Recommended Floodplain Practices for Tompkins County Communities

April 2022

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Prepared for:
Tompkins County, New York

Prepared by:

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CONTENTS

SECTION 1. INTRODUCTION

The intent of this document is to provide a primer to Tompkins County communities that are interested in reducing the risk of flood and associated physical and economic impacts of flooding. This *Recommended Floodplain Practices for Tompkins County Communities* report has been prepared by Tetra Tech, Inc. (Tetra Tech) as part of the Tompkins County Resiliency and Recovery Plan. The New York State Department of State funded this project through a resiliency and recovery grant.

Flood events comprise 90% of the damages to declared disasters in the United States (Insurance Information Institute, n.d.). Due to differing floodplain extents within their boundaries, municipalities in Tompkins County have varying degrees of vulnerability to flood events. Strong floodplain management can reduce or eliminate the impacts of flooding, which causes health, safety and economic impacts to residents, businesses, and visitors in Tompkins County. The *Tompkins County Resiliency and Recovery Plan* is a multi-faceted process to identify areas that can provide improved resilience to preparing for and recovering from natural hazard events. As part of that process, the County developed the *Tompkins County Hazard Mitigation Plan: 2021 Update*, which provides information on county-wide and community-specific flood vulnerabilities.

To further support communities in reducing flood risk, the County is providing information and resources through the *Tompkins County Resiliency and Recovery Plan* by developing this stand-alone *Recommended Floodplain Practices for Tompkins County Communities* document. This document is intended to provide guidance on best practices to reduce flooding risks and damages for communities in the floodplains. The guidance will include recommendations for establishing sound floodplain management procedures that can be integrated into daily operations at a community and local level. In addition, by implementing the guidance, a community will align its floodplain management documented activities to those required for participation in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) Community Rating System (CRS) program[1]. Participation in the CRS program yields benefits to communities by lowering flood risk and further provides economic benefits to NFIP insured property owners.

However, CRS participation may not be appropriate for all communities in the County, so each locality must evaluate the cost of staff time for administration versus the benefits of joining the program. Participation in the CRS program is based on documented and programmatic activities Therefore, the program would require significant staff support to join and sustain required administration and activities. Participating communities must complete a full verification every five years thereafter. If a community cannot demonstrate that it continues to implement credited program activities and mandatory requirements, then it will no longer be eligible for NFIP premium discounts. It is estimated in an informal review of communities across the country involved in CRS that implementation requires approximately five hours a week to operate a community NFIP CRS program based on review of participating communities across the country and depending on the level of participation/class of a community. This level of effort is inclusive of responding to resident inquiries, outreach, maintenance of records and data, and annual and cycle reporting. Given this heavy administrative burden, CRS may not be a worthwhile effort for many communities in Tompkins County.

This document summarizes some of the most helpful aspects that would benefit all communities in reducing flood risk.

[1] *Common floodplain management terms are highlighted throughout this document and are provided as a resource in Appendix A. Acronyms and Definitions.*

This document includes recommended, programmatic floodplain management practices in four main areas, which include: Flood Risk, Regulations, Planning, and Administration. Detailed information provided in Section 3:

This document is structured to provide an introduction to the basics of floodplain management, outline the various aspects of the FEMA's NFIP CRS as a basis for developing a program, and then summarizes considerations and recommendations for determining how to improve floodplain administration and management. This information as well as the toolkit of resources provided in the appendices are intended to enable a community to make an informed decision as to the amount of personnel resources to dedicate to improving its floodplain management program.

Basics of Good Floodplain Management

Community-based efforts to prevent or reduce the risks and impacts of flooding result in a community with more resilience. The practice of floodplain management within a jurisdiction saves lives, increases public safety, promotes natural and beneficial functions of floodplains, and enables community residents to be more resilient. A comprehensive program built on daily practices and regulatory standards is essential, and this is important as communities have historically developed in and around floodplains.

Top Recommendations

There are a few basic and common-sense concepts to provide a foundation for establishing an effective floodplain management program. A quick reference list of the recommended "Top Ten" practices to establish and maintain a sound floodplain management program for Tompkins County communities includes the following actions in Table 1. (More specific recommendations identified as a result of the *Town of Lansing, NY Community Rating System (CRS) Baseline Assessment and Potential Impact Report* are provided in Section 3 of this document.)

Table 1: Top Ten Practices to Establish and Maintain a Sound Floodplain Management Program for Tompkins County Communities

Recommendation	Why?
Work to be aware of, and address, any development that could increase flood risk.	*While specific recommendations are important, an awareness of any actions that may increase community flood risk will support the implementation of a strong floodplain management program.*
Adopt, enforce, and re-evaluate ordinances for floodplain management that include higher regulatory standards.	*Implementing higher standards to address future flood conditions will provide the potential reduction in future damages.*
Avoid floodplain development. If allowed, require and file permits for all types of development in the special flood hazard area (SFHA), or 1% annual chance flood area, and conduct regular field inspections to ensure compliance with regulations.	*Permitting provides a method to effectively reduce and manage floodplain development to ensure that any new - or modified - structures are built to standards that minimize future flood damages both to themselves and adjacent parcels.*

Recommendation	Why?
Require "as-built" elevations to be captured to document compliance with the community's flood damage prevention ordinance (Elevation Certificates or Floodproofing Certificates).	*Ordinances are only as good as their enforcement, so thorough review of "as-built" elevations will confirm proper construction in accordance with regulations.*
Require new or renovated homes to be elevated to above the Base Flood Elevation (BFE) or additional freeboard for structures.	*Requiring elevation above BFE proportionately reduces future flood damages.*
Require floodproofing for all non-residential buildings in the SFHA.	*Floodproofing is a FEMA-approved mitigation measure for non-residential buildings that provides a number of options in the floodplain to reduce the potential for flood damages.*
Carefully consider all variance requests to ensure compliance with regulatory flood standards.	*Approval of variances that do not comply with the flood damage prevention ordinance will increase the risk of damages due to flooding.*
Maintain accuracy of flood maps and notify FEMA of any physical changes that could affect map accuracy.	*Accurate maps that indicate flood risk helps to support strong management of development in floodprone areas to minimize or avoid future flood impacts or damages.*
Maintain a system of back-ups for all floodplain records, including permits, certificates, and plans.	*It is important that documentation to administer the local floodplain management program be protected from damage due to flooding or other events that might destroy records.*
Utilize digital (websites and social media) and physical (flyers, mailouts, etc.) outreach opportunities to regularly inform the public of floodplain risks and activities to promote both public safety and continuity in the community's floodplain management program	*A wide range of media platforms will enhance the outreach to property owners and community members to build an informed community to support active management of flood risk.*

What is Floodplain Management?

Floodplain management (FPM) is the operation of a community program for preventative and corrective measures to reduce flood damage and preserve and improve natural floodplain areas, where appropriate. Adopting and enforcing local floodplain management ordinances provide flood loss reduction and building standards for new and existing development. The enactment and enforcement of these ordinances allows all citizens within the jurisdiction to obtain flood insurance through the National Flood Insurance Program (NFIP).

Common Types of Local Floodplain Management Practices:

- Nonstructural – create enhanced FPM regulations and mitigation measures

- Structural – install hardened and bioengineered dams, levees, floodwalls, channel alterations, and on-site detention
- Educational – promote information on preparedness and flood insurance
- Natural Systems – advance strategies to ***preserve*** resources and functions as close to natural as possible, and to ***restore*** them to re-establish natural functions

What is the NFIP and Why is it Important?

With the passage of the National Flood Insurance Act of 1968 (NFIA) on August 1, 1968, the United States Congress established the National Flood Insurance Program. The two main goals of the NFIA are to

- Reduce future flood damage, and
- Protect property owners. In 1973, the NFIP was amended to require the purchase of flood insurance for some homeowners in high-risk flood zones.

In 1979, the NFIP was officially made a part of the Federal Emergency Management Agency (FEMA, 2020).

NFIP participation is voluntary, but communities are highly incentivized to participate in that communities must participate in the NFIP to be eligible for federal flood insurance and post-disaster financial assistance. Since the 1970s, several changes have been made to the NFIP. The Flood Insurance Reform Act of 2004 eliminated rebuilding incentives for repetitive loss properties, while increasing claims transparency and establishing a training requirement for insurance professionals (FEMA, 2020). The 2014 Homeowner Flood Insurance Affordability Act additionally placed a limit on flood insurance rate increases (FEMA, 2020).

The basis for floodplain management are core to the underlying concepts of the NFIP. These concepts include:

- Reduced emphasis on structural flood control measures; increased emphasis on nonstructural FPM measures
- Reduced federal disaster costs: shift burden from general taxpayers to floodplain occupants
- Provision of insurance coverage not generally available on the private market
- Requirement of new floodplain development to meet construction standards that protect buildings against future flood damage
- Promotion of sound floodplain management practices
- Provision of better assistance to flood victims

NFIP Participation Requirements

In order to participate in the NFIP, communities are required to adopt and enforce a floodplain management ordinance that meets **or exceeds** requirements specified under 44 CFR § 59.2 & 60.3 (Code of Federal regulations). Continued eligibility is based on maintaining compliance through enforcement of the provisions of the floodplain management ordinance and compliance is monitored by FEMA via an in person audit process called a Community Assistance Visit (CAV).

NFIP Non-Participation Ramifications

The ramifications of not participating in in the NFIP, include ineligibility for property owners within the community to procure federally backed flood insurance. In addition, other ramifications are possible ineligibility of the community for post-disaster federal assistance.

What is Floodplain Development?

Development in the floodplain increases flood risk and potential damages due to flood events. In order to manage the impacts of flooding, it is important to understand the concept of development in the floodplain and its

associated implications. Per the NFIP, development is any human-caused change to improve or unimprove real estate including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations.

Development in a floodplain is regulated by the local municipal government, which is responsible for approving or denying development permits in flood-prone areas. The code enforcement official or building inspector for development in floodplains is often the designated floodplain administrator, though municipalities can establish another official. Some Tompkins County communities have selected the Director of Planning as the designated floodplain administrator.

The Community Rating System (CRS)

As summarized above, the CRS is a formal program that provides a strong framework to develop a robust and implementable floodplain management program for communities, while also likely garnering reductions in flood insurance premiums for property owners in the community. The program can, however, take a considerable amount of staff time for annual reporting and administration. Tetra tech has estimated based on an analysis of its clients enrolled in CRS, that administering the program can, on average, take 13% of a full-time employee's time.

However, even if a community is not a good candidate for formal participation in the program, incorporating key activities into community operations can result in a reduction of flood risk, and, hence, flood damages and the related economic impacts.

The CRS is administered by the Insurance Services Office (ISO)/Verisk, under the NFIP on behalf of FEMA. Per the CRS Fact sheet dated June 30, 2021, the CRS was implemented in 1990 as a voluntary program for recognizing and encouraging community floodplain management activities that exceed minimum NFIP standards. Any community fully compliant with NFIP floodplain management requirements may apply to join the CRS. As of October 2021, according to FEMA, over 1,500 communities participate in the CRS by implementing local mitigation, floodplain management, and outreach activities that exceed the minimum NFIP requirements. These CRS communities include over 3.6 million policyholders, accounting for more than 70% of all NFIP flood insurance policies. Despite the benefits, few Upstate New York communities are enrolled in CRS. Under the CRS, flood insurance premium rates are discounted to reward community actions that support the three goals of the program:

- Reduce flood damage to insurable property
- Strengthen and support the insurance aspects of the NFIP
- Encourage a comprehensive approach to floodplain management

CRS Class Ratings

The CRS uses a Class Rating System that is similar to fire insurance rating to determine flood insurance premium reductions for residents. As noted in the CRS Coordinator's Manual, CRS Classes are rated from 9 to 1. Most jurisdictions enter the program with a rating of a CRS Class 9, 8, or 7. These levels entitle residents in Special Flood Hazard Areas (SFHAs) to a 5% discount on their flood insurance premiums for each class achieved (or a Class 9 a 5% discount, a 10% discount, for Class 8, and a 15% discount for a Class 7). As a community engages in additional mitigation activities, its residents become eligible for increased NFIP policy premium discounts (See FEMA). CRS Class changes traditionally occur on April 1 and October 1 of each year. A fact sheet providing additional information is provided in Appendix A. For more information on these prerequisites, please refer to the National Flood Insurance Program Community Rating System Coordinator's Manual (*FIA-15/2017; OMB No. 1660-0022*) and 2021 CRS Addendum document.

CRS Prerequisites

A community wishing to participate in the CRS program must demonstrate that it meets and complies with six prerequisites. Additional prerequisites are required for communities that wish to achieve CRS Class 8, 6, 4 or 1 ratings.

The prerequisites for CRS participation are as follows:

1. The community must have been in the regular phase of the NFIP for at least one year.
2. The community must be in full compliance with the minimum requirements of the NFIP and must have received acknowledgement of this correspondence from the regional office of the FEMA within six months prior to community's CRS application visit.
3. The community must maintain FEMA Elevation Certificates on all new buildings and buildings undergoing substantial repairs or improvements constructed in the SFHA after the community applies for CRS credit with a 90% accuracy rate. In addition, the community must develop a Construction Certificate Management Plan (CCMP).
4. If there are one or more repetitive loss properties in the community, the community must take certain actions. A repetitive loss property is any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling ten-year period since 1978. These include reviewing and updating the list of repetitive loss properties, mapping repetitive loss area(s), describing the causes of the losses in each area(s), and reaching out annually to those property owners (in the prescribed areas) to discuss flood mitigation opportunities. A community with 50 or more repetitive loss properties must also prepare a plan for addressing its repetitive flood problem.
5. The locality? must maintain all flood insurance policies that it has been required to carry on properties owned by the community.
6. If a coastal community receives a draft Flood Insurance Rate Map (FIRM) that delineates the Limit of Moderate Wave Action (LiMWA), the community must agree to show the LiMWA on its final published FIRM. Although showing a LiMWA on a FIRM is voluntary for non-CRS communities, it is a prerequisite for CRS participation. (This is not applicable for Tompkins County communities).
7. As a prerequisite for achieving CRS Class 8, communities must adopt and enforce at least one foot of freeboard for residential buildings in all numbered zones of the SFHA.

SECTION 2. CONSIDERATIONS IN DETERMINING IF CRS IS RIGHT FOR YOUR COMMUNITY

The cost of joining the CRS and maintaining participation can often be an unknown factor to communities, leaving municipalities in the dark when weighing the decision to get involved in program.

The CRS is a voluntary program that rewards communities for their floodplain activities. While communities will likely find floodplain management improvements valuable, CRS membership can be a complicated program to maintain, and requires dedicated staff members and effective coordination to maximize the benefits of the program. Having a local CRS coordinator is important to maintaining necessary reporting. This person is typically a local floodplain manager or engineer who is versed in the knowledge necessary to maintain or improve CRS status. Keeping abreast of regulatory changes is also important for CRS management, as well as attending training sessions made available through FEMA.

