G284.5—SUBSTANTIAL IMPROVEMENT/SUBSTANTIAL DAMAGE

MODULE 5

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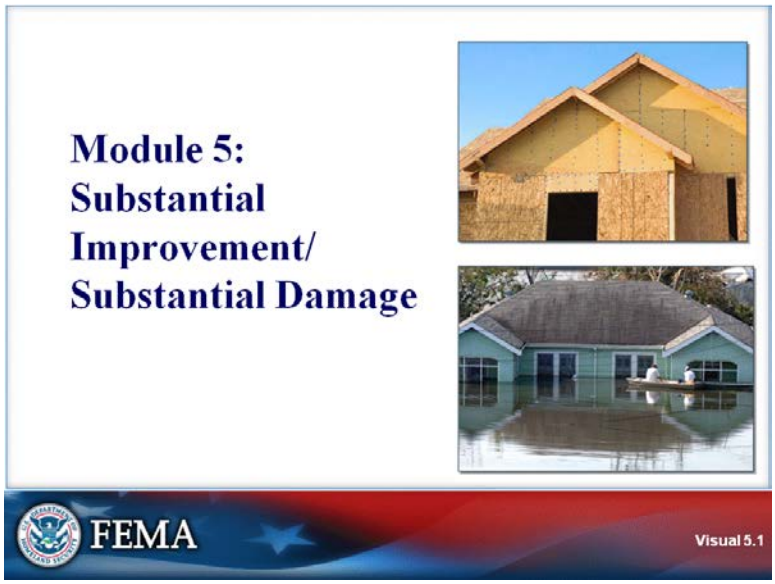
INTRODUCTION

Visual 5.1



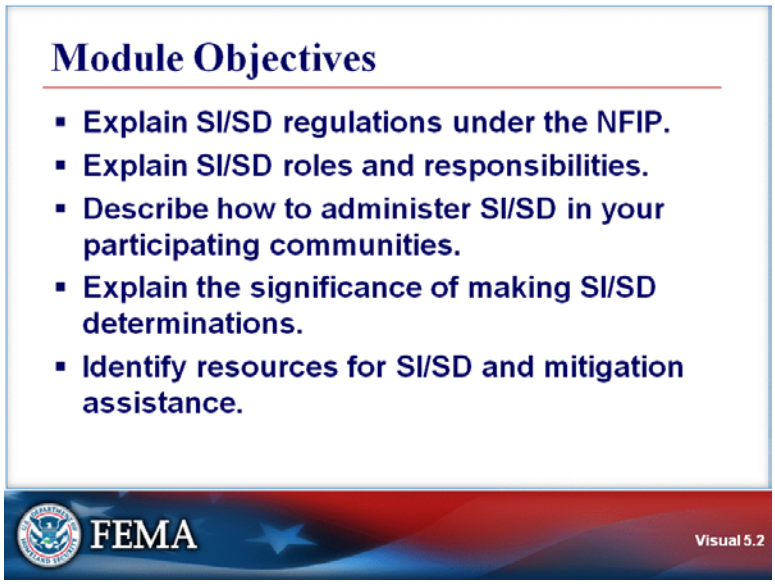
Key Points

Substantial Improvement and Substantial Damage (SI/SD) are important aspects of the NFIP regulations. They both require standards for new construction.

This module will review comprehensive guidance for regulating SI/SD in Special Flood Hazard Areas (SFHAs).

INTRODUCTION

Visual 5.2



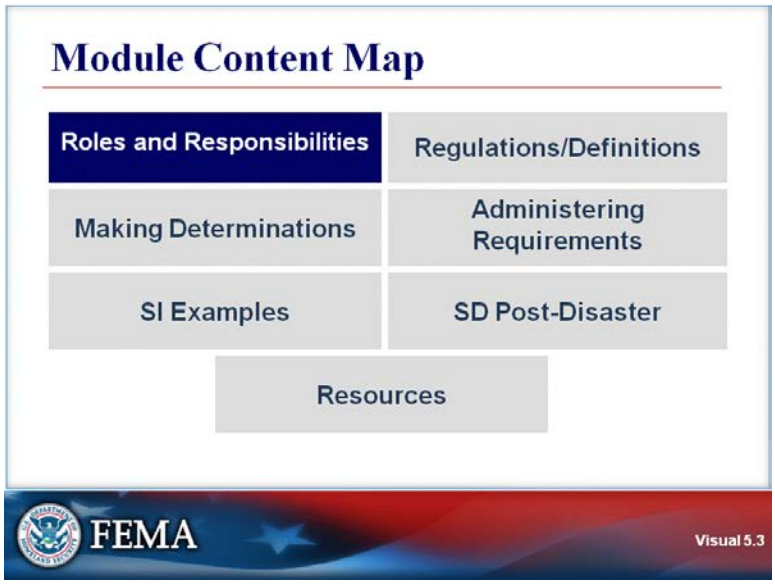
Key Points

After completing this module, you will be able to:

- Explain SI/SD regulations under the NFIP.
- Explain SI/SD roles and responsibilities.
- Describe how to administer SI/SD in participating communities.
- Explain the significance of making SI/SD determinations.
- Identify resources for SI/SD and mitigation assistance.

ROLES AND RESPONSIBILITIES

Visual 5.3

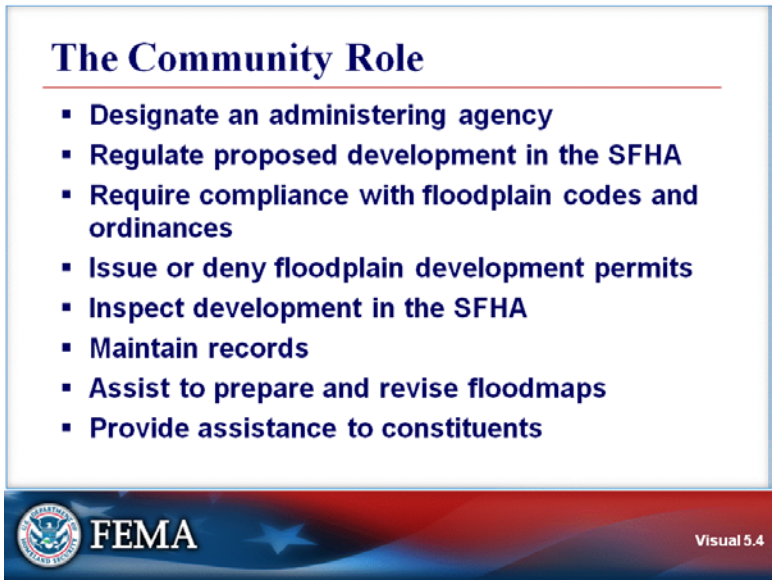


Key Points

The first section of this module will describe the roles and responsibilities of Federal, State, and local governments in Substantial Improvement and Substantial Damage (SI/SD) determinations.

ROLES AND RESPONSIBILITIES

Visual 5.4



Key Points

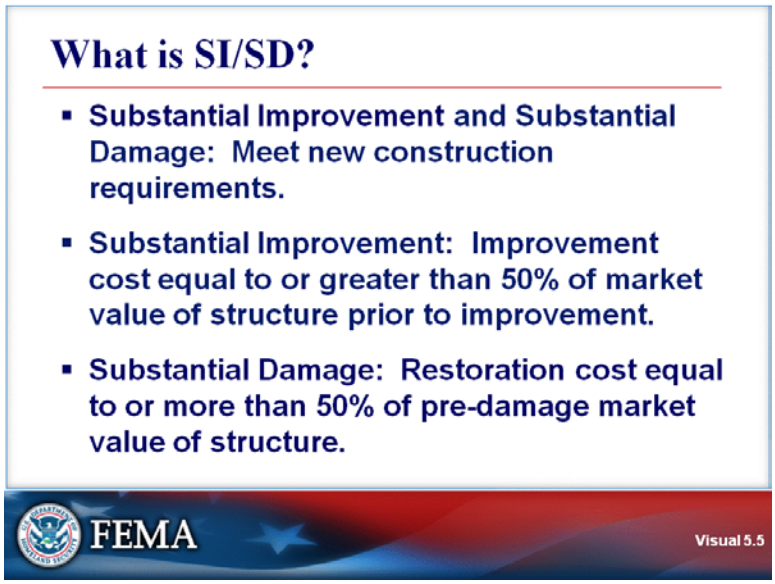
The community has responsibility to adopt and enforce the local floodplain management ordinance. The community is where the NFIP is implemented.

The NFIP regulations contained in 44 CFR §59.22 and §60.3 outline the responsibilities that communities must accept in order to become and remain eligible to participate in the NFIP. The key responsibilities include:

- Designating an entity that is charged with the responsibility to administer floodplain management requirements.
- Regulating proposed development activities located in SFHAs.
- Reviewing development proposals to ensure compliance with the requirements of applicable floodplain codes and ordinances including other Federal, State, and local regulations.
- Issuing or denying permits for floodplain development.
- Inspecting all development in SFHAs to ensure compliance.
- Maintaining records such as issued permits, elevation data, inspections, and enforcement actions.
- Assisting in the preparation and revision of Flood Insurance Study and maps.
- Providing assistance to constituents on flood hazards, map information, and compliant development measures.

ROLES AND RESPONSIBILITIES

Visual 5.5



Key Points

Floodplain Managers implement SI/SD requirements when proposed repairs or improvements represent a significant investment. The structure will need to be compliant with the jurisdiction's current codes for new construction.

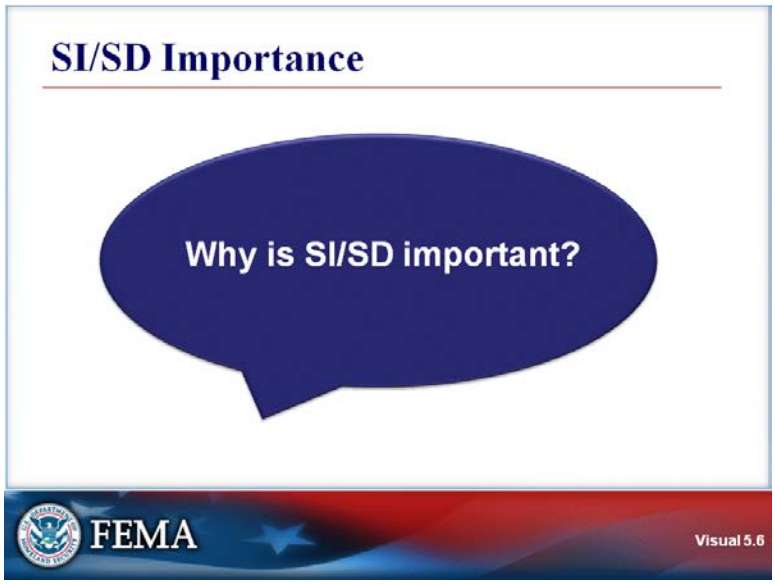
The thresholds for an SI/SD determination are:

- Substantial improvement: The cost of improvement of a structure is equal to or more than 50 percent of the structure's market value prior to the start of construction of the improvement. It includes structures that incurred substantial damage, regardless of the extent of repair.

- Substantial damage: The cost of restoration to its pre-damage condition, regardless of source of damage, is equal to or more than 50 percent of the structure's pre-damage market value.

ROLES AND RESPONSIBILITIES

Visual 5.6

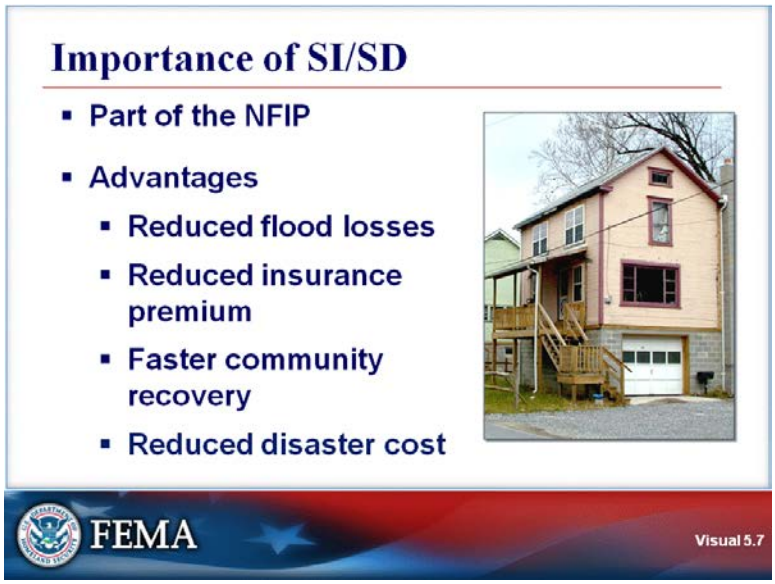


Key Points

Discussion Question: Why is SI/SD important?

ROLES AND RESPONSIBILITIES

Visual 5.7



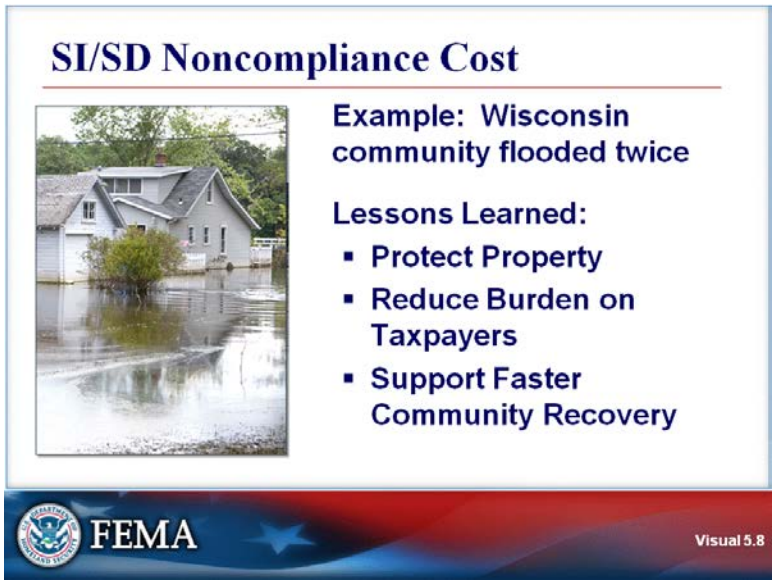
Key Points

Substantial Improvement and Substantial Damage are an important component of the NFIP.

- The key is elevating existing buildings to a lower level of risk by elevating them above the 1-percent flood level. With the building elevated above BFE, the premium will be reduced.
- In communities where all buildings are elevated, recovery is quicker. People can move back in more quickly.
- The starting point for enforcing SI/SD regulations is to focus on structures built before the date of community's initial Flood Insurance Rate Map (FIRM).
- The insurance rate for post-FIRM buildings will be cheaper than the rate for pre-FIRM buildings because of reduced risk.
- Pre-FIRM structures have a subsidized rate, not an actuarial rate. If the community doesn't enforce the SI/SD requirements, and policyholders do not build back to new construction requirements, flood insurance premiums will skyrocket.
- The disaster costs are reduced due to less evacuation, shelter needs, medical needs, and other emergency management needs.

ROLES AND RESPONSIBILITIES

Visual 5.8



Key Points

The community of Gays Mills, Wisconsin, experienced a flood that exceeded the 1-percent-chance flood in August 2007.

Flooding resulted in several substantially damaged properties.

The community failed to enforce the SI/SD portion of its ordinance. Rebuilding was allowed without meeting new construction standards.

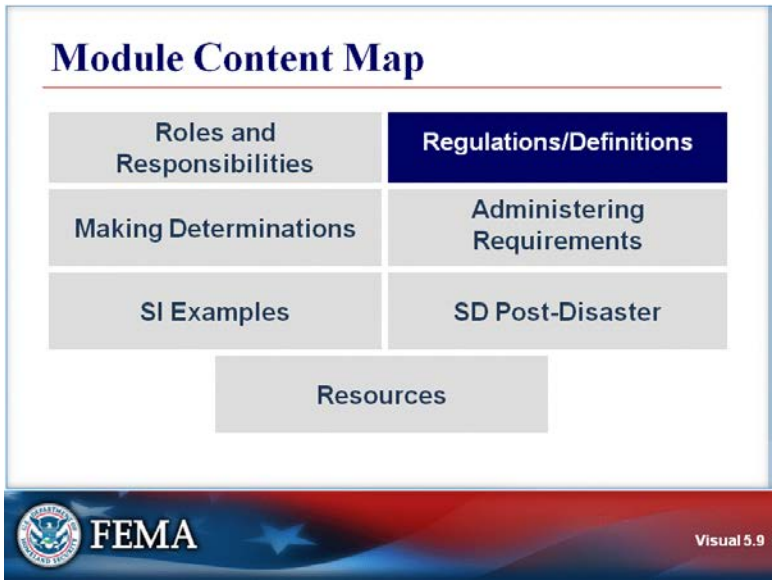
In June of 2008, another flood occurred that exceeded the 1-percent-chance flood.

