

## INTRODUCTION

As communities begin to recover from the devastating effects of Hurricane Sandy, it is important to recognize lessons learned, and to employ mitigation actions that ensure structures are rebuilt stronger, safer, and are less vulnerable to future flooding events.

Prior to Hurricane Sandy, the Federal Emergency Management Agency (FEMA), charged with administering the National Flood Insurance Program (NFIP), was restudying areas of the New Jersey and New York coastlines to update Flood Insurance Rate Maps (FIRMs). These updated maps were set to be delivered to state and local officials in mid-2013. Because existing FIRMs for these areas were developed more than 25 years ago, and updated FIRMs are not finalized, FEMA determined it is vital to provide near-term Advisory Base Flood Elevations (ABFEs) to support reconstruction efforts.

ABFEs are developed using sound science and engineering derived from more recent data and improved study methodologies compared to existing FIRMs. The ABFEs will likely reflect higher flood elevations than the current regulatory FIRMs. Property and business owners should check with their local building officials to fully understand the requirements for using ABFEs in rebuilding efforts.

ABFEs will be available for all or portions of the following counties:

- New Jersey Counties: Atlantic, Bergen, Burlington, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean, and Union.
- New York Counties: Bronx, Kings, New York, Richmond, Queens, and Westchester.

To see the full extent of the locations where ABFEs will be issued, please visit:  
[www.Region2Coastal.com](http://www.Region2Coastal.com).

To better explain the implications of the ABFEs, FEMA has prepared this document containing frequently asked questions.

## **1. GENERAL ADVISORY BASE FLOOD ELEVATION (ABFE) QUESTIONS**

### **1.1 WHAT ARE ADVISORY BASE FLOOD ELEVATIONS (ABFEs)?**

ABFEs are advisory in nature and more accurately reflect the true 1% annual chance flood hazard elevations in a given area. Following large storm events, such as Hurricane Sandy, FEMA performs an assessment to determine whether the 1% annual chance flood event, shown on the effective FIRMs adequately reflects the current flood hazard. In some cases, due to the age of the analysis and the science used to develop the effective FIRMs, FEMA determines there is a need to produce ABFEs. ABFEs are provided to communities as a tool to support them in recovering in ways that will make them more resilient to future storms.

### **1.2 HAS FEMA ISSUED ABFEs IN THE PAST? IF SO, WHERE, AND WAS IT SUCCESSFUL?**

Yes, FEMA developed ABFEs after Hurricane Katrina in 2005. Many communities adopted the ABFEs in Louisiana and Mississippi, which resulted in home and business owners building higher and safer. This also meant lower flood insurance premiums once the flood elevations were adopted based on the revised FIRMs several years later.

### **1.3 FOR WHAT COUNTIES IN NEW JERSEY AND NEW YORK WILL ABFEs BE ISSUED?**

ABFEs will be issued for all or portions of the following counties in New Jersey and New York:

New Jersey Counties: Atlantic, Bergen, Burlington, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean, and Union.

New York Counties: Bronx, Kings, New York, Richmond, Queens, and Westchester.

This information will be available in December 2012. To see the full extent of the locations where ABFEs will be issued, please visit: [www.Region2Coastal.com](http://www.Region2Coastal.com).

### **1.4 HOW WILL THE ABFEs BE DEVELOPED FOR THE COUNTIES IMPACTED BY HURRICANE SANDY ?**

FEMA will use updated coastal study methodologies and topographic data in coastal New Jersey and New York. These ABFEs will also build on the work already underway and reflect an updated coastal analysis.

