

National Flood Insurance Program

# Elevation Certificate and Instructions

2023 EDITION

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# FEMA

## ELEVATION CERTIFICATE AND INSTRUCTIONS

### PAPERWORK REDUCTION ACT NOTICE

Public reporting burden for this data collection is estimated to average 3.75 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting this form. You are not required to respond to this collection of information unless a valid OMB control number is displayed on this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street SW, Washington, DC 20742, Paperwork Reduction Project (1660-0008). **NOTE: Do not send your completed form to this address.**

### PRIVACY ACT STATEMENT

**Authority:** Title 44 CFR § 61.7 and 61.8.

**Principal Purpose(s):** This information is being collected for the primary purpose of documenting compliance with National Flood Insurance Program (NFIP) floodplain management ordinances for new or substantially improved structures in designated Special Flood Hazard Areas. This form may also be used as an optional tool for a Letter of Map Amendment (LOMA), Conditional LOMA (CLOMA), Letter of Map Revision Based on Fill (LOMR-F), or Conditional LOMR-F (CLOMR-F), or for flood insurance rating purposes in any flood zone.

**Routine Use(s):** The information on this form may be disclosed as generally permitted under 5 U.S.C. § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/ FEMA-003 – *National Flood Insurance Program Files System of Records Notice* 79 Fed. Reg. 28747 (May 19, 2014) and upon written request, written consent, by agreement, or as required by law.

**Disclosure:** The disclosure of information on this form is voluntary; however, failure to provide the information requested may impact the flood insurance premium through the NFIP. Information will only be released as permitted by law.

### PURPOSE OF THE ELEVATION CERTIFICATE

The Elevation Certificate is an important administrative tool of the NFIP. It can be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to inform the proper insurance premium, and to support a request for a LOMA, CLOMA, LOMR-F, or CLOMR-F.

The Elevation Certificate is used to document floodplain management compliance for Post-Flood Insurance Rate Map (FIRM) buildings, which are buildings constructed after publication of the FIRM, located in flood Zones A1–A30, AE, AH, AO, A (with Base Flood Elevation (BFE)), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, and A99. It may also be used to provide elevation information for Pre-FIRM buildings or buildings in any flood zone.

As part of the agreement for making flood insurance available in a community, the NFIP requires the community to adopt floodplain management regulations that specify minimum requirements for reducing flood losses. One such requirement is for the community to obtain the elevation of the lowest floor (including basement) of all new and substantially improved buildings, and maintain a record of such information. The Elevation Certificate provides a way for a community to document compliance with the community's floodplain management ordinance.

Use of this certificate does not provide a waiver of the flood insurance purchase requirement. Only a LOMA or LOMR-F from the Federal Emergency Management Agency (FEMA) can amend the FIRM and remove the federal mandate for a lending institution to require the purchase of flood insurance. However, the lending institution has the option of requiring flood insurance even if a LOMA/LOMR-F has been issued by FEMA. The Elevation Certificate may be used to support a LOMA, CLOMA, LOMR-F, or CLOMR-F request. Lowest Adjacent Grade (LAG) elevations certified by a land surveyor, engineer, or architect, as authorized by state law, will be required if the certificate is used to support a LOMA, CLOMA, LOMR-F, or CLOMR-F request. A LOMA, CLOMA, LOMR-F, or CLOMR-F request must be submitted with either a completed FEMA MT-EZ or MT-1 application package, whichever is appropriate. If the certificate will only be completed to support a LOMA, CLOMA, LOMR-F, or CLOMR-F request, there is an option to document the certified LAG elevation on the Elevation Form included in the MT-EZ and MT-1 application.

This certificate is used only to certify building elevations. A separate certificate is required for floodproofing. Under the NFIP, non-residential buildings can be floodproofed up to or above the BFE. A floodproofed building is a building that has been designed and constructed to be watertight (substantially impermeable to floodwaters) below the BFE. Floodproofing of residential buildings is not permitted under the NFIP unless FEMA has granted the community an exception for residential floodproofed basements. The community must adopt standards for design and construction of floodproofed basements before FEMA will grant a basement exception. For both floodproofed non-residential buildings and residential floodproofed basements in communities that have been granted an exception by FEMA, a floodproofing certificate is required.

