Community Substantial Damage Management Plan

Date, Version 1.0

Community specific information in [brackets] and highlighted yellow

Higher Standards highlighted in blue

CRS-Specific language options highlighted in green

Cross References are in magenta

Instructions for community in italics and bold (remove from finalized version)

0. Introduction

In the following section you will find two sections: one for communities that participate in CRS and one for those that do not. Use whichever introduction is fitting for your community.

(1) Non-CRS Community Introduction

0. Introduction

The following plan was implemented by [Community Name] to assist with meeting requirements of the Federal Emergency Management Agency (FEMA) National Flood Insurance Program regarding substantial damages and improvements. This plan outlines [Community Name]'s definition of substantial damage (SD) and substantial improvement (SI) requirements, outlines vulnerable areas, tracks SI and SD determinations, and outlines steps to take before and after a disaster.

The following six steps were used in the development of this plan:

1. Assess community's vulnerability to substantial damage
2. Identify community's team for management of substantial damage properties
3. Identify post-event efforts related to substantial damage
4. Build a property database for substantial damage estimates
5. Identify actions community can take to address potential substantial damage
6. Determine implementation steps and procedures for updating the plan

The correct use of this plan is intended to help [Community Name] be better prepared with resources and materials prior to a disaster and to have clear steps to follow post-disaster to allow for quick and successful recovery.

(2) CRS Community Introduction

CRS Communities should use this check list to ensure all requirements are met to earn these credits:

Substantial Damage Plan (SDP) Review Checklist

https://crsresources.org/500-2/

0.1 CRS and Substantial Damage

The community rating system (CRS) is a program that was developed by the Federal Emergency Management Agency (FEMA) that provides discounts on flood insurance for communities that go beyond the basic requirements of the National Flood Insurance Program (NFIP). Communities can receive discounts in flood insurance premiums for its residents and business owners by meeting criteria outlined in the CRS Coordinator's Manual and earning credits. The number of credits earned correlates with different class levels which each provide a different level of discounts, up to 45%.

In 2021, FEMA released an addendum to the CRS Coordinator's Manual that provides a new credit opportunity (Activity 512.d SDP) for developing a Substantial Damage Management Plan (SDP). This new credit allows for up to 140 points and the requirements are outlined in the following Section 0.2. This document was created to also meet the requirements of this credit.

0.2 Steps to Develop Substantial Damage Management Plans that meet CRS Requirements

There are three opportunities for credits for the Activity 512.d SDP credit and they are:

1. SDP1 – 40 points for the development of an SDP
2. SDP2 – 50 points if FEMA's Substantial Damage Estimator (SDE) is prepopulated or other equivalent program
3. SDP3 – 50 points if pre-event mitigation alternatives are considered

This totals to 140 points available for this credit. The CRS Coordinator's manual outlines the requirements of this credit, including the following seven criteria:

1. Must be developed using a definition of substantial damage that meets or exceeds the NFIP definition of substantial damage
2. If a community is receiving credit for cumulative substantial improvement (element CSI) under Activity 430 (Higher Regulatory Standards), then the substantial damage management plan must reference the community's cumulative substantial damage definition credited under CSI and describe the community's process for tracking cumulative substantial improvements. If a community is receiving credit for having a lower threshold for substantial improvement (element LSI), then the definition of lower substantial improvement must be referenced.
3. The plan must be the outcome of the six-step planning process, which is outlined following this list.
4. The community must prepare an annual evaluation report for its substantial damage management plan.
5. The substantial damage management plan and the annual evaluation report must be submitted to the community's governing body. If private or sensitive information (such as names or street addresses) is included in the report, then a summary report(s) must be prepared for the governing body, committees, media, and the public.
6. The community must provide its latest update or revision to its substantial damage management plan in time for each CRS cycle verification visit. The update or revision must include a review of each of the six planning steps.

7. The substantial damage management plan must be made available to the State NFIP Coordinator and the FEMA Regional Office, if requested.

One of these seven criteria above requires the following six steps be followed when developing the SDP:

1. Assess community's vulnerability to substantial Damage
2. Identify community's team for management of substantial damage properties
3. Identify post-event efforts related to substantial damage
4. Build a property database for substantial damage estimates
5. Identify actions community can take to address potential substantial damage
6. Determine implementation steps and procedures for updating the plan

[Community Name] has followed these steps in the development of this plan, as outlined in the following sections. The following table is an outline of the requirements of each step and where they can be found within the plan.

Please update this table if your community altered the sections and numbering. Steps 2 through 5 can be done in any order. Steps 1 and 6 need to be the first and last steps of this process.

Table 1 CRS requirements for SDP and Location in this document

Requirement	Section Number
Assess community's vulnerability to substantial Damage	1
Define SD, SI, CSI, and Lower SI/SD Threshold	1.1
Describe previous SI and SD	1.2, Appendix 2
List and map of SFHA properties	1.4, Appendix 3 and 4
Description of other building or flood factors	1.6
General description of buildings on the potential SD list	1.5
Identify community's team for management of substantial damage properties	2
Includes department responsible for issuing permits and office that tracks CSI	2.1
Includes sufficient additional personnel for the SD effort after a major flood or event	2.1
Considers personnel resources such as the State NFIP Coordinator and/or FEMA	2.2
Identify post-event efforts related to substantial damage	3
Post-event coordination and communication efforts	3
Damage estimate and substantial damage determination procedures	3
Post-substantial damage determination procedures for compliance	3
Build a property database for substantial damage estimates	4
Basic substantial damage property database	4
SDP2 – Pre-populate FEMA SDE or other equivalent program	4
Identify actions community can take to address potential substantial damage	5
Include one action the community will take to educate community about SD/SI	5.1
SDP3 - Consider mitigation alternatives for areas of community with high SD potential	5.1
Determine implementation steps and procedures for updating the plan	6
Provide annual evaluation report	6
Share with elected officials	6

1. Assessment of Vulnerability to Substantial Damage

Implementing this plan requires identifying vulnerable areas so that substantially damaged properties can be safely identified and evaluated, and homeowners and business owners can rebuild and reoccupy their structures. Identifying areas that are more vulnerable can help focus efforts to those areas that may need the most attention post disaster. Assessing vulnerability requires tracking previous substantial damages (SD) and substantial improvements (SI), identifying vulnerable buildings within the special flood hazard areas, describing other flood factors considered, and providing a general overview of structures in the special flood hazard area.

1.1 Substantial Damage, Substantial Improvement, Cumulative Substantial Improvement and Lower Substantial Improvement Threshold

Current Ordinance Definitions:

The following definitions are from [Community Name]'s current Flood Damage Prevention Ordinance.

These definitions are from the most recent Model Code Coordinated Ordinance. Please ensure that they match up with what is in your current flood damage prevention ordinance (FDPO) definitions. If your community considers Cumulative Substantial Improvement or a Lower Substantial Improvement Threshold, please be sure this is reflected in these definitions. If your communities FDPO has been updated, ensure that you alter this language to match your new ordinance during your annual review of this document.

If your community has not adopted the Model Code Coordinated Ordinance, you will need to. In the interim, ensure that these definitions include any other regulations that my apply to your community such as building codes, zoning, etc.

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 [or optional lower number] percent of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT – Any combination of reconstruction, rehabilitation, addition, or other improvement including those considered ordinary maintenance and minor work of a structure taking place over a number of [years] year period, the cumulative cost of which equals or exceeds fifty (50) [or optional lower number] percent of the market value of the structure before the "start of construction" of the improvement. The period of accumulation includes the first improvement or repair of each structure is permanent subsequent to [date]. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

a) Any project for improvement of a structure to correct existing violations of State or local health, sanitary or safety code specifications which have been identified by the local code enforcement officer and which are the minimum necessary to assure safe living conditions; or
b) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Cumulative Substantial Improvement — Any reconstruction, rehabilitation, addition, or other improvement of a structure that equals or exceeds 50 percent [lower threshold – e.g.: replace 50 percent with 40 percent] of the market value of the structure at the time of the improvement or repair when counted cumulatively for 10 years.

Previous Ordinance Definitions:

[Community Name]'s definition for Substantial Damage and Substantial Improvement has altered slightly throughout the years. The following is how SD and SI were defined in [Community Name]'s previous ordinance, adopted on [date].

Below are sample definitions from previous Model Flood Damage Prevention Ordinances. These definitions may vary depending on when you adopted your ordinance. Please indicate which ordinance and what timeframe the definitions you historically used were effective. This step is not required for the CRS SDP credit, but is recommended for best practices.

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 fifty (50) percent of the market value of the structure before the damage occurred. Substantial Damage also means flood-related damages sustained by a structure on two or more separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damages occurred.

Substantial Damage — Damage of any origin sustained by a structure whereby the cost of restoring the structure to its condition before damage would equal or exceed fifty (50) percent [optional – higher standard – lower threshold – e.g.: replace 50 percent with 40 percent] of the market value of the structure before the damage occurred.

Substantial Improvement — Any reconstruction, rehabilitation, addition, or other improvement of a structure during a 10-year period the cost of which equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction" of the improvement. Substantial improvement also means "cumulative substantial improvement." This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed or "repetitive loss". The term does not, however, include either:

a) Any project for improvement of a structure to correct existing violations of State or local health, sanitary or safety code specifications which have been identified by the local code enforcement officer and which are the minimum necessary to assure safe living conditions; or
b) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

Substantial Improvement — Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent [optional – higher standard – lower threshold – e.g.: replace 50 percent with 40 percent] of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

a) Any project for improvement of a structure to correct existing violations of State or local health, sanitary or safety code specifications which have been identified by the local code enforcement officer and which are the minimum necessary to assure safe living conditions; or
b) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

1.2 Description of Previous Substantial Damage and Substantial Improvement Determinations

Some communities track cumulative SD/SD using a table. A sample table can be found in Appendix 2. This sample table is not required but is recommended as a simple way of documenting this information. Your community can choose to export this information from wherever it is tracked, or you may provide a short and simple explanation of previous substantial damage and substantial damage determinations. If structural information is being shared with local officials or the public, please make sure that it does not contain Personally Identifiable Information (PII).

In addition to being a requirement of the NFIP, keeping track of previous substantial damages and improvements can make these calculations quicker for structures where these calculations have already been made. A list of all previous substantial damage determinations can be found in Appendix 2. In order to ensure its accuracy and that compliance is met in the allotted time, this list is updated and considered annually on the [first of every year, or each year from the date of the implementation of this plan, at the same time as County Hazard Mitigation Plan Update or other annual date selected by community. This could be done at the same time as the SDP annual evaluation and update].

1.3 Procedure for Tracking Cumulative Damage or Improvement

[Community name] keeps track of cumulative damage and improvement using [tracking system used whether it is just an excel sheet, the SDE tool, or other tracking tools]. Whenever any floodplain development permit is received by [community name] the cost of the improvement is recorded in [database]. The [database] additionally includes information on the market value of the property, and other pertinent information for determining if cumulative substantial improvement was triggered. [Community Name] considers the sum of improvements to a structure over a [number of years. 5, 10, lifetime of structure] year period when calculating cumulative substantial improvement.

For cumulative damage, whenever a substantial damage determination is made, the damage cost is recorded in [database] regardless of substantial damage being triggered or not. If there are future damages considered they would be added to the previous damage calculated, and then the sum would be compared to the market value to see if substantial damage has been triggered. [community name] considers the sum of damages to a structure over a [number of years. 5, 10, lifetime of structure] year period when calculating cumulative substantial damage.

Post disaster, rather than wait for a floodplain development permit, the Floodplain Administrator assembles a team to assess structures in the Special Flood Hazard Area and make substantial damage determinations. More details on the substantial damage team can be found in Section 2 of this document. Additionally, more information on the procedures post disaster can be found in Section 3 of this document.

1.4 List and Map of SFHA Properties (buildings that have SD potential)

Appendix 3 contains [Community Name]'s list of [(1) all buildings in the SFHA, 2) properties suspected to be below BFE, 3) RL structures, 4) Properties with prior SD determinations, or 5) building which could meets cumulative SD] including pertinent information about the structures. Tracking these structures and additional information ahead of time will focus efforts where they are most needed post-disaster and will speed up the substantial damage determination process.

In addition to this table, [Community Name] also has maps of structures in this list. The full map is available upon request from [FPA, Office, etc] as it is a [File type, like ArcGIS] file. Copies are maintained by the Floodplain Administrator and the Town Planner as a [Arc GIS, file type, etc.].

In Appendix 4 [Community Name] has included exported maps depicting structures of the Special Flood Hazard Area. After a disaster, copies are made of these maps and are handed out to those going out into the field and making substantial damage determinations.

1.5 General Description of Building so the Potential Substantial Damage List

The majority of structures in [Community Name] that are in the special flood hazard area are [residential, non-residential, etc.]. The proportion of the residential to non-residential structures is [X:X]. The types of structures that are present in [Community Name] include: [list types of structures, commercial, residential, critical facilities, etc.].

1.6 Description of Other Building or Flood Factors

The following studies, maps and data are not required to be included for the SDP credit. This information is beneficial to have at hand for your community and it is recommended by the state to include these sections.

The following are the maps, data, studies, and other determined flood zones that [Community Name] uses to evaluate flood risks. These will all be used to after a disaster to determine which areas are vulnerable and need to be focused on.

Effective Flood Insurance Study

Special flood hazard areas are determined by FEMA in scientific and engineering reports called Flood Insurance Studies and are accompanied by Flood Insurance Rate Maps. The below table indicates the effective studies and maps used by [Community Name].

Please fill in the table below. All of this information should be available to you in your community's local flood damage prevention ordinance.

Table 2. Effective Flood Insurance Study

Map Panel #	Effective Date	Revision Letter	Map Panel #	Effective Date	Revision Letter

Federal Best Available Information

[Community name] additionally considers Federal flood information as listed in the table below that provides more detailed hazard information, higher flood elevations, larger flood hazard areas, and results in more restrictive regulations. This information may include but is not limited to preliminary flood elevation guidance from FEMA (such as Advisory Flood Hazard Area Maps, Work Maps or Preliminary FIS and FIRM). These studies are listed on FEMA's Map Service Center. This information shall be used for floodplain regulation purposes only.

Please fill in the table below. All of this information should be available to you in your community's local flood damage prevention ordinance.

Table 3. Federal Best Available Information

Map Panel #	Preliminary Date	Map Panel #	Preliminary Date

State Regulated Flood Hazard Areas

In addition to studies done by FEMA, there are State Studies that need to be considered in [community name]. For State regulated waters, the NJ Department of Environmental Protection (NJDEP) identifies the flood hazard area as the land, and the space above that land, which lies below the "Flood Hazard Area Control Act Design Flood Elevation". A FHACA flood hazard area exists along every regulated water that has a drainage area of 50 acres or greater. Such area may extend beyond the boundaries of the Special Flood Hazard Areas (SFHAs) as identified by FEMA. The following is a list of New Jersey State studied waters in this community under the FHACA, and their respective map identification numbers.

Please fill in the table below. All of this information should be available to you in your community's local flood damage prevention ordinance.

Table 4. State Regulated Flood Hazard Areas

Name of Studied Water	Section Studied	Project	File Name	Map Number

Community-determined flood zone not depicted on Flood Insurance Rate Maps (High water marks, flood hazard protection areas, gage data from NOAA, etc.)

In addition to the Federal and State Studies described above, [community name] shall utilize high water elevations from flood events, groundwater flooding areas, studies by federal or state agencies, or other information deemed appropriate. This other "best available information" is never used in a way that results in less restrictive flood elevations, design standards, or smaller flood hazard areas than the sources described above. This information shall be used for floodplain regulation purposes only. Below is a list of all additional information utilized by [community name].

Please list any information your community additionally considers including high water marks, flood hazard protection areas, gage data from NOAA, etc.)

Historic Maps

As new effective and preliminary maps are released, include historical maps here with the dates they were effective. This information is useful to look back on to see what maps were effective during the construction of structures.

The following is a list of previously effective maps and the time period that they were effective for [Community Name].

Map Panel #	Time Period Effective	Revision Letter	Map Panel #	Time Period Effective	Revision Letter

2. Team for Management of Substantial Damage Properties

When gathering information for this document, it was indicated that many communities already have a team in place that meets regularly to discuss their flood program and said team would be their team for Management of Substantial Damage Properties. If this is the case, make sure that the team meets one time per year to review and discuss roles and responsibilities related to substantial damage.

2.1 [Community Name] Substantial Damage Management Team

After a disaster, there are many different offices and local officials that need to be involved in the recovery process. Identifying these individuals and offices ahead of time and ensuring they are trained in their roles and responsibilities prior to an event is necessary for a swift and quick rebuild. The following is a list of the members that make up this team and their responsibilities post-disaster for [Community Name]:

These roles and individuals on the team may be different for your community. Remove or add members of team as applicable and move responsibilities necessary.

- Floodplain Administrator (responsibilities below can be delegated)
  - Letters Prior to an Event
  - Notification on permitting procedures for rebuilding

    - Request additional help through mutual aid agreement (see Section 5 for more information on mutual aid agreements)
    - Provide training and outreach to the staff and contractors
    - Identify available resources
    - Notify elected officials and community departments including fire, police, and emergency services, planning, and building code of the upcoming fieldwork
    - Plan the SI/SD field inspections including initial field surveys, establishing damage trends, preparing cost information, and collecting data
    - Hire, train, supervise, certify and license staff for field operations
    - Ensure follow-up coordination with structure owners is completed
    - Coordinate final storage of SI/SD files
    - Organize press release and provide information on flood hazards, floodplain map data, advisory flood data and compliance to residents and property owners
    - Review elevation certificates
    - Process, maintain, and track temporary occupancy permits and inspect temporary occupancy buildings
    - Take corrective action necessary to ensure compliance
    - Determine if damaged structures have been designated as historic or that may be eligible for such designation
- Construction Official
    - Conduct and process condemnation determinations
    - Assist in substantial damage inspections and determinations
    - If DCA allows for Temporary Certificates of Occupancy, implement a procedure for properties with these certificates to be mitigated as soon as possible, keeping in mind the 6-year limit of the ICC eligibility period.
    - Regularly document and require repairs of existing violations of state or local health, sanitary, or safety code specifications which have been identified by the Construction Code Official and are the minimum necessary to ensure safe living conditions. If appropriate, this pre-event documentation may be used by a qualified professional to adjust the market value of distressed properties after an event.
- Office that does permitting
    - Review and process permit applications
    - Determine if interim permitting procedure is necessary
    - Track cumulative substantial improvement
    - Process and track requests for building code variances and record outcomes
    - Collect fees
    - Monitor impacted areas for unpermitted construction activities
    - Inspect structures under construction for compliance
- Municipal Engineer
    - Assist in substantial damage inspections and determinations
- Tax Assessor
    - Assist in establishing market value for structures
- OEM Coordinator
    - Assist in communicating to public before and after disaster

    - Draw on their Community Emergency Response Team (CERT) team (if applicable) to assist during and after emergencies and conduct preliminary damage assessments
- CRS Coordinator
- Grants coordinator/planner
- Municipal administrator

2.2 Other Personnel Resources including the State National Flood Insurance Program Coordinator's Office and The Federal Emergency Management Agency Region II

[Community Name] will consider other personnel resources when necessary post disaster. This includes the State NFIP Coordinator's office and the Federal Emergency Management Agency Region II resources. More detail on this is provided in Section 3 steps 5 and 8, as well as Section 5.2.

3. Post-Event Actions Related to Substantial Damage

The following are steps that your community may take post disaster. These steps are recommended by the state, but there is a chance that some steps are not feasible or need to be done out of order. It is ultimately up to your community to add or remove steps that you plan to take. Keep in mind, different levels of disasters may not warrant all of these steps.

The following is a list of steps for [Community Name] to follow after a disaster.

1. Warning Prior to an Event

   If there is ever an instance where [Community Name] is aware of an impending disaster, [letters, social media posts, or emails] notifying the residents will be sent out. This notice contains information to inform residents of the upcoming event, include information on permitting and requirements for substantial damage. Language for this notice has been prepared ahead of time and can be found in Appendix 5 of this document.

2. Debris Management

   Information on staging areas are available in your County's Hazard Mitigation Plan. If this is not available in your County's plan, work with the your Local and County Offices of Emergency Management to develop a Disaster Debris Management Plan (DDMP).
   Clearing debris is an important first step to take after a disaster so that emergency vehicles are able to navigate the community. This effort will be led by [department leading effort, department of public works]. The [County Name]'s Hazard Mitigation Plan indicates the following staging areas in [Community Name] that the debris can be transported to, including [list of locations of staging areas, provide map of locations if available].

   Note: FEMA provides supplemental Federal disaster grant assistance for debris removal through the Public Assistance (PA) Program. Consider this resource if additional assistance is needed. More information on this program can be found in below in #8 of this list 'Post Disaster and Mitigation Funding Assistance'.

3. Communication with Elected Officials and Property Owners

Notify Property Owners

After a disaster, notifications will be sent out to property owners via [letters, email, social media] informing them of permitting procedures, substantial damage requirements, and of upcoming inspections of structures. During this time, property owners will be eager to rebuild, so it is important to inform them of these requirements as quickly as possible and ensure that work performed on their property is properly permitted. Appendix 5 contains example language to be shared property owners.

Press Release

After a disaster, it is important to get the word out to citizens about rebuilding plans and resources they may need. Appendix 6 contains example text for press releases that can be altered to fit the disaster situation. [Community Name] will work with their Public Information Officer to develop an appropriate and informative press release. Here are a few items that are important to be included and considered:

- Permit requirements
- Substantial damage requirements including information on elevation and freeboard ordinance requirements
- Safety hazards
- Update on public utilities (i.e. what is working and what is not, a timeline of when things will be restored, etc.)
- Locations for resources, shelters and food
- State and Federal Assistance
- How to file flood insurance claims and how to appeal claims payments
- NFIP Increased Cost of Compliance Procedure
- Phone number or email address where questions can be directed to

4. Meet with Substantial Damage Team, Train Members, and Assign Areas of Responsibility

The roles and responsibilities of the substantial damage manager were designated to the Floodplain Administrator in Section 2 of this document (unless your community has changed them). If so, change who is designated as the Substantial Damage Manager in this section.

The substantial damage team members and their areas of responsibility are defined in Section 2 of this document. After a disaster, [Community Name] will schedule a meeting with the team as soon as possible to review roles and responsibilities and ensure all members are trained and have all necessary tools to carry out their work. This substantial damage team will be broken up into smaller groups to assess the floodplain and structure damages or will acquire additional help and delegate these assessments. The floodplain administrator will be designated as the Substantial Damage Manager. These roles and responsibilities are as follows:

- Identify available resources.

- Notify elected officials and community departments including fire, police, and emergency services, planning, and building code of the upcoming fieldwork.
- Plan the SI/SD field inspections.
- Organize and train the inspectors.
- Supervise field operations.
- Ensure follow-up coordination with structure owners is completed.
- Coordinate final storage of SI/SD files

5. Assess Post-Disaster Needs and Request Assistance

Initial Screening of Damages

In the case of a flood, the initial damage assessments, led by the Substantial Damage Team, includes a tour of the flooded portions of the Special Flood Hazard Area (SFHA) to identify every affected structure and those with obvious structural damage. It is key to identify affected properties in the first days after an event. This initial damage assessment will be done by walking the SFHA and viewing structures from the street. At that time, damage will be estimated depending on the level of the high-water mark (in the case of flooding) or on other characteristics, such as roof damage after a high-wind event. Additionally, photos will be taken of these structures and a photo log will be kept. High water marks will also be documented and tracked. A printout of a map will be used to identify locations of damaged buildings and photographs will be taken for future reference. When marking this map, buildings should be marked with green, yellow and red colors to indicate levels of damages.

