FFRMS Final Rule Webinar Series

Part 1: Part 55 Overview and Compliance

May 30, 2024

1:30-3:30 PM EDT

HUD Opening Remarks

Claudia Monterrosa, Deputy Assistant Secretary for Grant Programs

Learning Objectives and Overview

- Attendees will become acquainted with HUD's Federal Flood Risk Management Standard (FFRMS) Final Rule
- Attendees will learn how to implement and comply with the requirements of the new 24 Part 55
- Attendees will understand how the FFRMS floodplain is defined and other new terminology
- Attendees will understand how the new Final Rule will affect the environmental review process

Learning Objectives and Overview

- This webinar is intended for HUD grantees, recipients, applicants, and associated stakeholders
- This webinar is the first in a 2-part series and provides background on FFRMS and comprehensive guidance on changes made to 24 Part 55, including HUD's FFRMS approach, limitations on HUD assistance in floodplains, exceptions to the Rule, and the eight-step decision-making process
- The second session will cover protection of wetlands, guidance on changes to 24 CFR 200, and other changes made in the Final Rule

Agenda

- FFRMS Background
- HUD's Approach to Identifying the FFRMS Floodplain
- Limitations on HUD Assistance in Floodplains, Exceptions, and Other Processes
- 8-Step Process Overview and Changes Under FFRMS
- Key Takeaways
- Q&A

FFRMS Background

Background – Flood Risk in the United States

Since 2017, the U.S. has seen eight separate flooding events costing $1 billion or more, with total impacts of over $30 billion dollars according to NOAA estimates.

Flooding and severe storms affect all communities. Socially vulnerable populations such as low-income and minority communities are at greater risk and have a harder recovery.

Flood risk and flood disasters expected to increase as climate change progresses.

Background – Policy

- Executive Order **11988** (1977) outlines floodplain management requirements for federal agencies
- Executive Order **13690** (2015) establishes a new Federal Flood Risk Management Standard (FFRMS)
  - Established to encourage federal agencies to address current and future flood risk, improve resilience, and maintain the value of taxpayer investments
- Executive Order **14030** (2021) furthers measures to address climate-related financial risk

Background – Policy

What is the Federal Flood Risk Management Standard (FFRMS)?

A national minimum flood risk management standard established to encourage federal agencies to consider and manage current and future flood risks in order to build a more resilient nation. The FFRMS ensures that federal actions located in or near the floodplain last as long as intended by considering risks, changes in climate, and vulnerability.

- HUD's Final Rule published on April 23, 2024, at 89 FR 30850

What does HUD's Final Rule do?

The FFRMS rule modifies HUD's floodplain management regulations to better address flood risk.

This rule implements requirements found in **EO 13690** - Establishing a Federal Flood Risk Management Standard (2015) and **EO 14030** – Climate-Related Financial Risk (2021) by updating:

- **Part 55**, Floodplain Management and Protection of Wetlands: Applies to all HUD programs that trigger NEPA/environmental review requirements
- **Part 200**, Minimum Property Standards: Applies to single-family housing under HUD mortgage insurance programs

Relevant Dates

- Final Rule Published: **April 23, 2024**
- Date Effective: **May 23, 2024**
  - 30 days after Federal Register publication
- Compliance Date for Most Projects: **June 24, 2024**
  - 60 days after Federal Register publication

- Extended Compliance Dates:
  - Final rule's amendments to 24 CFR part 200: **January 1, 2025**
    - Applies to new construction
    - Based on submission of building permit application
  - Final rule's amendments to 24 CFR part 55 for certain programs: **January 1, 2025**
    - Programs subject to Chapter 9 of the Federal Housing Administration's (FHA) Multifamily Accelerated Processing (MAP) Guide
    - Section 202 and 811 capital advance grants
    - Other mortgage insurance programs subject to Part 55

Major Changes under the Final Rule

The Final Rule:

- **Redefines the floodplain of concern**:
  - Regulates to a newly defined, expanded FFRMS floodplain instead of the 100-year floodplain to account for increased flood risk over time
  - Will increase the number of HUD actions that require compliance with Part 55 regulations
- **Increases the required elevation for new construction** across all applicable programs and **substantially improved structures** (for grant programs and multifamily FHA-insured projects)
- **Clarifies flood insurance requirements** and **strengthens public notice requirements** to increase awareness of flood risk to renters and homeowners
- **Incorporates flexibilities in allowing HUD assistance** for certain properties in floodways when specific criteria are met

Terminology and Key Concepts

1-Percent-Annual-Chance Floodplain

- An area subject to flood inundation with an annual chance of 1% or greater of occurring in any given year
- Known as the 100-year floodplain
- The height of surface water during a 100-year event is the base flood elevation
- No longer used as the basis of determining the floodplain as of the Final Rule

0.2-Percent-Annual-Chance Floodplain

- An area, including the base flood elevation, subject to flood inundation with an annual chance of 0.2% or greater chance of occurring in any given year
- Known as the 500-year floodplain
- Forms the basis of one of the FFRMS approaches, the 0.2PFA

Terminology and Key Concepts

Coastal High Hazard Area (CHHA) (or V Zones)

- Area subject to high-velocity waters such as hurricane wave wash or tsunamis
- Critical actions are prohibited in the CHHA, other than functionally dependent uses that will be elevated or floodproofed to FFRMS elevation
- Noncritical actions are limited to functionally dependent uses, existing structures or improvements, and reconstruction after a disaster, provided the action is designed for location in a CHHA

Limit of Moderate Wave Action (LiMWA)

- The inland limit of the portion of Coastal A Zone where wave heights can be between 1.5 and 3 feet during a base flood event, subjecting properties to damage from waves and storm surge
- Critical actions are prohibited in the LiMWA, other than functionally dependent uses that will be elevated or floodproofed to FFRMS elevation
- Noncritical actions are limited to functionally dependent uses, existing structures or improvements, and reconstruction after a disaster

Terminology and Key Concepts

Functionally Dependent Use

- A land use that must necessarily be conducted in close proximity to water, such as a dam, port facility, marina, waterfront park, or bridge

Impervious Surface Area

- An improved surface that measurably reduces the rate of water infiltration below the rate that would otherwise be provided by the soil present in a location prior to improvement, based on the soil type identified either by the Natural Resource Conservation Service Soil Survey or geotechnical study.

Manufactured Housing

- Siting of new manufactured housing is to be considered new construction
- Manufactured homes are now included in the definition of substantial improvements, such that the value or scale of repairs, reconstruction, modernization, or improvements to the manufactured home are considered

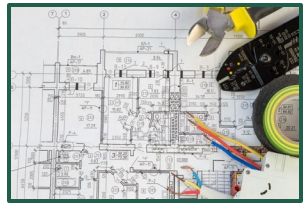
New Construction

- New construction in the FFRMS floodplain must be elevated or floodproofed to the higher FFRMS floodplain elevation for protection

Terminology and Key Concepts: Substantial Improvement

A *substantial improvement* is any repair or improvement that exceeds 50% market value of the asset or that increases the number of units or peak customers by more than 20% (24 CFR 55.2(b)(12)(i))



- Any repair, reconstruction, modernization or improvement of a structure, **including a manufactured housing unit** (added in the final rule), for which:
  - the cost exceeds 50% market value, calculated from before the repair is started or, if the structure has been damaged, from before the damage occurred, or
  - that increases the number of dwelling units by more than 20% if residential, or the peak number of customers or employees on site by more than 20% if industrial or commercial

- Substantial improvements do NOT include the following
  - improvement of a structure to comply with health, sanitary or safety code specifications solely necessary to assure safe living conditions, or
  - an alteration of a structure listed on the National Register or State Inventory of Historic Places
- Other structural repairs, reconstruction, or improvements are "minor improvements"

Terminology and Key Concepts: Critical Action

A *critical action* involves structures or facilities for which even the slightest change of flooding is too great. It is an activity that creates, maintains, or extends the useful life of such structures as listed below (24 CFR 55.2(b)(3))





- Facilities that produce, use or store highly volatile materials
- Community stormwater management infrastructure
- Water treatment plants
- Data storage centers
- Generating plants
- Principal utility lines
- Fire and police stations
- Emergency operations centers
- Roadways providing sole egress from flood-prone areas
- Hospitals, nursing homes, convalescent homes, intermediate care facilities, and retirement service centers

Critical actions in the FFRMS floodplain have higher regulatory requirements.

Terminology and Key Concepts

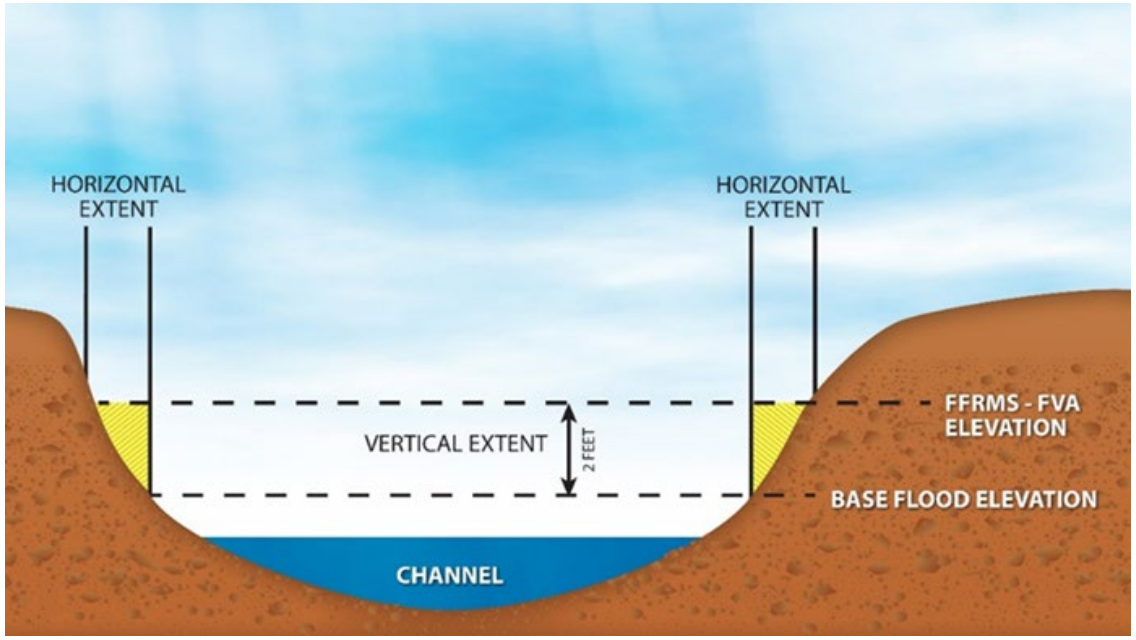
Federal Flood Risk Management Standard (FFRMS) Floodplain