The expiration date on the form herein does not apply to certified and completed Elevation Certificates, as a completed Elevation Certificate does not expire, unless there is a physical change to the building that invalidates information in Section A Items A8 or A9, Section C, Section E, or Section H. In addition, this form is intended for the specific building referenced in Section A and is not invalidated by the transfer of building ownership.

Additional guidance can be found in FEMA Publication 467-1, *Floodplain Management Bulletin: Elevation Certificate*.

### ELEVATION CERTIFICATE

#### IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION		FOR INSURANCE COMPANY USE
A1. Building Owner's Name: <u>Jerry W. &amp; Karen D. Vecchio</u>		Policy Number: _____
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: <u>112 Rivercrest Drive</u>		Company NAIC Number: _____
City: <u>Fairmont</u>		State: <u>WV</u> ZIP Code: <u>26554</u>
A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number: <u>Lot 12</u>		
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): <u>Residential</u>		
A5. Latitude/Longitude: Lat. <u>39.451609</u> Long. <u>-80.170877</u>		Horiz. Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983 <input type="checkbox"/> WGS 84
A6. Attach at least two and when possible four clear color photographs (one for each side) of the building (see Form pages 7 and 8).		
A7. Building Diagram Number: _____		
A8. For a building with a crawlspace or enclosure(s):		
a) Square footage of crawlspace or enclosure(s): _____ sq. ft.		
b) Is there at least one permanent flood opening on two different sides of each enclosed area? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade: Non-engineered flood openings: _____ Engineered flood openings: _____		
d) Total net open area of non-engineered flood openings in A8.c: _____ sq. in.		
e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): _____ sq. ft.		
f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): _____ sq. ft.		
A9. For a building with an attached garage:		
a) Square footage of attached garage: _____ sq. ft.		
b) Is there at least one permanent flood opening on two different sides of the attached garage? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade: Non-engineered flood openings: _____ Engineered flood openings: _____		
d) Total net open area of non-engineered flood openings in A9.c: _____ sq. in.		
e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): _____ sq. ft.		
f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): _____ sq. ft.		
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION		
B1.a. NFIP Community Name: <u>City of Fairmont</u>		B1.b. NFIP Community Identification Number: <u>540099</u>
B2. County Name: <u>Marion</u>		B3. State: <u>WV</u> B4. Map/Panel No.: <u>208</u> B5. Suffix: <u>D</u>
B6. FIRM Index Date: <u>06/19/2012</u>		B7. FIRM Panel Effective/Revised Date: <u>06/19/2012</u>
B8. Flood Zone(s): <u>AE</u>		B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth): <u>874.2</u>
B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9: <input type="checkbox"/> FIS <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other: _____		
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____		
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA		
B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

# ELEVATION CERTIFICATE

**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11**

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 112 Rivercrest Drive		FOR INSURANCE COMPANY USE	
City: <u>Fairmont</u> State: <u>WV</u> ZIP Code: <u>26554</u>		Policy Number: _____	
		Company NAIC Number: _____	

## SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on:  Construction Drawings\*  Building Under Construction\*  Finished Construction  
 \*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a-h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: OPUS Vertical Datum: NAVD 88

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929  NAVD 1988  Other: \_\_\_\_\_

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used?

If Yes, describe the source of the conversion factor in the Section D Comments area.

a) Top of bottom floor (including basement, crawlspace, or enclosure floor):	n/a	<input type="checkbox"/> feet <input type="checkbox"/> meters
b) Top of the next higher floor (see Instructions):	881.73	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
c) Bottom of the lowest horizontal structural member (see Instructions):	n/a	<input type="checkbox"/> feet <input type="checkbox"/> meters
d) Attached garage (top of slab):	n/a	<input type="checkbox"/> feet <input type="checkbox"/> meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):	n/a	<input type="checkbox"/> feet <input type="checkbox"/> meters
f) Lowest Adjacent Grade (LAG) next to building: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Finished	874.61	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
g) Highest Adjacent Grade (HAG) next to building: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Finished	875.46	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:	874.61	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters

Yes  No

Check the measurement used:

## SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by state law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Were latitude and longitude in Section A provided by a licensed land surveyor?  Yes  No

Check here if attachments and describe in the Comments area.

