

One Community's Efforts to Battle Future Flood Loss

Ocean County, New Jersey – Wrecked and ruined homes and shipwrecked boats were the haunting images embedded in the minds of many residents of New Jersey after Hurricane Sandy ravaged the coast in late October 2012. The storm caused the Atlantic Ocean to create vast flooding that inundated much of the state's coast. Some homes in Tuckerton Beach, a waterfront neighborhood within the Borough of Tuckerton, were washed completely off their foundations and others sustained major damage from the high velocity waves and the surge that flooded the area.

Aware that flooding was likely to occur in Tuckerton Beach, Harold Spedding, the emergency management coordinator of Tuckerton, joined the mayor and signed a mandatory evacuation declaration for residents prior to Sandy's arrival.

"At a little bit higher than normal high tide, we'll have six inches of water on the streets," Spedding said. "This occurs between five to seven times a year. Following Sandy, initial damage assessments of Tuckerton Beach revealed that the lower the home, the more damage the structure sustained."

The homes that are newly constructed and are elevated closer to ten feet sustained minor damage and had minor cleanup. The homes equipped with breakaway walls functioned as designed. The walls broke away, enabling the water to flow through the structure's open foundation system. Residents were allowed to return to their homes nearly a month and a half after the storm impacted the area.

Comprised of lagoons, Tuckerton Beach was once a small boating community filled with many summer cottages that were built around the early 1950s. Today, nearly two-thirds of the 653 homes in the area are primary residences. In order to be in compliance with the current local Flood Damage Prevention Ordinance, many of these homes will need to be elevated.

In December 2012, the Federal Emergency Management Agency (FEMA) published Advisory Base Flood Elevation (ABFE) maps for the State of New Jersey, which help more accurately depict exposure and risk to flood hazards than existing decades-old flood studies do. Based on this best available data information, these maps show how high FEMA recommends structures should be elevated to minimize flood damage in future events. ABFE maps might also identify portions of communities that were not in a flood zone before, but are now in advisory flood zones. Communities are encouraged to adopt ABFE maps in order to better understand their flood risks and hazards and to take action through implementing appropriate building codes, standards, and best practices in their recovery efforts to help mitigate future damages.

Tuckerton officials have adopted the ABFEs and are currently working on an ordinance to include the new elevation advisories. Ten residents in Tuckerton Beach have been issued permits and are already raising their homes to the new map elevations. In February 2013, more new building permits had been issued to residents in the area than in 2011 and 2012 combined.

"The ABFE maps identify the majority of Tuckerton Beach as a V-zone," Spedding said. "I think it's a great idea to raise most of the houses up because there are many repetitively flooded properties."

V-zones are coastal high hazard areas subject to flooding by high velocity wave action three feet or

greater. Due to the frequency and nature of flooding, Tuckerton officials recommend homeowners in much of Tuckerton Beach to reconstruct using open foundations and be free of obstructions below the BFE for new construction, substantial improvements, and substantially damaged homes in V-zones. Open foundations that are free of obstructions will enable waves and floodwaters to flow through them, thereby minimizing damages to the structure above, or nearby, during a flood event.

The area beneath an elevated structure in a V-zone is considered to be free of obstructions for floodplain management purposes if it complies with FEMA's Technical Bulletin 5, "Free of Obstruction Requirements" (<http://www.fema.gov/library/viewRecord.do?id=1718>), along with meeting applicable local or State building codes, standards, and ordinances. Homeowner's can also construct breakaway walls meeting the requirements of FEMA Technical Bulletin 9, "Design and Construction Guidance for Breakaway Walls" (<http://www.fema.gov/library/viewRecord.do?id=1722>).

Homeowners should check with their local officials to learn what building requirements exist for their area, along with any best practices they recommend to improve resiliency. Furthermore, they should check with their flood insurance agent to see what decisions they make might either increase, or decrease, their annual insurance premiums. Such items might include, for V-zones, whether or not they have freeboard, whether they have obstructions (for insurance purposes) below BFE, or whether they have 300 square feet or more of enclosed space below BFE, to name only a few.

"The homes that were constructed free of obstruction had minimal cleanup and very minor damage," Spedding said.

The desire to build a more flood resistant community has Tuckerton officials enforcing stricter building codes and standards. This will help to eliminate the number of repetitive loss properties in the community and Sandy's presence has shown how effective a stricter ordinance will be. FEMA encourages communities to be proactive in adopting and enforcing the latest model building codes and standards and utilizing best practices and guidance (i.e., FEMA P-55, FEMA P-312, FEMA P-348, FEMA P-499, FEMA P-787, FEMA P-798, FEMA P-804, FEMA MAT reports and Recovery Advisories) that minimize or eliminate storm damages.

To find more information on building codes visit: <http://www.fema.gov/building-science/building-code-resources>.

To find more information about coastal construction design information visit: <http://www.fema.gov/residential-coastal-construction> and <http://www.region2coastal.com>.