## **1.5 WHAT INFORMATION WILL THE ABFEs INCLUDE THAT WILL BE AVAILABLE TO STAKEHOLDERS?**

The ABFEs will include advisory coastal flood hazard elevations and associated advisory maps. This information will include the following:

**Advisory Data Layers by County:** Geospatial layers depicting ABFEs and updated flood zones (including but not limited to Advisory Flood Hazard Zone A, Advisory Flood Hazard Zone V, Limit of Moderate Wave Action (LiMWA), and Area of Moderate Wave Action, also known as Coastal A Zone), high water marks collected reflecting Hurricane Sandy's impact, and U.S. Fish and Wildlife Coastal Barriers Zones that communities can input into existing Geographic Information Systems (GIS) to help make decisions about zoning, building, and redevelopment.

**Advisory Maps by County:** Paneled maps depicting the geospatial data layers referenced above. These advisory maps will reflect higher flood elevations and in some cases, more expansive coastal flood zones.

**Methodology Report for ABFEs:** A report summarizing the methodologies, assumptions, and data sources used in developing the advisory data layers and maps.

## **1.6 WHEN WILL THE ABFEs BE AVAILABLE?**

Work is currently underway to prepare the ABFEs. FEMA expects to release ABFEs in December 2012.

## **1.7 WHO SHOULD USE THE ABFEs?**

Communities must use ABFEs for any FEMA Recovery or Mitigation activity (e.g. Public Assistance, Hazard Mitigation Grants). In addition, FEMA recommends that community officials including building and floodplain management officials, property owners, business owners, architects, builders, and engineers use this information because the ABFEs will more accurately depict the current flood hazards.

## **1.8 HOW CAN THE ABFEs BE ACCESSED?**

The ABFEs will be available on the FEMA Region II Coastal Website at [www.Region2Coastal.com](http://www.Region2Coastal.com). This site will also contain guidance to enable uses to make informed decisions regarding rebuilding communities.

## **1.9 HOW WILL THE IMPACTS OF HURRICANE SANDY BE FACTORED INTO THE ADVISORY INFORMATION?**

The specific magnitude and track of Hurricane Sandy will not be factored into the updated coastal analysis for the ABFEs. FEMA uses statistical probabilities of historic storms as part of the updated coastal analysis, which does not include any individual event from past history. Historical storms of similar paths and magnitudes to Hurricane Sandy are accounted for

within the statistical analysis and the inclusion of Hurricane Sandy would not affect the outcomes of the ABFEs or the depiction of the advisory flood zones. FEMA will provide specific high water marks observed from Hurricane Sandy as point data on the advisory maps that were collected by the United States Geological Survey. Also, a range of surge elevations that occurred as a result of Hurricane Sandy will be provided in the informational section of each advisory map panel.

### **1.10 WHY ARE SOME ABFEs HIGHER THAN THE ELEVATIONS SHOWN ON THE EFFECTIVE FIRMS?**

Flood risk can change over time due to changes in climate, population, development in and around the community, and other factors. The Base Flood Elevations (BFEs) shown on the current, effective FIRMs are based on studies that were performed more than 25 years ago. The ABFEs are based on information from the flood risk mapping studies that were already underway before Hurricane Sandy, and include an additional 25 years of flood data and updated topographic data. As a result, the ABFEs will reflect higher elevations than the BFEs shown on current, effective FIRMs.

### **1.11 WHY DO THE ABFEs SHOW SOME ELEVATIONS LOWER THAN HURRICANE SANDY FLOOD ELEVATIONS?**

The ABFEs are based on the 1% annual chance flood event. In some areas, the ABFEs may show elevations lower than Hurricane Sandy because Sandy was a more extreme event than the 1% annual chance flood in certain areas. The elevations of the 1% annual chance flood are the NFIP standard for floodplain management. It is important to note that buildings constructed to this standard are still vulnerable to the effects of larger events like Hurricane Sandy.

## **2. FLOODPLAIN MANAGEMENT QUESTIONS ON THE USE OF ABFEs AND ADVISORY MAPS FOR RECONSTRUCTION**

### **2.1 IS MY COMMUNITY REQUIRED TO ADOPT THE ADVISORY MAPS AND ABFEs FOR RECONSTRUCTION TO REMAIN ELIGIBLE TO PARTICIPATE IN THE NFIP?**

No. A community participating in the NFIP is not required to use the advisory maps and ABFEs. Advisory Maps and ABFEs provide communities with an estimate of the minimum flood elevations and flood hazard areas that they can use during reconstruction to minimize future damages.