- The regulated floodplain area that results from the higher vertical elevation and the corresponding horizontal expansion depending on the activities involved and the approach used
- EO 13690 establishes approaches for determining the FFRMS flood elevation
- HUD has adopted these approaches and established a preference for a Climate-Informed Science Approach (CISA) where data is available and actionable
- The FFRMS standards go above and beyond what is established in NFIP minimum standards
- See 24 CFR 55.7

HUD's Approach to Defining the FFRMS Floodplain

The FFRMS Floodplain – New Rule

- Redefines the floodplain of concern
  - No longer regulates to 100-year floodplain
  - 8-step process required for projects in the newly defined FFRMS floodplain, unless excepted
  - Expands the area where Part 55 applies both vertically and horizontally
- Utilizes a tiered approach to determining the FFRMS floodplain
  - Climate-Informed Science Approach (CISA)
  - 0.2-Percent-Annual Chance Floodplain Approach (0.2PFA)
  - Freeboard Value Approach (FVA)
- Increases the required elevation for new construction and substantially improved structures



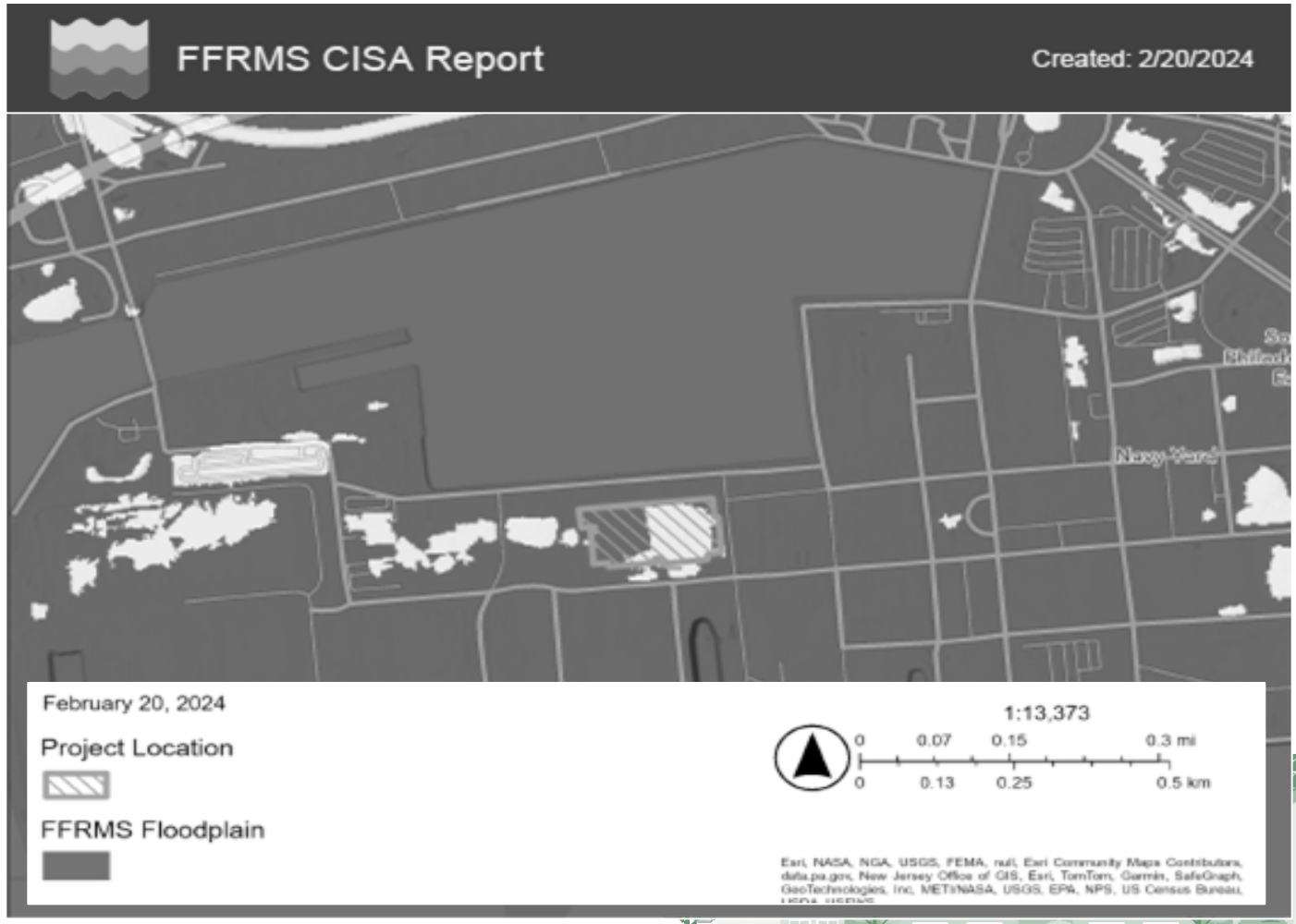
FFRMS: Modernizing the Regulatory Floodplain

Floodplain of Concern (Former Part 55 Standard)	FFRMS Floodplain (New Part 55 Requirements)
Based on FEMA's Flood Insurance Rate Maps (FIRMs), the 8-step process was required when in the: • 100-year floodplain (1% annual chance of flooding) • 500-year floodplain (0.2% annual chance of flooding) for *critical actions*	8-step process and elevation requirements triggered for areas subject to flooding based on: 1. Climate-Informed Science Approach (CISA) 2. 0.2-Percent-annual-chance Flood Approach (0.2PFA) – All new construction and substantial improvements in the 500-year floodplain and 100-year floodplain trigger 8-step and elevation requirements 3. Freeboard Value Approach (FVA)

Climate-Informed Science Approach

Climate-Informed Science Approach (CISA)

The FFRMS floodplain is the elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science.

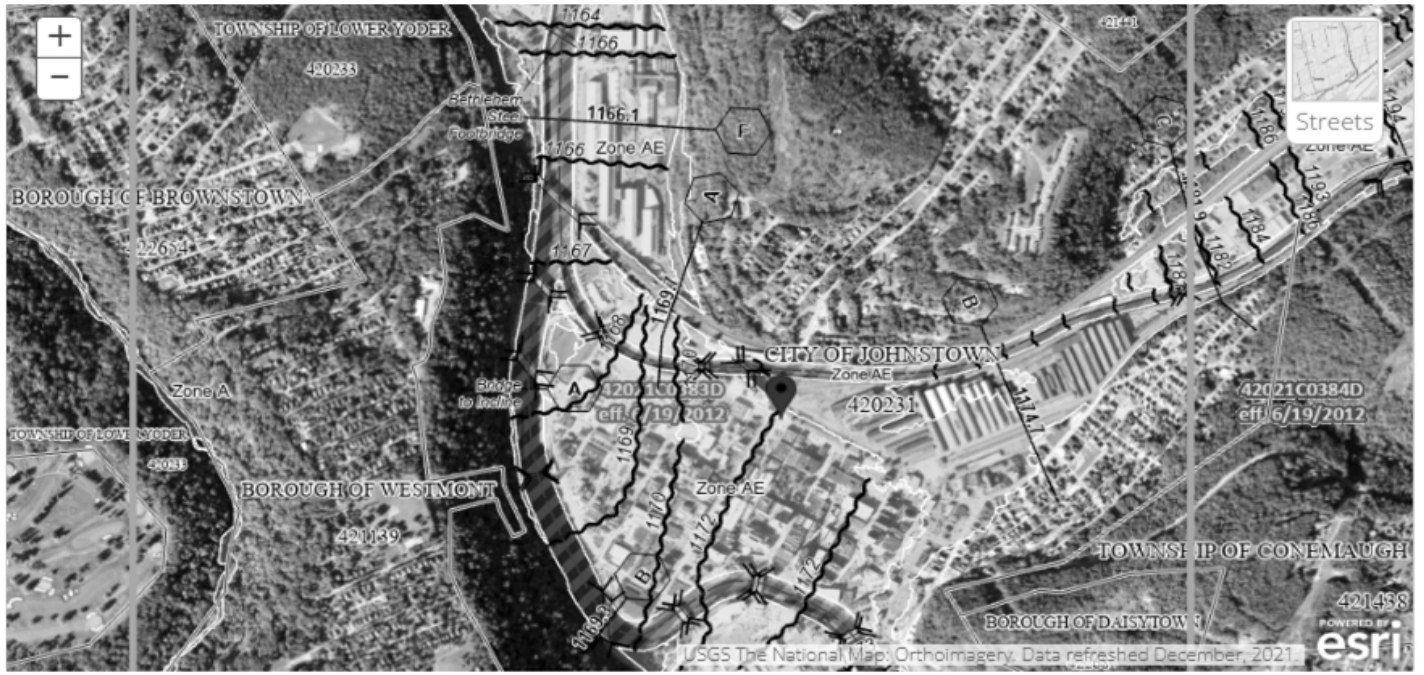


0.2 Percent-Annual-Chance Floodplain Approach

0.2 Percent-Annual-Chance Floodplain Approach (0.2PFA)

Based on FEMA maps

- FFRMS floodplain includes the 500-year floodplain (0.2 percent-annual-chance)
- The building elevation must at least meet the 500-year floodplain flood elevation

