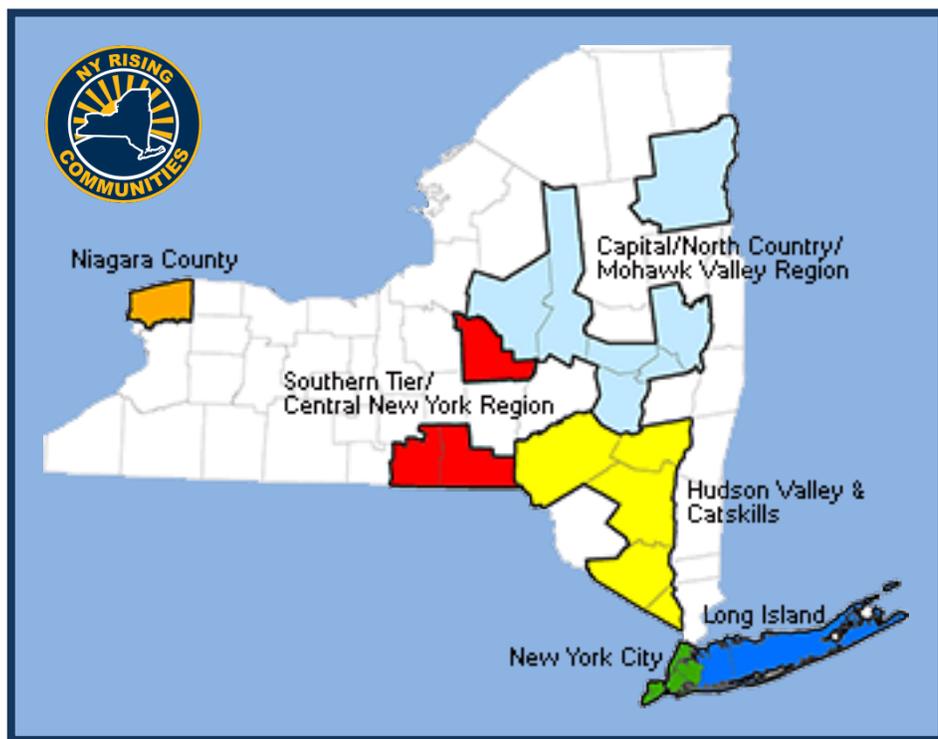
Implementation of the proposed projects and actions found in this conceptual plan is subject to applicable federal, state, and local laws and regulations. Inclusion of a project or action in this conceptual plan does not guarantee that a particular project or action will be eligible for Community Development Block Grant – Disaster Recovery (CDBG-DR) funding. Proposed projects or actions may be eligible for other state or federal funding, or could be accomplished with municipal, nonprofit or private investment.

Each NYRCR Community will continue to engage the public as they develop a final plan for community reconstruction. Events will be held to receive feedback on the conceptual plan, to provide an understanding of risk to assets, and to gather additional ideas for strategies, projects and actions.

October 31, 2013



# New York Rising Communities



Find out more at:

[StormRecovery.ny.gov/Community-Reconstruction-Program](http://StormRecovery.ny.gov/Community-Reconstruction-Program)





## Executive Summary

Incorporated on March 25, 1794, the Village of Waterford (Village) is the oldest continually incorporated village in the United States. As the Village is situated at the southern tip of Saratoga County, at the confluence of the Hudson River and the fourth branch of the Mohawk River, it has a long history of enduring and recovering from floods. However, in the wake of Hurricane Irene, the Mohawk River rose to nearly its highest level - over 27 feet - since the record flood of 1913. Together with the impacts of the recent increase in extreme weather events in New York, this flood event has made it necessary for the community to carefully consider what can be done to reduce the community's vulnerability to flooding and ensure the long-term vibrancy of low-lying neighborhoods.

The committee of residents and stakeholders from the Village of Waterford, in partnership with the New York State Department of State (NYSDOS) and the state's designated planning firm (Ecology and Environment, Inc.; E & E), has begun formulating a community resiliency plan that will define strategies and projects that address short- and long-term needs and build on opportunities stemming from the Village's core and unique assets, such as the Canal Harbor and Village historic district. The New York State Canal Corporation, in partnership with the Village, has constructed substantial public improvements at the canal and established the Village as one of eight major service centers across the canal system that cater to recreational boats and generate economic and recreational benefits for residents.

Flood insurance premiums are an immediate concern to homeowners whose homes are located in the 100-year floodplain, as changes to the National Flood Insurance Program (NFIP) are leading to significantly heightened premiums that homeowners fear will be unaffordable. Long-time residents will be forced from their homes, residents will not be able to sell their homes, properties will go into foreclosure or be abandoned, real estate values in the Village will plummet, and the character of the historic Village will be lost. Given these concerns, the New York Rising Community Reconstruction (NYRCR) planning process presents a timely opportunity to identify and evaluate flood mitigation strategies and projects, and programs that reduce the vulnerability of the housing stock. While this program will not immediately affect the insurance problems, it is an important component in making the Village capable of coping with future threats.

Community needs (not listed in any priority) identified in this process include:

- Make homes more resilient to flooding
- Make infrastructure more resilient to flooding
- Make public services/buildings more resilient to flooding
- Conduct studies of flooding and infrastructure
- Create a single Emergency Response Center (ERC)
- Coordinate emergency communication
- Educate residents on flood preparation, evacuation, and return
- Continue to improve streetscape and signage between the harbor and Broad St. business district
- Further leverage economic benefit of local tourism
- Improve walking and biking network within the Village and connections to nearby towns
- Financial assistance/incentives for local businesses
- Increase "green infrastructure" for flood mitigation
- Improve parking for residents and tourists



Community opportunities to be leveraged were also identified including:

- Canalways and infrastructure that promote tourism, walking, and biking
- Walking and biking network within the Village and connections to nearby towns
- Local businesses/Broad Street that serve residents and attract tourists
- Churches that can serve as shelters during emergencies and act as a route to disseminate emergency information
- Proximity of Peebles Island as a recreational destination
- Historical sites that preserve Village history and character
- Farmer's Market that provides fresh local products
- Vast historic resources and buildings throughout the Village and the Town
- Proximity to job clusters for local employment
- Affordable existing housing stock



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## Acronyms, Abbreviations, and Key Terms

CDBG	Community Development Block Grant
E & E	Ecology and Environment, Inc.
EMS	Emergency Medical Services
FEMA	Federal Emergency Management Agency
FIS	Flood Insurance Study
GPAD	gallons per acre per day
HEC-RAS	Hydrologic Engineering Centers River Analysis System
NOAA	National Oceanographic and Atmospheric Administration
NYRCR	New York Rising Community Reconstruction (Program/Plan)
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York State Department of State
Planning Firm	Consulting Firm Assigned to Each Community
SHPO	(New York) State Historic Preservation Office
USGS	United States Geological Survey
WALCC	Waterford Area Long-Term Care Coalition
WWTP	Waste Water Treatment Plant





## 1.0 Overview

### 1.1 NYRCR Program Overview

Governor Cuomo launched the New York Rising Community Reconstruction (NYRCR) Program, as a means for New York State (NYS) to help give a new beginning to local communities who were heavily impacted by Hurricane Irene, Tropical Storms Lee, and Superstorm Sandy. The intent of the program is for each community to **build back better** and prepare against economically and socially devastating damage in the future. This will mean capitalizing on community-driven plans that weigh current damage and future threats to critical community assets while planning for a sustainable, more vibrant economic future. Through a successful, grounds-up planning effort, interdependent and individual communities will be positioned to obtain funding to implement their NYRCR Plan (Plan), and collectively prepare for a more resilient future.

**NYRCR Plans:** In line with the National Disaster Recovery Framework, the plans will consider the needs, risks, and opportunities related to the following areas:

- Community Planning and Capacity Building,
- Economic Development,
- Health and Social Services,
- Housing,
- Infrastructure, and
- Natural and Cultural Resources.

A major objective of the NYRCR program is to support communities willing to become more resilient to future storms. To achieve this means acquiring a better understanding of the associated risks and then learning how to manage them. Through this Program, communities are undertaking a proactive evaluation of what constitutes risk – namely hazard, exposure, probability, and vulnerability. The dynamics of probability are changing and currently being reconsidered. Developing a better understanding of risk will help a community

develop effective reconstruction strategies, guide future project and investment decisions, redirect land use, and gradually transition at-risk assets from high risk conditions to an acceptable lower level of risk. The benefits of this risk assessment could be increased economic security and, potentially, reduced flood insurance premiums.

### 1.2 Community Overview

Saratoga County is bounded by the Hudson and Mohawk Rivers, with the Hudson River acting as its eastern border and the Mohawk River as its southern border. To the west of Saratoga County are Fulton and Hamilton Counties and to the north is Warren County. The largest city in the County is Saratoga Springs, located 35 miles north of Albany. Most of the rest of the county is comprised of lower density development or rural country with the exception of several smaller towns and villages. The county has a population of nearly 220,000 and contains 30 municipalities in an area of approximately 850 square miles (Capital District Regional Planning Commission, 2013; U.S. Census Bureau, 2010).

The Village of Waterford lies at the southeastern corner of Saratoga County and is the oldest continually incorporated village in the U.S, dating back to 1794. The Village is located at the confluence of the Hudson River, the fourth and most northern branch of the Mohawk River, and the eastern terminus of the Erie Canal. These three waterways surround the Village on three sides, which forms a peninsula. Because of this geography, the low-lying southern tip of the Village is especially susceptible to damage during larger storm events but also prone to flooding during smaller storms and the spring thaw. The National Oceanic and Atmospheric Administration (NOAA) has a stream gauge in each of the three



waterways surrounding the Village, measuring in real time the levels and speed of the water bodies. The events of Hurricane Irene in 2011 produced recorded crests within the top five highest ever for each of these gauge locations.

The Village is under a half square mile in size and is mostly residential. According to the U.S. Census Bureau, the Village has a total population of 1,990 people (see Table 1-1), a decrease of 11% since the 2000 census, as compared to a 9% increase in the population of Saratoga County. Currently, 95% of the Village of Waterford’s residents are white, with the remaining 5% being divided primarily between African American, Asian, and those identifying as more than one race. This matches the racial demographics of Saratoga County as a whole.