- Buildings were damaged twice within a 9-month period. Possessions were lost and the Federal Government and taxpayers paid once again for temporary housing.

- If the SI/SD measures had been enforced after the first flood, the repeat damage could have been avoided or reduced.

REGULATIONS/DEFINITIONS

Visual 5.9

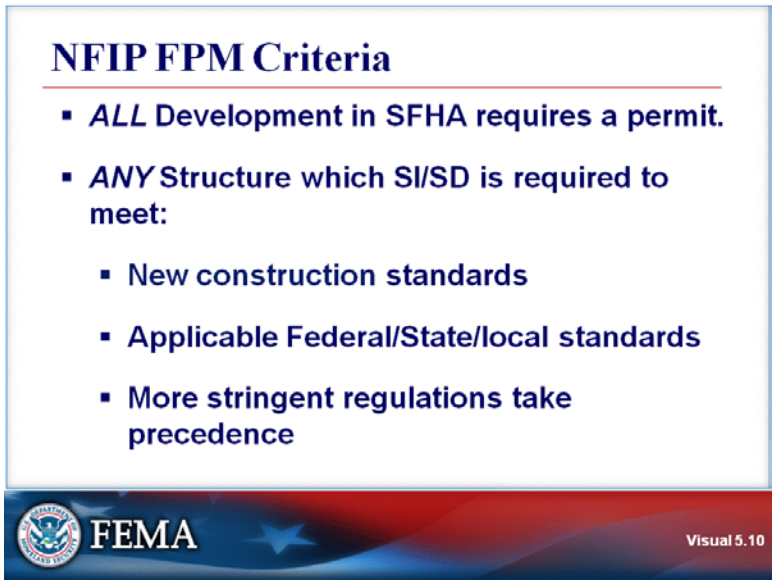


Key Points

The next section of this module will cover the regulations and definitions that apply to Substantial Improvement and Substantial Damage (SI/SD).

REGULATIONS/DEFINITIONS

Visual 5.10



Key Points

When communities join the program, they agree to the following principles:

- All proposed development in the SFHA requires a permit. If a structure was damaged, a permit is required to do the repair work.
- A structure declared substantially improved and substantially damaged must meet new construction standards. The structure is required to meet the lowest floor and other non-elevation standards.
- All development must also meet other applicable Federal, State, local, and other entities that have authority for such regulation.
- When other requirements are more stringent than local requirements, those other requirements take precedence over local requirements.

REGULATIONS/DEFINITIONS

Visual 5.11

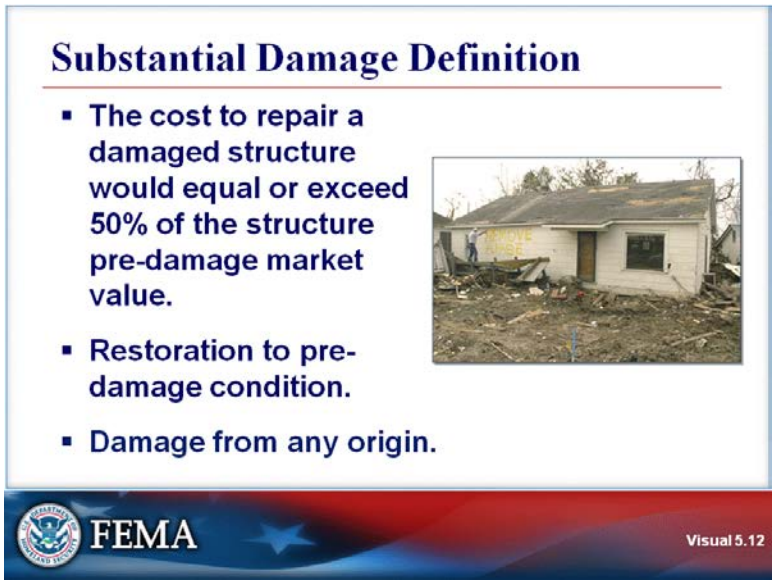
Key Points

The full definition of Substantial Improvement (SI) from 44 CFR §59.1 is:

> Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 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:
>
> (1) 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 official and which are the minimum necessary to assure safe living conditions, or
>
> (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

REGULATIONS/DEFINITIONS

Visual 5.12



Key Points

The full definition of Substantial Damage (SD) from 44 CFR §59.1 is:

> Substantial damage means 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 percent of the market value of the structure before the damage occurred.

REGULATIONS/DEFINITIONS

Visual 5.13

Key Points

The regulations in the local floodplain management ordinance are based on:

- Requirements in 44 Code of Federal Regulations (44 CFR).
- Standards set for floodplain management by your State.
- State/local building codes.

Community ordinances should define Substantial Improvement and Substantial Damage.

- The zoning code may not address development the same way as other jurisdictions, but remember that floodplain development includes any manmade change to improved or unimproved real estate.

- All development requires a permit.

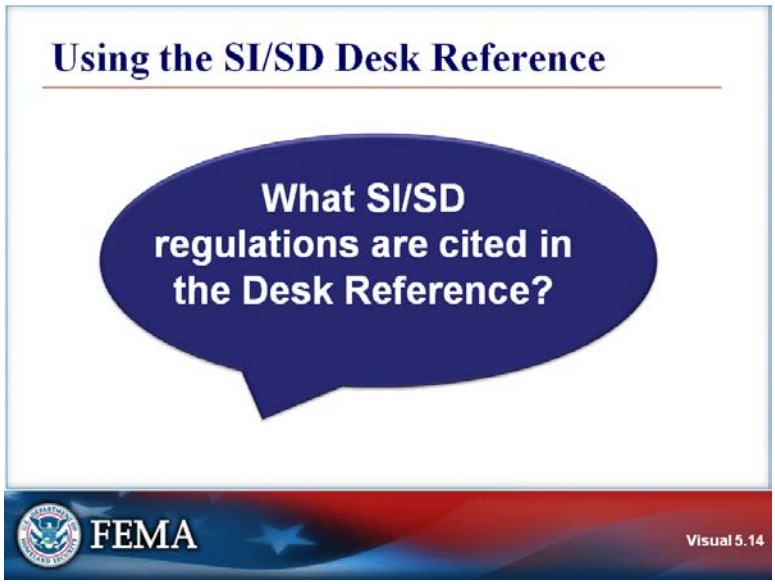
- NFIP regulations apply to all new construction and substantial improvements in the SFHA. Community can, and is encouraged to, exceed NFIP regulations.

- 44 CFR §60.3 provides floodplain management criteria that participating communities' ordinances must, at a minimum, include.

- Topics such as crawlspaces, areas behind levees, variances, and other issues are discussed in more detail in the Substantial Improvement and Substantial Damage Desk Reference.

REGULATIONS/DEFINITIONS

Visual 5.14

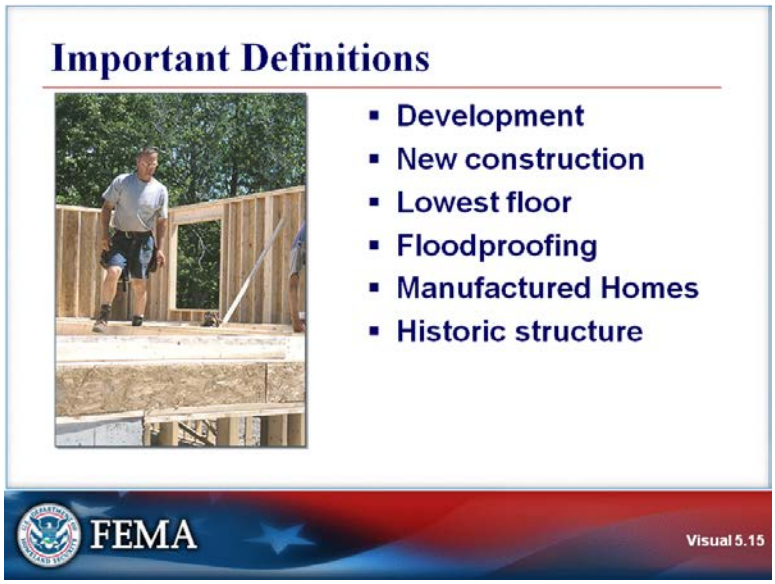


Key Points

Discussion Question: What SI/SD regulations are cited in the Desk Reference?

REGULATIONS/DEFINITIONS

Visual 5.15



Key Points

The next portion of this module will define the terms listed in the visual.

REGULATIONS/DEFINITIONS

Visual 5.16

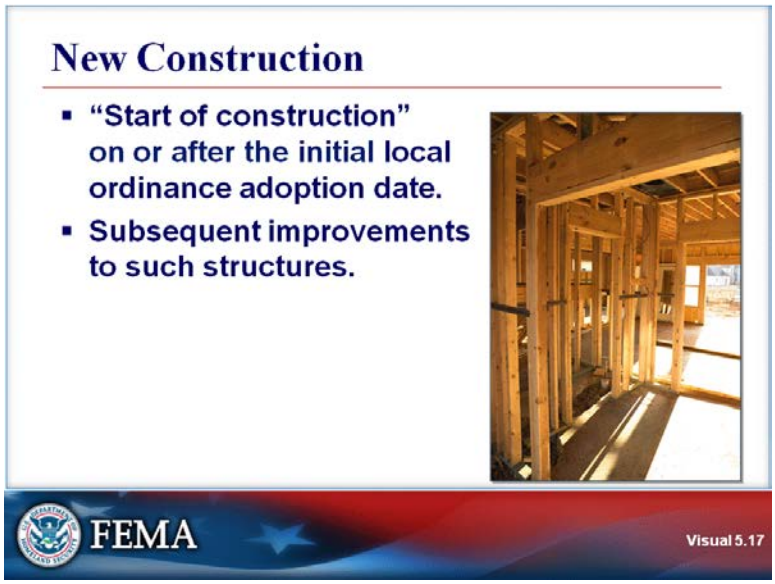
Key Points

Development is defined in 44 CFR §59.1 as:

> Development means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

REGULATIONS/DEFINITIONS

Visual 5.17



Key Points

New construction is defined in 44 CFR §59.1 as:

> New construction means, for the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, new construction means structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

G284.5—Substantial Improvement/Substantial Damage

REGULATIONS/DEFINITIONS

The “start of construction” is defined in 44 CFR §59.1 as:

> Start of Construction (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97–348)), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

REGULATIONS/DEFINITIONS

Visual 5.18

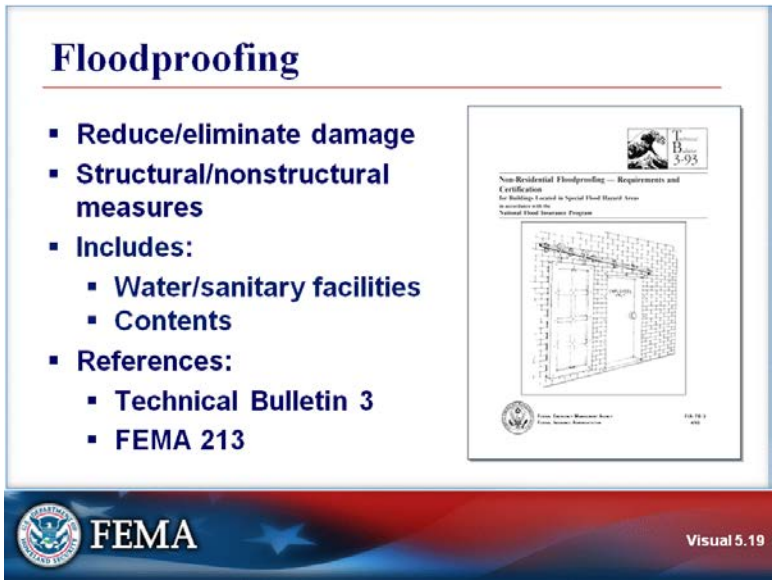
Key Points

Lowest floor is defined in 44 CFR §59.1 as:

> Lowest Floor means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of §60.3.

REGULATIONS/DEFINITIONS

Visual 5.19



Key Points

A floodproofed building (i.e., a non-residential building in an A-zone) is sealed against floodwaters. All areas below the flood protection level are made watertight.

Floodproofing is defined in 44 CFR §59.1 as:

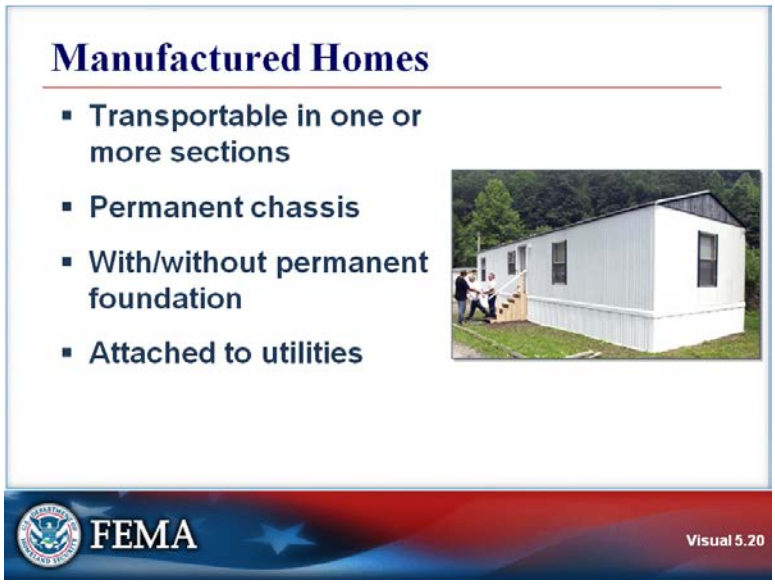
> *Flood proofing* means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Technical Bulletin 3, Non-Residential Floodproofing—Requirements and Certification, provides guidance on floodproofing.

Another reference is FEMA 213, Answers to Questions about Substantially Damaged Buildings, 1991.

REGULATIONS/DEFINITIONS

Visual 5.20



Key Points

Manufactured home is defined in 44 CFR §59.1 as:

> Manufactured home means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

Most manufactured home placements and substantial improvements are subject to the same NFIP performance standards that apply to new construction and substantial improvements. However, remember that manufactured homes in an existing manufactured home park or a subdivision are provided with alternative elevation requirements. They include: (1) lowest floor elevated to or above the BFE, or (2) chassis is supported by reinforced piers (or equivalent strength) of at least 36 inches above grade.

Lateral additions are common improvements to manufactured homes.

Skirting often is added around the base of manufactured homes to improve appearance. Skirting is not considered an enclosure if it is:

- Flexible, and
- Not anchored to the ground.

REGULATIONS/DEFINITIONS

Visual 5.21

Key Points

Historic structure means any structure that is:

(a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

(b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(c) Individually listed on a State inventory of historic places in States with historic preservation programs which have been approved by the Secretary of the Interior; or

(d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

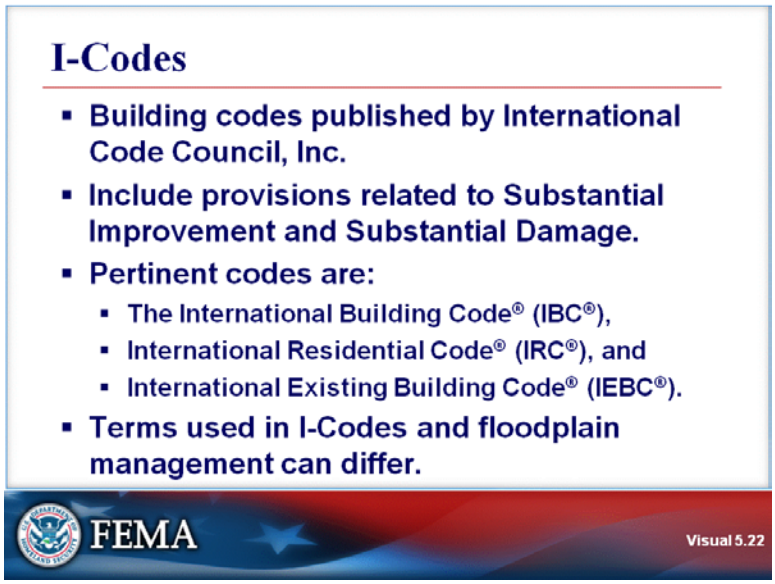
(1) By an approved State program as determined by the Secretary of the Interior, or

(2) Directly by the Secretary of the Interior in States without approved programs.