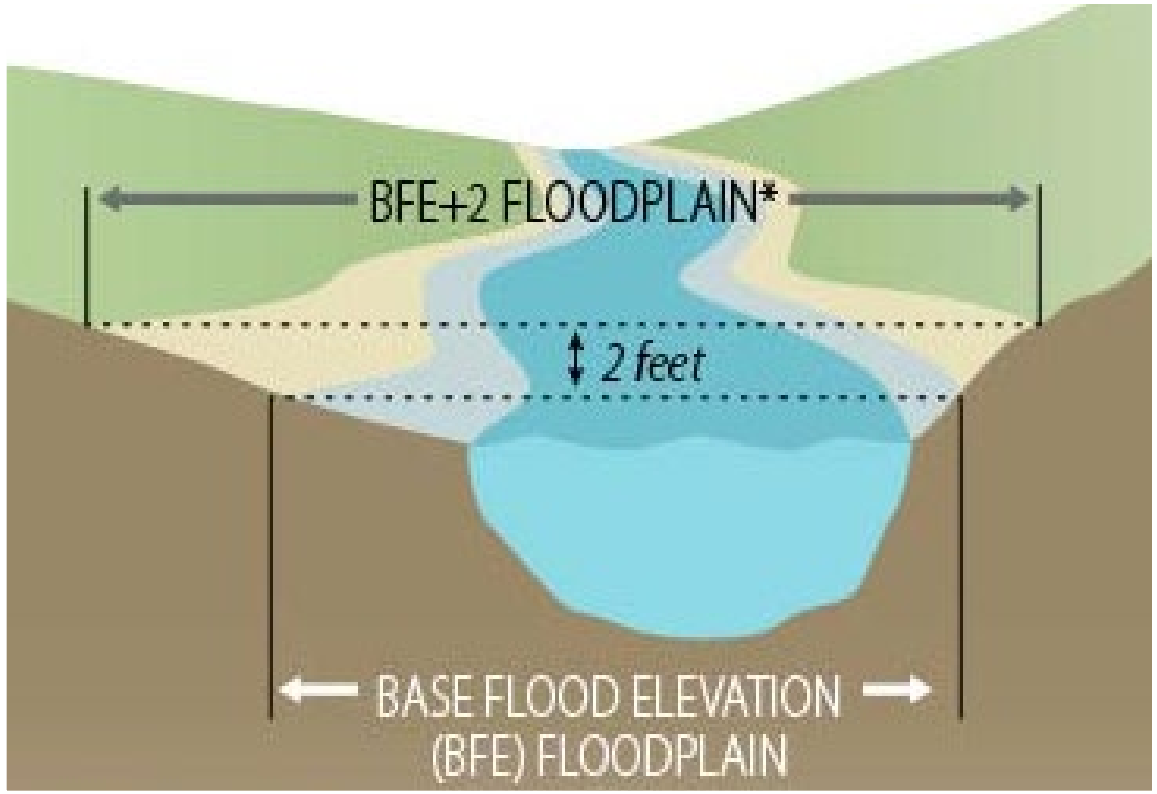


Freeboard Value Approach

Freeboard Value Approach (FVA)

Based on FEMA maps. FFRMS floodplain is the elevation and flood hazard area that result from

- Adding **2 feet** to the base flood elevation for non-critical actions
- Adding **3 feet** to the base flood elevation for critical actions



Identifying the FFRMS Floodplain

Is the project a critical action?

No

Are HUD-approved CISA maps available?

If Yes:
Rely on CISA where maps are available

If No:
Has FEMA mapped the 0.2% annual chance of flood?

If Yes:
Rely on 0.2PFA if mapped on FIRM

If No:
Rely on FVA (BFE+2)

Yes

Are HUD-approved CISA maps available?

If Yes:
Rely on CISA where maps are available

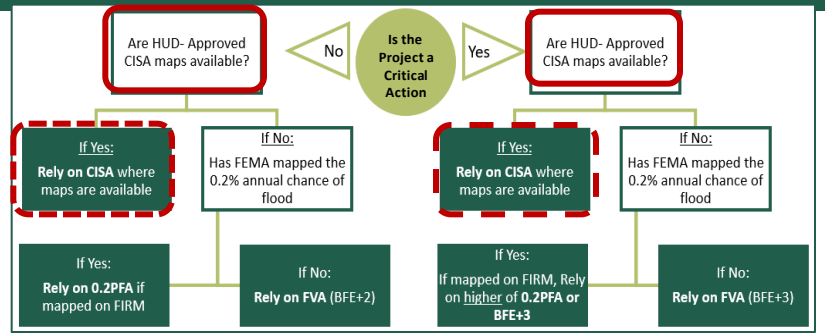
If No:
Has FEMA mapped the 0.2% annual chance of flood?

If Yes:
If mapped on FIRM, rely on higher of **0.2PFA or BFE+3**

If No:
Rely on FVA (BFE+3)

Identifying the FFRMS Floodplain - CISA

1. Using CISA maps



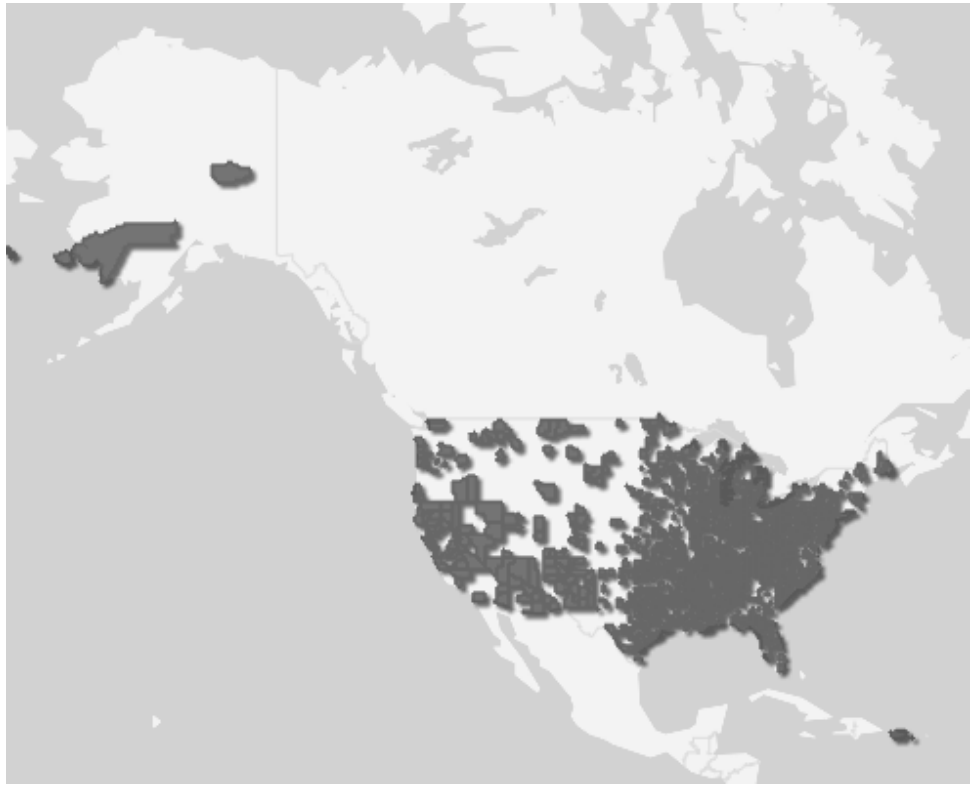
Use CISA maps when the area contains available and actionable CISA data and includes:

1) Data that can be accessed via a tool resource or other process to define the floodplain using CISA.
2) Required, when HUD has adopted the tool resource or other process through a future Federal Register notice.*

If CISA maps are not available for the project location, use 0.2PFA.

*As of May 2024, Federal CISA resources have not yet been formally adopted by HUD.

Identifying the FFRMS Floodplain – CISA Maps



Federal Flood Standard Support Tool (FFSST)

- Developed by the National Climate Task Force's Flood Resilience Interagency Working Group (IWG)
- Uses CISA data to determine floodplain status
- Work in progress (beta version)
  - Data only available for ~60% of US counties so far

NOTE: Not yet adopted by HUD, but grantees can still use it to document floodplain analysis.

FFSST map showing a building (orange) in the FFRMS floodplain (blue)

Federal Flood Standard Support Tool Beta v1.1.5

Help About

Assess project's flooding risk

1. Define project location
2. Input criticality and service life
3. Generate Report(s)

1. Define Project Location

Check the Status Map to determine if data are available in your area of interest.

Draw on Map

Find address or place

Next

Federal Flood Standard Support Tool Beta V1.1.5

Help About

Assess project's flooding risk

1 Define project location

2 Input criticality and service life

Service Criticality

N/A

Service Life

N/A

3 Generate Report(s)

2. Input Criticality and Service Life

Service Criticality

- Select Criticality -

Is the action critical or non-critical?

A critical action is any activity for which even a slight chance of flooding would be too great. Learn more: What is the difference between a critical and non-critical federally funded action?

Service Life

- Select Last Year of Service -

What is the expected service life?

The service life is the period for which a component, device, or system is still able to provide its intended function under real world conditions. Enter the projected last year of service (10 year increments). Learn more: How to determine service life.

Assess project's flooding risk

1 **Define project location**

2 **Input criticality and service life**

Service Criticality
Non-critical

Service Life
2070

3 Generate Report(s)

CISA Report

Freeboard Value Approach Report

3. Download Reports

The following report(s) are based on the project specifics that you entered and the FFRMS data. Note that CISA reports are only available for coastal areas.

CISA Report | Freeboard Value Approach Report

FFRMS CISA Report Created: Mon May 20 2024

Summary

Based on the user-defined location, service life **(46 Years)**, and **non-critical** designation, the proposed action **is in** the FFRMS floodplain.
The 2050 estimated sea-level rise amount is **2** ft, corresponding to a FFRMS flood elevation of **12** FT NAVD88.
The 2070 estimated sea-level rise amount is **2** ft, corresponding to a FFRMS flood elevation of **12** FT NAVD88.

The North American Vertical Datum of 1988 (NAVD88) is the datum used on FEMA Digital Flood Insurance Rate Maps (DFIRMs) for Base Flood Elevations (BFEs).

Projects located in the FFRMS floodplain should be designed consistent with the applicable policies and directives of the agency taking or approving the action.