The Village is supported by a main commercial corridor, Broad Street, which lies three blocks from the waterfront and is significantly higher in elevation than the area nearest the waterfront. Along the waterfront are mostly residential streets with the exception of several parks and a harbor and visitor’s center that hosts festivals, public gatherings, and a summer farmer’s market. Waterford’s oldest festival, Canal Fest, is held every May and the annual Tugboat Roundup occurs on the weekend following Labor Day and is the Village’s main attraction, bringing in as many as 25,000 people over the course of the weekend.

The eastern terminus of the State Canal System is at Waterford and is comprised of a land cut canal channel which eventually connects to the Mohawk River. The Waterford flight of locks provides a 169 foot lift and the New York State Canal Corporation, in partnership with the Town and Village, has constructed substantial public improvements at the canal and established the Village as one of eight major service centers across the canal system that caters to recreational boats and generates economic and recreational benefits for residents. The harbor center includes a visitor’s center, service center, docks, and public promenade where festivals are held. The Village works in close partnership with the Canal Corporation, Department of State, and other state agencies to further strengthen the community’s major waterfront asset.

The waterfront area nearest the confluence of the waterways is known locally as “The Battery”, named for the site’s former strategic location and fortification during the American Revolutionary War. This area is bounded to the north by South Street, to the east by the Hudson River, to the south by the Erie Canal and to the west by Second St. The narrow streets within the Battery neighborhood contain charming, well maintained wood-framed homes laid out in a grid pattern. The density of homes and the width of the streets in this section of the Village make parking an issue. Despite the close proximity to Broad Street, there is a lack of way-finding signage linking the waterfront to the Village’s main commercial corridor or nearby Pebbles Island to guide those not familiar with the area.

**Table 1-1 Village, County and State Demographics**

	Population Change 2000-2010	Median Age	Census Pop. 65+	Census Pop. Below Poverty**	Median Household Income**	Unemployment Rate **
Village of Waterford	1,990 (-214)	39.1	14.4%	6.8%	\$54,803	3.8%
Saratoga County	219,607 (18,972)	40.9	14.9%	6.5%	\$67,186	3.6%
New York State	19,378,102 (401,291)	39.0	13.5%	16.3%	\$56,951	5.2%



### 1.3 Summary of Storm Impacts

In August 2011, Hurricane Irene caused the fourth branch of the Mohawk River to rise to the highest level in memory, flooding the low-lying Battery neighborhood of the Village. A section of the Village north of Broad St. also experienced flooding as water rose and drained from a sunken creek running in an eastward direction from the park along the Old Champlain Canal to the Hudson River.

All the houses in the Battery experienced flooding that rose several feet into the first floor of their homes. Others experienced fully flooded basements and damage to property.

Two years later, residents have recovered and there are few outward signs of the flood other than markings to document the highest level the water reached. However, the expected steep rises in flood insurance rates for all homeowners that live in the nearly 300 homes that are in the Federal Emergency Management Agency (FEMA) designated flood plain are a sharp reminder of the community’s vulnerability to flooding.

Although water levels reached during Irene were some of the highest since the legendary flood of 1913 (see Figure 1-1), severe weather events and flooding that impact the Village of Waterford are not uncommon. For example, according to the 2010 Saratoga County Multi-Jurisdictional All-Hazard Mitigation Plan, between 1987 and 2004 the Village was impacted by seven events where FEMA disaster declarations were issued in the County:

- FEMA DR-801 (October 1987) – Severe Winter Storm
- EM-3107 (March 1993) – Blizzard and Extreme Cold
- DR-1095 (January 1996) – Severe Storm and Flooding
- DR-1196 (January 1998) – Severe Winter Storm and Flooding
- DR-1295 (September 1999) – Severe Storms and Flooding (Hurricane Floyd)
- EM-3173 (December 2002/January 2003) – Snowstorm
- DR-1534 (May/June 2004) – Severe Storms and Flooding

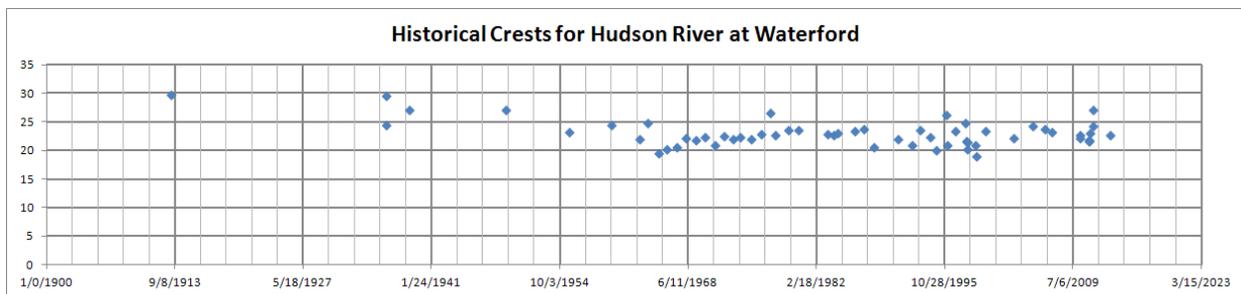


Figure 1-1 Historical Crests for the Hudson River at Waterford

### 1.4 Geographic Scope of the Plan

By agreement of the appointed committee, the geographic study area for the Village of Waterford’s Plan will be defined as the Village’s political boundaries (see Figure 1-2). The committee discussed both wider and narrower geographic scopes for the planning process, but concluded that the Village boundaries are the most appropriate scope.

A wider scope, such as the inclusion of all or part of the Town of Waterford, would acknowledge the many common concerns and shared activities between the Village and the rest of the Town, but the



Village with its lower elevations is the primary location of flooding. A narrower scope, such as the area south of Broad Street or the streets closest to the Battery, would focus on the areas most susceptible to flooding, but would exclude other areas that flood less frequently and would discount the relevance of the Broad Street commercial corridor and the importance of all residents in planning for the community's future. Therefore the committee agreed that the Village political boundaries will serve as the Plan's geographic scope, with the expectation that it will acknowledge and address infrastructure (such as roads and a wastewater treatment facility) and services that are located or based outside the Village boundaries but which serve or are served by the Village.

## **1.5 Critical Community Issues**

Housing in the 100- and 500-year floodplain is currently the issue of greatest concern. For decades housing in the Village, including in the low-lying areas most prone to flooding, has remained affordable for residents and most houses are well kept. Residents are generally well adapted to flooding as many have been in their homes for many years and have experienced multiple floods of varying degrees. However, if flood insurance rates rise drastically, homeowners who wish to sell their homes may not be able to find buyers, and home prices will be depressed by an unpredictable amount. Even if such a scenario were confined to the area south of Broad Street, the implications for the Village as a whole would include a decline in the tax base, fewer owner-occupied homes, and a less attractive community in which to live, work, and invest. This is why the community needs to ensure its survival by taking meaningful measures within this Plan that reduce the impact of flooding and that will ultimately reduce flood insurance rates.

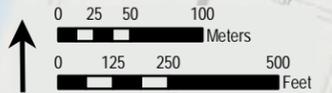
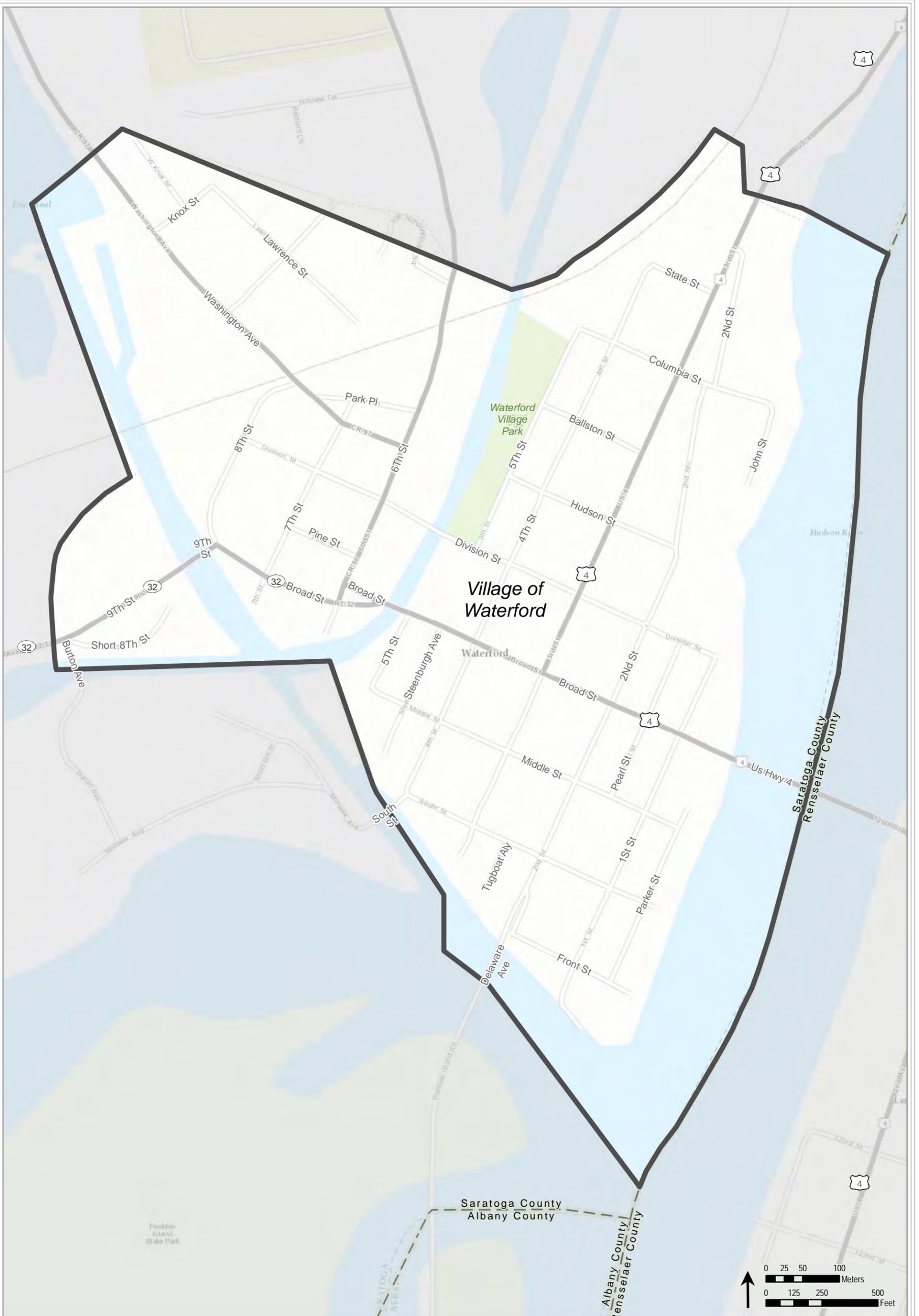
The Village needs to strengthen its infrastructure to avoid risk of failure and ensure its emergency resources have the ability to react to the critical needs of residents and businesses during times of emergency.