Designation	Description
Green	• Structures with low water levels (in the case of a flood) and damages • Not likely to be substantially damaged • Approximately 0-40% damaged
Yellow	• Structures that are not clearly substantially damaged or not • May need more extensive evaluation to determine if substantial damage is triggered • Approximately 40-60% damaged
Red	• Structures that experienced high levels of water (in the case of a flood) and damages • Clearly substantially damaged • Approximately 60-100% damaged

Some rules of thumb that the Substantial Damage Team will use during this initial screening include the following:

- If a structure has been moved off of its foundation or if there is major foundation damage, it is nearly certain that it has been substantially damaged

- If flood depths exceed two feet above the first (primary) floor on a traditionally constructed (frame) building, the structure may be approaching substantial damage thresholds.
- If flood depths exceed one foot on a mobile or manufactured home, the structure may be approaching substantial damage thresholds.

During this time, notices will be posted on structures notifying the owners that damage has occurred and that there is a need for inspection before the house is occupied again or repair work is done. The notice that will be used is provided in Appendix 7. Additionally, if the disaster is flood related, door hangers informing property owners of substantial damage requirements and flood recovery will be hung up. The door hanger that will be used is also in Appendix 7.

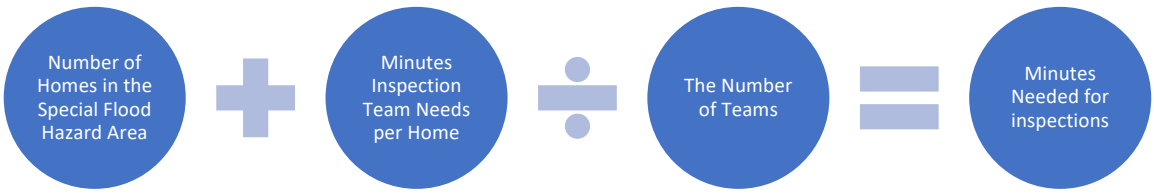
Information collected during this initial damage assessment will identify the approximate location of the affected structures. This information will be used to define the scope of the field inspection, and to calculate the number of days and staffing needs to complete the SI/SD determinations. Areas that have a lot of structures with the "yellow" marking should have teams with more experience assigned to them. It is important to note, that even structures that are clearly damaged still need evaluation and documentation of the substantial damage determination.

Establishing Timeframes

Establishing timeframes is not a requirement for the CRS credit for developing an SDP. It is recommended by the state to consider this section to have a better understanding of timing and staffing needs to recover. Keep in mind that DRRA Section 1206, discussed in Section 8, provides funds (matched at 25% by municipalities) for this work in a 180-day period after a Federally declared disaster that can be used to supplement existing staff with force account or contracted staff.

It is recommended by FEMA that local officials begin damage assessments as soon as possible after a disaster, whenever determined to be safe. After the initial screening of damages, the Substantial Damage Team will have a better understanding the extent of the damages. Using this information, the following equation will be used by the team to determine the amount of time necessary to assess all structures in the Special Flood Hazard Area. Using this calculation will help in determining whether additional assistance is necessary to perform all of these inspections in a timely manner.

FEMA has estimated that a two-person team can assess approximately 20 to 35 homes in one day when they can walk between structures. Or approximately 2 to 4 homes per hour. Keep this in mind when doing these calculations.



Mutual Aid Agreements

Section 5.2 of this document provides information on what mutual aid agreements [Community Name] has in place. After the initial screening and assessing timeframes and post-disaster needs, the Substantial Damage Team will consider areas and work that they need assistance with and will seek help through their established agreements.

Interim Permit Procedures

Waving permit fees and inspection fees is a common practice post disaster. This does not waive the requirements of permitting. It is up to your community to determine if that is an action you would like to take post disaster.

After a disaster, the [office that handles permits] will be flooded with permit applications as property owners are eager to rebuild. This may require interim permitting procedures in order to process the large number of applications in a timely manner. This does not waive the requirement to obtain a permit. [Insert community interim permit procedures here].

6. Damage Determinations

Conduct Inspections, Make Damage Estimates, and Occupancy Determinations

When breaking up teams to conduct inspections and assigning areas of work, the Substantial Damage Team will send more experienced teams to areas indicated as the "yellow" color during the initial screening. All groups will walk the floodplain and conduct inspections in their assigned areas. Appendix 8 has worksheets that were created by FEMA that will aid in this inspection process, along with guidance on estimating damages and percentages. Using this data, the team or floodplain administrator will be able to make estimates of the damage costs. It is important to remember, the damage estimate needs to include all costs to return the structure to its pre-damaged condition regardless of if the owner plans to have all of the work done or not.

Additionally, if the owner plans perform labor themselves or uses donated materials, the cost of these still need to be added to the to the damage estimate. Appendix 5 includes two lists of what should be considered in the damage estimate and what should be excluded. All calculations for damage are tracked by [Community Name] in [whatever tracking system is used, SDE tool, spreadsheet, or other database].

During this time, teams will also make occupancy determinations for the structures. If a structure is unsafe, the building will be marked with notices stapled directly onto the properties. An example of this notice can be found in Appendix 7. Homeowners will also be notified in by [letter, email, etc.] in case they are not in the area.

Establishing Market Value

It is important that this is done in a uniform way by your community. There are several ways to do this, but here are recommendations from the state. Adjust as necessary for your community. Method (1) is recommended for consistency and because the homeowner is already paying taxes on this value. If the cost is contested, then use the other methods.

When calculating substantial damage, the market value used is of the structure alone, and does not consider land or exterior improvements. Section 4.5 of the FEMA Desk Reference P-758 "Substantial Improvement/Substantial Damage Desk Reference" provides extensive background information that can but used to determine market value. While establishing market value [Community name]…

Pick one of the following methods

(1) recommended for consistency. If contested, then use the alternative methods.

…consults with the tax assessor to get the market value of the structure who can also provide advice on adjusting a structure's tax assessed market value to reflect the market at the time of the event.

(2) - Some communities, with the advice of their tax appraiser, allocate percentage of a distressed property's purchase price to the structure and the remaining percentage to the land for properties that were distressed prior to a disaster or have been sold post-disaster as a previously-designated substantially damaged structure that is proposed for renovation.

… finds the price that the structure was purchased for and estimates the percentage of that price for the structure based upon structure condition at the time of sale in consultation with the tax assessor.

(3)

…uses independent appraisals performed by New Jersey professional appraisers to determine market value.

(4)

… uses detailed estimates of the structure's Actual Cash Value (replacement cost minus deprecation)

(5)

… uses qualified estimates based on sound professional judgment made by staff of the local building department.

All determinations of market value are tracked by [Community Name] in [whatever tracking system is used, SDE tool, spreadsheet, or other database].

Substantial Damage Determinations

After the damage estimate and market value have been determined and recorded, [Community Name] will calculate if the cost of work is equivalent to greater than 50% [or other lower threshold for substantial damage] of the market value. If that is the case, then the structure is substantially damaged. Since [Community Name] tracks substantial damages and improvements cumulatively, this value is added to any previous cost of improvement or damage that the building may have when calculating this percentage.

$$\frac{\text{Cost of Improvement or cost to Repair to Pre-Damage Condition}}{\text{Market Value of Building}} \geq 50\% \text{ (or lower \%)}$$

Notify Property Owners

Once all of the determinations have been made, property owners need to be notified of the outcomes. Appendix 5 contains two letters that should be sent to property owners if their structures are determined to be substantially damaged or not substantially damaged. Additionally, these letters will be posted directly on the structure. If a structure has been determined substantially damaged homeowners will also be informed to contact their insurance provider, where resources for NFIP insurance including Increased Cost of Compliance coverage can be found. Some homeowners may have private sector flood coverage where coverage options and resources can vary. More information on these is provided in step 7 of this section, with links and resources that can be shared with owners of substantially damaged structures.

Double check your municipality's ordinance to see if the following is a requirement.

The New Jersey NFIP Coordinator's office should be copied on all substantial damage letters issued. Contact information can be found in step 10 below.

Variances

Language for variances or appeals can be found in the new model code coordinated ordinance. Older ordinances refer to appeals. Check your ordinance to make sure the language here matches what you find there. If your ordinance is updated, remember to update this section during your annual review.

Not every property owner is going to be satisfied with their substantial damage determination. An owner may apply for a variance to the local official's finding or determination that the proposed work constitutes substantial damage. The owner may apply for a variance to an SI/SD determination on the basis of insufficient information, errors, repair/improvement costs that should be included/excluded, inappropriate valuations of costs for the proposed work, or an inappropriate method to determine the market value of the building. Pre-event outreach regarding SI/SD can help reduce the number of variances. Community officials should inform residents whose homes are within the SFHA that SI/SD determinations will apply to them. FEMA Publication 213 "Answers to Questions about Substantially Damaged Buildings" can be a helpful resource that can be shared with property owners.

Language from [Community Name]'s Local Flood Damage Prevention Ordinance regarding the process to apply for variances can be found in Appendix 11.

7. Flood Insurance claims and Increased Cost of Compliance

National Flood Insurance Program Flood Insurance Claims

Property owners who have NFIP flood insurance policies receive information from FEMA on the claims process, including the NFIP Insurance Claims Handbook. The following steps need to be taken to file a claim and the process:

- Owners report losses to their insurance agents or companies.
- Adjusters are assigned to estimate damage ("a detailed room-by-room unit-cost estimate of damage") and advise owners about preparing the "Proof of Loss" documentation. Adjusters may authorize advance partial payments to help owners start making repairs.
- After the adjuster and owner agree on the damage estimate, the adjuster sends documentation to the owner's insurance company and the claim is settled (paid), unless the claim is denied by FEMA.

Often times, NFIP claims can be paid quickly and ahead of a community's effort to determine building permit requirements. Therefore, it is important that the Substantial Damage Team makes sure property owners understand the need for permits, and that working without them may violate the building code. If residents ask about filing a claim, they will be directed to the resources below. If they do not have NFIP insurance, they will be informed that they need to work with their insurance provider.

Additional resources for policy holders:

National Flood Insurance Program Claims Handbook:

https://www.fema.gov/sites/default/files/2020-05/FINAL_ClaimsHandbook_10252017.pdf

FEMA Web Page, How do I start my flood claim?

https://www.fema.gov/flood-insurance/resources-practitioners/file-your-claim

Increased Cost of Compliance (ICC)

Substantially damaged properties that are in the SFHA and insured through the NFIP may be eligible for Increased Cost of Compliance (ICC) coverage. (Private insurance may or may not have a rider that provides these funds.) As of 2021, ICC coverage provides up to $30,000 toward the costs to mitigate a property that has been determined to be substantially damaged. A substantial damage determination triggers the requirement that owners bring structures into compliance with NFIP requirements for new buildings and the community's ordinance in effect at the time of the flood event, which may mean elevating or relocating the structure, adding flood vents, or making other changes based on the flood zone. Below are the steps property owners need to take to file an ICC claim:

- Contact insurance company and document the loss, including photos.
- If home determined to be substantially damaged, discuss with community what mitigation activity is required to bring their buildings into compliance and if any mitigation grants are available.

- Submit to adjuster the community's substantial damage or repetitive loss letter, a signed repair contract, and building permit that documents rebuilding requirements in the floodplain.
- Insurance providers will also verify that a building's flood damages equate to 50% or greater of the before damage market value.

Owners can also assign ICC payments to communities seeking FEMA grant funds for mitigation; the assigned ICC claim funds are used as part of the non-federal share required by FEMA mitigation grant programs and can cover structure demolition costs. Some communities have found that grouping applicants allow for better mitigation value. ICC funds can be used for relocating, elevating, and demolishing buildings, and for dry floodproofing non-residential buildings.

The following paragraph only applies if your community has adopted a repetitive loss provision (or cumulative substantial damage or improvement language) in your flood damage prevention ordinance. This provision needs to be in the ordinance before the time of a disaster and cannot be applied retroactively. Please remove if this section does not apply to your community...
Additionally, ICC funds can be used for repetitive loss structures. In order for a structure to be considered a repetitive loss structure, it needs to have been damaged two times over a 10-year period, and the cost of repairs was on average 25% or higher than the market value of the building before the damage occurred each time. Additionally, a flood insurance claim needs to have been paid out after each instance of damage.

…End

Additional resources on Increased Cost of Compliance can be found here below. If the Substantial Damage Team is asked about ICC, they should point residents to these resources.

FEMA ICC Website:
https://www.fema.gov/floodplain-management/financial-help/increased-cost-compliance

Increased Cost of Compliance Factsheet
https://www.fema.gov/sites/default/files/2020-08/fema_increased-cost-of-compliance_fact-sheet.pdf

FEMA P-1080 – Answers to Frequently Asked Questions About Increased Cost of Compliance
https://www.fema.gov/sites/default/files/2020-11/fema_p1080_icc_faq_20170817.pdf

FEMA 301 ICC guidance was not included at this time because neither the 2003 or 2008 versions are
FEMA National Flood Insurance Program Claims Manual
https://www.fema.gov/sites/default/files/2020-05/NFIPClaimsManual_withcover_v6_Guidehouse_092718.pdf

8. Post Disaster and Mitigation Funding Assistance

Most FEMA post-disaster funding assistance requires a matching 25% cost share of local funds at the disaster level (can be made in-kind or met through a global match at the disaster level or through homeowner contributions). Reducing and eliminating risk in the floodplain over time through the enforcement of building practices and substantial damage and improvement determinations is a fairer and more equitable way to address buildings built in the SFHA because it doesn't impact property owners who have little to no risk but must pay increased taxes to fund grant cost shares. Gradually, improved floodplain management and enforcement should reduce municipal floodplain risk and increase building resiliency after floods. However, when circumstances dictate that a community's viability is dependent upon housing stock rehabilitation and/or the elimination of structures in the floodplain, there may be disaster recovery and competitive grant funding available.

The following programs are subject to specific eligibility, funding, and application requirements that may change from year to year. FEMA mitigation funding is distributed through the New Jersey Office of Emergency Management. Check their website for the latest New Jersey Hazard Mitigation Plan and for more information on prioritization of projects: http://ready.nj.gov/mitigation/hazard-mitigation-plans.shtml. Blue Acres funding is distributed through the Blue Acres Program at the NJDEP. This section is intended as an overview.

Disaster Recovery & Reform Act (DRRA)

More guidance will be released on this from FEMA. Your community should ensure that all of this information and resources are up to date.

The Disaster Recovery Reform Act of 2018 (DRRA) amended sections of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) to authorize FEMA to assist state and local governments for building code and floodplain administration enforcement. This policy is intended to provide communities with the necessary resources to administer and enforce state and locally adopted building codes and floodplain management ordinances for a period no longer than 180 days after a declared disaster. In doing so, this policy aims to increase the overall speed of recovery and enhance compliance. This is a FEMA Public Assistance program that is administered by the New Jersey Office of Emergency Management (NJOEM).

Below is a link to the policy. There you will find extensive lists of eligible work and costs. It is important to note that this list is not exhaustive, and other work may be eligible. Additionally, there is a list of work that is considered ineligible.
https://www.fema.gov/sites/default/files/2020-10/fema_building-dode-floodplain-management-ddministration-enforcement-policy_drra-1206_signed_10-15-2020.pdf

FEMA provides PA funding for contract costs based on the terms of the contract if the Applicant meets Federal procurement and contracting requirements under 2 C.F.R. Part 200. For more guidance on the public assistance requirements, eligibility, contracting and procurement consult

the following documents below. Additionally, work with your Office of Emergency Management Coordinator to get more information on Public Assistance funding.

Public Assistance Program and Policy Guide FP 104-009-2
https://www.fema.gov/sites/default/files/2020-06/fema_public-assistance-program-and-policy-guide_v4_6-1-2020.pdf

Procurement Guidance for Recipients and Subrecipients Under 2 C.F.R PART 200 (Uniform Rules)
https://www.fema.gov/sites/default/files/2020-07/fema_procurement-under-grants-field-manual-supplement_1.pdf

Hazard Mitigation Grant Programs

Note: this information changes annually. Be sure to check with your Office of Emergency Management Coordinator for the latest Notice of Funding Opportunity for the latest information for the current fiscal year.

The Hazard Mitigation Grant Program (HMGP) provides grants to state and local governments, Indian tribes or other tribal organizations, and certain private non-profit to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. Hazard Mitigation Grant Program funding is only available in states following a Presidential disaster declaration.

Individual homeowners and businesses may not apply directly to the program; however, a community or other qualified sub-grantee may apply on their behalf. Projects must provide a long-term solution to a problem, for example, elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood. In addition, a project's potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage.

Additional information on HMGP can be found here:
https://www.fema.gov/grants/mitigation/hazard-mitigation

Hazard Mitigation Assistance Guidance:
https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf

Flood Mitigation Assistance

Note: this information changes annually. Be sure to check with your Office of Emergency Management Coordinator for the latest Notice of Funding Opportunity for the latest information for the current fiscal year.

The Flood Mitigation Assistance (FMA) Program is a competitive grant program that is offered on an annual basis and provides funding to states, local communities, federally recognized tribes and territories to be used for projects that reduce or eliminate the risk of flood damage to buildings insured by the NFIP. Grants are designed to help communities apply a sustained flood reduction program that focuses on reducing or eliminating claims under the NFIP. The goal is to reduce overall risk to population and structures from future flood hazard events while reducing reliance on federal disaster funding.

FEMA requires local governments to develop and adopt hazard mitigation plans as a condition for receiving funding for FMA projects. FEMA chooses recipients based on the applicant's ranking of the project and the eligibility and cost-effectiveness of the project. FEMA establishes ranking criteria with each grant cycle. Project eligibility requirements include a positive benefit cost analysis, good standing in the NFIP and the project must be identified in the Hazard Mitigation Plan. Consult the Hazard Mitigation Assistance guidance below for more information.

Local governments may apply for FMA grants through the state. Individuals must seek assistance and apply through their local governing authority.

FMA Project Grants are available to help States and NFIP participating communities implement measures to reduce flood losses. Communities receiving FMA Project Grants must be participating in the NFIP. Examples of eligible FMA projects include: flood reduction projects, elevation, acquisition, or relocation of NFIP-insured structures.

Additional information on FMA grants can be found here:
https://www.fema.gov/grants/mitigation/floods

Hazard Mitigation Assistance Guidance:
https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf

Link to DCA Division of Disaster Recovery and Mitigation
https://www.nj.gov/dca/ddrm/pdf_docs/2.10.102%20MAP_Policy_Final.pdf

Building Resilient Infrastructure and Communities (BRIC)

Note: this information changes annually. Be sure to check with your Office of Emergency Management Coordinator for the latest Notice of Funding Opportunity for the latest information for the current fiscal year.

FEMA's Building Resilient Infrastructure and Communities (BRIC) program is also a competitive grant program that is offered on an annual basis for infrastructure projects. It supports communities that undertake hazard mitigation projects to reduce the risks they face from disasters and natural hazards. BRIC is a new pre-disaster hazard mitigation program that replaces FEMA's Pre-Disaster Mitigation (PDM) program.

The BRIC program's guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.

The BRIC program aims to categorically shift the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience. BRIC projects demonstrate innovative approaches to partnerships, such as shared funding mechanisms, and/or project design. Through BRIC, FEMA will continue to invest in a variety of mitigation activities, with an added focus on infrastructure projects and Community Lifelines.

More information on the BRIC program can be found here: https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities

Hazard Mitigation Assistance Guidance:
https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf

Pre-Disaster Mitigation (PDM) Grant

The Pre-Disaster Mitigation Grant funding is currently unavailable. Check with your Office of Emergency Management Coordinator for current Notice of Funding Opportunity.

Community Development Block Grant-Disaster Recovery (CDBG-DR)

Following major disasters declared by the President, the U.S. Congress may appropriate additional funds for Disaster Recovery Grants to help rebuild affected areas. This funding can cover a broad range of recovery activities and enables HUD to help communities that may not otherwise be able to recover due to limited resources.

Individuals nor communities can apply for funds. HUD will notify eligible States, cities and counties if they are eligible to receive CDBG-DR grants. HUD allocates funds based on unmet recovery needs. Each CDBG-DR award/allocation method is published in a Federal Register Notice, which also contains information on:

- Eligible Recovery Activities.
- Program Requirements, including distribution of funds to be spent in low- and moderate-income communities.
- Appropriation Specific Waivers and Alternative Requirements

For more information, visit the Community Development Block Grant Disaster Recovery Program Website:

https://www.hudexchange.info/programs/cdbg-dr/

CBDG-DR Fact Sheet
https://files.hudexchange.info/resources/documents/CDBG-DR-Fact-Sheet.pdf

Blue Acres Program

The Green Acres, Farmland, Blue Acres, and Historic Preservation Bond Act of 2007 authorized $12 million for acquisition of lands in the floodways of the Delaware River, Passaic River or Raritan River, and their respective tributaries, for recreation and conservation purposes. An additional $24 million was approved by the voters in the Green Acres, Water Supply and Floodplain Protection, and Farmland and Historic Preservation Bond Act of 2009. In 2014, under the Preserve New Jersey Act, voters approved permanently dedicating a portion of the Corporate Business Tax for open space and historic preservation efforts and that legislation earmarks 4% of each preservation allocation to the State's acquisition of flood prone properties.

Residential properties (including structures) that have been damaged by, or may be prone to incurring damage caused by, storms or storm-related flooding, or that may buffer or protect other lands from such damage, are eligible for acquisition. All Blue Acres acquisitions must be from willing sellers, and the program looks to buy clusters of homes or whole neighborhoods in flood vulnerable areas. In many cases, the program will buyout your home at its pre damaged cost and is intended to give homeowners the ability to choose the best option for their individual situation. After the homes are acquired and demolished, the land will be permanently preserved as open space, accessible to the public, for recreation or conservation. The preserved land will serve as natural buffers against future storms and floods. The goal of the Blue Acres Program is to dramatically reduce the risk of future catastrophic flood damage, and to help families to move out of harm's way.