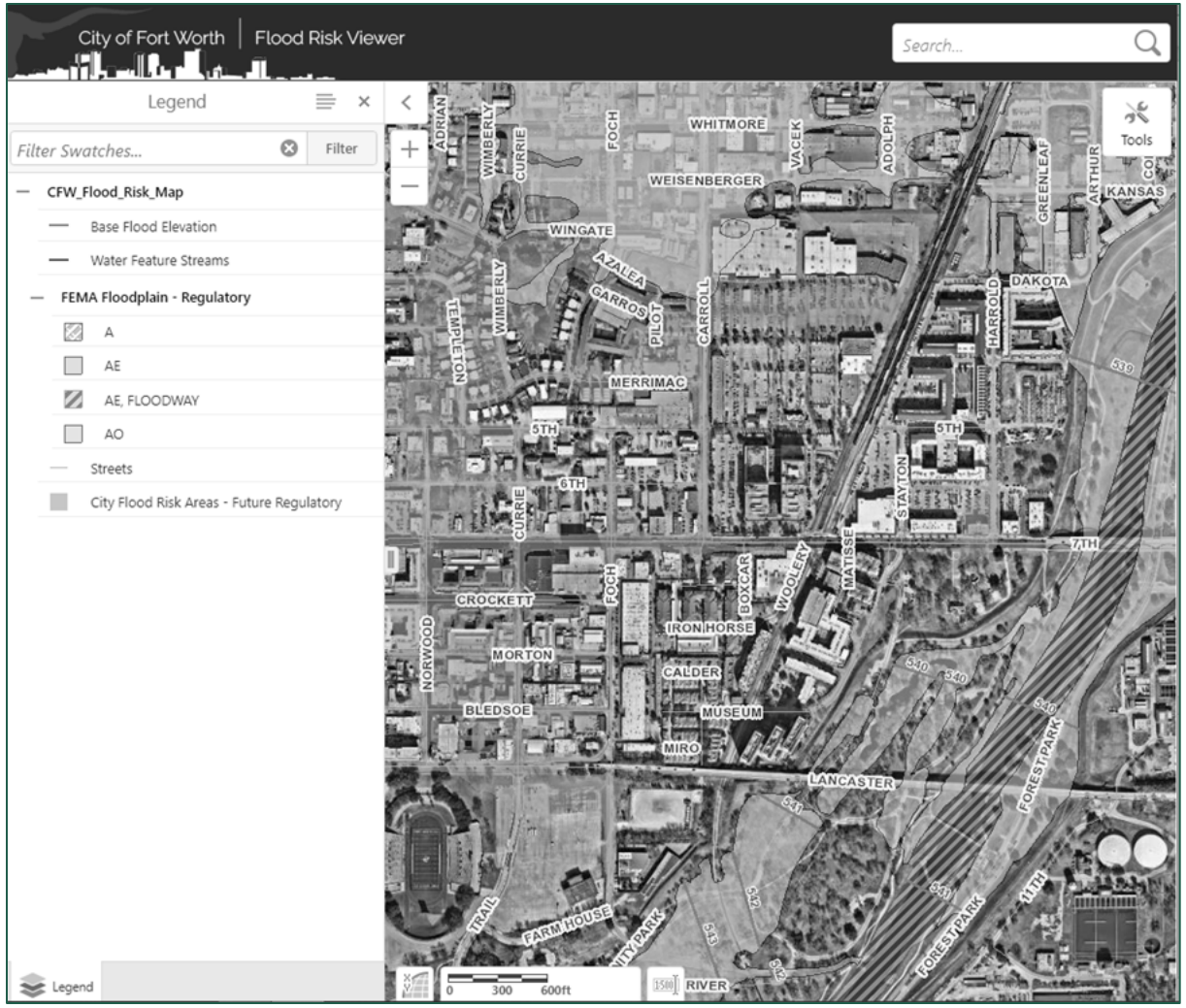
Proposed Action Details

Location centroid (Latitude, Longitude): 42°21'55.44"N 71°3'47.88"W

Service Criticality: Non-critical

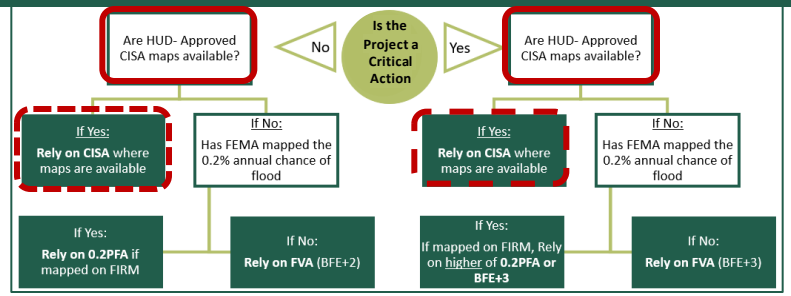
Back | Download CISA Report | Start New Assessment

Identifying the FFRMS Floodplain – Local CISA Maps



- Responsible Entity (RE) may **voluntarily** use CISA when the State, Tribal, or local government has formally adopted a tool resource or other written standards.
- HUD will permit use of local CISA data, if it is at least as high as the lower of the 0.2PFA or FVA.
  - Until HUD formally adopts it, FFSST can be considered local CISA data without formal adoption by the local government. *Further HUD guidance to come.*

Identifying the FFRMS Floodplain – CISA



1. Demonstrating Compliance Using CISA maps

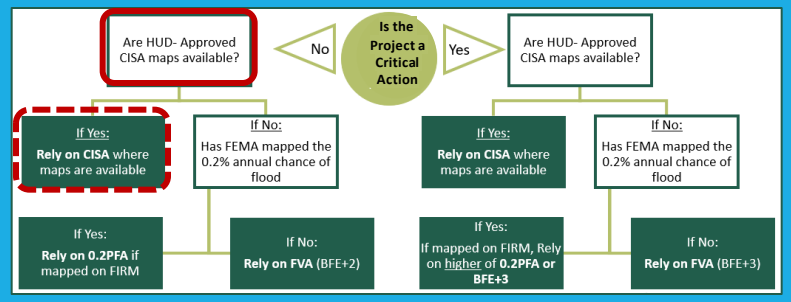
a) Verify CISA floodplain and elevation
   - Federal CISA data must be equal to or greater than base flood elevation (BFE) to use.
   - Local CISA data must be at least as high as the lower of the 0.2PFA or FVA (BFE+2 for non-critical actions and BFE+3 for critical actions)

b) If a project location is within the FFRMS floodplain, then the 8-step process is required

c) If the project involves new construction or substantial improvement, elevation requirements apply

d) If a project is located outside the FFRMS floodplain, then floodplain management compliance is complete

Case Study: Federal CISA Data*



Project Summary: New construction, non-critical action, and non-residential

Location: Philadelphia Navy Yard
39.890299, -75.184225

Step 1: Is CISA data available for the project area?

- Yes, through FFSST

Step 2: Is the project area located in the FFRMS floodplain (at least 30 years out)

- Yes: 14 feet

**Note: This case study uses a hypothetical approach that assumes HUD has adopted the FFSST in a Federal Notice.*

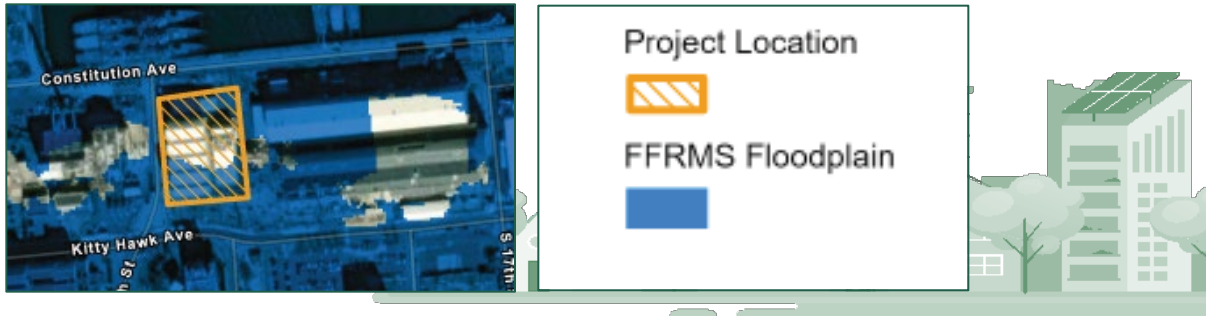
FFRMS CISA Report

Created: 2/21/2024

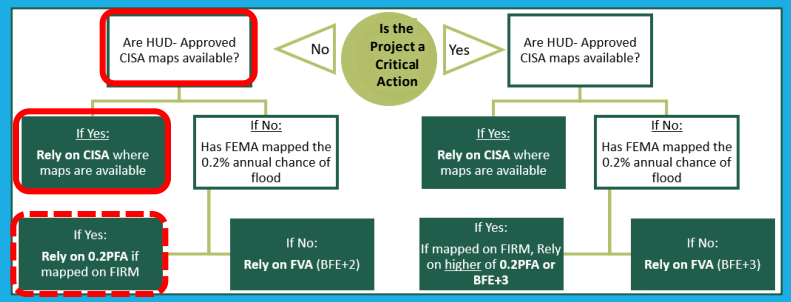
Summary

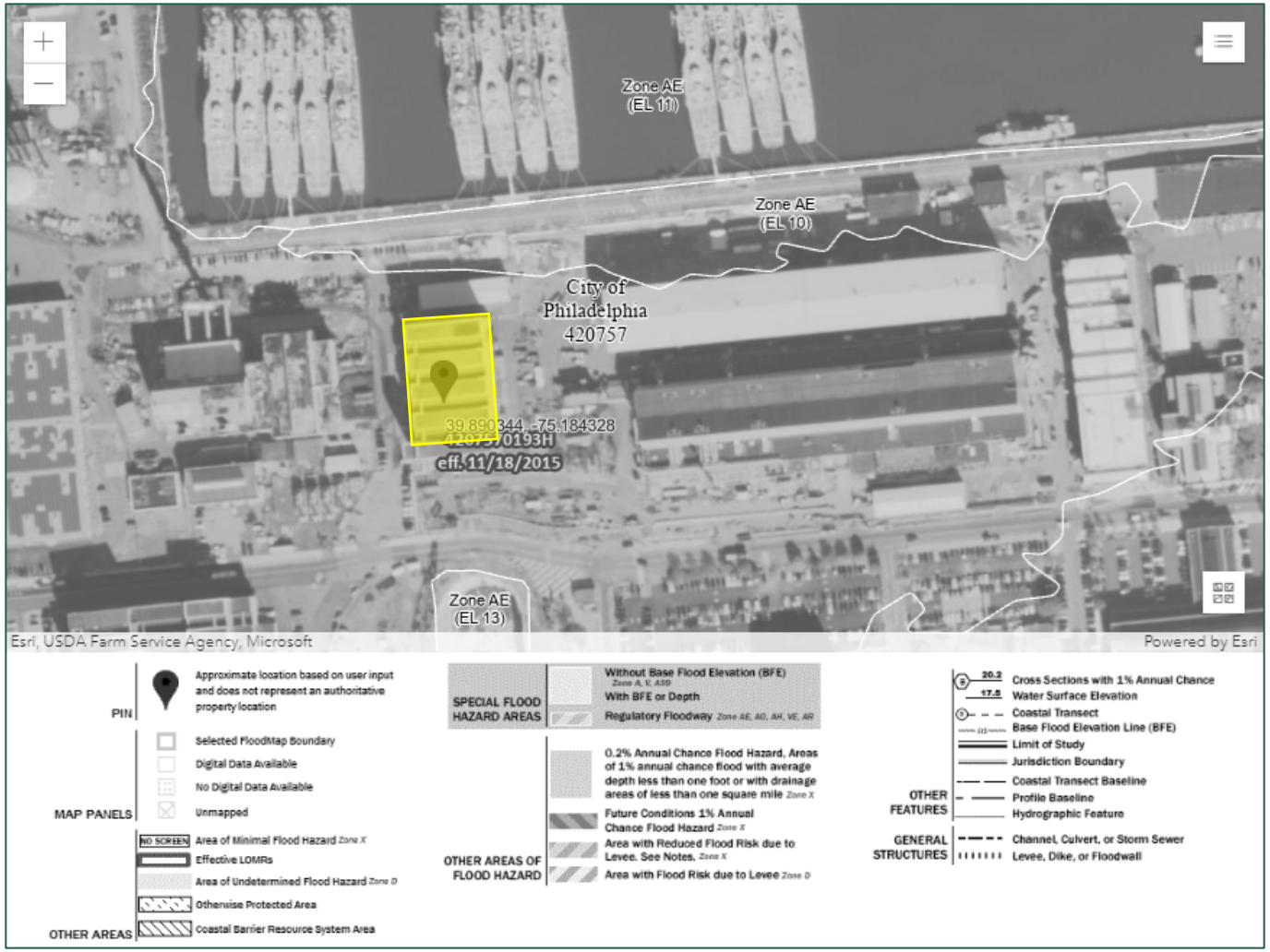
Based on the user-defined location, service life **(46 Years)**, and **non-critical** designation, the proposed action **is in** the FFRMS floodplain.
The 2050 estimated sea-level rise amount is **2** ft, corresponding to a FFRMS flood elevation of **12** FT NAVD88.
The 2070 estimated sea-level rise amount is **2** ft, corresponding to a FFRMS flood elevation of **12** FT NAVD88.