**2.2 WHAT ARE THE BENEFITS TO MY COMMUNITY OF USING OR ADOPTING THE ABFEs AND ADVISORY MAPS?**

Using the ABFEs for rebuilding can reduce the vulnerability of structures to flooding and flood damages. Constructing buildings to ABFEs may decrease the cost of flood insurance, as well as the cost to recover from future storm and flood events. While the initial cost to rebuild to ABFEs may be slightly higher, communities, and property and business owners will save money over the long term by having structures that are more resistant to costly flood damage. FEMA will provide technical assistance to communities in adopting and implementing the ABFEs and advisory maps.

**2.3 IF MY COMMUNITY DECIDES TO ENFORCE THE ABFEs, WILL IT NEED TO AMEND ITS FLOODPLAIN MANAGEMENT REGULATIONS AND/OR THE INTERNATIONAL BUILDING CODES® TO REFLECT THE ABFEs?**

Generally yes. The community will need to adopt the ABFEs and your floodplain administrator will need to enforce the amended regulations.

**2.4 IN AREAS WHERE THE IMPACTS OF HURRICANE SANDY ELEVATIONS EXCEED ABFEs, SHOULD COMMUNITIES BUILD HIGHER?**

Yes. It is good practice to build higher. Some options that communities and property owners have to provide additional protection include:

- Adopt or use freeboard on top of the ABFEs.
- The use of pile or column foundations to elevate residential buildings is required in V zones. In addition, this may be required in existing AE zones.

**2.5 CAN MY COMMUNITY ADOPT A FREEBOARD REQUIREMENT ON TOP OF ITS CURRENT BASE FLOOD ELEVATIONS (BFEs) AS AN ALTERNATIVE TO ADOPTING THE ABFEs?**

Yes. However, communities should use caution in adopting BFEs plus freeboard if they are lower than the ABFEs. Structures constructed to the BFE plus freeboard will be more susceptible to flood damage than structures built to the ABFE or higher.

In addition, property owners and communities need to be aware that insurance rates will also be affected by the Biggert-Waters Flood Insurance Reform Act of 2012, which mandates eliminating flood insurance premium subsidies and discounts and increasing rates to reflect the actual risk. If the new effective FIRM has BFEs that are higher, residents whose buildings are below the new level could pay substantially higher premiums for flood insurance.

**2.6 WHEN FEMA PROVIDES FINAL FIRMS THAT REPLACE THE ABFEs, WILL MY COMMUNITY BE REQUIRED TO ADOPT THE REVISED FIS AND FIRMS?**

Yes. Any time that FEMA revises the effective FIRMs, the community must adopt or amend their floodplain management regulations to incorporate the new data and meet any additional floodplain management requirements. Additional information about adopting FIRMs can be found in FEMA's brochure, *Adoption of Flood Insurance Rate Maps by Participating Communities* (FEMA 495 – September 2005).

### **3. FLOOD INSURANCE IMPLICATIONS**

**3.1 IF COMMUNITIES ADOPT AND UTILIZE ABFEs, HOW WILL THAT AFFECT OWNERS' FLOOD INSURANCE PREMIUMS AND POLICIES?**

Adopting standards based on ABFEs will not change the zones or elevations currently in effect, and premiums will continue to be rated based on the map currently in effect and the lowest floor of the building. Flood insurance policies are rated using the zones and flood elevations on the current effective FIRM. Flood insurance premium rates may be affected by the Biggert-Waters Flood Insurance Reform Act of 2012 (see Section 3.2).

