New Coastal Flood Risk Information – Limit of Moderate Wave Action

The Federal Emergency Management Agency (FEMA) Region IV Office in Atlanta has undertaken a multiyear coastal engineering analysis and mapping effort to better identify and communicate the flood hazards and risks in coastal communities in the Southeastern United States through coastal engineering, analysis, and mapping. As part of this effort, FEMA is producing updated digital Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) reports for affected counties.

The updated coastal FIRM panels communicate two elements of regulatory flood mapping: (1) the areas of land at risk of inundation by the base (1-percent-annual-chance) flood, which are called Special Flood Hazard Areas, or SFHAs; and (2) the 1-percent-annual-chance flood elevations in these areas, which are called Base Flood Elevations, or BFEs. In addition to identifying these two regulatory mapping elements, FEMA provides an informational line called the Limit of Moderate Wave Action, or LiMWA. This Fact Sheet explains what the LiMWA is and why it should be of interest to homeowners, business owners, and local officials.

Background on Coastal Zones

FIRMs in coastal areas identify two different flood zones:

- **Zone VE** is mapped in areas that are subject to coastal flooding with wave heights that are 3 feet or higher. These areas are also referred to as Coastal High Hazard Areas, or CHHAs.

- **Zone AE** is mapped in areas subject to coastal flooding with wave heights that are less than 3 feet.

The primary reason for having two different coastal flood zones is that the risk of structural damage is higher within Zone VE, due to the significant wave energy that can occur in these areas. As a result, flood insurance rates are higher and building codes are stricter for structures in Zone VE.

Over the past decade, post-storm damage surveys have confirmed that wave heights as low as 1.5 feet can cause significant structural damage to buildings that were not built to withstand forces such as the wave hazards in VE zones. Therefore, on recently updated FIRMs, FEMA notifies communities of the potential for significant wave damage by using both the regulatory Zone VE designation (coastal flooding plus waves of 3 feet...
or higher) and the informational LiMWA line depicting the extent of the 1.5-foot wave heights.

LiMWA and Coastal A Zone Mapping

Using the LiMWA shown on a FIRM, homeowners, property owners, and community officials can better understand which portions of the areas identified as Zone AE are at risk for high wave energy. The higher risk portion of Zone AE, the area between the LiMWA and the Zone VE boundary, is referred to as the Coastal A Zone. See Figure 1.

Once the coastal flood hazard analyses are complete, FEMA prepares and distributes Preliminary versions of the updated FIRMs and FIS reports to local officials and residents for their review and use. For more information on the process for releasing the Preliminary version of the updated FIRMs and FIS reports, please see the FEMA Coastal Flood Risk Study Meetings Fact Sheet, which is accessible through the “Coastal Study Resources” page on the FEMA Coastal Analysis and Mapping Web Portal.

On the updated FIRM panels, the LiMWA is shown as a line with triangular arrows that point toward the area of higher hazard – that is, toward Zone VE. Figure 2 shows what the LiMWA looks like on an updated FIRM. Some FIRMs may include different symbols to mark the LiMWA. Please consult the map legend for details specific to the FIRM.

FIRMs may be accessed through the FEMA Flood Map Service Center (https://msc.fema.gov/portal) and through the FEMA National Flood Hazard Layer (NFHL) digital map viewer. (NFHL users should be aware that the appearance of the LiMWA line on the NFHL differs from the appearance on most FIRM panels.)

LiMWAs, Flood Insurance, and Higher Construction Standards

Property owners are encouraged to build structures with a higher first floor and to purchase flood insurance. The LiMWA is not a Federal regulatory element of the FIRM and has no effect on a structure’s NFIP flood zone status or on the rates for Federal flood insurance premiums, some communities require Zone VE building code standards in the Coastal A Zone. These communities use the LiMWA to determine where higher construction standards are required.

Through the Community Rating System (CRS), FEMA encourages sound floodplain management practices by offering reduced flood insurance premium rates within NFIP participating communities that proactively adopt flood mitigation actions. In coastal areas, CRS credits are offered to communities that use the LiMWA data to identify where structures should be improved to withstand the higher wave energy expected within the Coastal A Zone conditions. Communities that require foundations designed and built to withstand VE zone conditions in the Coastal A Zone can earn up to 225 CRS points. Communities that regulate structures in all flood hazard zones to follow VE zone standards can earn up to 650 CRS points.