

Procedure to Determine Substantial Damage or Substantial Improvement

[Vermont DEC 11/7/2018](#)

Background

Substantial Improvement and Substantial Damage (SI and SD) have specific definitions and requirements in flood hazard area regulations. This procedure describes how the community makes Substantial Improvement or Substantial Damage determinations. Additional guidance can be found in the [FEMA P-758 Substantial Improvement/Substantial Damage Desk Reference](#), or by contacting your ANR Regional Floodplain Manager.

Definitions from the Vermont DEC 2018 Flood Hazard Model Bylaw language:

"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.

"Substantial improvement" means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure after the date of adoption of this bylaw, the cost of which, over three years or over the period of a common plan of development, cumulatively 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: (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 previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (b) Any alteration of an "historic structure," provided that the alteration will not preclude the structure's continued designation as an "historic structure."¹

While Substantial Improvement occurs when a building owner initiates improvements or repairs to a structure, Substantial Damage, by definition, occurs when a structure is damaged in any way, regardless of what causes the damage. When structural damage by any means occurs to a building in the Special Flood Hazard Area, the repairs must comply with the flood hazard area standards in the bylaw. While people may only be intending to make limited repairs to their buildings after damage occurs, it is important to note that the Administrative Officer (AO) must still determine if the cost of the repairs to return the structure to its *pre-damaged condition* meets the definition of "Substantial Damage" (SD). At the same time, the AO must also determine if any intended improvements (beyond bringing the structure back to its *pre-damaged condition*), when considered with any damage repair estimates, meet the definition of "Substantial Improvement" (SI) to the structure.

Significantly, structures that are SI or SD must come into compliance with the community's flood hazard development standards. Typically, this means that the *lowest floor elevation standards* may apply to the existing structure. A determination of Substantial Damage by flooding will also release additional "Increased Cost of Compliance" (ICC) payments from NFIP insurance policies. ICC funds can be used

¹Please note that this is the definition found in the VT DEC Model Flood Hazard Bylaws and requires tracking improvements over three years. Please check your own bylaw for the definition to use. The NFIP definition can be found in 44 CFR 59.1.

towards demolition or home elevation, or in conjunction with FEMA Hazard Mitigation funding² for these mitigation projects. FEMA Hazard Mitigation Grant Program also waives the Benefit Cost Analysis requirement for the acquisition of a building that has been Substantially Damaged by flooding.

Many communities exempt Historic Structures (as long as they maintain their status as an Historic Structures) from the definition of Substantial Improvement, and thus from the requirement to elevate the lowest floor. Check your bylaw. Historic Structures do not get any discount on flood insurance, and the owners may well choose to elevate the lowest floor to lower their flood risk and flood insurance premiums while being sure to retain their historic status. Also, be aware that although historic structures may be exempt from the definition of Substantial Improvement, they are not exempt from the rest of the Community's flood hazard bylaw. A permit must still be issued by the community, and most communities would still review the historic structure under their regulations that apply to all development in the SFHA.

The requirements for elevating the lowest floor may affect the entire structure or only a portion (e.g. an addition). Please see the Compliance Matrix Table 6-1a, and the illustrations of [Chapter 6 of FEMA p-758](#), below and online for clarification.

² FEMA's Mitigation Grant Programs also waive the BCA for projects that have been shown to be cost-effective by meeting the thresholds set for both acquisitions and home elevation projects in the FEMA memo found at: <https://www.fema.gov/media-library/assets/documents/85014>.

Procedure for Structures Located Within the Special Flood Hazard Area (SFHA)

1. Know when a Substantial Improvement or Substantial Damage estimate should be made:

After structural damage, or when a proposal is submitted for the renovation, rehabilitation, restoration, or repair of the building, the AO shall determine and document if a structure has experienced Substantial Damage or is proposed for Substantial Improvement. This shall be done in accordance with the municipal bylaw, this procedure, and FEMA guidelines³.

➤ FOR SUBSTANTIAL DAMAGE:

Regardless of the cause of damage (e.g. fire, wind, snow, or flood) the AO shall determine if Substantial Damage has occurred *regardless of any intended repair at that time*. This should be conducted *as soon as possible after the damage occurs* and before any repairs are made. *Please note that the structure can and should be temporarily stabilized in order to ensure it is safe to enter to evaluate and identify required repairs.

2. Determine the Structure's Market Value:

The adjusted lister value of the building before the damage or improvement occurred (excluding the value of land or other buildings on site) shall be used as the market value of the building.

3. Determine the Cost of Work:

Please refer to FEMA's list of included and excluded costs from SI/SD Determinations (Appendix B, page 4-5 of FEMA P-758 SI/SD Desk Reference)

- **All SI/SD cost estimates must include the cost of all labor and materials needed for the repairs, and must provide a value for donated or discounted materials.**
- Excluded costs can include:
 - the cost of damage or improvements outside of the structure (e.g. landscaping, septic, well, engineering or permits),
 - the cost to temporarily stabilize a building in order to safely enter it for damage assessments, and
 - any costs required to correct *existing violations* of state or local health, sanitary, or safety code specifications. These violations must have been previously identified by the local code enforcement official before the damage occurred and are the minimum necessary to assure safe living conditions.