Certifier's Name: Zachary R. Hawkins License Number: 2477

Title: Owner/Professional Surveyor

Company Name: Cardinal Land Surveying, LLC

Address: PO Box 1673

City: Fairmont State: WV ZIP Code: 26555

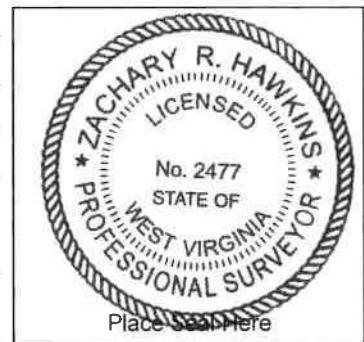
Telephone: (304) 627-7074 Ext.: \_\_\_\_\_ Email: zhawkins@cardinalsurv.com

Signature: Zachary R. Hawkins Date: 05/12/2025

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments):  
 Elevation Certificate prepared upon request by the City of Fairmont to confirm whether or not the porch under construction was within the flood zone.

See topo map with proposed porch shown, OPUS post-processed report, and Firmette attached.



## ELEVATION CERTIFICATE

**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11**

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 112 Rivercrest Drive	<b>FOR INSURANCE COMPANY USE</b>
City: <u>Fairmont</u> State: <u>WV</u> ZIP Code: <u>26554</u>	
Policy Number: _____ Company NAIC Number: _____	

### **SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)**

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

Building measurements are based on:  Construction Drawings\*  Building Under Construction\*  Finished Construction

\*A new Elevation Certificate will be required when construction of the building is complete.

**E1.** Provide measurements (C.2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the LAG.

a) Top of bottom floor (including basement, crawlspace, or enclosure) is: \_\_\_\_\_  feet  meters  above or  below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is: \_\_\_\_\_  feet  meters  above or  below the LAG.

**E2.** For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (C2.b in applicable Building Diagram) of the building is: \_\_\_\_\_  feet  meters  above or  below the HAG.

**E3.** Attached garage (top of slab) is: \_\_\_\_\_  feet  meters  above or  below the HAG.

**E4.** Top of platform of machinery and/or equipment servicing the building is: \_\_\_\_\_  feet  meters  above or  below the HAG.

**E5.** Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance?  Yes  No  Unknown The local official must certify this information in Section G.

### **SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION**

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge*

Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext.: \_\_\_\_\_ Email: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

# ELEVATION CERTIFICATE

**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11**

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 112 Rivercrest Drive	<b>FOR INSURANCE COMPANY USE</b>
City: Fairmont      State: WV      ZIP Code: 26554	Policy Number: _____ Company NAIC Number: _____

## **SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)**

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1.  The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a.  A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b.  A local official completed Section H for insurance purposes.

G3.  In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4.  The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: \_\_\_\_\_ G6. Date Permit Issued: \_\_\_\_\_

G7. Date Certificate of Compliance/Occupancy Issued: \_\_\_\_\_

G8. This permit has been issued for:  New Construction  Substantial Improvement

G9.a. Elevation of as-built lowest floor (including basement) of the building: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_

G9.b. Elevation of bottom of as-built lowest horizontal structural member: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_

G10.a. BFE (or depth in Zone AO) of flooding at the building site: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_

G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: \_\_\_\_\_  feet  meters Datum: \_\_\_\_\_

G11. Variance issued?  Yes  No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: \_\_\_\_\_ Title: \_\_\_\_\_

NFIP Community Name: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext.: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H):