Communities can exempt historic structures from SI/SD regulations or via a variance. In both cases, the structure must retain its "historic" designation. It is recommended that they be exempted under the variance provisions as variances require minimum necessary deviation from the floodplain management regulations.

REGULATIONS/DEFINITIONS

Visual 5.22



Key Points

Many States and communities have adopted one or more codes in the family of codes published by the International Code Council, Inc. (I-Codes®) or use the I-Codes as the basis of their own codes.

These codes contain provisions for buildings in special flood hazard areas, including provisions related to substantial improvement and substantial damage. The pertinent codes are:

- The *International Building Code*® (IBC®),
- *International Residential Code*® (IRC®), and
- *International Existing Building Code*® (IEBC®).

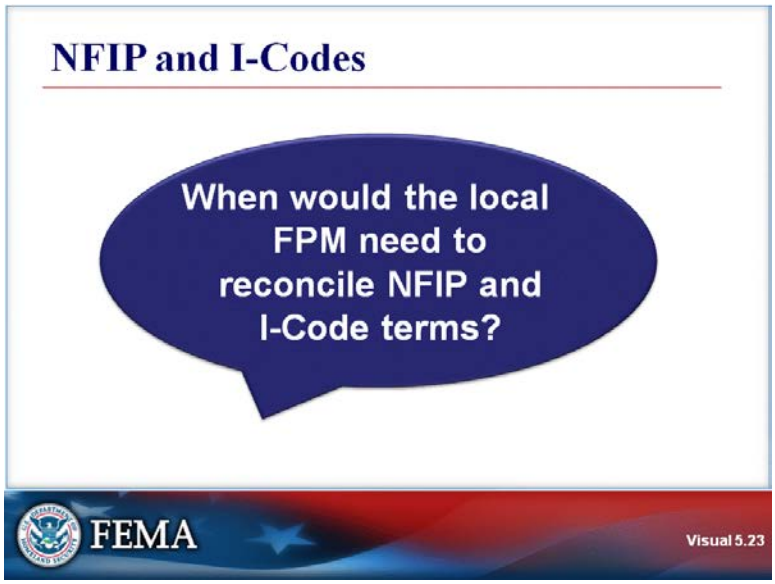
Each code references Flood Resistant Design and Construction (ASCE 24-05), the national consensus standard produced by the American Society of Civil Engineers, Inc. (ASCE).

The terms used in the I-Codes can be different from terms used in floodplain management. Section 3.4.2 of the SI/SD Desk Reference Comparison of Definitions and Terms: NFIP and I-Codes, lists the differences (pages 3-6 through 3-14.). The purpose of this section is to illustrate that some differences exist.

Communities can adopt I-Codes and use addendums as needed to modify the code.

REGULATIONS/DEFINITIONS

Visual 5.23

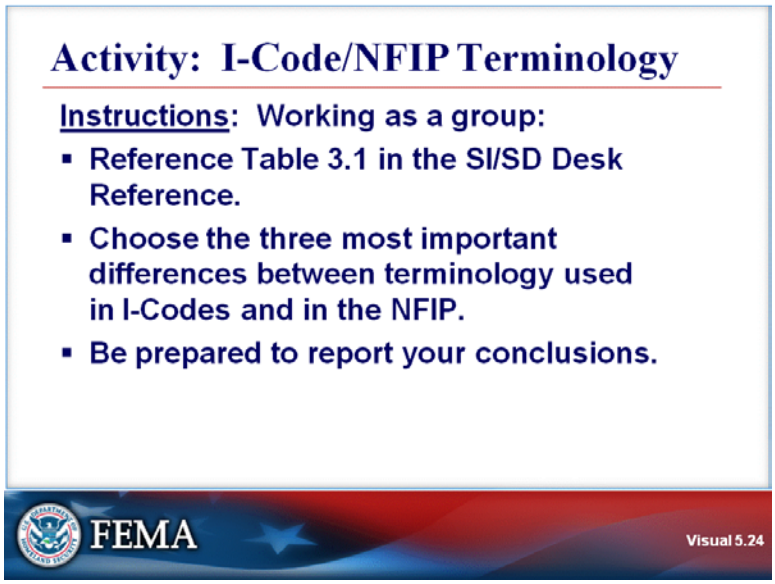


Key Points

Discussion Question: When would the local FPM need to reconcile NFIP and I-Code terms?

REGULATIONS/DEFINITIONS

Visual 5.24



Key Points

Activity Purpose: The purpose of this activity is to allow your group to practice using the SI/SD Desk Reference, and to identify differences between terminology used in I-Codes and in the NFIP.

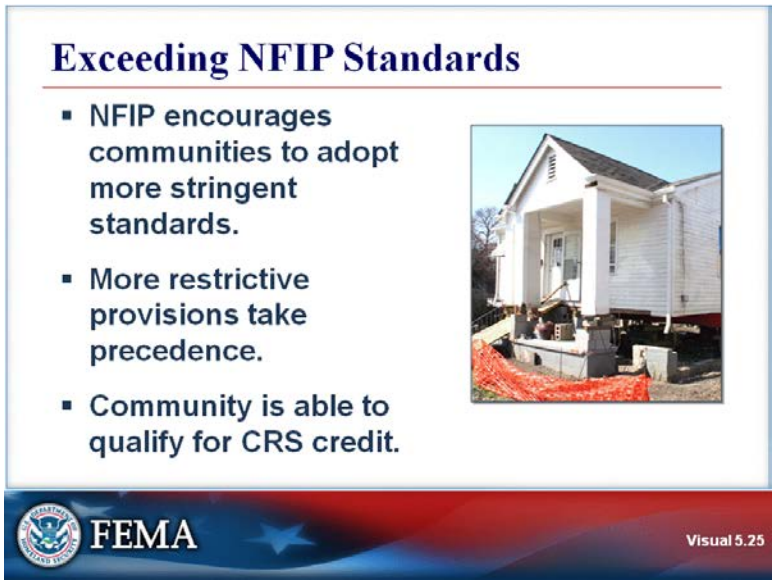
Instructions: Working as a group:

1. Review Table 3-1 in the SI/SD Desk Reference.
2. Identify the three most important differences between terminology used in I-Codes and in the NFIP.
3. Be prepared to report your conclusions.

Time: 10 minutes

REGULATIONS/DEFINITIONS

Visual 5.25



Key Points

The NFIP encourages communities to exceed its floodplain management criteria.

The market value of a structure changes over time, and investments in repairs and improvements can fluctuate as a percentage of the value. The floodplain management goal is to eliminate or reduce additional investments at the same risk to at-risk structures.

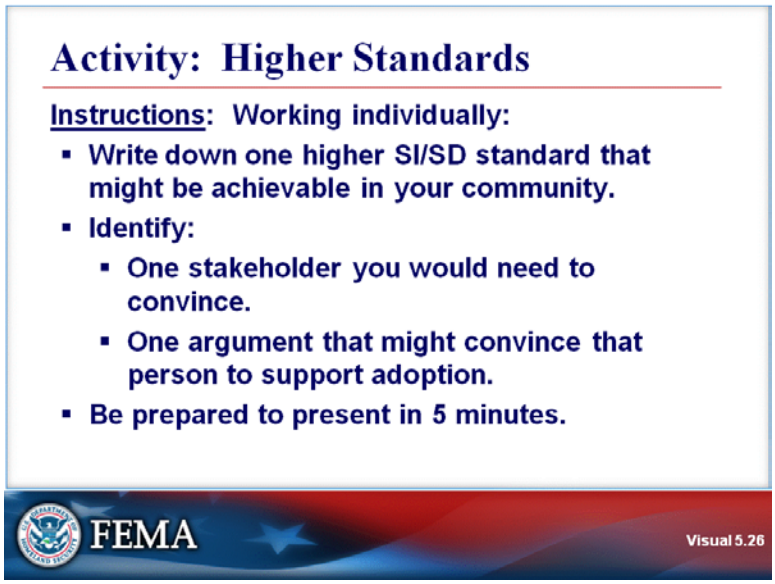
Examples of more restrictive standards include:

- V-Zone requirements for coastal A-Zones
- Lower threshold for SI/SD
- Cumulative SI/SD
- No residential structures in the floodway
- Freeboard
- Compensatory storage (in closed basins)

The Community Rating System (CRS) manual provides more examples.

REGULATIONS/DEFINITIONS

Visual 5.26



Key Points

Activity Purpose: The purpose of this activity is for you to outline an approach to gain higher standards for Substantial Improvement and Substantial Damage in your community.

Instructions: Working individually:

1. Write down one higher SI/SD standard that might be achievable in your community.

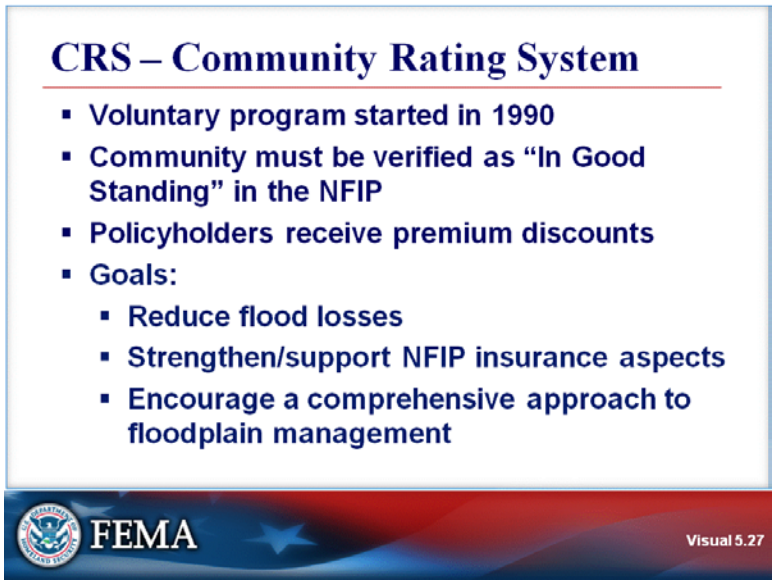
2. Identify:

   - One stakeholder you would need to convince.
   - One argument that might convince that person to support adoption.

3. Be prepared to present in 5 minutes.

REGULATIONS/DEFINITIONS

Visual 5.27



Key Points

CRS is a voluntary program for communities.

Any community that is in full compliance with the NFIP is considered to be in "good standing" and may apply for participation in the CRS Program.

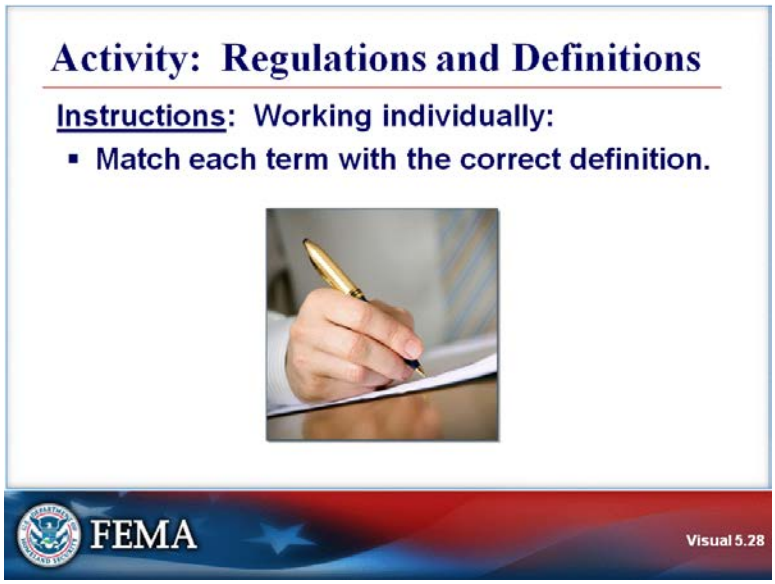
A community's CRS classification is a ranking based on the credit points calculated for specific floodplain management activities undertaken to meet the goals of the NFIP and the CRS. Communities get credit for higher standards.

Among the chief program advantages cited by CRS communities are:

- Discount on flood insurance premium.
- Improvement in the general well-being of the community.
- Increased ability to market a community.

REGULATIONS/DEFINITIONS

Visual 5.28



Key Points

Activity Purpose: The purpose of this activity is for you to demonstrate a base of knowledge to prepare you for more advanced content.

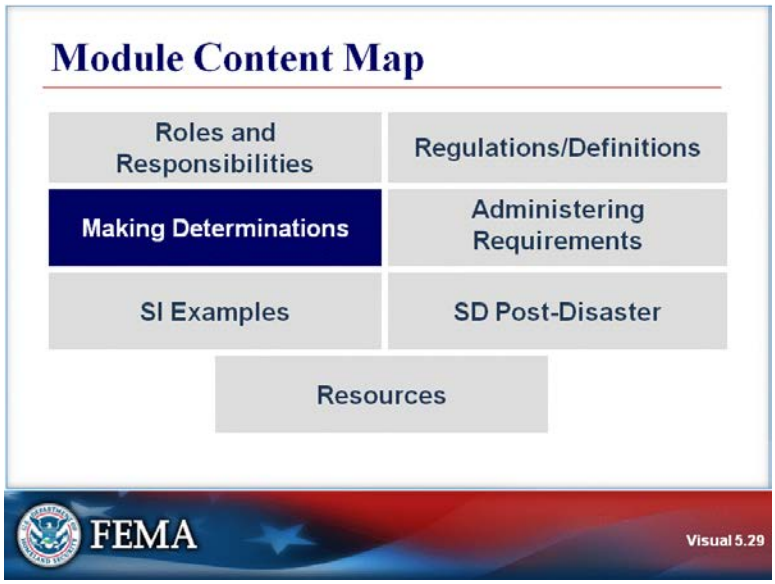
Instructions: Working individually, select the description on the right that matches term on the left.

1.	_____	Lowest floor	A. Repair is considered new construction
2.	_____	Substantial Damage	B. Defined as new construction
3.	_____	Floodproofing	C. Designation depends on use of lowest enclosed area
4.	_____	Substantial Improvement	D. Not allowed for credit in residential buildings.
5.	_____	Development	E. Man-made changes to land and buildings

Time: 5 minutes

MAKING DETERMINATIONS

Visual 5.29

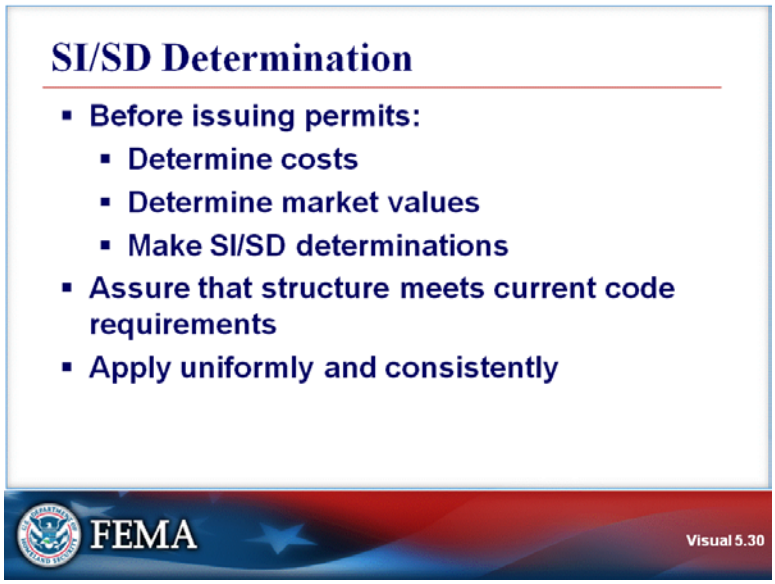


Key Points

The next section of this module will review the process of making SI/SD determinations.