➤ FOR SUBSTANTIAL DAMAGE, DETERMINE THE DAMAGE THAT HAS OCCURRED:

- Damage can be estimated by the AO using, or reviewing:
 - a. the output of FEMA's *Substantial Damage Estimator* software; or
 - b. assessment data from emergency management surveys; or
 - c. qualified estimates of costs prepared by local officials using their professional judgement and knowledge of construction costs (this method is typically used when there may be a large number of damaged buildings in the community); or
 - d. Damage or Improvement values can also be determined using estimates from qualified contractors and engineers, as provided by applicant and found acceptable by the AO.

³ [FEMA P-758, Substantial Improvement/Substantial Damage Desk Reference](#)

- A determination of Substantial Damage shall be documented in the zoning records and copied to the owner of the building.
- If the building is being improved beyond its pre-damaged condition, the cost of improvements must be included along with the cost to repair to make the SI/SD determination.
- The community can use insurance claims or damage estimates, such as the Adjuster Preliminary Damage Assessment form, to help screen for substantial damage. However, these claim estimates or forms cannot be used as the basis for the Community's final Substantial Damage determinations since flood insurance does not cover all the damage that the community is required to consider. Also, the building Replacement Cost Value and the Actual Cash Value may not be equivalent to market value.

4. The Appeal of a Determination, or the Consideration of Additional Information:

A determination of Substantial Damage or Substantial Improvement can be appealed by an applicant or property owner to the Appropriate Municipal Panel in accordance with the bylaw. In the consideration of an appeal, the Appropriate Municipal Panel shall consider additional documentation, provided by the applicant, which may include:

- a) Recent building appraisals, by licensed and qualified real estate appraisers, that document the structure's arm's-length market value (excluding land value), prior to the damage or improvement. The appraisal must be acceptable to the Lister.
- b) Project/repair cost estimates, provided by one or more qualified contractors, professional engineers, or insurance adjustment documentation. The material and labor cost estimates shall include detailed accounting of the proposed improvements, additions, reconstruction or rehabilitation work, repairs, or associated construction and development.

5. Be Aware of Cumulative Substantial Improvement:

For determinations of Substantial Improvement thresholds where the cost of improvements is cumulative over a period of years (see definition from model below), the sum of the cost of the improvements, including the cost of labor and materials, over the period of years preceding the date of application, or over the period of the Common Plan of Development, should be used. For cumulative Substantial Improvements that may be tracked over long periods of time, such as over the life of the structure, the community may want to track the percentage of the cost of improvements or repair relative to the current market value of the structure. Individual project percentages can be added together until the 50% improvement threshold is reached.

Definitions:

"Market Value" The price at which a property will change hands between a willing buyer and a willing seller, neither party being under compulsion to buy or sell and both having reasonable knowledge of relevant facts. As used for floodplain management, the term refers to the market value of buildings and structures, excluding the land and other improvements on the parcel. Market value may be established by a qualified independent appraiser, Actual Cash Value (replacement cost depreciated for age and quality of construction), or tax assessment value adjusted to approximate market value by a factor provided by the Property Appraiser.

"Common plan of development" means where a structure will be refurbished or constructed under one approved plan or permit, but in separate stages, phases, or in combination with other construction

activities. Such work may be planned unit by unit and may take place at different times, on different schedules.

"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.

"Substantial improvement" means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure after the date of adoption of this bylaw, the cost of which, over three years or over the period of a common plan of development, cumulatively 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: (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 previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (b) Any alteration of an "historic structure," provided that the alteration will not preclude the structure's continued designation as an "historic structure."⁴

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Compliance Matrix Table and Examples of Elevation Requirements
from [FEMA P-758 Chapter 6](#)

Table 6-1a. Compliance Matrix (A Zones)