For more information, visit their website:
https://www.nj.gov/dep/greenacres/blue_flood_ac.html

Funding Resource Summary Table

Grant	Who is Eligible?	When?	Other Requirements	What's covered?	Cost Share	More info:
Increased Cost of Compliance (ICC)	NFIP policy holders in the special flood hazard area with substantially damaged or severe repetitive loss structures	After a substantial damage determination has been received	Funds need to be used to bring structure into compliance with community's flood damage prevention ordinance	Any one or combination of the following: relocation, elevation, and demolition of buildings, and for dry floodproofing non-residential buildings	$30,000 provided at no cost share	https://www.fema.gov/floodplain-management/financial-help/increased-cost-compliance
Disaster Recovery and Reform Act (DRRA)	State and local governments, Indian tribes or other tribal organizations	Within 180 days after a declared disaster	Community in good standing with NFIP, meet federal procurement rules in 2 CFR Part 200	Building code and floodplain administration enforcement post-disaster		https://www.fema.gov/sites/default/files/2020-10/fema_building-dode-floodplain-management-ddministration-enforcement-policy_drra-1206_signed_10-15-2020.pdf
Hazard Mitigation Grant Program (HMGP)	State, local governments, Indian tribes or other tribal organizations, certain private non-profit organization (Local community must apply on property owners behalf)	After state received a presidential major disaster declaration	Approved hazard mitigation plan (HMP), project needs to be in the HMP, and be a member in good standing with NFIP	Long-term efforts to reduce risk and the potential impact of future disasters.	Up to 75% FEMA, 25% Applicant	https://www.fema.gov/grants/mitigation/hazard-mitigation See the latest Notice of Funding Opportunity and

						HMA Guidance for more information. https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf
Flood Mitigation Assistance (FMA)	States, local communities, federally recognized tribes and territories	Offered annually, FEMA announces Notice of Funding Opportunity	Approved hazard mitigation plan (HMP), project has to be in the HMP, be a member in good standing with NFIP, property has to be NFIP insured.	Two types of Grants: Planning grant to develop or update Flood Mitigation Plans or Projects grants to reduce or eliminate the risk of repetitive flood damage to buildings insured by the NFIP	75% FEMA, 25% Applicant (Repetitive loss or Severe Repetitive loss may be eligible for higher cost share up to 90% or 100% respectively)	https://www.fema.gov/grants/mitigation/floods See the latest Notice of Funding Opportunity and HMA Guidance for more information. https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf
Building Resilient Infrastructure and Communities (BRIC)	States, local communities, federally recognized tribes and territories	Offered annually, FEMA announces Notice of Funding Opportunity	Approved hazard mitigation plan (HMP), and project has to be part of the HMP. Infrastructure projects.	Research-supported, proactive investment in community resilience. Priority given to: public infrastructure, mitigate risk to one or more lifelines, incorporating	75% FEMA, 25% Applicant	https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities See the latest Notice of Funding Opportunity and

				nature based solutions, enforcing modern building codes		HMA Guidance for more information. https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf
Community Development Block Grant Disaster Recovery Program (CDBG-DR)	State and Local Governments. Individuals nor communities can apply for funds.	After a declared disaster, Congress **may** appropriate funds to HUD when significant needs are unmet for recovery	HUD will notify eligible States, cities and counties if they are eligible to receive CDBG-DR grants	Disaster Relief, Long Term-Recovery, Restoration of Infrastructure, Housing, Economic Revitalization		https://www.hudexchange.info/programs/cdbg-dr/ Check Federal Registrar Notice after a disaster for more information on award/allocation, eligible recovery activities, program requirements, appropriation specific waivers and alternative requirements.
New Jersey Blue Acres Program	Property owners willing to sell properties and structures that have incurred damage caused by storms or storm related flooding or that may buffer or protect	Any time, complete Blue Acres offer application which is available on their website	Seeks to buyout clusters of flood vulnerable residential properties from willing sellers	Acquisition of properties throughout the State including those in the floodway and floodplain or properties that serve a recreation	Buyouts are State and Federally funded. There are no upfront costs to property owners to	https://www.nj.gov/dep/greenacres/blue_flood_ac.html

	other lands from such damage			and conservation purpose	consider a buyout. Closing costs and legal fees may apply.	

9. Enforcing Permitting for Repairs and Mitigation Compliance

Affidavit to ensure no additional work is being done – Owner and Contractor

For structures which were not substantially damaged, [Community Name] will review permit applications to ensure that substantial improvement [or cumulative substantial improvement] will not be triggered, thus requiring the structure to be brought into compliance with NFIP requirements. In some cases, property owners will try to avoid triggering this requirement by only applying for part of the work at one time. In Appendix 5 you will find sample affidavits for homeowners and contractors to sign. These should be sent out with SD and SI Determination Letters.

Intent to Raise, Demolish or Floodproof Form

After a structure is determined to be substantially damaged, it is the [Community Name]'s responsibility to ensure that it is mitigated as soon as possible, and to keep in mind the six-year eligibility limit on ICC funds. One way [Community Name] ensures compliance and confirms the awareness of property owners of these requirements is to have them sign an intent to raise or demolish form. The form that [Community Name] uses can be found in Appendix 10.

AW-501 Forms

Tracking and mitigating severe repetitive loss (SRL) and repetitive loss (RL) properties is important for making communities more resilient. It also helps in updating National Flood Insurance Program (NFIP) data, which in turn, helps owners of mitigated properties reduce their premium costs.
FEMA designates SRL as any NFIP-insured single family or multi-family residential building:

- That has incurred flood-related damage for which four or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000; or
- For which at least two separate claims payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building. In both instances, at least two of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as one claim.

A RL structure is a structure where two claims over a 10-year period have totaled 25% of the value of the structure or a structure where two or more claims of $1000 have been paid over a 10-year period since 1978.

Addressing SRL and RL properties is an important part of floodplain management and is required for Community Rating System participation. In addition, NJOEM Hazard Mitigation Grant Program, County Hazard Mitigation Plans and NJDEP's Blue Acres Buyout program use SRL and RL information to assess and prioritize flood mitigation activities and measure success.

Tracking and completing paperwork to update the status of these RL and SRL properties to "mitigated" on the NFIP records when structures are relocated, retrofitted, elevated, and bought out and demolished is an important responsibility of the [Community Name]'s Floodplain

Administrator and will save time and confusion if these are done on a structure-by-structure basis as they occur.

When permitting a structure elevation or floodproofing project for an RL or SRL structure in advance of removing it from RL/SRL lists, [Community Name]'s Floodplain Administrators will ensure that the newly elevated/floodproofed structures are compliant with NFIP standards. Only when these structures are deemed compliant by FEMA can the structure be successfully updated on the RL/SRL lists.

AW-501 Forms to update the status of these properties on [Community Name]'s RL/SRL lists can be obtained here. Once forms have been completed, they will be submitted to the National Flood Insurance Program (NFIP) via the NFIP Underwriting Mailbox.

All submissions will be sent individually (one per each property location). The submission file needs to include;

- The AW-501 form and signed transmittal
- The post-mitigation Elevation Certificate for the structure
- Photographs of the mitigated structure
- Building permits
- A statement regarding the mitigation effort that was used, (elevated, demolished, relocated, retrofitted).
- A community letter, detailing methods used if the structure has been mitigated due to a project by the public works department

When [Community Name]'s Local Officials or Floodplain Administrator needs to obtain a copy of the list of RL and SRL properties, an Information Sharing Access Agreement will need to be made with FEMA to protect Personally Identifiable Information associated with this list. They will need to contact FEMA Region II or the state NFIP coordinator's office for guidance on this request.

Guidance for Historic Structures

While ensuring buildings are brought into compliance, [Community Name] will consider the different requirements when it comes to historic structures. When historic structures in special flood hazard areas are substantially damaged by flood, fire, or other hazard, they must be mitigated by elevating, retrofitting, buyouts, or relocations just like other structures in a floodplain. When severe damage or future risk make elevation or retrofitting structurally impossible, historic structures should be saved for future generations by pursuing a combination of a buyout and relocations to higher ground. Demolition of historic structures should be reserved only for those structures too damaged to be saved or relocated.

When full mitigation is not an option, only structures that are listed on Federal and State registries can be given a variance according to NFIP and UCC rules. Unfortunately, partial mitigation activities will not significantly lower insurance premiums for any structure that receives a variance because the flood risk has not been fully mitigated.

For more guidance, [Community Name] will develop an adaptation plan for their historic structures to avoid future flood damage and to reduce insurance premiums. Guidance from the HPO office along with FEMA guidance can be found below.

NJ Historic Preservation Office - Flood Mitigation Guide for Historic Properties
https://www.nj.gov/dep/hpo/images/_MULT_DG_32_v1_ID14076r.pdf

NJ Historic Preservation Office - Elevation Design Guidelines for Historic Properties
https://www.nj.gov/dep/hpo/images/_MULT_DG_32_v2_ID14078r.pdf

FEMA P-467-2 – Floodplain Management Bulletin – Historic Structures
https://www.nj.gov/dep/hpo/Index_HomePage_images_links/FEMA/FEMA%20historic_structures.pdf

Temporary Certificates of Occupancy

It is up to your community to determine procedures and policies for issuing temporary certificates of occupancy. It is important to note, an end date and plan should be included, and any work done to make the structure habitable (electrical, mechanical, plumbing, structural, etc.) still needs to be included in the substantial damage determination.

In some cases, like large scale disasters, there may be several homes determined to be substantially damaged and a limited amount of alternative housing for displaced residents. If necessary, [community name] will determine if the structure is safe to occupy and may issue Temporary Certificates of Occupancy for the time needed to bring the structure into compliance. Any permits for minimal repairs (i.e., electrical, mechanical, plumbing and structural) granted for temporary occupancy must be included in the calculation for the substantial damage determination. Only minimal repairs shall be made so the residence is safe to live in and no other improvements are made until the structure meets the SD requirements of the local ordinance. The permit application will document the purpose and need for temporary occupancy of the damaged structure along with appropriate time restrictions to ensure damaged homes are brought into compliance with local codes and ordinances within a reasonable time. Temporary occupancy will need to be reconsidered once the established time limit is over. A determination to extend the temporary occupancy will be based on need and documented in the permit file. [Insert any policies and procedures from your community here]. Additional guidance on Temporary certificates of occupancy can be found below.

FEMA Temporary Occupancy of Substantially Damaged Structures after a Disaster Fact Sheet -
http://www.kymitigation.org/wp-content/uploads/2010/09/FSTempOccupancySubstantiallyDamagedStructuresAfterDisaster508.pdf

10. Updates to the State National Flood Insurance Program Coordinator's office and FEMA Regional Office

The state NFIP Coordinator's office is a great resource post disaster. If [Community Name] has questions, issues or needs assistance they will notify this office at the contact information below. Additionally, any substantial damage letters should be copied to the contact below.

New Jersey State NFIP Coordinator's Office
Kenya Lovill
Kenya.lovill@dep.nj.gov
PO BOX 420
Mail Code 501-01A
Trenton, NJ 08625
609-292-2296

4. Build and Utilize a Property Database for Substantial Damage Estimates

There are a few different options for creating a property database. The following are four examples of property databases. Include whichever method your community uses and remove other sections.

This step requires you to build a 'basic database'. This is defined as a database that contains the following:

- *Property address or PIN,*
- *Building type (residential/non-residential),*
- *Foundation type, and the number of stories,*
- *Square footage,*
- *Fair market value of the building (if available)*
- *Lowest floor and/or first floor elevation (if available).*

This database can be: A table in hard-copy or digital format (a handful of SD buildings), A larger stand-alone spreadsheet (more at-risk structures), or a GIS layer or database.

(1) Excel sheet

[Community Name] utilizes Excel to store data on structures in the special flood hazard area and to track their substantial damage and substantial improvement determinations. One spreadsheet keeps track of which structures are substantially damaged, improved or are close to triggering either of the two. It also helps keep track of which structures need to be brought into compliance and by when. The other contains data on [SAME AS AREA IN SECTION 1.4, 1) all buildings in the SFHA, 2) properties suspected to be below BFE, 3) RL structures, 4) Properties with prior SD determinations, or 5) building which could meets cumulative SD] that are in higher risk areas. The Tables in Appendix 2 and 3 of this document were taken from these spreadsheet.

(2) Database (like Access)

[Community Name] utilizes [database] to store data on structures in the special flood hazard area and to track their substantial damage and substantial improvement determinations. This database keeps track of which structures are substantially damaged, improved or are close to triggering either of the two. It also helps keep track of which structures need to be brought into compliance and by when. Additionally, it contains data on [SAME AS AREA IN SECTION 1.4, 1) all buildings in the SFHA, 2) properties suspected to be

below BFE, 3) RL structures, 4) Properties with prior SD determinations, or 5) building which could meets cumulative SD] that are in higher risk areas. The Tables in Appendix 2 and 3 of this document were exported from the database.

(3) Other Application

[Community Name] utilizes [Application Name] to store data on structures in the special flood hazard area and to track their substantial damage and substantial improvement determinations. All information that is tracked in FEMA's Substantial Damage Estimator is tracked with this application. This application keeps track of which structures are substantially damaged, improved or are close to triggering either of the two. It also helps keep track of which structures need to be brought into compliance and by when. The tables in Appendix 2 and 3 of this document were exported from the database.

(4) Substantial Damage Estimator

[Community Name] utilizes FEMA's Substantial Damage Estimator (SDE) tool to store data on structures in the special flood hazard area and to track their substantial damage and substantial improvement determinations. The SDE tool was developed by FEMA to assist State and community officials in estimating Substantial Damage to residential and non-residential structures. It provides a formal and systematic approach for determining Substantial Damage while meeting NFIP requirements and is a single database for storage of data collected during substantial damage determinations. It also has the capability of exporting geospatial data so that one can see the location of the structures and identify vulnerable areas. The Table in Appendix 2 and 3 of this document is taken from the SDE tool.

For additional credit (SDP 2), your community can fully populate a structure database using all 28 data entry fields found in the substantial damage estimator tool. Once the substantial damage estimator tool (or equivalent program) is pre-populated with this data, another 50 points are available. This section is up to your community to decide to include or exclude this section.

Below, there are two options for language: if your community uses the SDE tool or if your community uses an equivalent program.

(1) Substantial Damage Estimator Tool

Substantial Damage Estimator (SDE) Tool

Here is the link to download and other guidance on the SDE tool: https://www.fema.gov/emergency-managers/risk-management/building-science/substantial-damage-estimator-tool

The Substantial Damage Estimator (SDE) tool was developed by FEMA to assist State and community officials in estimating Substantial Damage to residential and non-residential structures. It provides a formal and systematic approach for determining Substantial Damage while meeting NFIP requirements and is a single database for storage of data collected during substantial damage determinations.

If your community uses the SDE for tracking above, and prepopulates the SDE, move the following paragraph above and skip the other blue highlighted text.

This database has been downloaded by [Community Name] and has been pre-populated to include basic data on structures in the SFHA. Field worksheets and guidance are included in Appendix 8 of this document, which will be used post-disaster to complete substantial damage determinations post-disaster.

(2) Other equivalent program to the SDE

CRS will allow other methods or systems (tools) in place of the SDE provided that (1) the tool accurately determines substantial damage or substantial improvement (SD/SI) as required by the NFIP. (2) that it can be prepopulated with the building information for all buildings the community identifies for the SDP1 credit (those buildings that could be substantially damaged), and (3) the information gathered on the buildings, at a minimum, matches what the SDE requires.

To meet the additional CRS Credit SDP 2, [Community Name] has pre-populated [program name] with basic data on structures in the SFHA. [Program Name] was approved by FEMA as an equivalent that can be used to meet this credit in place of the Substantial Damage Estimator Tool.

5. Identify Pre-Event Actions Related to Substantial Damage

There are a number of activities that can be done ahead of time to prepare for a disaster and make the process easier and faster. The following sections go over procedures and preparation that [community name] has put into place.

5.1 Education and Outreach

This section only requires one action to be taken for education on SD/SI, NFIP or CRS. Remove any that your community does not wish to do and add any additional activities that apply.

Annual Training of Substantial Damage Team Members

When gathering information for this document, it was indicated that many communities already have a team in place that meets regularly to discuss their flood program and said team would be their team for Management of Substantial Damage Properties. If this is the case, make sure that the team meets one time per year to review and discuss roles and responsibilities related to substantial damage.

Once per year on [specify time of year, during plan update, during Hazard Mitigation Plan Update, first of every year, etc.], the Substantial Damage Team that was assembled in Section 2 will meet to go over each member's responsibilities and assess any changes that need to be made. During this time, the process and requirements for substantial damage will be reviewed, materials to assist with the work will be considered and any necessary training will take place and will assess any new roles that need to be assigned or established roles that need to be reassigned.

Handouts and Letters for Property Owners

When gathering information for this document, it was indicated that many communities already reach out to property owners in repetitive loss areas once per year. If this is something your community does, these letters can be tailored to cover additional information on substantial damage and to go out to all properties in the special flood hazard area in addition to repetitive loss areas.

Example documents can be found in Appendix 9 and you community should include whichever documents you intend to use. These documents should be considered and updated if necessary during the annual review of this report.

It is also suggested to tie this into your community's public outreach/municipal PPI plans.

[Once, quarterly, etc.] per year [Community Name] will send out [letters, handouts, fact sheets, flyers] to all owners of properties in the special flood hazard area. These documents give basic information on substantial damage, substantial improvements, NFIP requirements, or CRS. The documents that [Community Name] will send out can be found in Appendix 9.

Communication with Elected Officials on Substantial Damage and Substantial Improvement Responsibilities

This could be achieved with an annual evaluation report that is shared with elected officials. A meeting could also be held after they have time to review the report and answer any questions they may have.

When gathering information for this document, it was indicated that many communities already have a team in place that meets regularly to discuss their flood program and said team would be their team for Management of Substantial Damage Properties. These teams comprised of at least on individual from each department. These team meetings could be a good time to go over substantial damage and improvement responsibilities that the community has. This team could also provide an annual report to the body designated by the community's ordinance to hear variances (or appeals if an older ordinance). This body (often the planning board) would generally include representation by one council member, who is an elected official so further clarification from ISO may be necessary if this option is selected.

Each year, after the annual review of this report is completed, the report and updated document is shared with the elected officials of [Community Name]. After the elected officials have had time to review this report, a meeting will be held to go over the review, updated report, and to answer any questions they may have.

[Once, quarterly, monthly, etc.] per year [community name]'s floodplain administrator holds a meeting with elected officials to discuss the community's responsibilities for substantial damage and substantial improvement to meet the requirements of the NFIP. Prior to the meeting, the fact sheet found in Appendix 9 is shared with elected officials, which goes over NFIP requirements including SI and SD, as well as CRS requirements.

Consideration of Mitigation Alternatives for Neighborhoods with High Potential for Substantial Damage

This step is optional for the additional SDP 3 credit, which awards 50 points. If your community already performs a Repetitive Loss Area Analysis for Activity 512.b of the CRS Coordinator's Manual, that analysis can be extended to the entirety of the SFHA to receive this credit. This step should also include your community's plan to perform outreach to SD property owners identified.

This Retrofitting and Screening Matrix from FEMA may be helpful when considering mitigation alternatives: https://emilms.fema.gov/is_0280/media/336.pdf

The best time for properties with a high risk of flooding to take mitigation actions is before the next flood. [Community Name] has historically seen severe flooding in [description of area], as can be seen in the map below in [Figure(s) #]. Below (each of) the following image(s) you will see a list of the mitigation alternatives considered, and weather they are recommended or not.

Insert image of mapped area here. If there are a lot of images they can alternatively be included in the appendix of this document.

For this area in the image(s) above, [Community Name] has considered the following mitigation actions: acquisition, relocation, elevation and retrofitting. The table below is the summary of findings from these considerations. This process is very similar to the Repetitive Loss Area Analysis completed for Activity 512.b of the CRS Coordinator's Manual but is applied to the entire [AREA DESIGNATED IN SECTION 1.4].

Complete the table below to summarize consideration of each method for the specified area. Your community should also look at the Funding Resource Summary Table in Section 3, Step 8 of this document. As stated above, if there are a lot of areas your town is analyzing you could include this table in the appendix of this document.

Method	Feasible?	Recommended?	Ranking	Comments
Relocation				
Acquisition				
Building Elevation				
Retrofitting				

5.2 Additional Actions Taken Prior to a Disaster

All of these additional actions within this section are not a requirement of the SDP credit. These are good practices and recommendations from the state for your community to consider.

Mutual Aid and Shared Services Agreements

Depending on the severity of the disaster, additional assistance may need to be requested. Mutual aid agreements have been set up by [Community Name] with neighboring municipalities to provide reciprocal emergency aid and assistance after a disaster. Types of assistance can range from staff support to equipment and materials, including additional staff for conducting substantial damage assessments. A summary of [Community Name]'s Mutual Aid and Shared Service Agreements, along with [where to find them and/or copies of them] can be found in Appendix 12.

Have copies of MAAs in appendix or provide links to where they are located.

Elevation Certificate Promotion and Assistance

Understanding their flood risk and insurance ratings by documenting their lowest floor is helpful to property owners and can help them troubleshoot areas of improvement such as increasing venting or filling basements that will save on insurance premiums and protect their investment. It is also beneficial for towns to have this information easily accessible after a disaster. [Community Name] will partner with surveyors perform outreach to homes on the need for Elevation Certificates and assist in completing them.

Another option is to require ECs for the resale of homes. Your community can choose if it wishes to do either of these things.

Another way that [Community Name] can increases the number of Elevation Certificates acquired is by requiring that a homeowner get an Elevation Certificate before they are able to sell their home.

Keep Copies of Documents Used Post Disaster

After a disaster there is always a chance of power outages. As mentioned in Section 5.6, [Community Name] has a shared service agreement with [Name of Community with Agreement] in the event that power is lost so that [Name of Community with Agreement's] facilities can be used for activities related to substantial damage determinations. This agreement can be found [link, appendix section X, or both]. To save time and effort post disaster, copies of necessary paper documents are prepared and stored at [location where documents will be stored] in the case of emergency. The following list is what copies will be stored in this location:

1. Flood Maps
2. Maps of structures in the special flood hazard area
3. Substantial damage worksheets
4. Notices for unsafe structures
5. Informational flyers on permitting and rebuilding procedures
6. Substantial damage door hangers
7. Floodplain Development Permits

6. Plan Implementation and Updates

The only requirements for the report are that it is updated or evaluated annually, describe who prepared the evaluation, be shared with elected officials, and propose an update process or schedule. The below is a recommendation. It is up to your community to alter this to best fit your needs. If your community does an annual update for the Hazard Mitigation Report, we recommend doing this update/evaluation at that time and that the same team collaborates on this. Alternatively, the governing body could provide a resolution stating that they have reviewed the report, approved and indicate what changes have been made. Check the CRS Resources website for an Annual Evaluation Report Template for this credit: https://crsresources.org/500-2/

Once per year [Community Name] will update this Substantial Damage Management Plan on/during [Hazard Mitigation Report update, on the first of every year, or other time selected by community]. The report will be evaluated and reviewed by [the floodplain administrator, governing body, substantial damage team, or other individuals that your community selects]. During this review, the team will go over the following:

- Review of pre-event action items
- Describe what was implemented (or not implemented)
- Recommend changes to the action items
- Highlight flood damage that occurred and update Appendix 2 and 3 of this report
- Update the plan to reflect new ordinance language that affect substantial damage or substantial improvement (i.e. the Local Design Flood Elevation, implementation of cumulative substantial damage or improvements, changes to variance language, etc.)

The above is required for the SDP credit. Below are some additional reviews your community may want to consider.

- Review or roles and responsibilities of Substantial Damage Management team. This includes confirming roles, assigning new roles, redistributing roles, etc.
- Review of post event actions. If a disaster has recently occurred, [Community Name]'s review team will ask the following questions: What steps were followed? What steps were not necessary? Were there additional steps necessary? Are there additional materials or research that could have been done to make the process easier? Should the order of steps be altered?
- Inspect documents that are prepared and printed out in case of a disaster. Are they up to date with current requirements and regulations? Are they in usable condition? Are there any additional resources to include?
- Double check that links for references and guidance in the document are up to date, and include any additional guidance that may have been released in the past year.

