



Wendy Lathrop is licensed as a Professional Land Surveyor in NJ, PA, DE, and MD, and has been involved since 1974 in surveying projects ranging from construction to boundary to environmental land use disputes. She is a Professional Planner in NJ, and a Certified Floodplain Manager through ASFPM.

Insure and Regulate—Elevation Matters

I receive a lot of e-mails and calls from surveyors and others working in floodplains. From the gist of their questions there seems to be little understanding that just because a structure is constructed in compliance with technical regulations does not mean that it will be exempted from mandatory flood insurance purchase requirements. Basically, you can almost always have anything you want—but you have to pay the price. You want to build a three-story mansion on a coastal barrier island? Go right ahead—but don't expect to purchase federal flood insurance, and remember that without flood insurance of some sort you will not be eligible for disaster assistance. You want to place fill in the flood fringe along the river, and then build a house with the lowest floor a foot below base flood elevation? Sure, you can do it (providing that your state and local community will issue such fill permits), but your insurance premiums will be sky high.

Permission to build does not equate to exemption from flood insurance requirements. Aside from government construction and a few other minor exemptions, anyone paying a loan for which a structure in the 1% annual chance floodplain serves as collateral must have flood insurance on that structure. It can be purchased through the National Flood Insurance Program (NFIP) or it can be bought from a different source, but insurance is mandatory or a government-regulated lender is not to issue a loan; this is federal law (42 USC 4012a). If the borrower refuses, then the lender can force place the insurance. But one way or another, the structure will have to be insured.

Understanding both the regulatory and the insurance sides of the NFIP helps us, as design professionals, to advise our clients. Often the answer to a client's question of "Can you help me get the permits for this?" is "Yes", but sometimes that answer should be qualified. Will it be worthwhile building that dream home on the beach

a risk to structures. Infiltration and soil saturation pose risks to structures with basements and/or foundations below BFE, due to hydrostatic pressures. Therefore, a LOMR-F will not be issued for structures built on fill with lowest floor elevations below BFE. There is technical guidance available for building below BFE into fill in Technical Bulletin

"...it is our responsibility to advise clients of other unexpected results of securing the building permits they seek."

if the insurance premiums run into thousands of dollars annually? What about rehabbing a brownfields factory to recycle it for new use when the lowest floor is seven feet below the base flood elevation of the river alongside it? While the latter is perhaps a worthy cause, it is our responsibility to advise such clients of other unexpected results of securing the building permits they seek.

Letters of Map Revision Based on Fill (LOMR-Fs) are granted for sites raised above Base Flood Elevation (BFE) after the publication of the currently effective Flood Insurance Rate Map (FIRM). The purpose of filling a site is to raise it above the risk of flooding. But in granting such waivers from mandatory flood insurance coverage, FEMA requires that the lowest floor of structures on filled sites be constructed above BFE, recognizing that it is not just surface water that poses

10-01, advising of the most secure foundation types. But this is only for structural soundness, not for insurance and regulatory waivers. Such buildings are still within the 1% annual chance floodplain.

Of course, once a new FIRM is published, the area that had been considered "fill" will become a pre-existing condition, and the area may no longer appear as floodplain. Doesn't this defeat the purpose of requiring permits and applications for LOMR-Fs? Filled soils do not reach the same compaction levels as natural soils, no matter how well constructed, and communities have several options to continue their oversight. After all, they are required by federal regulation (44 CFR 65.5 and 65.6) to make sure that development is "reasonably safe from flooding"*. To

continued on page 70

uphold this responsibility, communities can regulate construction in filled sites by prohibiting basements, by requiring deed restrictions that serve notice of the filled condition, and they can prohibit floodplain fill altogether. Remember that the application for a LOMR-F is through completion of the MT-1 forms that include a community acknowledgment form. There can be no sneaky midnight dirt dumping to secure the insurance waiver from FEMA.

Building in the flood fringe along an identified floodway presents a different circumstance in which elevation matters. The floodway data tables in the Flood Insurance Study (FIS) Reports provide vertical information regarding the regulatory BFE as well as the BFE that will result when the flood fringe is filled. Remember that the floodway represents the area that must be kept free of obstructions, in order to transmit the full volume of the 1% chance annual flood, computed from modeling the results of filling the floodplain from both sides to constrict the flow of water. When a computed one-foot surcharge in water surface elevation is reached in the middle unfilled area, then the limits of the floodway have been reached, and these are the lines that appear on the FIRM.

Some communities regulate more stringently and allow zero rise in water surface elevation when computing the floodway, meaning that a larger area is set aside as floodway. Whatever the local restrictions, they are reflected in the Floodway Data Table in the FIS report, which contains a listing of the BFE with and without flood fringe development. When there is a difference between these BFE figures, as there usually is, sometimes to the full foot allowed, we as design professionals should advise our clients that merely constructing to the regulatory BFE may not be adequate safeguard against flood risks. If, for instance, the regulatory BFE is 214.5 but the BFE with a floodway is 215.5, shouldn't we advise our clients to elevate their structures that extra foot? In this manner we accommodate future conditions, addressing some of the cumulative effects of construction within the floodplain. 

*44 CFR 65.2©): "... 'reasonably safe from flooding' means base flood waters will not inundate the land or damage structures to be removed from the SFHA and that any subsurface waters related to the base flood will not damage existing or proposed buildings."