The North American Vertical Datum of 1988 (NAVD88) is the datum used on FEMA Digital Flood Insurance Rate Maps (DFIRMs) for Base Flood Elevations (BFEs).



Case Study: Federal CISA Data*





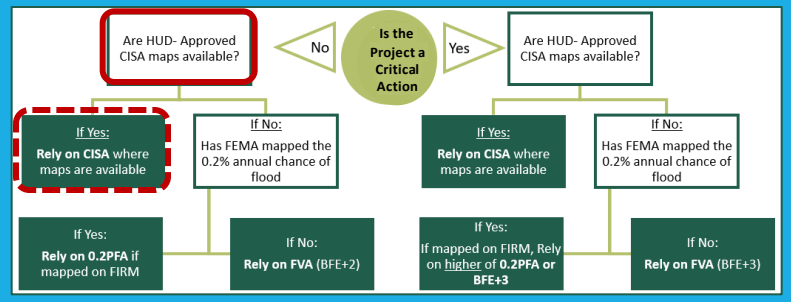
Step 3: Verify that Federal CISA data is equal to or greater than base flood elevation (BFE).

- Project area is in the 500-year floodplain but outside the 100-year floodplain.
- Conclusion: CISA data is greater than the BFE and can be used.

Step 4: Determine elevation requirement

- 14’, The North American Vertical Datum of 1988 (NAVD88) – Based on CISA

Case Study: Federal CISA Data*



USGS science for a changing world

The National Map - Elevation Point Query Service

The **Elevation Point Query Service** returns the elevation in international feet or meters for a specific latitude/longitude (NAD 1983) point from the USGS Elevation Service hosted at the NGTOC. Input parameters: **x** (*longitude*), **y** (*latitude*), **units** (*Feet, Meters*), **output** (*XML, JSON*). Latitude and longitude must be specified in decimal degrees with southern latitudes and western longitudes represented as negative values.

Go to FAQs:

- https://www.usgs.gov/ngp-standards-and-specifications/3dep-product-metadata
- https://www.usgs.gov/faqs/what-are-projection-horizontal-and-vertical-datum-units-and-resolution-3dep-standard-dems
- https://www.usgs.gov/faqs/how-accurate-are-elevations-generated-elevation-point-query-service-national-map
- API Documentation
- Bulk Point Query

X: -75.184225

Y: 39.890299

Spatial Reference: 4326

Units: Feet

Format: XML

Include Date: True

Get Elevation

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  </attributes>
</result>
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Step 5: Verify site elevation

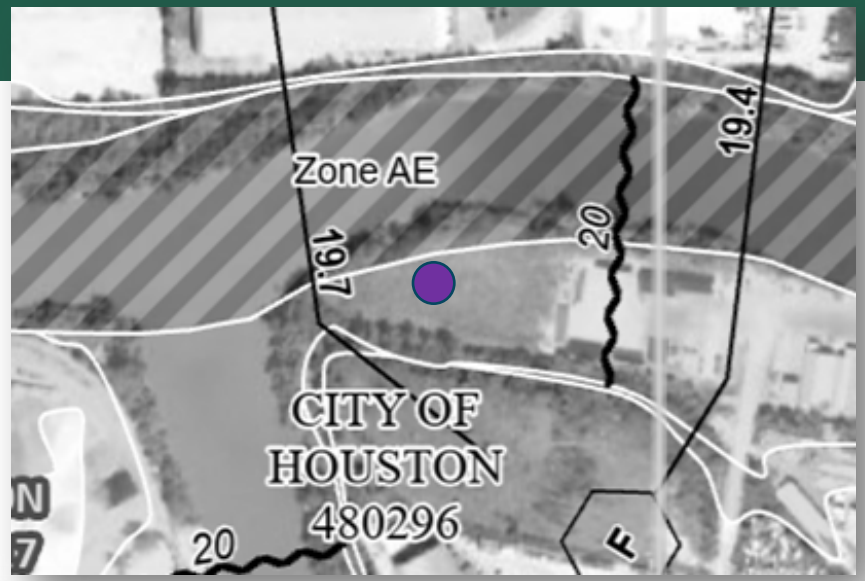
- (39.890299, -75.184225) El: 11.8’
- Reference: USGS-EPQS
- Best practice: Use multiple reference points*

Conclusion

- Project is located in the FFRMS floodplain
  - CISA elevation = 14’
- Structure must be elevated ~2.2’ off the ground*
- 8-Step process required
- Flood insurance recommended but not required

*Note on Elevation

- Different maps use different reference points to define sea level.
- For example:
  - FEMA map shows the BFE as 19.7 to 20 feet where the purple dot is.
  - USGS tool shows an elevation of ~21 feet for the purple dot, implying that it is above the 100-year floodplain.
- When checking USGS (or other) elevation data against FEMA elevations, use two points.

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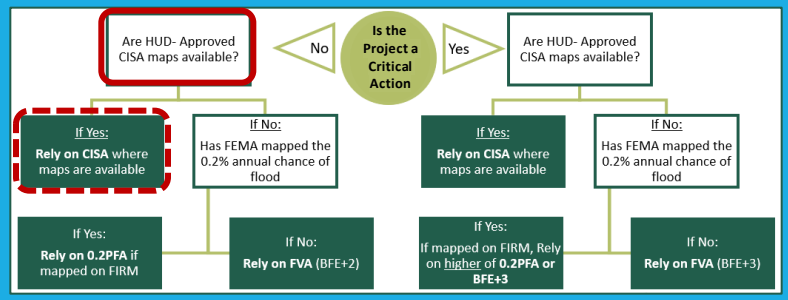
Case Study: Local CISA Data



Project Summary: New construction, non-critical action, and residential

Location: Brooklyn, New York

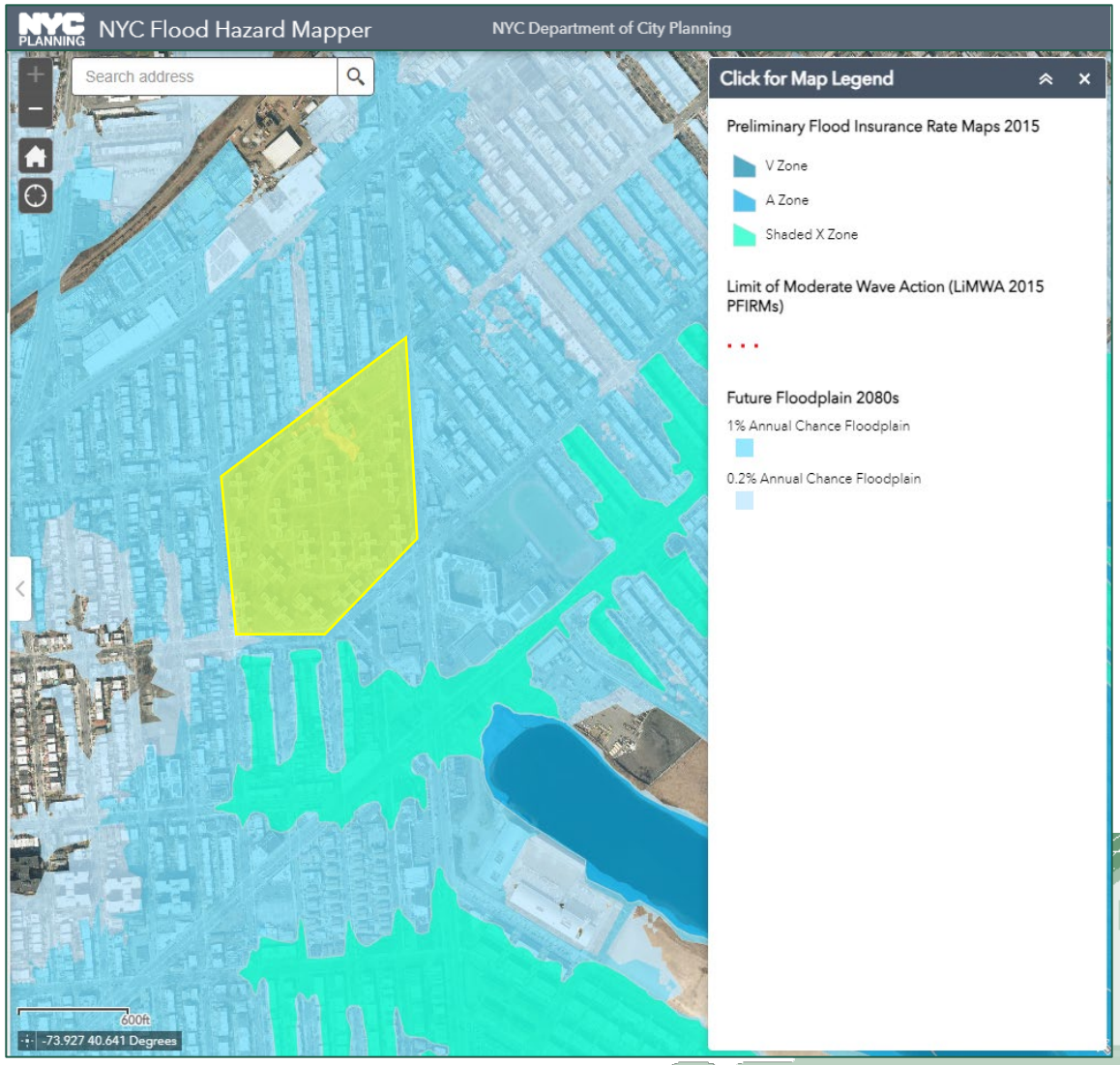
40.634999, -73.929726

Step 1: Is CISA data available for the project area?

