



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

It is time for another grab bag of topics. There are a lot of questions and topics that don't take a full column to answer, so this month I'll share several with you. As usual, please let me know your take on these topics.

NFIP Minus-Rated Flood Insurance Policies. FEMA recently announced that Community Rating System (CRS) communities can request a list of minus-rated properties (and reminded us that the information is subject to the Privacy Act). Properties that are "minus rated" are not eligible for the CRS discount because the lowest floors are one foot or more below the base flood elevation (presumably based on data in Elevation Certificates). FEMA's announcement indicated communities can request their minus-rated list by emailing NFIPCRS@iso.com (include the Community Identification Number).

During a Community Assistance Visit (CAV) a few years ago, I looked at several homes that were on the minus-rated list. Those homes were elevated, but what I saw suggests the reasons for minus-rating may include several factors, not just the lowest floor elevation. Some had heat pumps that were on platforms, but the platforms were more than a foot lower than the lowest floor (see photo). One had several flood openings that were higher than 12" above grade, and several had non-engineered flood openings that didn't add up to 1 sq. in. of net open area for every sq. ft. of the enclosure (both of those conditions means enclosures aren't compliant). But what I remember most was the local official's reaction. He realized that because his inspectors (and the builders!) hadn't paid enough attention to details, his citizens were paying more for flood insurance. He said he was going to contact owners and encourage them to resolve the problems and to submit revised elevation certificates. I suggested he also ask the owners to contact their insurance agents to see if they can find out exactly what inadequacy was leading to the minus-rating status. I've not circled back to find out how it all turned out.



Topo Shows Ground Below Base Flood Elevation (BFE), But Site is Outside of Special Flood Hazard Area

As more and more Flood Insurance Rate Maps (FIRMs) are being revised using updated and more refined topographic mapping, this situation should occur less and less. The question is what do you do when you have clear technical documentation in the form of recent topo map or surveyed data that show the ground elevation of areas adjacent to but outside of the mapped special flood hazard area is lower than the base flood elevation? This scenario is probably quite common, especially in communities where Special Flood Hazard Areas (SFHAs) were delineated years ago using topo maps that had 5-, 10- or even 20-foot contour intervals.

There are at least two ways to handle it, but in my opinion, only one makes sense. Sure, you could say "we adopt the maps, the maps show the SFHA, and that's what we regulate –good, bad or ugly." What bothers me about this is it means you'd ignore credible technical evidence that the flood risk shown on the FIRM is not reasonable. Deciding to ignore the evidence would thus allow people to build at-risk. I expect some lawyers would find this an interesting scenario after a flood that damages people allowed to build without recognition of the risk. I recommend the other way to handle it, and that is to acknowledge that it is appropriate to base decisions on good data to avoid putting people and their property at risk. Some states and communities include specific "elevation prevails" language in their floodplain management regulations to clearly provide authority to regulate these areas not shown on FIRMs. While having that language certainly makes it easier, in my opinion it's not necessary. I think the public purpose of protecting public safety and minimizing future flood damage is sufficient basis on which communities can regulate areas that clearly are subject to flooding under the base flood conditions, even if not shown as SFHA on FIRMs.

Fences in SFHAs. Every now and then I get asked about fences – usually the question is "Really? We're supposed to regulate fences in SFHAs?" Well, sure, fences definitely fall under the broad NFIP definition of "development." The next question is always about what requirements apply. Before we get to that answer, let's

examine why fences should be regulated. Solid fences and fences that trap debris can obstruct the free flow of water and cause water to back up, increasing flood depths. I've even seen where such a fence held back a lot of water and then suddenly failed, sending a rather substantial "wall" of water downstream, causing more damage than if the fence hadn't been there. Another concern is that fences themselves become debris that contributes to blockage of flow, clogging culverts and bridges, and causing property damage, even in coastal areas.



Now, let's get to the question about what requirements should apply. First, many communities regulate fences. Those that enforce building codes based on the International Code Series explicitly regulate fences not over 6 ft (or 7 ft; the height changes between the 2009 and 2012 editions of the codes). The codes don't have requirements written specifically for fences: the general requirement to resist loads applies (most common is to ensure fences don't collapse under design wind loads).

I did an internet search and turned up a number of state and local regulations and guidance documents for fences in SFHAs. The following are some of the requirements or methods suggested:

- Prohibit new fences in floodways or prohibit certain "solid" fences and fences that block flow in floodways.
- Require encroachment analysis for fences in floodways.
- Fences outside of floodways are permitted if they will not "divert or change the flow."
- Fences shall be "open to allow the free flow of water," such as split rail and 2- or 3-wire.
- Chain link fencing not allowed unless demonstrated it will not impede flow when debris is piled against it.
- Use "very sturdy pull posts" set deep and angled slightly upstream to increase resistance.
- Require fencing materials to be attached on the downstream side of posts to break away more readily.
- Construct a hinge, pivot mechanism, or other means for the portion of the fence that is below the BFE to break away or float to avoid obstructing flow.
- For low-water pedestrian bridges, use railings that are held by hinged pins that allow the railing to collapse or fold down when the water rises.
- Require fences in floodways to be tethered so as the water rises, the fence is displaced from its normal position, but doesn't float downstream and generally can be reinstalled when the water recedes.

Alteration or Relocation of a Watercourse. The NFIP has two basic requirements related to alteration or relocation of a watercourse: assure that the flood carrying capacity within the altered or relocated portion of any waterway is maintained (44 CFR § 60.3(b)(7)) and notify, in riverine situations, adjacent communities and the NFIP State Coordinator's office (and provide the notifications to FEMA) (44 CFR § 60.3(b)(6)). Note that the NFIP regulations don't define "watercourse," nor do they define "riverine."

So the question is whether there is significance to the fact that the requirement to assure maintenance of the flood carrying capacity does not use the word "riverine." Does that mean communities must assure the flood carrying capacity of "watercourses" in areas subject to daily tidal action and flooding from a coastal source? In my opinion, no. A "watercourse" is a natural or artificial channel through which water flows (www.merriam-webster.com) and "riverine situations" are watercourse that are riverine, which are those that resemble a river: they have drainage basins that capture rainfall that drains to the watercourse, which then flows downhill under the influence of gravity. Regardless of what it's called – river, stream, creek, run – a flowing body of water is riverine. The concepts behind the idea of preserving the "flood carrying capacity" are applicable only in riverine waterways – changes in the channel can alter or block the free-flow of water which could adversely affect BFEs and SFHAs, increasing flooding. The concept as the rationale behind delineating the "floodway" and requiring encroachment analyses before permitting development in floodways. In my opinion, this means communities with tidal channels that don't resemble a river aren't required to implement those two requirements every time someone builds a bulkhead, cuts another canal, or otherwise alters the shoreline along those channels. Those tidal channels are not "riverine watercourses."

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