Economic growth in the Village is also a critical concern. The Village must strengthen the Broad Street business district and leverage its proximity to waterways and state parks, while maintaining and protecting its unique historical and geographic assets.

## **1.6 Community Vision**

A draft statement was prepared reflective of the Village's history and the comments received during the initial committee meeting. The committee accepted the statement with one word change and the statement was presented for comment at the first public meeting on October 15, 2013. As no objections to the statement were raised, the following is expected to serve as the vision statement:

“The Village of Waterford envisions a Community Reconstruction Program which will provide a strategy for addressing past flood damage and developing the long-term solutions aimed at making the Village better able to manage and cope with future storm and flooding events. In developing the program, we will recognize the unique character of the community, including its historic building stock and the economic and recreational assets of its waterfront resources along the State Canal System, Hudson River, and Mohawk River.”



**Figure 1-2**  
**Geographic Scope**  
**Village of Waterford**

 Geographic Scope

October 2013



ESRI - World Topo Imagery





## 1.7 Public Engagement and the Conceptual Plan

A Public Engagement Subcommittee was formed to help conceive, promote and orchestrate opportunities for community residents and other stakeholders to learn about the NYRCR program and solicit their input regarding issues of concern to the community. The subcommittee set up a Facebook page and utilized social media to announce the program and invite residents to attend the first public meeting on October 15, 2013. In addition to verbal invitations extended by committee members and the strength of word-of-mouth communications in a small community, a postcard announcing the event was delivered to all Village addresses, and a Committee Member produced and hung large signs around the Village that announced the event. NYSDOS circulated a media advisory and announced the event on the program Website, and the planning firm (E & E) worked with both partners on each aspect of the meeting.

More than sixty participants attended the public meeting on October 15. The meeting was organized in an open house format where participants were invited to visit tables to learn about and provide input on several aspects of the program. Committee members, DOS staff, and planning firm staff were stationed at tables where participants reviewed and commented on community assets and the community vision statement. They also identified needs and opportunities, and potential projects. Additionally, residents were invited to express their interest in an oral history project that would document their experiences during Irene, as well as were provided with additional information about programs that are designed for individual assistance to homeowners and small businesses.

The Public Engagement Subcommittee will discuss the results of the efforts to date and the first public meeting, and agree on an approach for the second public meeting. The second public meeting will be held prior to November 20 and the purpose will be to receive input regarding this Conceptual Plan. Additional opportunities to receive input from key stakeholders and groups may be arranged.

**Table 1-2 Proposed Schedule of Committee and Public Meetings**

Meeting	Date	Purpose
First Committee Meeting	9/5/13	Introduce Committee to the program and the project team. Discuss goals of the program and schedule.
Second Committee Meeting	10/1/13	Finalize Geographic Scope, Community Vision, and Preliminary Assets. Discuss public meeting objectives. Initiate discussion of community needs, opportunities, and projects.
Public Engagement Subcommittee Meeting	10/7/13	Finalize plans for 10/15 public meeting.
First Public Meeting	10/15/13	Inform Public of the overall program. Obtain public input to Community Vision, Asset Inventory, Needs and Opportunities, and Geographic Study area.
Third Committee Meeting	10/22/13	Discuss results of first public meeting and obtain Committee input on draft Conceptual Plan



**Table 1-2 Proposed Schedule of Committee and Public Meetings**

Meeting	Date	Purpose
Fourth Committee Meeting	11/7/13	Discussion of Needs and Opportunities Assessment and Risk Assessment.
Second Public Meeting	11/19/13	Present Conceptual Plan. Solicit input on plan ideas and strategies.
Fifth Committee Meeting	11/26/13	Discussion of plan strategies and key projects.
Additional Committee Meetings	12/10/13 and continuing bi-weekly or as needed.	Review results of Needs and Opportunities Assessment and Risk Assessment and develop reconstruction strategies and projects.
Third and Fourth Public Meetings	Final Dates TBD (January 2014, February 2014)	Present reconstruction plan strategies and proposed projects for public review and input.

## 2.0 Asset Inventory

### 2.1 Goal of the Inventory

The goal of the Asset Inventory is to assemble a complete description of community assets located within or outside of the NYRCR Community of which loss or impairment due to flooding and storm events would compromise any essential social, economic or environmental functions or critical facilities.

Assets are places or things where economic, environmental and social functions of communities take place, or are critical infrastructure required to support those functions. Critical assets include, but are not limited to, those things which create or extend the useful life of structures or facilities:

- Such as those which produce, use or store highly volatile, flammable, explosive, toxic or water-reactive materials;
- Such as hospitals and nursing homes, and housing for the elderly, which are likely to contain occupants who may not be sufficiently mobile to avoid the loss of life or injury during flood and storm events;
- Such as emergency operation centers, or data storage centers which contain records or services that may be lost or become inoperative during flood and storm events; and
- Such as generating plants, and other principal points of utility lines.

### 2.2 Methodological Approach

Over two committee meetings and one public meeting, Committee Members and members of the general public were presented with poster sized maps of the project area containing keyed symbols and numbers corresponding to community assets identified by E & E during a walking tour with Committee Members. A legend was provided to correlate numbers on the map to asset names. A thorough review of the map and legend was performed by the committee, and a cursory review by the public. Significant input obtained from these stakeholder reviews has resulted in the removal of a number of assets that are no



longer in existence, and recognition that some assets are no longer in operation, or are operating under a different use. The outcome of the Asset Inventory is summarized in Section 3.3 Asset Inventory Results.

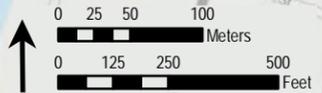
Assets were classified into six categories in accordance with the National Disaster Recovery Framework to facilitate the Risk Assessment, the Needs and Opportunities Assessment, creation of Project Ideas, and performance of the Cost-Benefit Analysis. The following table provides an example of how assets within the community were classified.

**Table 2-1 Classes and Examples of Community Assets**

Types of Assets	
Asset Class	Asset Example
Economic	Office buildings, business and industrial parks, manufacturing, warehouses, storage facilities, grocery stores, restaurants, banks, lodging, storefronts, downtown center, seasonal/tourism destinations
Health and Social Services	Schools, health care, day care, elder care, emergency operations, government and administrative services, media and communications, police, fire and rescue
Housing	Single-family and multi-family dwellings, supportive housing/group homes, senior housing and affordable housing
Infrastructure Systems	Pedestrian, bicycle and vehicular ways, transit, bridges, rail, ports, gas stations, water supply, stormwater, wastewater, solid waste and recycling
Natural and Cultural Resources	Natural habitats, wetlands and marshes, recreation facilities, parks, public access, open spaces, agricultural areas, religious establishments, libraries, museums, historic landmarks, performing arts venues
Vulnerable Populations	Assets predominantly providing services for people with disabilities, low and very-low income populations, the elderly, young children, homeless and people at risk of becoming homeless

## 2.3 Asset Inventory Results

Figure 2-1, Community Asset Map, provides the locations of community assets determined by the Asset Inventory. Symbols indicate certain types of assets (i.e. Fire Department, Day Care, School) as described in the map key. Detailed descriptions of assets presented by number on the map are provided as a table in Appendix D: Community Assets. Some assets were selected outside of the geographic study area because they either provide an essential service to the population within the study area or can be used as temporary facilities when assets within the study area are inundated or inaccessible during a storm event. In addition, since some assets within the first five classes may also serve Vulnerable Populations, the community asset table includes a column for Vulnerable Populations in addition to their identification in the other five asset classes. An asset is defined as a critical facility if it meets FEMA’s definition for a critical facility. If it does not meet FEMA’s requirements but is still significant as determined by the community then it is classified as a “Significant Facility” rather than a “Critical Facility”.



**Community Assets Overview**  
Village of Waterford

October 2013

- |                                |                                     |
|--------------------------------|-------------------------------------|
| Economic                       | Natural and Cultural Resources Line |
| Health and Social Services     | Historic District                   |
| Housing                        |                                     |
| Infrastructure Systems         |                                     |
| Natural and Cultural Resources |                                     |



ESRI - World Topo Imagery  
NYS DOS, NPS, NYS ED, Platts - Assets





## 3.0 Risk Assessment

E & E is in the process of evaluating the available data and proposing a method for conducting the risk assessment, taking into consideration the limitations of available modeling and associated data. E & E will present the limitations of available modeling and associated data and discuss with the committee an appropriate approach for conducting the risk assessment.

Detailed studies were provided for the portions of the Mohawk River and Hudson River located in the Village of Waterford. Based on records provided by the New York State Department of Environmental Conservation (NYSDEC), the hydraulic method used to prepare the flood maps and flood profiles for these streams was the United States Geologic Survey (USGS) Step Backwater Model, conducted in 1977. This model cannot be converted directly to the more current HEC-RAS methodology, the state's preferred methodology for the NYRCR program.