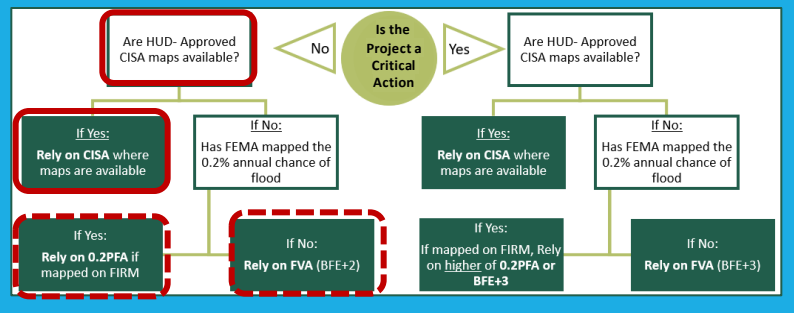
- No – FFSST
- Yes – Local CISA Data (NYC Flood Hazard Mapper)

Step 2: Is the project located in the CISA floodplain (at least 30 years out)?

- Yes: Future Floodplain 2080



Case Study: Local CISA Data



Step 3: Verify site elevation

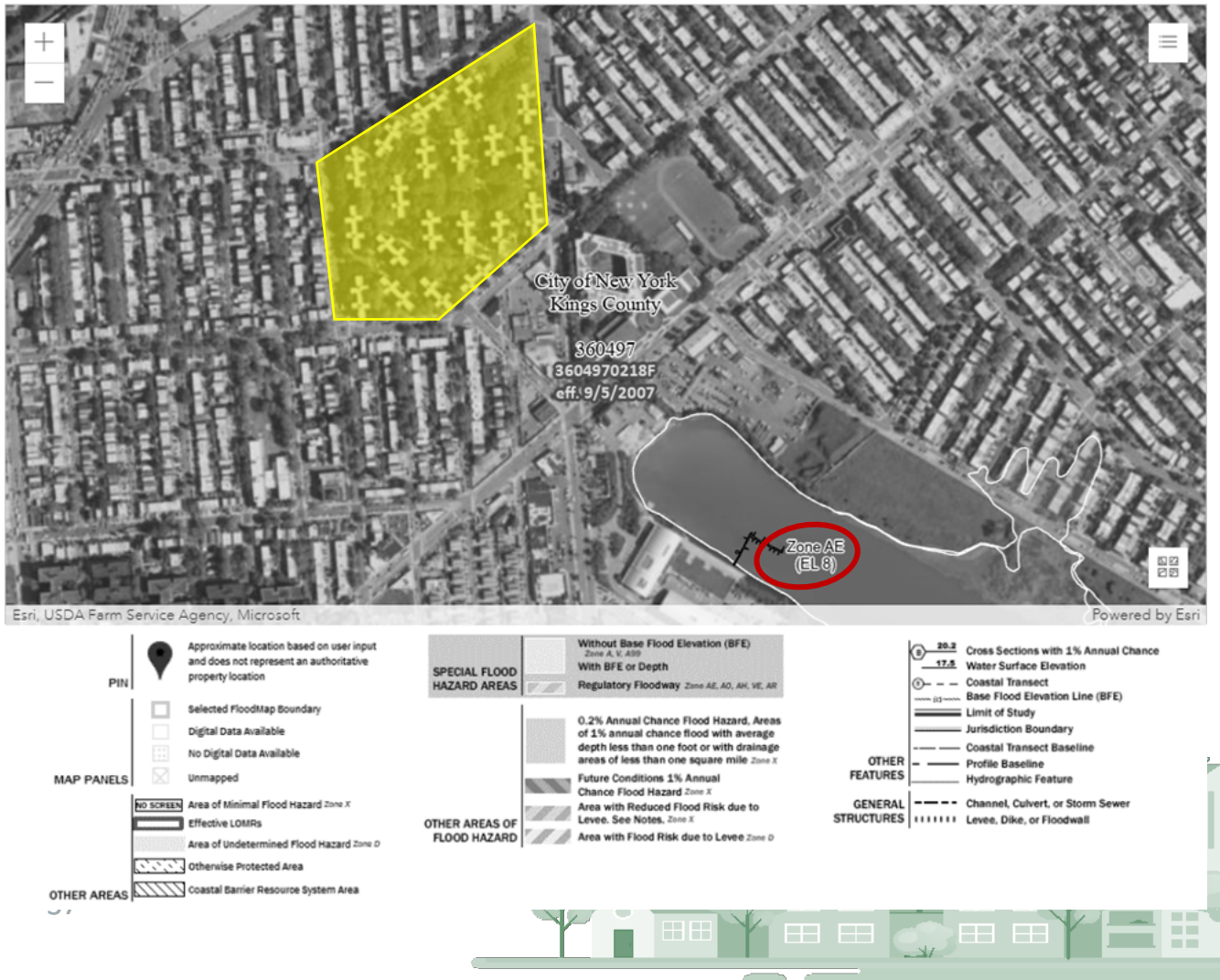
- 15.91’ (Reference: USGS-EPQS)

Step 4: Verify local CISA data is at least as high as the lower of the 0.2PFA or FVA.

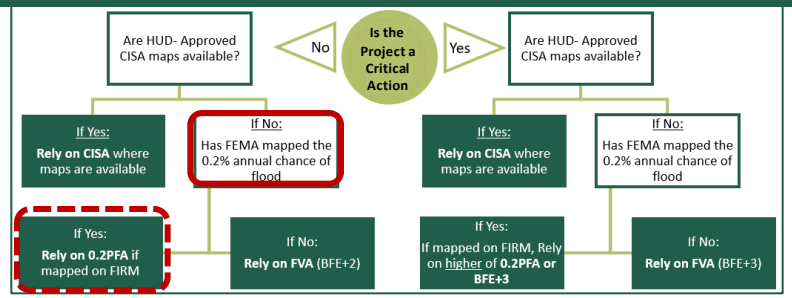
- NYC Flood Hazard Mapper: Elevation not listed
- 0.2PFA: Outside of project area
- FVA = BFE +2’: 8’+2’= 10’
- Local CISA is higher than 0.2PFA and FVA

Conclusion

- Project is located in the FFRMS floodplain
- Additional data required from NYC Flood Hazard Mapper to determine elevation
- 8-Step process required
- Flood insurance is recommended but not required



Identifying the FFRMS Floodplain – 0.2PFA

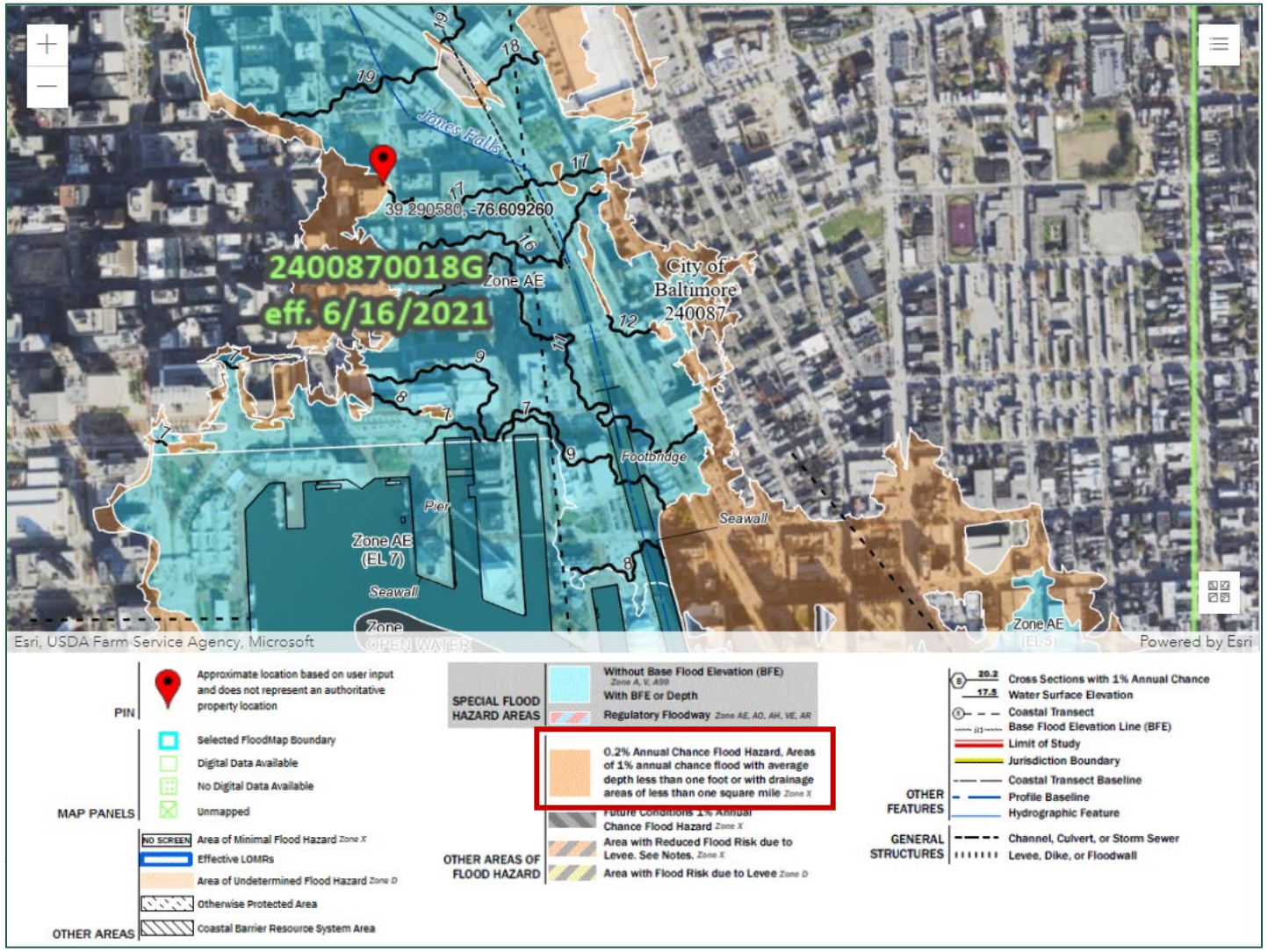


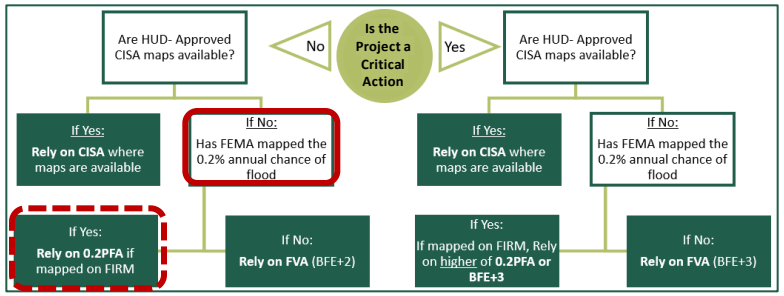
2. Demonstrating Compliance Using FEMA Maps – 0.2PFA

For non-critical actions:

a) Go to FEMA Map Service Center and locate project using the mapping tool.
b) If project location is within the 500-year floodplain, then the 8-step process is required.
c) If the project involves new construction or substantial improvement, elevation requirements apply.
d) If project is outside of the 500-year floodplain, then floodplain management compliance is complete.
e) If FEMA has not mapped the 500-year floodplain for the project area, use the FVA.