# ELEVATION CERTIFICATE

**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11**

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 112 Rivercrest Drive	<b>FOR INSURANCE COMPANY USE</b>
City: <u>Fairmont</u> State: <u>WV</u> ZIP Code: <u>26554</u>	
Policy Number: _____ Company NAIC Number: _____	

## **SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)**

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). **Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.**

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

- a) **For Building Diagrams 1A, 1B, 3, and 5–8.** Top of bottom \_\_\_\_\_  feet  meters  above the LAG floor (include above-grade floors only for buildings with crawlspaces or enclosure floors) is:
- b) **For Building Diagrams 2A, 2B, 4, and 6–9.** Top of next \_\_\_\_\_  feet  meters  above the LAG higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is:

H2. Is **all** Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?

Yes  No

## **SECTION I – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION**

The property owner or owner's authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.

Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner's Authorized Representative Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext.: \_\_\_\_\_ Email: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

**ELEVATION CERTIFICATE**  
**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11**  
**BUILDING PHOTOGRAPHS**

See Instructions for Item A6.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 112 Rivercrest Drive	FOR INSURANCE COMPANY USE
City: Fairmont      State: WV      ZIP Code: 26554	Policy Number: _____ Company NAIC Number: _____

Instructions: Insert below at least two and when possible four photographs showing each side of the building (for example, may only be able to take front and back pictures of townhouses/rowhouses). Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." Photographs must show the foundation. When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.



Photo One

Photo One Caption: South West View

[Clear Photo One](#)



Photo Two

Photo Two Caption: South View

[Clear Photo Two](#)

**ELEVATION CERTIFICATE**  
**IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON INSTRUCTION PAGES 1-11**  
**BUILDING PHOTOGRAPHS**

Continuation Page

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 112 Rivercrest Drive	<b>FOR INSURANCE COMPANY USE</b>
City: <u>Fairmont</u> State: <u>WV</u> ZIP Code: <u>26554</u>	
Policy Number: _____	
Company NAIC Number: _____	

Insert the third and fourth photographs below. Identify all photographs with the date taken and "Front View," "Rear View," "Right Side View," or "Left Side View." When flood openings are present, include at least one close-up photograph of representative flood openings or vents, as indicated in Sections A8 and A9.

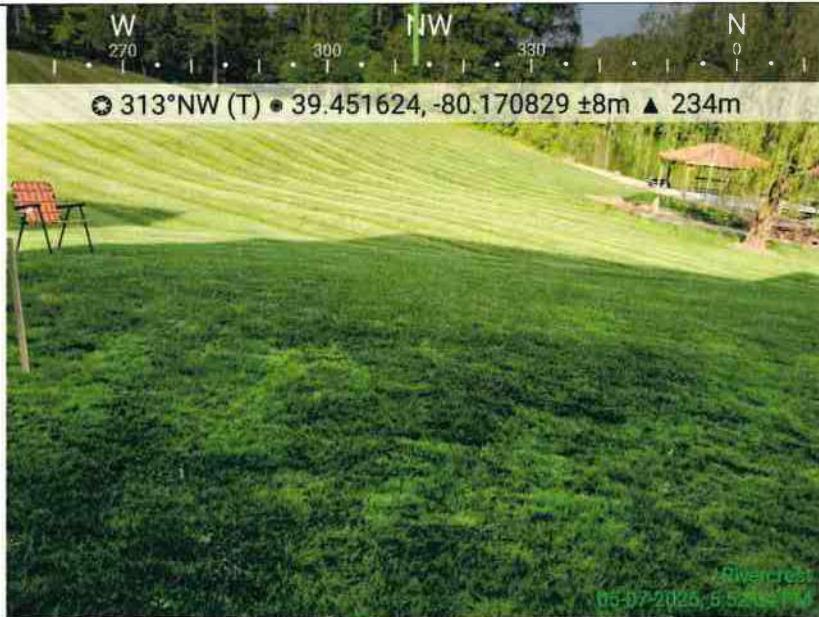


Photo Three

Photo Three Caption: North View



Photo Four

Photo Four Caption: North East View

**From:** opus <opus@ngs.noaa.gov>  
**Sent:** Thursday, May 8, 2025 7:36:28 PM  
**To:** Zachary Hawkins <zhawkins@cardinalsurv.com>  
**Subject:** OPUS solution : 1 TR3441286202941

FILE: 1 TR3441286202941

## NGS OPUS SOLUTION REPORT

All computed coordinate accuracies are listed as peak-to-peak values.  
For additional information: <https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: zhawkins@cardinalsurv.com  
RINEX FILE: 1 127u.25o DATE: May 08, 2025  
TIME: 23:35:59 UTC

SOFTWARE: page5 2008.25 master252.pl 160321 START: 2025/05/07 20:54:00  
EPHEMERIS: igu23653.eph [ultra-rapid] STOP: 2025/05/07 22:54:00  
NAV FILE: brdc1270.25n OBS USED: 4105 / 4916 : 84%  
ANT NAME: TRMR10 NONE # FIXED AMB: 43 / 45 : 96%  
ARP HEIGHT: 2.05 OVERALL RMS: 0.020(m)

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000) ITRF2014 (EPOCH:2025.3477)

X:	841877.331(m)	0.024(m)	841876.346(m)	0.024(m)
Y:	-4859421.033(m)	0.031(m)	-4859419.610(m)	0.031(m)
Z:	4031301.977(m)	0.011(m)	4031301.921(m)	0.011(m)

LAT: 39 27 5.59379 0.014(m) 39 27 5.62475 0.014(m)  
 E LON: 279 49 43.42714 0.019(m) 279 49 43.39672 0.019(m)  
 W LON: 80 10 16.57286 0.019(m) 80 10 16.60328 0.019(m)  
 EL HGT: 236.460(m) 0.034(m) 235.211(m) 0.034(m)  
 ORTHO HGT: 269.062(m) 0.084(m) [NAVD88 (Computed using GEOID18)]

UTM COORDINATES STATE PLANE COORDINATES  
UTM (Zone 17) SPC (4701 WV N)  
Northing (Y) [meters] 4367215.625 105854.312

Easting (X) [meters]	571303.292	542225.384
Convergence [degrees]	0.52661944	-0.42811667
Point Scale	0.99966260	0.99994535
Combined Factor	0.99962552	0.99990826

US NATIONAL GRID DESIGNATOR: 17SND7130367216(NAD 83)

#### BASE STATIONS USED

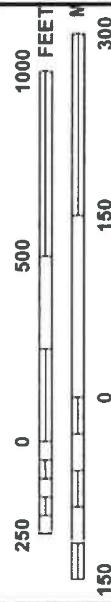
PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DN9087	WVTA TERRA ALTA CORS ARP	N392616.643	W0793052.953	56544.0
DK6718	PAFU UNIONTOWN CORS ARP	N395535.688	W0794150.510	66592.5
DM4710	WVNR ELKINS CORS ARP	N385344.505	W0795130.270	67377.9

NEAREST NGS PUBLISHED CONTROL POINT  
AE2197 4G7 A N392656.158 W0800957.764 535.6

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.



MAP SCALE 1" = 500'



PANEL 0208D

N.F.P.

**FIRM**  
FLOOD INSURANCE RATE MAP  
MARION COUNTY,  
WEST VIRGINIA  
AND INCORPORATED AREAS

PANEL 208 OF 275

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRBORN CITY OF	540369	0208	D
MARION COUNTY	540367	0208	D
PLUCKEN VALLEY CITY OF	545532	0208	D
WHITE HALL TOWN OF	545535	0208	D