**3.2 WHAT WILL HAPPEN TO RENEWAL RATES FOR EXISTING FLOOD INSURANCE POLICIES IF THE FIRMS ARE REVISED IN THE FUTURE TO REFLECT NEW, HIGHER ELEVATIONS?**

As flood maps are updated, flood zones and associated premiums could change to reflect the new flood risk. Rates will also be affected by the Biggert-Waters Flood Insurance Reform Act of 2012, which mandates eliminating flood insurance premium subsidies and discounts and increasing rates to reflect the actual risk. If the new effective FIRM has BFEs that are higher, residents whose buildings are below the new level could be required to pay substantially higher premiums for flood insurance.

**3.3. WILL INCREASED COST OF COMPLIANCE (ICC) BENEFITS BE AVAILABLE TO HELP COVER THE COSTS TO ELEVATE THE BUILDING?**

ICC coverage is a standard coverage in most NFIP policies. The coverage provides up to \$30,000 to help property owners reduce the risk of damage from future floods by elevating, flood proofing (for nonresidential structures), demolishing, or relocating their building or home to meet the requirements of a local community's building ordinances. This coverage is in addition to the building coverage for the repair of the actual physical damages from flooding. However, the total claims payments cannot exceed statutory limits. Therefore, the maximum amount collectible for both ICC and physical damage from flood for a single family dwelling is \$250,000.

**3.4 IF A HOUSE WAS BUILT IN COMPLIANCE WITH THE CURRENT EFFECTIVE FIRM AND WAS SUBSTANTIALLY DAMAGED WOULD ICC COVER THE COST TO ELEVATE THE STRUCTURE TO THE BFE OR ABFE?**

Yes, to whichever elevation the community has adopted and is enforcing throughout the community.

**3.5 IF A SECOND FLOOR IS ADDED TO THE HOUSE AND THE LOWEST FLOOR IS CONVERTED TO PARKING, STORAGE, OR ACCESS, IS THIS ELEVATION TECHNIQUE ELIGIBLE FOR ICC?**

No. ICC will only cover if the structure meets the insurance definition of an elevated structure.

**3.6 IF A PROPERTY OWNER DEMOLISHES A HOUSE, IS THE PROPERTY OWNER ELIGIBLE FOR UP TO \$30,000 TO ELEVATE A NEW HOUSE?**

Yes, if the elevation is to the BFE, BFE plus freeboard, or the ABFE as required by the community and the structure is in a mapped floodplain on the current effective FIRM. ICC will cover up to \$30,000 for any combination of the following activities:

- Elevation
- Flood proofing (non-residential buildings only)
- Relocation
- Demolition

**3.7 IF A COMMUNITY IS DEMOLISHING DAMAGED HOMES, BUT NOT DEMOLISHING THE SLAB, WILL ICC COVER DEMOLISHING THE SLAB?**

Yes. ICC will cover the demolition of the slab, but ICC will not cover the demolition cost that has already been paid for from another funding source.

**3.8 CAN A RESIDENTIAL STRUCTURE BE ELEVATED FOR \$30,000?**

It depends. There are many factors that affect the costs associated with raising houses. Factors such as size of home, construction type including foundation type, condition and shape of home, condition of slab, elevating utilities, and most importantly the height of elevation should be considered.



### **3.9 WHAT OTHER RESOURCES ARE AVAILABLE ON ICC COVERAGE AND STRUCTURAL ELEVATION?**

#### ICC Resources:

- National Flood Insurance Program Increased Cost of Compliance Coverage, Guidance for State and Local Officials, FEMA 301/September 2003;  
<http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=1532>
- Increased Cost of Compliance, F-663/August 2002  
<http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=3009>
- Information about Increased Cost of Compliance (ICC) can be found at:  
<http://www.fema.gov/national-flood-insurance-program-2/increased-cost-compliance-coverage>

#### FEMA Publications:

- Principles and Practices of Retrofitting Floodprone Residential Structures, FEMA 259/January 1999 ;  
<http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=1645>
- Homeowner's Guide to Retrofitting, Six Ways to Protect Your House from Flooding, FEMA 312/June 1998;  
<http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=1420>