Identifying the FFRMS Floodplain – 0.2PFA

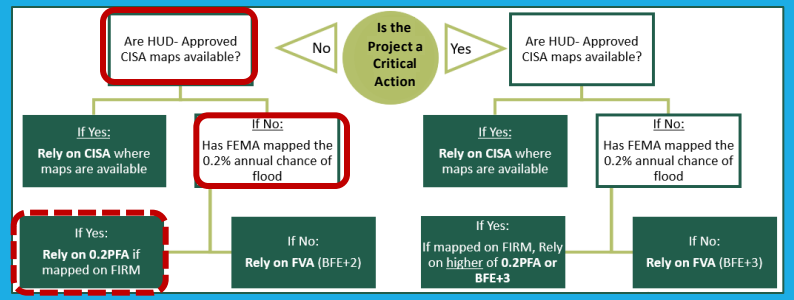




Note: the 500-year floodplain elevation is not widely available from FEMA, but this approach may still be used to determine the horizontal extent of the FFRMS floodplain.

Elevation data for 500-year floodplains can be gleaned from flood insurance studies (FIS).

Case Study: 0.2PFA in Riverine Floodplain

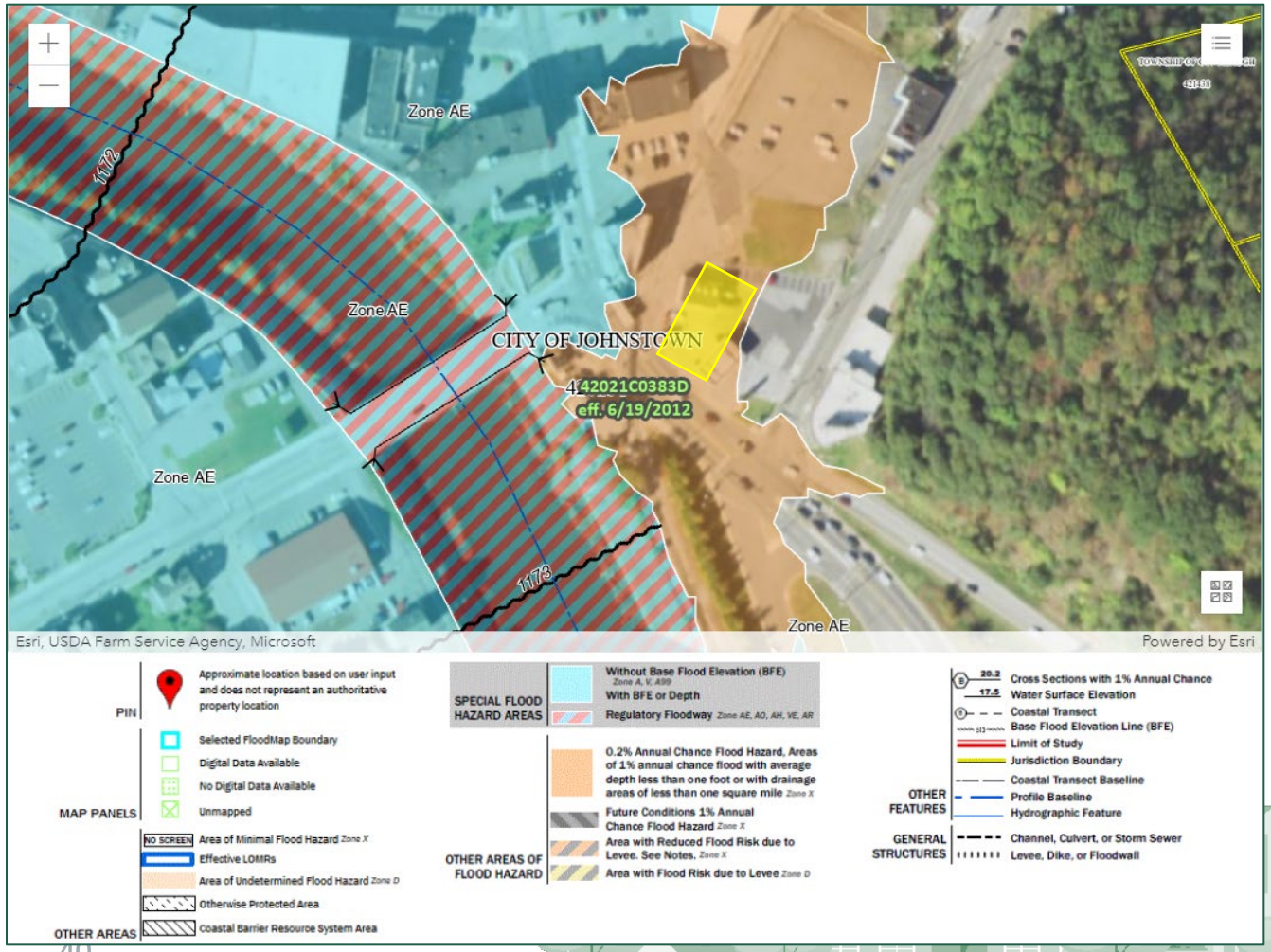


Project Summary: New construction, non-critical action, and residential

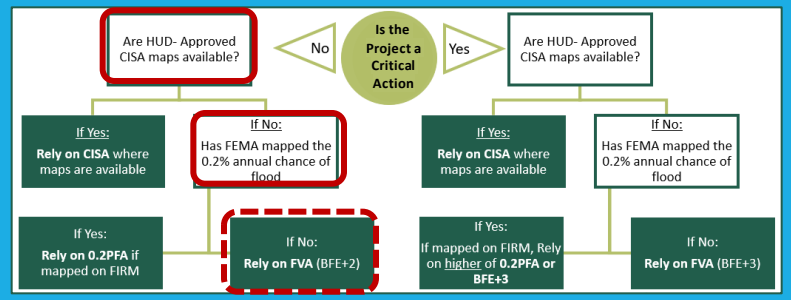
Location: Johnstown, PA

40.322268, -78.915345

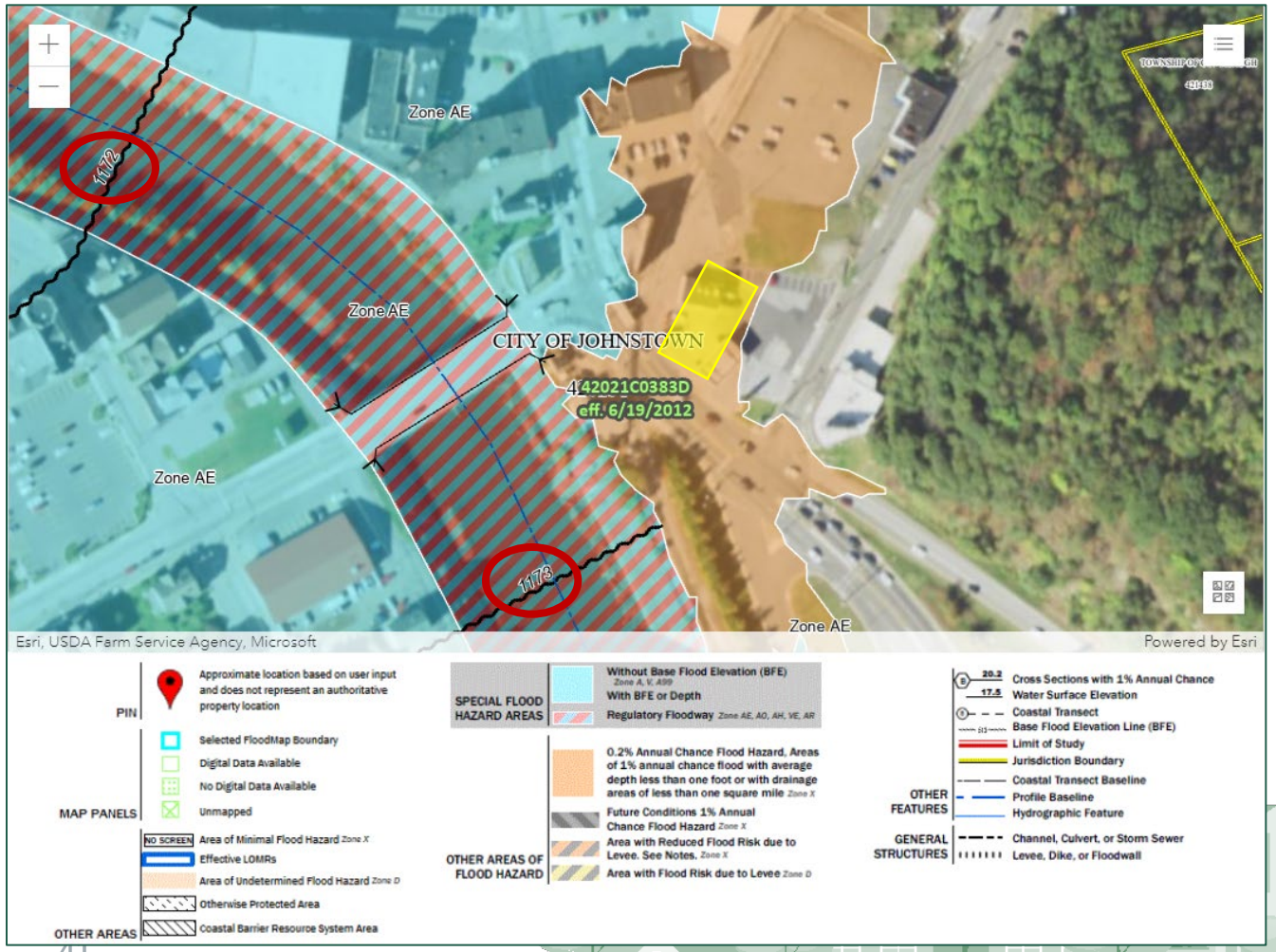
- Step 1: Determine if CISA data is available for the project area.
  - No – FFSST
- Step 2: Determine if 0.2PFA is mapped on FIRM
  - Yes – Panel 42021C0383D eff. 6/19/2012
  - No elevation recorded



Case Study: 0.2PFA in Riverine Floodplain



- Step 3: Identify BFE elevation
  - 100-year floodplain: 1172’ to 1173’
- Step 4: Calculate FVA elevation
  - Non-critical actions: BFE + 2’
    - 1173’+ 2’ = 1175’
  - Higher BFE used to maximize protection.