Types of Work	Building is Pre-FIRM	Building is Post-FIRM
Rehabilitation (renovate or remodel), <u>not SI</u>	Compliance not required	Work shall comply and shall not be allowed to make the building non-compliant with any aspect of the building that was required for compliance
Rehabilitation (renovate or remodel), SI	Building required to comply	Work shall comply and shall not be allowed to make the building non-compliant with any aspect of the building that was required for compliance (see Note below table)
Lateral addition and Rehabilitation, SI	Addition required to comply; building required to comply	Addition required to comply; building required to comply (see Note below table)
Lateral addition, <u>not SI</u>	Addition not required to comply	Addition required to be elevated to at least the elevation of the existing lowest floor
Lateral addition, SI, <u>not</u> structurally connected	Addition required to comply; building not required to comply	Addition required to comply
Lateral addition, SI, structurally connected	Addition required to comply; building required to comply	Addition required to comply; building required to comply (see Note below table)
Vertical addition above building, <u>not SI</u>	Compliance not required	Work shall comply and shall not be allowed to make the building non-compliant with any aspect of the building that was required for compliance
Vertical addition above building, SI	Building required to comply	Work shall comply and shall not be allowed to make the building non-compliant with any aspect of the building that was required for compliance (see Note below table)
Repair foundation, <u>not SI</u>	Compliance not required	Repairs shall comply and shall not be allowed to make the building non-compliant with any aspect of the building that was required for compliance
Repair foundation, SI	Building required to comply	Building required to comply (see Note below table)
Replace/extend foundation, SI (including "elevate-in-place")	Building required to comply	Building required to comply (see Note below table)
Repair damage, SD	Building required to comply	Work shall comply and shall not be allowed to make the building non-compliant with any aspect of the building that was required for compliance (see Note below table)
Reconstruct new building on existing or new foundation, SI	Reconstructed building required to comply	Reconstructed building required to comply (see Note below table)

Note: If a map revision has resulted in a higher BFE, a post-FIRM building must comply based on the new BFE.

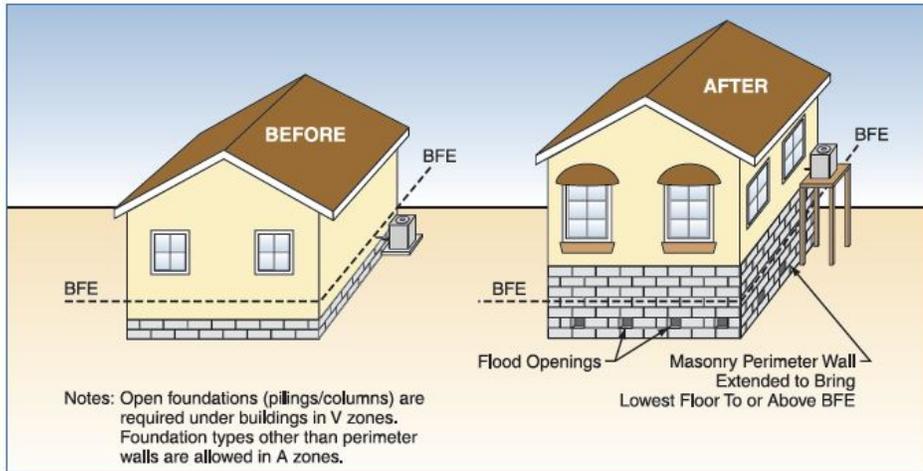


Figure 6-1. Rehabilitation or remodel (no increase in footprint) of residential building in an A zone – the proposed work was determined to be a substantial improvement. The building is brought into compliance by elevating it on an extended perimeter foundation wall, installing flood openings, and raising the HVAC equipment onto a platform.

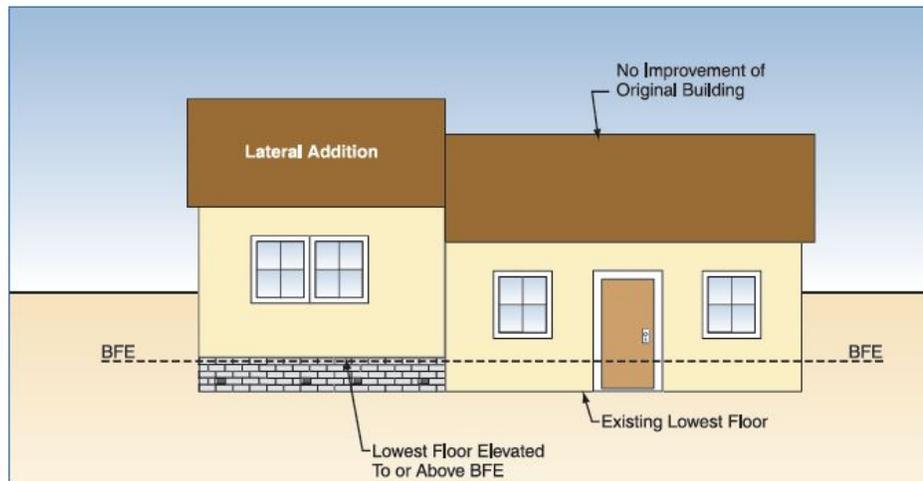


Figure 6-3. Lateral addition to a pre-FIRM building in an A zone – the proposed work is only the addition (no work was performed on the original building and no structural modification was made to the common wall or roof). The addition constitutes a substantial improvement and it complies with all NFIP requirements.



Figure 6-4. Lateral addition to a pre-FIRM building in an A zone – the proposed work includes an addition and work on the original building, including structural modification of the common wall or roof. The proposed work was determined to be a substantial improvement. The addition complies with all requirements and the building is brought into compliance by elevating it on a compliant foundation.