#### USACE Flood Proofing Publications:

- Raising and Moving a Slab-on-Grade House with Slab, 1990
- Flood Proofing - How to Evaluate Your Options, 1993
- A Flood Proofing Success Story Along Dry Creek at Goodlettsville, Tennessee, 1993

These and other publications can be found on the following website:

<http://www.usace.army.mil/Missions/CivilWorks/ProjectPlanning/nfpc.aspx>

## **4. COMMUNITY RATING SYSTEM**

### **4.1 CAN MY COMMUNITY GET CREDIT UNDER THE NFIP COMMUNITY RATING SYSTEM (CRS) FOR ADOPTING ABFEs OR FREEBOARD?**

Yes. Several communities on the New Jersey and New York coast participate in the NFIP's CRS. Policyholders in these communities receive discounts on their flood insurance premiums because their communities are implementing floodplain management programs that go beyond the minimum requirements of the NFIP. Communities could receive CRS credit for adopting



and enforcing the ABFEs or for adopting and enforcing freeboard requirements. Credits for adopting the ABFEs would be in effect until a revised FIRM became effective.

Additional information on CRS can be found at:

<http://www.fema.gov/national-flood-insurance-program/community-rating-system>

## **5. APPLICATION OF ABFEs TO FEMA DISASTER GRANTS AND ASSISTANCE PROGRAMS**

### **5.1. WILL FEMA USE THE ABFEs FOR FEMA RECOVERY AND MITIGATION GRANT PROJECTS?**

Yes. FEMA Recovery and Mitigation activities and programs must use the best flood hazard data available prior to obligation of Federal funds.

### **5.2 WHY MUST FEMA USE ABFEs FOR FEMA DISASTER GRANTS AND ASSISTANCE PROGRAMS?**

FEMA is taking action to reduce the risks of flood loss, minimizing impacts of floods on human safety, health, and welfare, and restoring and preserving the natural and beneficial values served by floodplains in carrying out our programs. FEMA grants supporting construction, repair, rehabilitation, and/or improvements in or affecting floodplains are subject to Executive Order 11988, codified in 44 CFR Part 9. FEMA is required to follow an eight-step decision-making process for any action with potential to affect floodplains and must involve the public throughout the decision-making process. FEMA is providing significant investment to help communities recover from the impacts of Hurricane Sandy. FEMA's responsibility is to ensure the Federal investment is wise, sound, and based on the best scientific information available. This will also increase community resilience related to recovery, siting and evaluation of critical facilities and other FEMA infrastructure restoration projects, and will help guide decisions regarding recovery and hazard mitigation in affected areas to reduce future damages.

### **5.3 HOW WILL FEMA USE ABFEs IN THE MITIGATION AND RECOVERY PROGRAMS?**

FEMA will use the ABFEs to determine the flood zone boundaries and minimum flood elevations required for project design and performance standards. This includes the use of ABFEs to determine if a temporary housing activity is located in the floodplain. This applies to placement of temporary housing units (THUs) as well as development of group housing sites and non-traditional types of temporary housing.

**5.4 IF LOCAL FLOODPLAIN MANAGEMENT ORDINANCES ARE MORE STRINGENT THAN THE FEMA ABFEs, WHICH STANDARD WILL FEMA USE FOR DISASTER ASSISTANCE AND GRANT DECISIONS?**

FEMA funded grant activities and projects must be consistent with all Federal, State and local requirements, laws and ordinances. If the local codes and standards are more stringent than the ABFE, projects must be designed to the higher standard.

**5.5 WHAT HAPPENS IF THE BEST AVAILABLE DATA CHANGES?**

It should be expected that what constitutes best available data may change over the course of the recovery process. To be consistent with FEMA regulations (44 CFR 9.11(d)(6), no project shall be built to a floodplain management standard that is inconsistent with the NFIP or less restrictive community floodplain management regulations. That information must be considered when making recovery decisions.