MAKING DETERMINATIONS

Visual 5.30



Key Points

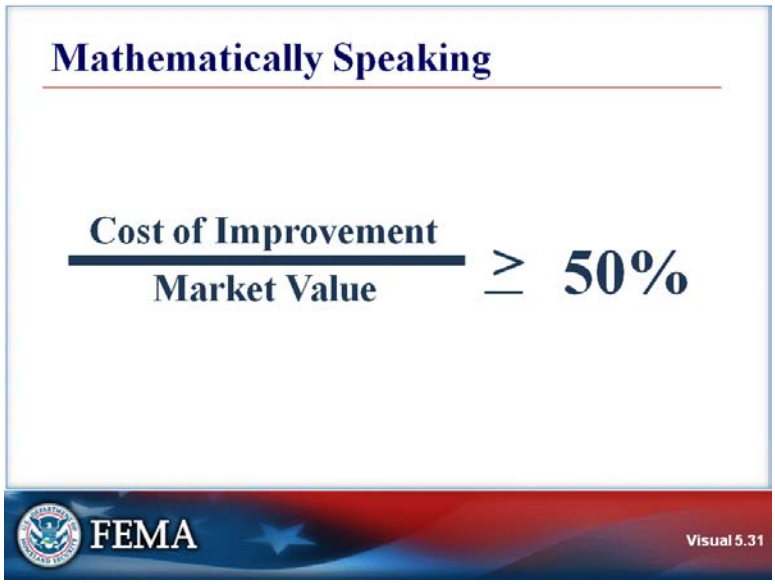
The local official must make an SI/SD determination before a permit can be issued.

The local official should assure that the structure is brought into compliance with current code requirements through properly permitted work and inspections.

It is critical that the SI/SD determinations are made using consistent methodologies and implemented uniformly throughout the community. Inconsistency can lead to liability issues.

MAKING DETERMINATIONS

Visual 5.31

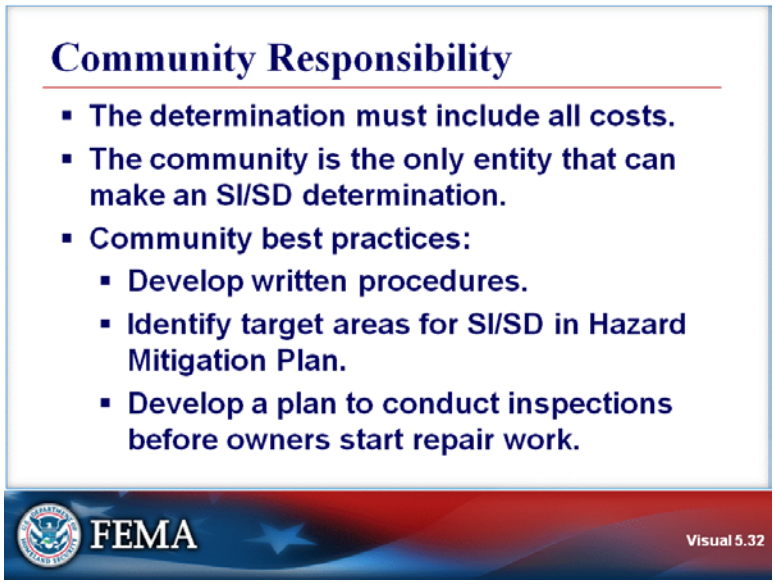


Key Points

The basic formula for determining whether a structure is SI/SD is whether the improvement cost is equal to or more than 50 percent of the structure's pre-improvement market value. In case of damage, you are looking at the cost of restoration of the structure to its before-damaged condition.

MAKING DETERMINATIONS

Visual 5.32



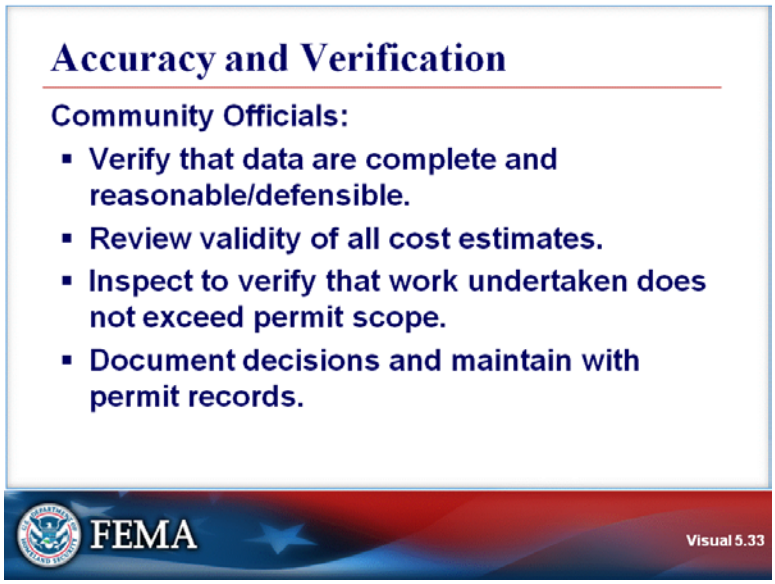
Key Points

Only the community can make an SI/SD determination.

Communities that have a large number of buildings in their floodplains should decide in advance how best to handle inspecting damaged buildings and making substantial damage determinations. They may identify such target areas in their hazard mitigation plans. Include a plan to assemble an inspection team to evaluate building damage before owners start repair work. It is recommended that communities have detailed written procedures for conducting building damage assessments.

MAKING DETERMINATIONS

Visual 5.33



Key Points

Local officials hold responsibility for accuracy and verification of information, regardless of information type or source.

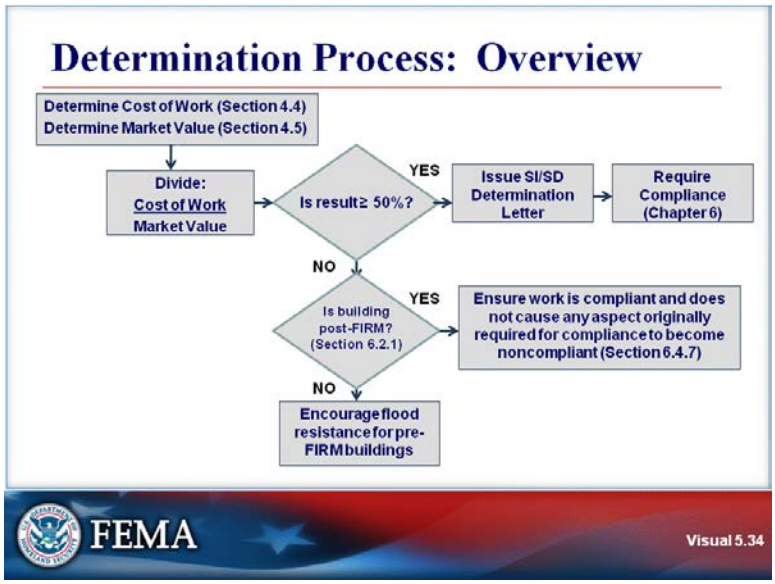
Care should be taken to accurately document all information.

- Inspect to verify that work undertaken does not exceed permit scope. For example, more expensive countertops may have been installed than those included in the cost estimate.

- Document decisions and maintain with permit records.

MAKING DETERMINATIONS

Visual 5.34



Key Points

The determination process consists of the following steps:

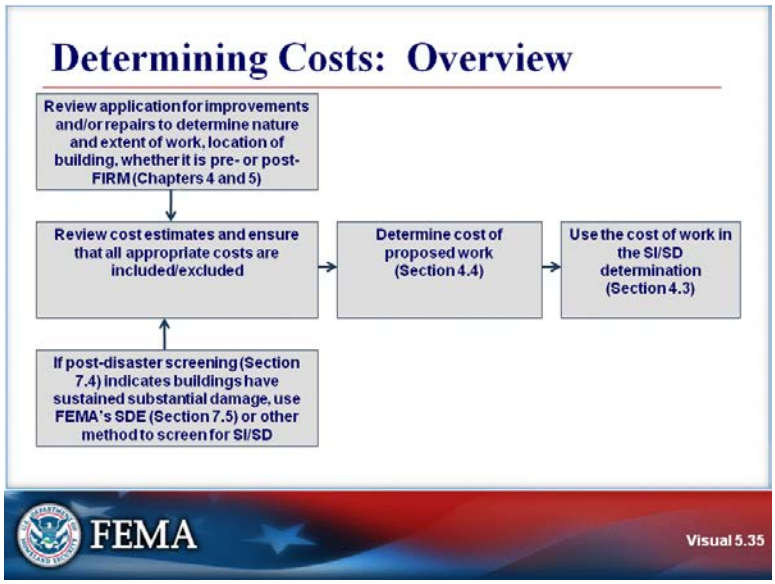
- Identify which buildings are "new construction" as well as those "existing."
- Determine the cost of the work (improvement or restoration), and the structure's market value.
- Divide the cost of improvement or restoration by the structure's market value.
- If the result is equal to or greater than 50 percent, issue an SI/SD determination letter and require compliance.
- If the result is less than 50 percent, determine appropriate portions of buildings that need to meet new construction standards depending on whether the structure is "new" or "existing" construction. If the building is post-FIRM, ensure that work does not make a compliant structure noncompliant.

Included costs can be divided into the following categories:

- Labor
- Materials
- Construction supervision/management
- Overhead
- Profit

MAKING DETERMINATIONS

Visual 5.35



Key Points

The following steps are used to determine costs:

- Review the application for improvements and/or repairs to determine the nature and extent of the work, location of the building, and whether the building is "new" or "existing" construction.

- Review cost estimates and ensure that all appropriate costs are included (or exempted). Remember to include equivalent costs for volunteered and self-performed labor. Note that for the exemption of costs associated with the correction of existing violations of State/local health, safety, or sanitary codes, the said violations must have been cited prior to permit application for repair and/or improvement. Also, it is critical to note that only minimum necessary repairs are eligible for exemption.

- Determine the cost of proposed work.

- Use the cost of work in the SI/SD determination.

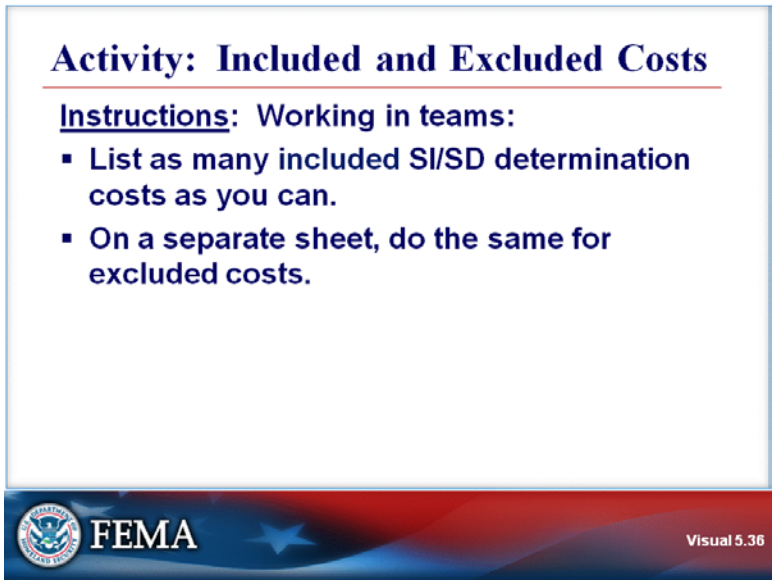
- If post-disaster screening indicates buildings have sustained substantial damage, use FEMA's Substantial Damage Estimator (SDE) or other appropriate method to make the SI/SD determination.

Because of a typical shortage of contractors after a disaster, repair costs may escalate.

The jurisdiction may apply area or regional costs for specific types of work. Another option is standardized cost determination procedures.

MAKING DETERMINATIONS

Visual 5.36



Key Points

Activity Purpose: The purpose of this activity is for your team to begin identifying costs that would be included and excluded from SI/SD determinations.

Instructions: Working in teams:

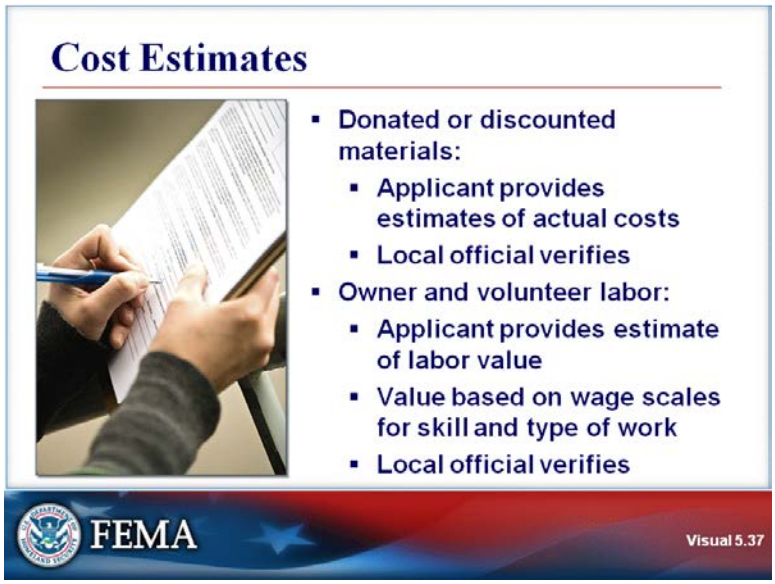
1. List as many included SI/SD determination costs as you can.

2. On a separate sheet, do the same for excluded costs.

Time: 15 minutes

MAKING DETERMINATIONS

Visual 5.37



Key Points

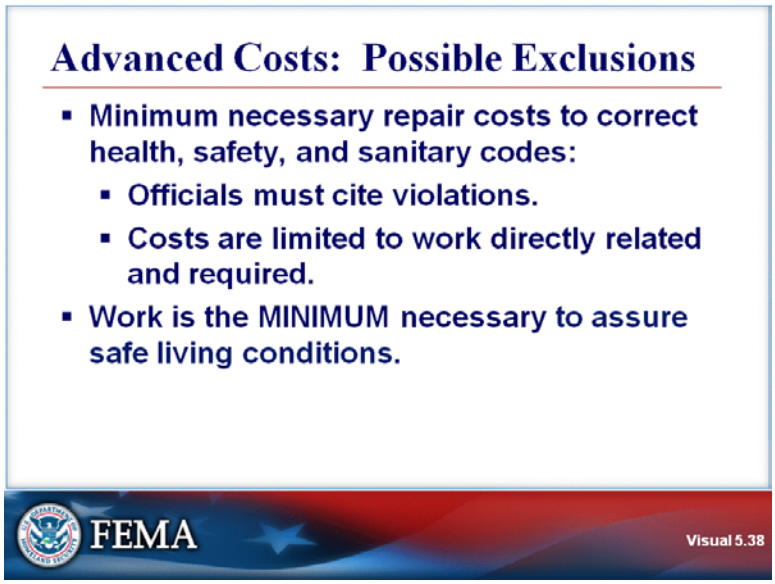
Section 4.4.3 of the Substantial Improvement/Substantial Damage Desk Reference, Acceptable Sources of Cost Information, reviews possible cost estimate sources.

A number of commercial sources of construction cost information are available to support estimating the replacement cost of a building, including industry-accepted guides available from companies such as R. S. Means (http://www.rsmeans.com), the Craftsman Book Company (http://www.craftsman-book.com), and Marshall & Swift (http://www.marshalswift.com).

These sources allow computation of construction costs based on occupancy, square footage, quality, and geographical cost variations.

MAKING DETERMINATIONS

Visual 5.38



Key Points

The structure may have been cited for various building code violations that make the building unsafe, unsanitary, or unhealthy, prior to permit application for improvement.

The minimum necessary cost to correct such violations may be excluded from SI/SD determinations. Conditions for exclusion are:

- The violation must be cited by local officials, prior to permit application.

- The costs should only cover work that is directly related to the citation(s), and is required to correct the cited violations.

The Floodplain Manager has the responsibility for identifying the costs that are excluded, when applicable, because of the need to correct previously identified code violations.

- The property owner gets estimates to repair any violations.
- Estimates are provided to the FPM to evaluate as part of the SI/SD determination.
- The FPM makes a determination that the costs associated with repairing the cited violation can be excluded.
- The work required should be the minimum necessary to assure safe living conditions.

MAKING DETERMINATIONS

Visual 5.39

Key Points

Demolition and construction debris removal costs must be included in the SI/SD determination. The costs are related to the cost of the building improvement or repair. Demolition is for improvement or repair purposes only, and does not refer to demolition of the entire building.

