# BASE LEVEL ENGINEERING (BLE) AND LETTERS OF MAP AMENDMENT (LOMAs)

FEMA

FEMA employs a variety of standards for engineering modeling and mapping when preparing Flood Insurance Rate Maps (FIRMs) to assure that the information shown on FIRMs is based on technically credible, reproducible information. FIRMs are intended to review flood risk across a watershed, producing flood hazard information for natural drainage areas that move stormwater through our nation's communities. The scale at which the FIRMs are produced (1" = 500', 1" = 1000' or 1" = 2000') may show small areas of natural high ground as within the 1%-annual-chance floodplain.

These small areas of high ground, may be removed from the Special Flood Hazard Area (SFHA) through the Letter of Map Amendment (LOMA) process. LOMAs are intended for properties that have naturally high ground. For other small areas, earthen fill may have been placed during construction, thereby elevating a small area within the SFHA to an elevation that is at or above the Base Flood Elevation (BFE). This construction may have taken place during the time the engineering study was being performed or subsequent to that study. When construction activities have added engineered fill, the Letter of Map Revision - Based on Fill (LOMR-F) process may be used to review site-specific information. When fill is placed on individual lots or along a length of a stream embankment, it does not immediately show up on the FIRM.

The SFHA designation can be removed from structures by officially amending the effective FIRM through a:

**LOMA** – for properties on naturally high ground; or

**LOMR-F** – for properties elevated by the placement of fill.

## PURPOSE

Determine if a specific property/structure is in/out of the SFHA based on effective information.

## RESULT

FEMA issues letter/document.

## TYPES

- **LOMA:** Letter of Map Amendment.
- **CLOMA:** Conditional Letter of Map Amendment.
- **LOMR-F:** Letter of Map Revision Based on Fill.
- **CLOMR-F:** Conditional Letter of Map Revision Based on Fill.

## BLE AS AVAILABLE FLOOD HAZARD INFORMATION

The LOMA and LOMR-F processes review a BFE at the site of interest against the Lowest Adjacent Grade (LAG). BLE data can provide BFEs to assist the determination of these reviews for possible removal of the mandatory purchase requirement for flood insurance from a structure and/or portion of a property. The table below can help you determine when BLE data can be used as available flood hazard information for LOMA submittals.

**Table 1.** This table shows the effective flood zone and the correct application of BLE data for LOMA MT-1 Form submittals.

| EFFECTIVE FLOOD ZONE | CAN BLE DATA BE USED AS AVAILABLE FLOOD HAZARD INFORMATION? |
|---|---|
| No effective information or Zone X (unshaded) | LOMA/LOMR-F not required; however, if elevation is identified, it should be used. |
| Zone X (shaded) | LOMA/LOMR-F not required, but 0.2% elevations available for use. |
| Zone A | YES, when similar in shape/width. |
| Zone AE (with or without Floodway) | NO, use effective FIRM data. |