After this review is completed, the [governing body/review team] provides a resolution stating that they have reviewed and approved the report, and indicates any changes that have been made. This updated plan and evaluation report is shared with [Community Name]'s elected officials. If there is any personally identifiable information in the data, a summary report will be prepared as aggregate data that will adhere to the Privacy Act. This summary report will then be shared with elected officials, committees, media, and the public.

APPENDIX 1 – RESOURCES AND REFERENCES

CRS Coordinator's Manual - https://www.fema.gov/sites/default/files/documents/fema_community-rating-system_coordinators-manual_2017.pdf

CRS Coordinator's Manual Addendum - https://www.fema.gov/sites/default/files/documents/fema_community-rating-system_coordinator-manual_addendum-2021.pdf

Delaware Substantial Improvement/Substantial Damage Guidance - http://www.dnrec.delaware.gov/swc/Shoreline/Documents/Delaware-SI-SD-Guidance.pdf

FEMA 480 – National Flood Insurance Program Floodplain Management Requirements - https://www.tn.gov/content/dam/tn/tema/documents/national-flood-insurance/FEMA_480_Complete_reduced_v7.pdf

FEMA F-687 National Flood Insurance Program Claims Handbook - https://www.fema.gov/sites/default/files/2020-05/FINAL_ClaimsHandbook_10252017.pdf

FEMA Increased Cost of Compliance Fact Sheet – https://www.fema.gov/sites/default/files/2020-08/fema_increased-cost-of-compliance_fact-sheet.pdf

FEMA Policy FP 204-079-01 Building Code and Floodplain Management Administration and Enforcement - https://www.fema.gov/sites/default/files/2020-10/fema_building-dode-floodplain-management-ddministration-enforcement-policy_drra-1206_signed_10-15-2020.pdf

FEMA Publication 213 - Answers to Questions about Substantially Damaged Buildings. https://www.fema.gov/sites/default/files/2020-07/fema_p213_08232018.pdf

FEMA Substantial Damage Estimator and Field Workbook - https://www.fema.gov/sites/default/files/2020-07/sde_3.0_user_manual_field_workbook_0.pdf

FEMA Substantial Improvement/Substantial Damage Desk Reference - https://www.fema.gov/sites/default/files/2020-07/fema_nfip_substantial-improvement-substantial-damage-desk-reference.pdf

Florida Post Disaster Tool Kit for Floodplain Administrator's – https://portal.floridadisaster.org/mitigation/SFMP/External/Community%20Resources/Floodplain%20Administrators%20Post-Disaster%20Toolkit/Florida%20Post-Disaster%20Tool%20Kit%20for%20Floodplain%20Administrators.pdf

Hazard Mitigation Assistance Guidance - https://www.fema.gov/sites/default/files/2020-07/fy15_HMA_Guidance.pdf

Kansas Disaster Damage Assessment Packet - https://agriculture.ks.gov/docs/default-source/dwr-floodplains/2018-flood-damage-assessment-packet_sde.pdf?sfvrsn=583e8ac1_0

North Carolina Department of Public Safety NFIP Flood Damage Assessment Package - https://flood.nc.gov/NCFLOOD_BUCKET/NFIP/NC_Post_Flood.docx

Procurement Guidance for Recipients and Subrecipients Under 2 C.F.R PART 200 (Uniform Rules) - https://www.fema.gov/sites/default/files/2020-07/fema_procurement-under-grants-field-manual-supplement_1.pdf

Public Assistance Program and Policy Guide FP 104-009-2 - https://www.fema.gov/sites/default/files/2020-06/fema_public-assistance-program-and-policy-guide_v4_6-1-2020.pdf

State of Illinois Flood Damage Assessment Packet - https://www2.illinois.gov/dnr/WaterResources/Documents/IL_Damage_Assess_Packet_%20March_2020%20%281%29.pdf

APPENDIX 2 – SUBSTANTIAL DAMAGE AND IMPROVEMENT DETERMINATIONS

Below is an example table for describing previous substantial damage determinations. If your community uses a tracking system or database, please export the following information and include the table in this section. If this document is being shared with local officials or publicly, make sure that it does not contain Personally Identifiable Information (PII).

Substantial Damage Determinations						
Address	Building Type	Flood Zone	SD or SI?	Date of Determination	Date to Comply?	Compliant? (Y/N)

APPENDIX 3 – LIST AND DATA OF PROPERTIES IN SFHA

Note: Include table here to list either: 1) all buildings in the special flood hazard area, 2) properties suspected to be below BFE, 3) RL structures, 4) Properties with prior SD determinations, or 5) building which could meets cumulative SD. If your community uses a tracking system or database, please export the following information and include the table in this section.

If this document is being shared with local officials or publicly, make sure that it does not contain Personally Identifiable Information (PII).

The only data required for this credit is as follows:

- *Property address or PIN,*
- *Building type (residential/non-residential),*
- *Foundation type, and the number of stories,*
- *Square footage,*
- *Fair market value of the building (if available)*
- *Lowest floor and/or first floor elevation (if available).*

This database can be: A table in hard-copy or digital format (a handful of SD buildings), A larger stand-alone spreadsheet (more at-risk structures), or a GIS layer or database.

Note: If your community is going for the SDP2 credit, this table should include all the fields from the Substantial Damage Estimator Tool, listed in this table taken from the Substantial Damage Estimator User Manual:

Table 3-1: SDE Fields for Enterprise Import

1. Owner's First and Last Names	15. Community Name
2. Lot Number	16. Community NFIP ID
3. Parcel Number	17. FIRM Panel
4. Address Lines 1 and 2	18. FIRM Zone
5. Street Suffix	19. BFE
6. Cardinal (N, E, S, W) or quadrant directions (NW, SW, NE, SE) either preceding or following the street name	20. Suffix
	21. Residential or Non-Residential (structure type)
7. Apartment, Unit, etc.	22. Inspector Phone Number
8. City	23. Date of FIRM Panel
9. State	24. Regulatory Floodway (Yes, No, or Possible)
10. County/Parish	
11. Zip (code)	25. Subdivision
12. Year of Construction	26. Lowest Floor Elevation
13. Longitude	27. Datum
14. Latitude/longitude	28. Total Square Footage

NFIP = National Flood Insurance Program
FIRM = Flood Insurance Rate Map
BFE = base flood elevation

This is especially important if you will be using a different software to prepopulate the SDE for the SDP2 Credit. You will need to export and provide a table with all of this data, explain any data missing from fields, import it into the SDE tool, and make sure the properties match the list of properties made in step 1.

APPENDIX 4 – Exported Maps of Structures in the SFHA

Please include exported maps of structures in the SFHA.

APPENDIX 5 – Letters to Property Owners

Appendix 5 Contents:

Letter Prior to a Disaster

Insert a letter using your community's letterhead with signature blocks of Mayor, FPA, or whoever appropriate.

[Community Letterhead]

Date

TO: Property Owners, Contractors, and Design Professionals

Address

FROM: Local Official

Address

SUBJECT: Damages Expected from [upcoming disaster]

Dear [Name],

[Disaster type, name if known] is likely to result in significant damages to structures due to [descriptor of disaster, i.e. coastal and inland flooding, wind damage, etc.] in [Community Name]. Residents and business owners are understandably anxious to repair damaged building components after the storm. Municipalities are already burdened with the necessity to make sure that structures are safe.

Rebuilding requirements after a flood or any other disaster must also consider the flood protection requirements contained in [Community Name]'s Flood Damage Prevention Ordinance that was passed as a condition of participation in the National Flood Insurance Program. These requirements also coordinate with the New Jersey Flood Hazard Area Control Act, and the Uniform Construction Code.

A primary goal of the National Flood Insurance Program is to break the damage – rebuild – damage cycle by requiring all new, substantially improved, and substantially damaged structures within mapped flood hazard areas to be constructed in a manner that is reasonably safe from flooding. That requires proper building elevation and protection techniques. The definition of "substantial damage" is:

> "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 [or lower number if in your flood damage prevention ordinance] percent of the market value of the structure before the damage occurred."

This definition applies whether or not actual repair work is performed. Additionally, since [Community Name] tracks substantial damages and improvements cumulatively, this value is added to any previous cost of improvement or damage that the building may have when calculating this percentage.

FEMA regulations (44 CFR 60.3) require new construction and substantially improved or damaged structures within mapped flood hazard areas to meet specific floodplain development standards.

The New Jersey Flood Hazard Area Control Act, Uniform Construction Code, and [Community Name]'s Flood Damage Prevention Ordinance all require substantially damaged buildings in flood hazard areas to meet all of the flood design requirements for new construction. The purpose of these requirements is to make sure that damage is minimized when the next flood occurs.

It is the responsibility of [Community Name] as participant in the National Flood Insurance Program, and as the enforcement agents for the Uniform Construction Code to determine if a damaged structure is in a FEMA mapped flood hazard area and, if so, to determine if the structure has been substantially damaged. If a structure has been substantially damaged, it must then be elevated to the Local Design Flood Elevation required by our Flood Damage Prevention Ordinance.

The [community name] is requesting your cooperation to assist us with expediting the recovery of our community from the impacts of [insert name of event]. As you should be aware, before we can issue building permits for repair, reconstruction, or other improvements, we must inspect properties in the high-risk flood zones shown on our flood maps that were damaged by wind, water, fallen trees, or other hazards must be inspected before we can issue building permits for repair, reconstruction, or other improvements.

In accordance with the [community name] building code and our flood damage prevention regulations, we must determine whether the damage meets the definition of "substantial damage." The process we've developed to achieve an efficient, orderly, and responsive permit review begins with damage inspections. Therefore, please allow our staff, or staff from state, FEMA, or private contractors working on our behalf, to access and inspect your damaged building. These authorized staff carry a "right of entry" document and their agency identification. They must show you those documents before you let them access your property.

The preliminary damage inspections are limited to evaluating the extent of damage to foundations, roofs, windows and doors, siding, installed appliances, electrical and plumbing, heating and air conditioning, and walls and floors. These inspections are required to assess the condition of the building and determine the work required to repair the building to its pre-damaged condition. The period of inspections is limited to daylight hours only, between [insert anticipated period of inspections]. Once we have inspected your property and recorded the results in our database, we will send you a letter with the results and explain any requirements that may apply.

We greatly appreciate your willingness to allow our community's inspectors to assess the condition of your property. This will help you and the community move forward as quickly as possible with the permitting and repair of your building.

For further assistance on floodplain development requirements during this difficult time, or at any time, please call your regional [Community Contact, FPA or other].

Sample Notice for Property Owners, Contractors, and Design Professionals

[Community Letterhead]

Date

TO:	Property Owners, Contractors, and Design Professionals
	Address
FROM:	Local Official
	Address
SUBJECT:	Notice for Work on Existing Buildings in Special Flood Hazard Areas
	Substantial Improvement / Substantial Damage Worksheets

The [community name] is requesting your cooperation to assist us with expediting the recovery of our community from the impacts of [name of event]. As you should be aware, before we can issue building permits for repair, reconstruction, or other improvements, we must inspect properties in the high-risk flood zones shown on our flood maps that were damaged by wind, water, fallen trees, or other hazards must be inspected before we can issue building permits for repair, reconstruction, or other improvements.

The [Community Name]'s floodplain management regulations and codes require the determination if structures damaged in the Special Flood Hazard Areas (SFHAs) (regulated floodplains) constitute "substantial damage". If the structure is deemed substantially damaged, it may be required to have their lowest floors elevated to the Local Design Flood Elevation (LDFE) which is calculated using the methodology described in the Flood Damage Prevention Ordinance. It is important to note that all costs to repair a substantially damaged building to its pre-damage condition must be identified.

Prior to applying for permits or beginning any work, [Community Name] will be conducting preliminary damage inspections. Please allow our staff, or staff from state, FEMA, or private contractors working on our behalf, to access and inspect your damaged building. These authorized staff carry a "right of entry" document and their agency identification. They must show you those documents before you let them access your property.

The preliminary damage inspections are limited to evaluating the extent of damage to foundations, roofs, windows and doors, siding, installed appliances, electrical and plumbing, heating and air conditioning, and walls and floors. These inspections are required to assess the condition of the building and determine the work required to repair the building to its pre-damaged condition. The period of inspections is limited to daylight hours only, between [insert anticipated period of inspections]. Once we have inspected your property and recorded the results in our database, we will send you a letter with the results and explain any requirements that may apply

There are several aspects that must be addressed to achieve compliance with the floodplain management requirements. The requirements depend on several factors, including the flood zone at your property. The

most significant compliance requirement is that the lowest floor, as defined in [Community Name]'s Flood Damage Prevention Ordinance must be elevated to the Local Design Flood Elevation specified in our Flood Damage Prevention Ordinance.

Our regulations define these terms:

Ensure that the definitions used match the definitions in your community's flood damage prevention ordinance.

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 [or optional lower number] percent of the market value of the structure before the damage occurred.

Substantial improvement – Any combination of reconstruction, rehabilitation, addition, or other improvement including those considered ordinary maintenance and minor work of a structure taking place over a number of [years] year period, the cumulative cost of which equals or exceeds fifty (50) [or optional lower number] percent of the market value of the structure before the "start of construction" of the improvement. The period of accumulation includes the first improvement or repair of each structure is permanent subsequent to [date]. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

a) Any project for improvement of a structure to correct existing violations of State or local health, sanitary or safety code specifications which have been identified by the local code enforcement officer and which are the minimum necessary to assure safe living conditions; or
b) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure.

To make the substantial damage determination, we compare the cost of the repairs to the market value of the building (excluding land, accessory structures, and landscaping). If the resulting ratio equals or exceeds 50 percent [or lower threshold], the existing building must be brought into compliance with the floodplain management requirements for new construction. If additional work is being completed in addition to the repairs to bring the structure to its before damaged condition, this work is added to the cost of repairs and may trigger the substantial damage threshold. Additionally, since [Community Name] tracks substantial damages and improvements cumulatively, this value is added to any previous cost of improvement or damage that the building may have when calculating this percentage.

$$\frac{\text{Cost of Improvement or cost to Repair to Pre-Damage Condition}}{\text{Market Value of Building}} \geq 50\% \text{ (or lower \%)}$$

Please note:

- You must provide an estimate of the cost to perform the proposed improvements or repairs. If your building has been damaged, the cost estimate must include all work required to repair the building to its pre-damage condition. The cost estimate must include all labor and materials. If the work will be done by a contractor, the contractor's overhead and profit must be included. If the

work will be done by the owner or volunteers, market rates must be used to estimate the cost of materials and the value of labor. Attached to this notice is a list of costs that must be included and costs that are excluded. After we review the cost estimate, we may require that it be broken down to show all materials and labor estimates.

- We will use the tax assessment value of your building as the estimate of the market value of the building before the work is performed. If you feel that this is not an appropriate evaluation of your structure's market value, you must provide a market value appraisal of the building that is prepared by a professional appraiser according to standard practices of the profession. We will review the appraisal to determine that it accurately describes your building and does not include the value of the land, accessory buildings, and landscaping.

If you have any questions regarding this information, please contact [Include FPA's Contact information].

Attachments:

- Requirements for Applications for Permits for Substantial Improvements and Repair of Substantial Damage
- Costs for Substantial Improvements and Repair of Substantial Damage
- Owner's Affidavit
- Contractor's Affidavit

Requirements for Applications for Permits for Substantial Improvements and Repair of Substantial Damage

Please contact _____ if you have questions about the substantial improvement and substantial damage requirements. Your building may have to be brought into compliance with the floodplain management requirements for new construction.

Applications for permits to work on existing buildings that are located in Special Flood Hazard Areas must include the following:

- Current photographs of the exterior (front, rear, sides)
- If your building has been damaged, include photographs of the interior and exterior; provide pre-damage photos of the exterior, if available
- Detailed description of the proposed improvement (rehabilitation, remodeling, addition, etc.) or repairs
- Cost estimate of the proposed improvement or the cost estimate to repair the damaged building to its before-damage condition
- Current elevation certificate or elevation survey
- A deed restriction for any proposed enclosure that is greater than 6 feet in height that
- A non-conversion agreement with inspection language if included in the ordinance or other zoning rules.
- A V zone Certificate signed and sealed by a New Jersey Licensed Architect or Engineer.
- A Breakaway Wall Certification signed and sealed by a New Jersey Licensed Architect or Engineer.
- (For non-residential structures proposed for floodproofing only) A Floodproofing Certification signed and sealed by a New Jersey Licensed Architect or Engineer.
- You may submit a market value appraisal prepared by a licensed professional appraiser If you disagree with the most recent tax assessment value of the building
- Owner's affidavit (signed and dated)
- Contractor's affidavit (signed and dated)

Costs for Substantial Improvements and Repair of Substantial Damage

Included Costs

Items that must be included in the costs of improvement or costs to repair are those that are directly associated with the building. The following list of costs that must be included is not intended to be exhaustive, but characterizes the types of costs that must be included:

- Materials and labor, including the estimated value of donated or discounted materials and owner or volunteered labor
- Site preparation related to the improvement or repair (foundation excavation, filling in basements)
- Demolition and construction debris disposal
- Labor and other costs associated with demolishing, moving, or altering building components to accommodate improvements, additions, and making repairs
- Costs associated with complying with any other regulation or code requirement that is triggered by the work, including costs to comply with the requirements of the Americans with Disabilities Act (ADA)
- Costs associated with elevating a structure to an elevation that is lower than the BFE
- Construction management and supervision
- Contractor's overhead and profit
- Sales taxes on materials
- Structural elements and exterior finishes, including:
    - Foundations (e.g., spread or continuous foundation footings, perimeter walls, chainwalls, pilings, columns, posts, etc.)
    - Monolithic or other types of concrete slabs
    - Bearing walls, tie beams, trusses
    - Joists, beams, subflooring, framing, ceilings
    - Interior non-bearing walls
    - Exterior finishes (e.g., brick, stucco, siding, painting, and trim)
    - Windows and exterior doors
    - Roofing, gutters, and downspouts
    - Hardware
    - Attached decks and porches
- Interior finish elements, including:
    - Floor finishes (e.g., hardwood, ceramic, vinyl, linoleum, stone, and wall-to-wall carpet over subflooring)
    - Bathroom tiling and fixtures
    - Wall finishes (e.g., drywall, paint, stucco, plaster, paneling, and marble)
    - Built-in cabinets (e.g., kitchen, utility, entertainment, storage, and bathroom)
    - Interior doors
    - Interior finish carpentry
    - Built-in bookcases and furniture
    - Hardware
    - Insulation
- Utility and service equipment, including:

- HVAC equipment
- Plumbing fixtures and piping
- Electrical wiring, outlets, and switches
- Light fixtures and ceiling fans
- Security systems
- Built-in appliances
- Central vacuum systems
- Water filtration, conditioning, and recirculation systems

Excluded Costs

Items that can be excluded are those that are not directly associated with the building. The following list characterizes the types of costs that may be excluded:

- Clean-up and trash removal
- Costs to temporarily stabilize a building so that it is safe to enter to evaluate required repairs
- Costs to obtain or prepare plans and specifications
- Land survey costs
- Permit fees and inspection fees
- Carpeting and recarpeting installed over finished flooring such as wood or tiling
- Outside improvements, including landscaping, irrigation, sidewalks, driveways, fences, yard lights, swimming pools, pool enclosures, and detached accessory structures (e.g., garages, sheds, and gazebos)
- Costs required for the minimum necessary work to correct existing violations of health, safety, and sanitary codes
- Plug-in appliances such as washing machines, dryers, and stoves

Owner's Affidavit: Substantial Improvement or Repair of Substantial Damage

Property Address:

Parcel ID Number:

Owner's Name:

Owner's Address/Phone:

Contractor:

Contractor's License Number:

Date of Contractor's Estimate:

I hereby attest that the description included in the permit application for the work on the existing building that is located at the property identified above is all of the work that will be done, including all improvements, rehabilitation, remodeling, repairs, additions, and any other form of improvement. I further attest that I requested the above-identified contractor to prepare a cost estimate for all of the work, including the contractor's overhead and profit. I acknowledge that if, during the course of construction, I decide to add more work or to modify the work described, that the [insert community] will re-evaluate its comparison of the cost of work to the market value of the building to determine if the work is substantial improvement. Such re-evaluation may require revision of the permit and may subject the property to additional requirements.

I also understand that I am subject to enforcement action and/or fines if inspection of the property reveals that I have made or authorized repairs or improvements that were not included in the description of work and the cost estimate for that work that were the basis for issuance of a permit.

Owner's Signature:

Date:

Notarized:

Contractor's Affidavit: Substantial Improvement or Repair of Substantial Damage

Property Address:

Parcel ID Number:

Owner's Name:

Owner's Address/Phone:

Contractor:

Contractor's License Number:

Date of Contractor's Estimate:

I hereby attest that I have personally inspected the building located at the above-referenced address and discussed the nature and extent of the work requested by the owner, including all improvements, rehabilitation, remodeling, repairs, additions, and any other form of improvement.

At the request of the owner, I have prepared a cost estimate for all of the improvement work requested by the owner and the cost estimate includes, at a minimum, the cost elements identified by the [community] that are appropriate for the nature of the work. If the work is repair of damage, I have prepared a cost estimate to repair the building to its pre-damage condition. I acknowledge that if, during the course of construction, the owner requests more work or modification of the work described in the application, that a revised cost estimate must be provided to the [insert community], which will re-evaluate its comparison of the cost of work to the market value of the building to determine if the work is substantial improvement. Such re-evaluation may require revision of the permit and may subject the property to additional requirements.

I also understand that I am subject to enforcement action and/or fines if inspection of the property reveals that I have made or authorized repairs or improvements that were not included in the description of work and the cost estimate for that work that were the basis for issuance of a permit.

Owner's Signature:

Date:

Notarized:

Sample Letter to Notify Property Owners of a Determination That Work Constitutes Substantial Improvement

[Community Letterhead]

Date

TO: Property Owners

Address

FROM: Local Official

Address

SUBJECT Substantial Improvement Determination

Dear Property Owner:

We have reviewed your recent application for a permit to [describe proposed improvement/addition] your existing home that is located in a mapped Special Flood Hazard Area. As required by our floodplain management regulations and/or building code, we have determined that the proposed work constitutes substantial improvement of the building. This determination is based on a comparison of the cost estimate of the proposed work to the market value of the building (excluding land value). When the costs equal or exceed 50 percent or lower percent of the market value of the building, the work is substantial improvement. Additionally, since [Community Name] tracks substantial damages and improvements cumulatively, this value is added to any previous cost of improvement or damage that the building may have when calculating this percentage.

As a result of this determination, you are required to bring the building into compliance with the flood damage-resistant provisions of [Community Name]'s Flood Damage Prevention Ordinance.

We are available to meet with you and your designated representative (architect/builder) at a time convenient to you to discuss how to bring your home into compliance. There are several aspects that must be addressed to achieve compliance. The most significant requirement is that the lowest floor must be elevated to the Local Design Flood Elevation (LDFE) which is calculated using the methodology described in the Flood Damage Prevention Ordinance. Please note that any enclosure greater than 6 feet in height can only be used for parking, storage, and access and must be deed restricted to these uses. You may wish to contact your insurance agent to understand how raising the lowest floor higher than the minimum required elevation can reduce NFIP flood insurance premiums.

Please resubmit your permit application along with plans and specifications that incorporate compliance measures. Construction activities that are undertaken without a proper permit are violations and may result in stop work orders, fines, or other legal action.