Additionally, the information used to prepare the flood maps and flood studies is significantly out of date. The hydraulic analysis required for the risk assessment of these streams would require construction of completely new models. This would take a significant level of effort given the hydraulic complexity of these two streams, particularly at their confluence as backwater effects during storm events and hydro-logic-communication between the watersheds is likely. LIDAR data is available for the Village of Waterford at 2 meter Digital Elevation Model (DEM) scale and is dated 2008/2010.

No information was provided from FEMA/NYSDEC on the Erie or Champlain Canals, both of which are located in the project vicinity. Operations (dredging, damming, etc.) of these canals could potentially impact flooding along the Mohawk and Hudson Rivers and also needs to be studied in detail to reasonably assess flooding hazards in this area.

## 4.0 Needs and Opportunities Assessment

### 4.1 Community Profile

*Please refer to section 2.2.*

### 4.2 Community Needs and Opportunities

#### 4.2.1 Community Planning and Capacity Building

The following plans and data sets were reviewed for relevant information.

- Saratoga County Profile 2013: Cornell PAD collection of recent demographic, social, economic and agricultural data
- Erie Canalway National Heritage Corridor 2011-2016 Strategic Plan
- FEMA Flood Insurance Studies (FIS) – variously dated
- Peebles Island State Park Final Master Plan (2000)
- Saratoga County DMA 2000 Hazard Mitigation Plan (2009)
- Town and Village of Waterford Comprehensive Plan (2002)
- Town and Village of Waterford Local Waterfront Revitalization Program (2010)
- 2009 NYS Open Space Plan
- Capital District Transportation Committee's 2010-2015 Transportation Improvement Plan



### **Identification of gaps, weaknesses, and constraints**

The Town and Village of Waterford Comprehensive Plan contains the most thorough analysis of the community among the plans reviewed. It includes long- and short-term land use issues for the Village and identifies future needs. These needs include strengthening the Broad Street commercial corridor, attracting recreational canal traffic, and maintaining the historic integrity of the Village. The Comprehensive Plan echoes the conclusions of other plans that the Village's strengths include its location along main waterways, its historic charm, and its pedestrian oriented scale.

A key constraint regarding local emergency response and the delivery of emergency services is the fragmentation of facilities and response services. Examining the means to consolidate and strengthen these services is vital to improved emergency response. For example, during Hurricane Irene, some residents perceived that there was miscommunication and inadequate communication to the residents of the community. When interviewed, many residents expressed gratitude toward local emergency response and felt that local responders had an action plan which was unified in its approach.

Another constraint is limited land use options, since the Village has been built to near capacity with little room for expansion of the built environment, especially outside of the 100-year floodplain.

The most immediate concern for residents whose homes are located in the 100-year floodplain is increasing flood insurance premiums. In addition to producing a substantial increase in the cost of living in this section of the Village, higher flood insurance rates can also make it difficult for homeowners to sell their homes. Together, these potentially leave them with depressed home values and few options to change their situation. Long-time residents are going to be forced from their homes, residents will not be able to sell their homes, properties will go into foreclosure and some will be abandoned, real estate values in the Village will plummet and the character of the Village may be lost forever.

### **Recommendations and opportunities**

Over the long-term, consolidating operations from three fire stations to a single centralized firehouse could streamline logistical and operational response protocols for future flooding or emergency events. Centralizing fire and emergency response operations should aid in ensuring that all information coming from the Village is released through a single source. This will remedy the communication issue that occurred during the storm events of Irene and Lee.

Other opportunities include vacant areas strategically located throughout the Village, especially near the waterfront and Battery neighborhood. These areas could serve as public green spaces, reducing the amount of impervious surface while decreasing the flood risk of nearby residences. Using appropriate green infrastructure such as bioswales and grass pavers, these public green spaces could double as spill-over parking to accommodate congestion caused by the Village's farmer's market and waterfront festivals. Permanent surface parking lots are not recommended as they detract from the historic charm of the Village and can increase damage caused by flooding.

#### **4.2.2 Economic Development**

The following plans and data sets were reviewed for relevant information.

- Capital Region Economic Development Council Strategic Plan (2011)
- Town and Village of Waterford Local Waterfront Revitalization Program (2010)
- Saratoga County Profile 2013: Cornell PAD collection of recent demographic, social, economic and agricultural data



- Erie Canalway National Heritage Corridor 2011-2016 Strategic Plan
- FEMA Flood Insurance Studies (FIS) – variously dated
- Peebles Island State Park Final Master Plan (2000)
- Saratoga County DMA 2000 Hazard Mitigation Plan (2009)
- Town and Village of Waterford Comprehensive Plan (2002)
- 2009 NYS Open Space Plan
- Capital District Transportation Committee’s 2010-2015 Transportation Improvement Plan

### **Identification of gaps, weaknesses, and constraints**

There is little room for extensive economic expansion from a land use point of view due to the physical constraints of the Village. Large commercial, industrial, or office development may not be feasible within the Village boundaries given its size and current state of use.

The Capital Regional Economic Development Council Strategic Plan identifies increasing tourism to the region, focusing on waterfront development and accessibility, and creating conditions favorable for small businesses and entrepreneurs as area-wide goals. All of these can benefit the Village of Waterford and correspond well with other planning documents already in place for the village. These issues are at the forefront of the Village’s Comprehensive Plan, the Local Waterfront Revitalization Plan, and all canal or trail related plans.

The Village’s Local Waterfront Revitalization Plan calls for attracting neighborhood-oriented and tourism-related businesses to Broad Street. Understanding the existing local economy and what businesses are still needed for Village residents is crucial to keeping local dollars within the community. Identifying what consumer goods are not available within the Village would help the Village understand the gaps in its local economy. The spending power of tourists cannot be overlooked, but there is significant buying power locally which needs to be harnessed.

### **Recommendations and opportunities**

As the Village is built out to near capacity, supporting economic development through population growth is not an option. However, economic development efforts can focus on attracting recreational boaters to the Broad Street commercial district. A mix of stores which cater to both the needs of current residents and of tourists is necessary for economic growth. Keeping a balance of types of stores will support retention of the business of local residents while also bringing in tourist spending from outside the Village.

Regarding employment centers, the existing comprehensive plan for the Town and Village of Waterford lists maintaining and attracting industry to the industrial cluster north of the Village as an economic priority. The Village is two miles south of a former General Electric (GE) chemical production plant. Although the industrial plant is no longer owned by GE, the site is still operational under the name Momentive Performance Materials (Momentive). The Momentive site is the centerpiece of an industrial hub just north of the Village boarder. Other major employers include Cascades, Evonik Corporation formally DeGussa, and Maximum Security Products. Cascades manufactures paper products such as bathroom tissues, household towels, table napkins and paper hand towels. Evonik is a chemical manufacturer and Maximum Security Products manufactures and sells security walls, doors, locks, and hinges for correctional facilities and other high security facilities.

Hurricane Irene brought water levels close to the elevation of Hudson River Road. Had they risen further, this could have disrupted the traffic flow between the Village and the industrial hub. Structural changes to the lowest portion of the road may need to be considered.



Also identified in the comprehensive plan is the improvement of the existing sidewalks and curbs throughout the Village. Improvements to streetscapes, especially along streets leading from Broad Street down to the waterfront, would act to direct and draw boaters from the visitor's center and waterfront parks to the commercial corridor at the center of town. Several streets throughout the Village have already implemented streetscape improvements which include new sidewalks and curbs. These areas have seen private investment in adjacent homes which helps stabilize the tax base while improving the quality of life for residents and the appeal of the community to tourists. Attractive way-finding and signage displaying the minimal distance and time it takes to walk from the waterfront to Broad Street would be of particular importance to moored boaters who do not have an automobile and must travel as pedestrians.

Periodic review of zoning relative to the needs and experiences of residents and the business community will help the Village support the growth of its economic sector and improve quality of life for residents while maintaining the Village's historic character.

The Local Waterfront Revitalization Program mentions the possible addition of a hotel outside of the Village. The costs and benefits to the Village of such a hotel should be examined.

By focusing on quality of life improvements and working with Saratoga County and the Southern Saratoga Chamber of Commerce, the Village of Waterford can attract new neighborhood-oriented businesses along Broad Street. Overall quality of life improvements such as upgraded streetscapes can help to attract new businesses and residents as well as benefiting existing businesses and residents.

#### **4.2.3 Health and Social Services**

##### **Identification of gaps, weaknesses, and constraints**

Outside of several parks and public pavilions, the Village of Waterford has few buildings designated for Health and Social Services. The low poverty rate and high employment rate coupled with the small size of the Village does not necessitate much Village-operated health or social services. A gap not discussed in the Saratoga County Hazard Mitigation Plan but identified by residents during the October 15, 2013 NYRCR public meeting is the need for a one-stop information center with a physical location within the community. This center would only need to be in operation during storm and emergency events and potentially could be tied into a new centralized firehouse. During an emergency event, the center would act as a location which provides residents with accurate and official information. In the aftermath of an event, the center could instruct residents on whether or not they qualify for FEMA relief, provide instruction and assistance with paperwork related to flood insurance, and provide information about other programs for flood victims.

##### **Recommendations and opportunities**

The Village would benefit greatly from a community center which would become a strategic asset for both the Town and Village, outside of the floodplain. The social support this facility could offer to vulnerable populations, including seniors, is important to the community. A community center would also encourage healthy living and community involvement and would support youth activities.

#### **4.2.4 Housing**

The following plans and data sets were reviewed for relevant information.

- Saratoga County Profile 2013: Cornell PAD collection of recent demographic, social, economic and agricultural data
- Erie Canalway National Heritage Corridor 2011-2016 Strategic Plan



- FEMA Flood Insurance Studies (FIS) – variously dated
- Peebles Island State Park Final Master Plan (2000)
- Saratoga County DMA 2000 Hazard Mitigation Plan (2009)
- Town and Village of Waterford Comprehensive Plan (2002)
- 2009 NYS Open Space Plan
- Capital District Transportation Committee’s 2010-2015 Transportation Improvement Plan
- National Register of Historic Places- Waterford Village Historic District (1974)

### **Identification of gaps, weaknesses, and constraints**

Flood proofing structures in a densely populated historical district presents myriad challenges to overcome. This is a serious constraint but one that can be overcome through proper engineering and the application of modern flood proofing techniques that are unique to historic resources.