## FINDING YOUR BFE

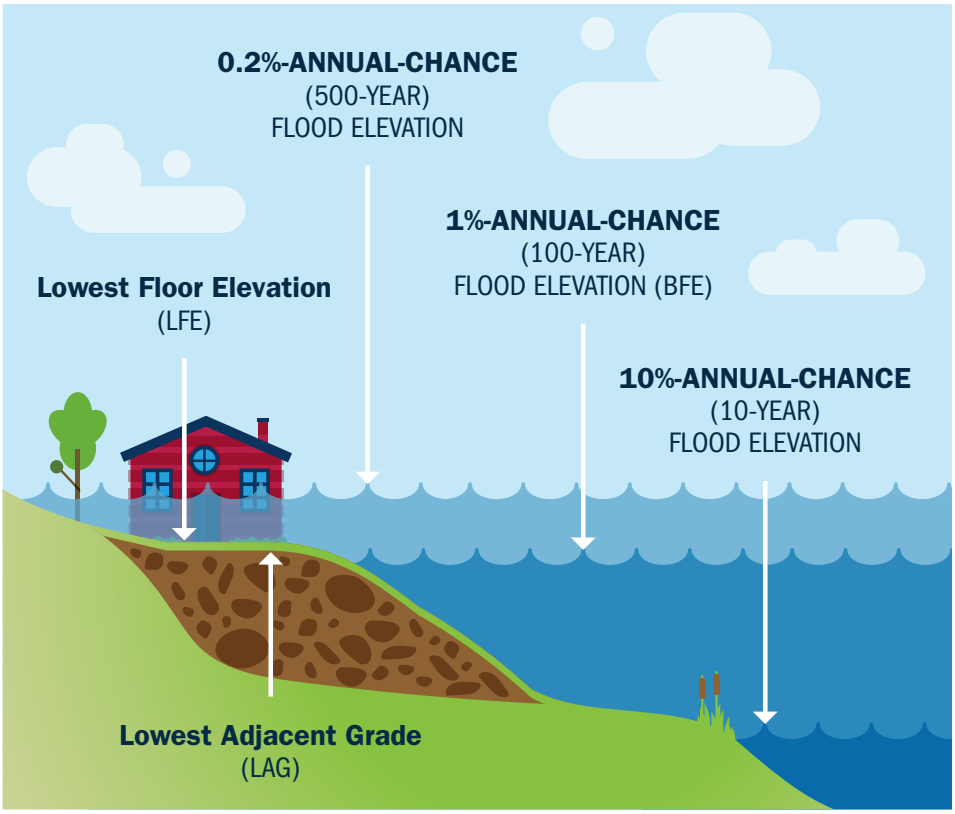
The FIRM depicts a bird's eye view and provides an indication of the expected flood extents during a large storm event, not accounting for certified elevations, to provide a more site-specific review of flood risk at the site of interest. The three certified elevations that are needed to complete an Elevation Certificate are:

**1. Base Flood Elevation (BFE)**
The elevation of the water surface (top of the water) that is expected during the 1%-annual-chance flood event. A 1%-annual-chance event is a one in one-hundred chance that this storm could occur each calendar year. The FIRM and the Estimated BFE Viewer can assist in determining the BFE at your location.

**2. Lowest Adjacent Grade (LAG)**
The lowest point of the ground level immediately next to a building. This elevation may be located at several locations. Examples include structural supports (piers, posts, columns), attached garages, attached stairs, or bottoms of window wells. This elevation will require a registered land surveyor to take measurements at the structure of interest.

**3. Lowest Floor Elevation (LFE)**
The lowest floor of the lowest enclosed area (including basement). This may also be vital to review the flood risk at your structure of interest. Ask your surveyor if this elevation is needed for your type of building construction. On the Elevation Certificate, this may be called the "top of bottom floor."

**Figure 1.** The relationship between the LFE, LAG and several possible flood events.




## PROCESS FOR FINDING THE BFE AT YOUR POINT OF INTEREST:

**Check Effective FIRM**
If yes, document flood zone.
If no, move to next step.

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**Check Base Level Engineering Data**
If yes, run site report or use 1% WSEL grid.
If no, use effective.

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**Is BLE the only available flood hazard information?**
If yes, BLE is BFE.
If no, effective is BFE.

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**Submit MT1 Forms**
Use paper online or eLOMA* processes.
*eLOMA only available for LOMAs.

## QUICK FACTS

- A LOMA will result in a "removal" if the LAG is at or above the BFE.
- A LOMR-F will result in a "removal" if the LAG is at or above the BFE and community floodplain officials determine that land and existing/ proposed structures to be removed from the SFHA are "reasonably safe from flooding."
- According to FEMA's Technical Bulletin 10, "to be reasonably safe from flooding during the Base Flood condition, the basement must (1) be dry, not have any water in it, and (2) be structurally sound, not have loads that either exceed the structural capacity of walls or floors or cause unacceptable deflections."
- For LOMA submittals that include more than one structure, the lowest point on each lot/ structure must be at or above the BFE.
- FEMA does not charge a fee to review a LOMA request, but there is a fee for the engineering review of CLOMAs, LOMR-Fs, and CLOMR-Fs.
- If your mortgage lender identifies your property as located in a flood-prone area but the FIRM does not reflect this, you may apply for a LOMA (Out as Shown). If approved, this will remove the mandatory purchase requirement for flood insurance.
- The requester is responsible for providing all the information needed for the review, including (if necessary) elevation information certified by a licensed land surveyor or registered professional engineer.

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