Sample Letter to Notify Property Owners of a Determination That Work Constitutes Repair of Substantial Damage

[Community Letterhead]

Date

TO: Property Owners

Address

FROM: Local Official

Address

SUBJECT Substantial Damage Determination

Dear Property Owner:

We have reviewed your recent application for a permit to repair your existing home that was damaged by [insert cause of damage]. The building is located in a mapped Special Flood Hazard Area. As required by our floodplain management regulations and/or building code, we have determined that the building has been substantially damaged. This determination is based on a comparison of the cost estimate of the work required to restore the building to its pre-damage condition to the market value of the building (excluding land value). When the cost to repair equals or exceeds 50 percent or lower percentage of the market value of the building, the work is repair of substantial damage. Additionally, since [Community Name] tracks substantial damages and improvements cumulatively, this value is added to any previous cost of improvement or damage that the building may have when calculating this percentage.

As a result of this determination, you are required to bring the building into compliance with the flood damage-resistant provisions of [Community Name]'s Flood Damage Prevention Ordinance.

We are available to meet with you and your designated representative (architect/builder) at a time convenient to you to discuss how to bring your home into compliance. There are several aspects that must be addressed to achieve compliance. The most significant requirement is that the lowest floor must be elevated to the Local Design Flood Elevation (LDFE) which is calculated using the methodology described in the Flood Damage Prevention Ordinance. Please note that any enclosure greater than 6 feet in height can only be used for parking, storage, and access and must be deed restricted to these uses. You may wish to contact your insurance agent to understand how raising the lowest floor higher than the minimum required elevation can reduce NFIP flood insurance premiums.

If the damage was caused by flooding and if you have a flood insurance policy from the National Flood Insurance Program, you should contact your adjuster to discuss the Increased Cost of Compliance (ICC) coverage. This coverage may provide a claim payment to help pay for work required to bring your home into compliance. Your adjuster can explain that the ICC claim may also be used to pay certain costs

associated with demolishing and rebuilding your home, or moving your home to a site outside of the floodplain.

Please resubmit your permit application along with plans and specifications that incorporate compliance measures. Construction activities that are undertaken without a proper permit are violations and may result in stop works, fines, or other legal action.

Sample Letter to Notify Property Owners of a Determination That Work Does NOT Constitute Repair of Substantial Damage

[Community Letterhead]

Date

TO: Property Owners

Address

FROM: Local Official

Address

SUBJECT Substantial Damage Determination

Dear Property Owner:

We have reviewed your recent application for a permit to repair your existing building that was damaged by [insert cause of damage]. The building is located in a mapped Special Flood Hazard Area. As required by our floodplain management regulations and/or building code, we have determined that the work proposed to repair the damage does not constitute repair of substantial damage. This determination is based on a comparison of the cost estimate of the work required to restore the building to its pre-damage condition to the market value of the building.

Please be advised that we will make another determination if you elect to perform work other than what is necessary to repair the damage, such as additional renovations or upgrades or building an addition. Construction activities that are undertaken without a proper permit are violations and may result in stop work orders, fines, or other legal action.

APPENDIX 6 – Sample Press Release

RESIDENTS IN [Community Name] WITH DISASTER DAMAGE REMINDED OF PERMIT REQUIREMENTS

This will need to be adjusted depending on the situation after the disaster. Remove any language that is not applicable and add anything important that is missing. Work with the community public information officer to finalize language.

Residents of [Community Name], hopefully this message finds you and your family out of harms way. This press release is intended to provide information useful to all community members.

Firstly, community members should be aware of the following safety hazards [fill in safety hazards here].

Additionally, there is a [County Name] curfew in effect after [time].

The following resources are available to those in need as far as resources, shelters and food. [Location] has been set up as a temporary shelter. Food will be provide at [location] during the hours of [times].

The following are updates for utilities. Electricity is still out, and the [power company] is doing all they can to restore power. It can be expected to be restored [anticipated time if available, if not indicate it is still unknown]. The drinking water is currently [safe/unsafe] for consumption [if unsafe indicate when will be restored if known].

As property owners in [Community Name] contemplate clean up and repairs following recent [disaster], the [Floodplain Administrators and Construction Official's Offices] is reminding residents to obtaining local permits before repairing or rebuilding flood-damaged structures.

The permits are required as part of local government participation in the National Flood Insurance Program, providing eligibility for flood insurance, flood disaster assistance, state and federal grants and loans, and buyout funds for flood-prone property.

Local floodplain management ordinances require that permits be obtained for any construction or development activity in a floodplain area, including the repair or reconstruction of structures damaged by a disaster.

Special conditions apply to substantially damaged buildings - those in which the total cost of repairs is [50 percent or more, update to reflect your community's ordinance] of the structure's pre-disaster market value. If a building is found to be substantially damaged, regulations require that repairs not begin until compliance with the local floodplain ordinance is demonstrated and will have the same building requirements as new construction. In some cases, that may require repairs that include elevating or flood-proofing the structure to reduce the potential for future flood damage.

The cost to repair must be calculated for full repair to "pre-damaged" condition, even if the owner elects to do fewer repairs. The total cost to repair includes structural and finish materials as well as labor. If labor and materials have been donated, they must still be assigned a value. If local building codes require the structure to be repaired according to certain standards, these additional costs must be included in the full repair cost for the structure.

If you are filing a flood insurance claim, you need to report your losses to your insurance agent or company. An adjuster will be assigned to estimate your damages and advise you how to prepare "Proof of Loss" documentation. Adjusters may authorize advance partial payments to help owners start making repairs. After the adjuster and owner agree on the damage estimate, the adjuster sends documentation to the owner's insurance company and the claim is settled (paid), unless the claim is denied by FEMA. Often times NFIP claims can be paid quickly and ahead of a community's effort to determine building permit requirements. Makes sure you acquire the necessary permits for any work performed to avoid violating the building code and Flood Damage Prevention Ordinance. The National Flood Insurance Program Claims Handbook can be found here: https://www.fema.gov/sites/default/files/2020-05/FINAL_ClaimsHandbook_10252017.pdf

Information on how to start your claim can be found here: https://www.fema.gov/flood-insurance/resources-practitioners/file-your-claim

If you disagree with your insurance clam, you can file an appeal with your insurance company. The policyholder must submit the appeal within 60 days after the date of the insurance company's written denial letter. Information on this process can be found here: https://www.fema.gov/sites/default/files/2020-09/fema_appealing-flood-insurance-claim-en_fact-sheet_jun2020.pdf

State and federal assistance may be available to property owners to reduce the chances of future flood damage. Mitigation assistance may cover costs of relocation, or for elevating or purchasing flood-damaged structures. If damage is caused by a flood, flood insurance may also provide up to $30,000 to protect a structure from future flooding through a claims process known as ICC (Increased Cost of Compliance). The property owner must have had NFIP flood insurance prior to the flood event for ICC to become available.

Property owners and residents with [disaster name]-damaged buildings should contact [local building and zoning administrator] for more information on repair and reconstruction permits.

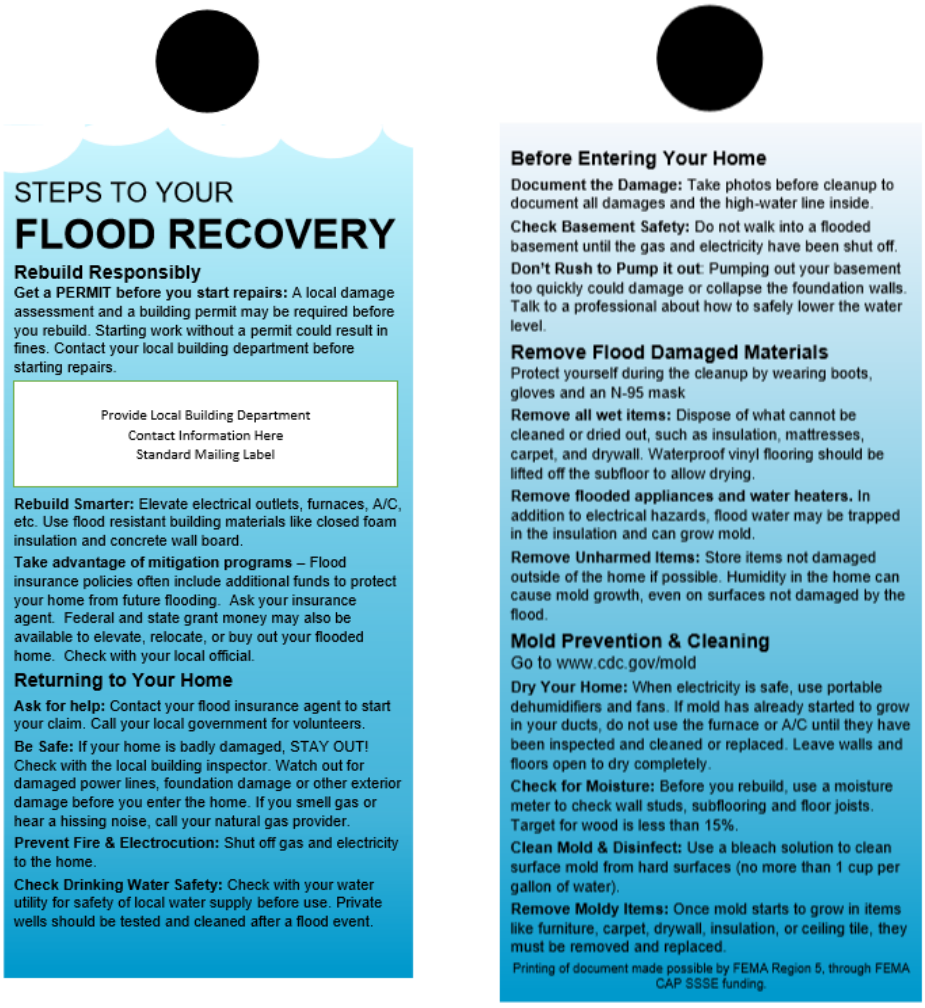
Any other questions or concerns can be directed to [contact information].

APPENDIX 7 – SAMPLE NOTICES

Appendix 7 Contents:

- Door Hanger Example
- Notice of Damage and Permits Required
- Notice of Occupancy

Door Hanger Example



STEPS TO YOUR

FLOOD RECOVERY

Rebuild Responsibly

Get a PERMIT before you start repairs: A local damage assessment and a building permit may be required before you rebuild. Starting work without a permit could result in fines. Contact your local building department before starting repairs.

Provide Local Building Department
Contact Information Here
Standard Mailing Label

Rebuild Smarter: Elevate electrical outlets, furnaces, A/C, etc. Use flood resistant building materials like closed foam insulation and concrete wall board.

Take advantage of mitigation programs – Flood insurance policies often include additional funds to protect your home from future flooding. Ask your insurance agent. Federal and state grant money may also be available to elevate, relocate, or buy out your flooded home. Check with your local official.

Returning to Your Home

Ask for help: Contact your flood insurance agent to start your claim. Call your local government for volunteers.

Be Safe: If your home is badly damaged, STAY OUT! Check with the local building inspector. Watch out for damaged power lines, foundation damage or other exterior damage before you enter the home. If you smell gas or hear a hissing noise, call your natural gas provider.

Prevent Fire & Electrocution: Shut off gas and electricity to the home.

Check Drinking Water Safety: Check with your water utility for safety of local water supply before use. Private wells should be tested and cleaned after a flood event.

Before Entering Your Home

Document the Damage: Take photos before cleanup to document all damages and the high-water line inside.

Check Basement Safety: Do not walk into a flooded basement until the gas and electricity have been shut off.

Don't Rush to Pump it out: Pumping out your basement too quickly could damage or collapse the foundation walls. Talk to a professional about how to safely lower the water level.

Remove Flood Damaged Materials

Protect yourself during the cleanup by wearing boots, gloves and an N-95 mask

Remove all wet items: Dispose of what cannot be cleaned or dried out, such as insulation, mattresses, carpet, and drywall. Waterproof vinyl flooring should be lifted off the subfloor to allow drying.

Remove flooded appliances and water heaters. In addition to electrical hazards, flood water may be trapped in the insulation and can grow mold.

Remove Unharmed Items: Store items not damaged outside of the home if possible. Humidity in the home can cause mold growth, even on surfaces not damaged by the flood.

Mold Prevention & Cleaning

Go to www.cdc.gov/mold

Dry Your Home: When electricity is safe, use portable dehumidifiers and fans. If mold has already started to grow in your ducts, do not use the furnace or A/C until they have been inspected and cleaned or replaced. Leave walls and floors open to dry completely.

Check for Moisture: Before you rebuild, use a moisture meter to check wall studs, subflooring and floor joists. Target for wood is less than 15%.

Clean Mold & Disinfect: Use a bleach solution to clean surface mold from hard surfaces (no more than 1 cup per gallon of water).

Remove Moldy Items: Once mold starts to grow in items like furniture, carpet, drywall, insulation, or ceiling tile, they must be removed and replaced.

Printing of document made possible by FEMA Region 5, through FEMA CAP SSSE funding.

Notice of Damage and Permits Required

Add or adjust language to be fitting for your community. Add a community seal if desired.

NOTICE!

Your structure is located in a floodplain and was damaged by [Event name/type].

A damage assessment must be conducted by [Community Name].

Before occupying this building or beginning any repairs you must call the [contact, FPA, permitting office] to schedule an inspection.

They can be reached at the following contact information [contact].

Failure to obtain reconstruction approval may result in a Stop Work Order.

Notice of Occupancy

Add or adjust language to be fitting for your community. Add a community seal if desired.

UNSAFE STRUCTURE NOTICE!

This structure has been deemed unsafe for human occupancy.

No individual is to occupy this building until the structure is rendered safe and secure.

Before occupying this building or beginning any repairs you must call the [contact, FPA, permitting office].

They can be reached at the following contact information [contact].

Failure to obtain reconstruction approval may result in a Stop Work Order.

APPENDIX 8 – FIELD WORKSHEET FOR SUBSTANTIAL DAMAGE ESTIMATES AND GUIDANCE FOR ESTIMATING PERCENT DAMAGE FOR RESIDENTIAL AND NON-RESIDENTIAL STRUCTURES

Appendix 8 Contents:

Source: FEMA P-784 - Substantial Damage Estimator User Manual and Field Workbook

https://www.fema.gov/sites/default/files/2020-07/sde_3.0_user_manual_field_workbook_0.pdf

Blank SDE Damage Inspection Worksheets – Single, Town, or Row House or Manufactured House

Residential

SDE DAMAGE INSPECTION WORKSHEET

Single-Family, Town or Row House (Site Built Residences), or Manufactured House

Address:_____

SDE ADDRESS Tab

Subdivision / Community Information

Subdivision_____ Parcel Number: _____

Lot Number: _____ Elevation of Lowest Floor: _____ Datum: _____

Community Information

NFIP Community ID: _____ NFIP Community Name: _____

Latitude: _____ Longitude: _____

Building Address

Owner First Name: _____ Owner Last Name: _____

Street Address: _____

City: _____ State: _____

County/Parish: _____ Zip: _____

Phone: _____ Cell Phone: _____

Mailing Address *Check here if same as building address*: _____

Owner First Name: _____ Owner Last Name: _____

Street Address: _____

City: _____ State: _____

County/Parish: _____ Zip: _____

Phone: _____ Cell Phone: _____

SDE STRUCTURE / DAMAGE / NFIP INFO Tab

Structure Attributes / Information

Residence Type: _____Single Family _____Town or Row House _____Manufactured House

Foundation: _____Continuous Wall w/Slab (Standard) _____Basement _____Crawlspace

_____Piles _____Slab-on-Grade _____Piers and Posts

Superstructure: _____Stud-Framed (Standard) _____Common Brick _____ICF _____Masonry

Roof Covering: _____Shingles – Asphalt, Wood (Standard) _____Clay Tile

_____Standing Seam (Metal) _____Slate

Exterior Finish: _____Siding or Stucco (Standard) _____Brick Veneer _____EIFS

_____None – common brick, structural

HVAC System: _____Heating and/or Cooling _____None

Story: _____One Story (Standard) _____Two or More Stories

Structure Information

Year of Construction: _____

Quality of Initial Construction: _____Low _____Budget _____Average _____Good _____Excellent

Residence Information (if needed): _____

_____

_____

Inspector / Damage Information

Inspector's Name: _____ Inspector's Phone: _____

Date of Inspection (mm/dd/yyyy): _____

Date Damage Occurred (mm/dd/yyyy): _____

Cause of Damage: _____Fire _____Flood _____Flood and Wind _____Seismic _____Wind

_____Other

Cause of Damage (if "Other" is selected):_____

_____

_____

SDE STRUCTURE / DAMAGE / NFIP INFO Tab

Damage Undetermined: _____ (check here and check the reason below):

_____ No Physical Damage Sustained _____ Vacant / Property _____ Resident Refused Inspection

_____ Address Does Not Exist _____ Other (Explain)

_____

_____

_____

Duration of Flood: _____ Hours _____Days

Depth of Flood Above Ground (estimated to nearest 0.5 foot):

Depth of Flood Above Lowest Floor (estimated to nearest 0.5 foot):

NFIP / Community Information

FIRM Panel Number: _____ Suffix: _____ Date of FIRM Panel (mm/dd/yyyy): _____

FIRM Zone: _____ Base Flood Elevation: _____

Regulatory Floodway: _____Yes _____No _____Possible

Community Information (if needed): _____

_____

_____

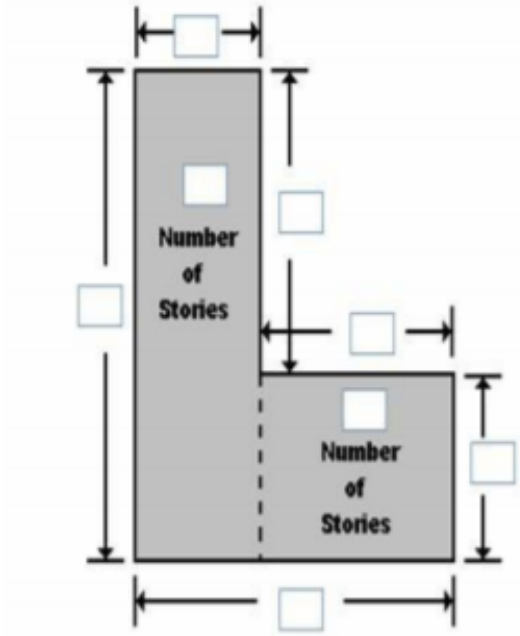
_____

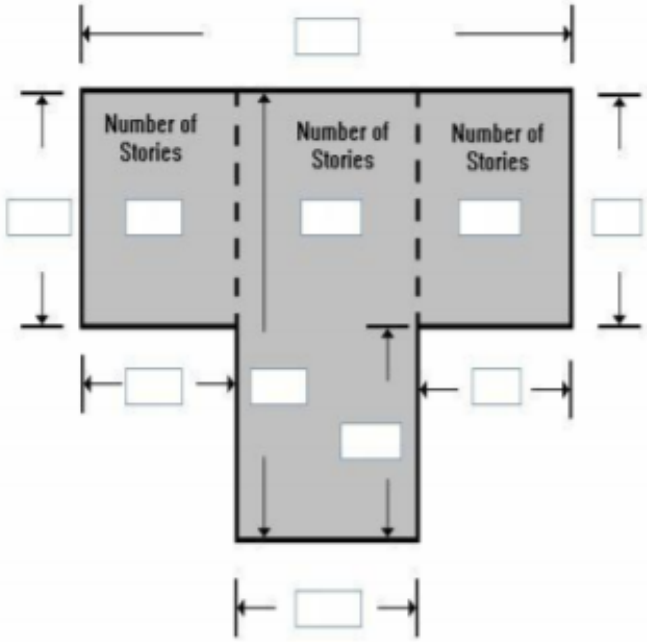
_____

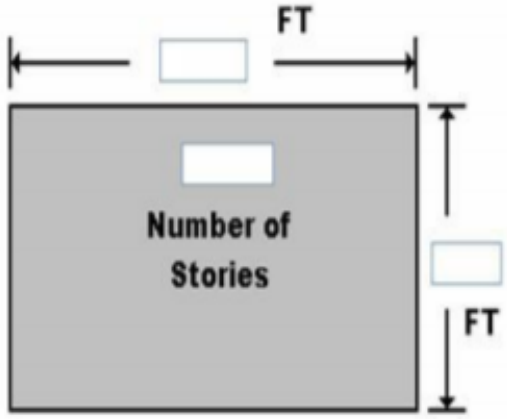
_____

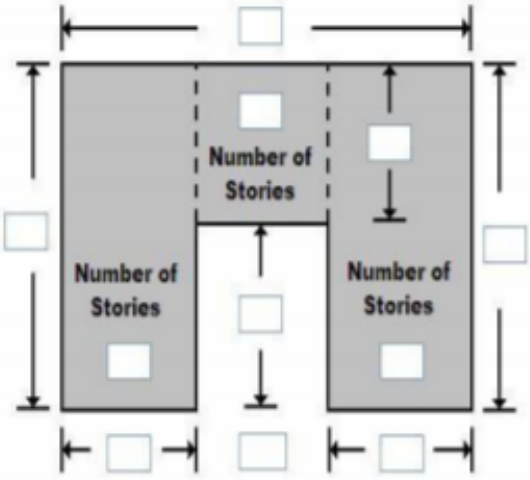
COST Tab

Select appropriate diagram of structure footprint and enter structure dimensions and the number of stories:









COST Tab

Square Footage

Base Cost per Sq Ft.: _____ Total Square Footage: _____

Geographic Adjustment: _____

Cost Adjustments

Single-Family House	Quantity	Units	Unit Cost	Item Cost
Roofing		Sq. Ft.		
Heating/Cooling		Each		
Appliances		Each		
Fireplaces		Each		
Porch/Breezeways		Sq. Ft.		
Garage		Sq. Ft.		
Manufactured House	Quantity	Units	Unit Cost	Item Cost
Expando		Sq. Ft.		
Carport		Sq. Ft.		
Open Porch		Sq. Ft.		
Enclosed Porch		Sq. Ft.		
Decks		Each		
Skirting		Sq. Ft.		
Fireplaces		Each		

COST Tab

Additional Cost Adjustments

Adjustments	Quantity	Unit Cost	Item Cost

Cost Data Reference (source or name): _____

_____

_____

Cost Data Date: _____

Note: The computed Actual Cash Value (ACV) for the structure will be calculated once the square footage, base cost, cost adjustments, costs add-ons, and depreciation percentage are entered into the SDE tool.

Depreciation Rating:

_____1. Very Poor Condition _____2. Requires Extensive Repairs _____3. Requires Some Repairs

_____4. Average Condition _____5. Above Average Condition _____6. Excellent Condition _____7. Other

Depreciation Percentage (if 'Other' selected for Depreciation Rating): _____

Depreciation Explanation (if 'Other' selected for Depreciation Rating): _____

_____

_____

_____

_____

_____

ELEMENT PERCENTAGE Tab

Note: The inspector needs only enter the % Damaged data here. The data in the Element %, Item Cost, and Damage Values columns will be populated based on the selected attributes once all the data are entered into the SDE tool.