Because of the dense residential nature of the Village of Waterford, there is not much opportunity for expansion within the Village borders. A few multifamily sites located on the hill to the west of the Old Champlain Canalway have been constructed more recently and limited opportunity exists to increase density.

The Local Waterfront Revitalization Program looks to avoid infill development in favor of open space. Because of the dense nature of the Village as it was historically constructed, infill development may not even be a feasible option. Further complications arise with the designation of a majority of the Village as a historic district. The area between the Hudson River and Old Champlain Canal has restrictions on the demolition or modification of existing historic structures.

The Town and Village’s Comprehensive Plan identifies the lack of senior housing and housing designed for non-traditional families as a potential issue in the future. Understanding how to achieve these goals within the framework of historic buildings is a gap not dealt with in any existing plans.

### **Recommendations and opportunities**

Identify specific means of flood proofing or making historic homes more resilient, either through elevation or other means.

According to the 2010 U.S. Census, the Village of Waterford contains 1,055 housing units with 91% of those units being occupied; of the occupied units, 44% are owner occupied. Saratoga County as a whole has a similar occupancy rate of 89% but a higher percent of owner occupied units at 73%. This discrepancy in owner-occupied housing rates is most likely due to the urban nature of the Village of Waterford versus the rural nature of Saratoga County as a whole.

Although these figures pre-date Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy, there is no reason to believe that much has changed since these storm events. Two homes which had been owner-occupied were lost as a result of Hurricane Irene, but with those exceptions, residences are repaired and occupied, including in the area most prone to flooding.

Within the Battery, housing on the south side of Front Street is most prone to flooding. This consists of nine structures, some of which contain multiple units. These buildings will have the highest flood insurance increases and should be analyzed to determine how best to help these homeowners escape the problems brought on by the inability to sell their properties for market values, a result of the Flood Insurance Reform Act of 2012. The Village will consider long-term options with homeowners, as the Village could benefit from opportunities to expand Battery Park and increase greenspace but it must remain sensitive to the issues these homeowners present.



Approximately 80 homes exist in the Village south of Middle Street. Many of these could potentially benefit from home elevation, if such elevation were found to be structurally feasible. Elevating homes would mitigate damage from larger storm events and could potentially impede the rise of flood insurance rates which threaten to become unmanageable for Village residents.

Homeowner participation in programs such as the Recreate NY Smart Home Program could result in elevation of individual structures on an as-needed basis throughout the lower sections of the Village. This program is competitive and requires application by each homeowner, but money has been allocated for Saratoga County leaving homeowners in the Village of Waterford at a competitive advantage when applying for funding.

Another flood prone area is South Street between 3rd and 4th Streets. This area saw the destruction of two homes during the Irene storm event. One of these properties was rebuilt privately by the owner while the other has been left vacant and is currently boarded up and abandoned. The abandoned home has been identified as a blight and its removal is seen as a priority by the Village. There is a fear that the vacant home will drive down adjacent property values and deter investment in nearby properties. The location of the property is in a densely populated residential neighborhood with narrow streets and an existing issue related to parking. The potential exists to raze the vacant structure and use green infrastructure such as porous paving stones to transform it into a much needed small parking lot for local homeowners without access to a driveway. Using porous paving stones would reduce the impervious surfaces located in this area while at the same time providing relief for parking congestion and eliminating a local blight.

The Village has identified the following priorities to further strengthen housing:

Conduct a study on the causes of flooding from the marsh area in the northern section of the Village that floods housing, and ways to reduce flooding.

Conduct studies of flooding from the Old Champlain Canal Trail that impacts housing in the eastern and northern sections of the Village.

Conduct studies on the implementation of porous street surfaces and other green infrastructure throughout the Village to reduce surface flooding.

Conduct studies to understand if sewage and street drainage during flooding can be diverted away from lower areas.

#### **4.2.5 Infrastructure**

The following plans and data sets were reviewed for relevant information.<sup>1</sup>

- Saratoga County Profile 2013: Cornell PAD collection of recent demographic, social, economic and agricultural data
- Erie Canalway National Heritage Corridor 2011-2016 Strategic Plan
- FEMA Flood Insurance Studies (FIS) – variously dated
- Peebles Island State Park Final Master Plan (2000)
- Champlain Canalway Trail Concept Plan: Final Version (2002)
- Saratoga County DMA 2000 Hazard Mitigation Plan (2009)

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<sup>1</sup> Note that maps showing flood-vulnerable infrastructure will be developed as part of the Asset Inventory and Risk Assessment



- Town and Village of Waterford Comprehensive Plan (2002)
- Town and Village of Waterford Local Waterfront Revitalization Program (2010)
- 2009 NYS Open Space Plan
- Capital District Transportation Committee's 2010-2015 Transportation Improvement Plan

The flooding from Hurricane Irene caused damage to the roadways along South Street and points south. The estimate for the damage from the storm events is around \$700,000. It is believed by some community members that there was foundational damage to the roads as air was seen bubbling up along streets during the flood. Utility lines and meters were promptly repaired by the utility provider after the storm events. Transportation infrastructure lying north of South Street received little damage and was above the flooding resulting from Irene.

### **Identification of gaps, weaknesses, and constraints**

Three firehouses serve the Village. One of the firehouses is located in the 100-year floodplain, and one station requires purchase of specialty equipment to fit in the small garage. None of the firehouses have back-up generators and the Town Hall, which also functions as the police headquarters, has only one. During the first public meeting for the Village of Waterford on October 15, 2013, there was substantial support from residents for the consolidation of fire and emergency services into a single building.

Although not mentioned in any of the plans that were reviewed, the concept of a single building for the Village's fire services dates back more than 20 years. Blueprints from that time were drawn up siting the location on 8<sup>th</sup> street at the corner of Division Street. Since that time, the site has been converted into a park that is regularly used by the community. However, New York State recently gifted the area behind the park to the Village. This area is west of the Old Champlain Canal and above the 100- and 500- year floodplains.

At the southern edge of Steenburgh Avenue, closest to Lock 2 on the Erie Canal, part of the converted tow path (now a bicycling and walking trail) was breached with floodwater after Hurricane Irene. Strengthening that area of the bike trail would increase resilience while providing economic and community health benefits. This water followed the paved route along Steenburgh Avenue and collected at the corner of Steenburgh and Middle Street. The Champlain Canalway Trail plan and the Village's Waterfront Revitalization Program both list formalizing and better connecting the Village's existing trail network to other local trail networks as a goal. Although work has been done to link Waterford to surrounding trails, a unified effort needs to take place to market the Village as a destination and strategic location within the overall network. This is not addressed in existing planning documents.

Current streetscapes and public improvements need to be redesigned to more effectively foster drainage. There is a lack of pervious surfaces throughout the Village.

### **Recommendations and opportunities**

A central location for fire and emergency services is an important long-term need for the Village. Currently three firehouses share responsibility for most of the Town and Village of Waterford. Releasing the oldest firehouse from active duty would allow for the historic structure to be adapted for reuse in the future. Potential uses include a community center or museum to highlight the history of firefighters in the Village of Waterford.

Sidewalk and curb improvements are seen as a focus for the Village as a way to improve the appeal of the homes, spur investment in existing property, and draw visitors from the waterfront to Broad Street. Through the incorporation of green infrastructure, such projects would also better mitigate the impacts of flooding.



The existing comprehensive plan from 2002 cites a “lack of direction regarding vehicular and pedestrian access to the waterfront area from Broad Street” as a major constraint to visitation and public use.

Also identified is the need for a unified vision on how to deal with pedestrians and vehicles in the tight streets within the Battery neighborhood. Improved curbs and street grading could help channel minor floodwaters away from homes and into the sewers, better identify spaces meant for pedestrians, and beautify the existing residences.

Construction of a berm or grading and drainage work along Steenburgh Avenue and the adjacent historic tow path would mitigate future flooding in that area. Grading of the street to direct water away from homes and back toward the canalway would ensure that water does not pool and stagnate following heavy rains or flooding events.

#### **4.2.6 Natural and Cultural Resources**

The following plans and data sets were reviewed for relevant information:

- Town and Village of Waterford Local Waterfront Revitalization Program (2010)
- Saratoga County Profile 2013: Cornell PAD collection of recent demographic, social, economic and agricultural data
- Erie Canalway National Heritage Corridor 2011-2016 Strategic Plan
- FEMA Flood Insurance Studies (FIS) – variously dated
- Peebles Island State Park Final Master Plan (2000)
- Peebles Island Final Master Plan Final Environmental Impact Statement (2000)
- Saratoga County DMA 2000 Hazard Mitigation Plan (2009)
- Town and Village of Waterford Comprehensive Plan (2002)
- 2009 NYS Open Space Plan
- Champlain Canalway Trail Action Plan: Waterford to Whitehall (2011)
- Champlain Canalway Trail Concept Plan: Final Version (2002)
- The Mohawk Hudson Bike Hike Trail Crossroads Connections Study (2003)
- National Register of Historic Places- Nomination Form: Northside Historic District (1975)
- National Register of Historic Places- Waterford Village Historic District (1974)

#### **Identification of gaps, weaknesses, and constraints**

Natural and cultural resources abound in this small geographic space. A large portion of the Village is listed on the National Register of Historic Places, which can be both a benefit and a challenge. The State Historic Preservation Office (SHPO) allows for the elevation of historic structures so long as the historic character is kept in-tact. Currently, SHPO is investigating best-practices for elevating historic structures but stress that each project has unique challenges and no one single approach is applicable to all historic structures. The homes most at risk of flooding are located on Front Street and are not included in the Historic District. The Waterford Village Historic District is between the Hudson River to the east and the Old Champlain Canal to the West with South Street as its southern boundary and north to the Village boundary. Local laws passed by the Village in the 1980’s put into place restrictions on demolishing or renovating historic structures. These act to strengthen the historic nature of the Village and ensure that it does not culturally degrade over time.

