Floodplain Manager's Notebook

By Rebecca Quinn, CFM

SI/SD, Historic Structures, and Follow Up on Floodways

Demolished Structures and Destroyed Structures
Property owners sometimes decide to demolish buildings, and sometimes their buildings are destroyed by damaging events. Often those owners propose to reconstruct buildings on the same footprint as the original buildings. In some cases, a portion of a foundation can be reused.

I still run into folks who think they need to make Substantial Improvement/Substantial Damage determinations in those cases. However, SI/SD determinations are not required when a building is demolished or destroyed and the owner proposes to build an all-new building on the same site. Think about it – there's nothing left to repair or improve. Everything that is built is all new. FEMA P-758, the SI/SD Desk Reference, is very clear:

> **6.4.6 Reconstruction of Demolished or Destroyed Buildings** Any project that involves complete reconstruction, such as rebuilding on the same foundation, is new construction that must comply with all applicable NFIP floodplain management requirements. A building that is totally destroyed or so significantly damaged that it cannot be repaired is a substantially damaged building. Sometimes an owner elects to demolish the building. In these circumstances, if the decision is to reconstruct using the existing foundation, the reconstructed building must meet NFIP requirements for new construction.

Heavily Damaged Historic Structures
Now let's consider another situation I was asked about recently. Consider a historic structure that is individually listed on the national or state register of historic places. That means it is eligible for special treatment spelled out in the NFIP definition for substantial improvement (which we all know includes structures that have "incurred substantial damage"). The special treatment allows a historic structure to be substantially improved or repaired after incurring substantial damage without bringing it into compliance with flood requirements, as long as the work does not preclude the structure's continued designation as historic.

But suppose the historic structure incurs heavy damage that is so severe that all or most of the building must be demolished? Can the rebuilt structure still qualify as historic? That seems quite a stretch to me, especially if there's virtually nothing left. An owner may "replicate" an old building, but that doesn't mean the replicated building is eligible for listing, much less "continued" designation. However, determining whether buildings meet the definition of historic structures is outside of my area of expertise. If I was a local official faced with this situation, I'd call the State Historic Preservation Office before I tried to puzzle out an answer. If a replicated structure isn't eligible for listing, then for flood purposes it must be regulated as new construction. And that means it must comply with all requirements for new construction in SFHAs. As a reminder, examples of mitigated historic structures are included in FEMA P-467-2, Floodplain Management Bulletin on Historic Structures. As of August 23, 2023, FEMA P-467-1 is not available on the FEMA website.

Follow up on Floodways
In the July issue, I wrote about the requirement to have floodway encroachment analyses prepared when people propose encroachments in floodways. One reader made the case that we should not encourage development in floodways, implying I may have done otherwise. I agree with the big-picture objective to guide development to less hazard-prone areas. But the reality is people own land in floodplains and

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floodways, and there's only so much that most communities can do (or elected officials want to do) to discourage development. There are many communities that are entirely or largely in SFHAs. And many communities have very attractive riverfronts that are mapped floodways.

The scenario I described involved clearing many trees from about an acre in a heavily forested floodway, and proposed construction of a house elevated well above the BFE on 25-30 columns. What I didn't explain is the owner's engineer did request the FEMA modeling, only to discover it was done before 1992 and the only documentation FEMA could provide was illegible printouts from damaged microfiche. That means it is impossible to start with that original modeling.

Sure, you can say the NFIP regulations require "hydraulic analyses" to demonstrate a proposed encroachment won't cause any increase in flood levels during the base flood. Perhaps I should have argued that the proposed project was not an encroachment. Well, then, what is an encroachment? The NFIP floodplain management regulations (44 CFR Sec. 59.1 Definitions) don't define it, so let's peek at a few sources that may shed some light:

- Merriam-Webster (online) doesn't define the noun "encroachment." It does have two definitions for the verb encroach: (1) to enter by gradual steps or by stealth into the possessions or rights of another; and (2) to advance beyond the usual or proper limits.
- 44 CFR Part 65 Identification and Mapping of Special Hazard Areas uses the term "encroachment" 11 times, but doesn't define it (guess we know one when we see it?).
- FEMA 480, Study Guide and Desk Reference, uses the term a lot. This come closest to explaining it: "All projects in the regulatory floodway must undergo an encroachment review to determine their effect on floods and ensure they do not cause problems."
- FEMA Building Science cooperates with the International Code Council to publish Reducing Flood Losses Through the International Codes. It includes model floodplain management ordinances written as companions to the flood provisions in the International Codes. The model ordinance defines encroachment as "The placement of fill, excavation, buildings, permanent structures or other development into a flood hazard area which may impede or alter the flow capacity of riverine flood hazard areas."

For me, all that adds up to this: encroachment analyses are required when something will be **added** to the floodway, something that could take up volume that normally would be filled with water. Now consider a proposal to **subtract** something from the floodway, which frees up volume in the floodway. Should that be treated the same as an addition? Excavation is development and definitely requires authorization by permit. But would you require a floodway encroachment analysis if someone wants to excavate (subtract) dozens of cubic yards of dirt from the floodway? Back to the original scenario: would you require hydraulic modeling of the effect of subtracting a few hundred trees from the floodway (or a few hundred minus the number of columns supporting the proposed house)? If you're asked to issue permits for floodway subtractions, I recommend you check with your state NFIP coordinator to get their advice.

Submit your own items or suggestions for future topics to column editor Rebecca Quinn, CFM, at Rebecca@rcquinnconsulting.com. Comments welcomed! Explore back issues of the Floodplain Manager's Notebook.