



By Rebecca Quinn, CFM

Every other month, when deciding what to write for this column I consider questions and situations I've handled recently, as well as columns I've written before. People seem to always have questions about substantial improvement and substantial damage. Indeed, the words "substantial improvement" appear in one way or another in half of the columns I've written since the first column was published in November 2007.

Since the [Substantial Improvement/Substantial Damage Desk Reference](#) (FEMA P-758) was published in 2010, I've recommended we all keep it close at hand. It has answers to just about every question. But here are a few new ones.

Does the Substantial Improvement/Substantial Damage rule "prohibit" improvements? Of course not! Occasionally I hear local officials – perhaps too casually – say something along the lines of "you can't improve the building more than 50 percent." Of course owners can improve their buildings more than 50 percent – with an important qualification that should be familiar to everyone who has a role in regulating flood hazard areas. Buildings in flood hazard areas can be improved more than 50 percent as long as they are brought into compliance with the requirements for new construction. Sure, that may be an inhibitor for some owners, but we shouldn't use imprecise language that could discourage owners from reducing their exposure to flooding.

What costs and what types of work can be excluded from the SI/SD determination? The NFIP definition is very specific (see text box, items No. 1 and No. 2). But that doesn't stop people from asking, and sometimes pushing the boundaries. Here are some recent questions and advice I offered:

- When an application for improvement includes some work elements that, if done by themselves, wouldn't require building permits, can we exclude the costs of those elements? In my opinion, no. When an application for a permit is submitted, the cost must include all work associated with the project. A list of costs that must be included is in the *Desk Reference*, Section 4.4.1. For example, a permit isn't required to paint a room. But when an owner renovates a building, then completing the project includes painting interior spaces and the cost of painting must be included.
- Can we exclude costs of work to mitigate against hazards (wind, seismic, flood)? This question comes up when communities encourage risk reduction and as more property owners pay attention to risk (and perhaps as insurance companies do the same). Sure, we want to encourage more mitigation, but the answer is no: excluding those costs would be in direct conflict with the letter and spirit of the SI/SD rule.

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 that 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 that have been identified by the local code enforcement official and 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".

- Can we exclude costs to correct violations or unsafe conditions caused by an owner or contractor? Re-read the definition and check out Section 4.4.8 of the *Desk Reference* where the phrase “correct existing violations” is explained, and you’ll conclude the answer is no. And what that means is when the scope of a project changes, for whatever reason, the SI/SD determination should be recalculated to include the added costs. And yes, that might mean a project that didn’t hit 50 percent might now trigger the requirement to bring the building into compliance.