FEMA Region 2 provided aggregate data on NFIP policies, past claims, and repetitive loss properties (RL) in Tompkins County. According to FEMA, a RL property is a NFIP-insured structure that has had at least two paid flood losses of more than $1,000 in any 10-year period since 1978 (FEMA 2020).

Table 2 summarizes the current NFIP policies, claims, and repetitive loss statistics for Tompkins County.

Table 2. Repetitive Loss Properties and NFIP Data for Tompkins County

Jurisdiction	Number of Repetitive Loss Properties	Number of Policies	Number of Claims	Total Losses Claimed
Caroline (T)	4	14	21	$72,531
Cayuga Heights (V)	2	2	4	$15,791
Danby (T)	0	4	0	$0
Dryden (T)	2	23	9	$93,330
Dryden (V)	2	27	20	$114,915
Enfield (T)	0	0	0	$0
Freeville (V)	1	7	4	$17,760
Groton (T)	0	10	7	$23,919
Groton (V)	0	6	14	$620,881
Ithaca (C)	7	148	103	$249,490
Ithaca (T)	0	37	20	$36,215
Lansing (T)	22	35	56	$466,075
Lansing (V)	0	7	5	$6,589
Newfield (T)	2	9	6	$52,254
Trumansburg (V)	0	3	3	$902
Ulysses (T)	0	19	3	$5,798
Tompkins County (Total)	**42**	**351**	**275**	**$1,776,450**

Source: FEMA Region 2, 2020
Note: NFIP = National Flood Insurance Program, V = Village, T = Town, C = City

Credit Points and Classification

A community receives a CRS classification based upon the total credit for its activities. There are 10 CRS classes. Class 1 requires the most credit points and gives the greatest premium reduction or discount. A community that does not apply for the CRS, or does not obtain the minimum number of credit points, is a Class 10 community and receives no discount on premiums. The qualifying community total points, CRS classes, and flood insurance premium discounts are shown in Table 2. These rates align with the prevailing rating prior to premium adjustments due to FEMA's NFIP Risk Rating 2.0 rate structure and provide a general estimate of discounts available prior to 4/1/22.

FEMA is currently in the process of introducing the biggest change to the way the NFIP calculates flood insurance premiums, known as Risk Rating 2.0, since the inception of the NFIP in 1968. The new premium rates went into effect on October 1, 2021, for new NFIP policies only. The new rates for existing NFIP policyholders have taken effect on April 1, 2022. Risk Rating 2.0 will continue the overall policy of phasing out NFIP subsidies, which began with the Biggert-Waters Flood Insurance Reform Act of 2012 and continued with the Homeowner

Flood Insurance Affordability Act of 2014. Under the change, premiums for individual properties will be tied to their actual flood risk. Because the limitations on annual premium increases are set in statute, Risk Rating 2.0 will not be able to increase rates faster than the existing limit for primary residences of 5%-18% increase per year. (National Flood Insurance Program: Current Rating Structure and Risk Rating 2.0 (Congressional Research Service) https://sgp.fas.org/crs/homesec/R45999.pdf).

Table 1. CRS classes, credit points, and premium discounts

CRS Class	Credit Points	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

Municipalities that apply to the CRS and obtain a CRS classification for which the municipality receives a benefit (CRS Class 1-9) will be required to recertify annually. Each year, the municipality official must recertify that the community is continuing to implement the activities for which CRS credit has been provided. Recertification forms are sent to each participating community annually by their ISO/CRS specialist. Communities must complete the updated recertification forms annually. The documentation requested supports performance of activities that are implemented regularly, such as outreach projects or maintenance procedures.

Should a municipality garner 500 to 999 points, it would enter the CRS at the base level (Level 9), which results in a discount of 5% to flood insurance policy holders. Before applying to the CRS, the municipality should review its capability for addressing CRS eligible activities. Again, these rates align with the prevailing rating prior to premium adjustments due to FEMA's NFIP Risk Rating 2.0 rate structure and provide a general estimate of discounts available prior to 4/1/22.

However, should a community determine that it does not have the resources or desire to participate formally in the CRS, certain best practices may be institutionalized to provide the benefits of reduction of flood risk without formal participation in the program.

The following recommendations include activities that the communities in Tompkins County may undertake to reduce community flood risk and to enhance current floodplain management programs outside of CRS participation.

SECTION 3. RECOMMENDATIONS FOR IMPROVEMENT OF OVERALL FLOODPLAIN MANAGEMENT PROGRAMS

While the base level of floodplain management is defined by the minimum standards of NFIP participation, it is recommended that communities wishing to better manage flood risk are implementing the Top Ten activities noted in Section 1 of this document.

For those communities wishing to further reduce flood risk and damages due to flood events, additional activities to enhance their floodplain management program should be considered. These recommendations are based on an assessment of the floodplain management of the *Town of Lansing, New York Community Rating System (CRS) Baseline Assessment and Potential Impact Report* and assume that the floodplain management capabilities reflected in the Town assessment largely apply to most communities in Tompkins County.

First and foremost, communities must work to be aware of and address any development that could increase flood risk. This summarizes the foundation of a strong floodplain management program as noted in the *Top Ten Practices to Establish and Maintain a Sound Floodplain Management Program for Tompkins County Communities* provided in Section 1 of this document.

These suggestions are organized around the four areas of floodplain management concern – Flood Risk, Regulations, Planning, and Administration. Recommendations are then organized around the areas deemed to be "programmatic" or the basis of a sustainable program and institutionalized in a manner to provide an ongoing structure for new or additional personnel.

For reference, the "Top Ten" recommendations are highlighted in ***bold text*** below.

Recommendations for Improvement of Overall Floodplain Management Programs

Flood Risk

Mapping

- **Maintain accuracy of maps and notify FEMA of changes.**
    - *Accurate maps that indicates flood risk helps to support strong management of development in floodprone areas to minimize or avoid future flood impacts or damages.*
- Map and update the list of community's repetitive loss properties annually and conduct regular outreach to those property owners regarding potential risk reduction actions.
    - *Mapping provides an efficient method to identify areas of vulnerable structures.*

Acquisition and Relocation

- Acquire floodprone properties and return them to naturally functioning open space.

- *Eliminating floodprone structures reduces the potential for flood damages while transforming the property to open space increases the natural functions of the property to absorb flood waters to decrease local flood risk.*

Data Collection

- Create formal protocol for capturing perishable data, such as high-water marks or detailed damage assessments from an event.
    - *Documentation of the magnitude and extent of flooding can inform updates to flood maps to identify flood risk more adequately. In addition, documentation of this ephemeral data via photos or GIS data supports post-disaster reimbursement of recovery costs as well as justification of avoided costs when applying for mitigation grant funding.*

Regulations

Codes and Ordinances/Higher Regulatory Standards

- **Adopt, enforce, and re-evaluate ordinances for floodplain management that include higher regulatory standards.**
    - *Implementing higher standards to address future flood conditions will provide reduce future damages.*
- **Require new or replacement homes to be elevated to above the Base Flood Elevation (BFE).**
- *Requiring elevation above BFE – or additional freeboard for structures - proportionately reduces future flood damages.* ***Require floodproofing for all non-residential buildings in the SFHA.***
    - *Floodproofing is a FEMA- approved mitigation measure for non-residential buildings in the floodplain that provides a number of options to reduce the potential for flood damages.*
- ***Carefully consider all variance requests to ensure compliance with regulatory flood standards.***
    - *Approval of variances that do not comply with the flood damage prevention ordinance will increase the risk of damages due to flooding.*
- In order to regulate and implement standards for existing structures, track the cost of improvements to structures in the floodplain to trigger compliance with the flood damage preventions ordinance once the cumulative improvement value is greater than or equal to the pre-determined threshold of 50 percent or greater of the market value of the structure.
    - *By enforcing cumulative improvement regulations, the structures located in the floodplain will be brought into compliance with regulations.*
- Update Flood Damage Prevention Ordinance to require a freeboard for manufactured homes and mechanical equipment in numbered zones.
    - *Freeboard regulations support reduced flood damages and are required to participate in the CRS.*
- Elect to use a threshold lower than 50 percent for substantial improvements and establish cumulative substantial improvements.

- *Lowered thresholds incentivize the compliance of pre-existing structures with regulatory requirements in the floodplain. Tracking the total or cumulative value of improvements accelerates meeting the 'trigger threshold' as these are tracked over time. Compliance with regulations for grandfathered structures that do not meet the requirements of the flood damage prevention ordinance.*

Industry Rating

- Examine enhancements to the building code enforcement program (including staff training) and track those enhancements through the BCEGS® rating.
  - *Improved code enforcement translates into improved floodplain management and reduced risk of future damages.*
- Become a StormReady community.
  - *Benefits of participating in the StormReady program provides a grassroots approach to help communities develop plans to handle all types of extreme weather.*

Open Space Preservation

- Establish deed restrictions or conservation easements on municipally-owned open space parcels.
  - *Conservation easements can ensure the ecosystem benefits of open space for the reduction of flood effects will occur in perpetuity. If the property is acquired using FEMA pre-disaster mitigation funds, these formal protection mechanisms are mandatory.*

Stormwater Management

- Institute more stringent requirements for stormwater management, such as regulating development or designing stormwater management to withstand more intense storms.
  - *Increased stormwater management regulations reduces future localized flooding.*
- Develop a watershed management plan.
  - *A watershed management plan provides a roadmap to reduce flood risk on a regional basis.*

Planning

Plan Integration

- Update the municipal comprehensive plan and land use ordinances to ensure land use to avoid development of floodprone areas and incorporate actions recommended as part of the community's Annex in the *Tompkins County Hazard Mitigation Plan: 2021 Update*. Ensure appropriate floodplain management staff, including the floodplain administrator and building code officials, are involved in the development and implementation of the municipal comprehensive plan and land use ordinances.
  - *Alignment and integration of planning efforts increases the effectiveness of plans and improves the probability of implementing flood mitigation activities.*
- Adopt a National Incident Management System that is compliant with Emergency Operations Plan/Community Emergency Management Plan.

- *This activity will bolster the municipality's response and preparedness for flooding and other hazards. The proposed post-disaster action plan should address standardizing damage assessments and address reconstruction in the wake of a flood event.*

- Develop a flood warning and response plan.
  - *This will integrate municipal emergency operations with flood mitigation planning to address flooding and gain additional credit through the CRS.*
- Develop a substantial damage response plan to provide a procedure for capturing post-event perishable or temporary data, such as high-water marks, and to guide efficient post-disaster efforts to address regulatory requirements.
  - *As required by the CRS, this will support resilient recovery after a flood event.*
- Develop policies and procedures for determining substantial damage and improvements when permit applications are received. Ensure that only the structure's value is part of the determination or percent of damage.
  - *By carefully documenting cumulative improvements, the structures located in the floodplain will be brought to compliance with regulations.*

Administration

Record Keeping

- ***Avoid floodplain development. If allowed, require permits for all types of development in the special flood hazard area (SFHA), or 1% annual chance flood area, and conduct field inspections to ensure compliance with regulations.***
- *Permitting provides a method to effectively reduce and manage floodplain development to ensure that any new - or modified structures - are built to standards that minimize future flood damages both to themselves and adjacent parcels.*
- ***Require "as-built" elevations in order to document compliance with the community's flood damage prevention ordinance (Elevation Certificates or Floodproofing Certificates).***
- *Ordinances are only as good as their enforcement, so thorough review of "as-built" elevations will confirm proper construction in accordance with regulations.* ***Maintain a system of back-ups for all floodplain records including permits, certificates, and plans.***
  - *It is important that local floodplain management program documents be protected from potential hazard event damages.*
- Store records in an offsite location (outside the SFHA), ensuring that records are transferred or copied once a year.
  - *Preservation of records is important to administer the floodplain program and is required to participate in the CRS.s.*
- Maintain information on flood problems not shown on the FIRM. Provide information above and beyond the requirements for basic FIRM information, such as local drainage problems and mapping, that shows the importance of natural floodplain functions.
  - *FIRMs provide information regarding regulatory floodplains but are not developed to capture localized flood conditions, such as urban or stormwater flooding. By mapping and*

providing information on these additional flood hazard areas, a community can reduce potential flood risk.

- Provide information necessary to rate a flood insurance policy and ensure requests are documented using a standard operating procedure.
    - *Information, such as the NFIP Community Number, FIRM date, flood zone, BFE, and location with respect to the floodway, provides property owners the data to understand the implications of flood risk on the costs of maintain a property in a floodprone area. This information can inform the decision to relocate a structure or improve it to reduce the risk of future damages.*

Education

- Train floodplain administrator and additional staff (such as building code officials) to become certified floodplain managers or complete FEMA's Emergency Management Institute (EMI) courses.
    - *An educated staff will need to support the goals of the floodplain management program.*

Outreach Projects

- ***Utilize digital (websites and social media) and physical (flyers, mailouts, etc.) outreach opportunities to regularly inform the public of floodplain risks and activities to promote both public safety and build continuity in the community's floodplain management program.***
    - *A wide range of media platforms will enhance the outreach to property owners and community members to build an informed community to support active management of flood risk.*
- Organize and undertake outreach specific to residents and property owners in SFHAs. Outreach efforts should cover preparation for disasters, provide information about mitigation and warnings about flooding events, and increase the amount of flood information available to residents.
    - *Education of property owners supports the effectiveness of implementation of a strong program to reduce future damages due to flood events. In addition, this is a requirement to participate in the CRS and a good practice to educate property owners to incentivize proactive efforts to reduce flood risk.*
- Increase the use of pre-existing social media accounts and municipal outreach platforms to conduct annual outreach.
    - *Utilizing existing platforms for outreach can increase the effectiveness of outreach and education.*

Hazard Disclosure

- Ask or mandate real estate agents to notify those interested in purchasing properties located in the SFHA about flood hazards and flood insurance purchase requirements and to provide brochures or handouts that advise potential buyers to investigate the flood hazard for a property.
    - *Ensuring that information regarding flood risk is communicated to potential property owners is essential in managing risk.*

Flood Protection Information

- Provide access to the nine publications listed in the CRS Coordinator's Manual at the municipal library and on public websites.
  - *Availability of information provides structure owners access to educational materials. This is required for participation in the CRS.*
- Create a municipal flood mitigation webpage to provide flood protection information. Information can include documents that cover flood hazards, flood protection, and natural floodplain functions available at municipal libraries Additional information can include aquatic and riparian habitat guides, information on floodplain management, and guides to flood mitigation.
  - *Availability of information provides structure owners access to educational materials.*

Flood Protection Assistance

- Provide assistance to locate and apply for funding for mitigation, flood insurance, SBA grants, etc.
  - *Community support can enable structure owners to fund mitigation projects that otherwise may not be affordable.*

Flood Insurance Promotion

- Include flood insurance brochures with building permits or other distribution directly to property owners.
  - *Providing educational materials supports the effectiveness of the floodplain management program enforcement.*
- Hold an annual community town hall meeting or open house to promote and discuss flood insurance.
  - *Annual or more frequent outreach events can incentivize mitigation of structures due to the desire to reduce flood insurance premiums and awareness of flood risks.*

Open Space Preservation

- Establish deed restrictions on open space parcels.
  - *Deed restrictions ensures that open space will be preserved for posterity and that all development will be prevented on these parcels. This will provide natural and beneficial functions to reduce the effects for flooding.*

Drainage System Maintenance

- Develop and update an inventory and map of natural and manmade water conveyance systems; and develop procedures for performing and documenting annual inspection and maintenance.
  - *Comprehensive inspection and maintenance of water conveyance systems is a preventative measure to avoid localized flooding. Documentation supports administration.*
- Establish a capital improvement program to correct drainage problems.
  - *Available funding to address drainage problems will support the reduction of flood risk.*

Record-keeping and Flood Data Maintenance

- Organize and formalize the process for record-keeping of development changes in the SFHAs.
  - *Detailed records provide a history of development to understand and report on the changing risk in the floodplain.*
- Include building elevations as digitized information in available mapping.
  - *This supports the effective enforcement of the flood damage prevention ordinance and can be used as data to develop a substantial damage response plan.*

Appendix A. Acronyms and Definitions

Terms and definitions often used to discuss floodplains and floodplain management are provided in Appendix A and include the following common terms:

1-Percent Chance Flood Event: A flood event having a one percent chance of occurring in any given year. Also referred to as a 100-year flood event. There is a one in four chance of flooding during a 30-year mortgage in these higher risk areas.