Residence Type: _____Single-Family (SF) House _____Townhouse _____Manufactured House (MH)

Item	% Damaged	Element %	Item Cost	Damage Values
Foundation (Not required for MH)				
Superstructure				
Roof Covering				
Exterior Finish				
Interior Finish				
Doors and Windows				
Cabinets and Countertops				
Flood Finish				
Plumbing				
Electrical				
Appliances				
HVAC				
Skirting/Forms Piers (MH Only)				

SDE OUTPUT SUMMARY Tab – *Optional User Entered Data*

Professional Market Appraisal: _____

Tax Assessed Value: _____ Tax Factor Adjustment: _____

Adjusted Tax Assessed Value: _____

Contractor's Estimate of Damage: _____

Community's Estimate of Damage: _____

Blank SDE Damage Inspection Worksheets – Non-Residential Structures

Non-Residential

SDE DAMAGE INSPECTION WORKSHEET

Address: _____

SDE ADDRESS Tab

Subdivision / Community Information

Subdivision_____ Parcel Number: _____

Lot Number: _____ Elevation of Lowest Floor: _____ Datum: _____

Community Information

NFIP Community ID: _____ NFIP Community Name: _____

Latitude: _____ Longitude: _____

Building Address

Owner First Name: _____ Owner Last Name: _____

Street Address: _____

City: _____ State: _____

County/Parish: _____ Zip: _____

Phone: _____ Cell Phone: _____

Mailing Address *Check here if same as building address*: _____

Owner First Name: _____ Owner Last Name: _____

Street Address: _____

City: _____ State: _____

County/Parish: _____ Zip: _____

Phone: _____ Cell Phone: _____

SDE STRUCTURE / DAMAGE / NFIP INFO Tab

Structure Attributes / Information

Year of Construction: _____ Number of Stories: _____1 Story _____2 to 4 _____5 or more

Structure Use: _____

Sprinkler System: _____Yes _____No Conveyance: _____Yes _____No

Quality of Initial Construction: _____Low _____Budget _____Average _____Good _____Excellent

Structure Information (if needed): _____

_____

_____

_____

Inspector / Damage Information

Inspector's Name: _____

Inspector's Phone: _____

Date of Inspection (mm/dd/yyyy): _____

Date Damage Occurred (mm/dd/yyyy): _____

Cause of Damage: _____Fire _____Flood _____Flood and Wind _____Seismic _____Wind _____Other

Cause of Damage (if 'Other' is selected): _____

_____

Damage Undetermined: _____ (check here and check the reason below):

_____ No Physical Damage Sustained _____ Vacant / Property

_____ Resident Refused Inspection _____ Address Does Not Exist _____ Other (Explain)

_____

_____

_____

Duration of Flood: _____Hours _____Days

Depth of Flood Above Ground (estimated to nearest 0.5 foot): _____

Depth of Flood Above Lowest Floor (estimated to nearest 0.5 foot): _____

SDE STRUCTURE / DAMAGE / NFIP INFO Tab

NFIP / Community Information:

FIRM Panel Number: _____ Suffix: _____ Date of FIRM Panel (mm/dd/yyyy): _____

FIRM Zone: _____ Base Flood Elevation: _____

Regulatory Floodway: _____Yes _____No _____Possible

Community Information (if needed): _____

_____

_____

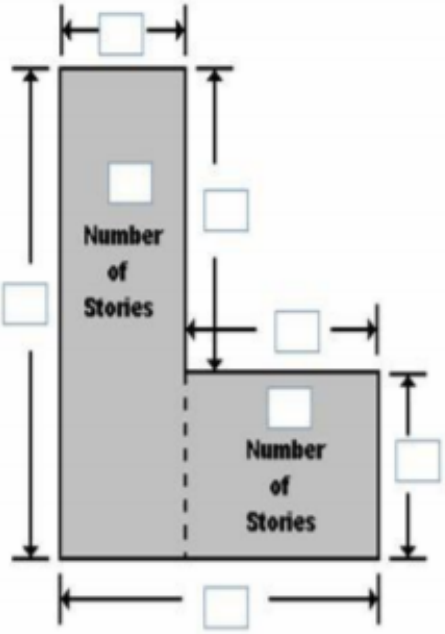
_____

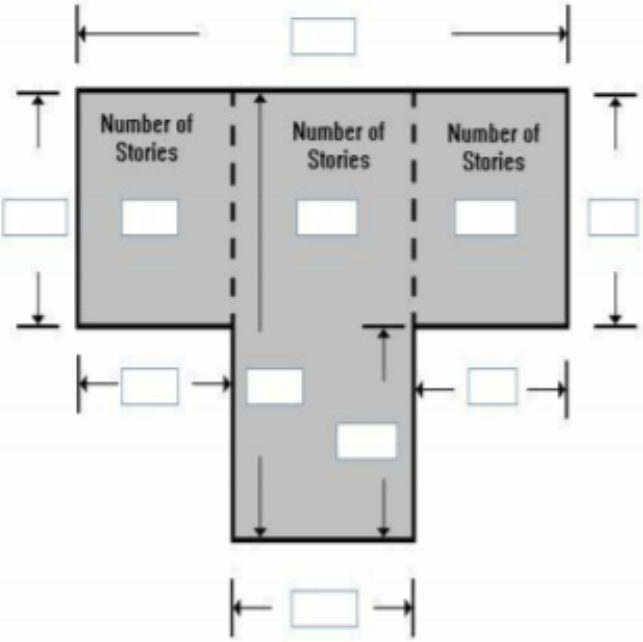
_____

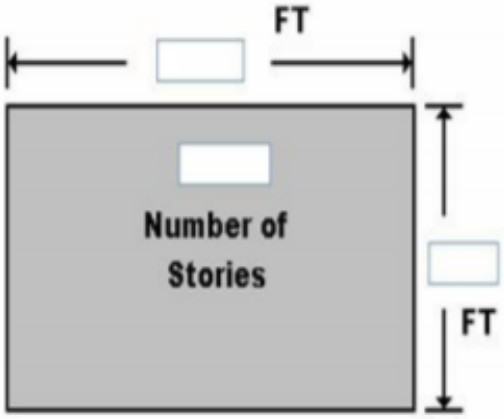
_____

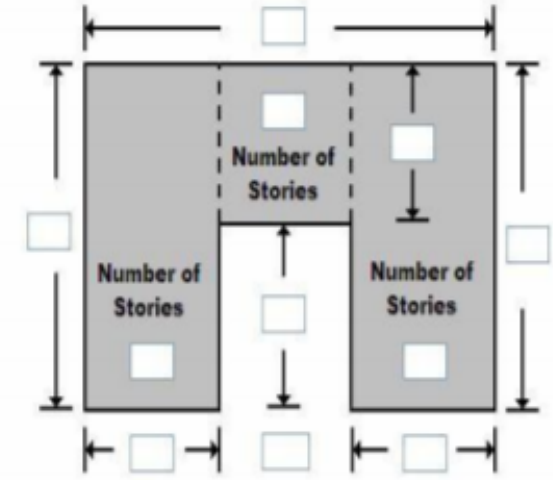
COST Tab

Select appropriate diagram of structure footprint and enter structure dimensions and the number of stories:









COST Tab

Square Footage

Base Cost per Sq Ft.: _____ Total Square Footage: _____

Geographic Adjustment: _____

Cost Adjustments

Adjustments	Quantity	Units	Unit Cost	Item Cost

Additional Cost Adjustments

Adjustments	Quantity	Unit Cost	Item Cost

Cost Data Reference (source or name): _____

_____

Cost Data Date: _____

Note: The computed Actual Cash Value (ACV) for the structure will be calculated once the square footage, base cost, cost adjustments, costs add-ons, and depreciation percentage are entered into the SDE tool.

Depreciation Rating:

_____1. Very Poor Condition _____2. Requires Extensive Repairs _____3. Requires Some Repairs

_____4. Average Condition _____5. Above Average Condition _____6. Excellent Condition _____7. Other

Depreciation Percentage (if 'Other' selected for Depreciation Rating): _____

Depreciation Explanation (if 'Other' selected for Depreciation Rating): _____

_____

_____

ELEMENT PERCENTAGES Tab

Note: The inspector needs only enter the % Damaged data here. The data in the Element %, Item Cost, and Damage Values columns will be populated based on the selected attributes once all the data are entered into the SDE tool.

Item	% Damaged	Element %	Item Cost	Damage Values
Foundation				
Superstructure				
Roof Covering				
Plumbing				
Electrical				
Interiors				
HVAC				

SDE OUTPUT SUMMARY Tab – *Optional User Entered Data*

Professional Market Appraisal: _____

Tax Assessed Value: _____ Tax Factor Adjustment: _____

Adjusted Tax Assessed Value: _____

Contractor's Estimate of Damage: _____

Community's Estimate of Damage: _____

Checklist 1 – Post-Disaster Planning

#	Need	Completed	Item
1.			Brief all elected officials as soon as possible after the event regarding the NFIP requirements for Substantial Damage determinations. Source: • FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference, Chapter 7 (May 2010)
2.			Select an SDE Manager. Source: • FEMA P-784, SDE User Manual and Workbook, Section 7.1 (August 2017)
3.			Review NFIP requirements for Substantial Damage and Substantial Improvement. Sources: • NFIP Regulations • FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference (May 2010) • FEMA 213, Answers to Questions About Substantially Damaged Buildings (May 1991)
4.			Review SDE tool and User Manual to understand the SDE data requirements. Sources: • FEMA P-784, SDE User Manual and Workbook, Sections 3 and 4 (August 2017) • FEMA SDE Best Practices (August 2017) • FEMA Substantial Damage Estimator Tool Frequently Asked Questions
5.			Identify Flood Insurance Rate Maps (FIRMs) or other floodplain maps to review the boundaries of the SFHA. Data may include FIRMs, FBFMs, FIS reports, community maps showing previously flooded areas, and flood studies by State or other Federal agencies. Source: • FEMA P-784, SDE User Manual and Workbook, Section 8.1 (August 2017) • Community NFIP coordinator
6.			Identify type, location, and community contacts for tax or GIS data for structures within the SDE inventory area that are potentially Substantially Damaged. Any or all of the following data will be useful: owner name, building address, type of house, non-residential building use, year of construction, square footage, number of stories, adjusted building

			values, number of years since last tax adjustment, and dates of additions or renovations. Source: • FEMA P-784, SDE User Manual and Workbook, Section 8.1 (August 2017)
7.			Identify community street, address, or tax maps for delineating the boundaries of the SFHA. This will help delineate the maximum limits of the SDE inventory area while also showing addresses or lot locations. Source: • FEMA P-784, SDE User Manual and Workbook, Section 7 (August 2017)
8.			Transfer SFHA boundaries from floodplain map to a base map that includes streets, addresses, or a tax map. Using the effective FIRM for the community, transfer the SFHA boundaries to a base map with named streets and either addresses or lot boundary lines. This will delineate the maximum limits of the SDE inventory to narrow the focus of the inspections while avoiding areas outside the SFHA. Source: • FEMA P-784, SDE User Manual and Workbook, Sections 8.1 and 9.3 (August 2017)
9.			Perform a curbside review of structures within the SDE inventory area. This helps the SDE Manager understand the scope and extent of the inventory area as well as the initial construction quality, size, and type of structures that will require inspections. Source: • FEMA P-784, SDE User Manual and Workbook, Sections 7.3 and 9.5 (August 2017)
10.			Identify the property and structure access procedures for locked or unoccupied structures. These procedures should be written and well defined; the elected officials and community legal counsel should then review and approve them to ensure that the procedures are legal and defensible. As a minimum, these procedures should include guidance on owner/resident interaction, and requirements for entering open property and structures when owners/residents are not present or when occupants are present but refuse entry to the structure or property. In addition, inspectors with permission to enter a structure need to verify that the structure is structurally stable and safe to enter. Source:

			• FEMA P-784, SDE User Manual and Workbook, Sections 8.2 and 9.1 (August 2017)
11.			Pre-load available property data into the SDE tool. These data must be cross-referenced to a FIRM, address, or tax map so that the inspectors know which structure and property record are being inspected. Once the data are uploaded into the SDE tool, it will create property records. After the inspection is complete and the field data are entered, the records become SDE assessments. Source: • FEMA P-784, SDE User Manual and Workbook, Sections 3.7, 7.5, and 8.1 (August 2017)
12.			Identify the number and names of inspectors required for the inventory and form the inspection teams. The number of inspectors and inspection teams will determine the potential daily rate of completed inspections and a target completion date. Source: • FEMA P-784, SDE User Manual and Workbook, Section 8.2 (August 2017)
13.			Identify inspection areas that may require permission or special access. Industrial parks, factories, private or gated subdivisions, islands, airports, school campuses, and other areas may require permission or other advance coordination to gain access to the property and structures.
14.			Identify the proposed sequence of SDE inspections. Decide which subdivisions, neighborhoods, or areas will be inspected first, then next, and so on. The sequence will depend on the number of inspectors, their availability during the inspection process, the number of structures to inspect, and the proposed completion date of the inspections. The sequence may be revised as issues arise due to other post-disaster activities that may restrict or limit the inspection teams. Source: • FEMA P-784, SDE User Manual and Workbook, Section 8.2 (August 2017)
15.			Prepare a list of local contacts for all project personnel and local agencies. This list should include, as a minimum, the SDE Manager, a responsible community official, inspectors, office staff, and the police, fire, and emergency management contacts. Source:

			• FEMA P-784, SDE User Manual and Workbook, Section 8.1 (August 2017)
16.			Research, obtain, or develop base costs for determining reasonable structure values for residential and non-residential structures in the community. Resources include industry-accepted cost-estimating guides, building permit data, discussions with local contractors or realtors, adjusted tax data, guidance from adjacent communities, or personal experience with residential and nonresidential cost estimating. Sources: • FEMA P-784, SDE User Manual and Workbook, Sections 3.11, 8.1, and 8.4 (August 2017)
17.			Prepare a Letter of Introduction on community letterhead. The letter will be handed to occupants by the inspectors as they prepare to enter a new property. This should include, as a minimum, a brief discussion of the intent and scope of the SDE inspections, the normal work hours and days, the option of the structure owner or resident to refuse entry to the property or the structure, and the name, telephone number, and e-mail address of the SDE Manager or local official in charge of the SDE inventory. Source: • FEMA P-784, SDE User Manual and Workbook, Appendix C (August 2017)
18.			Make Substantial Damage determinations for structures located in the SFHA. Sources: • FEMA P-784, SDE User Manual and Workbook, Sections 3.11 and 9 (August 2017)
19.			After Substantial Damage determinations are complete, issue permits for repair and reconstruction. Source: • FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference, Chapter 7 (May 2010)

Checklist 2 – Field Preparations

#	Need	Have	Item
1.			Flood maps such as FIRMs, FBFMs, FEMA Flood Recovery maps, or other floodplain or flood risk maps
2.			Tax or address map with 100-year flood boundaries
3.			Route or area map showing proposed areas and sequence for data collection
4.			Tax data, including structure owner name, address, and zip code, mailing address and zip code, number of stories, and dimensions or habitable square footage (if available)
5.			Copies of blank SDE Damage Inspection Worksheets
6.			Copies of blank photo logs (if needed)
7.			Photo ID badges for inspectors
8.			Letter of Introduction with community point of contact (name and telephone number)
9.			Clip boards, pens/pencils, steno pad or notebook, highlighter
10.			100 ft tape measure (to obtain or verify structure dimensions)
11.			Address board and dry erase markers
12.			Hard hat, gloves, safety glasses and vest, steel-toe and steelshank shoes, safety vest, and flashlight
13.			Cell phones or walkie-talkies
14.			Digital camera, primary and alternate memory cards, and extra batteries
15.			Verification that police, fire, and emergency management agencies have been advised of SDE inspections
16.			Laptop computers or tablets with SDE tool installed and power cords with plug adaptors for use and re-charging in field vehicles
17.			Rain or cold-weather gear

Procedures to review with inspectors prior to the start of data collection

#	Need	Have	Item
1.			Field safety procedures for dealing with extreme temperatures, wild and domestic animals, driving, parking, and accidents
2.			SDE data collection and recording requirements
3.			Guidance for entering locked, occupied, or unoccupied structures
4.			Guidance on identifying initial construction quality for both residential and non-residential structures
5.			SDE inspection procedures for residential structures
6.			SDE inspection procedures for non-residential structures
7.			Guidance on selecting the depreciation rating
8.			Data collection routes and sequence
9.			Guidelines for interaction with structure owners and occupants

Photo Log

Team ID Name/Number: _____ Date (mm/dd/yyyy): _____

Memory Stick No.	Photo No.	Address/Description

Guidance for Estimating Percent Damage for Residential Structures

Basic Flooding Model Assumptions:

1) Medium height freshwater flooding; limited duration. No high-velocity action; no wave action.
2) A 1-story house (without a basement) is used for this example house to establish the Categories of Work percentages of total costs.

Foundation			Damage Threshold 0-25%	25-50%	50-75%	Over 75%
Description	Continuous perimeter foundations, footings, and piers for internal beams and floor loads. Footing depth averages between 30 inches and 42 inches below ground level. Materials include unreinforced cast-in-place concrete, unreinforced masonry or concrete masonry units (CMUs), concrete slab on grade, or raised slab construction.	Threshold Markers	Water level does not rise to the level of the bottom of the first floor of the structure.	Water level rises just above first floor level.	Water level is 4-7 feet against the outside of the building.	Water level is 7 feet or higher against the outside of the building.
			No scouring at the footings.	Limited scouring at the footings.	Limited scouring at the footings. Soils are saturated and unstable	Limited scouring at the footings. Foundation is notably cracked and/or displaced. Structure has been knocked off its foundation.
			Some undermining but no visible cracking at concrete slab.	Soils are saturated.	Cracks noted on or along the foundation walls.	Portions of the foundation are damaged or missing
				Undermining of the concrete slab, especially at corners - hairline cracks only.	Significant undermining of the concrete slab – significant cracking is visible.	Significant undermining of the concrete slab - major cracking and separation of the concrete slab.
		Common Damage	Short-term inundation to limited heights. Limited scouring and erosion - low flow and low velocity floodwaters. No noticeable cracking of the masonry or displacement of the foundation walls.	Short-term inundation - Foundation is inundated with flood waters but for a limited duration. Limited scouring or undermining of the foundation or footings is found. Minor cracking from some settlement but no displacement, heaving or discontinuities of the structural support systems.	Floodwaters extend over the top of the foundation system - significant inundation for over 12 hours. Some cracking of the masonry/concrete foundation walls. Some damage to the foundation wall from debris or settlement noted.	Settlement noted at the footings, due to erosion or unstable soils. Foundation wall damage – sections of the walls are cracking, displaced, and missing, causing an inherent instability to the support for the house. Use caution when approaching or entering the house.
	Special Considerations for Coastal/High Velocity Floods		**Coastal floods may show more evidence of scouring at the supports - the foundation system may be better designed to resist this scouring action.** **High velocity floodwaters may create erosion/scouring that the building has not been designed to resist.**			

Superstructure (Wood Frame/Masonry)			0- 25%	25-50%	50-75%	Over 75%
Description	The wall support systems that extend from the foundation wall to the roof structure. Superstructures include the exterior wall sheathing panels, shear panels, or braced wall panels. This section also includes structural members that support the roof (rafters and trusses), but does not include the roof sheathing. Wood frame construction: Lightweight lumber or metal studs Interior wall framing (without sheathing) Typical exterior structural panel wall sheathing is plywood or hardboard Masonry construction: Load bearing walls using unreinforced masonry (URM) and reinforced block or brick Typical exterior covers are stucco, siding (aluminum, vinyl, or wood), and masonry veneer (Reinforced concrete construction should be categorized under masonry.)	Threshold Markers	Water level does not rise to the level of the bottom of the first floor of the structure.	Water level rises just above first floor level.	Water level is up to 3 feet high on the first floor level.	Water is over 3 feet high on the first floor level of the house.
				Damage to the exterior walls is limited	Some damage to exterior walls.	Significant damage to exterior walls.
			No damage to the roof framing.	Damage to the roof framing is limited.	Significant damage to sections of the roof framing.	Significant damage to the main portion or multiple sections of the roof framing.
		Common Damage	Minor damage to portions of the wall structure. Wall studs and sheathing suffered minor damage by contact with debris or from floodwater pressures against the structure. Minor missing or damaged sections of the roof structure. No deformation or distortion of the structural frame is evident.	Some missing sections or open damage to portions of the wall structure. Wall studs and sheathing suffered some damage by contact with debris or from floodwater pressures against the structure. Some missing or damaged sections of the roof structure. No deformation or distortion of the structural frame is evident.	Missing sections or open damage to significant portions of the wall structure. Wall studs and sheathing damaged by contact, collision, or piercing with debris or from floodwater pressures against the structure. Significant missing or damaged sections of the roof structure. Some deformation or distortion of the structural frame is evident.	Missing exterior wall(s) or open damage to large portions of the wall structure. Wall studs and sheathing damaged by contact, collision, or piercing with debris or from floodwater pressures against the structure. Large missing or damaged sections of the roof structure. Significant deformation or distortion of the structural frame is evident.
	Special Considerations for Coastal/High Velocity Floods		Coastal areas have higher wind conditions requiring additional exterior wall structural panels, shear walls, and braced wall panels. Damage to these wall structural systems would indicate a higher percent of damage, because they are already designed to resist higher wind conditions.			