Many canal and trail related plans look to connect the Village to surrounding areas and capitalize on the strategic location of the Village of Waterford. The Champlain Canalways Trail Plan and the Peebles



Island State Park Master Plan refer to the Village as a trailhead and the Erie Canalway Corridor Plan recognizes the importance of Waterford as the eastern gateway into the canal.

Related to the Village being a trailhead and gateway for the Erie Canal, local wayfinding and signage should be improved. This is not only for the historic district in the Village but also to point visitors to the historic and cultural resources within walking distance such as Peebles Island State Park and the Northside Historic District in the adjoining Town of Waterford. Signage could also be improved to better alert visitors of the extent of the mixed-use trail network which radiates outward from the Village.

Despite the majority of plans mentioning the history and tourism potential of the Village of Waterford, branding for the Village has not been emphasized, a gap also related to economic development.

### **Recommendations and opportunities**

The Village's location at the confluence of the Mohawk, the Hudson, and the Erie Canal, and its attractive harbor, make it a natural stop for boaters. The pedestrian scale of the Village and the close proximity of the Broad Street commercial district to the waterfront make it ideal for waterway tourists traveling without an automobile.

The Village of Waterford has the distinction of being the oldest continually incorporated Village in the United States. The historic architecture of the homes north of South Street is well maintained and attractive. The "Waterford Gable" is a distinctive architectural detail on many of the oldest homes and could be included in any new construction to keep a cohesive feel.

The "Flight of Locks", which starts in the Village of Waterford at Lock #2 of the Erie Canal, lifts a boat traveling west 169 feet in 1.5 miles - the highest lift in the shortest distance in the world.

The New York State Department of Transportation and New York State Canal Corporation both operate out of Waterford and the NYS Bureau of Historic Sites has their headquarters on Peebles Island, which is a New York State Park situated in the Town of Waterford. Peebles Island is located across a historic, single lane bridge with a newly built pedestrian and bicycle boardwalk constructed on the outside of the main bridge structure which eliminates conflict with automobiles.

Waterford's oldest festival, the Canal Fest, is held every May, and the annual Tugboat Roundup festival each September hosts dozens of tugboats and highlights the Village's waterfront and the history of the Erie Canal. This event attracts upwards of 25,000 people over the weekend and showcases the Village and the scenic beauty of the rivers.

Residents value and utilize these resources and understand the importance of maintaining, safeguarding and leveraging them in order to remain a unique and attractive Village.

## **4.3 Synthesis Recommendations**

### **Short Term (within 1 year)**

- Conduct a survey of homes susceptible to flooding and identify measures that could be undertaken to reduce vulnerability.
- Consider the viability of a program by which sections of the Village directly impacted by flooding would be purchased by the Village or FEMA and the properties in those sections then utilized for other purposes.



- Meet with homeowners of properties most often affected by flooding and discuss possible long-term mitigation options.
- Assist homeowners in the floodplain who are interested in elevating their homes in taking advantage of grant programs that provide financial assistance.
- Identify and design solutions for the drainage utilities which are seen as contributing to the flooding for the north end of the Village.
- Conduct studies on flooding from the Old Champlain Canal Trail, marsh and Hudson river that impacts housing east of the canal and in northern boundary section of the Village.
- Improve signage and streetscape features which incorporate green infrastructure and other aspects to better manage floodwaters. This will help improve quality of life to residents, attract visitors to the Broad Street commercial corridor, and stabilize the tax base by spurring investment in existing homes.

### **Medium Term (1 to 5 years)**

- Plan and implement improvements to Battery Park including reconstruction of the boat launch and reconfiguration of the current park layout.
- Evaluate the opportunity to protect and adaptively reuse historic structures throughout the Village. This is particularly important for structures which have suffered chronic flood damage.
- Improve the link between Bells Lane and the Old Champlain Canal Trail. This creates a safe non-motorized alternative connection to the industrial employment center in the event that Hudson River Road closes due to flooding. When floods are not an issue, it would create a safe, healthy means to travel to work for those in the industrial hub via Bells Lane.
- Install backflow preventers on storm drains and sewer lines.
- Improve connections to surrounding trails and mixed use paths, especially with the Mohawk-Hudson Path, allowing riders to safely and easily pass north of the Mohawk River.

### **Long Term (5 years or more)**

- Develop centralized emergency response facilities located outside of flood hazard areas.
- Continue development of a separated sewer system.

## **5.0 Proposed Strategies, Projects, Programs and Actions**

### **5.1 Existing Projects, Strategies, and Programs**

The committee is considering the following initial set of strategies, projects and/or programs, organized by focus area.

#### **Community Planning and Capacity Building**

- *Strategy:* Coordinate communication from emergency response organizations to residents before, during, and after emergency events.
- *Project:* Develop multi-media communications plan for emergency events and implement required communications channels, work with the NY State Canal System and the Governor's new upstate flood warning system.



- *Strategy:* Improve understanding of the economic impacts on the Village of excessive insurance and flooding.
- *Project:* Prepare an economic analysis which outlines the economic impacts of flooding.

### **Economic Development**

- *Strategy:* Identify improvements to strengthen the facilities of Waterford's canal harbor center to be better able to cope with future flooding events as well as enhance canal-related tourism by strengthening partnerships with the NYS Canal Corporation, Canal Recreationway Commission and Erie Canalway National Heritage Corridor to maintain heritage and build the local economy.
- *Program:* Improve streetscapes to increase attractiveness for residents and tourists, encourage homeowner investment and upkeep, and contribute to increasing home values.
- *Project:* Design and construction of streetscape improvements throughout the Village utilizing green infrastructure aimed at better managing flood waters, while also having a co-benefit of strengthening the Broad Street business community. The next step would be the identification of specific streetscapes, project plans and cost estimates.

### **Health and Social Services**

- *Strategy:* Improve the Village's community services and facilities to protect and serve vulnerable populations, particularly during flood events.
- *Project:* Identification and use of an appropriate facility for the provision of the services. The first step is determining siting, followed by design and construction. This could be a new facility or a renovation.

### **Housing**

- *Strategy:* Reduce the risk of flood damage to homes throughout the Village, particularly those which have seen repeated flood damage. This is particularly challenging given that most of the housing stock in the Village is historic and the area is densely developed.
- *Program:* Areas most vulnerable to flooding, areas in designated floodways, as well as the designated floodplain, and repetitive loss properties must be all identified. Special consideration must be given to the historic district and the necessity to preserve properties within that designated area if and when possible. Buyouts should be offered to help homeowners who, because of previous events or flood risk and the associated extremely high cost of flood insurance, will not be able to sell their homes. Special consideration for mitigation of repetitive loss properties must be given in order to address that problem associated with those specific properties as they affect the overall rates paid by the remainder of the community. Acquisition of homes and repurposing of residential areas for park or greenspace should also be strongly considered. The neighborhoods at highest risk should be informed of this risk and the associated costs in order to best inform them of the situation. Programs offering grants and low interest loans for the purpose of elevation of those homes and implementation of other flood mitigation measures must also be included.

### **Infrastructure**

- *Strategy:* Avoid electrical disruption to emergency services locations during emergency events.
- *Project:* Install backup power generation at Village fire stations as well as longer term development of an alternative energy micro-grid. The next step is to identify and implement a demonstration project.
- *Strategy:* Undertake streetscape improvements which incorporate green infrastructure aimed at better managing flood waters.
- *Project:* Survey and select streets to incorporate these improvements, followed by preparation of project specific plans and cost estimates.



## Natural and Cultural Resources

- *Strategy:* Protect the historic resources of the Village which constitute a large portion of the building stock and serve as the Village's most important cultural resources.
- *Project:* Identify contributing assets, and then establish design guidelines and programs for better fortifying these assets from the impacts of flooding. In the longer term, establish a program to better educate and directly assist homeowners in implementing flood proofing techniques.
- *Strategy:* Protect and enhance the capacity of wetlands, particularly those in the north end of the Village, to better manage flood waters.
- *Project:* Study, design and construct improvements and enhancements, including but not limited to a culvert to manage excess stormwater in the area of the wetlands.

The following additional comments and suggestions were provided by public meeting participants and will be considered by the committee:

- Developing Battery Park to improve boating capacity and recreational/community park space
- Replacement of residential areas that flood regularly, with green space
- Community education on personal emergency preparedness (could be led by the WALCC)
- Modification to the municipal sewer system to prevent water from backing up drains and prevent sewage spill
- Involve utility providers and retrofit utilities to better handle storm events,
- Address health concerns with flooding from the wastewater treatment plant (WWTP) onto Garrett Field
- Revisit emergency plan and effectively educate residents prior to an emergency and communicate elements at time of emergency
- Educate renting population about implications of living in flood prone area
- Stricter enforcement of building codes to ensure preservation of historic structures
- Use of green infrastructure elements such as permeable pavers, and planting of more trees in parks
- Development of a municipally owned and operated marina
- Investigation of how flood insurance premiums are being set by FEMA in order to address rising premiums
- Initiate a program of grants/low interest loans for foundation elevation of homes in flood zone
- By cooperation of downtown businesses and homeowners, develop new community festivals
- Burial of utilities on Broad Street to improve visual attractiveness

## 5.2 Project Prioritization

Identified strategies, projects and programs will be prioritized based on the results of the risk assessment, the cost benefit analysis of projects, and other community-specific factors and concerns to be defined by the committee.

Additionally, zoning and policy changes that would benefit long-term community resiliency will be considered and prioritized.

Housing strategies and projects will be of chief concern and will include identification of programs available for public and private housing (in addition to Community Development Block Grant (CDBG) program funding).



## 6.0 Implementation Strategy and Schedule

### 6.1 Regional Coordination

The Village of Waterford is served by the following key regional entities and initiatives, and will communicate with representatives of each entity during the planning process for purposes of coordination, information sharing, and identification of available resources.