0.2 Percent Flood Event: A flood event having a 0.2 percent chance of occurring in any given year. Also referred to as a 500-year flood event.

100-Year Flood Event: A flood event having a one percent chance of occurring in any given year. Also referred to as 'base flood'.

500-year Flood Event: A flood event having a 0.2 percent chance of occurring in any given year.

Base flood: The flood having a 1% chance of being equaled or exceeded in any given year, also known as the "100-year" or "1% chance" flood. The base flood is a statistical concept used to ensure that all properties subject to the National Flood Insurance Program are protected to the same degree against flooding.

Basement: Any area of the building having its flood subgrade (below ground level) on all sides. The NFIP recommends purchasing both building and contents coverage for the broadest level of flood protection. The Standard Flood Insurance Policy (SFIP) does not pay for removal of non-covered building or personal property items.

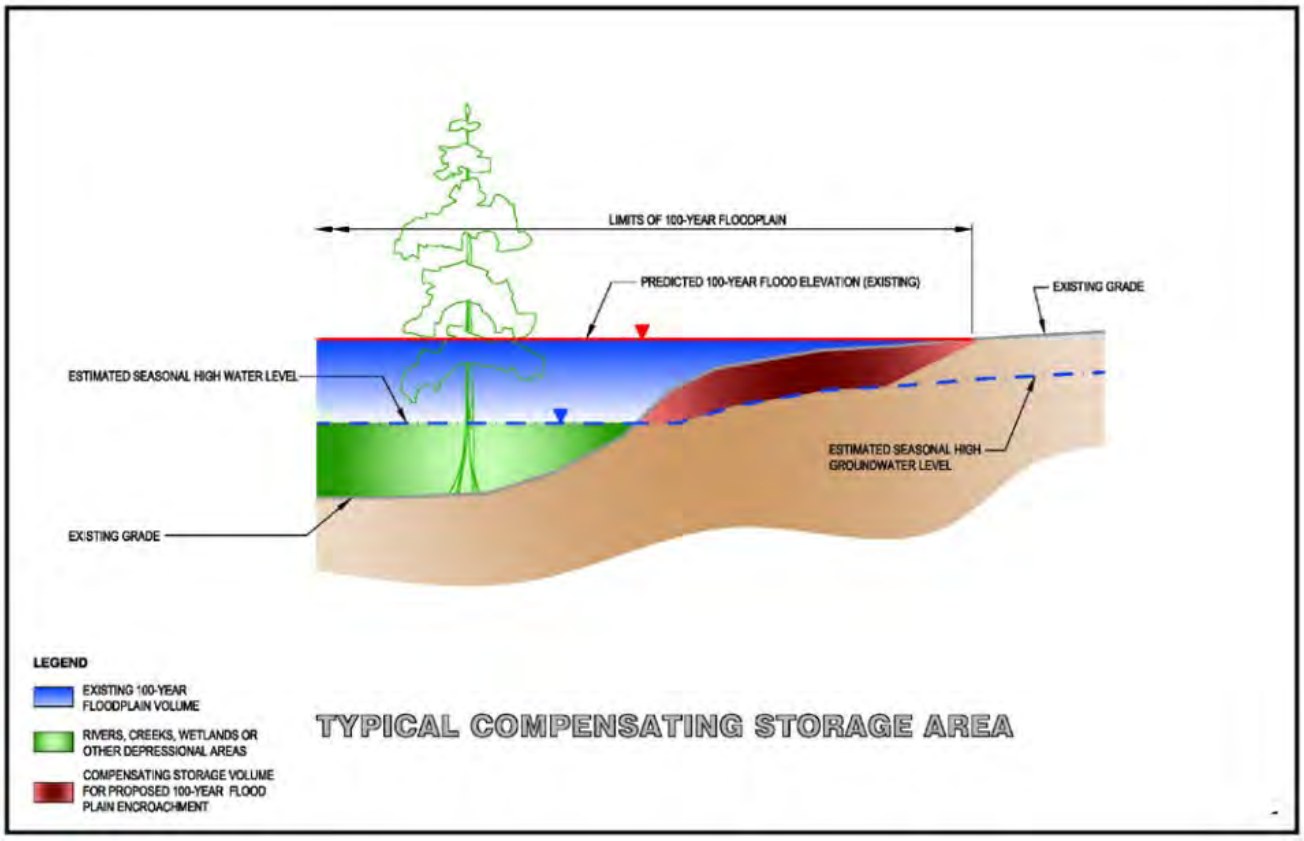
BCEGS®: Building Code Effectiveness Grading Schedule. When communities submit a modification or undergo a cycle verification, they must meet the BCEGS prerequisite in order to achieve or remain a CRS Class 6 or better.

BFE: Base Flood Elevation. The elevation of the crest of the base or 1% annual chance flood (also known as the 100-year flood).

Category B Community: A community with at least one, but fewer than 50, repetitive loss proper-ties that have not been mitigated.

Compensatory Storage: The NFIP floodway standard in 44CFR 60.3 (d) restricts new development from obstructing the flow of water and increasing flood heights. However, this provision does not address the need to maintain flood storage. Especially in flat areas, the floodplain provides a valuable function by storing floodwaters. When fill or buildings are placed in the flood fringe, the flood storage areas are lost and flood heights will go up because there is less room for the floodwaters. This is particularly important in smaller watersheds which respond sooner to changes in the topography. One approach that may be used to address this issue is to require compensatory storage to offset any loss of flood storage capacity. Some communities adopt more restrictive standards that regulate the amount of fill or buildings that can displace floodwater in the flood fringe. Community

Rating System credits are available for communities that adopt compensatory storage requirements (https://www.fema.gov/glossary/compensatory-storage)



Source: https://www.envisionalachua.com/files/managed/Document/865/5f-i_Stormwater_Management.pdf. Technical memorandum, stormwater Management, Envison Alachua Sector Plan, May 1. 2015, revised June 4, 2015. Accessed 2/28/22.

Figure 1. Compensatory Storage Offsets Reduction of Water Storage Due to Fill in the SFHA

CRS: Community Rating System.

Design Flood Elevation (DFE): The elevation of the highest flood (generally the BFE including freeboard) that a retrofitting method is designed to protect against. Also referred to as Flood Protection Elevation.

DFIRM: Digital Flood Insurance Rate Map.

Development: Any human-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment and materials. Any form of development within the floodplain can affect the flood risk to and vulnerability of adjacent structures. (Federal Emergency Management Agency, n.d.)

FEMA: Federal Emergency Management Agency. Most of the National Flood Insurance Program field work and community coordination is done by the 10 FEMA Regional Offices, which are listed at https://www.fema.gov/fema-regional-contacts.

FIRM: Flood Insurance Rate Map. An official map of a community, on which FEMA has delineated both the Special Flood Hazard Areas and the risk premium zones applicable to the community. Most FIRMs include detailed floodplain mapping for some or all of a community's floodplains. In most cases, the date of the first FIRM issued to a community is the date the community entered the Regular Program of the National Flood Insurance Program.

Floodplain: Any land area susceptible to being inundated by flood waters from any source. A Flood Insurance Rate Map identifies most, but not necessarily all, of a community's floodplain as the Special Flood Hazard Area.

Flood Damage Prevention Ordinance:– A regulation that requires that a local government regulate development in local floodplains that accommodate current and future-land use conditions. Tis can greatly reduce future flooding impacts, preserve greenspace and habitat, and protect local water quality. (North Georgia Water, 2013))

Freeboard – A margin of safety added to the base flood elevation to account for waves, debris, miscalculations, or lack of data. Following major floods and severe storms, several communities have increased their freeboard on new and existing structures to limit future damages. (Federal Emergency Management Agency, n.d.)

IBC: International Building Code

IRC: International Residential Code

ISO: The Insurance Services Office, Inc., a corporation that conducts verification of community CRS credit and program improvement tasks for FEMA.

Lowest Floor – The lowest floor of the lowest enclosed area (including basement) of a building. Floods damage areas of buildings that are not elevated above the flood level. If the lowest floor of a property clears the Base Flood Elevation level, the property owner may qualify for lower insurance rates.

Natural Floodplains Function Plan: A plan that protects one or more natural functions within the community's Special Flood Hazard Area.

NFIP: National Flood Insurance Program.

No Adverse Impact (NAI) - A floodplain management approach that ensures the action of any community or property owner, public or private, that does not adversely impact the property and rights of others. NAI floodplain management practices extend to managing development in local watersheds and mitigate adverse impacts (increase in flood velocity, flows, erosion, degraded water quality, etc.) Using a local watershed or community plan may be beneficial in establishing the NAI approach. (ASFPM, 2003)

Programmatic: The approach to institutionalizing roles, responsibilities, and documentation of activities and procedures to support a sustainable program to ensure continuity despite potential change in elected officials, management personnel, and staff changes.

PPI: A Program for Public Information can help design an entire public information program, not just outreach projects. A Program for Public Information that covers other types of public information endeavors, such as a website and technical assistance, can result in increased credit under other activities. Up to 80 points added to Outreach Project credits and up to 20 points added to Flood Response Preparations credits, for projects that are designed and implemented as part of an overall public information program.

Regulatory Floodplain: For purposes of the Community Rating System, the regulatory floodplain is the flood-prone land area that is subject to a community's floodplain development or floodplain management regulations. The regulatory floodplain includes, at a minimum, the Special Flood Hazard Area (SFHA) (see definition) but

may also incorporate other areas outside the SFHA that are also subject to a community's floodplain development or floodplain management regulations.

Risk Rating 2.0: FEMA is updating the National Flood Insurance Program's (NFIP) risk rating methodology through the implementation of a new pricing methodology called **Risk Rating 2.0**. The methodology leverages industry best practices and cutting-edge technology to enable FEMA to deliver rates that are actuarily sound, equitable, easier to understand and better reflect a property's flood risk.

Repetitive Loss Property: A property for which two or more National Flood Insurance Program losses of at least $1,000 each have been paid within any 10-year rolling period since 1978.

SFHA: Special Flood Hazard Area: The base floodplain delineated on a Flood Insurance Rate Map that a community must regulate under the requirements of the National Flood Insurance Program. The SFHA is included in a community's regulatory floodplain.

Substantial Damage: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. (Federal Emergency Management Agency, n.d.)

StormReady: The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines on how to improve their hazardous weather operations.

Substantial Improvement: Any reconstruction, rehabilitation, addition or other improvement to a structure, the total cost of which equals or exceeds 50% of the market value of the structure before the start of construction of the improvement. This definition includes buildings that have incurred "substantial damage" regardless of the actual repair work performed. (Federal Emergency Management Agency, n.d.)

Appendix B. CRS Fact Sheet

The June 2017 Community Rating System Fact Sheet is provided in this Appendix.

FEMA Fact Sheet

Federal Insurance and Mitigation Administration

Community Rating System

June 2017

The National Flood Insurance Program (NFIP) Community Rating System (CRS) was implemented in 1990 as a voluntary program for recognizing and encouraging community floodplain management activities exceeding the minimum NFIP standards. Any community in full compliance with the minimum NFIP floodplain management requirements may apply to join the CRS.

1,444 Communities Participate in the CRS

Nearly 3.6 million policyholders in 1,444 communities participate in the CRS by implementing local mitigation, floodplain management, and outreach activities that exceed the minimum NFIP requirements.

Under the CRS, flood insurance premium rates are discounted to reward community actions that meet the three goals of the CRS, which are: (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management.

Although CRS communities represent only 5 percent of the over 22,000 communities participating in the NFIP, more than 69 percent of all flood insurance policies are written in CRS communities.

CRS Classes

The CRS uses a Class rating system that is similar to fire insurance rating to determine flood insurance premium reductions for residents. CRS Classes* are rated from 9 to 1. Today, most communities enter the program at a CRS Class 9 or Class 8 rating, which entitles residents in Special Flood Hazard Areas (SFHAs) to a 5 percent discount on their flood insurance premiums for a Class 9 or a 10 percent discount for Class 8. As a community engages in additional mitigation activities, its residents become eligible for increased NFIP policy premium discounts. Each CRS Class improvement produces a 5 percent greater discount on flood insurance premiums for properties in the SFHA.

* *CRS Class changes occur on May 1 and October 1 of each year. The data contained in this fact sheet were current through May 2017.*

Best of the Best

Seven communities occupy the highest levels of the CRS. Each built a floodplain management program tailored to its own particular hazards, character, and goals. Under these programs, each community carries out numerous and varied activities, many of which are credited by the CRS. The average discount in policyholder premiums varies according to a community's CRS Class and the average amount of insurance coverage in place.

- **Roseville, California** was the first to reach the highest CRS rating (Class 1). Floods in 1995 spurred Roseville to strengthen its floodplain management program. Today the City earns points for almost all CRS-creditable activities. The average premium discount for policies in the Special Flood Hazard Area (SFHA) is $963.
- Comprehensive planning has been a key to **Tulsa, Oklahoma** in reducing flood damage from the dozens of creeks within its jurisdiction. The City (Class 2) has cleared more than 900 buildings from its floodplains. The average SFHA premium discount is $709.
- **King County, Washington** (Class 2) has preserved more than 100,000 acres of floodplain open space and receives additional CRS credit for maintaining it in a natural state. The average premium discount in the SFHA is $722.
- **Pierce County, Washington** (Class 2) maintains over 80 miles of river levees. The County mails informational brochures to all floodplain residents each year. The average premium discount in the SFHA is $846.
- **Fort Collins, Colorado** (Class 2) uses diverse approaches to keep its large student population informed. Identifying and protecting critical facilities and continually improving its GIS system help the city maintain its exemplary program. The average premium discount in the SFHA is $703.
- **Sacramento County, California**, has steadily improved its rating since joining the CRS in 1992. Now a Class 2, the County's more significant activities are diligent public outreach on protecting waterways, purchasing flood insurance, and preparing for floods. The average premium discount in the SFHA is $395.
- **Thurston County, Washington**, has a history of planning for hazard mitigation, watershed protection, and open space. Combining that with strict development standards and stormwater management has helped the County achieve Class 2. The average premium discount in the SFHA is $577.

"FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards."

Federal Insurance and Mitigation Administration

Community Rating System

CRS Credit

A community accrues points to improve its CRS Class rating and receive increasingly higher discounts. Points are awarded for engaging in any of 19 creditable activities, organized under four categories:

- Public information
- Mapping and regulations
- Flood damage reduction
- Warning and response.

Formulas and adjustment factors are used to calculate credit points for each activity.

The communities listed below are among those that have qualified for the greatest premium discounts:

Class 1: Roseville, California

Class 2: Sacramento County, California
Fort Collins, Colorado
Tulsa, Oklahoma
King County, Washington
Pierce County, Washington
Thurston County, Washington

Class 3: Louisville–Jefferson County, Kentucky
Ocala, Florida

Class 4: Charlotte, North Carolina
Palm Coast, Florida
Charleston County, South Carolina
Maricopa County, Arizona

Benefits of the CRS

Lower cost flood insurance rates are only one of the rewards a community receives from participating in the CRS. Other benefits include:

- Citizens and property owners in CRS communities have increased opportunities to learn about risk, evaluate their individual vulnerabilities, and take action to protect themselves, as well as their homes and businesses.
- CRS floodplain management activities provide enhanced public safety, reduced damage to property and public infrastructure, and avoidance of economic disruption and loss.
- Communities can evaluate the effectiveness of their flood programs against a nationally recognized benchmark.
- Technical assistance in designing and implementing some activities is available to community officials at no charge.
- CRS communities have incentives to maintain and improve their flood programs over time.

How to Apply

To apply for CRS participation, a community must initially inform the Federal Emergency Management Agency (FEMA) Regional Office of its interest in applying to the CRS and will eventually submit a CRS application, along with documentation that shows it is implementing the activities for which credit is requested. The application is submitted to the Insurance Services Office, Inc. (ISO)/CRS Specialist. ISO works on behalf of FEMA and insurance companies to review CRS applications, verify communities' credit points, and perform program improvement tasks.

A community's activities and performance are reviewed during a verification visit. FEMA establishes the credit to be granted and notifies the community, the State, insurance companies, and other appropriate parties.

Each year, the community must verify that it is continuing to perform the activities that are being credited by the CRS by submitting an annual recertification. In addition, a community can continue to improve its Class rating by undertaking new mitigation and floodplain management activities that earn even more points.

CRS Training

CRS Specialists are available to assist community officials in applying to the program and in designing, implementing, and documenting the activities that earn even greater premium discounts. A week-long CRS course for local officials is offered free at FEMA's Emergency Management Institute (EMI) on the National Emergency Training Center campus in Emmitsburg, Maryland, and can be field deployed in interested states. A series of webinars is offered throughout the year.

For More Information

A list of resources is available at the CRS website: www.fema.gov/national-flood-insurance-program-community-rating-system. For more information about the CRS or to obtain the CRS application, contact the Insurance Services Office by phone at (317) 848-2898 or by e-mail at nfipcrs@iso.com.

"FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards."

Appendix C. SCORING POTENTIAL OF PARTICIPATION IN THE CRS PROGRAM

CRS participation can have an array of potential impacts for local communities, such as A) a stronger floodplain management program and B) reduced flood insurance premiums for residents insuring structures in SFHAs.

If a municipality wants to improve a specific aspect of its existing floodplain management efforts, the CRS has 19 credited activities to guide those efforts and allocate credits for application and maintenance of CRS status. The following subsection on CRS activities provide an overview of likely sources of credit for the Town to meet the prerequisites and participate in the CRS program.

In addition to improving floodplain management, there can be savings to community members in flood insurance premiums. The following subsection on the flood insurance impact assessments for the Town at various CRS class ratings will help inform that potential impact.

Improving Floodplain Management: Overview of CRS Activities

The following overview of CRS activities is based on the 2017 CRS Coordinator's Manual (OMB No. 1660-0022) and the 2021 CRS Addendum, which is the current effective manual as of the preparation of this report. This section will describe the objective of each of the 19 activities.

Activity 310—Elevation Certificates:

The objective of this activity is to maintain correct FEMA Elevation Certificates and other needed certifications for new and substantially improved buildings in the SFHA.

Credit is provided if the community maintains FEMA Elevation Certificates for new and substantially improved construction. A CCMP is required for the full 38 points. To participate in the CRS program, a community must maintain completed FEMA Elevation Certificates on all buildings constructed, substantially improved, or constructed in the SFHA after its initial date of application to the CRS program with 90% accuracy. The community must agree to use the certificate and make copies available to any inquirer. All discussions about FEMA Elevation Certificates also apply to FEMA's flood-proofing certificate and the residential basement flood-proofing certificate.

Maximum Points: **116**
Performance Expectations: FEMA Elevation Certificates are required for all new construction and/or substantial improvements within the floodplain from the date of application forward. FEMA Elevation Certificates must be reviewed for completeness and accuracy. Ninety percent of the obtained FEMA Elevation Certificates must be error-free for the Town to remain eligible for participation in the CRS program.

Activity 320—Map Information Service:

The objective of this activity is to provide inquirers with information about local flood hazards and flood-prone areas.

Credit is given for providing inquirers with information from the community's FIRM, including whether a property is in an SFHA, which zone, and the base flood elevation. Credit depends on publicizing this service and advising inquirers about the mandatory flood insurance purchase requirement.

Maximum Points: **90**
Performance Expectations: The map information service must be advertised annually, and the municipality must keep a log and record of the service provided.

Activity 330—Outreach Projects:

The objective of this activity is to provide the public with information needed to increase flood-hazard awareness and to motivate actions to reduce flood damage, encourage purchase of flood insurance, and protect the natural functions of floodplains.

This activity credits public information projects that reach directly out to people, rather than a service to respond to inquiries. To receive credit under this activity, a community may participate in one or more of the following types of projects:

1. Design and carry out public outreach projects.
2. Create a pre-flood plan for public information activities to be ready for the next flood. A pre-flood plan is a collection of outreach projects prepared in advance, but not delivered, until a flood occurs.
3. Implement an ongoing public information effort to design and transmit the messages that the community determines are most important to its flood safety and the protection of its floodplains' natural functions. This plan is reviewed and updated annually.
4. Create outreach projects that are conducted or endorsed by stakeholder organizations.

Maximum Points: **350**
Performance Expectations: Credited outreach projects must be disseminated at least annually to retain credit.

Activity 340—Hazard Disclosure:

The objective of this activity is to disclose a property's potential flood hazard to prospective buyers before the lender notifies them of the need for flood insurance.

Credit is provided if both potential sellers and real estate agents advise prospective property purchasers of the flood hazard. Other disclosure methods may also be credited.

Maximum Points: **80**
Performance Expectations: The community has no annual performance requirements.

Activity 350—Flood Protection Information:

The objective of this activity is to provide the public with information about flood protection that is more detailed than that provided through outreach projects.

Credit is provided if the local library maintains documents about flood insurance, flood protection, floodplain management, and the natural and beneficial functions of floodplains. Additional credit is provided if similar information is available on the community's website.

Maximum Points: 125
Performance Expectations: Web links must be tested at least annually to verify that they are still active and contain the credited information.

Activity 360—Flood Protection Assistance:

The objective of this activity is to provide one-on-one, property-specific help to people who are interested in protecting their properties from flooding.

Credit is granted if a community provides technical advice to interested property owners and publicizes the services available. This activity credits telling individuals what they can do to protect their own properties from flood damage.

Maximum Points: 110
Performance Expectations: The service must be advertised annually, and the municipality must keep a log and record of the assistance provided.

Activity 370—Flood Insurance Promotion:

The objective of this activity is to improve flood insurance coverage in the community.

This activity provides credit for a three-step process that allows communities to assess their needs and receive credit for improving their coverage. The process consists of the following three steps:

Step 1: Flood insurance coverage assessment (FIA). This credit is provided for assessing the community's current level of coverage and identifying shortcomings.

Step 2: Coverage improvement plan (CP). The plan is prepared by a committee that has representation from local insurance agents.

Step 3: Implementation of the coverage improvement plan (CPI). The plan's projects are implemented.

Maximum Points: 220
Performance Expectations: The municipality must implement the recommendations of the insurance coverage improvement plan.

Activity 410—Flood Hazard Mapping:

The objective of this activity is to improve the quality of mapping used to identify and regulate floodplain development.

This activity provides credit for developing regulatory maps and flood data for floodplain management purposes in areas where FEMA does not provide such data, or for mapping to a higher standard than that required by FEMA, as well as credit for regulating areas based on flood data not provided with the community's FIRM or for a flood study conducted to a higher standard than FEMA's Flood Insurance Study (FIS) criteria, such as sea level rise.

Maximum Points: 802
Performance Expectations: The community has no annual performance requirements.

Activity 420—Open Space Preservation:

The objectives of this activity are to:

1. *Prevent flood damage by keeping flood-prone lands free of development.*
2. *Protect and enhance the natural functions of floodplains.*

Credit is given for areas in a regulated floodplain that are permanently preserved as open space. Additional credit is given for parcels of open space that are protected by deed restrictions or that have been preserved in or restored to their natural state. Credit is also given for measures that require or encourage less development in floodplains.

Maximum Points: 2,870
Performance Expectations: The community has no annual performance requirements unless there is a change to the regulations or zoning ordinances.

Activity 430—Higher Regulatory Standards:

The objective of this activity is to credit regulations to protect existing and future development and natural floodplain functions that exceed the minimum criteria of the NFIP.

Under this activity, numerous higher regulatory approaches are credited that provide more protection to new development, redevelopment, and existing development. These include freeboard, foundation protection, more stringent building-improvement rules, protection of critical facilities, preservation of floodplain storage, protecting the natural and beneficial functions of floodplains, limiting building enclosures below the flood level, and mapping and regulating areas subject to special flood hazards. Additional measures proposed by a community will be evaluated and scored accordingly.

Maximum Points: 2,042
Performance Expectations: The municipality must maintain documentation of enforcement of credited standards to be provided with annual recertification.

Activity 440—Flood Data Maintenance:

The objective of this activity is to make community floodplain data more accessible, current, useful, and accurate so that the information contributes to the improvement of local regulations, insurance ratings, planning, disclosure, and property appraisals.

Under this activity, credit is provided for putting FIRM flood boundary and floodway delineations on a digitized mapping system or implementing another method that allows for quick revision and reprinting of a floodplain map. Flood hazard data could also be maintained on computerized parcel records. This activity also includes credit for adding and/or maintaining elevation reference marks and overlaying the community's floodplain mapping (including the FIRM) on the zoning map, the assessor's map, or other maps used regularly by community staff.

Maximum Points: 222
Performance Expectations: The municipality must make sure that credited data are still available and being used.

Activity 450—Stormwater Management:

The objective of this activity is to prevent future development from increasing flood hazards to existing development and to maintain and improve water quality.

This activity credits the following approaches to regulating new development in the watershed:

- Regulating developments on a case-by-case basis to ensure that the peak flow of stormwater runoff from each site will be no greater than the runoff from the site before it was developed.
- Regulating developments according to a stormwater management master plan that analyzes the combined effects of existing and expected development on drainage through and out of the watershed.
- Regulating activities throughout the watershed to minimize erosion that results in sedimentation.
- Regulating the quality of stormwater runoff.

Maximum Points: **755**
Performance Expectations: The municipality must maintain documentation of enforcement of credited standards.

Activity 510—Floodplain Management Planning:

The objective of this activity is to credit the production of an overall strategy of programs, projects, and measures that will reduce the adverse impacts of the hazard on the community and help meet other community needs.

This activity provides credit for preparing, adopting, implementing, evaluating, and updating a comprehensive floodplain management plan. FEMA also requires a multi-hazard mitigation plan as a prerequisite for mitigation funding. The CRS program and FEMA do not specify what activities a plan must recommend, but they only recognize plans that have been prepared according to the standard planning process explained in FEMA regulations and Section 511 of the CRS Coordinator's Manual. Additional credit can be earned for development of a substantial damage response plan that provides the community a procedure for inspections of possible substantially damaged structures and permitting to remain NFIP compliant.

Maximum Points: **762**
Performance Expectations: Annual progress reports for credited floodplain management plans and repetitive loss area analyses must be prepared and submitted with annual recertification.

Activity 520—Acquisition and Relocation:

The objective of this activity is to encourage communities to acquire, relocate, or otherwise clear existing buildings out of the SFHA

This activity credits either acquisition or relocation of an insurable building from the path of flooding, as long as the community can document that the property will stay vacant. The credit is based on the number of buildings cleared as a portion of the total number of buildings in the community's SFHA. The credit is provided only if the site qualifies for credit under Activity 420 (Open Space Preservation).

Maximum Points: **2,250**
Performance Expectations: The community has no annual performance requirements.

Activity 530—Flood Protection:

The objective of this activity is to protect buildings from flood damage by:

1. *Retrofitting the buildings so that they suffer no or minimal damage when flooded.*
2. *Constructing small flood control projects that reduce the risk of floodwaters reaching the buildings.*

This credit is based on the number of insurable buildings in the regulatory floodplain that have been retrofitted since the date of the community's original FIRM. For the purposes of this activity, accessory structures such as garages or sheds are not counted as insurable buildings. Extra credit is given for protecting buildings on FEMA's repetitive loss list (see Section 501 of the CRS Coordinator's Manual) and critical facilities.

Maximum Points: **1,600**
Performance Expectations: The community has no annual performance requirements.

Activity 540—Drainage System Maintenance:

The objective of this activity is to ensure that the community keeps its natural streams, channels and storage basins clear of debris so that their flood-carrying and storage capacity are maintained.

Credit is provided for keeping the channels and storage basins (detention or retention) of a community's drainage system clear of debris to maintain their carrying and storage capacity during flood events, and to protect water quality. A community can receive credit for the following drainage system maintenance activities:

- Inspecting and maintaining channels
- Monitoring problem sites
- Having a capital improvement program that benefits the drainage system
- Implementing and publicizing "no dumping" regulations
- Inspecting and maintaining storage basins
- Maintaining coastal (shoreline) erosion protection measures, if applicable

Maximum Points: **570**
Performance Expectations:
The municipality must maintain documentation of enforcement of credited standards.

Annual logs and records must be maintained to document the performance of the credited activity.

Activity 610—Flood Warning and Response:

The objective of this activity is to encourage communities to ensure timely identification of impending flood threats, disseminate warnings to appropriate floodplain occupants, and coordinate flood response activities to reduce the threat to life and property.

Credit is provided for a community that, at a minimum, has adopted a flood warning and response program that includes:

- A flood threat recognition system that identifies an impending flood
- Methods to warn the public of the impending flood
- A plan for flood response operations
- Coordination with critical facility operators

Maximum Points: **395**
Performance Expectations: The municipality must perform an annual flood exercise of the credited emergency plan.