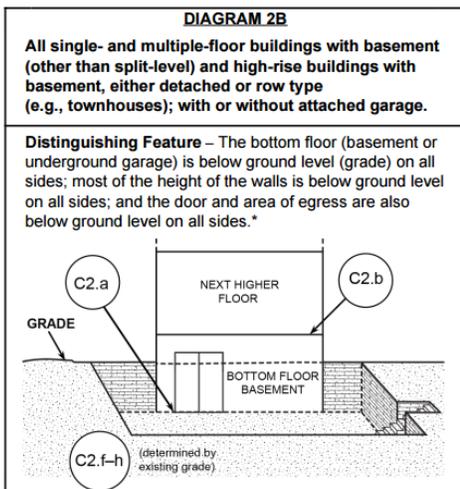
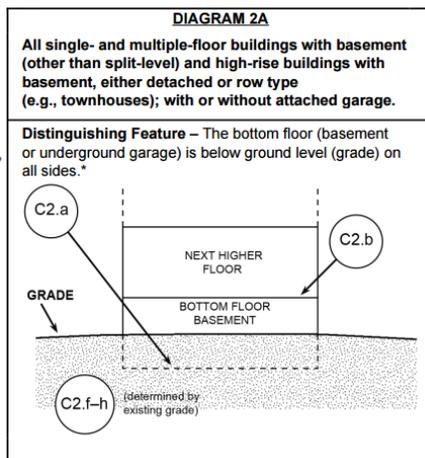
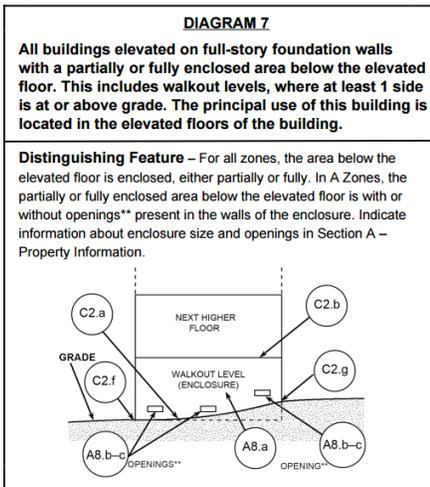
After you determine an applicant’s proposed work triggers Substantial Improvement, is it OK for them to “back out” enough work to drop the determination below 50 percent? As much as I’d like to say no, I don’t think there’s a solid basis for that answer as long as the work removed from a permit application doesn’t leave behind an incomplete project. For example, if the original proposal is to add a vertical addition, then all work necessary to complete the project has to be included. The owner could, for example, decide they won’t finish out the space identified on plans as a bathroom. That’s not the same as changing the project scope by redrawing the plans to eliminate the bathroom (and all plumbing and electrical shown for the bathroom). Of course, if the bathroom is eliminated to avoid 50 percent, the owner could then come back after the permit for the vertical addition is closed out and seek a new permit to modify the area to add a bathroom. Section 5.6.2 of the *Desk Reference* covers phased improvements. Unless communities adopt the higher standard called “cumulative substantial improvement,” there’s no way to prevent owners from electing to break large projects into smaller, discrete, stand-alone (and lower-cost) parts, even if we know the owner’s intent is to circumvent substantial improvement. Perhaps it’s small comfort, but as long as the NFIP continues to increase insurance rates on nonconforming buildings towards actuarial rates, eventually owners who find ways to avoid 50 percent are likely to end up paying very high premiums. If you’ll forgive me quoting myself from July, “My guess is those property owners won’t connect their own choices to avoid SI/SD with high flood insurance premiums as the NFIP continues to increase rates, even on older, nonconforming buildings. Instead, they’ll likely just blame it on ‘the government.’”

Why shouldn’t we use the terms Pre-FIRM and post-FIRM? The SI/SD *Desk References* uses these terms throughout, but it turns out we shouldn’t use them when talking about making substantial improvement and substantial damage determinations. The terms distinguish between new construction and buildings that pre-date when a community adopted its first floodplain management requirements. One factor used by the NFIP to rate policies is date of construction. Why is it misleading when used for regulatory purposes? As FEMA periodically revises FIRMs, sometimes changing flood zones, BFEs and the land area within the mapped SFHA, reliance on those terms can lead to incorrect interpretations. Instead, communities should do SI/SD determinations every time someone proposes work or repairs on any building that is already built. If a building is already fully compliant with the current flood zone and BFE, then no requirements are triggered if the determination is SI/SD. But if the map has changed...well, the requirement is to bring the building into compliance with the current requirements.

Follow up from September. In September’s column I showed drawings of two walk-out basement scenarios. The issue was what is “below grade on all sides” and whether a side that is partially below grade means the area is a basement for NFIP purposes. After reviewing the NFIP definition for “basement” and various FEMA guidance documents, I concluded the first drawing shown below is not a basement and the second one is a basement because fill wraps partially around the lower right corner. To arrive at that conclusion, I advised avoiding the grey area of how much fill wrapped around the lower level does or doesn’t make the lower area a basement.

After the column ran I was asked which Elevation Certificate diagram I’d recommend for each scenario. To be clear, I’m just a long-term floodplain manager, not a surveyor. But my guess is most surveyors would also like to stay out of “grey areas.” On the following page, I show Diagram 7 for the first scenario, “walkout levels, where at least one side is at or above grade” (Diagram 3 might also work, although identified for split-levels the distinguishing feature is the “bottom floor is at or above ground level (grade) on at least 1 side.”). Diagram 2A is for the second scenario, “on all sides” (Diagram 4 would apply if the home was split-level). You might say Diagram 7 looks like the drawing for the second scenario—but it shows the cross-section “through the hill,” not fill wrapped

around the corner. Imagine turning the diagram 90 degrees to the right (and look at drawing from Technical Bulletin 1 that's in the September column).



What about Diagram 2B? This diagram is used if the bottom floor, door and area of egress are below ground level, but when I examine the illustration and I think it'd be clearer if the distinguishing feature description also says there is no positive surface drainage away from the building.

Submit your own items or suggestions for future topics to column editor Rebecca Quinn, CFM, at rcquinn@earthlink.net. Comments welcomed!