- Saratoga County, Hazard Mitigation Plan
- Capital Region Economic Development Council, Strategic Plan
- New York State Canal Corporation
- Mohawk River Watershed Coalition of Soil and Water Conservation Districts, which is made up of 14 counties, including Saratoga County and encompassing the Village of Waterford, and is developing a Mohawk River Management Plan that aims to address issues in the Mohawk River Watershed
- Hudson River-Black River Regulating District

### 6.2 Local Coordination

The Village of Waterford is served by the following key local entities and initiatives, and will communicate with representatives of each entity during the planning process for purposes of coordination, information sharing, and identification of available resources.

- Town of Waterford
- Southern Saratoga Chamber of Commerce
- Waterford Area Long-term Care Coalition

### 6.3 Project Phasing

An implementation approach and schedule will be developed for the implementation and phasing of prioritized projects according to the results of the risk assessment, cost-benefit analysis, other community-specific factors, and forecasted availability of funding.

Phasing will be divided according to short-term (up to 1 year), medium-term (1 to 5 years), and long-term (longer than 5 years) scenarios.

### 6.4 Funding Resources

The community's plan will look beyond the CDBG funding currently available, and therefore will identify additional potential sources of funding through federal, state, local, and private sources. The committee, NYSDOS, and the planning firm will develop a list of funding sources based on the prioritized lists of strategies and projects.



## 7.0 Appendices



## **Appendix A: List of NYRCR Planning Committee Members**



Name	Title	Affiliation	Location
Tracy Murray	Co-Chair	Committee	Waterford
Scott Stalker	Co-Chair	Committee	Waterford
Pete Bardunias	Committee Member	Committee	Waterford
Dick Castle	Committee Member	Committee	Waterford
Joe Clark	Committee Member	Committee	Waterford
Bert Mahoney	Mayor, Committee Member (non-voting)	Committee	Waterford
Jon Matson	Committee Member	Committee	Waterford
Rebecca Miller	Committee Member	Committee	Waterford
Anne-Marie Morrissey	Committee Member	Committee	Waterford
Ward Patton	Committee Member	Committee	Waterford
Russ VanDervoort	Trustee, Committee Member (non-voting)	Committee	Waterford



## **Appendix B: Village of Waterford Preliminary Public Engagement Strategy**



# Village of Waterford Preliminary Public Engagement Strategy

The following presents strategies identified to date that will be refined as the program proceeds and expanded as needs are identified.

**Purpose:** The Village of Waterford public engagement strategy has been developed to inform key stakeholders about the New York Rising Community Reconstruction planning process. The intent is to solicit public input, as well as educate the public, regarding severe weather events and flooding and to formalize opportunities for the public to react and contribute to strategies, programs and actions identified to mitigate the effects of flooding and strengthen long-term community resilience and economic development.

## Preliminary Stakeholders Identified:

- Village of Waterford residents,
- Village of Waterford owners and tenants of properties south of Broad Street (lower elevation),
- Village of Waterford business owners,
- Waterford Fire Department,
- Emergency response organizations,
- Town Highway Department,
- Child and Family Services,
- Waterford-Halfmoon Union Free School District,
- St. Mary's School
- Waterford Area Long-term Care Coalition (WALCC)
- Chamber of Southern Saratoga,
- Saratoga County Soil and Water Conservation District,
- Saratoga County Planning Office,
- Saratoga County Highway Division,
- New York State Canal Corporation.

## Strategy 1: Public Engagement Subcommittee

**Purpose:** The public engagement subcommittee will help guide the public engagement strategy and ensure appropriate outreach is undertaken to facilitate stakeholder input. The subcommittee will be responsible for determining outreach techniques, setting the dates and locations of public events, and disseminating public meeting announcements. It will also provide input on the public engagement strategy, and help determine the format for future public meetings. Current members of the subcommittee include:

- Bert Mahoney
- Rebecca Miller
- Tracy Murray
- Ward Patton
- Scott Stalker
- Russ VanDervoort



## Strategy 2: Public Meetings

**Purpose:** Public meetings will be held to inform the public on the NYRCR planning process and obtain input from residents, business owners and other stakeholders regarding a community vision, community needs and opportunities, and potential projects for implementation. A variety of techniques will be used to engage stakeholders and solicit input. Four meetings will be held between October and March. The first public meeting on October 15, 2013 used an open forum format to inform stakeholders about the planning process and obtain input on project ideas.

**Venue:** The first public meeting was held at the Village Senior Center. The Public Engagement Subcommittee will determine the venue for the second public meeting, which must be held prior to November 20, and remaining outreach events.

**Notification:** Public meetings will be promoted using a variety of methods and media. The results of the first public meeting will be used to determine which methods and media were most effective, and these will be prioritized for promotion of subsequent meetings. The meeting on October 15 was promoted as follows:

- A postcard mailed to all addresses in the Village, inviting recipients to attend the meeting and directing recipients to <http://stormrecovery.ny.gov> for more information.
- Signs created by One Day Signs (owned by Committee Member Jonathan Matson) and posted where they were noticed by many residents.
- An announcement on the NYRCR Website and the Village of Waterford Website.
- Creation and use of an NYRCR Waterford Facebook page as described under Strategy 3 below.
- Emails to distribution lists of committee members and partner organizations, such as distribution lists of the Chamber of Southern Saratoga County.
- Listing the meeting on the online community calendars of various newspapers and radio stations.

**Responsible Parties:** E & E will work with the public engagement subcommittee and the NYS Department of State to organize, announce, and conduct the public meetings. The Department of State will be responsible for media advisories and any press releases which may be issued. The subcommittee and other committee members will assist with planning and announcing the meetings, such as through email distribution lists and posting meeting announcements in public locations. Committee members will attend the public meetings in order to articulate the planning process and receive input from attendees.

### Schedule:

- 1<sup>st</sup> Public Meeting, to introduce the NYRCR program and receive preliminary input, held October 15, 6:00 p.m. to 8:00 p.m., Village Senior Center.
- 2<sup>nd</sup> Public Meeting, to receive input regarding the conceptual plan, will be held prior to November 20. Date and location TBD.
- 3<sup>rd</sup> Public Meeting, to solicit input into programs, projects, actions and strategies. Date and location TBD.
- 4<sup>th</sup> Public Meeting to present the final Plan. Date and location TBD.



### Public Meeting Format:

Public Meeting #1: The first public meeting was held at the Waterford Senior Center. The purpose of this meeting was to provide education on and solicit input from the public on the following topics:

- NYRCR Program Overview
- Community Vision
- Community Assets
- Needs and Opportunities
- Current and Potential Projects

The format was similar to an open house with stations (tables) set up around the room. These tables covered various aspects of the NY Rising Community Reconstruction program (listed above) and the planning progress as accomplished to date. The meeting opened with an introduction to the program followed by instructions on how to navigate the stations. Participants were given comment sheets on which they could document feedback during the event and proceeded around the room to the stations where they had the opportunity to learn about the planning topics and interact with planning committee members. A description of each station is provided below.

- Station 1: Welcome table with sign-in sheets, Frequently Answered Questions sheet, and sticky name badges for attendees
- Station 2: Community Vision. A poster with a draft community vision was displayed with an opportunity for the public to write additional keywords or phrases.
- Station 3: Community Assets. A map was displayed for participants to review and provide input regarding the location of community assets. A flood zone map and an elevation map were also shown.
- Station 4: Community Needs and Opportunities. Participants reviewed lists of identified needs and opportunities and used stickers to indicate which needs and opportunities they felt were most important.
- Station 5: Current and Planned Projects. Participants listed projects that they felt would contribute to community resiliency and reacted to other projects listed.
- Station 6: Community Interviews. Participants heard about an opportunity to have their flood stories recorded as part of an oral history project.
- Station 7: Individual assistance programs. Participants received information about non-NYRCR programs that provide individual assistance, as well as flood insurance information.

### Strategy 3: Social Media

**Purpose:** To inform the public on NYRCR public meeting schedules and create an outlet for the public to comment on proposed strategies, programs and actions.

**Venue:** Created a Facebook page at <https://www.facebook.com/waterfordmarket#!/CommunityReconstructionWATERFORD>. Created a feedback page on the NY Rising website.



#### Notification:

- The state Website URL will be listed on distributed flyers. The Department of State will track and respond to all comments received and will share results with the committee.
- The subcommittee's Facebook page was linked to other Facebook pages and will be used to announce all public meetings and indicate progress during the planning process.
- The subcommittee will utilize available email distribution lists to draw attention to the state Website and its Facebook page.

**Responsible Party:** The subcommittee will maintain the Facebook page and add links to relevant pages. The subcommittee will send emails through distribution lists and distribute flyers to designated locations to inform stakeholders of social media tools.

**Schedule:** Beginning in October 2013 and continuing through March 2014.

### Strategy 4: Stories and Photos

**Purpose:** To give the public an opportunity to provide information on personal experiences during recent storms. This strategy is under development. Ideas include:

- Have a "Community Interviews" station during a public meeting, where participants will be able to express their interest in recording their stories at a future date.
- Provide an email address for the public to submit their photos and stories.
- Include a disclaimer that photos may be used on public documents.



## **Appendix C: Description of Priority Projects and their Costs and Benefits**

Please refer to Section 5.1. The committee will discuss projects during its upcoming committee meeting, and the cost-benefit analysis will be conducted for those projects identified as priority projects.