Activity 620—Levees:

The objective of this activity is to encourage communities to properly inspect and maintain levees and to identify impending levee failures in a timely manner, disseminate warnings to appropriate floodplain occupants, and coordinate emergency response activities to reduce the threat to life and property.

This activity provides credit to communities protected by levees that are properly maintained and operated but are not high enough to meet the criteria for base flood levees. A community may also receive credit for a levee that protects to the base flood elevation or above if the levee is not reflected on the community's FIRM. No credit is offered under this activity if the area protected by the levee is designated as an AO, A99, AR, B, C, or X zone; or an AE or A-numbered zone with the base flood elevation lower than the level on the water side of the levee.

Maximum Points: **235**
Performance Expectations: The municipality must perform an annual flood exercise of the credited emergency plan.

Activity 630—Dams:

The objectives of this activity are to:

1. *Encourage states to provide dam safety information to communities.*
2. *Encourage communities, in turn, to provide timely identification of an impending dam failure, disseminate warnings to those who may be affected, and coordinate emergency response activities to reduce the threat to life and property.*

Credit is provided for a community program that mitigates the threat to its floodplain properties from a failure of an upstream dam through emergency preparedness.

Maximum Points: **160**
Performance Expectations: The municipality must perform an annual flood exercise of the credited emergency plan.

Appendix D. RESOURCES

ASFPM No Adverse Impact Toolkit

FEMA Best Practices

FEMA 480 Floodplain Management Study Guide for Local Officials

CFM Guidance

Appendix E. TOOLKIT

This section provides Tools, Guidance, and Resources to inform the activities noted within this document to establish a sound community floodplain management program.

Model Ordinances

To request the Model Flood Damage Prevention Law appropriate for your community, please email the DEC Floodplain Management Section or call 518-402-8185.

Sample Administrative Procedure

SAMPLE		**ADMINISTRATIVE PROCEDURE**
TITLE: Development Review Within Floodplains		**SUBJECT:** Floodplains
LAST UPDATE:	**PAGES:**	**PREPARER:**

Purpose	To establish an administrative procedure for reviewing development proposals and issuing permits for activities that are proposed within floodplains. This procedure will accomplish the following: • Link the City's electronic permit tracking system to the City's Geographic Information System that includes floodplain maps. • Ensure that permit applications received for projects within floodplains are immediately flagged and routed to appropriate personnel for review. • Establish a mechanism for ensuring that appropriate conditions can be attached to issued permits. • Establish a mechanism for tracking development activity within floodplains.
Linking Permit Tracking Software with GIS	• The City's Information Services Department is responsible for maintaining the City's GIS. Mapped GIS layers have been developed for all parcels and delineated floodplains. The parcel layer is a polygon GIS layer that contains parcel information such as address, tax parcel numbers, size, and ownership. • The City's permit tracking software is a tabular based database that utilizes tax parcel numbers as the unique identifier for each property. • The City's Information Services Department has run a GIS spatial query that identifies all parcels that are fully or partially located within a floodplain. All parcels that were identified through this query were then flagged with a "development restriction note" in the City's permit tracking system.

Submittal of Permit Applications	1. The City's permit tracking system defines two types of development activities – permits and projects. Examples of permits include building permits, grading permits, and utility permits. Generally speaking, permits authorize construction and/or land disturbing activities. Examples of projects include subdivisions, extensions of public infrastructure, conditional use permits, and site plan review. Projects do not authorize construction but they do enable a landowner to seek permit approval to develop their land. 2. The first step in the application review process for all permits and projects is to submit the application to the City's Permit Center. The Permit Technician who receipts the application will perform the following functions: a. Query the City's permit tracking database for the applicable County Tax Assessor Parcel Number. b. For parcels that are located within a floodplain, the permit tracking software displays a "development restriction note" that notifies the Permit Technician that the subject property is located within a floodplain. c. The Permit Technician assigns a development review assignment to the City's Floodplain Administrator. APRIL 4, 2012 NOTE: IN JUNE 2012 THE CITY'S PERMIT TRACKING SOFTWARE WILL BE UPGRADED TO A NEWER VERSION. THE NEWER VERSION WILL AUTOMATE THE ABOVE ROUTINE BY AUTOMATICALLY ASSIGNING REVIEW ASSIGNMENTS TO THE FLOODPLAIN ADMINSTRATOR. THIS ACTION WILL ELIMINATE THE POTENTIAL FOR HUMAN ERROR WHERE A PERMIT TECHNICIAN FAILS TO MANUALLY ASSIGN THE DEVELOPMENT REVIEW ASSIGNMENTS.
Development	1. It is at this stage that the City's Floodplain Administrator applies the City's Floodplain Development
Review	Regulations. 2. After review of the proposal is complete, the Floodplain Administrator will document their review by entering their findings, conclusions and conditions in the City's Permit Tracking System. 3. When a plan reviewer has comments or conditions, the Permit Technician provides them as part of permit issuance. This includes all standards specified under AMC, Chapter 15.68 as currently adopted by the City of Auburn. It is at this point that the applicant will be notified if the development proposal requires preparation and submittal of an elevation certificate (EC). 4. Upon receipt of an EC the Permit Technician will route it to the Floodplain Administrator and Building Official for review. The Floodplain Administrator and Building Official may utilize the City's on staff Registered Land Surveyor as a resource to assist in the review of the EC. Upon final determination that the EC is acceptable the Permit Center will be notified that the permit or project is approved and ready for issuance. For this step, acceptable is defined as completion is sufficient to document full building compliance with AMC, chapter 15.68 as well as Community Rating System established criteria for EC maintenance. 5. When the permit is issued the applicant is provided with a "job site copy" of all plans and conditions. The job site copy will include a copy of the EC. The job site copy must remain on site throughout the duration of the project so that building and construction inspectors may consult them while in the field. Additionally, the City maintains a "city copy" of the plans which is a duplicate of the job site copy. Inspectors will consult the city copy and the job site copy in order to ensure that all plans and conditions are followed in accordance with permit approvals.
Construction	1. The City's Building Inspector is responsible for ensuring that structures under construction

Monitoring	are built in compliance with the conditions of the permit and EC requirements for a permit or project. For commercial construction projects that require grading, the City's Construction Inspector will be responsible for ensuring that grading activities comply with conditions of the permit and the EC requirements. 2. When the City receives a requests for footing and/or foundation inspections, the City will inform the developer that they will need to submit a certification from a Registered Surveyor that the floor elevation meets the requirements of AMC, section 15.68.170. The City will not final the building or provide a Certificate of Occupancy until this certification has been provided to the City and reviewed and approved by the Floodplain Administrator.
Tracking of Development Activity	All permits and projects are logged into the City's permit tracking software system. Because all permits and projects are linked to the unique tax identification parcel number it is easy to perform periodic query's to help detail and/or summarize all development activity that has occurred within mapped floodplains.
Training	The City will ensure that adequate training is provided to the Floodplain Administrator, the Building Official, Building Plan Reviewers, and Building and Constructing inspections. The Floodplain Administrator, Building Official and Building Plan Reviewers will be trained in the review and interpretation of Elevation Certificates. The Building and Construction Inspectors will receive internal training to ensure that they know which permits and projects are subject to EC requirements and floodplain permit/project conditions, that they know the construction milestones in which they need to inform the developer to provide certification that development is occurring in conformance with the EC, and to know that a permit or project cannot be filed or a Certificate of Occupancy issued until the Floodplain Administrator has determined that construction complies with the EC and floodplain conditions.

Elevation Certificate Checklist

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

CRS EC Checklist

OMB No. 1660-0008
Expiration Date: November 30, 2022

ELEVATION CERTIFICATE

Important: Follow the instructions on pages 1–9.

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION | FOR INSURANCE COMPANY USE

A1. Building Owner's Name | Policy Number:

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. Either A2 or A3 must be completed, with City, State and Zip | Company NAIC Number:

City State ZIP Code

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Either A2 or A3 must be completed, with City, State and Zip

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) Mandatory field on forms signed 2-21-2020 and after

A5. Latitude/Longitude: Lat. _____ Long. _____ Horizontal Datum: ☐ NAD 1927 ☐ NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number Must be: 1A, 1B, 2A, 2B, 3, 4, 5, 6, 7, 8, 9

A8. For a building with a crawlspace or enclosure(s): Enter "N/A" in fields that are not applicable. Blank fields are assumed to be "N/A".

a) Square footage of crawlspace or enclosure(s) _____ sq ft

b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade _____

c) Total net area of flood openings in A8.b _____ sq in actual opening size here, engineered size in D. Comments

d) Engineered flood openings? ☐ Yes ☐ No If marked "Yes", must attach certification from engineer or ICC-ES

A9. For a building with an attached garage: Enter "N/A" in fields that are not applicable. Blank fields are assumed to be "N/A".

a) Square footage of attached garage _____ sq ft

b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____

c) Total net area of flood openings in A9.b _____ sq in actual opening size here, engineered size in D. Comments

d) Engineered flood openings? ☐ Yes ☐ No If marked "Yes", must attach certification from engineer or ICC-ES

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number Correct # or Correct Name & Correct #	B2. County Name	B3. State

B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
☐ FIS Profile ☐ FIRM ☐ Community Determined ☐ Other/Source: _____

B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☐ NAVD 1988 ☐ Other/Source: _____

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☐ No
Designation Date: _____ ☐ CBRS ☐ OPA

FEMA Form 086-0-33 (12/19) Replaces all previous editions. Form Page 1 of 6

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.	FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.	Policy Number:
City (Must match page 1 and all other pages) State ZIP Code	Company NAIC Number

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete. Only submit Fin. Const. ECs

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: _____ Vertical Datum: _____

Indicate elevation datum used for the elevations in items a) through h) below.

☐ NGVD 1929 ☐ NAVD 1988 ☐ Other Source: _____

Datum used for building elevations must be the same as that used for the BFE.

Items a), f) and g) must always have a value. If items b) – e) are not applicable, enter "N/A"

		Check the measurement used.
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	_____	☐ feet ☐ meters
b) Top of the next higher floor	_____	☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (V Zones only) (May be filled out for other zones)	_____	☐ feet ☐ meters
d) Attached garage (top of slab)	_____	☐ feet ☐ meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	_____	☐ feet ☐ meters
f) Lowest adjacent (finished) grade next to building (LAG)	_____	☐ feet ☐ meters
g) Highest adjacent (finished) grade next to building (HAG)	_____	☐ feet ☐ meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	_____	☐ feet ☐ meters

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Were latitude and longitude in Section A provided by a licensed land surveyor? ☐ Yes ☐ No ☐ Check here if attachments.

Certifier's Name	License Number		Place Seal Here
Title			
Company Name (All 4 highlighted items must be in this Section)			
Address			
City	State	ZIP Code	
Signature	Date	Telephone	Ext.

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including type of equipment and location, per C2(e), if applicable)

Use this space to describe type of equipment in C2e and location, engineered flood openings if present, datum conversions if needed and other relevant information not specified elsewhere on the certificate.

FEMA Form 086-0-33 (12/19) Replaces all previous editions. Form Page 2 of 6

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.	FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.	Policy Number:
City (Must match page 1 and all other pages) State ZIP Code	Company NAIC Number

SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).

a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ ☐ feet ☐ meters ☐ above or ☐ below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E3. Attached garage (top of slab) is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name (Complete Section F if there is no BFE and Section E is used)

Address	City	State	ZIP Code

Signature	Date	Telephone

Comments

☐ Check here if attachments.

FEMA Form 086-0-33 (12/19) Replaces all previous editions. Form Page 3 of 6

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.	Policy Number:
City (Must match page 1 and all other pages) State ZIP Code	Company NAIC Number

SECTION G – COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in items G8–G10. In Puerto Rico only, enter meters.

G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3. ☐ The following information (items G4–G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate of Compliance/Occupancy Issued

G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters Datum _____

G9. BFE or (in Zone AO) depth of flooding at the building site: _____ ☐ feet ☐ meters Datum _____

G10. Community's design flood elevation: _____ ☐ feet ☐ meters Datum _____

Local Official's Name Title

Complete and sign if G1, G2, G8 or G9 are checked

Community Name Telephone

Signature Date

Comments (including type of equipment and location, per C2(e), if applicable)

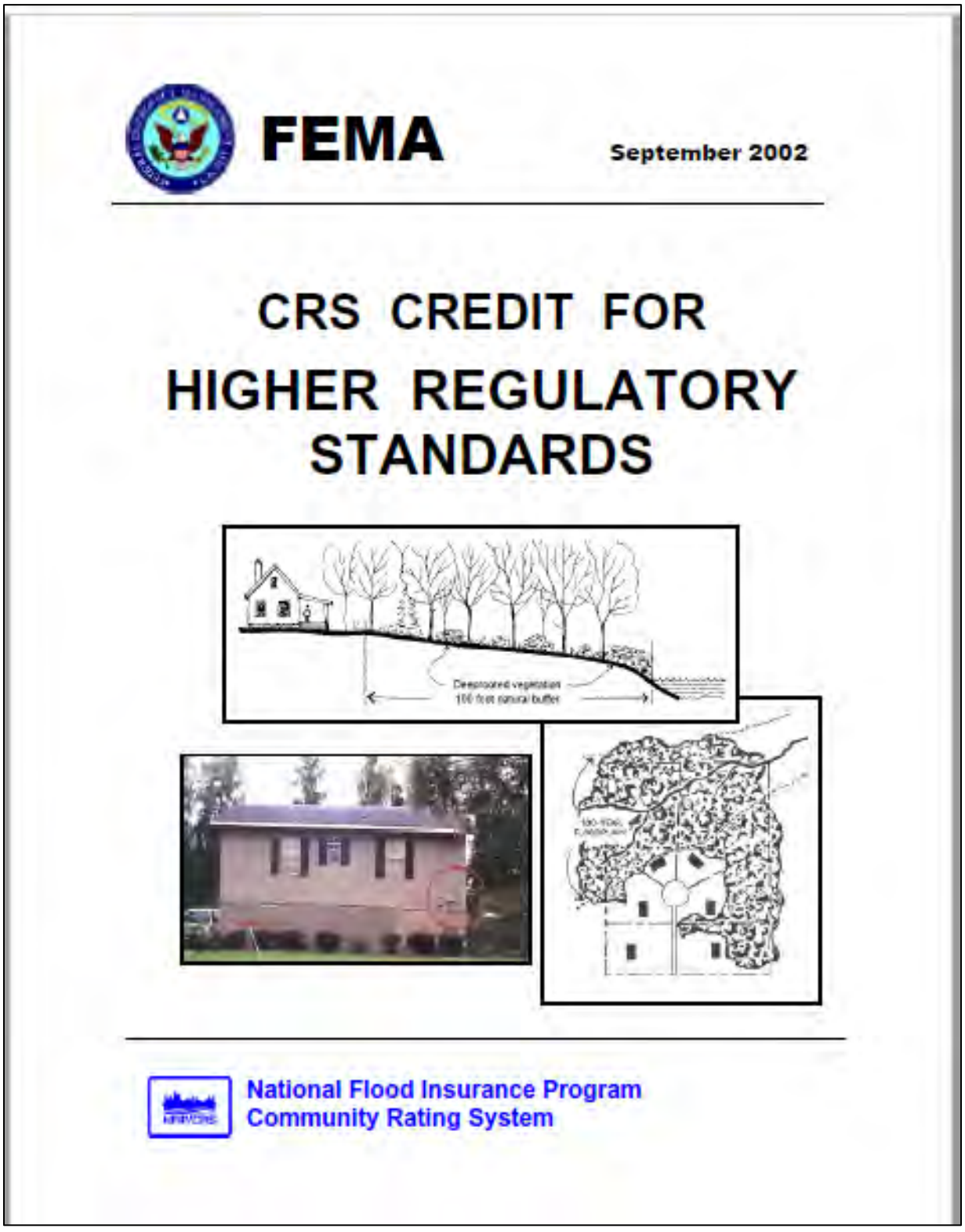
The local floodplain manager can use this section to add any additional notes or to make corrections to the form.

☐ Check here if attachments.

FEMA Form 086-0-33 (12/19) Replaces all previous editions Form Page 4 of 6

CRS Higher Regulatory Standards

Access this document here: https://crsguide.withforerunner.com/430-higher-regulatory-standards



Sample Floodplain Development Permit

Sample		**ADMINISTRATIVE PROCEDURE**
TITLE: Development Review Within Floodplains		**SUBJECT:** Floodplains
LAST UPDATE:	**PAGES:**	**PREPARER:**

Purpose	To establish an administrative procedure for reviewing development proposals and issuing permits for activities that are proposed within floodplains. This procedure will accomplish the following: • Link the City's electronic permit tracking system to the City's Geographic Information System that includes floodplain maps. • Ensure that permit applications received for projects within floodplains are immediately flagged and routed to appropriate personnel for review. • Establish a mechanism for ensuring that appropriate conditions can be attached to issued permits. • Establish a mechanism for tracking development activity within floodplains.
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	b. For parcels that are located within a floodplain, the permit tracking software displays a "development restriction note" that notifies the Permit Technician that the subject property is located within a floodplain. c. The Permit Technician assigns a development review assignment to the City's Floodplain Administrator. APRIL 4, 2012 NOTE: IN JUNE 2012 THE CITY'S PERMIT TRACKING SOFTWARE WILL BE UPGRADED TO A NEWER VERSION. THE NEWER VERSION WILL AUTOMATE THE ABOVE ROUTINE BY AUTOMATICALLY ASSIGNING REVIEW ASSIGNMENTS TO THE FLOODPLAIN ADMINSTRATOR. THIS ACTION WILL ELIMINATE THE POTENTIAL FOR HUMAN ERROR WHERE A PERMIT TECHNICIAN FAILS TO MANUALLY ASSIGN THE DEVELOPMENT REVIEW ASSIGNMENTS.
Development Review	1. It is at this stage that the City's Floodplain Administrator applies the City's Floodplain Development Regulations. 2. After review of the proposal is complete, the Floodplain Administrator will document their review by entering their findings, conclusions and conditions in the City's Permit Tracking System. 3. When a plan reviewer has comments or conditions, the Permit Technician provides them as part of permit issuance. This includes all standards specified under AMC, Chapter 15.68 as currently adopted by the City of Auburn. It is at this point that the applicant will be notified if the development proposal requires preparation and submittal of an elevation certificate (EC). 4. Upon receipt of an EC the Permit Technician will route it to the Floodplain Administrator and Building Official for review. The Floodplain Administrator and Building Official may utilize the City's on staff Registered Land Surveyor as a resource to assist in the review of the EC. Upon final determination that the EC is acceptable the Permit Center will be notified that the permit or project is approved and ready for issuance. For this step, acceptable is defined as completion is sufficient to document full building compliance with AMC, chapter 15.68 as well as Community Rating System established criteria for EC maintenance. 5. When the permit is issued the applicant is provided with a "job site copy" of all plans and conditions. The job site copy will include a copy of the EC. The job site copy must remain on site throughout the duration of the project so that building and construction inspectors may consult them while in the field. Additionally, the City maintains a "city copy" of the plans which is a duplicate of the job site copy. Inspectors will consult the city copy and the job site copy in order to ensure that all plans and conditions are followed in accordance with permit approvals.
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Tracking of Development Activity	All permits and projects are logged into the City's permit tracking software system. Because all permits and projects are linked to the unique tax identification parcel number it is easy to perform periodic query's to help detail and/or summarize all development activity that has occurred within mapped floodplains.
Training	The City will ensure that adequate training is provided to the Floodplain Administrator, the Building Official, Building Plan Reviewers, and Building and Constructing inspections. The Floodplain Administrator, Building Official and Building Plan Reviewers will be trained in the review and interpretation of Elevation Certificates. The Building and Construction Inspectors will receive internal training to ensure that they know which permits and projects are subject to EC requirements and floodplain permit/project conditions, that they know the construction milestones in which they need to inform the developer to provide certification that development is occurring in conformance with the EC, and to know that a permit or project cannot be filed or a Certificate of Occupancy issued until the Floodplain Administrator has determined that construction complies with the EC and floodplain conditions.

BCEGS Guidance

Information regarding the Building Code Effectiveness Grading Schedule may be found here: https://www.isomitigation.com/bcegs/ .

BCEGS Classifications and Survey Process

Several factors are considered in every BCEGS classification. The table below lists key areas of focus but is not all-inclusive:

Administration of Building Codes	Plan Review	Field Inspection
Adopted building code	Plan review staffing	Inspection staffing
Adopted sub-codes	Experience of plan review personnel	Experience of inspection personnel
State and local code amendments	Detail of plan review	Management of inspection activity
Method of code adoption	Management of plan review activity	Inspection checklists
Natural hazards impacting the jurisdiction	Natural hazards impacting the jurisdiction	Special inspections
Staff training and education	Staff training and education	Inspections for natural hazard mitigation
Certification of staff	Certification of staff	Final inspections
Qualification of the building official	Qualification of the building official	Certificates of occupancy
Use of design professionals	Use of design professionals	
Zoning and land-use provisions		
Contractor licensing programs		
Public awareness programs		
Appeals process		
Administrative policies and procedures		
Quality assurance programs		

The values are calculated based on the terms of our BCEGS schedule to determine a score on a 0-to-100-point scale for both commercial buildings and one- and two-family residential dwellings (as shown in the table below).

Each community's score is converted to a 1-to-10 classification: One classification for commercial lines and a second for personal lines of coverage.

Classification	Score Point Range
1	93.00 – 100.00
2	85.00 – 92.99
3	77.00 – 84.99
4	65.00 – 76.99
5	56.00 – 64.99
6	48.00 – 55.99
7	39.00 – 47.99
8	25.00 – 38.99
9	10.00 – 24.99
10	0.00 – 9.99

What is the evaluation process?

We distribute questionnaires to building officials of all municipalities in a state. Upon completion of the questionnaire, we arrange for a trained field representative to meet at a mutually convenient time at the community site with each municipality's building official. At that time, our representative and building official together review the questionnaire and verify the community's capabilities. Our representative seeks clarification and obtains supporting documentation as needed.

Items reviewed during the survey include:

- Permits
- Plan reviews
- Inspections
- Responsibilities
- Training
- Certification
- Continuing education
- Budget information
- Public awareness
- Property value

How do BCEGS classifications benefit the community?

- BCEGS classifications can help identify communities that are more resilient to natural hazards and everyday perils. Resilient communities generally attract more businesses and residents.
- Policyholders in communities with effective building code programs are positioned to benefit from available premium discounts, because Verisk participating insurers can apply credits and receive information relating to building code enforcement vigor from us.
- BCEGS data and benchmarking reports offer community officials detailed information about their local code enforcement program, including regional, state, and national trends that can be used to help in their efforts to effectively manage the delivery of building safety services.
- A more favorable BCEGS classification can help a community qualify for Hazard Mitigation Grants from the Federal Emergency Management Agency (FEMA).
- BCEGS classifications are currently part of the criteria for receiving discounted flood insurance premiums from the National Flood Insurance Program (NFIP) through the Community Rating System (CRS) program.

CRS Outreach Guide

Access this document here: CRS Outreach Guide

Outreach Projects

for Credit under the Community Rating System of the National Flood Insurance Program

2017

NFIP/CRS

CRS Activity 610 Guide

Below is the CRS Activity 600 checklist for reference. Additional information may be found here: CRS Series: Warning and Response

CRS 600 Series: Warning and Response

The 600 series of activities within the National Flood Insurance Program's (NFIP) Community Rating System (CRS) is focused on linkages between a community's emergency management mission/program and its voluntary CRS activities. These credited activities focus on the life safety aspect of a community's floodplain management program. This is particularly the case its emergency management flood warning programs and can result in additional flood insurance policy premium discounts for your citizens. For more information, the following Uniform Resource Locator/link is provided for the current Activity 610 webinar: https://youtu.be/gbtsp4qBad8

Catalyst of Change. *Even though flood preparedness and response operations primarily rest within the purview of the community's (or borough/county/parish) emergency management office, the emergency manager's role in advancing public safety, property protection, disaster resiliency and sustainability through the National Flood Insurance Program and the CRS is sometimes overlooked by the community.* The community CRS Coordinator should liaise with the community emergency management staff, to properly document those activities that are eligible to receive credit under the 600 Series. The daily emergency management mission of prevention, preparedness, response, recovery and mitigation can successfully be integrated with the CRS. Activities 610, 620 and 630 are designed to evaluate the community's emergency management program regarding flood warning, levees and dams.

Background. Activities under the 600 Series encourage and promote the development and use of community-based flood detection systems, warning dissemination programs, coordinated flood response activities and critical facility planning. These are the activities that help reduce the threat to life safety, health and property damage. The emergency manager is the identified catalyst of this effort.

Three activities make up the 600 Series. Activity 610 (Flood Warning and Response) forms the building block of the series, because all communities must have these basic services. Activity 620 (Levees) and Activity 630 (Dams) are for more specific threats that are not present in every community, namely levees and dams. All three activities are organized in a similar fashion, with pertinent credit criteria and require some actions for

- Advance notification of an impending flood (threat recognition);
- Warnings issued to the threatened population (warning);
- Steps taken to protect life and reduce losses (operations), and;
- Coordination with critical facilities (critical facilities planning).

All three activities have a public information prerequisite to educate residents and businesses concerning safety measures before, during and after a flood. All three activities require the annual completion of a drill, a flood exercise or documentation of an actual response to a flood related emergency. The latter also requires the submittal of an after-action report/improvement plan or lessons-learned document, including any recommendations for changes to the adopted plan. A flood, levee failure, dam failure or hurricane exercise qualifies as an exercise for all three activities.

Focus of this checklist. Activity 610 (Flood Warning and Response) is based on the principle that an ample warning combined with a flood response plan can prevent loss of life and property damage. It also encourages the development and documentation of more flood warning capabilities, redundancies in the

acquisition and dissemination of hydrologic warning, greater accuracy in forecasting flood arrival times and peak elevations and enhanced flood contingency planning that involves critical facilities.

The possible 395 points found within the five elements of Activity 610 are the building blocks of every community's emergency management program.

- Flood threat recognition system **(FTR)** is aimed at determining the capability level of the community's FTR system or systems. (75 points)
- Emergency warning dissemination **(EWD)** looks at the linkages between FTR and the community's dissemination of flood warnings to the public. (75 points)
- Flood response operations **(FRO)** credit is based on the extent and level of the community's specific tasks to reduce or prevent threats to health, safety and property. (115 points)
- Critical facilities planning **(CFP)** considers the coordination of flood warnings between the community and the operators of critical facilities within its environs. (75 points)
- StormReady community **(SRC)** (25 points) and TsunamiReady community **(TRC)** (30 points) credits a community's participation in the National Weather Service's StormReady and TsunamiReady programs.

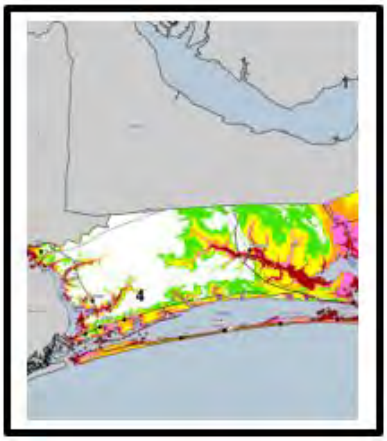
The community must receive some credit in the first four elements to receive any credit under Activity 610, which emulates the standard preparedness cycle. For more details, refer to the 2017 *CRS Coordinator's Manual*.

The Corner Stones of Activity 610 (Flood Warning and Response).

The community must have a program that correlates its flood threat recognition system, community prepared flood inundation map(s) and its adopted flood warning response plan. (This requirement is a basic component of any community emergency management program.) When preparing your documentation, provide a copy of the flood inundation map(s), flood stage forecast map(s), flash flood impact map(s) or storm surge zone map(s) (showing multiple levels of inundation) which depicts your community's flood threats. Such maps are used for multiple planning purposes by emergency management and must be addressed in the adopted flood warning response plan, CEMP, EOP, etc. (This map or maps are not the FEMA provided FIRMs but can include them as additional levels of inundation.) They must be logically tied into whatever flood threat recognition system provides early notice of a flood to your community, such as river gages, ALERT systems, tidal gages, SLOSH modeling, etc. Therefore, a flood threat recognition system, properly correlated with a flood inundation/flood stage forecast map and an adopted plan provides the required basis for minimum Activity 610 credit.

Riverine flood threats (three levels of inundation) and coastal storm surge zones (at least two levels of inundation) are based upon different mapping formats and processes, but both indicate the flood threat areas. In communities only inundated by flash flooding, impact area maps based on cubic feet per second alert levels, rainstorm thresholds or flow depths are acceptable. Examples of these are depicted below.

Riverine flood inundation map



SLOSH generated evacuation map

Flash flood impact area map

The adopted flood warning response plan (by whatever name) must discuss the actions taken by the community at each identified flood level of inundation. In large counties, there may not be any detailed mapping and/or any flood warning planning provided for these areas. In such cases, some counties designate the entire 1% chance flood level as the initial area to be notified by EAS and other flood alerts and have detailed multilayered flood levels only in the populated areas as is shown in the riverine flood inundation map above. If the flood threat recognition system and flood response plan utilize such a scenario, it can be considered as a creditable flood warning and response system.

Additionally, for any Activity 610 credit, the community must have one or more outreach projects on the warning and safety precautions and there must be an annual exercise of the adopted flood warning response plan that is documented with an after-action report combined with an improvement plan/lessons-learned report. These activity credit criteria are discussed in Section 611.b. of the CRS Coordinator's Manual.

If you have any questions concerning the following checklist, please contact Al Goodman at awgconsult@outlook.com or by phone at 601-829-6075.

EXAMPLE SCENARIO: The community reports with its documentation checklist:

- The community is affected by overbank flooding on two streams and surge from tropical storms. An evacuation map (SLOSH product) is used in all the coastal areas, but there are no gages or an associated warning and response program for one of the streams. There are 400 structures in the coastal high hazard area and 50 structures within the riverine floodplain. The program covers all 400 coastal structures, but only covers 25 of the riverine structures. The bSF is 450. There are 425 structures which are covered by the flood threat recognition system, 425 structures which are covered by flood emergency warnings and 450 which are covered by flood response operations.
- The number of buildings that benefit from the level of flood threat recognition system is 425. **FTR= 75, bFTR = 425**.
- The number of buildings that benefit from flood emergency warnings is 425.
- **EWD = 70, bEWD = 425.**
- The number of buildings in the area covered by the flood response operations is 450.
- **FRO = 75, bFRO = 450.**
- There are four critical facilities in the community, all of which are located in their warning and response program areas. **CFP 1 = 25**.

- The community is a StormReady Community. **SRC = 25**.

The Activity 610 technical reviewer finds that the community has a flood warning and response program that covers 425 of 450 buildings in the SFHA. An automated flood warning system (Level 3) is used by the community. The EOC uses pre-scripted messages and staff guidance and they have an outdoor fixed siren system that covers the entire community/ Further, the outreach plan identifies various departments responsible for portions of the planned response like a telephonic warning and notification system is used, a cable TV notification system and a GIS based emergency notification system available to alert citizen subscribers. The flood response operations plan should hav assigned staff tasks, response actions keyed to specific flood levels shown on its flood inundation map, the estimated equipment and supplies needed as well as a well thought out response and recovery plan that includes substantial damage assessment teams. There are critical facilities identified that can be affected by flooding, with the contact information of the POCs provided. The NWS has awarded its StormReady Community designation to the community and/or listed the community on its StormReady website. The scoring sheet would reflect these computations:

FTR = 75 rFTR = $\frac{\text{bFTR}}{\text{bSF}} = \frac{425}{450} = 0.94$

EWD = 70 rEWD = $\frac{\text{bEWD}}{\text{bSF}} = \frac{425}{450} = 0.94$

FRO = 75 rFRO = $\frac{\text{bFRO}}{\text{bSF}} = \frac{450}{450} = 1.00$

CFP 1 = 25 CFP 2 = 0

SRC = 25 TRC = 0

c610 = (FTR x rFTR) + (EWD x rEWD) + (FRO x rFRO) + CFP + SRC + TRC

c610 = (75 x 0.94) + (70 x 0.94) + (75 x 1.0) + 25 + 25 + 0 = 261.3 = **261** (rounded)

Activity 610 (Flood Warning & Response) Documentation Checklist

Provide this checklist and the following for each item checked:

☐ (1) A CD with the documents. Note the file name and the appropriate pages and section numbers, or

☐ (2) The URL/link to on-line documents with the appropriate pages and section numbers noted here, or

☐ (3) A paper copy of the documents with the appropriate acronym marked in the margin.

☐ (4) A copy or URL/link to the Comprehensive Emergency Management Plan, Emergency Management Plan, or similar plan through which the community is applying for Activity 610 credit.

☐ (5) If the community is included in another jurisdiction's plan (which implements a multi- jurisdictional flood warning program), then:

☐ (a) A copy of a resolution or memorandum of agreement that specifies the community's responsibilities must be included, or

☐ (b) A statement from the applicant community's Emergency Manager or a similar community program designee must be submitted which lists those flood warning and response activity elements that are undertaken by the applicant community and those activities that are undertaken by the other jurisdiction on behalf of the applicant community.

	Emergency Manager	**CRS Coordinator**
Name		
Title		
Address		
Phone		
E-mail		

Completed By: _____

Title: _____

Date: _____

Use this space to describe your community's Flood Warning and Response Program:

Please provide the four totals requested below, failure to do so will result in an automatic zero-credit assignment in Activity 610. The credit points for FTR, EWD and FRO are adjusted based on the number of buildings affected by the element. Determining these adjustments usually will require identifying the area affected and then counting the buildings within that area.

(1) Number of buildings in the community's Special Flood Hazard Area. The Community CRS Coordinator has this number in the Program Data Table. _____

(2) Number of buildings that are covered by the flood threat recognition system. _____

(3) Number of buildings that are covered by community flood emergency warnings. _____

(4) Number of buildings that are covered by community flood response operations. _____

Activity Credit Criteria and Documentation

Credit criteria for this activity are described in more detail in Section 611.b of the *CRS Coordinator's Manual*.

(1) The community must obtain some credit in the first four flood warning and response sub-elements in flood threat recognition system (FTR), emergency warning dissemination (EWD), flood response operations (FRO) and critical facilities planning (CFP) to receive any credit under this activity. SRC/TRC credit is not assigned without credit in these four sub-elements.

(2) The community must have a description of its flood hazard. This can be some pages taken from the community's adopted floodplain management or hazard mitigation plan. The description needs to include information about

☐ The nature of the community's flood hazard, such as flood depths, velocities, warning times, historical flood problems and special flood-related hazards.

[See Attachment _____ *Pages* _____*.]*

☐ The development exposed to flooding, such as the number and types of buildings; land use (residential, agricultural, open space, etc.), critical facilities and historic flood problem areas.

[See Attachment _____ *Pages* _____*.]*

☐ An inventory of critical facilities and the expected impacts of flooding on health and safety, community functions, such as police and utility services and the potential for secondary hazards.

[See Attachment _____ *Pages* _____*.]*

(3) The community must have a flood inundation map(s), also known as a flood stage forecast map.

☐ The inundation map must show areas that are inundated by at least three different flood levels for each riverine area, two different flood or storm surge levels in coastal zones and/or a series of impact area maps for flash flooding.

[See Attachment _____ *Pages* _____*.]*

(4) The community must have a flood warning and response plan or flood annex to a CEMP that has been adopted by the community's governing body. The plan must:

(For the community's own "stand alone" plan):

☐ Describe the methods and warning devices used to disseminate emergency warnings to the public that are credited under EWD.

[See Attachment _____ *Pages* _____*.]*

☐ Include specific flood response actions that are taken at the different flood levels that are credited under FRO. The FTR system must be correlated to the flood inundation map.

[See Attachment _____ *Pages* _____*.]*

☐ For full credit for flood response operations, the plan needs to

(a) Describe the actions to be taken, *[Pages* _____*.]*
(b) Identify the office or official responsible for the action, *[Pages* _____*.]*
(c) Define the time needed to carry out the activity, and *[Pages* _____*.]*

☐ Contain other critical information that designated agencies and organizations will need to perform their assigned responsibilities. *[Pages* _____*.]*

☐ Be adopted by the community's governing body or by an office that has been delegated approval authority by the community's governing body. If the plan is prepared at the county/borough/parish level, it must be adopted by the individual community seeking credit.

[See Attachment _____ *Pages* _____*.]*

OR

(If the community is included in another jurisdiction's plan, which implements a multi-jurisdictional flood warning program, then):

☐ A copy of a resolution or memorandum of agreement that specifies the community's responsibilities must be included, or

[See Attachment _____ *Pages* _____*.]*

☐ A statement from the applicant community's Emergency Manager or a similar community program designee must be submitted which lists those flood warning and response activity elements that are undertaken by the applicant community and those activities that are undertaken by the jurisdiction on behalf of the applicant community.

[See Attachment _____ *Pages* _____*.]*

(5) The community must implement one or more outreach projects that tells its residents and businesses how they will be warned and the safety measures they should take during a flood. This can be done by using **one or more** of the following approaches (check or highlight approach used):

☐ Sending an outreach project (e.g., a brochure, letter, or newsletter) each year to all residents and businesses in the community.

☐ Sending an outreach project each year to all residents and businesses in the floodplain where the warning program is in effect.

☐ Developing an appropriate approach as part of a Program for Public Information (PPI).

☐ If the community has at least three days of advance flood notification, such as coastal areas subject only to tropical storms and hurricanes or communities on large rivers, it may document that it provides repeated watch, warning, and safety information to all residents and businesses, beginning at least 72 hours in advance of the predicated flooding.

☐ A community with more than one source of flooding (e.g., coastal and riverine) may need to use different types of projects to reach different audiences.

☐ A copy of the outreach material used to tell people how they will be warned and the safety measures they should take.

[See Attachment _____ *Pages* _____*.]*

If the outreach material is also credited under Activity 330 (Outreach Projects), a separate submittal is not needed, if the other document (including a PPI, if used) is annotated to show where the Activity 610 outreach topics are covered.

(5) There must be at least one exercise and evaluation of the flood warning and response plan each year that is compliant with the National Incident Management System (NIMS). This process is described in the Homeland Security Exercise Evaluation Program (HSEEP). The exercise can be for a flood, levee failure, dam failure or hurricane. This criterion can be met if the plan is implemented in response to an actual flood-related event or threat of a levee or dam failure. In either case, there must be an evaluation of the performance of the plan and recommendations for any needed changes, as is usually documented in an After-Action Report/Improvement Plan. This criterion is part of the national emergency preparedness cycle.

[See Attachment _____ Pages _____.]

NOTE: If the community experienced a flood during the past year, it must submit an evaluation report on the flood warning program's performance.

Flood Threat Recognition System (FTR) Credit Criteria and Additional Documentation

The maximum credit for this element is 75 points.

(1) The activity credit criteria must be met.

(2) The community must have a manual system, or an automated flood alarm system or an automated flood warning system that provides early notice of a flood for at least one location within the community. The system must be able to receive or provide flood warnings 24-hours a day, seven days a week. A community may have different levels of service for different sources of flooding and in different locations in the community.

a. Provide a description of your community's flood threat recognition system (please check the system used). Is the system:

☐ **A manual system** (Level 1) which relies on a person to interpret the data received from river and/or tide gages, often using paper tables and graphs. In many cases, the gage data are collected and reported manually, usually by volunteers, or

☐ **An automated flood alarm system** (Level 2) which issues a signal when a flood threatens. When water reaches a certain height on a river or tide gage, an alarm is sent to the monitoring location. Unlike automated flood warning systems, this system does not predict flood heights or provide any other data than the current water level, or

☐ **An automated flood warning system** (Level 3) which provides information such as the timing and potential crest of an oncoming flood. Typically, these systems are operated by the NWS or USGS in riverine situations. In coastal areas, SLOSH models are used.

☐ The description must identify the rivers, streams, and coastal floodplains where flood stage forecasts are prepared and each forecast point.

☐ If the community has its own gage system, such as an ALERT system, the description must include the locations of the stream and precipitation gages.

Include documentation of early notice of a flood at one or more locations within the community. If appropriate, describe show how the community provides flood forecasts for areas other than the above forecast points.
[See Attachment _____ Pages _____.]

☐ Provide documentation that demonstrates that the community is prepared to receive flood warnings on a 24-hour basis from what federal, state, or other agencies.

[See Attachment _____ Pages _____.]

☐ If the community or another local agency uses rainfall and/or runoff data on a real-time basis and produces flood forecasts from these data, provide a description of the system. [*Explain whether the collection system is based on precipitation and/or river gage data that are manually or automatically read and reported, the location gage network density, etc.*] *[See Attachment ___ __ Pages _____.]*

☐ For a Level 3 system, provide documentation showing the method used to predict downstream arrival time and peak flow or elevations.

[See Attachment _____ Pages _____.]

☐ If flood warnings are received from another agency, include

- A description of how the notice is received.

  [See Attachment _____ Pages _____.]

- Identify local agency procedures for monitoring the system. *[Include the written instructions available to the person monitoring the warning system.]*

  [See Attachment _____ Pages _____.]

☐ Provide examples of one or more flood forecast notices issued for the community.

[See Attachment _____ Pages _____.]

☐ If the community has its own gage system, such as an ALERT system, a copy of the maintenance procedures for the system and records showing that the system is being maintained. This also applies to any other interoperable flood sensors that the community owns and operates, such as those purchased through the DHS Flood Apex Program.

- Provide documentation of the annual maintenance and testing of the data collection, communications and data analysis components of the flood threat recognition system. *[See Attachment* _____ *Pages* _____*.]*

Emergency Warning Dissemination (EWD) Credit Criteria and Additional Documentation

The maximum credit for this element is 75 points.

(1) The activity credit criteria must be met.

(2) The warning must reach people in a timely manner. For example, television or radio announcements are not credited in areas subject to flash flooding during the night.

(3) For those warning systems requiring specialized equipment, such as fixed voice/sirens, the equipment and procedures must be tested at least annually. Equipment that is used routinely throughout the year, such as television notices and message boards, do not need testing records for CRS credit.

☐ Copies of any written warning materials, such as handouts or the flood inundation map credited under EWD 10. *[See Attachment* _____*.]*

☐ [For EWD1, 2, 5, 6, 7, or 8] A copy of the pre-scripted messages. *[See Attachment* _____*.]*

☐ [For EWD3] A map, showing the fixed voice/siren locations and their effective coverage areas. *[See Attachment* _____*.]*

☐ [For EWD6] A copy of the description of a publicly owned call warning system or a copy of the contract with a private provider. *[See Attachment* _____*.]*

☐ [For EWD7] Documentation of the community owned cable channel or a copy of the cable TV agreement and override procedures. *[See Attachment* _____*.]*

☐ [For EWD8] A description of the capability and use of any other forms of public emergency notification. *[See Attachment* _____*.]*

☐ Describe the community's program for testing warning dissemination equipment and procedures. [*Include the frequency of the tests.*] *[See Attachment _____.]*

(4) EWD1 (10 points): Provide documentation that the flood warning and response plan includes pre-scripted messages or message templates and guidance for staff to quickly issue appropriate flood warnings. *[See Attachment _____ Pages _____.]*

(5) EWD2 (10 points): Provide documentation that public messages include information and instruction on the expected elevation of the flood waters, or storm surge, or the impact of flash flooding and instructions on when to evacuate. *[See Attachment _____ pages _____.]*

(6) EWD3 (10 points): If a fixed outdoor voice-sound system or fixed-siren system is used that covers the community's jurisdiction. *[See Attachment _____ pages ___ __.]*

(7) EWD4 (either 5 or 15 points): _____Five points if the plan identifies the primary and support agencies responsible for door-to-door or mobile public address warning **or** _____15 points if the plan identifies the routes, procedures, responsible staff and equipment necessary for door-to-door or mobile address warning. *[See Attachment _____ pages _____.]*

(8) EWD5 (10 points): If the federally approved community initiation of the Emergency Alert System through all channels/stations with pre-scripted draft messages is used. *[See Attachment _____ Pages_____.]*

(9) EWD6 (15 points): If a telephonic warning or enhanced electronic notification system is used. *[See Attachment_____ Pages _____.]*

(10) EWD7 (10 points): If television broadcast or message scroll notifications are implemented by the community. *[See Attachment _____ Pages _____.]*

(7) EWD8 (15 points): If the community uses other forms of public notification for emergency warnings, such as geocoded alert notification products, social media coordination of emergency-related topics, portable electronic warning signs, local radio stations, etc. *[See Attachment _____ Pages _____.]*

(8) EWD9 (10 points): If tone alert radios or NOAA Weather Radios either provide a system of notification to or are physically located within the schools, hospitals, nursing homes, prisons and similar facilities that need flood warning. *[See Attachment _____ pages _____.]*

(11) EWD10 (10 points): If the flood inundation map or evacuation map or series of maps used to meet the credit criteria in Section 611.a are posted online. URL/link _____

Flood Response Operations (FRO) Credit Criteria and Additional Documentation

The maximum credit for this element is 115 points.

(1) The activity credit criteria must be met.

(2) For full credit for flood response operations, the plan needs to:

(a) _____ Describe specific flood response actions that are taken at different flood levels;

(b) _____ Identify the office or official responsible for the action;

(c) _____ Define the time needed to carry out the activity, and;

(d) _____ Contain other critical information that designated agencies and organizations will need to perform their assigned responsibilities. General statements or an assignment of responsibilities with no specifics about what is to be done are not credited.

(3) Bonus credit is provided under FRO2 if there is a list of the personnel, equipment, facilities, supplies and other resources needed to complete each task. For full credit, the list must identify what is available within the community and what is needed from private suppliers or other jurisdictions. *[See Attachment* _____ *pages* _____*.]*

(4) FRO5 also provides bonus credit for preparing for mitigation opportunities that may arise in the aftermath of a disaster-a time when hazard awareness is high, funds are more likely to be available, and disruption of the status quo makes it possible to rethink the design and location of facilities and infrastructure. This should be coordinated with the public information activities credited under flood response preparations (FRP) under Activity 330 (Outreach Projects), which encourages owners to take mitigation measures during repairs.

[See Attachment _____ *pages* _____*.]*

(5) FRO6 provides bonus credit for identifying response and recovery measures to take that support property protection, such as providing a high-ground site for relocated vehicles, helping move building contents and distributing sandbags. *[See Attachment* ____ *pages* _____*.]*

(6) FRO1 (15 points): If the community has developed scenarios that review how flood incidents might develop at the different levels shown on the flood inundation map. *[See Attachment* _____ *pages* _____*.]*

(7) FRO2 (Up to 35 points): If the adopted plan identifies flood response tasks and responsible community staff utilized within the basic plan and also those in an identified disaster response team and other public and private organizations with responsibilities related to the flood tasks in the plan,

the estimated equipment, supplies and time required for each response task and the sources of necessary resources.
[See Attachment _____ pages _____.]

(a) (5 points): For identified basic flood response tasks and responsible staff.
[See Attachment _____ pages _____.]

(b) (5 points): For an estimate of the number of personnel needed for each task.
[See Attachment _____ pages _____.]

(c) (5 points): For an estimate of the time required for each identified response task.
[See Attachment _____ pages _____.]

(d) (10 points): For damage assessment tasks that are tied into a cumulative damage/substantial improvement tracking system.
[See Attachment _____ pages _____.]

(e) (5 points): For the identification of a floodplain management disaster response team.
[See Attachment _____ pages _____.]

(f) (5 points): For a list of equipment and supplies expected to be needed and how they will be obtained.
[See Attachment _____ pages _____.]

(8) FRO3 (25 points): Specific actions must be keyed to the different flood levels shown on the flood inundation map or maps used for credit under Section 611.b (3) in order to receive any Activity 610 credit. *[See Attachment _____ pages _____.]*

(9) FRO4 (10 points): For maintaining a data base of people with special needs who require evacuation assistance when a flood warning is issued and for having a plan to provide transportation to secure locations. (If credit was provided for FRO4 in a county's "parent" plan, the community must provide verification of its knowledge of the special-needs population within its own jurisdiction for creditable purposes.)
[See Attachment _____ pages _____.]

(10) FRO5 (Up to 15 points): If instructions for the return of evacuees to affected areas are also in the plan, including prescribed credential instructions and any needed area security assignments. Substantial damage assessments are prescribed/conducted in the SFHA prior to any repair permits being issued.

(a) (5 points): If the plan includes instructions for an evacuation procedure that addresses critical facilities, homes, and businesses, with instructions for when and how returning evacuees can reoccupy structures in compliance with the community's SFHA permitting policies.
[See Attachment _____ pages _____.]

(b) (5 points): If the plan includes instructions for substantial damage assessment procedures within the SFHA that are made before issuance of a permit during the recovery phase.
[See Attachment _____ *pages* _____*.]*

(c) (5 points): If the plan includes instructions for implementing the community hazard mitigation plan's identified flood loss mitigation measures on community and private property.
[See Attachment _____ *pages* _____*.]*

(11) FRO6 (Up to 20 points): If the plan identifies actions that support property protection measures that are carried out in both the response and recovery phases. *[See Attachment* _____ *pages* _____*.]*

Critical Facilities Planning (CFP) Credit Criteria and Documentation

The maximum credit for this element is 75 points.

(1) The activity credit criteria must be met. CFP1 is a prerequisite for any CFP credit.

(2) If your community does not have any critical facilities that can be affected by flooding, the community must provide documentation stating this on community letterhead and provide a copy of the community's adopted definition of critical facilities. Credit will be limited to a total of 5 points in CFP.

(3) For CFP1, the community's flood warning and response plan must list the facilities considered critical in a flood, not necessarily just those located in the SFHA. This inventory can be in a separate document or SOP. In general, facilities not subject to flooding do not need to be addressed, although in some cases loss of access can cause a critical situation. There may also be facilities in flood-free sites that are needed to support the flood response effort (e.g., sandbag suppliers and shelters for evacuees). The community's list must be updated at least annually. The community must also contact the facilities to determine if they require any special warning arrangements. The community does not need to provide a special warning to all critical facilities, only those that need one.

(4) CFP1 (Up to 25 points): The plan includes the contact information, including the names and phone numbers of the operators of all public and private critical facilities affected by flooding. *[See Attachment* _____ *pages* _____*.]* and,

(6) Arrangements for special warnings or early notifications directly to those critical facilities that need advanced warning.
[See Attachment _____ *pages* _____*.]*

(6) CFP2 (up to 50 points): Provide an inventory of critical facilities listed under CFP1 that have their own flood warning and response plans which have been developed, reviewed or accepted by the community. This credit will be prorated based on the percentage of affected critical facilities that have creditable plans as indicated by the community.
[See Attachment _____ pages _____.]

At each verification visit, a list of all public and private critical facilities that are affected by flooding or are needed to be operational during a flood, with the contact information and agreed-upon warning needs must be provided. [For CFP2] The list of critical facilities marked to identify those that have developed their own flood warning and response plans that have been reviewed and accepted by the community. The ISO/CRS Specialist will ask for samples of the plans for review.

At annual recertification, a page from the latest list of the critical facilities provided for CFP1 credit must be provided to the ISO/CRS Specialist, which is updated at least annually.

StormReady Community (SRC):

The maximum credit for this element is 25 points.

(1) The activity credit criteria must be met.

(2) For SRC credit, the community is not required to provide documentation. SRC is documented by its inclusion on the NWS maintained list of designated "StormReady Community" members posted on its website. The community must be listed individually (by name) on the website or be included in an NWS SRC award letter to the borough/county/parish, also listed individually by name. This is an NWS requirement.

TsunamiReady Community (TRC):

The maximum credit for this element is 30 points.

(1) The activity credit criteria must be met.

(2) The community must be designated as a TsunamiReady community by the NWS.

(3) The community must meet the CRS tsunami hazards mapping requirements of element MTS (Mapping tsunami hazards), in Section 412.f (2) of the Coordinator's Manual.

(4) The community must have adopted a tsunami hazards operation plan that describes the actions the community is to take upon receiving a tsunami warning.

ANY ADDITIONAL INFORMATION YOU WISH TO SUBMIT:

NFIP/CRS

Maps as Cornerstones of Flood Warning and Response

— A Handout for the National Flood Insurance Program Community Rating System —

The 600 series of activities within the Community Rating System (CRS) relies on linkages between a community's emergency management mission and its floodplain management program. These credited activities focus on life safety, particularly flood warning programs, and can result in additional CRS discounts for your citizens. Activity 610 (Flood Warning and Response) forms the building block of the 600 series because, to receive CRS credit, a community must have these basic emergency management services.

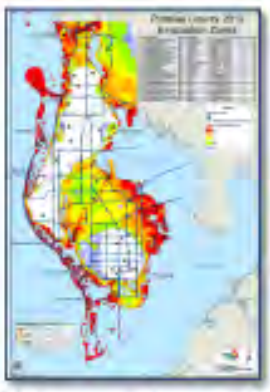
The Cornerstones of Activity 610

The community MUST have a flood warning and response program that correlates its flood threat recognition system, flood inundation map(s), and its adopted flood warning response plan. This CRS requirement is a basic component of any local emergency management program. Documentation of your program for CRS credit must include a copy of the flood inundation map, flood stage forecast map, or storm surge map (showing multiple levels of inundation) that depicts your community's flood threat. Such maps are used for multiple planning purposes by emergency management and must be addressed in the adopted flood warning response plan, comprehensive emergency management plan, or emergency operations plan. These documents are logically tied into whatever flood threat recognition system your community uses to provide early notice of a flood, such as river gages, ALERT (automated local evaluation in real time) systems, tidal gages, SLOSH (sea, lake, and overland surges from hurricanes) modeling, and others.

Maps of riverine flood threats and coastal storm surge zones are based upon different formats and processes, but both show the areas threatened by flooding. Examples of both are depicted below.

The adopted flood response plan (by whatever name) must discuss the actions taken by the community at each level of inundation shown on the map referenced in the plan. In large counties, there may not be detailed mapping and flood warning planning for the entire Special Flood Hazard Area. In such cases, some counties designate the entire area subject to the 1% chance flood as the initial area to be notified by the emergency alert system or other flood alerts, and have detailed multilayered flood levels only in the populated areas (as shown in the riverine flood inundation map below). A flood threat recognition system and flood response plan designed and implemented under such a scenario can be considered a CRS-creditable flood warning and response system.

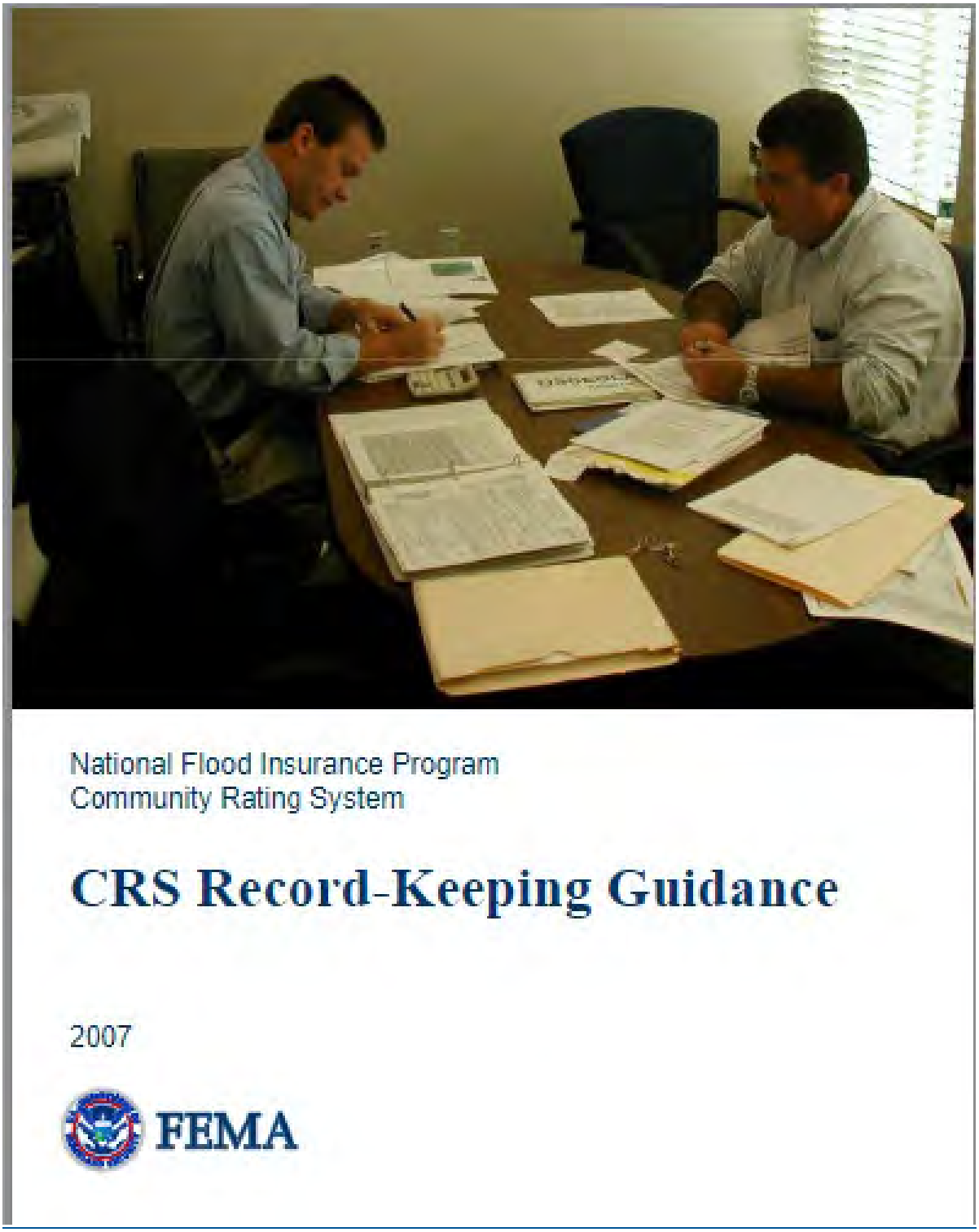
A flood inundation map for a riverine area



A SLOSH-generated evacuation map

Record Keeping Guidance

Access this document here: NFIP CRS Record-Keeping Guidance



Additional Resources

Key Contacts:

NY State NFIP coordinator: NYSDEC, Division of Water, Bureau of Flood Protection and Dam Safety
625 Broadway, Albany, NY 12233-3504, 518-402-8185 Send us an email

CRS ISO Representative: CRS Specialists by State

FEMA Representative: FEMA Regional Coordinator

Available Resources:

List of available resources to inform/educate the public on flood resilience through regional coordination and collaboration to leverage to aid floodplain administration including:

NYSFSMA https://nyfloods.org/

NYS CRS Users group CRS Users Groups

Training Programs

FEMA Training L-273, L-278 National Preparedness Course Catalog

Association of State Floodplain Managers (ASFPM) online training ASFPM Online Training

Certified Floodplain Manager (CFM) online learning, testing and certification ASFPM Certified Floodplain Manager Program

Guidance, Best Practices, Toolkit

FEMA 480 Floodplain Management Study Guide for Local Officials

FEMA Best Practices Mitigation Best Practices

CRS Coordinators Manual https://crsresources.org/manual/

ASFPM No Adverse Impact Toolkit Common Sense Floodplain Management