Cleanup and trash removal costs are not included in the SI/SD determination. The costs are not related to the cost of improving or repairing a building. Typical cleanup and trash removal costs are:

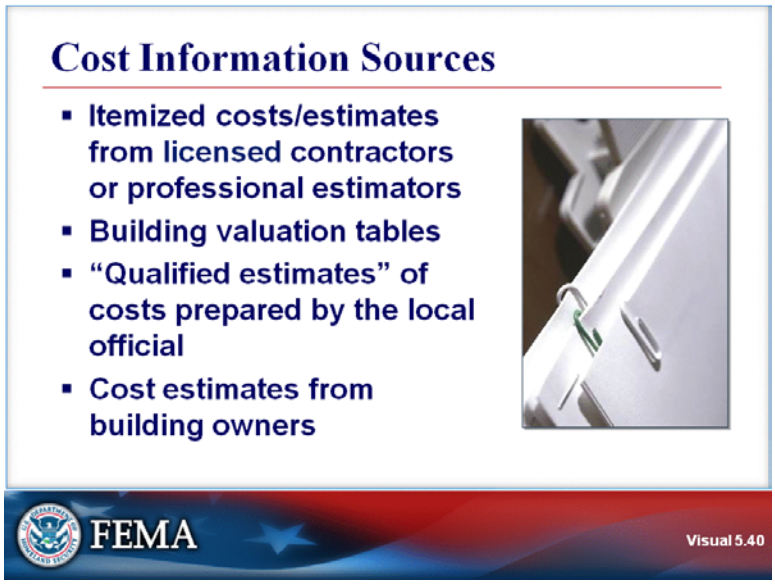
- Draining a basement,
- Removing dirt and mud, and
- Disposing of trash in the interior of the building or on the lot.

Unless there are restrictions on entering areas that have sustained major damage, most owners and occupants can start to clean up right away.

There are many online sources of information to help with cleanup work.

MAKING DETERMINATIONS

Visual 5.40



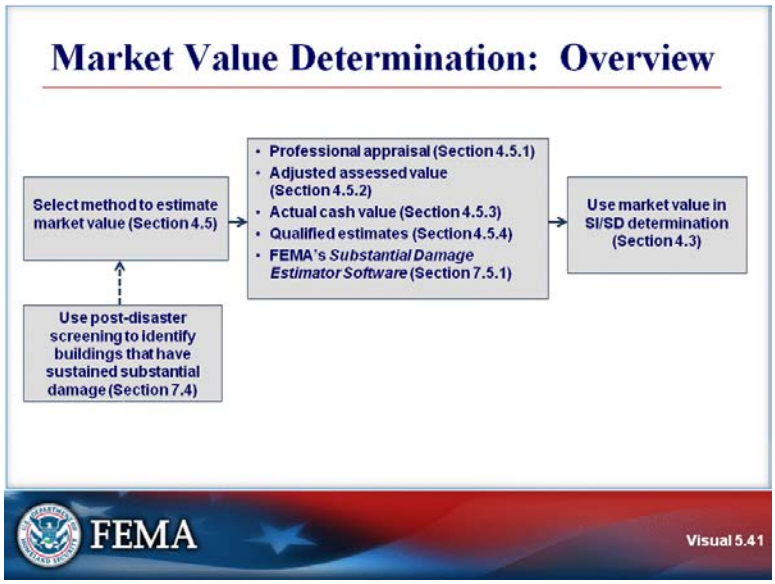
Key Points

Cost information is obtained at the local level, and allows for wide-ranging inclusions. However, local officials must not accept a lump sum amount without any detailed cost breakdown of various elements.

Building officials can estimate the cost of restoration based on knowledge of local costs.

MAKING DETERMINATIONS

Visual 5.41



Key Points

The SD determination consists of several steps.

The first step in the SI/SD determination is to estimate the cost of the improvements or repairs.

The next step is to determine the market value.

After a disaster, local officials can use post-disaster screening methods, to identify buildings that sustained substantial damage.

Points to remember about market value determinations are:

- The value is only of the structure, not of the land and that of other improvements such as detached garages and sheds.
- Choose a method for your entire community to apply uniformly, rather than using different methods for different buildings.

The improvement cost estimate or cost of restoration divided by the market value will identify whether the structure is or is not Substantial Improvement or Substantial Damage, respectively.

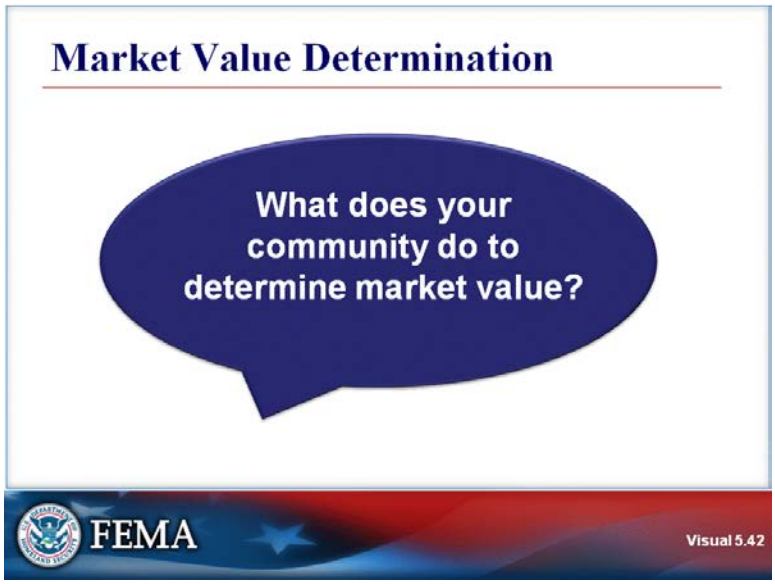
There are different types of appraisals. For SI/SD determination purposes, a Uniform Residential Appraisal Report should be obtained. The appraisal report must give separate values for the land, building, and other improvements on the lot.

Appraisal factors include:

- Depreciation based on building age.
- Sale prices of comparable properties.

MAKING DETERMINATIONS

Visual 5.42



Key Points

Discussion Question: What does your community do to ascertain and determine market value?

MAKING DETERMINATIONS

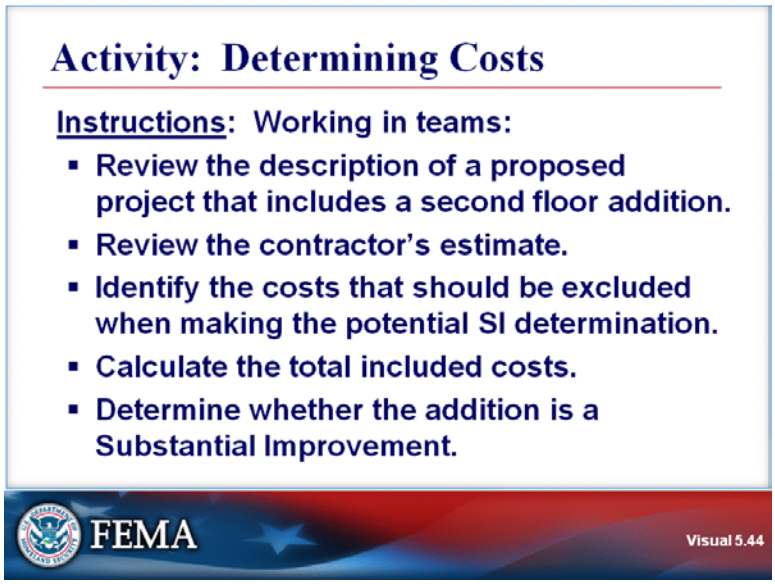
Visual 5.43

Key Points

Discussion Question: How does your community handle appeals to market value?

MAKING DETERMINATIONS

Visual 5.44



Key Points

Activity Purpose: The purpose of this activity is for your team to practice identifying costs that should apply when making SI/SD determinations.

Instructions: Working in teams:

1. Review the description of the proposed SI project that includes a second floor addition.
2. Review the contractor's estimate.
3. Identify the costs that should be excluded when making the SI determination.
4. Calculate the total included costs.
5. Determine whether the addition is a Substantial Improvement.

Time: 20 minutes

The SI project information begins on the following page.

MAKING DETERMINATIONS

Use the following information for determining costs.

Property Appraisal

Current Fair Market Value: $340,000 structure
45,000 land

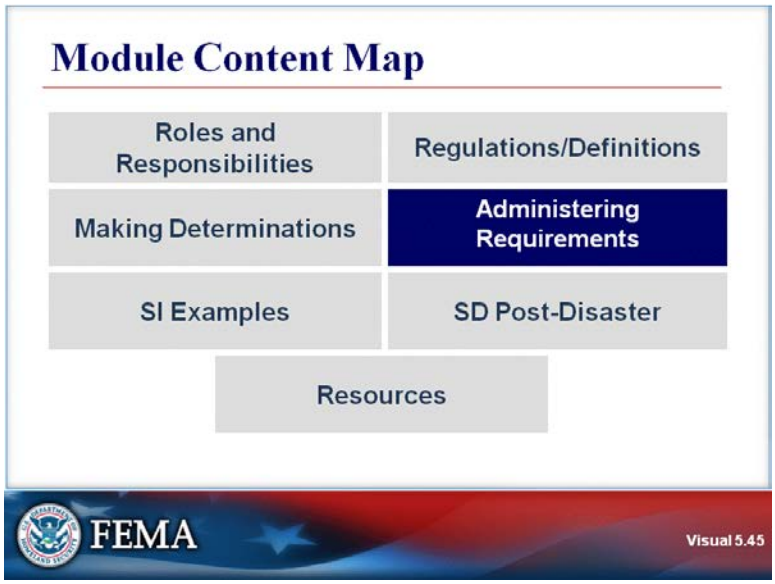
Project Description: Construct a second-floor addition of 556 square feet.

Contractor's Estimate

Rough Hardware Total	$1,169.00		
Rough Carpentry	$33,894.00		
Insulation	$4,415.00		
Exterior Finish	$13,381.00		
Exterior Trim	$1,396.00		
Doors (7)	$2,340.00		
Windows	$3,704.00		
Finish Hardware	$390.00		
Roofing, Flashing, Fascia	$10,703.00		
Finish Carpentry	$4,453.00		
Interior Wall Finish	$9,265.00		
Painting	$7,172.00		
Bring Wiring to meet IBC (not cited as safety violation)	$6,343.00		
Lighting Fixtures	$2,275.00		
Flooring	$3,945.00		
Carpeting over plywood subfloor	$4,577.00		
Bath Accessories	$1,331.00		
Shower & Tub Enclosure	$959.00		
Countertops	$2,899.00		
Cabinets	$6,991.00		
Built In Appliances	$2,989.00		
Plumbing Rough-in and Connection	$8,225.00		
Plumbing Fixtures	$6,495.00		
Heating and Cooling Systems	$12,192.00		
Subtotal Material (itemized list attached)			$76,948.00
Subtotal Labor			$73,401.00
Subtotal Equipment			$1,154.00
Subtotal Direct Job Costs	**$151,503.00**		
Indirect Job Costs			
Final Cleanup	$747.00		
Insurance (disability +direct costs)	$5,226.00		
Permits	$3,173.00		
Plans & Specs	$747.00		
Subtotal Indirect Job Costs			
Material (insurance, permits, plans & specs)			$9,146.00
Labor final cleanup			$747.00
Indirect Job Costs Total			**$9,893.00**
Total Cost			
Contractor overhead and profit			$23,329.00
Material			$86,094.00
Labor			$74,148.00
Equipment			$1,154.00
Grand Total			**$184,725.00**

ADMINISTERING REQUIREMENTS

Visual 5.45



Key Points

The next section of this module will review how SI/SD requirements are administered.

ADMINISTERING REQUIREMENTS

Visual 5.46

Key Points

An important responsibility of the local official is to document actions through the permit and related records.

Possible SD structures may be known, but no corresponding documentation is found in the community's permit file. In some cases, permits may be present, but calculations are not found. The community may not have considered the damage to be SI/SD.

It is easier for authorities to work with communities when documentation exists, most specifically in the permit files. Documentation also helps to resolve issues.

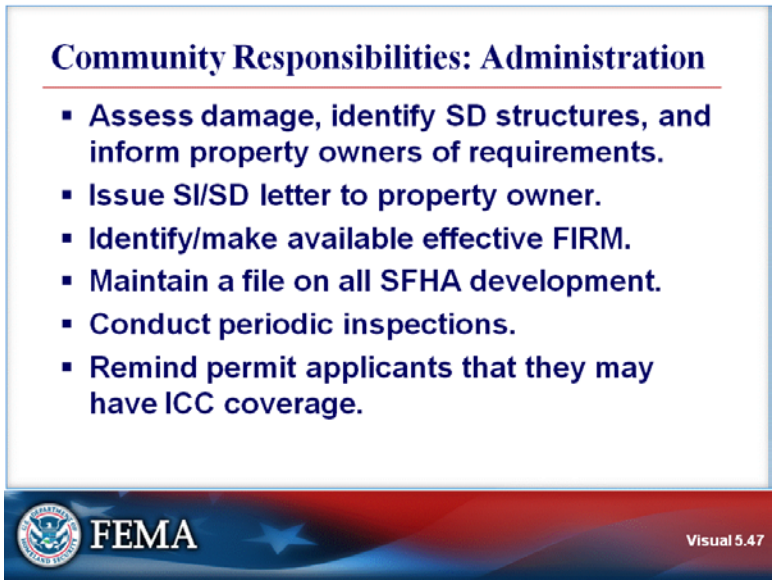
Community responsibilities for administering SI/SD requirements include the following:

- Review permit applications and requests. Note combinations of work, such as repair plus upgrades to a building.
- Determine if evaluation of improvement or structure damage warrants SI/SD determination/declaration.
    - Make the SI/SD determination.
    - Facilitate the appeals process.
- Determine what standards apply to development.
    - Floodway
    - V-Zone
    - AO- and AH-Zones
    - AE-Zone

- Determine if a CLOMR is required.
- Ensure that development meets all regulatory requirements.
    - Enforce the ordinance.
    - Issue and/or revise permits.
- Document the following decisions, and retain records.
    - SI/SD calculations/decisions
    - Inspections
    - Enforcement actions

ADMINISTERING REQUIREMENTS

Visual 5.47



Key Points

The visual summarizes the community responsibilities for administering the SI/SD determinations.

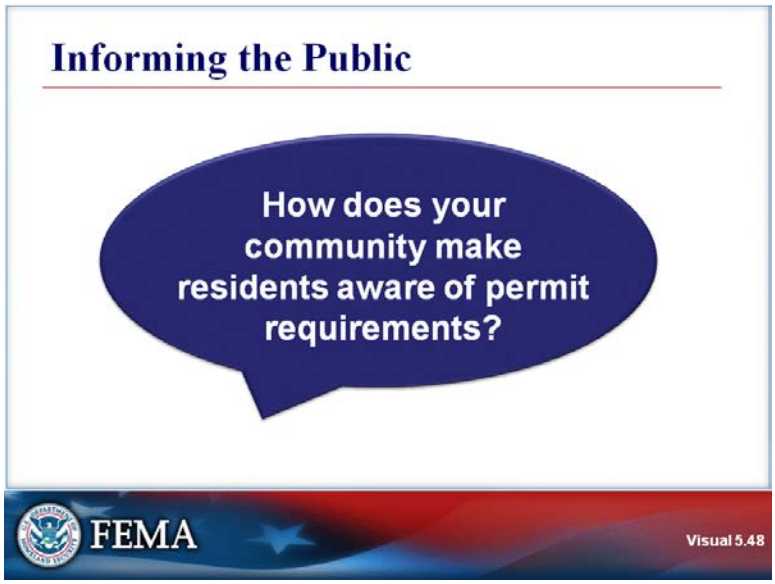
Records are to be maintained indefinitely when the permit pertains to any development in the Special Flood Hazard Area.

- Recommended documents should remain in the file.
- Backup and Continuity of Operations (COOP) copies are recommended.
- If necessary, maintain records at an off-site, safe location.

When a permit is issued for repair or improvement, print a FIRMette to file with the deed to document the map that was effective at the time. Also include the BFE determination, especially those that required use of flood profiles (riverine areas with detailed studies) and FIS tables (lacustrine areas).