# Appendix D: Community Assets



Map ID	Asset Name	Address	Lat	Long	Risk Area	Asset Class	Subcategory	Vulnerable Population	Critical Facility	Community Value
1	Peebles Island State Park	Town of Waterford	42.78491067080	-73.68069873550		Natural and Cultural Resources	Parks and Recreation			
2	Bike Trail	Town of Waterford	42.78572408630	-73.68002991270		Natural and Cultural Resources	Parks and Recreation			
3	Sewer Pumping Station	Village of Waterford	42.78598376420	-73.67786026160		Infrastructure Systems	Wastewater			
4	Peebles Park Bridge	Town of Waterford	42.78635234990	-73.67961738220		Infrastructure Systems	Transportation			
5	Recreational Area, Harbor Center and Visitor Area	Village of Waterford	42.78725765030	-73.67912405200		Natural and Cultural Resources	Parks and Recreation			
6	Sewer Pumping Station	Village of Waterford	42.78766146570	-73.67963291850		Infrastructure Systems	Wastewater			
7	Park area with kayak launch	Town of Waterford	42.78806713700	-73.68108399360		Natural and Cultural Resources	Parks and Recreation			
8	Bridge A	Town of Waterford	42.78853053150	-73.68193166840		Infrastructure Systems	Transportation			
9	Bridge - Erie Canal	Village of Waterford	42.78855401710	-73.68077397410		Infrastructure Systems	Transportation			
10	Bridge E	Village of Waterford	42.78866203500	-73.67468133580		Infrastructure Systems	Transportation			
11	Dress Factory	Town of Waterford	42.78873789320	-73.68295089330		Economic	Large Business			
12	Soldiers and Sailor Memorial Park	Village of Waterford	42.78876253900	-73.67573753190		Natural and Cultural Resources	Parks and Recreation			
13	Waterford Fire Station 1	Village of Waterford	42.78907999960	-73.67671999970		Health and Social Services	Government and Administrative Services			
14	Home-Based Day Care	Village of Waterford	42.78913861520	-73.67914323720		Health and Social Services	Daycare and Eldercare	Y		
15	Primary sewage treatment facility	Town of Waterford	42.78951851080	-73.68687326490		Infrastructure Systems	Wastewater			
16	Senior Center	Village of Waterford	42.78958044120	-73.67818134550		Natural and Cultural Resources	Community Centers	Y		
17	Knickerbocker Park	Village of Waterford	42.78963055390	-73.67529507220		Natural and Cultural Resources	Parks and Recreation			



Map ID	Asset Name	Address	Lat	Long	Risk Area	Asset Class	Subcategory	Vulnerable Population	Critical Facility	Community Value
18	NYS Canal System - Lock 2	Town of Waterford	42.78964439760	-73.68229136660		Infrastructure Systems	Navigable Waterway Facilities			
19	Grace Church	Village of Waterford	42.78975086440	-73.67877820630		Natural and Cultural Resources	Cultural or Religious Establishments			
20	Ambulance - Waterford Rescue Squad, Inc.	Village of Waterford	42.78993603840	-73.67988496050		Health and Social Services	Government and Administrative Services			
21	Municipal Hall - Munihl-447	Village of Waterford	42.79041400450	-73.67859044600		Health and Social Services	Government and Administrative Services			
22	Town Hall and Police HQ	Village of Waterford	42.79042201440	-73.67842328140		Health and Social Services	Emergency Operations / Response			
23	Convenience and Gas	Village of Waterford	42.79066807610	-73.67898480210		Economic	Small Business			
24	First United Church	Village of Waterford	42.79084455070	-73.67755740970		Natural and Cultural Resources	Cultural or Religious Establishments			
25	Physician's Office	Village of Waterford	42.79091493220	-73.67819374570		Health and Social Services	Healthcare Facilities			
26	Bridge - Old Champlain Canal	Village of Waterford	42.79097301800	-73.68068101220		Infrastructure Systems	Transportation			
27	Shelter - First United Church Of Waterford	Village of Waterford	42.79107666050	-73.67761230420		Health and Social Services	Emergency Operations / Response			
28	Bridge C	Village of Waterford	42.79121165670	-73.68080935330		Infrastructure Systems	Transportation			
29	Bridge B	Village of Waterford	42.79124637780	-73.68431069100		Infrastructure Systems	Transportation			
30	Shelter - Saint Mary Of The Assumption Rom. Cath. Church - Hall	Village of Waterford	42.79132080060	-73.68121337870		Health and Social Services	Emergency Operations / Response			
31	Pocket Parks	Village of Waterford	42.79136422870	-73.68341157960		Natural and Cultural Resources	Parks and Recreation			
32	EMS	Village of Waterford	42.79137046760	-73.67914812770		Health and Social Services	Emergency Operations / Response		Y	
33	Bike Trail	Village of Waterford	42.79143987990	-73.68010416610		Natural and Cultural Resources	Parks and Recreation			
34	Waterford Fire Station 3	Village of Waterford	42.79145000020	-73.67796999940		Health and Social Services	Government and Administrative Services			
35	Waterford Youth Council - afterschool	Village of Waterford	42.79150211400	-73.67953663290		Health and Social Services	Daycare and Eldercare	Y		



Map ID	Asset Name	Address	Lat	Long	Risk Area	Asset Class	Subcategory	Vulnerable Population	Critical Facility	Community Value
	program and daycare									
36	Post Office - Waterford	Village of Waterford	42.79158163420	-73.67846026930		Health and Social Services	Government and Administrative Services			
37	Bridge - Erie Canal	Village of Waterford	42.79162897220	-73.68441495710		Infrastructure Systems	Transportation			
38	Pocket Parks	Village of Waterford	42.79165230480	-73.68506369670		Natural and Cultural Resources	Parks and Recreation			
39	St Mary's School	Village of Waterford	42.79165668430	-73.68126413090		Health and Social Services	Schools			
40	Shelter - Waterford Rescue Squad	Village of Waterford	42.79168701200	-73.67950439400		Health and Social Services	Emergency Operations / Response			
41	Electrical Substation - Waterford Energy	Village of Waterford	42.79177600000	-73.67935300010		Infrastructure Systems	Power Supply		Y	
42	Power Plant - Waterford Energy	Village of Waterford	42.79177600000	-73.67935300010		Infrastructure Systems	Power Supply		Y	
43	Bridge D	Village of Waterford	42.79182281030	-73.68033556930		Infrastructure Systems	Transportation			
44	St. Mary's School	Village of Waterford	42.79192707820	-73.68092605190		Health and Social Services	Schools			
45	Bridge - Old Champlain Canal	Village of Waterford	42.79195402120	-73.68012401120		Infrastructure Systems	Transportation			
46	Pocket Parks	Village of Waterford	42.79202638100	-73.68407558910		Natural and Cultural Resources	Parks and Recreation			
47	Electrical Substation - Waterford (ADHYDE)	Village of Waterford	42.79244000020	-73.68103000040		Infrastructure Systems	Power Supply		Y	
48	Power Plant - Waterford (ADHYDE)	Village of Waterford	42.79244000020	-73.68103000040		Infrastructure Systems	Power Supply		Y	
49	VFW Building	Village of Waterford	42.79252781480	-73.67645488670		Natural and Cultural Resources	Cultural or Religious Establishments			
50	Ahana House	Village of Waterford	42.79284993610	-73.68083486760		Housing	Senior Housing	Y		
51	Waterford Fire Station 2	Village of Waterford	42.79285999990	-73.68281999950		Health and Social Services	Government and Administrative Services			
52	Playground	Village of Waterford	42.79313095120	-73.68398345630		Natural and Cultural Resources	Parks and Recreation			
53	Butler Park	Village of Waterford	42.79335679220	-73.68127899090		Natural and Cultural Resources	Parks and Recreation			



Map ID	Asset Name	Address	Lat	Long	Risk Area	Asset Class	Subcategory	Vulnerable Population	Critical Facility	Community Value
54	Senior Housing	Village of Waterford	42.79357576560	-73.68047622300		Housing	Senior Housing	Y		
55	Recreational Area	Village of Waterford	42.79364156670	-73.67863557920		Natural and Cultural Resources	Parks and Recreation			
56	Library	Village of Waterford	42.79395593640	-73.67564677820		Natural and Cultural Resources	Libraries			
57	Bridge - Delaware & Hudson	Village of Waterford	42.79444900770	-73.67992095380		Infrastructure Systems	Transportation			
58	Scenic Byway	Village of Waterford	42.79448013790	-73.68326840020		Natural and Cultural Resources	Parks and Recreation			
59	Home-Based Day Care	Village of Waterford	42.79471096170	-73.67564765940		Health and Social Services	Daycare and Eldercare	Y		
60	Railroad Bridge - Champlain Canal	Village of Waterford	42.79472033930	-73.67869008050		Infrastructure Systems	Transportation			
61	Water System Plant (line from Troy)	Village of Waterford	42.79478423710	-73.67423854430		Infrastructure Systems	Water Supply			
62	Archaeological Assets	Village of Waterford	42.79495224450	-73.68570783560		Natural and Cultural Resources	Cultural or Religious Establishments			
63	Home-Based Day Care	Village of Waterford	42.79498831230	-73.67546523000		Health and Social Services	Daycare and Eldercare	Y		
64	Bridge - Canal Lock 3 Splwy	Village of Waterford	42.79565199610	-73.68568801770		Infrastructure Systems	Transportation			
65	Day Care Center	Village of Waterford	42.79574431370	-73.67495957420		Health and Social Services	Daycare and Eldercare	Y		
66	Pocket Parks	Village of Waterford	42.79590839850	-73.68520018840		Natural and Cultural Resources	Parks and Recreation			
67	DEC Rivers and Streams	Statewide				Natural and Cultural Resources	Water Bodies			
68	Waterford Historic District	Village of Waterford				Natural and Cultural Resources	Historic Landmarks and Facilities			
69	Waterford Masonic Temple	Village of Waterford				Natural and Cultural Resources	Cultural or Religious Establishments			



## Appendix E: Prioritized List of Projects

Please refer to Section 5.1. The committee discussed projects during its meeting on October 22.



## Appendix F: Glossary

**100 year floodplain map:** A map which shows the inundation of a geographic area by a flood event that has a 1% probability of occurring in any given year.

**500 year floodplain map:** A map which shows the inundation of a geographic area by a flood event that has a 0.2% probability of occurring in any given year.

**FEMA:** The Federal Emergency Management Agency, part of the U.S. Department of Homeland Security, “coordinates the federal government’s role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror.” (Source: <http://www.fema.gov/about-agency>.)

**Floodplain:** A flat area along the course of a waterway that floods during a time of high water.

**NFIP:** The National Flood Insurance Program, created by Congress in 1968, “offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.” (Source: [http://www.floodsmart.gov/floodsmart/pages/about/nfip\\_overview.jsp](http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp))