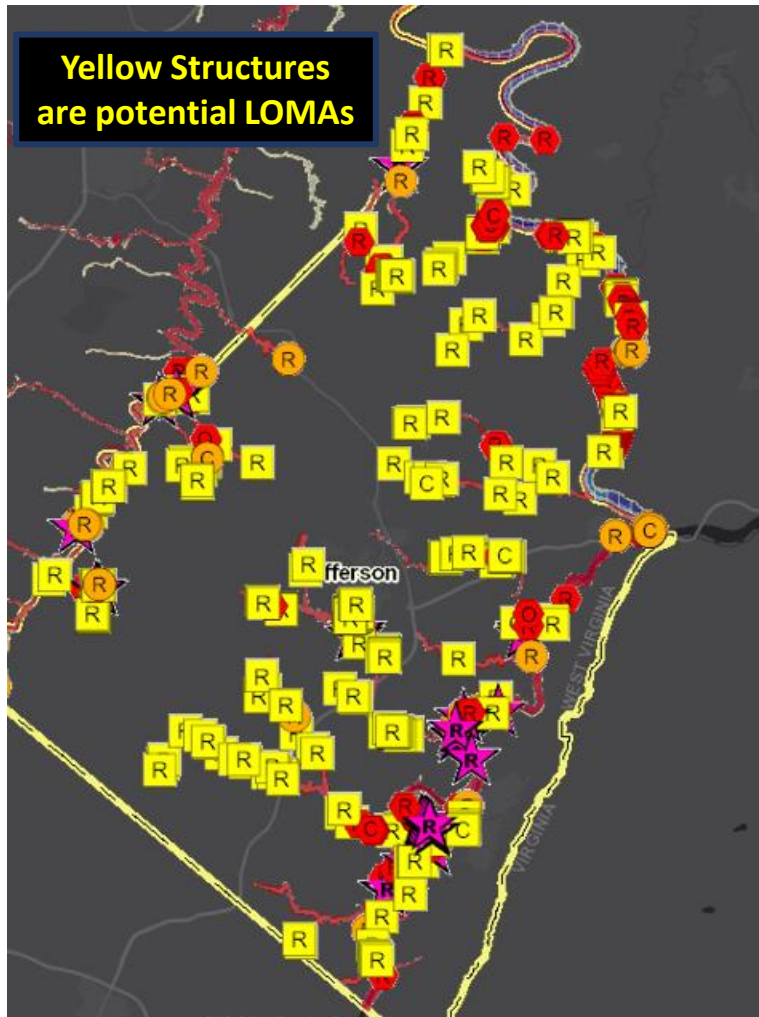


# LiDAR for Map Amendments

02/07/2024



*Jefferson County Flood Risk Study – Future SFHA Map Conditions for Buildings*

## LiDAR for Letter of Map Amendment (LOMA)

If applicable, LiDAR data can replace the requirement to submit certified elevation information which can create a cost savings for property owners.

The WV Flood Tool ([www.mapwv.gov/flood](http://www.mapwv.gov/flood)) can be used for the map requirement of LOMAs for properties located in A or AE Flood Zones.

Countywide Flood Risk Studies identify potential structures that could be removed from the SFHA

# LiDAR for Map Amendments

## HOW DO I CHANGE MY FLOOD ZONE DESIGNATION?

Letters of Map Amendment (LOMAs) enable property owners to request changes or updates to their property's flood risk status to FEMA. Learn more about how to request a change to your flood zone designation at [FEMA's website](#). Typically, this flood zone change request using the [WV Flood Tool](#) applies to property owners at the floodplain boundary fringe (not in the floodway) of high-risk AE or Approximate A [Flood Zones](#), for **existing** buildings or lots not elevated on fill (natural grade), and where there is more than two feet difference between the Base Flood Elevation (BFE) and Lowest Adjacent Grade (LAG).

## LiDAR FOR MAP AMENDMENTS

LiDAR data can replace the requirement to submit elevation information certified by a licensed land surveyor or professional engineer, which can create a cost savings for property owners. However, when the LAG is close to the BFE, LiDAR data may not be accurate enough and require certified elevations to capture the full risk of the building. The WV Flood Tool can be used to submit LOMAs where accurate LiDAR-derived elevation contours and point data are available. Generally, if there is **two feet** or more difference between the BFE and LAG, then the homeowner or community should investigate using the WV Flood Tool's Print LOMA Map function to generate a LOMA for submission to FEMA at **no charge**.

## DOES MY COMMUNITY HAVE LiDAR?

All communities in West Virginia have LiDAR data available that meets the accuracy requirements. Refer to the [Elevation Source Metadata](#) which can also be accessed from the WV Flood Tool.

## ONLINE LOMC

The [Online LOMC](#) web application allows homeowners or their designated representatives to easily request a Letter of Map Change (LOMC). Use this site if your property was inadvertently included in a flood zone, or if the addition of fill elevated your property so that it is above the flood zone. The Online LOMC tool is an alternative to the MT-1 and MT-2 paper forms and/or MT-EZ paper form. Anyone, including communities, home or property owners, their representatives, and professional surveyors and engineers, may submit a LiDAR LOMA request using the Online LOMC if the application meets the LOMA submission requirements listed in the next section.

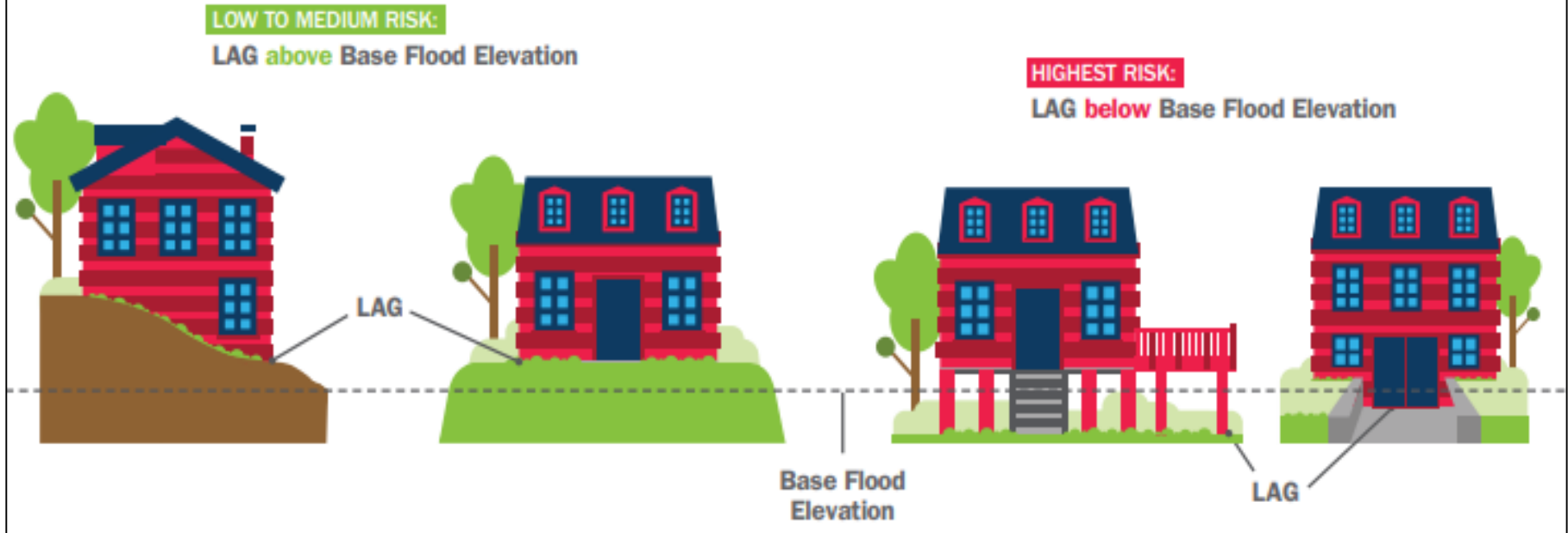
# LiDAR for Map Amendments

## HOW DO I CHANGE MY FLOOD ZONE DESIGNATION?

Occasionally, a small area is inadvertently shown to be within the SFHA on a FIRM, even though the ground is at or above the BFE. If this occurs, an individual property owner may submit survey information to FEMA and request that FEMA issue a document that officially removes a property from the SFHA, called a Letter of Map Amendment (LOMA). Importantly, the LOMA enables property owners to request changes or updates to their property's flood risk status to FEMA. Learn more about how to request a change to your flood zone designation at [FEMA's website](#).

## WHO IS ELIGIBLE FOR A MAP AMENDMENT?

Property owners who can show that the LAG for their home is at or above the BFE on the current flood map.



# When LiDAR Cannot Be Used

## ⊘ WHEN LIDAR CANNOT BE USED ⊘

There are situations when LiDAR cannot be used in a LOMA request. These include applications involving the following:

- Buildings or lots elevated using **fill**
- Buildings or lots in the **regulatory floodway** or Zone AO.
  - FEMA is only concerned that the subject of review is outside the floodway
  - The location of the closest lower contour can be within the floodway
- Buildings under construction.
- Conditional determinations
- Requests to **supersede previously issued LOMAs** based on certified elevation data
- If the **entire lot** is to be reviewed, an **Elevation Form** is required to complete the case with the Lowest Lot Elevation certified by a licensed land surveyor or registered professional engineer.

# LiDAR LOMA Submission – 4 Steps

1) Do all communities in West Virginia have LiDAR. **Yes!!!**

1) Print Tax Parcel **Map Exhibit** using [WV Flood Tool](#)

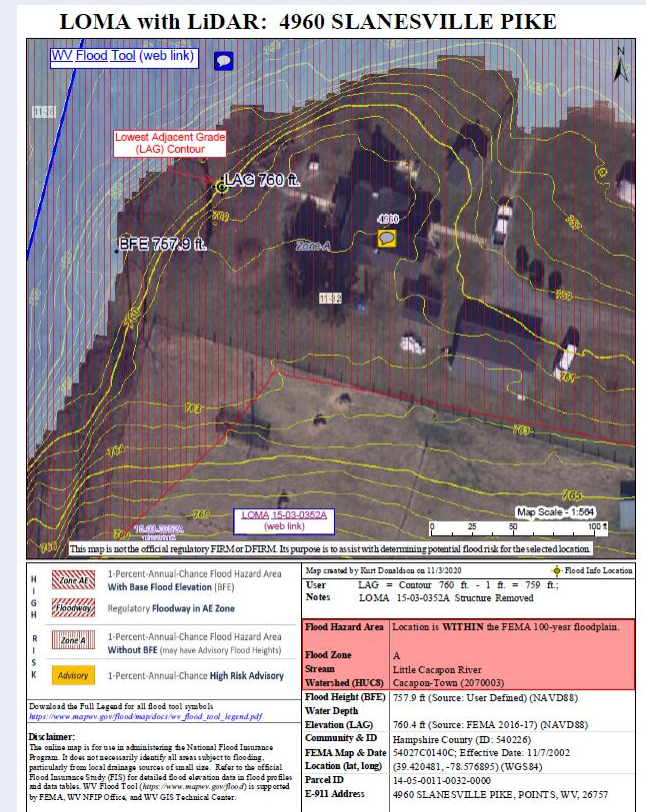
*Supporting document for Online LOMC application*

- Identify published building-level risk assessments for potential Mapped Out structures
- Determine LOMA Type: Existing Structure or Lot
- Determine BFE
- Determine LAG/LLE
- Add Annotation
- Print and Download LOMA Map
- Save to PDF File

2) Further Edit/Annotate Print LOMA (optional)

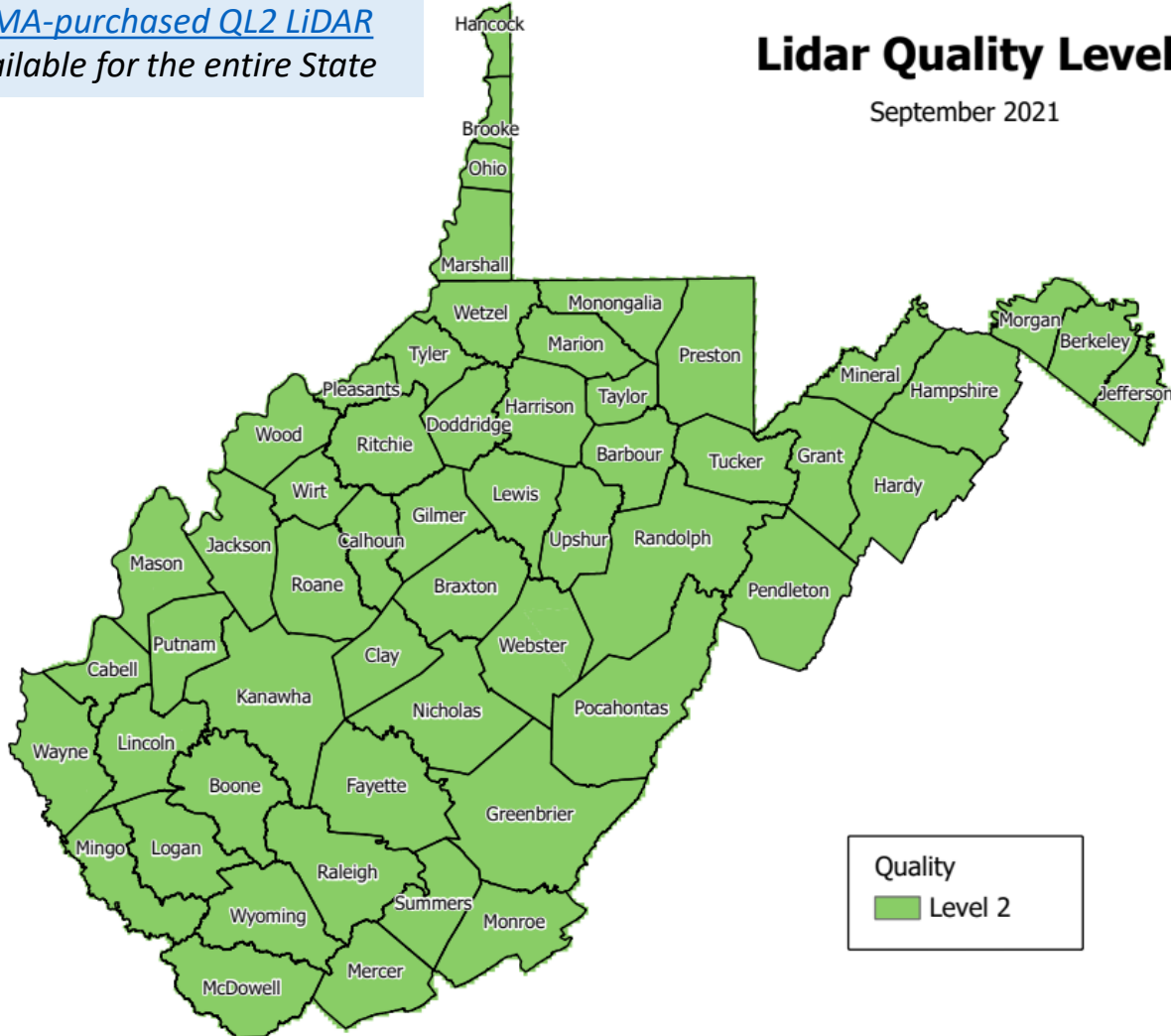
3) Submit LiDAR LOMA **Map Exhibit** along with **Deed** using FEMA's [Online LOMC Portal](#) (no fee charged)

Click [here](#) for more detailed instructions



# Step 1: Does My Community Have LiDAR?

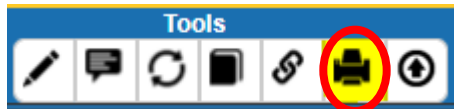
In 2022, [FEMA-purchased QL2 LiDAR](#) became available for the entire State



Presently all communities have **QL2 LiDAR** data available. To be used in a LOMA request, LiDAR data must meet or exceed the U.S. Geological Survey (USGS) Quality Level 3 accuracy requirement. To learn more about this requirement, view the [elevation source metadata](#) for the WV Flood Tool.



# Step 2: Print LOMA Map with WV Flood Tool



**Print Map** ✕

Click for a normal Flood map

**Flood LOMA Map Print**

Title

LOMA Map: 144 APPALOOSA WAY, Ch

User Note

Closest Lower Contour to structure is 436 feet.

153 of 200 character(s) remaining

BFE Value

433.4

(ft)

BFE Datum

NAVD88

▼

Prepared by

Kurt Donaldson, WVU

**Print the map**

Use the WV Flood Tool's **Print Tool** (**LOMA Option**) to generate LOMA Maps

LOMA Map: 144 APPALOOSA WAY, Charles Town, WV



# What needs to be submitted on Map?

## WHAT NEEDS TO BE SUBMITTED WITH MY APPLICATION?

When requesting a LOMA using LiDAR data, you must submit a paper map or digital PDF that displays:

- (1) an overlay of the LiDAR contours (lines of equal elevation), or
- (2) an overlay of the LiDAR points (points with specific elevations).

Either overlay must include an aerial image of the building or lot with at least one street intersection shown on the map.

**The map must also have:**

- Scale and North arrow
- Address or Assessor's Parcel Number (APN) for the building/lot
- Clearly identified building and/or lot boundaries
- Name, organization, and contact information for the map overlay creator
- Aerial imagery that correctly represents the footprint of the building
- Date the LiDAR was collected
- Source of the LiDAR, including public website address. LiDAR must be provided by a Federal, State, or local government agency.
- LiDAR accuracy information (Does it meet Quality Level 3 standards?)
- Vertical Datum of elevation data (e.g., NAVD 88)
- Location of the data archive or metadata file (must be available for independent verification through a publicly available website or metadata)

Your floodplain administrator or a mapping professional can help you develop the map for your application. For other requirements, please use the How to Request a Map Amendment Guide.

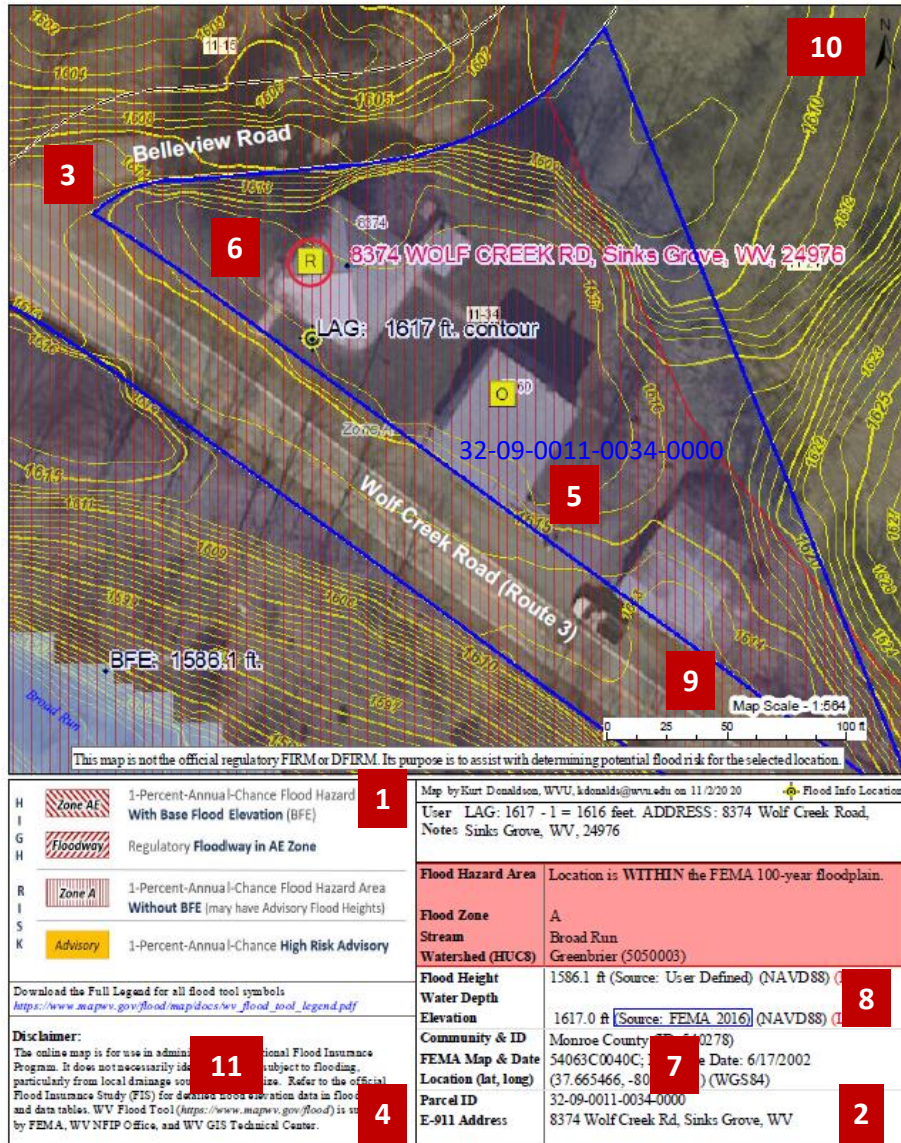
Source: FEMA Region V Fact Sheet

[https://greatlakescoast.org/pubs/factSheets/Region\\_V\\_LiDAR\\_LOMA\\_FS\\_v3\\_012219\\_FINAL.pdf](https://greatlakescoast.org/pubs/factSheets/Region_V_LiDAR_LOMA_FS_v3_012219_FINAL.pdf)



# What needs to be submitted?

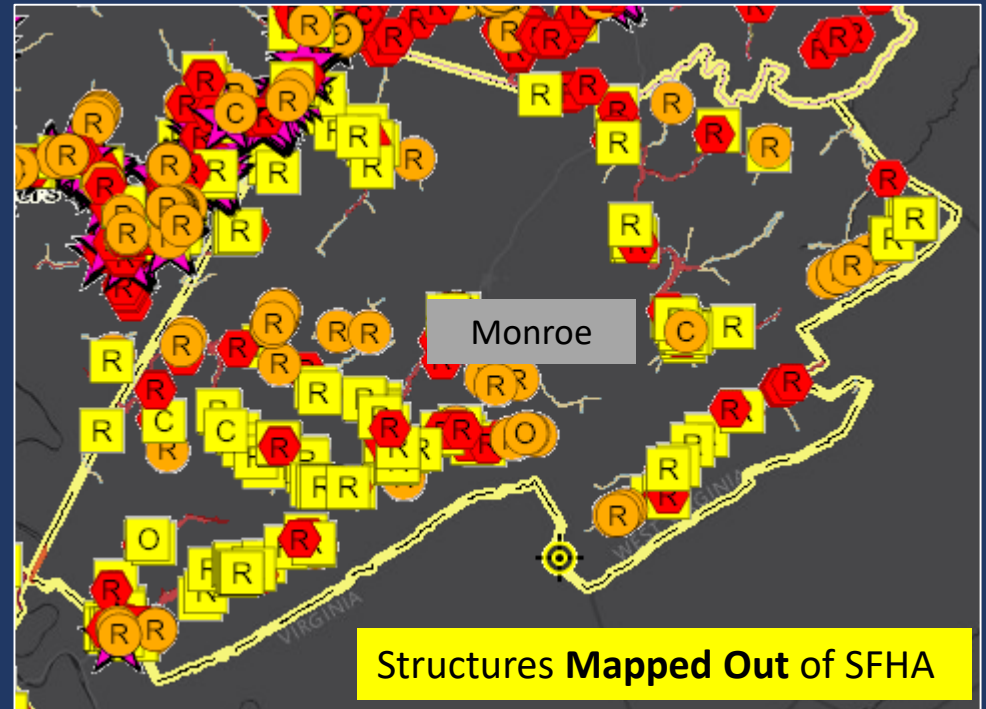
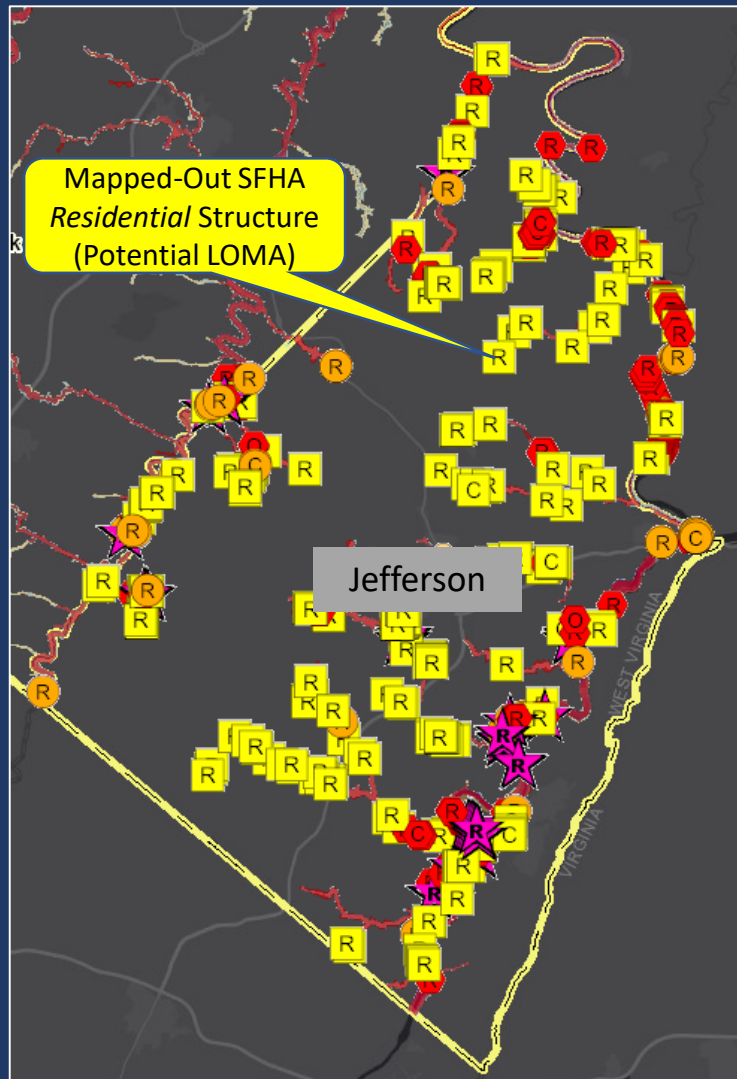
FEMA LOMA Map: 8374 Wolf Creek Rd, Sinks Grove, WV



#	Map Elements Required
1	Name, organization, and contact information for the map creator
2	E-911 Address of property
3	Road or street intersection reference
4	Assessor's full Parcel ID Number (APN) for the building/lot
5	Clearly identified building and/or lot boundaries
6	Aerial imagery that shows building footprint
7	Date, Source, and Accuracy of the LiDAR collected (must meet Quality Level 3 standards)
8	Vertical Datum of elevation data (e.g., NAVD 88, NGVD 29)
9	Scale Bar
10	North Arrow
11	WV Flood Tool Location web link

More than one map can be made to present all elements

# Identify LOMA Structures (Risk MAP View)



Search on Building Risk “Mapped Out” SFHA structures (yellow square symbol) in Risk MAP View for potential LOMAs. It is estimated that Jefferson County, for example, has 250 structures that could be considered for LOMA Removal Status from the Special Flood Hazard Area (SFHA).


**R** Residential

**C** Commercial

**O** Other

# Jefferson County – Potential LOMAs

(1) Future Map Conditions: Floodway (32), No Change SFHA (339), Mapped In SFHA (85), Mapped Out SFHA (279)

Flood Zones	Jefferson County Uninc.	Town Of Bolivar	City Of Charles Town	Town Of Harpers Ferry	City Of Ranson	Town Of Shepherdstown	County Total	
• Regulatory Floodway	32	0	0	0	0	0	32	 <p>Higher Risk</p>
• No Change SFHA	220	0	12	1	45	61	339	
• Structures <b>Mapped In</b> SFHA (potential high flood risk structure)	45	3	4	30	2	1	85	
o Preliminary NFHL	0	0	0	0	0	0	0	
o Advisory A	21	3	0	30	0	1	55	
o Updated AE	24	0	4	0	2	0	30	
• Structures <b>Mapped Out</b> SFHA (structure may qualify for LOMA) - 43% of regulatory structures may qualify for LOMA	233	0	10	0	32	4	279	
o Advisory A	175	0	2	0	30	0	207	
o Updated AE	58	0	8	0	2	4	72	
<div>Advisory flood zone mapping indicates about 40% of Structures may qualify for LOMAs</div>								Lower Risk

## (2) Building Counts (bSF)

Flood Zones	Building Counts
Buildings in High-Risk Effective Zones - SFHA (bSF)	650
Buildings in High-Risk Advisory Zones (Mapped in SFHA)	85
<b>Total Buildings in High-Risk Zones (Effective and Advisory)</b>	<b>735</b>

## (3) LOMAs Positional Accuracy Verified

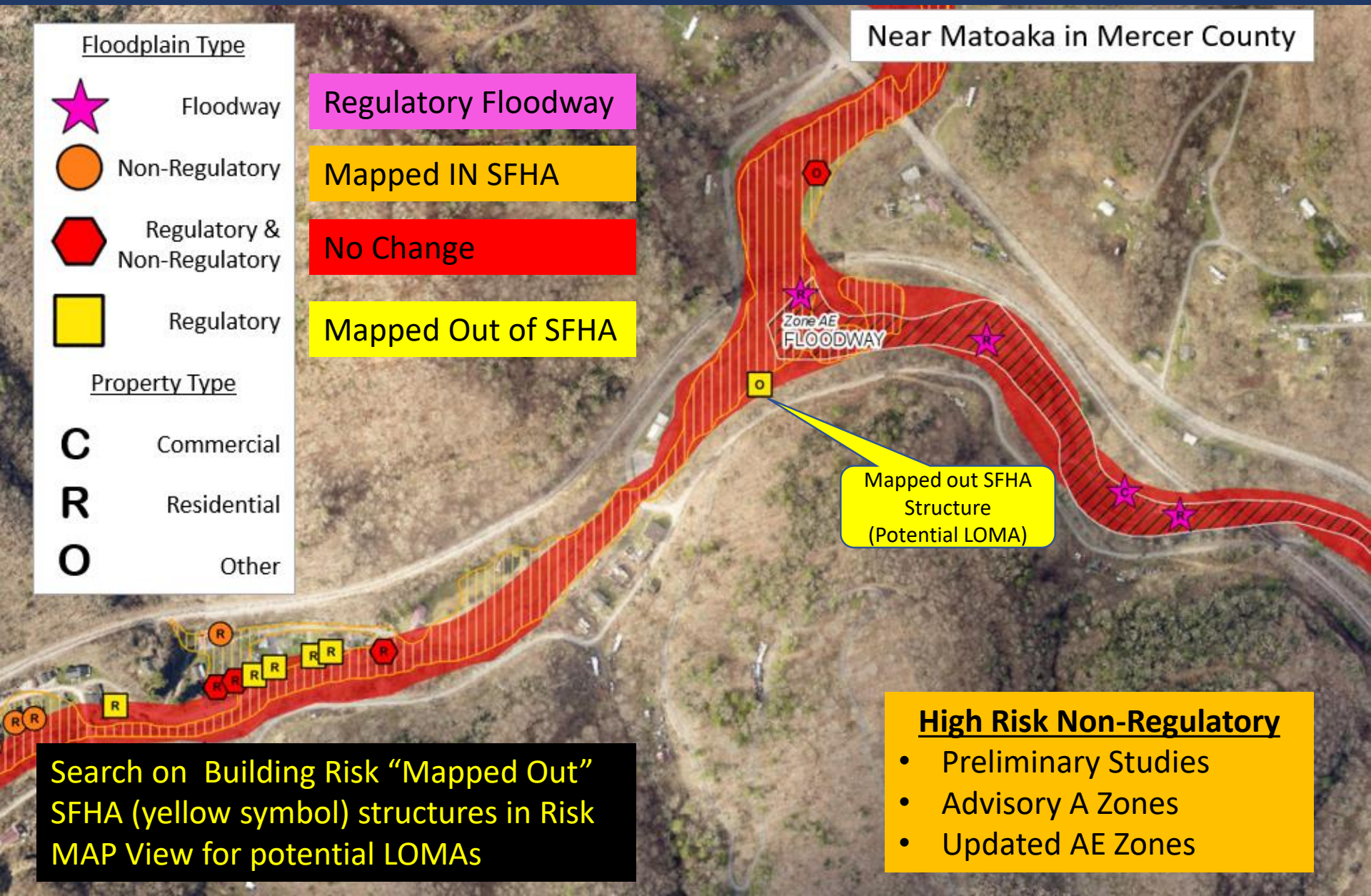
LOMA Determination	Count	Positional Accuracy Correct	Positional Accuracy FIXED (State Flood Risk Assessment)
Non-Removal	9	2	7
Removal	85	53	32
Out as Shown	13	4	9
<b>Total</b>	<b>107</b>	59	48
		55%	45%



<https://www.mapwv.gov/flood/map/?wkid=102100&x=-8672657&y=4764344&l=12&v=2>



# Future Map Conditions (Potential LOMAs) C R O





# LOMA Map – Identify BFE

**WV Flood Tool**  
Remember: When In Doubt, It's Not Out!

Views: Public | Expert | **Risk MAP** | Risk | Reference | Basemaps

Layers: Search: 144 APPALOOSA WAY, Charles Town, WV

Tools: Text Markup tool | Open Print Map tool and select FEMA LOMA Map link

**Print Map**  
Click for a normal Flood map | **Print LOMA**

**Flood LOMA Map Print**

Title: WV Flood Map (LOMA)

User Note: 200 of 200 character(s) remaining

BFE Value: 433.4 (ft)

BFE Datum: NAVD88

Prepared by: Kurt Donaldson, WVU

**Print the map**

**Text Markup**

Text: BFE 433.4 ft.

Style: Circle

**Flood Query Results Panel**

Flood Hazard Area: Location is WITHIN the FEMA 100-year floodplain.  
Flood Zone: AE  
Stream: Flowing Springs Run  
Watershed (HUC8): Shenandoah (2070007)

FEMA's Flood Map: 54037C0130E | NFHL  
Map Effective Date: 12/18/2009  
Contacts: Jefferson

Flood Height: 433.4 ft (BFE - Non-Restudy)  
Water Depth: About 0.0 ft (Source: HEC-RAS)  
HEC-RAS Model: N/A  
Community: Jefferson  
CID: 540065

Location (lat, long): (39.312966, -77.824139)  
Location (UTM 17N): (4356317, 773816)  
Elevation: 432.8 ft (Source: FEMA 2012)

**Base Flood Elevation (BFE) Lines**

DFIRM_ID	54037C
BFE_LN_ID	54037C_540
ELEV	433
LEN_UNIT	Feet
V_DATUM	NAVD88
SOURCE_CIT	54037C_54037C_FIS1
VERS	
RuleI	

**Flood Depth Grid**  
For AE Zones make BFE and X-Section Layers visible in RISK Layers

Using the Flood Depth Grid as a reference, click on closest BFE value to structure. Copy BFE Value 433.4 and Datum NAVD88 from Flood Query Results Panel to the LOMA Map Print window. Annotate flood height value 433.4 ft. on the map layout using the Text Markup tool.

<https://www.mapwv.gov/flood/map/?wkid=102100&x=-8663344&y=4766601&l=13&v=2>



# LOMA Map – Identify LAG

**WV Flood Tool**  
Remember: WV Flood Tool is a public tool. It is not for official use.

**Views:** Public Expert **Risk MAP** Risk

**Layers:** **Reference** Basemaps

**Search:** Address 144 APPALOOSA WAY, Charles Town, WV

**Tools:** **Text Markup** **Print Map**

**Print Map**  
Click for a normal Flood map  
**Print LOMA**  
Flood LOMA Map Print  
Print Map, Download, open map in new browser tab, right click on map and Save to PDF File  
BFE Value: 433.4 (ft)  
BFE Datum: NAVD88  
Prepared by: Kurt Donaldson, WV  
Map, created at 22:46:24. You have 1 minutes to download it. Click [legend link](#) to download the full legend.  
**Print the map**

**Text Markup**  
Text: ELEV. 436.0 ft.  
Arial 19 #000000  
B I T #000000  
Angle: 0  
Add Text Halo: 2 #FFFFFF  
Edit Markup Points  
Style: Circle 0000  
Tip: Right-click on an existing markup to delete it.

**Elevation Value and Metadata**  
Flood Hazard Area: Location is WITHIN the FEMA 100-year floodplain.  
Flood Zone: AE  
Stream: Flowing Springs Run  
Watershed (HUC8): Shenandoah (2070007)  
FEMA's Flood Map: 54037C0130E NFHL  
Map Effective Date: 12/18/2009  
Contacts: Jefferson  
Flood Height: Refer to FIS report for BFE NAVD88  
Water Depth: N/A  
HEC-RAS Model: N/A All Models  
Community: CID: 56  
Location (lat, long): 39.144, -77.824168 WGS84  
Location (UTM 17N): 63337, 773813 WGS84  
External Viewers:  
Elevation: 436.1 ft (Source: FEMA 2012) NAVD88  
Add:  
Parcel: 19-02-004F-0202-0000 | Assessment  
Flood Risk Information  
Flood Risk Assessment  
3D Flood Visualization No Depth Grid Available

**Flood Query Results Panel**  
Parcel: 19-02-004F-0202-0000 | Assessment  
Flood Risk Information  
Flood Risk Assessment  
3D Flood Visualization No Depth Grid Available

**Flood Depth Grid**  
<https://www.mapwv.gov/flood/map/?wkid=102100&x=8663344&y=4766601&l=13&v=2>

**For AE Zones make BFE and X-Section Layers visible in RISK Layers**

**Turn on Contours Layer in REFERENCE Layers of WV Flood Tool to view two- or one-foot contours at 1:564 and 1:282 zoom scales. Identify the Closest Lower Contour 436 ft. and verify elevation in Flood Query Results Panel. Annotate contour value 436 ft. on the map frame using Text Markup tool.**

**Ensure Contours Layer visible**

**Text Markup tool**

**Open Print Map tool and select FEMA LOMA Map link**

**ELEV. 436.0 ft.**

**BFE 433.4 ft.**

**Zone AE**

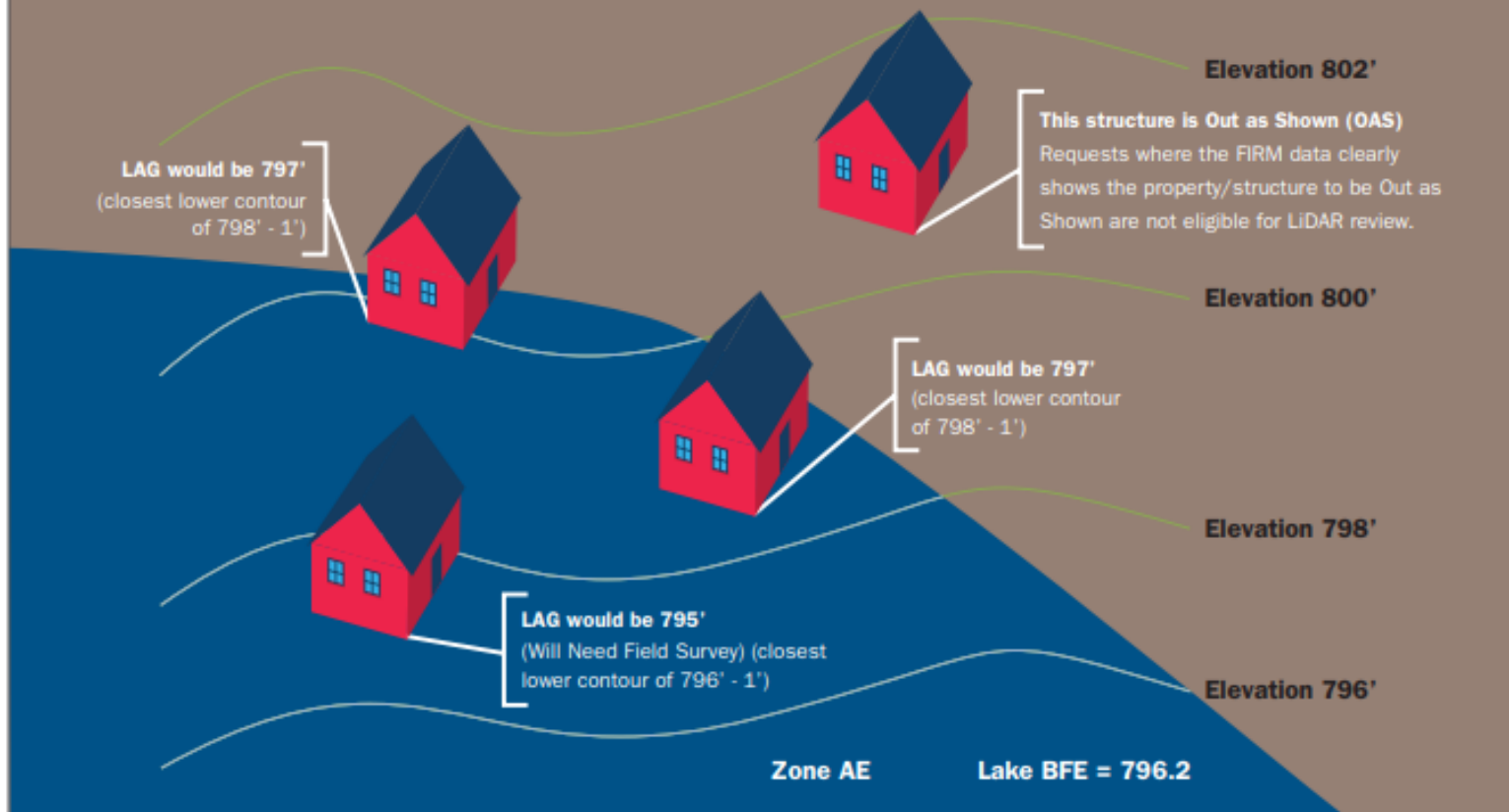
**@WVGISTC Leaf-Off Mixed-Resolution Imagery**

# LiDAR Contour Method

**Using LiDAR Contours:** For LOMA submittals that include LiDAR data contours, FEMA will subtract half the contour interval or 1 foot, whichever is greater, from the lowest contour closest to (but not going through) the building (to determine the LAG) or the lot (to determine the LLE).

## Calculating Lowest Adjacent Grade (LAG) – Contours

1. Determine the closest contour lower than the building footprint.
2. Subtract 1/2 the contour interval or 1 ft., whichever is greater to determine the applicable LAG or Lowest Lot Elevation (LLE).





# Calculating Elevations Using LiDAR

## **CALCULATING ELEVATIONS USING LIDAR**

The lowest adjacent grade (LAG) for a building, or the lowest lot elevation (LLE) for a lot, will be compared to the Base Flood Elevation (BFE) to determine the flood zone. If LAG/LLE is at or above the BFE on the current flood map, FEMA can issue a removal determination. For buildings or lots that cannot be removed from the high-risk flood zone using LiDAR, certified elevation data will be required for a standard LOMA determination.

### **Using LiDAR Contours**

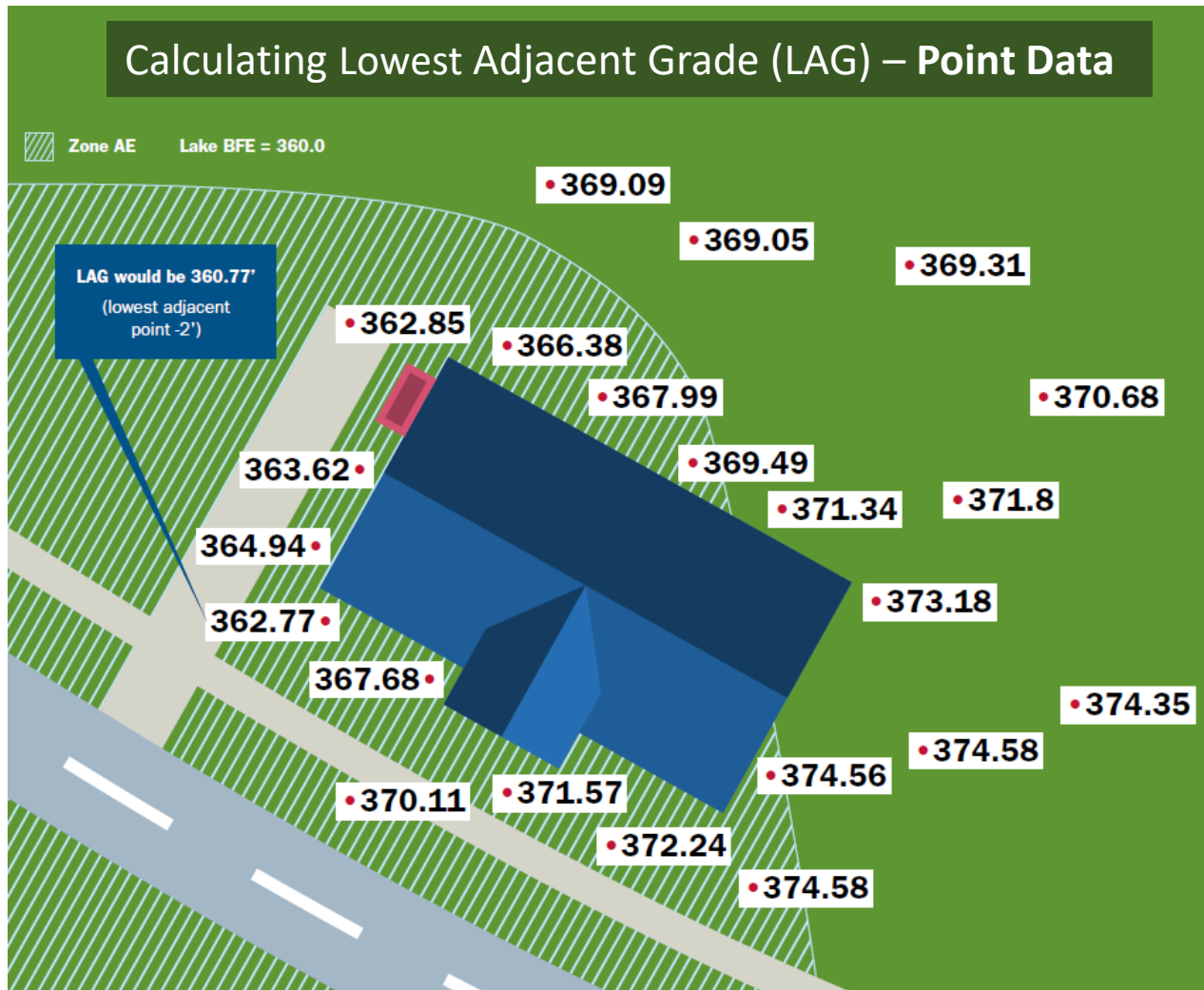
For LOMA submittals that include LiDAR data contours, FEMA will subtract half the contour interval or 1 foot, whichever is greater, from the lowest contour closest to (but not going through) the building (to determine the LAG) or the lot (to determine the LLE).

### **Using LiDAR Point Data**

For submittals that include LiDAR point data, FEMA will subtract 2 feet from the lowest point closest to the building (to determine the LAG) or the lowest point on the lot (to determine the LLE). Multiple points must cover the building/lot for this method.

# LiDAR Point Data Method

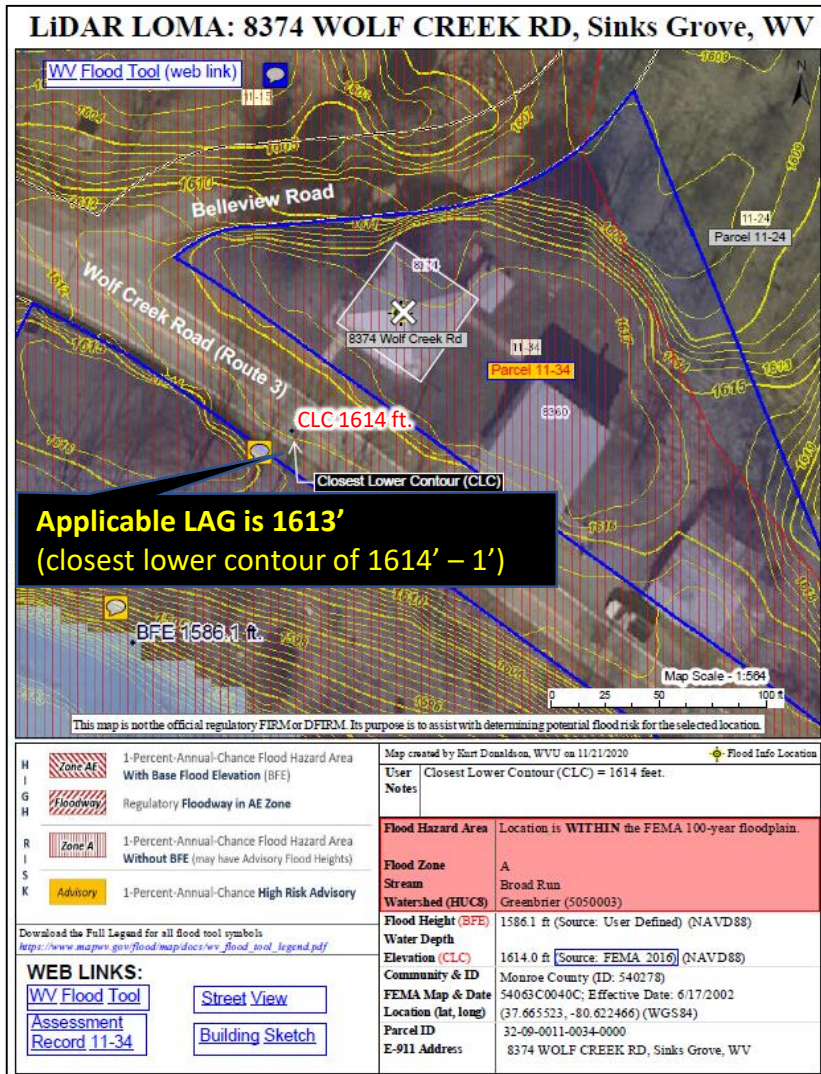
**Using Point Data Method:** For submittals that include LiDAR point data, FEMA will subtract 2 feet from the lowest point closest to the building (to determine the LAG) or the lowest point on the lot (to determine the LLE). Multiple points must cover the building/lot for this method.



# WV Flood Tool (LAG Methods)

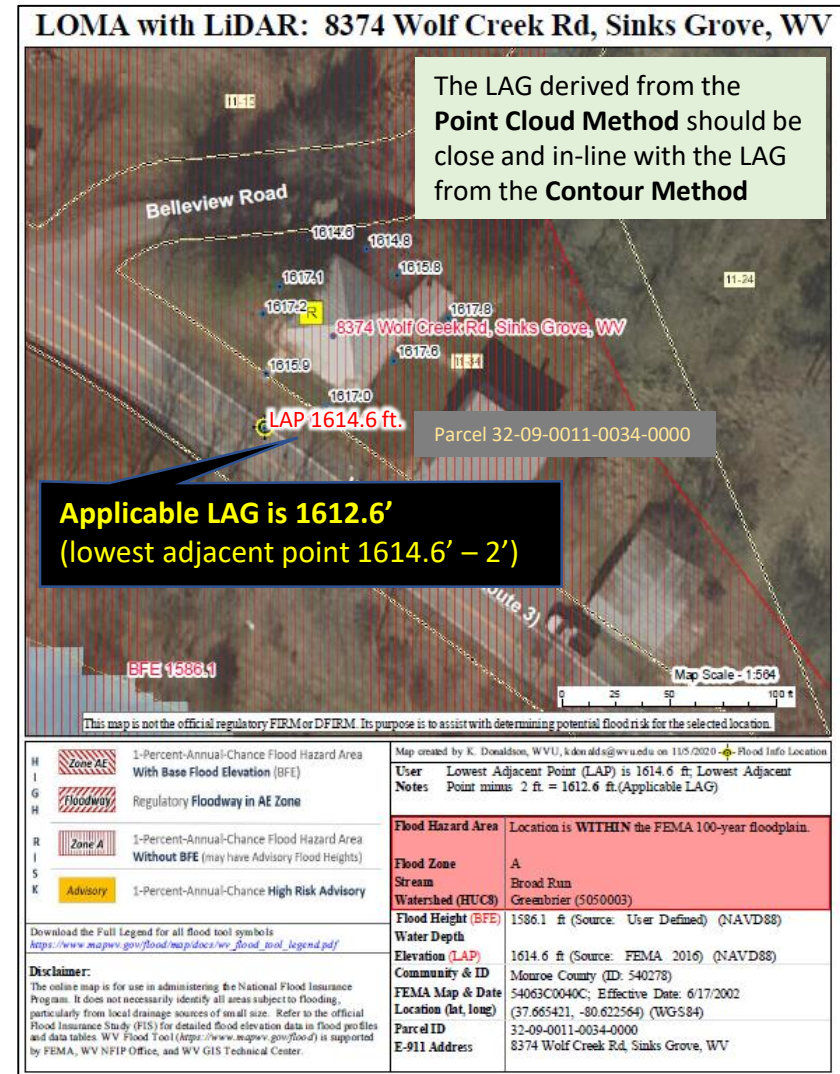
## Contours

(Elevation Contours Reference Layer)



## Point Data

(Flood Query Results Panel)





# Step 3: LOMA Map – More Annotation

## PDF LOMA Exhibit

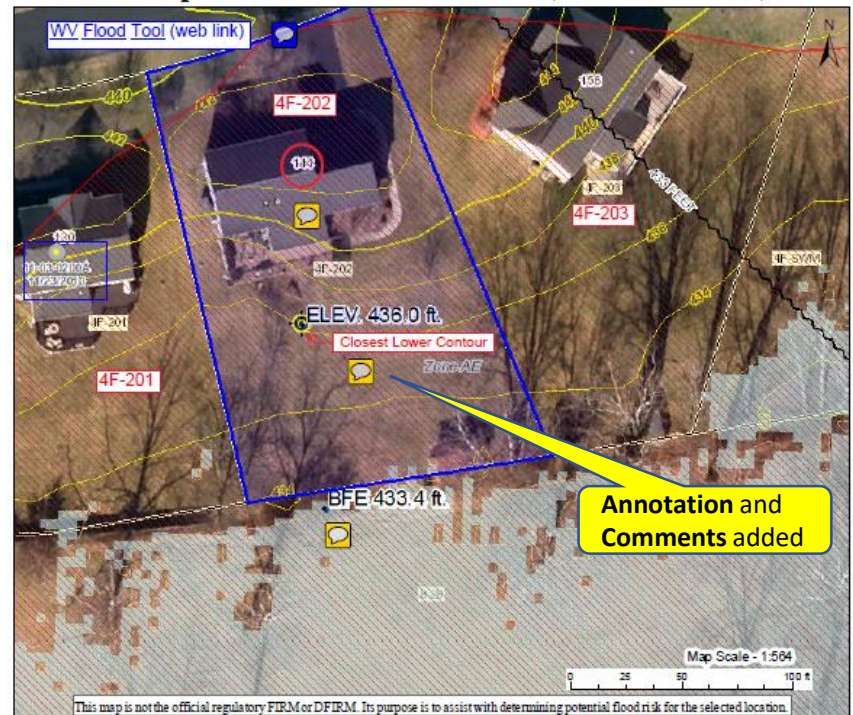
### LOMA Map: 144 APPALOOSA WAY, Charles Town, WV



H I G H	<b>Zone AE</b> 1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	Map created by Kurt Donaldson, WVU on 11/9/2020	Flood Info Location
R I S K	<b>Zone A</b> 1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	User Closest Lowest Contour 436 ft. - 1 ft. = 435.0 ft. (LAG). The LAG Notes 435.0 ft. > BFE 433.4 ft.	
	<b>Advisory</b> 1-Percent-Annual-Chance High Risk Advisory		
Download the Full Legend for all flood tool symbols <a href="https://www.mapview.gov/flood-map/docs/wv_flood_tool_legend.pdf">https://www.mapview.gov/flood-map/docs/wv_flood_tool_legend.pdf</a>			
<b>Disclaimer:</b> The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool ( <a href="https://www.mapview.gov/flood/">https://www.mapview.gov/flood/</a> ) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			
<b>Flood Hazard Area</b>		Location is WITHIN the FEMA 100-year floodplain.	
<b>Flood Zone</b>		AE	
<b>Stream</b>		Flowing Springs Run	
<b>Watershed (HUCs)</b>		Shenandoah (2070007)	
<b>Flood Height</b>		433.4 ft (Source: User Defined) (NAVD88)	
<b>Water Depth</b>			
<b>Elevation</b>		436.1 ft (Source: FEMA 2012) (NAVD88)	
<b>Community &amp; ID</b>		Jefferson County (ID: 540065)	
<b>FEMA Map &amp; Date</b>		54037C0130E; Effective Date: 12/18/2009	
<b>Location (lat, long)</b>		(39.313144, -77.824168) (WGS84)	
<b>Parcel ID</b>		19-02-004F-0202-0000	
<b>E-911 Address</b>		144 APPALOOSA WAY, Charles Town, WV, 25414	

## More Comments and Web Links added with Adobe Acrobat Software

### LOMA Map: 144 APPALOOSA WAY, Charles Town, WV



H I G H	<b>Zone AE</b> 1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	Map created by Kurt Donaldson, WVU on 11/9/2020	Flood Info Location
R I S K	<b>Zone A</b> 1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	User Closest Lowest Contour 436 ft. - 1 ft. = 435.0 ft. (LAG). The LAG Notes 435.0 ft. > BFE 433.4 ft.	
	<b>Advisory</b> 1-Percent-Annual-Chance High Risk Advisory		
Download the Full Legend for all flood tool symbols <a href="https://www.mapview.gov/flood-map/docs/wv_flood_tool_legend.pdf">https://www.mapview.gov/flood-map/docs/wv_flood_tool_legend.pdf</a>			
<b>Disclaimer:</b> The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool ( <a href="https://www.mapview.gov/flood/">https://www.mapview.gov/flood/</a> ) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			
<b>Flood Hazard Area</b>		Location is WITHIN the FEMA 100-year floodplain.	
<b>Flood Zone</b>		AE	
<b>Stream</b>		Flowing Springs Run	
<b>Watershed (HUCs)</b>		Shenandoah (2070007)	
<b>Flood Height</b>		433.4 ft (Source: User Defined) (NAVD88)	
<b>Water Depth</b>			
<b>Elevation</b>		436.1 ft [Source: FEMA 2012] (NAVD88)	
<b>Community &amp; ID</b>		Jefferson County (ID: 540065)	
<b>FEMA Map &amp; Date</b>		54037C0130E; Effective Date: 12/18/2009	
<b>Location (lat, long)</b>		(39.313144, -77.824168) (WGS84)	
<b>Parcel ID</b>		19-02-004F-0202-0000	
<b>E-911 Address</b>		144 APPALOOSA WAY, Charles Town, WV, 25414	

## External Web links

### WEB LINKS:

[WV Flood Tool](#)

[Assessment](#)

[Record 4F-202](#)

[LIDAR Metadata](#)

[Building Sketch](#)

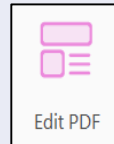


# Step 3: Edit / Annotate LOMA Print Map

Use Adobe Acrobat Software to Edit Text, Add Comments and Web Links to Map Layout

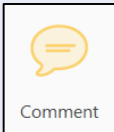
## Edit PDF

- Edit
- Add Text
- Link



## Comment (annotation)

- Add Sticky Note
- Add Text
- Drawing Tools
- Import Annotation

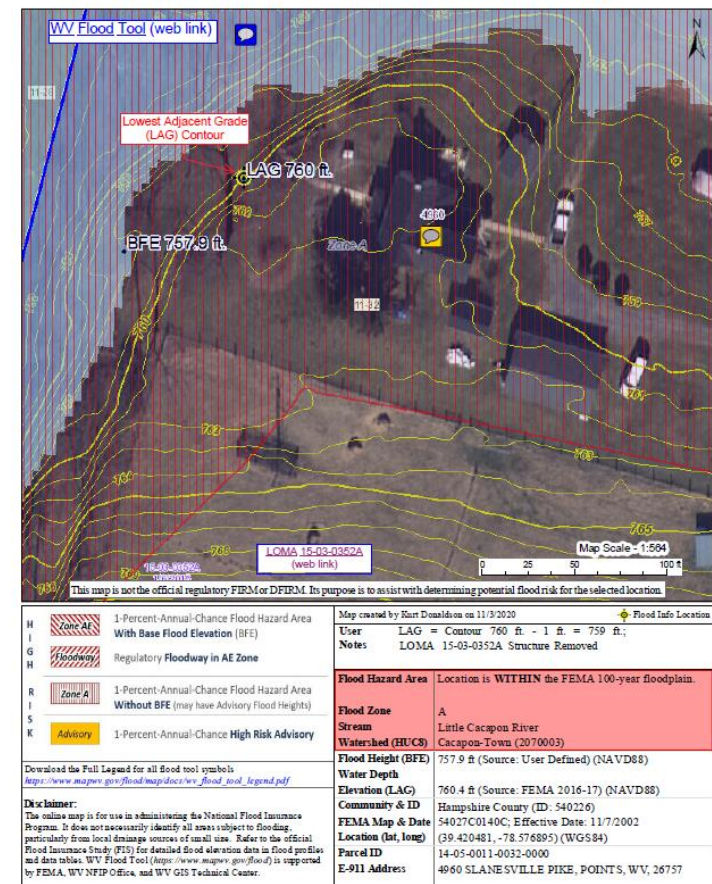


Lowest Adjacent Grade  
(LAG) Contour

[LOMA 15-03-0352A](#)  
(web link)

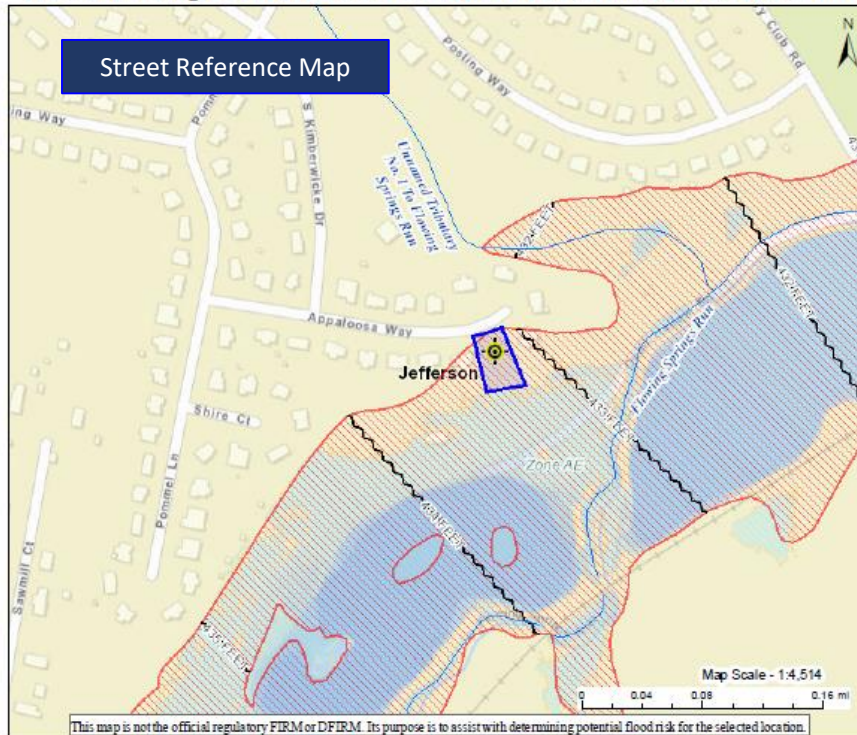
[WV Flood Tool](#) (web link)

## LOMA with LiDAR: 4960 SLANESVILLE PIKE







# LOMA Map – Location Reference

LOMA Map: 144 APPALOOSA WAY, Charles Town, WV



Zoom out and switch to street base map layer to show a street intersection. Generate and save a **Street Reference Map** to upload as supporting document for LOMA application

H I G H  R I S K		1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)
		Regulatory Floodway in AE Zone
		1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)
		1-Percent-Annual-Chance High Risk Advisory
Download the Full Legend for all flood tool symbols <a href="https://www.mapev.gov/flood-map/docs/wv_flood_tool_legend.pdf">https://www.mapev.gov/flood-map/docs/wv_flood_tool_legend.pdf</a>		
<b>Disclaimer:</b> The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool ( <a href="https://www.mapev.gov/flood/">https://www.mapev.gov/flood/</a> ) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.		
Map created by Kurt Donaldson, WVU on 11/9/2020		
User: Street Reference Map		
Notes:		
Flood Hazard Area		Location is <b>WITHIN</b> the FEMA 100-year floodplain.
Flood Zone		AE
Stream		Flowing Springs Run
Watershed (HUC8)		Shenandoah (2070007)
Flood Height		433.4 ft (Source: User Defined) (NAVD88)
Water Depth		
Elevation		441.8 ft (Source: FEMA 2012) (NAVD88)
Community & ID		Jefferson County (ID: 540065)
FEMA Map & Date		54037C0130E; Effective Date: 12/18/2009
Location (lat, long)		(39.313266, -77.824155) (WGS84)
Parcel ID		19-02-004F-0202-0000
E-911 Address		144 APPALOOSA WAY, Charles Town, WV, 25414

# Step 4: Submit using Online LOMC Portal

- 1) Flood Determination Details (Single Structure, Single Lot, Multiple Structures, Multiple Lots; a survey is required for portions of lots)
- 2) Community Details
- 3) E-911 Street Address & Legal Description of Property
- 4) Fill Information (Choose *No*)
- 5) LOMC Type (Choose *LOMA*)
- 6) Processing Fee (Choose *No Fee Required*)
- 7) Applicant Name, Mailing Address, Contact Information
- 8) Upload Supporting Documents
  - **Copy of the Property Deed** (with recordation data & stamp of the Recorder's Office)  
OR a Copy of the **Subdivision Plat Map** for property (with recordation data and stamp of the Recorder's Office) as separate files.
  - Tax Assessor's Map or suitable map document (WV Flood Tool should suffice)
  - Additional Supporting Data (WV Flood Tool PDF maps)
    - Print **LOMA Map** with BFE and LAG
    - **Street Reference Map** for property location

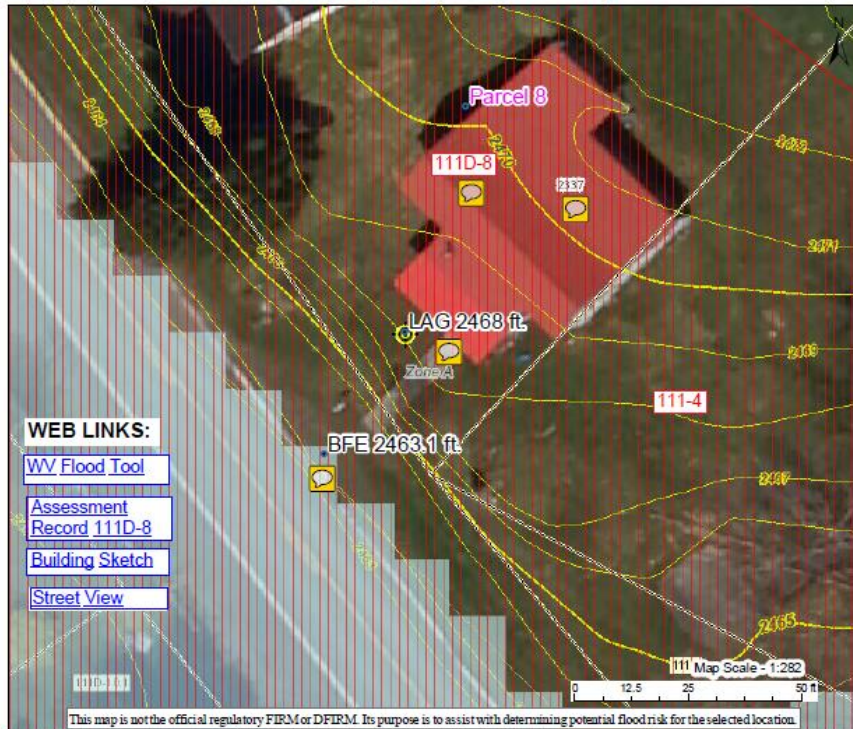


<https://hazards.fema.gov/femaportal/onlinelomc/signin>



# WV LOMA Examples

FEMA Floodplain LOMA Map



Fayette County

FEMA Floodplain LOMA Map



Summers County

[Click here for WV LOMA Examples](#)



# Contact for Help

**FEMA:** To speak with a Map Specialist about the amendment process, contact the FEMA Map Information eXchange (FMIX) at 877-FEMA-MAP (877-336-2627) or [FEMAMapSpecialist@riskmapcds.com](mailto:FEMAMapSpecialist@riskmapcds.com)

**WV Flood Tool** ([www.mapwv.gov/flood](http://www.mapwv.gov/flood))  
**WVU GIS Technical Center, West Virginia University**

**Kurt Donaldson**, GIS Manager  
[kurt.donaldson@mail.wvu.edu](mailto:kurt.donaldson@mail.wvu.edu), phone: (304) 293-9467

**Eric Hopkins**, GIS Analyst  
[Eric.Hopkins@mail.wvu.edu](mailto:Eric.Hopkins@mail.wvu.edu), phone: (304) 293-9463

**Approximate Zone Base Flood Elevation**  
**(NOTE: Not required for LiDAR LOMA but required for elevation certificate)**

**Joe Trimboli**, Community Planner/Geographer  
[Joseph.K.Trimboli@usace.army.mil](mailto:Joseph.K.Trimboli@usace.army.mil)  
Huntington District  
U.S. Army Corps of Engineers  
304-399-5837 (direct)

# LIDAR LOMAs

**Supplement**



# Special Feature: Datum Conversion

## Vertical Datum Conversion

IMPORTANT: When submitting LOMA applications, the **BFE** and **LAG Vertical Datums** must be the same!

NGVD29 Base Flood Elevations: The LOMA Map Print Tool converts the Ground Elevation NAVD88 to NGVD29 so the BFE and LAG/LLE are the same vertical datum.

# NGVD 29 Vertical Datum

## VERTICAL DATUMS IN WEST VIRGINIA

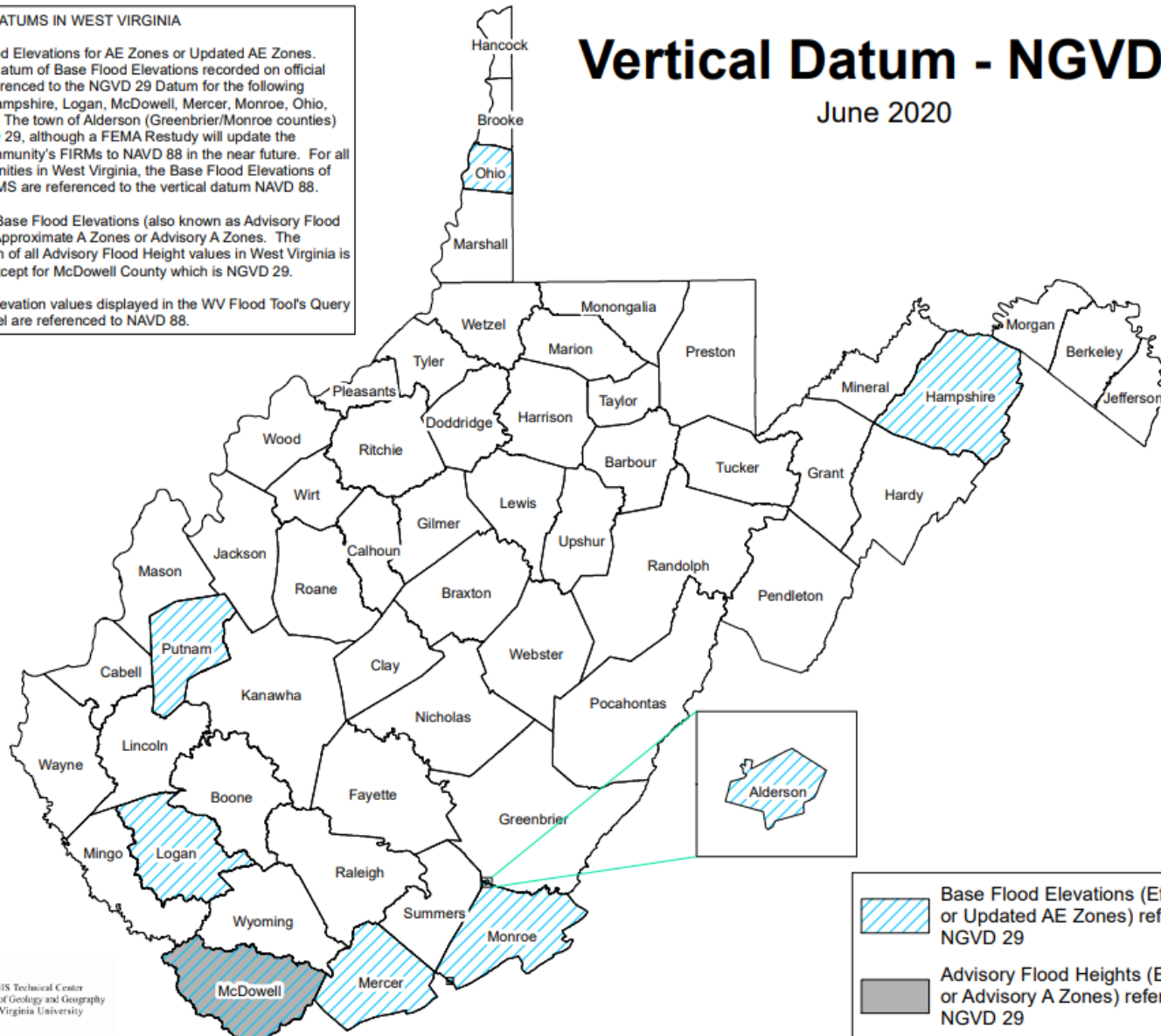
(1) Base Flood Elevations for AE Zones or Updated AE Zones. The vertical datum of Base Flood Elevations recorded on official FIRMs is referenced to the NGVD 29 Datum for the following counties: Hampshire, Logan, McDowell, Mercer, Monroe, Ohio, and Putnam. The town of Alderson (Greenbrier/Monroe counties) is also NGVD 29, although a FEMA Restudy will update the Alderson community's FIRMs to NAVD 88 in the near future. For all other communities in West Virginia, the Base Flood Elevations of effective FIRMS are referenced to the vertical datum NAVD 88.

(2) Advisory Base Flood Elevations (also known as Advisory Flood Heights) for Approximate A Zones or Advisory A Zones. The vertical datum of all Advisory Flood Height values in West Virginia is NAVD 88, except for McDowell County which is NGVD 29.

(3) Ground elevation values displayed in the WV Flood Tool's Query Results Panel are referenced to NAVD 88.

## Vertical Datum - NGVD29

June 2020



WV GIS Technical Center  
Dept. of Geology and Geography  
West Virginia University

6/3/2020



# NGVD 29 Vertical Datum

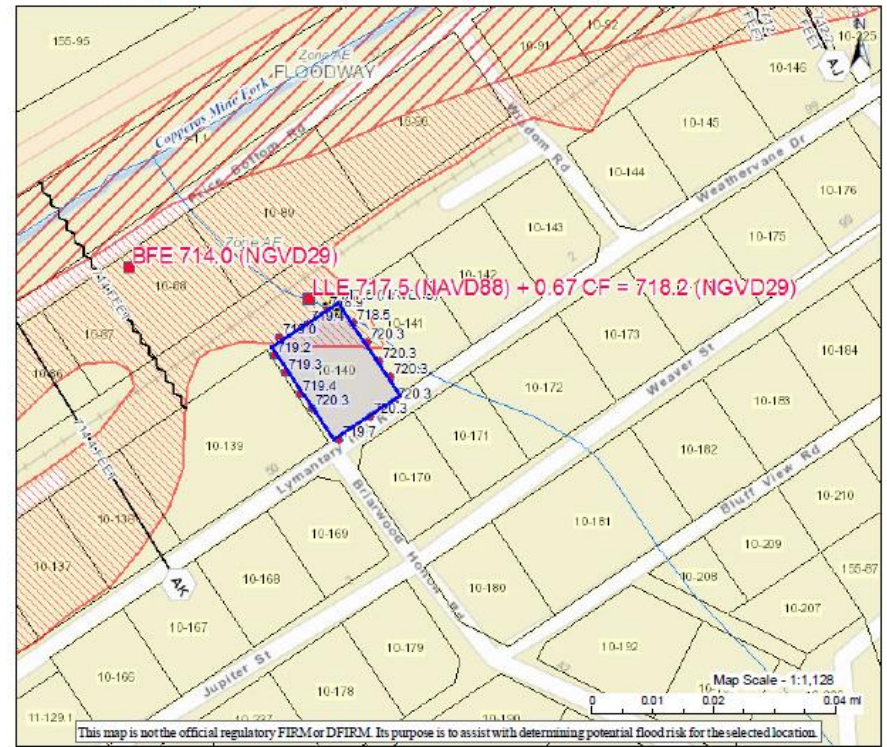
LOMA LIDAR: 41 Lymantary Hill Rd, Holden, WV



H I G H  R I S K	<p><b>Zone AE</b> 1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)</p> <p><b>Floodway</b> Regulatory Floodway in AE Zone</p> <p><b>Zone A</b> 1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)</p> <p><b>Advisory</b> 1-Percent-Annual-Chance High Risk Advisory</p>	<p>Map created by K. Donaldson, WVU, kdonalds@wvu.edu on 11/7/2020. Flood Info Location</p> <p>User Lowest Adjacent Point = 718.2' (NGVD29) - 2' = 716.2' (NGVD29)</p> <p>Notes: Lowest Lot Elevation</p>
	<p><b>Flood Hazard Area</b> Location is WITHIN the FEMA 100-year floodplain.</p> <p><b>Flood Zone</b> AE</p> <p><b>Stream</b> Copperas Mine Fork</p> <p><b>Watershed (HUCs)</b> Upper Guyandotte (5070101)</p> <p><b>Flood Height</b> 714.0 ft (Source: User Defined) (NGVD29)</p> <p><b>Water Depth</b> About 1.0 ft (Source: HAZUS)</p> <p><b>Elevation</b> 718.2 ft (Source: Logan 2018) (NGVD29) (0.67 CF)</p> <p><b>Community &amp; ID</b> Logan County (ID: 545536)</p> <p><b>FEMA Map &amp; Date</b> 54045C0183E; Effective Date: 2/6/2008</p> <p><b>Location (lat, long)</b> (37.828779, -82.045185) (WGS84)</p> <p><b>Parcel ID</b> 23-03-0010-0140-0000</p> <p><b>E-911 Address</b> 41 LYMANTARY HILL RD, HOLDEN, WV, 25601</p>	

Lowest Lot Elevation LOMA Map (Point Method)

LOMA LIDAR: 41 Lymantary Hill Rd, Holden, WV



H I G H  R I S K	<p><b>Zone AE</b> 1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)</p> <p><b>Floodway</b> Regulatory Floodway in AE Zone</p> <p><b>Zone A</b> 1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)</p> <p><b>Advisory</b> 1-Percent-Annual-Chance High Risk Advisory</p>	<p>Map created by K. Donaldson, WVU, kdonalds@wvu.edu on 11/7/2020. Flood Info Location</p> <p>User Lowest Adjacent Point = 718.2' (NGVD29) - 2' = 716.2' (NGVD29)</p> <p>Notes: applicable Lowest Lot Elevation</p>
	<p><b>Flood Hazard Area</b> Location is WITHIN the FEMA 100-year floodplain.</p> <p><b>Flood Zone</b> AE</p> <p><b>Stream</b> Copperas Mine Fork</p> <p><b>Watershed (HUCs)</b> Upper Guyandotte (5070101)</p> <p><b>Flood Height</b> 714.0 ft (Source: User Defined) (NGVD29)</p> <p><b>Water Depth</b> About 1.0 ft (Source: HAZUS)</p> <p><b>Elevation</b> 718.2 ft (Source: Logan 2018) (NGVD29) (0.67 CF)</p> <p><b>Community &amp; ID</b> Logan County (ID: 545536)</p> <p><b>FEMA Map &amp; Date</b> 54045C0183E; Effective Date: 2/6/2008</p> <p><b>Location (lat, long)</b> (37.828779, -82.045184) (WGS84)</p> <p><b>Parcel ID</b> 23-03-0010-0140-0000</p> <p><b>E-911 Address</b> 41 LYMANTARY HILL RD, HOLDEN, WV, 25601</p>	

Reference Map

# NGVD 29 Datum Conversion

Print Map

[Click for a normal Flood map](#)

**Flood LOMA Map Print**

Title

LOMA LIDAR: 41 Lymentary Hill Rd, Hol

User Note

Lowest Adjacent Point = 718.2'  
(NGVD29) - 2' = 716.2' (NGVD29)  
applicable Lowest Lot Elevation  
104 of 200 character(s) remaining

BFE Value

714.0 (ft)

BFE Datum

NGVD29

Prepared by

K. Donaldson, WVU, kdonald

Map, created at **21:55.25**. You have 10 minutes to [download](#) it. Click [legend link](#) to download the full legend.

**Print the map**

Flood Hazard Area	Location is <b>WITHIN</b> the FEMA 100-year floodplain.
Flood Zone	AE
Stream	Copperas Mine Fork
Watershed (HUC8)	Upper Guyandotte (5070101)
Flood Height	714.0 ft (Source: User Defined) (NGVD29)
Water Depth	About 1.0 ft (Source: HAZUS)
Elevation	718.2 ft (Source: Logan 2018) (NGVD29) (0.67 CF)
Community & ID	Logan
FEMA Map & Date	5404
Location (lat, long)	(37.8
Parcel ID	23-03-0010-0140-0000
E-911 Address	41 LYMANTARY HILL RD, HOLDEN, WV, 25601

The Print LOMA function converts the Ground Elevation from NAVD88 to NGVD29 to match the BFE NGVD29 Vertical Datum

NGVD29 Base Flood Elevations: The LOMA Map Print Tool converts the Ground Elevation NAVD88 to NGVD29 so the BFE and LAG/LLE are the same vertical datum

Lowest Adjacent Point 717.5 ft (NAVD88) + 0.67 ft. Conversion Factor = 718.2 ft. (NGVD29)

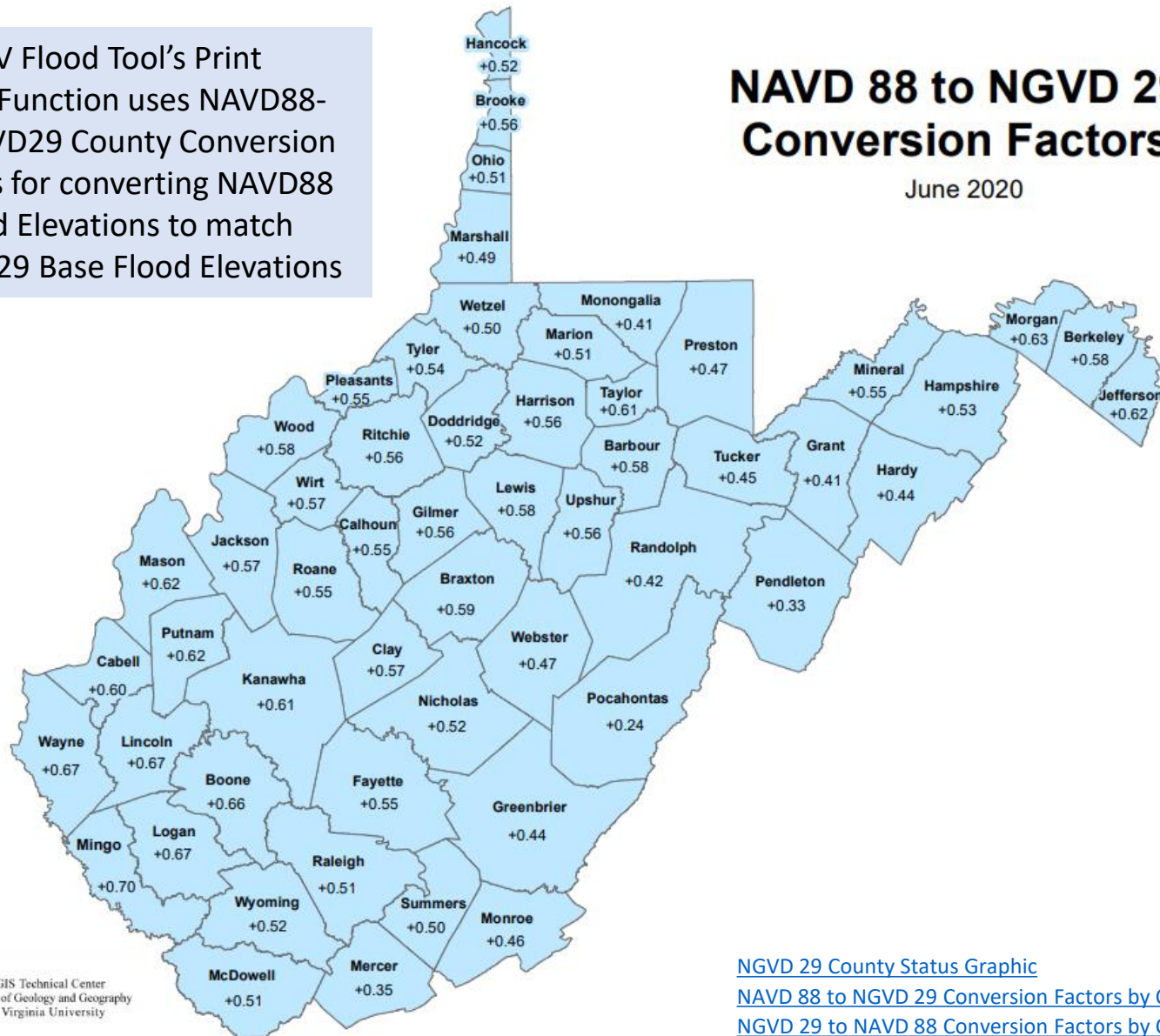


# NGVD 29 Datum Conversion

The WV Flood Tool's Print LOMA Function uses NAVD88-to-NGVD29 County Conversion Factors for converting NAVD88 Ground Elevations to match NGVD 29 Base Flood Elevations

## NAVD 88 to NGVD 29 Conversion Factors

June 2020



WV GIS Technical Center  
Dept. of Geology and Geography  
West Virginia University

[NGVD 29 County Status Graphic](#)

[NAVD 88 to NGVD 29 Conversion Factors by County](#)

[NGVD 29 to NAVD 88 Conversion Factors by County](#)

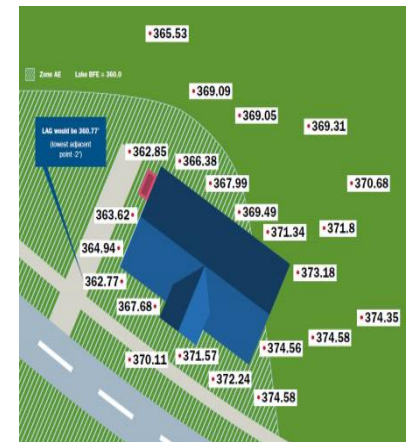
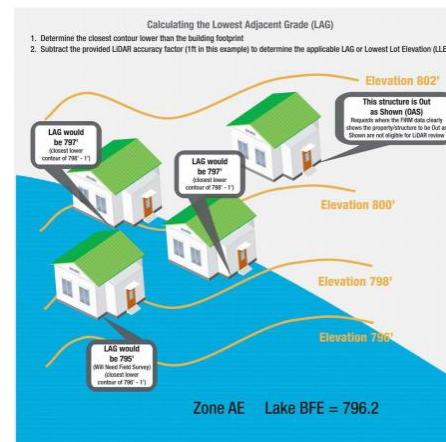
# FEMA Processing Procedures

## FEMA Processing Procedures of LiDAR LOMAs:

LiDAR-based submissions will be reviewed based on the following criteria:

- The LOMA analyst will review the submitted exhibit to determine the location of the structure/property in question and identify the elevation data to be assessed.
- *Contour submittals*: The analyst will identify the lowest contour immediately adjacent to the subject (but not going through it) and subtract one-half the contour interval or 1 foot, whichever is greater, from the lowest contour closest to the structure or property to determine the applicable LAG elevation or LLE. This elevation will be compared to the BFE.
- *LiDAR point submittals*: The analyst will identify the lowest point immediately adjacent to the structure or on the property and subtract 2 feet to determine the LAG or the LLE.
- If the comparison of the LAG or LLE to the BFE results in a *removal* and all other required data was submitted, a *determination* can be issued. The LAG/LLE, and possibly the BFE as well, will not be published with the determination. If additional data is required to process the request (i.e., submittal form, deed, plat), it will be requested to complete the determination.
- If the comparison of the LAG/LLE to the BFE results in a *non-removal*, certified elevations will be requested in addition to any other data needed for the request.

[Guidance for Flood Risk Analysis and Mapping  
MT-1 Technical Guidance \(December 2020\),  
LiDAR LOMA, Section 5.3, page 55](#)



# Studied and Unstudied Zone A

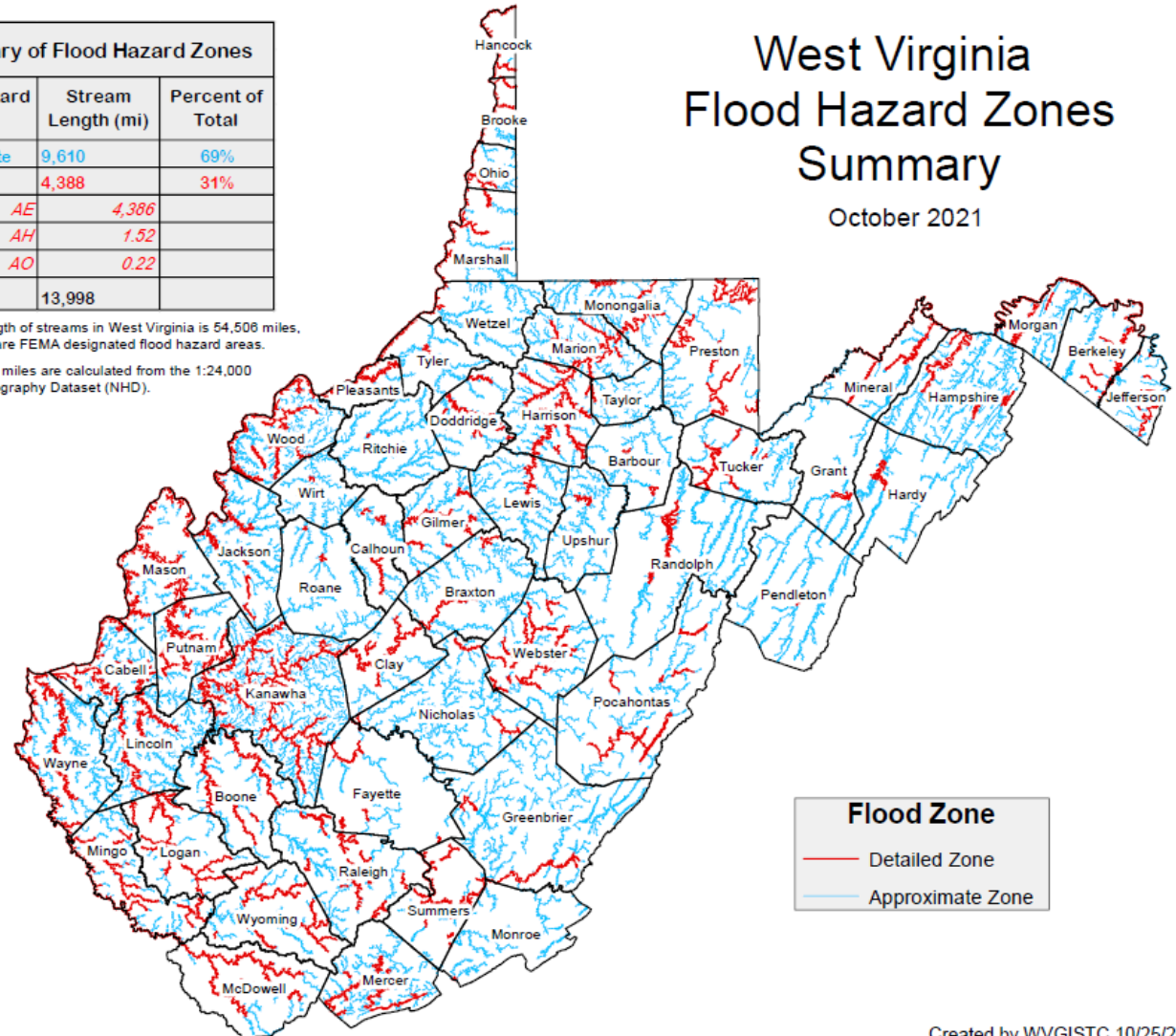
69% of Flood Zones (measured in stream miles) in West Virginia are **Approximate A Zones**

Advisory BFEs (or Advisory Flood Heights) for **Approximate A Zones** do not exist for all counties or for small drainage areas (less than 1 square mile)

Summary of Flood Hazard Zones		
Flood Hazard Zone	Stream Length (mi)	Percent of Total
Approximate	9,610	69%
Detailed	4,388	31%
AE	4,386	
AH	1.52	
AO	0.22	
Total	13,998	

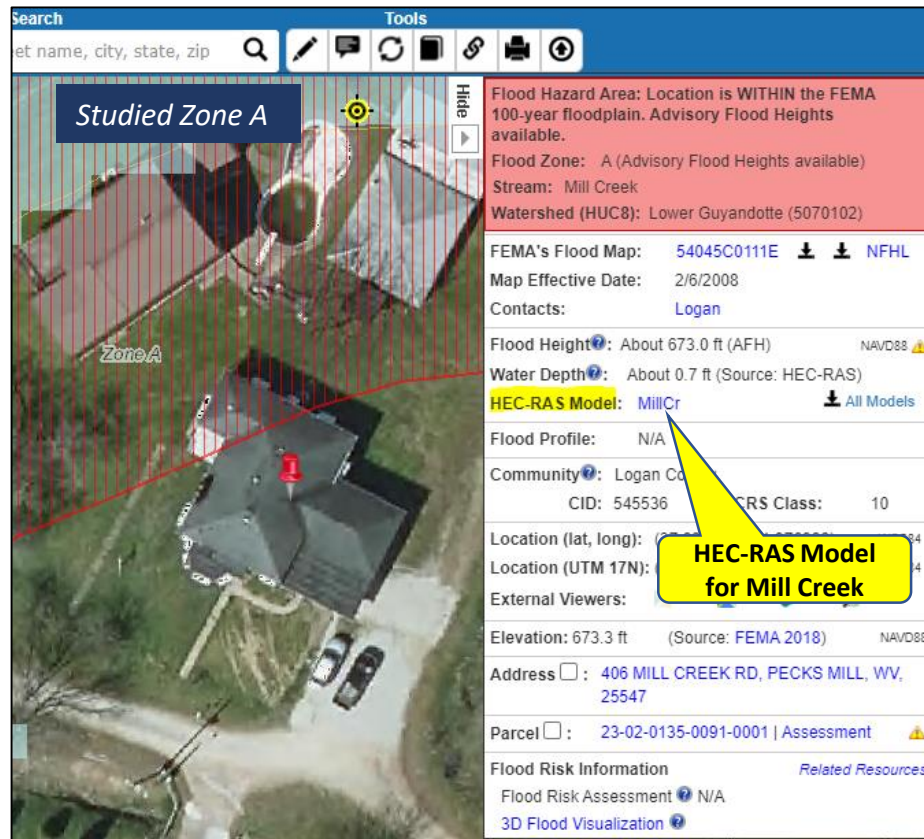
† The total length of streams in West Virginia is 54,506 miles, of which 38% are FEMA designated flood hazard areas.

†† The stream miles are calculated from the 1:24,000 National Hydrography Dataset (NHD).

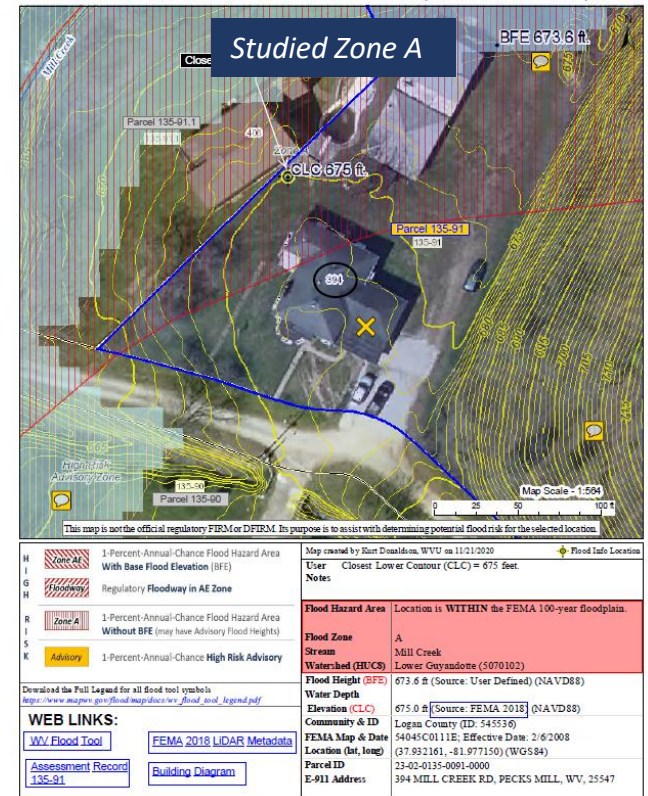




# Studied Zone A (WV Flood Tool)



LiDAR LOMA: 394 MILL CREEK RD, PECKS MILL, WV



- FEMA's Zone A Team always refers to the WV Flood Tool as a first resource to validate a LiDAR LOMA submitted for a **Studied Zone A**. The only exception would be if a certified, site specific study, is submitted with the request. In that case, the local study based on ground survey would be considered the best available data.
- For consistency and accuracy, FEMA's analysts always download the HEC-RAS model from the WV Flood tool in order to determine the appropriate BFE from the model profile plot to validate a Studied Zone A. FEMA will not rely solely on the LiDAR LOMA and BFE Exhibit generated from the WV Flood Tool.

# Studied Zone A (WV Flood Tool)

## WSEL and Depth Grid Resolution

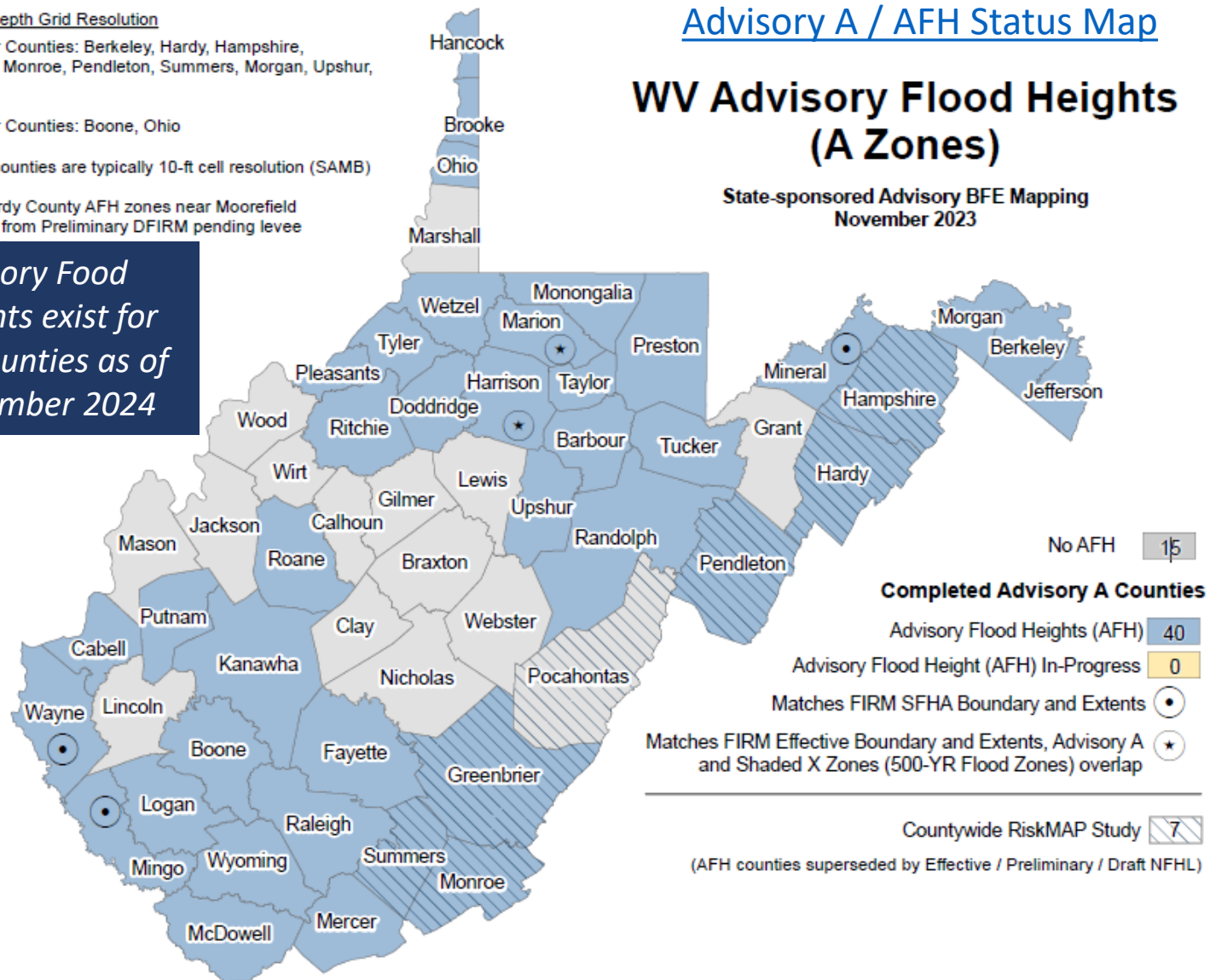
- (1) QL2 Lidar Counties: Berkeley, Hardy, Hampshire, Jefferson, Monroe, Pendleton, Summers, Morgan, Upshur, Wetzel
- (2) QL3 Lidar Counties: Boone, Ohio
- (3) All other counties are typically 10-ft cell resolution (SAMB)
- (4) Some Hardy County AFH zones near Moorefield excluded from Preliminary DFIRM pending levee

*Advisory Flood Heights exist for 40 counties as of November 2024*

## Advisory A / AFH Status Map

### WV Advisory Flood Heights (A Zones)

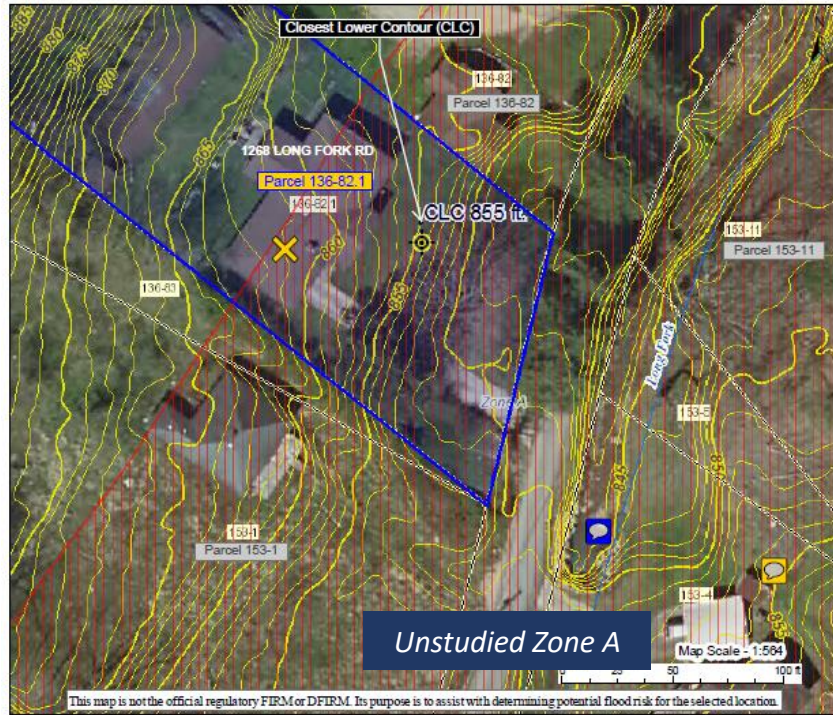
State-sponsored Advisory BFE Mapping  
November 2023










# Unstudied Zone A (WV Flood Tool)

LiDAR LOMA: 1268 LONG FORK RD, PECKS MILL, WV, 25547



H I G H  R I S K	 1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	Map created by Kurt Donaldson, WVU on 11/21/2020 User: Unstudied Zone A. No BFE or HEC-RAS model available for Long Fork. Notes: Fork: Closest Lower Contour (CLC) = 855 ft.	 Flood Info Location																								
	 Regulatory Floodway in AE Zone																										
	 1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)																										
	 1-Percent-Annual-Chance High Risk Advisory																										
Download the Full Legend for all flood tool symbols <a href="https://www.map.gov/flood/metadata/wv_flood_tool_legend.pdf">https://www.map.gov/flood/metadata/wv_flood_tool_legend.pdf</a>																											
<b>WEB LINKS:</b> <a href="#">WV Flood Tool</a> <a href="#">FEMA 2018 LiDAR Metadata</a> <a href="#">Assessment Record 136-82.1</a> <a href="#">Building Diagram</a>																											
		<table><tr><td><b>Flood Hazard Area</b></td><td>Location is <b>WITHIN</b> the FEMA 100-year floodplain.</td></tr><tr><td><b>Flood Zone</b></td><td>A</td></tr><tr><td><b>Stream</b></td><td>Long Fork</td></tr><tr><td><b>Watershed (HUC8)</b></td><td>Lower Guyandotte (5070102)</td></tr><tr><td><b>Flood Height</b></td><td>No BFE Value for LOMA Determination</td></tr><tr><td><b>Water Depth</b></td><td></td></tr><tr><td><b>Elevation (CLC)</b></td><td>855.0 ft [Source: FEMA 2018] (NAVD88)</td></tr><tr><td><b>Community &amp; ID</b></td><td>Logan County (ID: 545536)</td></tr><tr><td><b>FEMA Map &amp; Date</b></td><td>54045C0125E; Effective Date: 2/6/2008</td></tr><tr><td><b>Location (lat, long)</b></td><td>(37.923978, -81.960436) (WGS84)</td></tr><tr><td><b>Parcel ID</b></td><td>23-02-0136-0082-0001</td></tr><tr><td><b>E-911 Address</b></td><td>1268 LONG FORK RD, PECKS MILL, WV, 25547</td></tr></table>	<b>Flood Hazard Area</b>	Location is <b>WITHIN</b> the FEMA 100-year floodplain.	<b>Flood Zone</b>	A	<b>Stream</b>	Long Fork	<b>Watershed (HUC8)</b>	Lower Guyandotte (5070102)	<b>Flood Height</b>	No BFE Value for LOMA Determination	<b>Water Depth</b>		<b>Elevation (CLC)</b>	855.0 ft [Source: FEMA 2018] (NAVD88)	<b>Community &amp; ID</b>	Logan County (ID: 545536)	<b>FEMA Map &amp; Date</b>	54045C0125E; Effective Date: 2/6/2008	<b>Location (lat, long)</b>	(37.923978, -81.960436) (WGS84)	<b>Parcel ID</b>	23-02-0136-0082-0001	<b>E-911 Address</b>	1268 LONG FORK RD, PECKS MILL, WV, 25547	
<b>Flood Hazard Area</b>	Location is <b>WITHIN</b> the FEMA 100-year floodplain.																										
<b>Flood Zone</b>	A																										
<b>Stream</b>	Long Fork																										
<b>Watershed (HUC8)</b>	Lower Guyandotte (5070102)																										
<b>Flood Height</b>	No BFE Value for LOMA Determination																										
<b>Water Depth</b>																											
<b>Elevation (CLC)</b>	855.0 ft [Source: FEMA 2018] (NAVD88)																										
<b>Community &amp; ID</b>	Logan County (ID: 545536)																										
<b>FEMA Map &amp; Date</b>	54045C0125E; Effective Date: 2/6/2008																										
<b>Location (lat, long)</b>	(37.923978, -81.960436) (WGS84)																										
<b>Parcel ID</b>	23-02-0136-0082-0001																										
<b>E-911 Address</b>	1268 LONG FORK RD, PECKS MILL, WV, 25547																										

- To estimate a BFE to determine if a structure can be removed from an **Unstudied Zone A** through the LiDAR process, FEMA recommends a simple method like **Contour Interpolation**.
- Using the LiDAR-derived contours and LiDAR points of the WV Flood Tool, estimate the bank elevation and add a safety factor of at least **two feet** to be conservative. FEMA is always conservative in its BFE estimations. In cases where the LiDAR shows a property/structure above a computed BFE, then FEMA would issue the standard LiDAR removal determination.
- If FEMA deems the contour or point cloud data to suggest the LAG could be lower, FEMA will use that lower value in its review. If this review would alter the outcome to be a possible non-removal, FEMA proceeds with asking for certified elevation data. FEMA does not issue non-removals based on LiDAR exhibits.
- The requesters always have the option to provide any additional information and exhibits to assist with a BFE determination. However, until the drainage area and 1% discharge calculations are verified, FEMA cannot determine the BFE.



# Unstudied Zone A

- FEMA will attempt to calculate the BFE when a LOMA application is submitted for properties of less than 50 lots or 5 acres.
- FEMA uses the best available topography to approximately model the BFEs. For areas where there is not a BFE tied to model backing that FEMA can download from the WV Flood Tool, FEMA will use whatever data is submitted or available to determine an applicable BFE for a request. FEMA will use the LiDAR available in the WV Flood Tool to capture the necessary extent to compute BFE determinations where there is no model backing. The availability of LiDAR provides FEMA with more confidence in the outcomes of these reviews and to complete a reasonable BFE determination.
- For riverine flooding, FEMA measure a cross section at the upstream limit of the structure and use FEMA's Quick 2 software to apply Manning's flow equation.
- Where available, FEMA uses gage data or regional regression equations to determine the discharge for the model.
- If the drainage area is too small for the parameter range FEMA may use the rational method.
- If the source is a lake or depressed area, FEMA would apply stage-storage calculations or rectangular weir flow pending the identification of outlet or not.
- FEMA follows the detailed methods of FEMA 256 [Managing Floodplain Development in Approximate Zone A Areas](#) that provides guidance for obtaining and developing base (100-Year) flood elevations.
- Once that BFE is determined in-house, FEMA will know if the LiDAR results in a removal or will send a data request letter asking for certified elevations.
- FEMA never discourages users from submitting a LiDAR LOMA because the BFE for an Unstudied Zone A is unknown. The LiDAR-derived ground elevation information submitted in the LiDAR LOMA Exhibit will be enough for FEMA to make an in-house determination.

# LiDAR LOMA Disclaimer

## LiDAR LOMA Disclaimer

All cases issued using LiDAR in lieu of certified elevations will include the following disclaimer:

This determination is based on LiDAR topographic data showing the elevation of the subject property. The elevation data that were used are not certified by a Licensed Land Surveyor or Professional Engineer, but they meet or exceed FEMA requirements. This determination is subject to change if more detailed data becomes available.

# Submit all Required Documents



## Federal Emergency Management Agency

Washington, D.C. 20472

November 23, 2020

Mr. Kurt Donaldson  
WV GIS Technical Center, WVU  
98 Beechurst Avenue  
Morgantown, WV 26505

IN REPLY REFER TO:  
**CASE NO: 21-03-0231A**  
**COMMUNITY: MONROE COUNTY, WEST**  
**VIRGINIA**  
**(UNINCORPORATED AREAS)**  
**COMMUNITY NO: 540278**  
**216-AD**

RE: (627) 8374 WOLF CREEK ROAD

Dear Mr. Donaldson:

This is in response to your request for a Letter of Map Amendment for the property referenced above.

The Federal Emergency Management Agency (FEMA) uses detailed application/certification forms for revision requests or amendments to the National Flood Insurance Program (NFIP) maps. The forms provide step-by-step instructions for requestors to follow, and are comprehensive, ensuring that the requestors' submissions are complete and more logically structured. Therefore, we can complete our review more quickly and at lower cost to the NFIP. While completing the forms may seem burdensome, the advantages to requestors outweigh any inconvenience.

The following forms or supporting data, which were omitted from your previous submittal, must be provided:

- Please submit a copy of the recorded plat for this subdivision lot that identifies the property noted in your request and that contains recording information from the county Recorder's Office. Recording information is necessary to generate a legally binding property description between the determination document and the property in question. If you choose, you may submit a copy of the deed with both recording information and the property's legal description from the Office of the Recorder in place of the recorded plat.

Please note that if all of the required items are not submitted within 90 days of the date of this letter, any subsequent request will be treated as an original submittal and will be subject to all submittal procedures.

When you write to us concerning your request, please include the case number referenced above in your letter. All required items for your request are to be either uploaded through the Online LOMC tool, for requests initiated online, or mailed to the Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426, for requests initiated through the mail.

Make sure to submit all  
required documents  
including recorded plat  
or deed for property





# Lot LOMAs require Elevation Form



## Federal Emergency Management Agency

Washington, D.C. 20472

August 28, 2023

Mr. Kurt Donaldson  
WV GIS Technical Center  
330 Brooks Hall  
98 Beechurst Avenue, PO Box 6300  
Morgantown, WV 26506

IN REPLY REFER TO:  
CASE NO: 23-03-0911A  
COMMUNITY: MINERAL COUNTY, WEST  
VIRGINIA  
(UNINCORPORATED AREAS)  
COMMUNITY NO: 540129  
216-AD

RE: 3964 PATTERSON CREEK VILLAGE PIKE

Dear Mr. Donaldson:

This is in response to your request for a Letter of Map Amendment for the property referenced above.

The Federal Emergency Management Agency (FEMA) uses detailed application/certification forms for revision requests or amendments to the National Flood Insurance Program (NFIP) maps. The forms provide step-by-step instructions for requestors to follow, and are comprehensive, ensuring that the requestors' submissions are complete and more logically structured. Therefore, we can complete our review more quickly and at lower cost to the NFIP. While completing the forms may seem burdensome, the advantages to requestors outweigh any inconvenience.

The following forms or supporting data, which were omitted from your previous submittal, must be provided:

- If the entire lot is to be reviewed, an Elevation Form is required to complete the case (copy enclosed) with the Lowest Lot Elevation certified by a licensed land surveyor or registered professional engineer.

Please note that if all of the required items are not submitted within 90 days of the date of this letter, any subsequent request will be treated as an original submittal and will be subject to all submittal procedures.

When you write to us concerning your request, please include the case number referenced above in your letter. All required items for your request are to be either uploaded through the Online LOMC tool, for requests initiated online, or mailed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426, for requests initiated through the mail.

If the **entire lot** is to be reviewed, an **Elevation Form** is required to complete the case with the Lowest Lot Elevation certified by a licensed land surveyor or registered professional engineer.



# No Charge for LiDAR LOMAs

The current fee schedule for conditional and final map change requests submitted by MT-1 and MT-2 paper forms and the Online Letter of Map Change (LOMC) tool are provided below. By submitting requests online, fees are reduced since processing costs are lower.

Requests for Single-Lot, Single-Structure Map Change	Paper Form Fee	Online LOMC Fee
Single-Lot or Single-Structure LOMA	Free	Free
Single-Lot/Single-Structure CLOMA and CLOMR-F	\$600	\$500
Single-Lot/Single-Structure LOMR-F	\$525	\$425
Single-Lot/Single-Structure LOMR-F Based on As-Built Information (CLOMR-F previously issued by FEMA)	\$425	\$325

## [FEMA Related Fees](#)

Requests for Multiple-Lot/Multiple-Structure Map Changes	Paper Form Fee	Online LOMC Fee
Multiple-Lot/Multiple-Structure LOMA	Free	Free
Multiple-Lot/Multiple-Structure CLOMA	\$800	\$700
Multiple-Lot/Multiple-Structure CLOMR-F and LOMR-F	\$900	\$800
Multiple-Lot/Multiple-Structure LOMR-F Based on As-Built Information (CLOMR-F previously issued by FEMA)	\$800	\$700

LOMA requests involving **one or more structures**: the LAG must be at or above the BFE.

LOMA requests involving **one or more lots**: the lowest point on each lot must be at or above the BFE.

# RESOURCES

- West Virginia

- [WV Flood Tool LiDAR for LOMA Guide | Instructions](#)
- [WV LiDAR for LOMA Examples](#)
- [WV Elevation Source Metadata](#)
- [WV FEMA-Purchased LiDAR Status Map](#)
- [WV Advisory A / AFH Status Map](#)
- [WV Building and Property Identifiers](#)
- [WV Vertical Datums](#)

- FEMA

- [FEMA Online Letter of Map Change \(LOMC\) Website](#)
- [Online Letter of Map Change Tutorial \(2018\)](#)
- [How to Request a Map Amendment \(2021\)](#)
- [How to Request a LOMA or LOMA Based on Fill \(LOMR-F\)](#)
- [Region V LiDAR LOMA Fact Sheet \(2018\)](#)