ADMINISTERING REQUIREMENTS

Visual 5.48

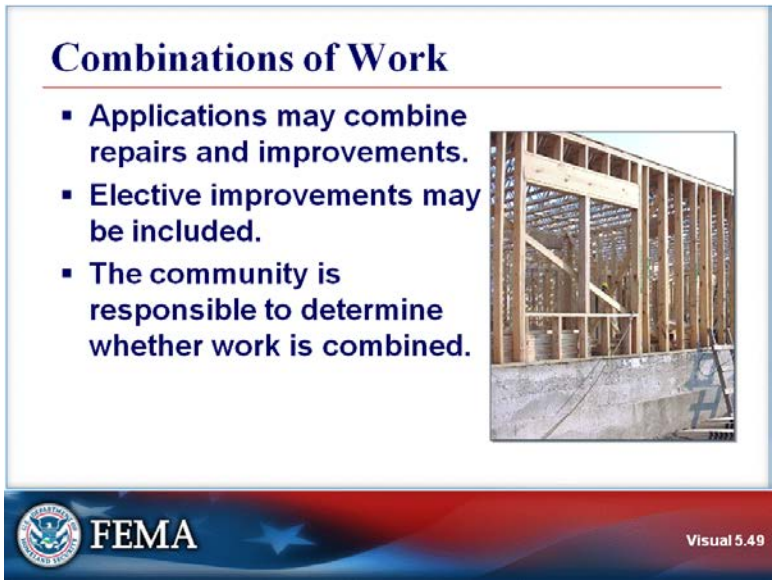


Key Points

Discussion Question: How does your community make residents aware of permit requirements?

ADMINISTERING REQUIREMENTS

Visual 5.49



Key Points

Property owners repairing damage often want to combine repairs with improvements such as upgrades and additions.

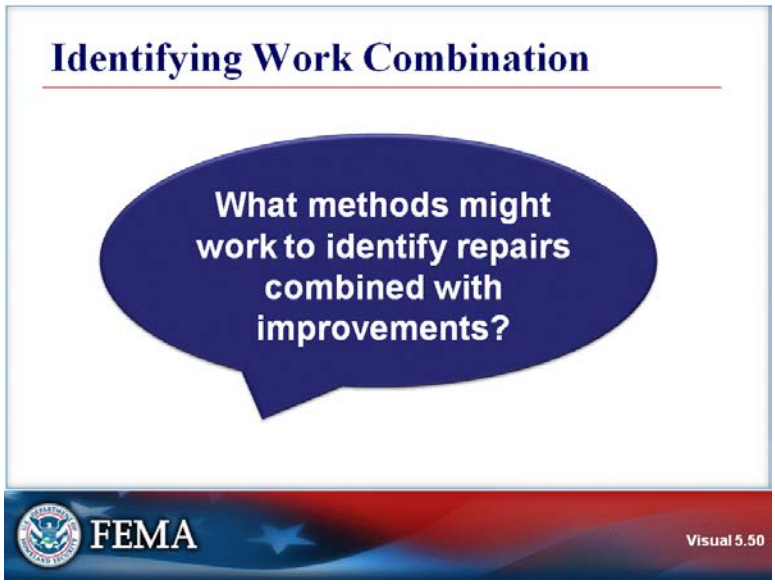
The cost to repair damage may be 20 percent of the building's pre-damage market value. The owner now has a contractor, and is considering a second floor addition. The new improvement would raise the total cost of the work to 65 percent of the pre-damage market value.

The local community must consider the total work rather than only the cost of restoration of the building to its pre-damaged condition.

If additional work has pushed the total cost equaling or exceeding 50 percent of the pre-damage market value, the structure is considered substantial improvement and must comply with the standards for new construction.

ADMINISTERING REQUIREMENTS

Visual 5.50

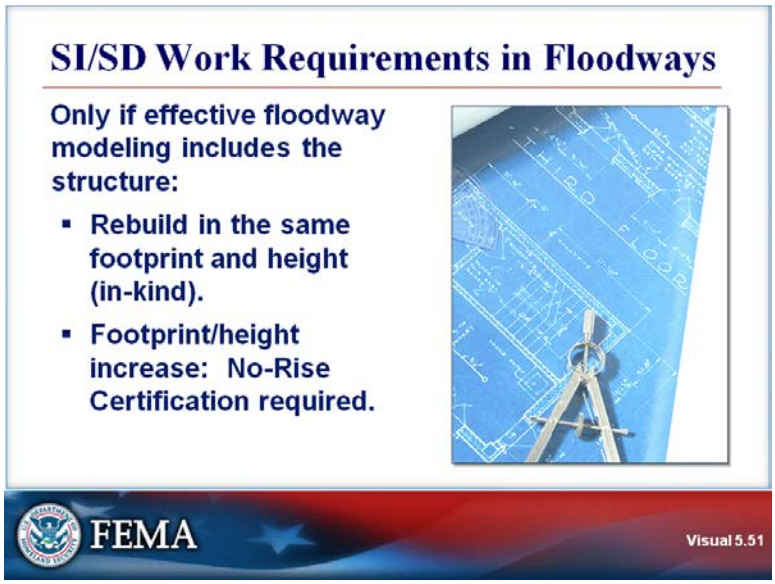


Key Points

<u>Discussion Question</u>: What methods might work to identify repairs combined with improvements?

ADMINISTERING REQUIREMENTS

Visual 5.51



Key Points

Floodway no-rise requirements apply to any development that encroaches into a floodway.

- The structure may be rebuilt in-kind only if the subject structure is included in the effective floodway modeling.
- If the footprint increases, the increase is an encroachment. A No-Rise Certification is required.

The community might not know which structures were included in the effective floodway model. When in doubt, a No-Rise Certification should be required.

ADMINISTERING REQUIREMENTS

Visual 5.52

Key Points

SI/SD work must also comply with V-Zone standards.

Requirements for SI/SD work performed in V-Zones include:

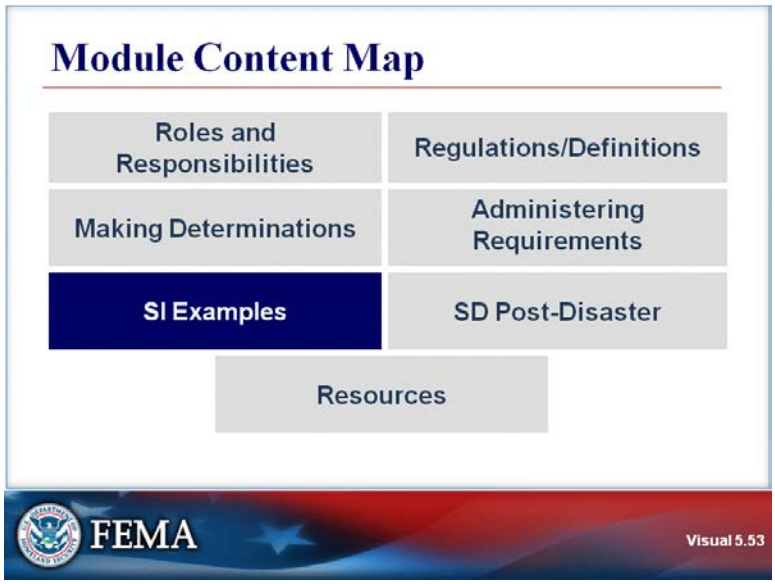
- The building must be elevated on a pile or column foundation.
- The bottom of the lowest horizontal structural member must be at or above BFE.
- The foundation and superstructure must be anchored.
- The area below the lowest floor must be free of obstructions.
- Enclosure requirements must be met.
- V-Zone design and anchoring certificate and breakaway wall certificate must be required.

A lateral addition that is a substantial improvement is an obstruction. Both the addition and the existing building must comply.

If an SI/SD building is in a Coastal Barriers Resources System (CBRS) area, no NFIP insurance will be available, if the building is built on or after the CBRS area designation date. Although buildings built prior to this designation date are able to maintain and renew their NFIP flood insurance, SI/SD will make them ineligible.

SI EXAMPLES

Visual 5.53

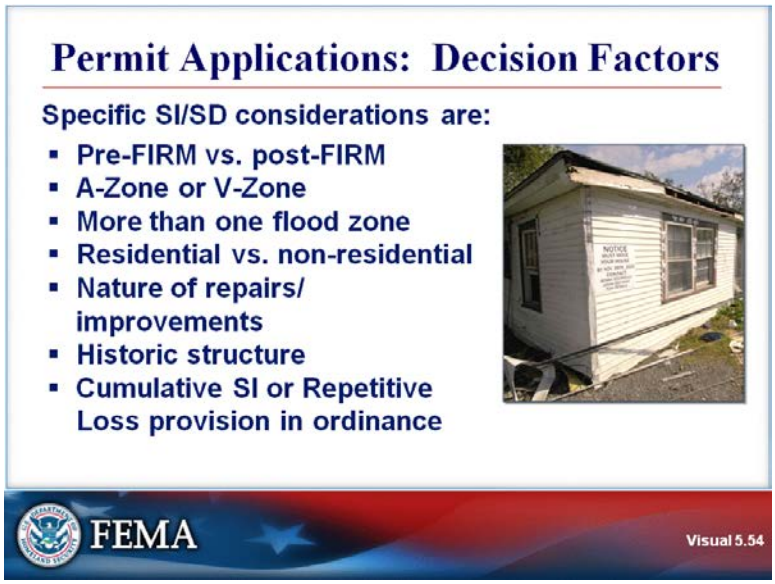


Key Points

The next section of this module will present some examples of different types of substantial improvements.

SI EXAMPLES

Visual 5.54



Key Points

This section will present various examples of situations that could lead to an SI determination.

Examples will include different kinds of work, different types of construction, building types, and remodeling, including lateral and vertical additions. The examples will illustrate important points about SI.

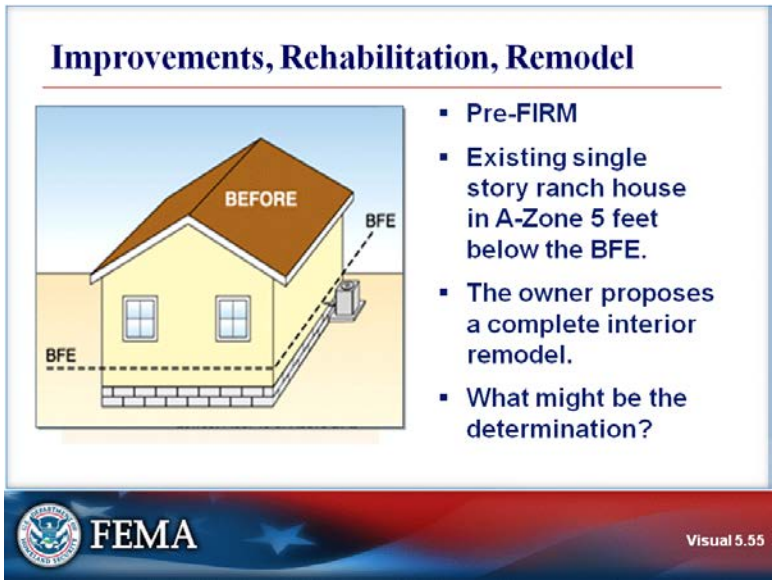
Several factors must be considered when local officials evaluate permit applications for making improvements to buildings:

- Whether a building is pre-FIRM or post-FIRM compliant, and if there has been a map update. (SI/SD Desk Reference, Section 6.2.1).
- Whether the building is in an A-Zone or a V-Zone (SI/SD Desk Reference, Section 6.2.2).
- Whether the building is located in more than one flood zone (SI/SD Desk Reference, Section 6.2.3).
- Whether the building is residential or non-residential (SI/SD Desk Reference, Section 6.2.4).
- Whether the building is an historic structure (SI/SD Desk Reference 6.5.1) meeting the NFIP definition. Proposed improvements to historic structures must be evaluated by the State Historic Preservation Office or a local historical society, if approved by the U.S. Department of the Interior. The building must maintain its historic designation within the improvements. If not, it must meet standards for new construction.
- The nature of the proposed repairs and improvements. SI/SD Desk Reference, Section 6.4, illustrates examples of various types of improvements and repairs and how they must meet NFIP requirements.

When a community's ordinances include cumulative substantial improvement provisions, currently proposed improvements must be combined with previous improvements to verify for substantial improvement. Similarly, if the ordinances include repetitive loss provisions, current damage must be combined with previous damage to verify for substantial damage.

SI EXAMPLES

Visual 5.55



Key Points

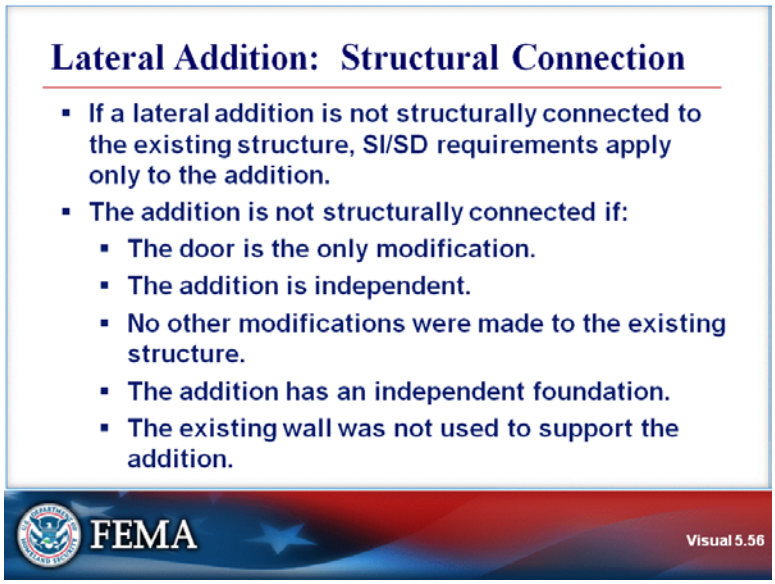
This example is a pre-FIRM single-story ranch house 5 feet below the BFE.

The owner proposes a complete interior remodel.

There would be no increase in the structure footprint.

SI EXAMPLES

Visual 5.56



Key Points

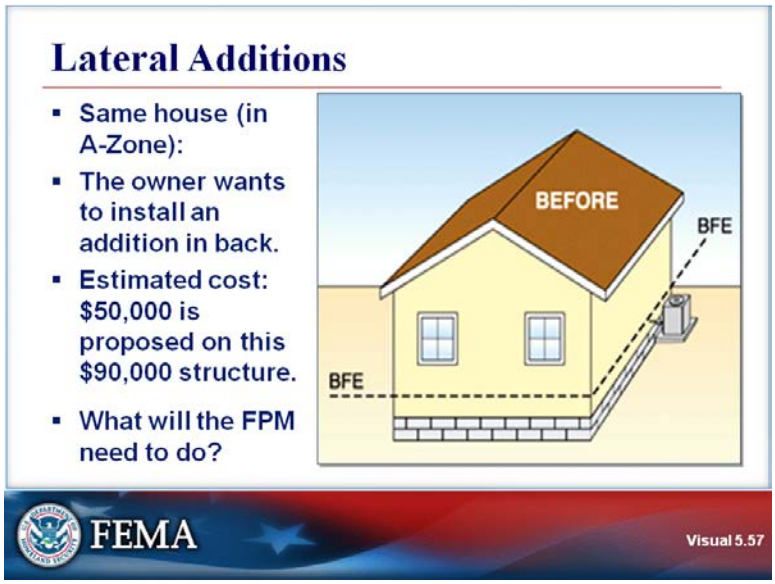
The following conditions demonstrate the lack of a structural connection between an existing structure and a lateral addition:

- There is only a door between the existing structure and the addition.
- The addition is independent and stands on its own. The addition foundation is not connected via rebar or other means to the existing structure foundation.
- No other improvements or changes are being made to the existing structure.
- The existing wall was not used to support the addition.

The owner needs to elevate only the addition, unless the estimated cost of the addition exceeds 50 percent of the market value of the existing structure. If the 50 percent threshold is equaled or exceeded and the addition is structurally connected to the existing structure, both the existing building and the addition will need to meet standards for new construction.

SI EXAMPLES

Visual 5.57



Key Points

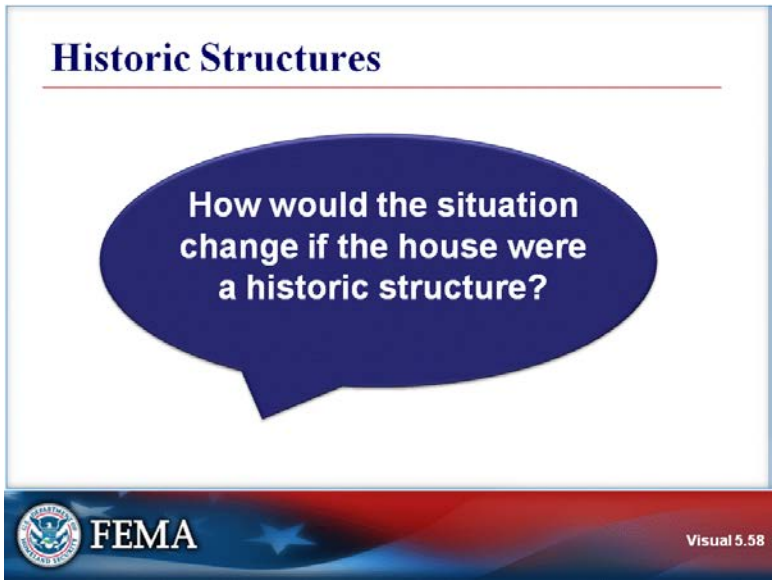
This example is the same single-story ranch house, 5 feet below BFE.

Now the owner wants to construct a lateral addition in back of house.

- The estimated cost of the addition is $50,000.
- The market value of the house was determined to be $90,000.

SI EXAMPLES

Visual 5.58

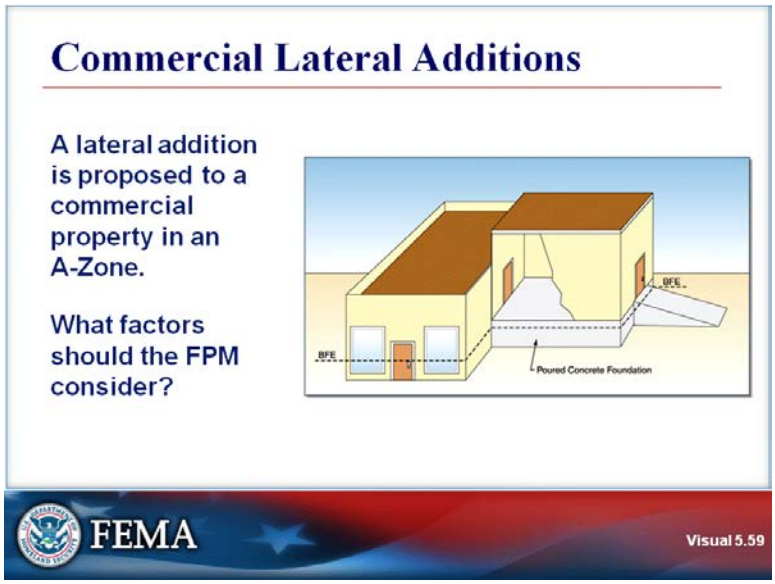


Key Points

Discussion Question: How would the situation change if the house were a historic structure?

SI EXAMPLES

Visual 5.59

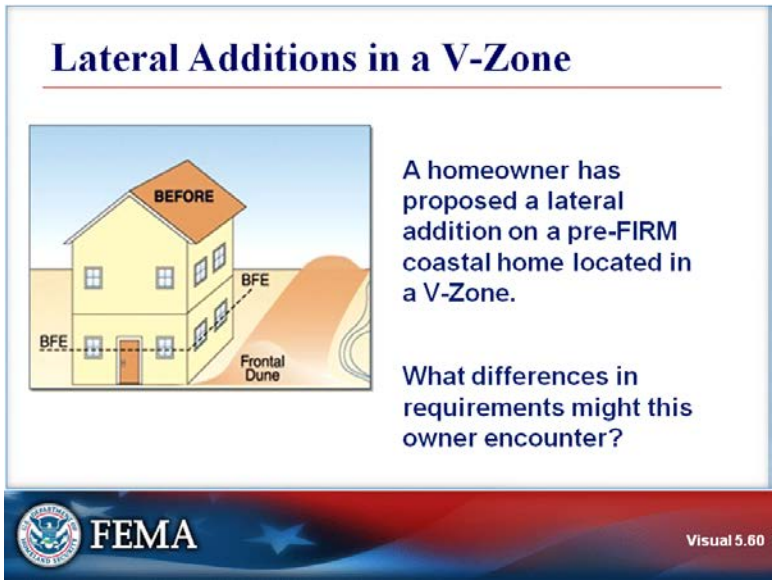


Key Points

In this example, a lateral addition is proposed to a commercial building. The existing building is below BFE.

SI EXAMPLES

Visual 5.60

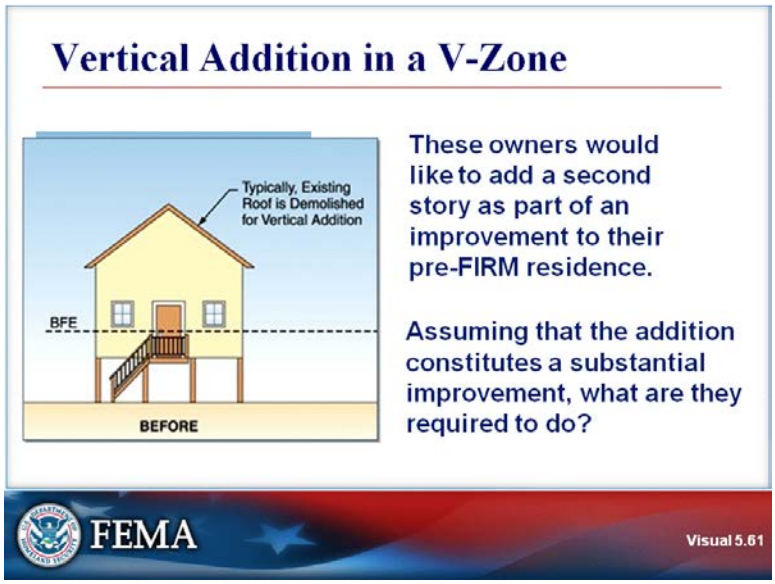


Key Points

In this example, a lateral addition is proposed on a pre-FIRM coastal home located in a V-Zone.

SI EXAMPLES

Visual 5.61

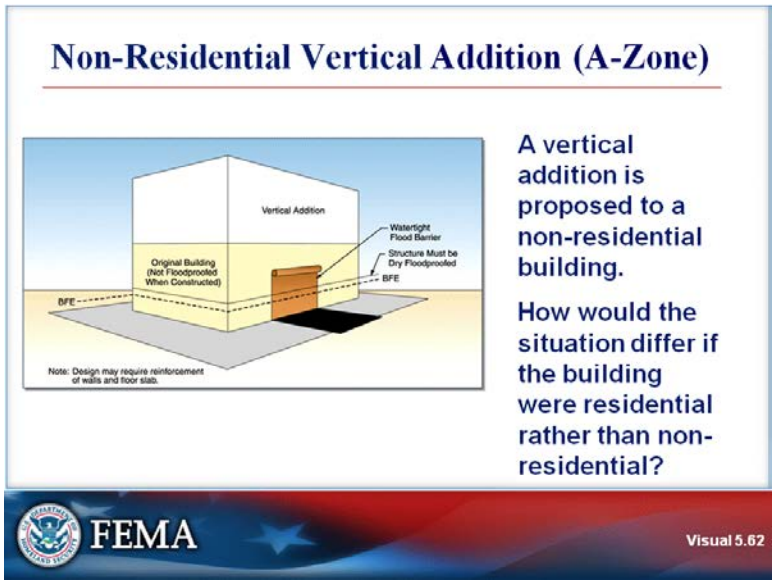


Key Points

In this example, an owner is proposing adding a second story to a pre-FIRM residence.

SI EXAMPLES

Visual 5.62



Key Points

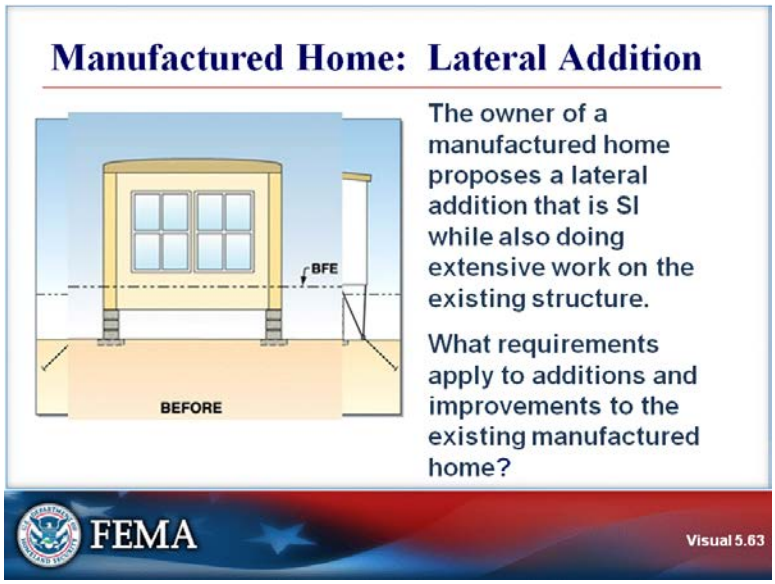
In this example, a vertical addition is proposed to a pre-FIRM non-residential building, which is below BFE. The building is below BFE, and is not floodproofed. If it is substantial improvement:

- It must be elevated or floodproofed.
- The original building was not floodproofed when constructed, but is now floodproofed by means of a watertight flood barrier.
- The vertical addition may require reinforcement of walls and the floor slab to withstand additional loadings due to the second-story addition.

Floodproofing continues to be an alternative to elevating the structure for non-residential structures in all A-Zones. Floodproofing certificate, Elevation Certificate, and an operation and maintenance plan must be obtained.

SI EXAMPLES

Visual 5.63



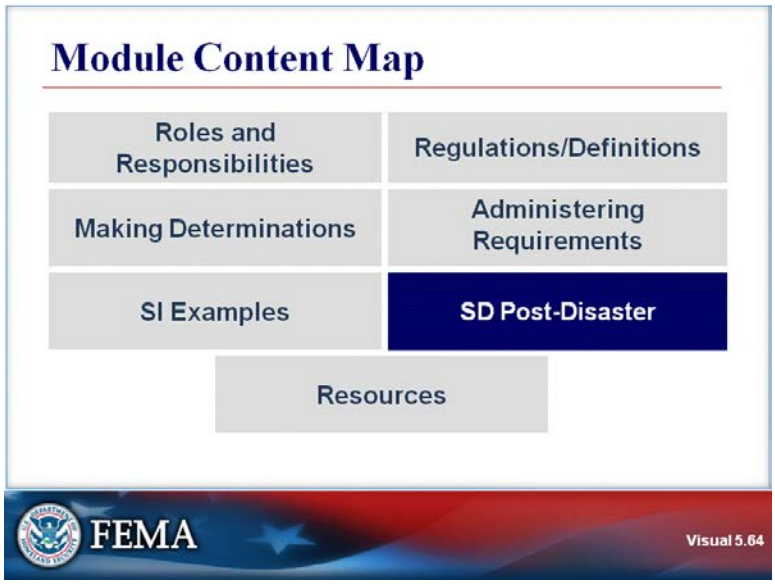
Key Points

In this example, the owner of a manufactured home wants an addition that would be a substantial improvement.

The existing home in this illustration is located outside an existing manufactured home park or subdivision and the work constitutes a substantial improvement.

SD POST-DISASTER

Visual 5.64



Key Points

The next section of this module will review the post-disaster Substantial Damage responsibilities of Floodplain Managers.

SD POST-DISASTER

Visual 5.65

Key Points

Be very familiar with your community's Hazard Mitigation Plan. It details various procedures and entities responsible for implementation.

Steps to prepare for post-disaster responsibilities include the following:

- Pre-disaster, maintain inventories of buildings in the floodplain. Building inventories give you a pre-populated amount of properties to use as a baseline for pulling permits.

  Public works and police or sheriffs' departments can identify low-lying areas in the community that typically flood first.

- Post-disaster, organize your SD inspections. There are a number of tools available to aid the inspection process.

  Safety inspections need to be conducted post disaster. One resource is Applied Technology Council (ATC) 45, *Field Manual: Safety Evaluation of Buildings after Windstorms and Floods*. The manual describes how to use red, yellow, and green tagging during the inspection process to help categorize buildings.

Some buildings will require more time and attention than others.

- Buildings in which the restoration cost is clearly over 75 percent of market value, or clearly below 25 percent of market value can be identified quickly.

- Buildings that are in the 40 to 60 percent range of restoration cost to market value will need closer attention and may take up most SD determination time.

SD POST-DISASTER

Preliminary damage assessments (PDAs) and windshield surveys or drive-by PDAs can help determine the extent of damage. These methods are used in declaring disaster areas.

Screening tools provide estimates of repair costs or market values. Insurance estimates are an information source, but cannot be the sole estimate of repair cost. Wide differences in estimates are a signal that something is wrong. The estimate may be using replacement cost values instead of market values. Replacement value cannot be used in the SD determination, but can be useful to deriving estimated market value in combination with property assessment for taxation purpose.

SD POST-DISASTER

Visual 5.66

Key Points

There are a number of important points to address when implementing post-disaster SD.

Permits cannot be issued until after performing damage inspections and making appropriate and accurate damage determinations.

- Develop consistent procedures for both pre- and post-disaster implementation.
- An appeals process is required. Consistent methods must be in place, but allow for a professional appraisal to address conflicts of information. Appeals provisions should be built into the post-disaster plan.

Communicate with property owners to ensure they understand their responsibilities related to Substantial Damage.

- Identify and be prepared to remedy language and cultural barriers.

- Assure affected property owners that there are consistent inspection and permitting processes. Pre-disaster outreach can go a long way in terms of cooperation from the affected property owners as they know what to expect and benefits of compliant structures.

- Tell property owners that up to $30,000 in additional compensation from ICC coverage may be available.

NOTE: If the damage itself is up to the coverage limit, ICC will not pay any additional claim amount.

SD POST-DISASTER

- Limit the interaction of inspectors with owners. Inspectors should explain that their role is to collect data, and not to provide information or make determinations. Inspection data then needs to be forwarded to aid the damage and restoration cost determinations and permit application process.

- Conduct inspections prior to rebuilding so noncompliance will not occur.

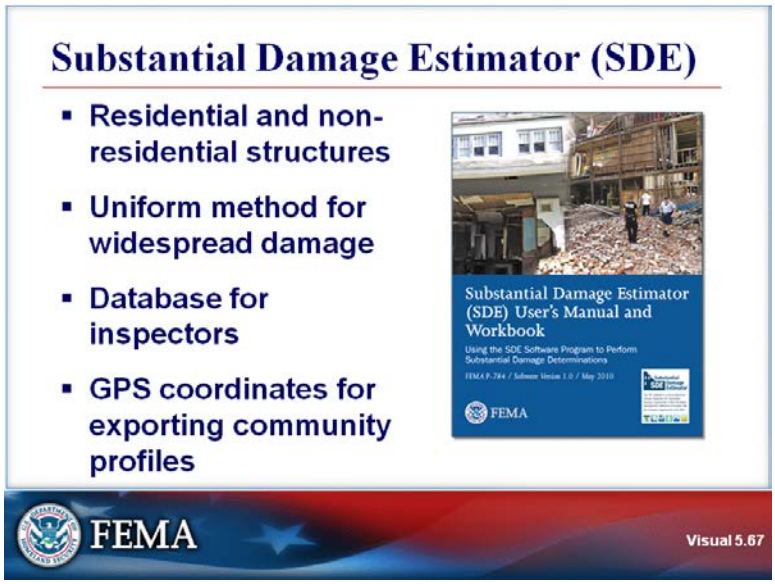
Citizens may be impatient to get back in and rebuild.

- It is important to communicate what owners can do, not just what they cannot do.

- Owners can take positive steps such as cleaning out, drying out, pumping basements, or removing soaked carpeting.

SD POST-DISASTER

Visual 5.67



Key Points

Many tools are available to help with SD post-disaster. The Substantial Damage Estimator (SDE) can be especially useful for widespread damage. The SDE replaces the Residential Substantial Damage Estimator (RSDE).

The SDE was developed to allow damage estimation for large numbers of damaged buildings, but can also be used to estimate substantial improvement. The SDE provides a consistent, uniform method to conduct a large number of inspections quickly, and then to allow owners to apply for permits. SDE allows you to:

- Enter information about the building. SDE divides a building into components and assigns a percentage of value to each component.
- The tool calculates a weighted average of percent damage to each building.
- Using industry-accepted cost guides such as RS Means, the SDE produces reasonable, accurate, and defensible repair costs.

Training is available for SDE. Read the guide and sign up for a course.

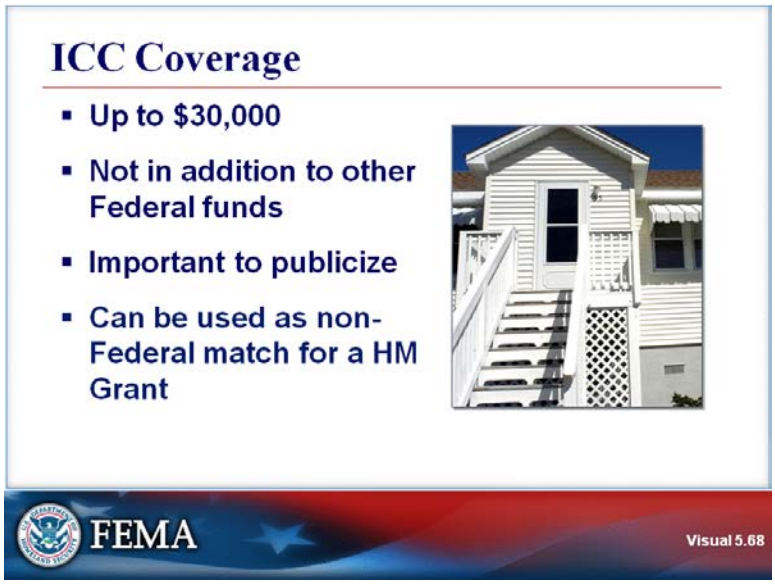
One SDE feature is the ability to set up a database to assign specific inspectors (as users) and build a database of damaged buildings. Another feature is the ability to import Excel spreadsheets and data in other file formats and enter the data directly into property records.

Using GPS coordinates allows export of an entire community profile. Google Maps can be used to show all of the properties and attach photographs.

SDE can be used to make such determinations for both residential and non-residential structures.

SD POST-DISASTER

Visual 5.68



Key Points

It is important for the FPM to publicize the availability of ICC coverage. Property owners who are not aware of ICC can miss out on funds to elevate their homes or businesses.

ICC provides a helpful solution to people who have flood insurance and had their homes declared SD or repetitive loss.

Policyholders can get up to $30,000 to assist in the cost of floodproofing of non-residential structures in A-Zones or for elevating, relocating, or demolishing the SD residential structure.

The ICC amount cannot exceed $30,000. If elevation costs $25,000, the owner receives $25,000. Total flood insurance payments to the owner cannot go beyond the coverage limit (e.g. $250,000 for residential building).

Steps in the ICC process are:

- The local official must make SD determinations.
- Policyholders must file ICC claims.
- Adjusters must verify information and process ICC claims.

The Floodplain Manager needs to provide documentation and issue a letter in writing that a given structure is SD. The letter should detail steps needed to bring the structure into compliance.

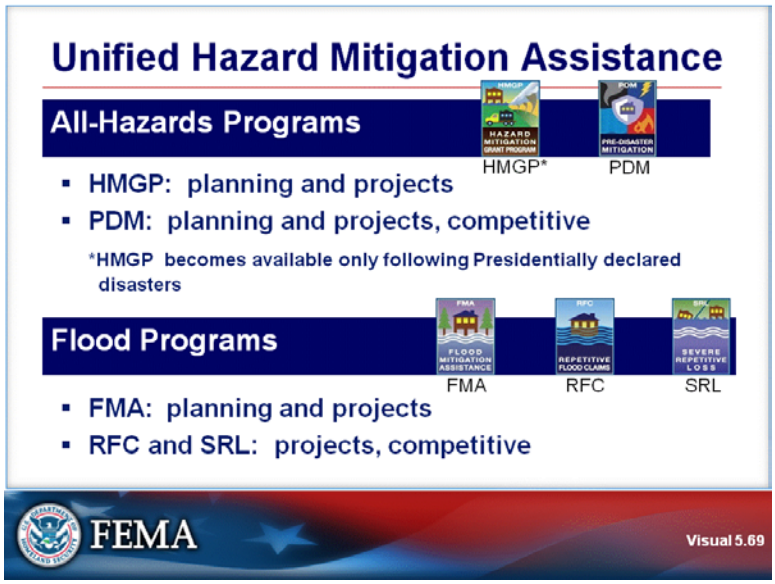
The property owner receives half of the ICC payment up front. After the mutually agreed upon mitigation project is complete and the structure is found to be compliant, the owner receives the second half of the approved amount.

SD POST-DISASTER

One pitfall with ICC is that after the initial approval and payment, elevation may not have been done properly, and the structure remains noncompliant. In such cases, the second half of the ICC payment is withheld, and the owner must return the initial amount.

SD POST-DISASTER

Visual 5.69



Key Points

There are four principal Unified Hazard Mitigation Assistance grants.

Three programs are funded by the flood insurance fund:

1. Flood Mitigation Assistance (FMA)
2. Repetitive Flood Claims (RFC)
3. Severe Repetitive Loss (SRL)

The Hazard Mitigation Grant Program (HMGP) is available only following Presidentially declared disasters, and is funded out of disaster funds. The State mitigation plan sets aside 5 percent of HMGP grant funds for technical assistance. In order to apply for technical assistance after an event, the local government should assure that the community's mitigation plan includes a technical assistance provision.

There are two levels of technical assistance:

- Imminent danger
- Six (6) months following the event

Pre-Disaster Mitigation (PDM) is a line-item in budget approved by the Congress.

SD POST-DISASTER

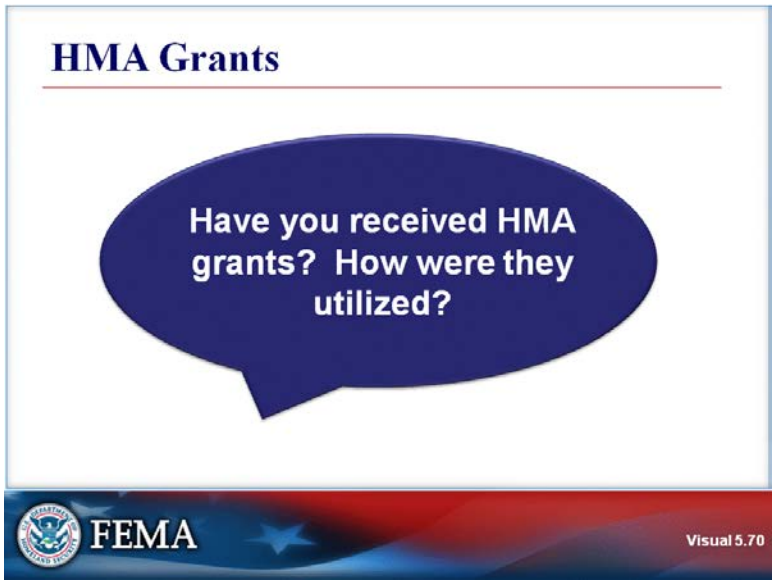
Mitigation grants offer opportunities to help acquire or elevate SD buildings following a disaster. Grants also provide a tool to mitigate before a structure becomes SD.

Unified Hazard Mitigation Grants are awarded through States, which may establish different priorities than those property owners prefer. For example, some States may only award grants for acquisition and demolition of floodprone structures, while the property owners want to elevate their homes at the same location.

Develop projects that can be implemented over multiple years in the future. Have project applications prepared for quick submission after disaster declarations.

SD POST-DISASTER

Visual 5.70



Key Points

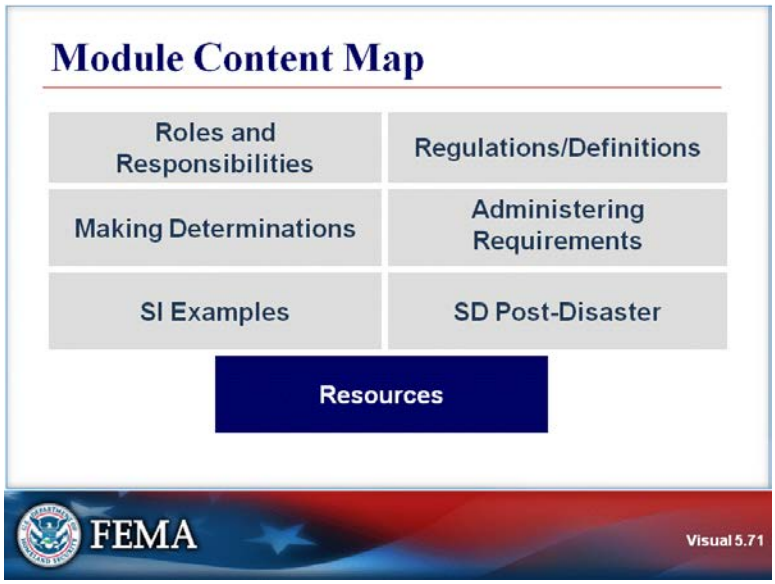
Discussion Questions:

Have you received HMA grants?

How were they utilized?

RESOURCES

Visual 5.71

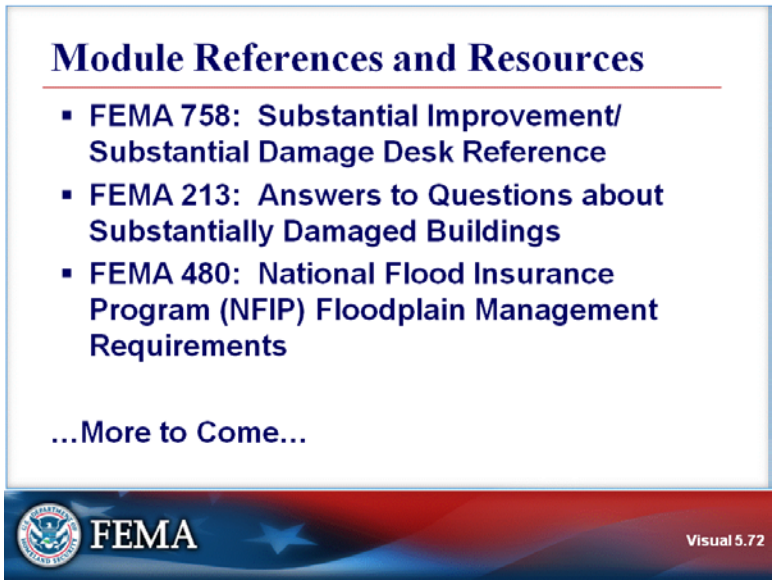


Key Points

The next section of this module will present references and resources for SI/SD.

RESOURCES

Visual 5.72



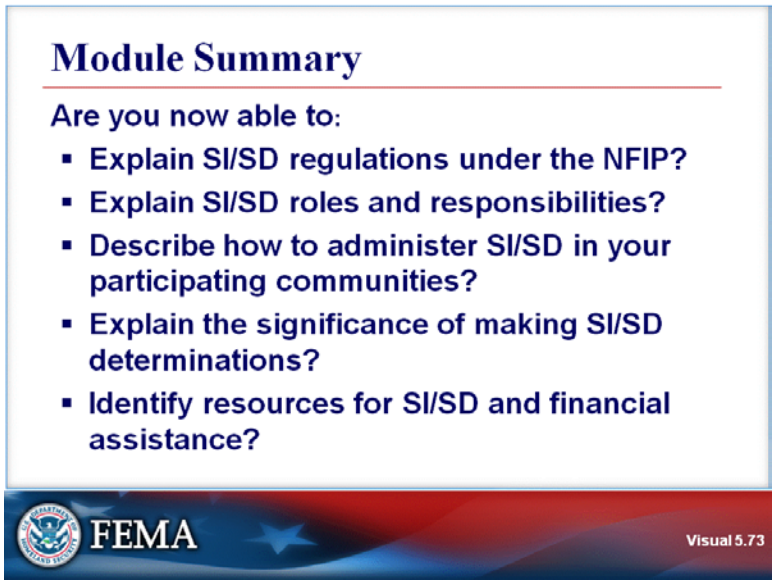
Key Points

Each of the references listed on the visual are available through the FEMA Web site.

Appendix A of FEMA 758 includes contact information for FEMA Regional Offices, NFIP State Coordinating Agencies, and State Hazard Mitigation Offices.

MODULE SUMMARY

Visual 5.73



Key Points

After completing this module, are you able to:

- Explain SI/SD regulations under the NFIP?
- Explain SI/SD roles and responsibilities?
- Describe how to administer SI/SD in your participating communities?
- Explain the significance of making SI/SD determinations?
- Identify resources for SI/SD and financial assistance?

Accessory Structure: see appurtenant structure

Appurtenant structure: a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

Base flood: the flood having a one percent chance of being equaled or exceeded in any given year.

BFE: Base Flood Elevation

Breakaway wall: a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Coastal high-hazard area: an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

Community: any State or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or Alaska Native village or authorized native organization, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

CRS: Community Rating System

Development: any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Elevated building: for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

Elevation Certificate (EC): a certificate that verifies the elevation data of a structure on a given property relative to the ground level.

Enclosure: for floodplain management, an area created by a crawlspace or solid walls that fully encloses areas below the lowest floor. For flood insurance that portion of an elevated building below the lowest elevated floor that is either partially or fully shut in by rigid walls.

FIRMette: A portion of a Flood Insurance Rate Map printed using FEMA's online Map Service Center.

Flood or Flooding: A general and temporary condition of partial or complete inundation of normally dry land areas. For flood insurance claim purposes, two or more structures must be inundated before flood damage will be covered.

Flood Hazard: potential for inundation with risk to life, health, property, and natural value.

Flood Insurance: the insurance coverage provided under the National Flood Insurance Program.

Flood Insurance Rate Map (FIRM): an official map of a community, on which are delineated both the special hazard areas and the risk premium zones applicable to the community, including a graphical representation of Special Flood Hazard Areas, flood hazard risk zones, 0.2-percent-chance floodplain areas, and other flood-related information.

Floodplain or floodprone area: any land area susceptible to being inundated by water from any source (see definition of Flood or Flooding).

Floodplain management: the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain management regulations: zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such State or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing: any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway – see regulatory floodway.

Floodway encroachments: any types of development that become obstructions to flow.

Freeboard: a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

GPS: Global Positioning System, a space-based global navigation satellite system that provides reliable location and time information in all weather and at all times, and anywhere on or near the Earth when and where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the United States Government and is freely accessible by anyone with a GPS receiver.

Historic Structure: any structure that is**:**

(a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

(b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(c) Individually listed on a State inventory of historic places in States with historic preservation programs which have been approved by the Secretary of the Interior; or

(d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either**:**

(1) By an approved State program as determined by the Secretary of the Interior; or

(2) Directly by the Secretary of the Interior in States without approved programs.

HMA: Hazard Mitigation Assistance

HVAC: heating, ventilation, and air conditioning

ICC: Increased Cost of Compliance flood insurance coverage

I-Codes: the family of codes published by the International Code Council, Inc.

Lowest Floor (LF): the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Section 60.3.

Manufactured home: a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

Manufactured home park or subdivision: a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Market Value: the amount a buyer not subject to coercion is willing to pay for a given item or property.

National Geodetic Vertical Datum (NGVD): elevation reference marks used in flood studies and FIRMs, which may use either the National Geodetic Vertical Datum (NGVD) of 1929 or North American Vertical Datum of 1988 (NAVD 88).

National Flood Insurance Program (NFIP): Federal insurance program under which floodprone areas are identified and flood insurance is made available to residents of participating communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

New construction: for the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, new construction**:** structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

No-rise certification: An engineering analysis supported by technical data and signed by a registered professional engineer certifying that development will not cause a rise in the Base Flood Elevation (BFE), floodway elevations, and floodway location and widths.

North American Vertical Datum of 1988 (NAVD 88): elevation reference marks used in flood studies and FIRMS, which may use either the National Geodetic Vertical Datum (NGVD) of 1929 or NAVD 88.

1-percent flood—also termed the 100-year flood; see base flood.

Regulatory floodway: the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Recreational Vehicle (RV): a vehicle that is**:**

(a) Built on a single chassis;

(b) 400 square feet or less when measured at the largest horizontal projection;

(c) Designed to be self-propelled or permanently towable by a light duty truck; and

(d) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

SDE: Substantial Damage Estimator

SFHA: Special Flood Hazard Area

SI/SD: Substantial Improvement/Substantial Damage

Start of Construction: the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date.

State: any State, the District of Columbia, the territories and possessions of the United States, the Commonwealth of Puerto Rico, and the Trust Territory of the Pacific Islands.

Structural connection: an addition that is not independent, does not stand on its own, and is connected to the existing structure.

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 percent of the market value of the structure before the damage occurred.

Substantial improvement: any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 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**:**

(1) 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 official and which are the minimum necessary to assure safe living conditions; or

(2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Variance: a grant of relief by a community from the terms of a floodplain management regulation.

Violation: the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

V-Zone: see "coastal high-hazard area."