

Substantial Improvement/Substantial Damage

Substantial improvement “means any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50% 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.”

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.”

FEMA 213. The substantial improvement/substantial damage concept is one of the most written about, complex and controversial subjects in the NFIP. There have been reams written defining and clarifying the issue since the beginning of the Program. Fortunately, FEMA addressed most all issues through publication of FEMA 213, “Answers to Questions About Substantially Damaged Buildings,” dated May 1991. While the subject is substantial damage, most all the concepts apply also to substantial improvement not caused by damage. The reader is referred to this document as the definitive guide to SI/SD issues; only some of the major points from that document will be repeated here.

Background. The NFIP requirements governing the improvement of pre-existing flood-prone structures were designed to progressively bring these structures into compliance with NFIP elevation requirements for new construction, as they were significantly damaged and/or improved. The intent of the requirement was not to prohibit owners of property in the floodplain from making significant improvements to a structure, but merely to require that when extensive improvements were made, steps be taken to ensure that the structure is protected from future flood damage. This, in turn, minimizes the increase in the investment at risk in floodplains.

Substantial improvement is similar to the nonconforming use standards contained in most State zoning enabling laws, and which are widely used in many communities across the Country. The use is allowed to remain nonconforming until it is substantially altered, at which point it must become a conforming use.

The 50 percent threshold was chosen as a compromise between the extremes of: (1) prohibiting all investment to existing structures in floodplains that do not meet minimum NFIP floodplain management requirements; and (2) allowing existing structures to be improved in any fashion without meeting any regulatory standards. The threshold conforms with similar building code and zoning standards that also use a 50 percent threshold. The threshold was selected on the basis that it does not make sense to pay flood losses on the same property over and over again. It attempts to strike a balance

between the competing demands for sound floodplain management and the needs of owners of existing structures. (*FEMA October 23, 1991 Letter to Region IV.*)

Types of substantial improvements. The basic types of improvements are rehabilitations or reconstructions that do not increase square footage, and lateral or vertical additions that do increase square footage. A rehabilitation could involve upgrading a kitchen, bathroom and/or other areas, whereas a reconstruction could involve, e.g., converting a seasonal house to a permanent residence. A lateral addition could involve adding several rooms to a side of the existing structure, and a vertical addition could involve adding a second story onto the structure.

A rehabilitation or reconstruction typically would be a partial or complete “gutting” and replacement of internal workings, and may or may not involve structural changes. If this action is substantial, i.e., over 50 percent of the structure’s market value, it is considered new construction, and the entire building must be elevated to or above the BFE (elevation or floodproofing if the building is nonresidential). The insurance will be actuarial insurance and the structure will be considered Post-FIRM and elevation rated just as new construction is; subsidized insurance will no longer be available. The underlying principal for including rehabilitations is that they, like additions and repair of damage, represent investment and reinvestment in flood hazard areas, that if not protected, are at serious risk of flooding. In some form, the Federal government, either through the NFIP, disaster aid, SBA loans, casualty loss deductions on income taxes, etc., would likely be obligated to pay a portion or all of future damages. (*FEMA October 23, 1991 Letter to Region IV.*)

For a lateral addition, if the substantial improvement is to add a room or rooms outside the walls or “footprint” of the existing building, only the addition is required to be elevated to or above the BFE; the existing building does not have to be elevated. Also, actuarial insurance rates will not apply to the addition, and the entire structure will retain its Pre-FIRM (subsidized) rate. (*FEMA Letter of March 2, 1988 to Huntington Beach, Calif.*)

For a vertical improvement, if the substantial improvement is to add a room or rooms on top of an existing building, FEMA would interpret the addition as a rehabilitation project since it would normally involve tearing off the existing roof, utilizing existing structural walls for support, etc. This would require that the entire structure be elevated to or above the BFE. The rationale is that even though the improvement itself is entirely above the BFE, it is dependent on the walls and foundation of the existing building for structural support. Because the walls are susceptible to structural damage from flooding, this also places the second story at risk. (*Above Letter to Region IV.*) The entire structure must be insured at actuarial rates;



the Pre-FIRM subsidized rates are no longer available. An exception to this scenario is where the added story is placed on top of an existing building but has a separate support system. Here, only the addition needs to be elevated; the existing structure does not need to be brought up to the BFE, and Pre-FIRM insurance is available for the entire structure.