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

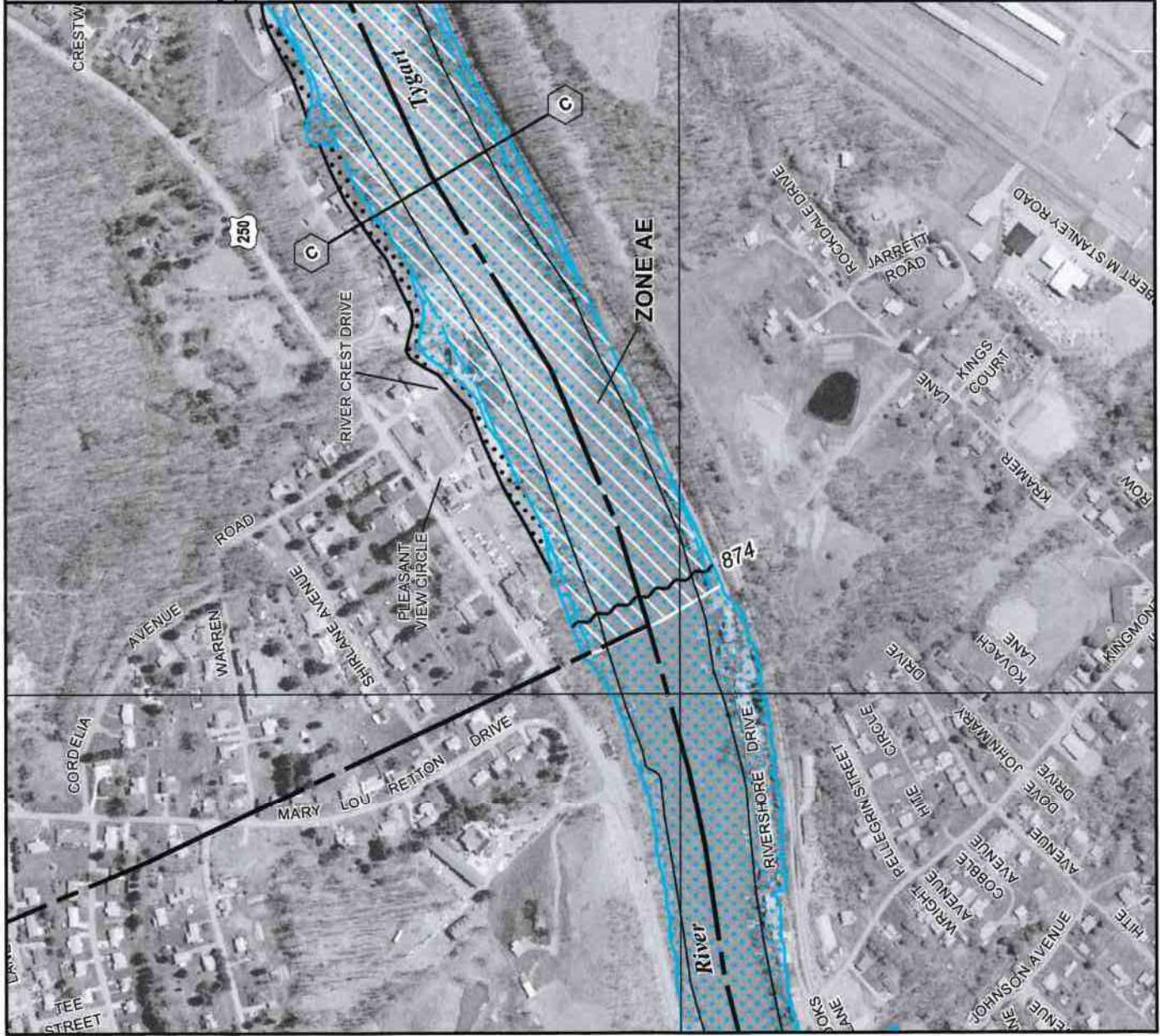


MAP NUMBER  
54049C0208D

EFFECTIVE DATE  
JUNE 19, 2012

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://fmsc.fema.gov>.



GRID NORTH  
WV NORTH ZONE, NAD 83



BFE=874.20'

875.46'

PROPOSED PORCH

875

EXISTING PORCH

881.73'  
874.61'

878

0 20' 40'  
A horizontal scale bar with three segments. The first segment is black and labeled '0'. The second segment is white and labeled '20''. The third segment is black and labeled '40''. There are smaller tick marks between the labeled segments.