Roof Covering			0-25%	25-50%	50-75%	Over 75%
Description	**Roofing includes a lightweight composition shingle, tile roofs, metal roofs, or a built-up roof with gravel or rock cover material. Roofing does not include structural framing members such as rafters or prefabricated trusses that support the roof deck. The roof sheathing and flashing is included in this section.**	Threshold Markers	**Minor wind damage to the roof coverings.**	**Some damaged areas of the roof from high-winds or damage from debris.**	**Significant damaged areas of the roof from high winds or damage from debris.**	**Large damaged areas of the roof from high winds or damage from debris.**
			Main surface areas are unaffected.	**Some sections of the roof covering are missing or loose.**	**Significant sections of the roof covering are missing or loose.**	**Major sections of the roof covering are missing or loose.**
			Flashings are intact.	**Some damage to the flashings.**	**Damage to the flashings allows some water infiltration at joints and roof penetrations.**	**Damage to the flashings allows significant water infiltration at joints and roof penetrations.**
			No damage to the roof sheathing.	**Minimal damage to the roof sheathing.**	**Significant damage to the roof sheathing - some areas of the sheathing will need replacement.**	**Major damage to the roof sheathing - most of the roof sheathing will need replacement.**
		Common Damage	Roof shingles or tiles mostly intact. Some minor damage to roof shingles - some torn or loose shingles in limited areas.	Some areas where the roof shingles were damaged by high winds. Several small areas of exposed roof sheathing as a result of missing/damaged shingles.	Some areas where the roof shingles were damaged by high winds. Several small areas of exposed roof sheathing as a result of missing/damaged shingles. Some damage to the roof covering and sheathing due to debris falling or penetrating the roof assembly.	**Major areas of the roof where the shingles/tile are missing, allowing rainwater to freely enter the house below. Significant damage to roof covering and roof sheathing from strong winds or windborne debris penetrating the roof assembly.**
	Special Considerations for Coastal/High Velocity Floods		**Coastal areas have higher wind conditions requiring additional roof covering requirements.** **Damage to these roof coverings would indicate a higher percent of damage, because they are designed to resist higher wind conditions.** **Damage to the roofing is more likely during high-wind conditions due to the loss of protection from missing roof coverings and water infiltration. This will increase the percent of damage.**			

Exterior Finish			0- 25%	25-50%	50-75%	Over 75%
Description	**The wall covering system that covers the wall sheathing, as well as insulation and weather stripping. This includes the water resistant materials and the finish materials: Stucco, Siding (aluminum, vinyl, or wood), Masonry, Stone veneer.** **Insulation is installed at the flooring beneath the lowest floor level and throughout the walls and ceilings. Types of insulation include: fiberglass wall and ceiling insulation, blown wall and ceiling insulation, and rigid wall insulation.**	Threshold Markers	**Water level is less than 6 inches above the lowest floor level.** **The duration of the floodwaters is limited - less than 12 hours.**	**Water level is between 6 and 18 inches above the lowest floor level.** **The duration of the floodwaters is limited - less than 12 hours.**	**Water level is between 18 inches and 3 feet above the lowest floor level.** **The duration of the floodwaters is more than 12 hours.**	**Water level is more than 3 feet above the lowest floor level.** **The duration of the floodwaters is more than 12 hours.**
		Common Damage	Water staining, contamination, and damage on some of the exterior wall finishes. 'Clean and repair' process is likely. Brick and stone veneer walls, stucco walls, and 'cultured stone' walls may need some water removal techniques to allow drying of the interior materials and wall cavities. Verify adherence of the finish materials to the wall substrate. A limited amount of the siding materials may require replacement as needed. No damage or replacement of the insulation system is necessary, except where water and high moisture conditions have caused the insulation to fall loose within the crawlspace sub-flooring.	Damage/losses to some areas of the exterior wall surfaces, in addition to water staining and contamination. Some repairs are required at damaged locations prior or during 'clean and repair' process. Brick and stone veneer walls, stucco walls, and 'cultured stone' walls may need some water removal techniques to allow drying of the interior materials and wall cavities. Verify adherence of the finish materials to the wall substrate. Damaged house trim work will require replacement. Water damage to the insulation in the sub-flooring above the crawlspace or basement levels. Damage to insulation is evident and insulation often has fallen loose. This insulation should be removed and replaced.	Damage/losses to significant sections of the exterior wall surfaces, in addition to water staining and contamination. Significant repairs are required at damaged locations prior to 'clean and repair' process. Replacement of some sections of the exterior siding is required. Brick and stone veneer walls, stucco walls, and 'cultured stone' walls may need some water removal techniques to allow drying of the interior materials and wall cavities. Verify adherence of the finish materials to the wall substrate. Water damage to the insulation in the sub-flooring above the crawlspace or basement levels. This insulation should be removed and replaced. Water saturation of wall insulation may be found in the lowest section of the exterior walls. Contaminants in the flood waters are cause for removal and replacement of lower sections of the saturated insulation. Clean, sanitize, and dry the structural systems before re-installing materials. Damaged house trim work will require replacement, especially at door and window casings.	Damage/losses to major sections of the exterior wall surfaces, in addition to water staining and contamination. Major repairs are required at damaged locations prior to 'clean and repair' process. Replacement of large sections of the exterior siding is required. Brick and stone veneer walls, stucco walls, and 'cultured stone' walls may need some water removal techniques to allow drying of the interior materials and wall cavities. Verify adherence of the finish materials to the wall materials. Damaged house trim will require replacement, especially at door and window casings. Water damage to the insulation in the sub-flooring above the crawlspace or basement levels. This insulation should be removed and replaced. Water saturation of wall insulation requires the removal of all of the insulation from the damaged sections of the exterior walls. Contaminants in the flood waters are cause for removal and replacement of lower sections of the saturated insulation. Clean, sanitize, and dry the structural systems before re-installing.
	Special Considerations for Coastal/High Velocity Floods		**The salt, erosion, and winds in coastal areas will have a damaging effect on the quality of exterior wall finishes.** **Damage to exterior finishes are more likely during high-wind conditions due to the loss of protection from missing exterior finishes and water infiltration. Damage to the insulation is more likely during high-wind conditions due to the loss of protection from missing roof coverings and exterior finishes, and from subsequent water infiltration. This will increase the percent of damage.**			

Interior Finish		0-25%	25-50%	50-75%	Over 75%
Description	**Interior finish includes the gypsum board, drywall, plaster, or paneling that makes up the wall surfaces. It also includes trim around door baseboards, casings, chair rails, and ceiling moldings.** **Materials include low-grade wood/plastic composites, soft woods, and hard woods. Finishes include paint, stain, or varnish.** **This item also covers any exterior and interior painted surfaces. This includes all interior painted surfaces, but not the building or repairs of the underlying surfaces. This also includes those exterior siding materials (and trim work) that need to be painted, but not those that have inherent coloring within the materials themselves (brick, stucco, EIFS).**	**Threshold Markers**	**Water level does not rise to the level of the first floor structure.** **The duration of the floodwaters is limited - less than 12 hours.**	**Water level rises just above the first floor level.** **The duration of the floodwaters is limited - less than 12 hours.**	**Water level is up to 3 feet above the first floor level.** **The duration of the floodwaters is more than 12 hours.**	**Water is more than 3 feet above the first floor level of the house.** **The duration of the floodwaters is more than 12 hours.**
		Common Damage	Wicking of the water and high moisture conditions into the finished materials at the subflooring and at the bottom of the walls. Water staining and damage possible at baseboard and the casings at the bottoms of door openings. Some adjustment/repair/ replacement may be necessary. No damage anticipated on door, cabinet, and window hardware. The baseboards and the bottom of the door casings may need to be cleaned and painted.	Water staining and damage likely at the baseboard and the casings at the bottoms of door openings. Some adjustment/repair/replacement may be necessary. Water damage at the lowest levels of the wall assembly - lower wall and trim may need to be removed and replaced. Minor damage anticipated on door, cabinet, and window hardware. After repairs to surfaces, the lower wall finishes, baseboards, and door casings will need to be primed and repainted. The bottoms of the cabinet bases in the kitchen and bathrooms may require repainting.	Water staining and damage at the baseboards and the casings at door openings need to be replaced. Water damage at the lowest levels of the wall assembly - wall and trim, window sills and window aprons, wall paneling, wainscoting and chair rails require removal and replacement. Wall surfaces should be removed to a height of 4 feet. Some damage anticipated on door, cabinet, and window hardware. Some replacement needed. After repairs to surfaces, the entire wall finishes, baseboards, and door and window casings will need to be primed and repainted, along with the vanity cabinets in the bathrooms.	Water staining and damage at the baseboards, and running trim and casings at door and window openings need to be replaced. Water damage at all the levels of the wall assembly - wall and trim, window sills and window aprons, wall paneling, wainscoting, and chair rails require removal and replacement. Wall surfaces should be removed to a height of 8 feet. Significant damage anticipated on door, cabinet, and window hardware. Some replacement needed. After repairs to surfaces, the entire wall finishes, baseboards, door and window casings, and window sashes will need to be primed and repainted along with the vanity cabinets in the bathrooms. Repaint both the upper and lower kitchen cabinets, where these are paint-grade cabinets.
	Special Considerations for Coastal/High Velocity Floods		**Damage to the interior finishes are more likely during high-wind conditions due to the loss of protection from missing roof coverings and exterior finishes, and from subsequent water infiltration. The salt, erosion, and winds in coastal areas will have a damaging effect on the quality of exterior hardware. This will significantly increase the percent of damage.**			

Doors and Windows			0-25%	25-50%	50-75%	Over 75%
Description	**This section includes all doors and windows of a structure, as well as locks, hinges, frames, and handles. Assumptions are hollow core doors with low-cost hardware for low, fair, and average quality construction, raised-panel hardwood veneer with good quality hardware for good or excellent quality construction.** **(This section does not include paint or stain.)**	Threshold Markers	**Water level rises just to the floor structure of the first floor level.** **The duration of the floodwaters is limited - less than 12 hours.**	**Water level is just above the first floor.** **The duration of the floodwaters is limited - less than 12 hours.**	**Water rises to at least 12 inches above the first floor level.** **The duration of the floodwaters is more than 12 hours.**	**Water rises more than 12 inches above the first floor level.** **The duration of the floodwaters is more than 12 hours.**
		Common Damage	Bottoms of some interior doors may be deformed, delaminated, or have some swelling damage. Doors may need adjustment and/or repairs to close and latch properly. No impact on normal sill-height windows. Damage may be found at floor-level windows (hopper windows, awning windows, and floor-to-ceiling windows).	Bottoms of interior and exterior doors may be deformed, delaminated or have some swelling damage. Doors may need adjustment and/or repairs to close and latch properly. No impact on normal sill-height windows. Damage may be found at floor-level windows (hopper windows, awning windows and floor-to-ceiling windows).	Bottoms of interior and exterior doors will be deformed, delaminated, or have some swelling damage. Interior doors will likely need replacement. Exterior doors may need adjustment, repairs, or replacement. No impact on normal sill-height windows. Repairs or replacements may be needed at floor-level windows (hopper windows, awning windows, and floor-to-ceiling windows).	Bottoms of interior and exterior doors will be deformed, delaminated, or have some swelling damage. Interior and exterior doors will likely need replacement. Deformation or other damage will be found at normal sill-height windows. Replacement will be necessary at floor-level windows (hopper windows, awning windows, and floor-to-ceiling windows). Replacement may be necessary for other windows.
	Special Considerations for Coastal/High Velocity Floods		**Wind-driven rain in coastal areas will have a damaging effect on the quality of exterior doors and windows.**			

Cabinets and Countertops			0-25%	25-50%	50-75%	Over 75%
Description	**The basic cabinets for bathroom vanities and kitchens include paint-grade cabinets made of a fiberboard or plywood material. The countertop is laminated plastic or a manmade 'cultured stone' surface.** **Paint-grade cabinets are the baseline because they can be painted to match upper wall cabinets, when they are repairable, to return the house to pre-disaster conditions.** **Damaged cabinets with hardwood face-frames, doors, and drawers will require replacement based on the depth of flooding above the floor. Therefore, if the flood depth only damages the base cabinet and countertops, the percent damage will be 60% or less.**	Threshold Markers	**Water level is less than 4 inches above the finished floor level.**	**Water level is between 4 and 12 inches above the finished floor level.** **Flood duration is short - no prolonged exposure to water or contaminants.**	**Water level is between 1 foot and 3 feet above the finished floor level.** **Flood duration is longer than 12 hours - prolonged exposure to water and contaminants.**	**Water level is more than 3 feet above finished floor level.** **Flood duration is longer than 12 hours - prolonged exposure to water and contaminants.**
		Common Damage	Base cabinets have minimal water damage. Swelling and deterioration of manufactured case goods, especially cabinet bases, sides, and drawers using engineered wood products. Bathroom vanity cabinets and kitchen base cabinets may need cleaning, sanitizing, and limited repairs. Repainting will be required to match upper cabinets in kitchen.	Base cabinets of particleboard or medium-density fiberboard need to be replaced. Repaint to match upper cabinets in kitchen. Wood and plywood base cabinets may need cleaning, sanitizing, and some repairs at cabinet base. Repainting will be required to match upper cabinets in kitchen.	Replace base cabinets. Water damage and exposure is prolonged - deformation, delamination, and warping of cabinet base drawers and doors. Water contains debris and contaminants. The countertops may need to be replaced.	Replace base cabinets and upper wall cabinets. Water damage and exposure is prolonged - deformation, delamination, and warping of cabinet base drawers and doors. Water contains debris and contaminants. The countertops will need to be replaced.

Floor Finish		0-25%	25-50%	50-75%	Over 75%
Description	**Materials for floor finish include: carpet, hardwood, vinyl composition tile, sheet vinyl floor cover, ceramic tile, and marble. Sub-flooring is also included.** **Carpeting, hardwood flooring, vinyl flooring tiles, and sheet vinyl are typically replaced after water inundation. Brick, stone, and clay tile floor can be cleaned, sanitized, and reused. These types of floors may have areas where the mortar setting compound has broken loose. These tiles should be replaced. The floor sheathing is included in this Category of Work, as compared to the Superstructure Category.**	**Water level does not rise to the level of the bottom of the first floor structure.**	**Water level rises just to the first floor level.**	**Water level is above the first floor.**	**Water level is well above the first floor.**
	Threshold Markers		**Water level inundates the sub-flooring but does not rise to the finished floor materials.**	**Water level inundates above the sub-flooring and finished floor materials.**	**Water level inundates above the sub-flooring and finished floor materials.**
		No damage to the floor sheathing.	**Minimal damage to the floor sheathing.**	**Significant damage to the floor sheathing - some areas of the sheathing will need replacement.**	**Major damage to the floor sheathing - most of the floor sheathing will need replacement.**
	Common Damage	No damage is anticipated in the floor finish system at this water level.	The sub-flooring may be damaged or delaminated by high-humidity conditions, and may need to be repaired or replaced.	The sub-flooring may be damaged or delaminated by water inundation. Floor covering will need removal, drying, sanitizing, and replacement, depending upon the type of floor covering. Carpets (with padding) should be removed and replaced. Wood floors will need to be replaced. Ceramic tiles and stone flooring may be re-used if they are still secured to the substrate. Sheet vinyl and vinyl tiles will need to be replaced to facilitate drying and repair of damage of the subfloor.	The sub-flooring may be damaged or delaminated by water inundation. Floor covering may need removal, drying, sanitizing, and replacement, depending upon the type of floor covering. Carpets (with padding) should be removed and replaced. Wood floors will need to be replaced. Ceramic tiles and stone flooring may be re-used if they are still secured to the substrate. Sheet vinyl and vinyl tiles will need to be replaced to facilitate drying and repair of damage of the sub-floor.
	Special Considerations for Coastal/High Velocity Floods	**Damage to the floor finishes and floor sheathing are more likely during high-wind conditions due to the loss of protection from missing roof coverings and exterior finishes, and from subsequent water infiltration. This will significantly increase the percent of damage.**			

Plumbing			0-25%	25-50%	50-75%	Over 75%
Description	**The plumbing system includes the incoming water service (municipal water supply or well service), the water heater, water distribution piping, and the wastewater system. Wastewater will be conveyed away from the structure by either a connection to the municipal sewer system or a septic system.** **When floodwaters saturate the soils, septic systems may be unable to discharge their waste, causing a back-up of the septic systems. If floodwaters raise above the level of the municipal sewer manhole covers, the sewage can back-up into the house through the sewer lines. Verify the condition of the potable water supply to determine if it can provide a safe water supply.**	Threshold Markers	**Water level is less than 6 inches above the lowest floor level.**	**Water level is between 6 inches and 18 inches above the lowest floor level.** **Flood duration is short - no prolonged exposure to water or contaminants.**	**Water level is between 18 inches and 3 feet above the lowest floor level.** **Flood duration is longer than 12 hours - prolonged exposure to water and contaminants.**	**Water level is more than 3 feet above the lowest floor level.** **Flood duration is longer than 12 hours - prolonged exposure to water and contaminants.**
		Common Damage	Floor drains can backflow into the house. Under floor (or under slab) plumbing systems should be purged, cleaned, and sanitized. Any materials that might contain remnants of waste materials or other contaminants in the floodwaters will require replacement.	Floor drains, shower drains, bathtubs, and toilets can back flow into the house. Septic contamination is likely. The water heater may need to be replaced.	Floor drains, shower drains, bathtubs, toilets, bathroom sinks, utility sinks, and toilets will backflow into the house. Septic contamination will occur. The water heater will need to be replaced.	All plumbing fixtures will backflow into the house. Septic contamination will occur. The water heater will need to be replaced.
	Special Considerations for Coastal/High Velocity Floods		**Houses in coastal areas may have additional plumbing fixtures and piping on the exterior of the house.**			

Electrical			0-25%	25-50%	50-75%	Over 75%
Description	**100- to 200-amp electrical service providing circuit breaker panels and distribution wiring. B. Basic wiring (15/20 amp) for outlets, switches, receptacles, and lighting; 25- to 60-amp wiring systems for outlets for a washer, dryer, stove, and refrigerator.** **(A minimum number of outlets and lighting fixtures, sometimes quantified by local building code, begin to increase in number and application as the quality level of the residence increases.) The basic approach listed here is for slab-on- grade or elevated houses; crawlspace and basement houses will have higher damage levels more quickly due to the main panel and horizontal wiring runs located below the lowest floor level.**	Threshold Markers	**Water level is less than 12 inches above the finished floor level.** **Minor electrical components and limited wiring are inundated but remain below normal receptacle height.**	**Water level is between 12 inches and 18 inches above the finished floor level.** **A significant number of wiring components and limited wiring are inundated, floodwaters above the normal receptacle height.**	**Water level is between 18 inches and 3 feet above the lowest floor level.** **A significant number of wiring components and a significant amount of wiring is inundated - floodwaters above normal wall switch height.**	**Water level is more than 3 feet above the lowest floor level.** **Most of the wiring components and a significant amount of wiring are inundated - floodwaters above normal wall switch height.**
		Common Damage Details	If the main electrical power source is located in the basement, the panel will need to be replaced. All outlets (receptacles, switches, and lights) located in the basement should be replaced. All receptacles, switches, and outlets located above the flood water high mark can be left in place and reused.	Modern Romex wiring that is inundated only for short durations (without wetting the ends/joints/terminations) can be dried and reused. Older nonmetallic cable (with impregnated braided sheathings) should be replaced when wetted. When chemical contaminants are suspected in the floodwaters, all inundated electrical wiring and components will require replacement.	Modern Romex wiring that is inundated only for short durations while wetting the ends/joints/terminations should be replaced. Older non-metallic cable (with impregnated braided sheathings) should be replaced when wetted. When chemical contaminants are suspected in the floodwaters, all inundated electrical wiring and components will require replacement.	Modern Romex wiring that is inundated only for long durations should be replaced. Older nonmetallic cable (with impregnated braided sheathings) should be replaced when wetted. When chemical contaminants are suspected in the floodwaters, all inundated electrical wiring and components will require replacement.

Appliances			0-25%	25-50%	50-75%	Over 75%
Description	**Common, built-in appliances that would be included are the dishwasher, hot water tank, and some stoves.**	Threshold Markers	**Water level is less than 6 inches above the finished floor level.** **Water level is in the floor area of the appliances but not into the equipment operating system.** **The appliances may be cleaned and reconditioned.**	**Water level is between 6 inches and 12 inches above the finished floor level.** **Water level is in the floor area of the appliances and into the equipment operating system.** **Some of the appliances will need to be replaced.**	**Water level is between 12 inches and 18 inches above the finished floor level.** **Water level is in the floor area of the appliances and into the equipment operating system.** **Most of the appliances will need to be replaced.**	**Water level is between 18 inches and 3 feet above the finished floor level.** **Water level is in the floor area of the appliances and into the equipment operating system.** **All of the appliances will need to be replaced.**
		Common Damage	If appliances (water heater, clothes washer/dryer) are located in the basement or under the floor spaces, these should be replaced. Appliances at or above the first-floor level should be cleaned and reconditioned, as needed. Gas-fired appliances should be checked by a service technician to verify whether the gas burners and controls and electric wiring systems were compromised. Replacement may be required.	If appliances (water heater, clothes washer/dryer) are located in the basement or the under floor spaces, these should be replaced. Appliances at or above the first-floor level should be cleaned and reconditioned, as needed. Gas-fired appliances should be checked by a service technician to verify whether the gas burners and controls and electric wiring systems were compromised. Replacement may be required. The clothes dryer and dishwasher systems and controls will likely be inundated and may require replacement.	All appliances located at or above the first-floor level should be cleaned and reconditioned, as needed. Gas-fired appliances should be checked by a service technician to verify whether the gas burners and controls and electric wiring systems were compromised. Replacement may be required. The clothes dryer and dishwasher systems and controls will be inundated and need to be replaced.	All appliances at or above the first floor level should be cleaned and reconditioned, as needed. Gas-fired appliances should be checked by a service technician to verify whether the gas burners and controls and electric wiring systems were compromised. Replace as necessary. The clothes dryer, washing machine, and dishwasher systems and controls will be inundated and need to be replaced.

HVAC			0-25%	25-50%	50-75%	Over 75%
Description	**The base HVAC system is a forced-air heating system (furnace) with ductwork. The air handler system is located inside the thermal barrier of the house.** **The percent damaged will be less for a boiler. A boiler system has a sealed piping system to distribute the heat while the furnace uses a duct system. Ducts with water infiltration will need to be cleaned, repaired, and re-insulated. By contrast, a boiler piping system only needs to have the distribution piping clean and re-insulated. Note: Old duct and HVAC insulation may contain asbestos - use appropriate caution and adjust the costs for removal, if found.** **A gas-fired or oil-fired furnace located in a basement or crawlspace will require replacement of the furnace assembly as soon as 12 inches of floodwaters are present. This will require an adjustment of the percent damaged to 75%, as soon as the water reaches the firebox level of this heating equipment. A central air conditioner or heat pump will have a ducted air distribution system. The outside condenser unit(s) will require reconditioning after any flooding conditions.**	Threshold Markers	**Water level is less than 6 inches above the lowest floor level.** **Water level is in the lower ducts but not into the air handler or equipment operating system.** **The condenser unit may be reconditioned if the water level is less than 6 inches from the bottom of the appliance. If the condenser unit is located below the flood level, it will need to be replaced.**	**Water level is between 6 inches and 12 inches above the finished floor level.** **Water level is into the lower ducts and the air handler, but not into the equipment operating system.** **The condenser unit may be reconditioned if the water level is up to 12 inches from the bottom of the appliance. If the condenser unit is located below the flood level, it will need to be replaced.**	**Water level is between 12 inches and 3 feet above the finished floor level.** **Water level is into the lower ducts, air handler, and the equipment operating system.** **The fuel-fired equipment (burners/controls) is inundated.** **The condenser unit needs to be replaced.**	**Water level is more than 3 feet above the lowest floor level.** **Water level is into the duct distribution system, air handler, and the equipment operating system.** **The fuel-fired equipment (burners/controls) is inundated.** **The condenser unit needs to be replaced.**
		Common Damage	If HVAC equipment (furnace, air handler, heat pump) are located in the basement or the under floor areas, the equipment should be reconditioned or replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.	If portions of the HVAC equipment (furnace, air handler, heat pump) are located in the basement or the under floor areas, the equipment should be reconditioned or replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.	Portions of the HVAC equipment (furnace, air handler, heat pump) should be replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.	All HVAC equipment (furnace, air handler, heat pump) should be replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.

Guidance for Estimating Percent Damage for Non-Residential Structures

Basic Flooding Model Assumptions:

1) Medium height freshwater flooding - limited duration. Some high-velocity action; possible wave action.
This guidance represents a starting point for inspectors to perform assessments on non-residential buildings. Because of the wide range of structure types, this guidance should be used as a rough estimation for a typical 1-story convenience store. Any variation from that should take into consideration the potential differences in each element.

2) The damage evaluation guidance in this should be taken as possible or likely indicators of the respective level of damage, but is not a definite representation of damage to a structure after a flood and wind event. Not all threshold markers may need to be met to achieve the level of damage indicated.