Loophole. The NFIP regulations do not specify that improvements to a structure are cumulative, i.e., a person could apply for a 30% improvement one year, then another 30% improvement two years later, and the regulations would not stop them from being approved even though they total over 50%. A community has several options to address the intentional phasing of permits to deter circumvention of the requirement such as adopting a timeframe for reviewing permits for substantial improvement and carefully reviewing the scope of work in the permits. (*FEMA Call for Issues, June 2000, page II-3-15.*) Some communities require that improvements be calculated cumulatively over several years. All improvement and repair projects undertaken over a period of 5 years, 10 years or the life of the structure are added up; when they total 50%, the building must be brought into compliance as if it were new construction. (*FEMA Independent Study 9, August 1999, page 8-4.*) Also, some deal with this by having a lower substantial improvement threshold, like 40% instead of 50% (one county in Oregon has a 20% threshold). Both these practices, though not required, receive credits in the Community Rating System.

Figuring the 50%. The formula for figuring whether or not the building will be improved by 50% or more places the cost of the improvement over the market value of the building. If the improvement, e.g., cost \$30,000 and the market value is \$50,000, that is 60%, which exceeds the 50% threshold; thus, it is a substantial improvement.

Improvement cost. A detailed cost estimate for both materials and labor needs to accompany the permit. This estimate is usually prepared by a licensed general contractor, a professional construction estimator, or, sometimes, the local government. Regardless of whether or not the local government prepares the estimate, it must review the estimate submitted by the applicant. The estimate should include all structural elements, interior finishing elements, utility and service equipment, costs of altering building components to accommodate improvements or additions, overhead and profit (*FEMA Independent Study 9, page 8-7*). Besides contractor estimates, qualified estimates can be made by the local building department using professional judgment and knowledge of local and regional construction costs, and using methods such as those published by Marshall and Swift. Also, Building code valuation tables published by ICBO can be used for determining estimates for particular replacement items for normal (not architecturally unique) structures. (*FEMA 213, May 1991, page 10.*) Finally, where donated or discounted materials are used, the value should be adjusted by the local official to be equivalent to values estimated through normal market prices; also, where non-reimbursed labor is involved, the value of labor needs to be estimated by local officials based on applicable minimum-hour wage scales (*FEMA 213, page 13*).

Determining Market Value. Market value is determined for the structure only; the value of the land, landscaping, accessory buildings, etc., must be subtracted from the equation. Market value is defined as the price a willing buyer and seller can agree on. The market value of a structure reflects its original quality, subsequent improvements, physical age of building components and current condition. The normal (and recommended) way this is done is by having the applicant obtain an independent appraisal from a professional appraiser. The appraisal must not use the “income capitalization approach” because it bases value on the use of the property, not the structure.

Another acceptable way to estimate market value is to determine the structure’s actual cash value, i.e., the replacement cost minus a depreciation percentage based on age and condition. This is a more objective method that may be easier where there may not be sufficient comparable data available. Property appraisals used for tax assessment purposes can also be used, if they are adjusted as recommended by the tax assessors office to reflect market conditions (i.e., adjusted assessed value). There are limitations on this method related to the appraisal cycle, assurance that land is subtracted, and on the ratio in some communities between the assessment level and true market value. Finally, qualified estimates based on sound professional judgment made by the staff of the local building department or tax assessors office can be used. Whatever method is used, the closer the estimate falls relative to the 50% threshold, the more precise the market value figures may need to be; the burden of proof can be placed on the applicant who can be required to submit an independent appraisal. (*FEMA 213, p. 10-11 and Independent Study 9, p. 8-8.*)

Market value vs. replacement cost. FEMA policy does not allow replacement cost to be used in determining substantial improvement. Replacement cost is viewed as less subjective and easier to determine, but in the majority of cases would result in a greater value, making the substantial improvement definition less restrictive. FEMA has agonized over this matter for years, but with no overriding consensus from its many forums has not changed from use of market value (*FEMA Call for Issues, page II-3-15*). An original reason given for previous rejection of changing from market value to replacement cost was that the use of market value is based on direction of the Senate Committee on Banking, Housing and Urban affairs, in Report Number 93-583 (*FEMA Consolidated Report on 1994 Rulemaking, August 12, 1993*). Replacement cost may be used, as mentioned above, only if it is adjusted for depreciation.

Substantial damage. The regulatory definition of substantial damage (above) clearly shows that damage is from any origin, i.e., not just from flooding. The basic formula used for substantial improvement in the preceding paragraphs is the same, cost to repair divided by market value of the structure, and determining market value is calculated in the same way. The only difference



is that in a flood event, the market value of buildings may be taken from NFIP claims data, which can be used as a screening tool to determine whether more detailed data may be needed. This is pre-flood, not post-flood market value (unless a community has a more restrictive measure). There are some additional differences between substantial improvement and substantial damage:

Cost to repair. As pointed out in *Independent Study 9 (page 8-18)*, this is referred to as “cost to repair,” not “cost of repairs,” reflecting the fact that the cost must be calculated for full repair to the building’s before-damage condition, even if the owner elects to do less. The total cost to repair includes the same items that are mentioned above for improvements. Since there is great incentive on the part of the owner to keep the costs down, thus not having to elevate, costs can become quite contentious between the applicant and community. All of the cost methods mentioned above are applicable here, especially those involving a licensed general contractor or professional estimator. Added to this is the fact that in flooding events there may be damage assessment field surveys available, and there may be flood insurance adjustment papers, both of which can aid in determining costs.

Substantial damage estimator. FEMA has published a “Guide for Estimating Substantial Damage Using the NFIP Residential Substantial Damage Estimator,” or FEMA 31. This document comes with software and a manual, and is for the purpose of helping local officials make substantial damage determinations. It is available through FEMA publications, or through the FEMA Regional Office.

Exclude costs of debris removal and clean-up. Costs for debris removal and clean-up can be excluded from the cost (numerator) portion of the equation (*FEMA Policy Memorandum to Regional Offices, October 7, 1993*). These costs are not related to the actual cost of restoring the building, and can be determined by submitting itemized costs from contractors, from documentation on an insurance adjuster’s Building Worksheet, or use of a default figure (FEMA considers a 3 to 6% range of total cost of repair to be a reasonable amount to deduct).

Use of replacement cost in lieu of market value in Presidential Disaster Declarations. After the Midwest floods, FEMA issued a policy statement allowing community officials, at their option and where not prohibited by State law, to use replacement cost to estimate a building’s market value following natural disasters that are Presidential Disaster Declarations (*FEMA Policy Statement, dated September 3, 1993*). However, this was clarified to allow replacement cost to be used only for catastrophic damage situations (“...events such as Hurricane Andrew and the 1993 Midwest flood constitute catastrophic events.”). Clearly, more localized events such as the normal Fall-Winter flooding experienced in the Northwest would not constitute a catastrophic event. (*FEMA May 25, 1994 Memorandum to Region VII.*)

Exceptions. There are three exceptions in dealing with substantial improvements and damages. They are: (1) specifically exempt activities; (2) historic buildings; and (3) improvements required to correct existing code violations.

Specifically exempt activities. Items that should not be counted toward the cost to repair include plans, specifications, survey costs, permit fees, and other items which are separate from or incidental to the repair. This includes demolition or emergency repairs to prevent further damage to the building, and improvements to items outside the building, such as the driveway, septic systems, wells, fencing, landscaping and detached structures. (*FEMA 312, page 13.*)

Historic structures. Historic structures can be exempted from the substantial improvement requirements; they can be exempted outright if the substantial improvement and historic structure definitions are in a local ordinance, or they can be granted through a variance procedure. The three criteria they must meet are: (1) the building must be a genuine historic structure (see the definition under [c][2], page 43; (2) the project must maintain the historic status of the structure – if plans to substantially improve or repair a substantially damaged historic structure would result in loss of its designation, the structure would be required to meet the NFIP elevation requirements (*Federal Register, August 15, 1989, page 33543*); and (3) all possible flood damage reduction measures short of elevation should be taken.

Improvements required to correct existing code violations. The definition above should be read carefully, because there are some key words that make this circumstance a rarity. The violations must be pre-cited violations; thus, the cost for new wiring just because outdated wiring that is not up to code was found, does not qualify for deduction from the formula, unless this circumstance was pre-cited by a local official. The original purpose of this exclusionary provision was to provide relief in the case of rehabilitation projects for low-income housing in areas suffering from grievous substandard living conditions (*FEMA Policy Memorandum to Regional Offices, dated October 30, 1991*). The two important phrases in the definition are “correct existing violations” and “identified by the local official.” This exemption was intended for involuntary improvements or violations that existed before the improvement permit was applied for or before the damage occurred, e.g., a house pre-cited for unsafe stairs, etc.

A clear distinction is made between violations, and elements that simply do not meet present-day design or building code standards; such standards are not included in the exemption, unless they were pre-cited. There are code violations in all structures built before the current code was enacted; this is very different from a code violation citation that forces a property owner to correct those violations. (*FEMA Independent Study 9, August 1999, page 8-26, 27.*)

FEMA preliminary damage assessment form. FEMA now routinely provides Regional Offices and Disaster Field Offices with forms that adjusters use to identify