			Damage Threshold			
Foundation			**0- 25%**	**25-50%**	**50-75%**	**Over 75%**
Description	**Continuous perimeter foundations, footings, and piers for internal beams and floor loads. Materials include masonry or concrete masonry units (CMUs) or piles.**	**Threshold Markers**	**Water level rises just above first floor level.**	**Water level is 4-7 feet against the outside of the building.**	**Water level is 7-10 feet against the outside of the building.**	**Water level is more than 10 feet against the outside of the building.**
			No scouring around foundation.	**Limited scouring around foundation.**	**Limited scouring around foundation.**	**Limited scouring around foundation.**
			Some undermining but no visible cracking at concrete slab.	**Soils are saturated.**	**Soils are saturated and unstable.**	**Foundation is notably cracked and/or displaced. Structure has been knocked off its foundation.**
				Undermining of the foundation, especially at corners - hairline cracks only.	**Cracks noted on or along the foundation walls.**	**Portions of the foundation are damaged or missing.**
					Significant undermining of the foundation - significant cracking is visible.	**Significant undermining of the foundation - major cracking and separation of the foundation.**
		Common Damage	Short-term inundation to limited heights. Limited scouring and erosion - low-flow and low velocity floodwaters. No noticeable cracking of the masonry or displacement of the foundation walls.	Short-term inundation - foundation is inundated with flood waters but for a limited duration. Limited scouring or undermining of the foundation or footings is found. Minor cracking from some settlement but no displacement, heaving, or discontinuities of the structural support systems.	Floodwaters extend over the top of the foundation system - significant inundation for over 12 hours. Some cracking of the masonry/concrete foundation walls. Some damage to the foundation wall from debris or settlement noted.	Settlement noted at the footings due to erosion or unstable soils. Foundation wall damage - sections of the walls cracking, displaced, and missing, causing an inherent instability to the support for the building. Use caution when approaching or entering the building.
	Special Considerations for Coastal/High Velocity Floods		**Coastal floods may have more evidence of scouring at the supports - the foundation system may be better designed to resist this scouring action.**			
			High-velocity floodwaters may create erosion/scouring that the building has not been designed to resist.			

Superstructure (Wood Frame/Masonry)			0-25%	25-50%	50-75%	Over 75%
Description	The wall support systems that extend from the foundation wall to the roof structure. Superstructures include the exterior wall sheathing panels, shear panels, or braced wall panels. This section also includes structural members that support the roof, but does not include roof sheathing. Wood frame construction: Lightweight lumber or metal studs Interior wall framing (without sheathing) Typical exterior structural panel wall sheathing is plywood or hardboard Masonry construction: Typically concrete or CMUs, with steel reinforcement. Typical exterior covers are stucco, siding (aluminum, vinyl, or wood), and masonry veneer	Threshold Markers	Water level does not rise to the level of the bottom of the first floor of the structure. No damage to the roof framing. No wind damage to the superstructure.	Water level rises just above first floor level. Damage to the exterior walls is limited. Damage to the roof framing is limited.	Water level is up to 3 feet high on the first floor level. Some damage to exterior walls. Some damage to sections of the roof framing.	Water is over 3 feet high on the first floor level of the building. Significant damage to exterior walls. Significant damage to the main portion or multiple sections of the roof framing. Pressurization and failure of framing connections.
		Common Damage	Minor damage to portions of the wall structure. Wall studs and sheathing suffered minor damage by contact with debris or from floodwater pressures against the structure. Minor missing or damaged sections of the roof structure. No deformation or distortion of the structural frame is evident.	Some missing sections or open damage to portions of the wall structure. Wall studs and sheathing suffered some damage by contact with debris or from floodwater pressures against the structure. Some missing or damaged sections of the roof structure. No deformation or distortion of the structural frame is evident.	Missing sections or open damage to some portions of the wall structure. Wall studs and sheathing damaged by contact, collision, or piercing with debris or from floodwater pressures against the structure. Some missing or damaged sections of the roof structure. Some deformation or distortion of the structural frame is evident.	Missing exterior wall(s) or open damage to large portions of the wall structure. Wall studs and sheathing damaged by contact, collision, or piercing with debris or from floodwater pressures against the structure. Large missing or damaged sections of the roof structure. Significant deformation or distortion of the structural frame is evident.
	Special Considerations for Coastal/High Velocity Floods		Coastal areas have higher wind conditions requiring additional exterior wall structural panels, shear walls, and braced wall panels. Damage to these wall structural systems would indicate a higher percent of damage, because they are already designed to resist higher wind conditions.			

Roof Covering			0-25%	25-50%	50-75%	Over 75%
Description	Roofing includes a lightweight composition shingle, tile roofs, metal roofs, or a built-up roof with gravel or rock cover material. Roofing does not include structural framing members such as rafters or prefabricated trusses that support the roof deck. The roof sheathing and flashing is included in this section.	Threshold Markers	Minor wind damage to the roof coverings. Main surface areas are unaffected. Flashings are intact. No damage to the roof sheathing.	Some damaged areas of the roof from high winds or damage from debris. Some sections of the roof covering are missing or loose. Some damage to the flashings. Minimal damage to the roof sheathing.	Significant damaged areas of the roof from high winds or damage from debris. Significant sections of the roof covering are missing or loose. Damage to the flashings allows some water infiltration at joints and roof penetrations. Significant damage to the roof sheathing - some areas of the sheathing will need replacement.	Large damaged areas of the roof from high winds or damage from debris. Major sections of the roof covering are missing or loose. Damage to the flashings allows significant water infiltration at joints and roof penetrations. Major damage to the roof sheathing - most of the roof sheathing will need replacement.
		Common Damage	Roof covering mostly intact. Some minor damage - some torn or loose parts of covering in limited areas.	Some areas where the roof was damaged by high winds. Several small areas of exposed roof sheathing as a result of missing/damaged covering.	Some areas where the roof was damaged by high winds. Several small areas of exposed roof sheathing as a result of damaged covering. Some damage to the roof covering and sheathing due to debris falling or penetrating the roof assembly.	Major areas of the roof where the shingles/tile are missing, allowing rainwater to freely enter the building below. Significant damage to roof covering and roof sheathing from strong winds or windborne debris penetrating the roof assembly.
	Special Considerations for Coastal/High Velocity Floods		**Coastal areas have higher wind conditions requiring additional roof covering requirements.** **Damage to these roof coverings would indicate a higher percent of damage, because they are designed to resist higher wind conditions.** **Damage to the roofing is more likely during high-wind conditions due to the loss of protection from missing roof coverings. This will increase the percent of damage.** **It is also possible that the local building code will require that the entire roof covering be removed and replaced.**			

Interiors			0-25%	25-50%	50-75%	Over 75%
Description	Interiors include the partitions, interior doors, and surface finishes (for walls, floors, and ceilings). Materials include low-grade wood/plastic composites, soft woods, and hard woods. Finishes include paint, stain, or varnish. This item also covers any exterior and interior painted surfaces. This includes all interior painted surfaces, but not the building or repairs of the underlying surfaces. This also includes those exterior siding materials (and trim work) that need to be painted, but not those that have inherent coloring within the materials themselves (brick, stucco, EIFS). NOTE: Non-residential structures with multiple stories will receive less damage to this element than single- story structures, as the majority of interior finish for multi-story structures will likely not be on the ground floor.	Threshold Markers	Water level does not rise to the level of the first floor structure. The duration of the floodwaters is limited - less than 12 hours.	Water level rises just above the first floor level. The duration of the floodwaters is limited - less than 12 hours.	Water level is up to 3 feet above the first floor level. The duration of the floodwaters is more than 12 hours.	Water is more than 3 feet above the first floor level of the building. The duration of the floodwaters is more than 12 hours.
		Common Damage	Wicking of the water and high moisture conditions into the finished materials at the subflooring and at the bottom of the walls. Water staining and damage possible at baseboard and the casings at the bottoms of door openings. Some adjustment/repair/replacement may be necessary. No damage anticipated on door, cabinet, and window hardware. The baseboards and the bottom of the door casings may need to be cleaned and painted.	Water staining and damage likely at the baseboard and the casings at the bottoms of door openings. Some adjustment/repair/replacement may be necessary. Water damage at the lowest levels of the wall assembly - lower wall and trim may need to be removed and replaced. Minor damage anticipated on door, cabinet, and window hardware. After repairs to surfaces, the lower wall finishes, baseboards, and door casings will need to be primed and repainted. The bottoms of cabinet bases in bathrooms may require repainting.	Water staining and damage at the baseboards and the casings at door openings need to be replaced. Water damage at the lowest levels of the wall assembly - wall and trim, window sills and window aprons, wall paneling, wainscoting, and chair rails require removal and replacement. Wall surfaces should be removed to a height of 4 feet. Some damage anticipated on door, cabinet, and window hardware. Some replacement needed. After repairs to surfaces, the entire wall finishes, baseboards, and door and window casings will need to be primed and repainted, along with the vanity cabinets in the bathrooms. Both upper and lower paint-grade cabinets should be repainted where lower cabinets were repaired or replaced.	Water staining and damage at the baseboards, running trim, and casings at door and window openings need to be replaced. Water damage at all the levels of the wall assembly - wall and trim, window sills and window aprons, wall paneling, wainscoting, and chair rails require removal and replacement. Wall surfaces should be removed to a height of 8 feet. Significant damage anticipated on door, cabinet, and window hardware. Some replacement needed. After repairs to surfaces, the entire wall finishes, baseboards and door and window casings, and window sashes will need to be primed and repainted along with the vanity cabinets in the bathrooms. Repaint both upper and lower cabinets, where these are paint-grade cabinets.
	Special Considerations for Coastal/High Velocity Floods		Damage to the interior finishes are more likely during high-wind conditions due to the loss of protection from missing roof coverings and exterior finishes, and from subsequent water infiltration. The salt, erosion, and winds in coastal areas will have a damaging effect on the quality of exterior hardware. This will significantly increase the percent of damages.			

Plumbing			0-25%	25-50%	50-75%	Over 75%
Description	**The plumbing system includes the incoming water service (municipal water supply or well service), the water heater, water distribution piping, fire protection system, and the wastewater system. Wastewater will be conveyed away from the structure by either a connection to the municipal sewer system or a septic system.** **When floodwaters saturate the soils, septic systems may be unable to discharge their waste, causing a back-up of the septic systems. If floodwaters raise above the level of the municipal sewer manhole covers, the sewage can back-up into the building through the sewer lines. Verify the condition of the potable water supply to determine if it can provide a safe water supply.**	Threshold Markers	**Water level is less than 6 inches above the lowest floor level.**	**Water level is between 6 inches and 18 inches above the lowest floor level.** **Flood duration is short - no prolonged exposure to water or contaminants.**	**Water level is between 18 inches and 3 feet above the lowest floor level.** **Flood duration is longer than 12 hours - prolonged exposure to water and contaminants.**	**Water level is more than 3 feet above the lowest floor level.** **Flood duration is longer than 12 hours - prolonged exposure to water and contaminants.**
		Common Damage	Floor drains can backflow into the building. Under floor (or under slab) plumbing systems should be purged, cleaned, and sanitized. Any materials that might contain remnants of waste materials or other contaminants in the floodwaters will require replacement.	Floor drains, shower drains, bathtubs, and toilets can backflow into the building. Septic contamination is likely. Water heaters may need to be replaced.	Floor drains, shower drains, bathtubs, toilets, bathroom sinks, utility sinks, and toilets will backflow into the building. Septic contamination will occur. Water heaters will need to be replaced.	All plumbing fixtures will backflow into the building. Septic contamination will occur. Water heaters will need to be replaced.
	Special Considerations		**The plumbing systems in place in the buildings may vary significantly, and damage thresholds should account for the situation of the building being assessed.**			

Electrical			0-25%	25-50%	50-75%	Over 75%
Description	**Consists of all electrical components on the property site, such as electrical wiring, communications, conveyance, lighting, and security.** **A minimum number of outlets and lighting fixtures, sometimes quantified by local building code, begin to increase in number and application as the quality level of the structure increases. Structure type will also affect the amount of fixtures, wiring, and electrical equipment in the building, and therefore will significantly affect the percent damage to this element. For this example, equipment is assumed to be on the first floor. In multi-story buildings where equipment is on floors higher than where the flooding is occurring, these percent damage estimates would be significantly lower.**	Threshold Markers	**Water level is less than 12 inches above the finished floor level.** **Minor electrical components and limited wiring are inundated but remain below normal receptacle height.**	**Water level is between 12 inches and 18 inches above the finished floor level.** **A significant number of wiring components and limited wiring are inundated, and floodwaters are above the normal receptacle height.**	**Water level is between 18 inches and 3 feet above the lowest floor level.** **A significant number of wiring components and a significant amount of wiring is inundated - floodwaters are above normal wall switch height.**	**Water level is more than 3 feet above the lowest floor level.** **Most of the wiring components and a significant amount of wiring are inundated - floodwaters are above normal wall switch height.**
		Common Damage Details	If the main electrical power source is located in the basement, the panel will need to be replaced. All outlets (receptacles, switches and lights) located below grade should be replaced. All receptacles, switches, and outlets located above the flood water high mark can be left in place and reused.	Modern Romex wiring that is inundated only for short durations (without wetting the ends/joints/terminations) can be dried and reused. Older nonmetallic cable (with impregnated braided sheathings) should be replaced when wetted. When chemical contaminants are suspected in the floodwaters, all inundated electrical wiring and components will require replacement.	Modern Romex wiring that is inundated only for short durations while wetting the ends/joints/terminations should be replaced. Older non-metallic cable (with impregnated braided sheathings) should be replaced when wetted. When chemical contaminants are suspected in the floodwaters, all inundated electrical wiring and components will require replacement.	Modern Romex wiring that is inundated only for long durations should be replaced. Older nonmetallic cable (with impregnated braided sheathings) should be replaced when wetted. When chemical contaminants are suspected in the floodwaters, all inundated electrical wiring and components will require replacement.
	Special Considerations		**The electrical system in place and its location with respect to the building may vary significantly, and damage thresholds should account for the situation of the building being assessed.**			

HVAC			0-25%	25-50%	50-75%	Over 75%
Description	The base HVAC system is a forced-air heating system (furnace) with ductwork. The air handler system is located inside the thermal barrier of the building. The percent damaged will be less for a boiler. A boiler system has a sealed piping system to distribute the heat while the furnace uses a duct system. Ducts with water infiltration will need to be cleaned, repaired, and re-insulated. By contrast, a boiler piping system only needs to have the distribution piping clean and re-insulated. Note: Old duct and HVAC insulation may contain asbestos - use appropriate caution and adjust the costs for removal, if found. A gas-fired or oil-fired furnace located in a basement or crawlspace will require replacement of the furnace assembly as soon as 12 inches of floodwaters are present. This will require an adjustment of the percent damaged to 75%, as soon as the water reaches the firebox level of this heating equipment. A central air conditioner or heat pump will have a ducted air distribution system. The outside condenser unit(s) will require reconditioning after any flooding conditions.	Threshold Markers	Water level is less than 6 inches above the lowest floor level. Water level is in the lower ducts but not into the air handler or equipment operating system. The condenser unit may be reconditioned if the water level is less than 6 inches from the bottom of the appliance. If the condenser unit is located below the flood level, it needs to be replaced. Minor to no damage to exterior HVAC components.	Water level is between 6 inches and 12 inches above the finished floor level. Water level is into the lower ducts and the air handler, but not into the equipment operating system. The condenser unit may be reconditioned if the water level is up to 12 inches from the bottom of the appliance. If the condenser unit is located below the flood level, it needs to be replaced. Minor to some damage to exterior HVAC components.	Water level is between 12 inches and 3 feet above the finished floor level. Water level is into the lower ducts, air handler, and the equipment operating system. The fuel-fired equipment (burners/controls) is inundated. The condenser unit needs to be replaced. Some damage to some exterior HVAC components. Some components may have connection failures and some became windborne debris.	Water level is more than 3 feet above the lowest floor level. Water level is into the duct distribution system, air handler, and the equipment operating system. The fuel-fired equipment (burners/controls) is inundated. The condenser unit needs to be replaced. Significant damage to multiple exterior HVAC components. Components may have connection failures and components became windborne debris.
		Common Damage	If HVAC equipment (furnace, air handler, heat pump) are located in the basement or the under floor areas, the equipment should be reconditioned or replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.	If portions of the HVAC equipment (furnace, air handler, heat pump) are located in the basement or the under floor areas, the equipment should be reconditioned or replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.	Portions of the HVAC equipment (furnace, air handler, heat pump) should be replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.	All HVAC equipment (furnace, air handler, heat pump) should be replaced. Water-inundated duct insulation should be removed and replaced. If the duct insulation is integral to the ducts (duct board or secured interior duct liners), the ducts should be replaced. All ducts that are being reused will require cleaning.

APPENDIX 9 –HANDOUTS FOR PROPERTY OWNERS AND LOCAL OFFICIALS

FEMA Help After a Disaster Brochure

https://www.fema.gov/sites/default/files/2020-08/fema_help-after-disaster_english_trifold.pdf

National Flood Insurance Program Factsheet

https://www.fema.gov/pdf/media/factsheets/2011/mit_natl_flood_ins.pdf

Increased Cost of Compliance Fact Sheet

https://www.fema.gov/sites/default/files/2020-08/fema_increased-cost-of-compliance_fact-sheet.pdf

Myths and Facts About Flood Insurance

https://www.fema.gov/es/blog/facts-and-myths-about-flood-insurance

Factsheet: Mold: Problems and Solutions

https://www.fema.gov/press-release/20201016/fact-sheet-mold-problems-and-solutions

After the Flood: Advice for Salvaging Damaged Family Treasures

https://www.fema.gov/sites/default/files/2020-06/Flood_FIMA_Fact_Sheet_advice_salvaging.pdf

The Benefits of Flood Insurance Versus Disaster Assistance

https://insurance.ky.gov/ppc/Documents/NFIP3.pdf

Flood Insurance 101 - Talking Points for Community Officials

https://www.santa-clarita.com/home/showdocument?id=11700

Examples from Past Disasters:

Fact Sheet – Rebuilding after Sandy

https://www.state.nj.us/dep/special/hurricane-sandy/docs/rebuilding-after-sandy-factsheet.pdf

Fact Sheet - NFIP "Substantial Damage" What does it mean?

https://www.fema.gov/news-release/20200220/fact-sheet-nfip-substantial-damage-what-does-it-mean-0

You got a Substantial Damage Determination Letter, Now what?

https://www.fema.gov/fact-sheet/you-got-substantial-damage-determination-letter-now-what

Cleaning Flooded Buildings – Hurricane Sandy Recovery Factsheet 1

https://www.fema.gov/sites/default/files/2020-08/sandy_factsheet1_cleaning_flooded_bldgs.pdf

Community Rating System

FEMA B573 – NFIP Community Rating System Brochure

https://www.fema.gov/sites/default/files/documents/fema_community-rating-system_local-guide-flood-insurance-2018.pdf

Examples from other States

Key West Substantial Improvement Brochure

https://www.cityofkeywest-fl.gov/DocumentCenter/View/2322/Substantial-Improvement-Brochure

Kansas Local Elected Officials Mitigation Factsheet

https://www.agriculture.arkansas.gov/wp-content/uploads/2020/05/Substantial_Damage_Fact_Sheets_Local_Elected_Officials.pdf

Montana DNRC Substantial Damage Fact Sheet

http://dnrc.mt.gov/divisions/water/operations/floodplain-management/training/flood-coordination/Substantial_Damage_BrochureFinal.pdf

APPENDIX 10 – INTENT TO RAISE, DEMOLISH OR FLOODPROOF FORM

[Community Letterhead]

LETTER OF INTENT TO RAISE or DEMOLISH

Property Address:

Block:

Lot:

Owner's Name:

Date of Substantial Damage/ Substantial Improvement (Circle One) Determination:

According to FEMA all structures substantially damaged by [disaster name/type] shall be raised, demolished or floodproofed (floodproofing is only for non-residential structures) as soon as possible, keeping in mind the six year eligibility of ICC funds. I intend to bring the structure into compliance, at the above-referenced property, by [date] in order to comply with the [Community Name] Flood Damage Prevention Ordinance and FEMA requirements. I understand that no improvements can be made to the structure, that the structure can only be raised, floodproofed, or demolished and rebuilt and brought into compliance with the [Community Name] Flood Damage Prevention Ordinance. I understand that failure to comply with the required Floodplain regulations may result in penalties from [Community Name] and/or FEMA.

Signature:

Printed Name:

Notarized:

APPENDIX 11 – VARIANCE LANGUAGE FROM ORDINANCE

Double check the following language to make sure it is consistent with what is in your communities Flood Damage Prevention Ordinance

SECTION 107 VARIANCES

107.1 General. The {body to hear variances} shall hear and decide requests for variances. The {body to hear variances} shall base its determination on technical justifications submitted by applicants, the considerations for issuance in Section 107.5, the conditions of issuance set forth in Section 107.6, and the comments and recommendations of the Floodplain Administrator and, as applicable, the Construction Official. The {body to hear variances} has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of these regulations.

107.2 Historic structures. A variance is authorized to be issued for the repair or rehabilitation of a historic structure upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure, the historic structure is eligible for the exception in the section in Chapter 12 of the Existing Building Code applicable to historic structures in flood hazard areas, and the variance is the minimum necessary to preserve the historic character and design of the structure.

107.3 Functionally dependent uses. A variance is authorized to be issued for the construction or substantial improvement necessary for the conduct of a functionally dependent use provided the variance is the minimum necessary to allow the construction or substantial improvement, and that all due consideration has been given to use of methods and materials that minimize flood damage during the base flood and create no additional threats to public safety.

107.4 Restrictions in floodways. A variance shall not be issued for any proposed development in a floodway when any increase in flood levels would result during the base flood discharge, as evidenced by the applicable analysis and certification required in Section 105.3(1) of these regulations.

107.5 Considerations. In reviewing requests for variances, all technical evaluations, all relevant factors, all other portions of these regulations, and the following shall be considered:

(1) The danger that materials and debris may be swept onto other lands resulting in further injury or damage.

(2) The danger to life and property due to flooding or erosion damage.

(3) The susceptibility of the proposed development, including contents, to flood damage and the effect of such damage on current and future owners.

(4) The importance of the services provided by the proposed development to the community.

(5) The availability of alternate locations for the proposed development that are not subject to flooding or erosion and the necessity of a waterfront location, where applicable.

(6) The compatibility of the proposed development with existing and anticipated development.

(7) The relationship of the proposed development to the comprehensive plan and floodplain management program for that area.

(8) The safety of access to the property in times of flood for ordinary and emergency vehicles.

(9) The expected heights, velocity, duration, rate of rise and debris and sediment transport of the floodwater and the effects of wave action, where applicable, expected at the site.

(10) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, streets, and bridges.

107.6 Conditions for issuance. Variances shall only be issued upon:

(1) Submission by the applicant of a showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site limit compliance with any provision of these regulations or renders the elevation standards of the building code inappropriate.

(2) A determination that failure to grant the variance would result in exceptional hardship due to the physical characteristics of the land that render the lot undevelopable.

(3) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nor create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

(4) A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(5) Notification to the applicant in writing over the signature of the Floodplain Administrator that the issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as $25 for $100 of insurance coverage, and that such construction below the base flood level increases risks to life and property.

APPENDIX 12 – [COMMUNITY NAME] MUTUAL AID/SHARED SERVICES AGREEMENTS

Include any mutual aid agreements that your community has here, or the location of where they can be easily found.