Case Study: 0.2PFA in Riverine Floodplain

The National Map - Elevation Point Query Service

The **Elevation Point Query Service** returns the elevation in international feet or meters for a specific latitude/longitude (NAD 1983) point from the USGS Elevation Service hosted at the NGTOC. Input parameters: **x** (*longitude*), **y** (*latitude*), **units** (*Feet, Meters*), **output** (*XML, JSON*). Latitude and longitude must be specified in decimal degrees with southern latitudes and western longitudes represented as negative values.

Go to FAQs:

- https://www.usgs.gov/ngp-standards-and-specifications/3dep-product-metadata
- https://www.usgs.gov/faqs/what-are-projection-horizontal-and-vertical-datum-units-and-resolution-3dep-standard-dems
- https://www.usgs.gov/faqs/how-accurate-are-elevations-generated-elevation-point-query-service-national-map
- API Documentation
- Bulk Point Query

X: -78.915345

Y: 40.322268

Spatial Reference: 4326

Units: Feet

Format: XML

Include Date: True

Get Elevation

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  <rasterId>35538</rasterId>
  <resolution>1</resolution>
  <attributes>
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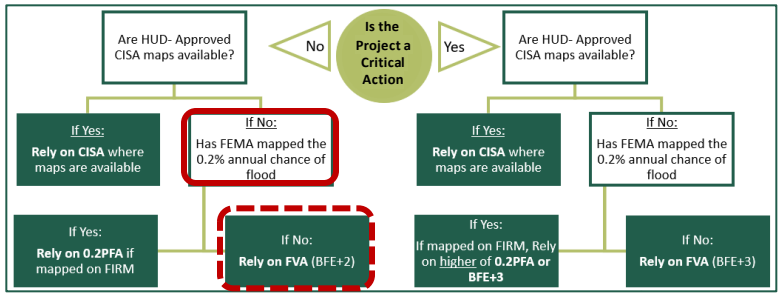
  </attributes>
</result>
```

- Step 5: Verify Site Elevation
  - (40.322268, -78.915345) El: 1174.58’
  - Reference: USGS-EPQS
  - Best practice: use multiple reference points
- Conclusion
  - Project is located in the FFRMS floodplain
    - CISA elevation = 1175’
  - Structure will be elevated ~0.5’ off the ground.
  - 8-Step process is required
  - Flood insurance is recommended but not required

Identifying the FFRMS Floodplain – FVA

3. Demonstrating Compliance Using FEMA Maps: Freeboard Value Approach (FVA)

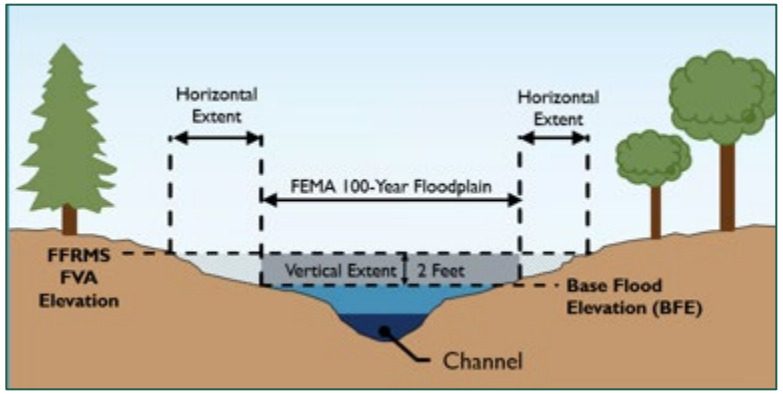


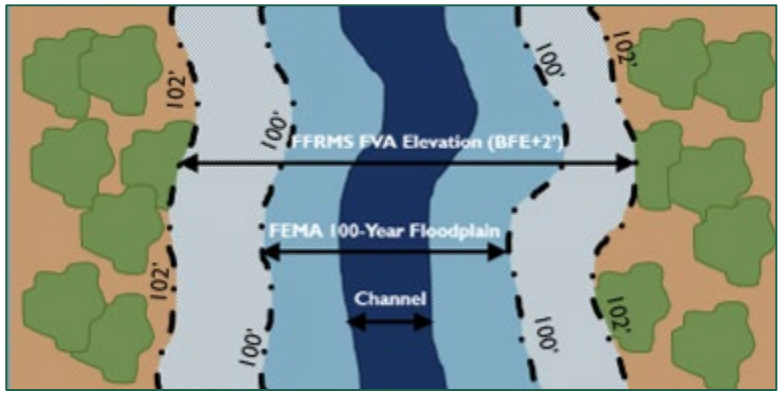
For non-critical actions:

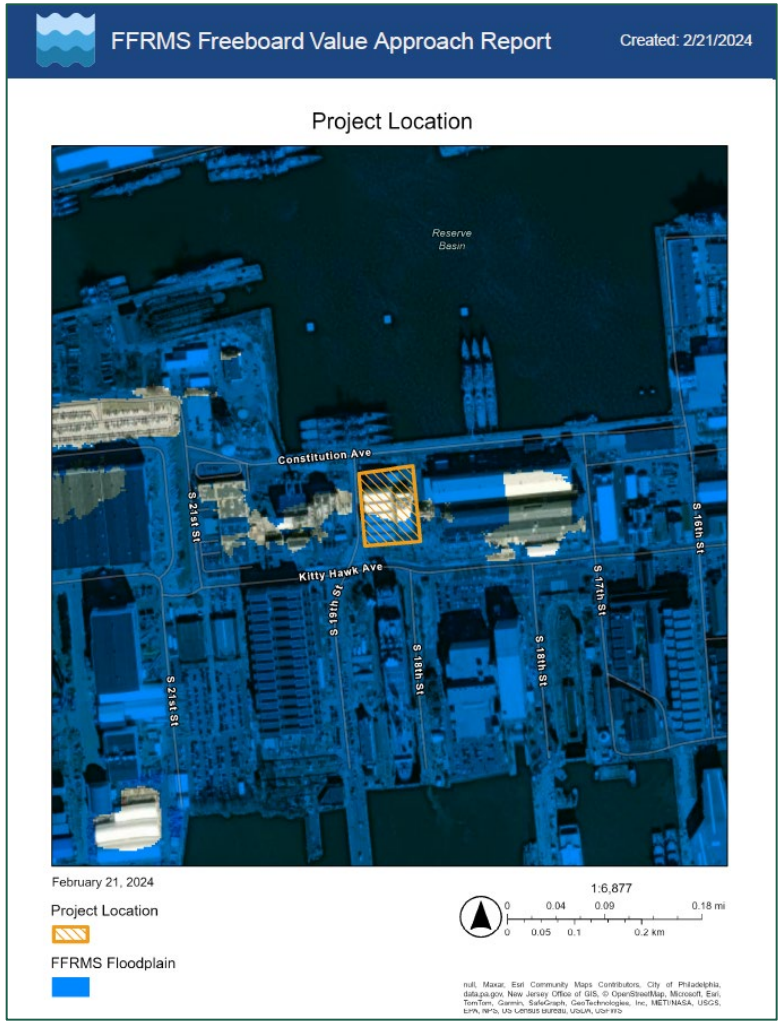
a) Go to FEMA Map Service Center and locate project using the mapping tool.
b) Locate the *base flood elevation* (BFE) for project area.
c) Determine elevation of project location.
d) If project elevation is equal to or lower than BFE+2, then the 8-step process is required.
e) If the project involves new construction or substantial improvement, elevation requirements apply.
f) If project elevation is higher than BFE+2, then floodplain management compliance is complete.
g) If FEMA has not mapped the area, then use best available information.

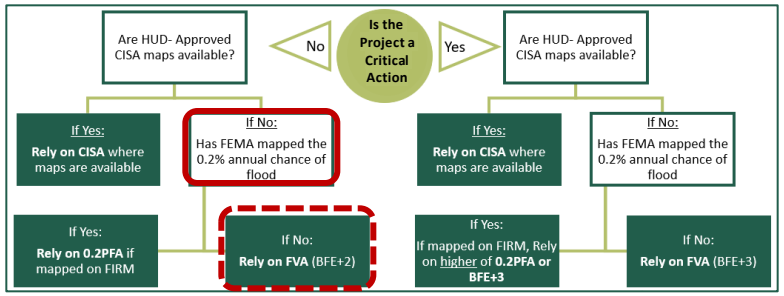
- Federal Flood Standard Support Tool (FFSST) is intended to include FVA (horizontal expansion).

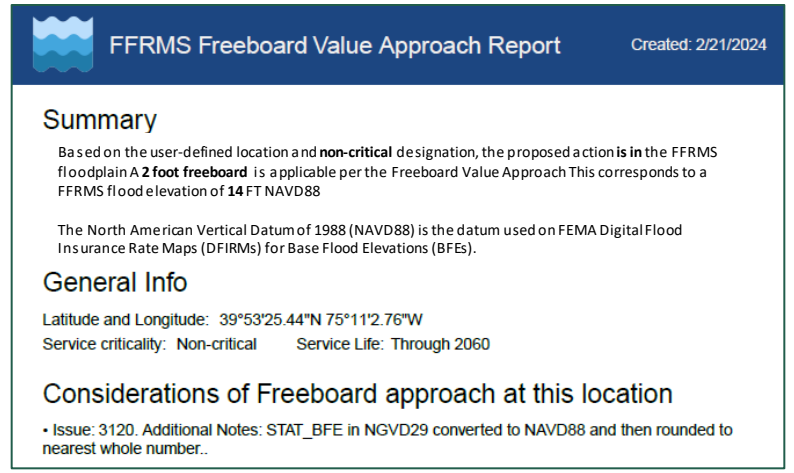
Identifying the FFRMS Floodplain – FVA



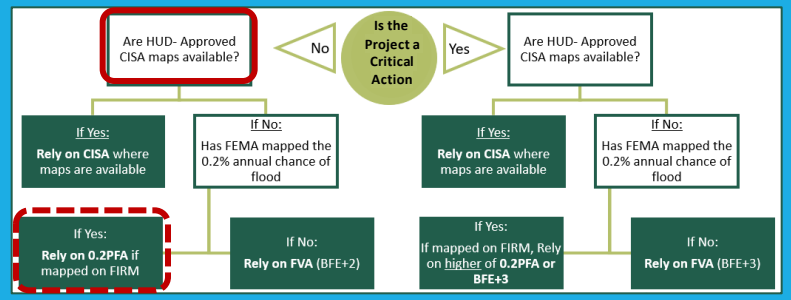








Case Study: FVA in Coastal Floodplain

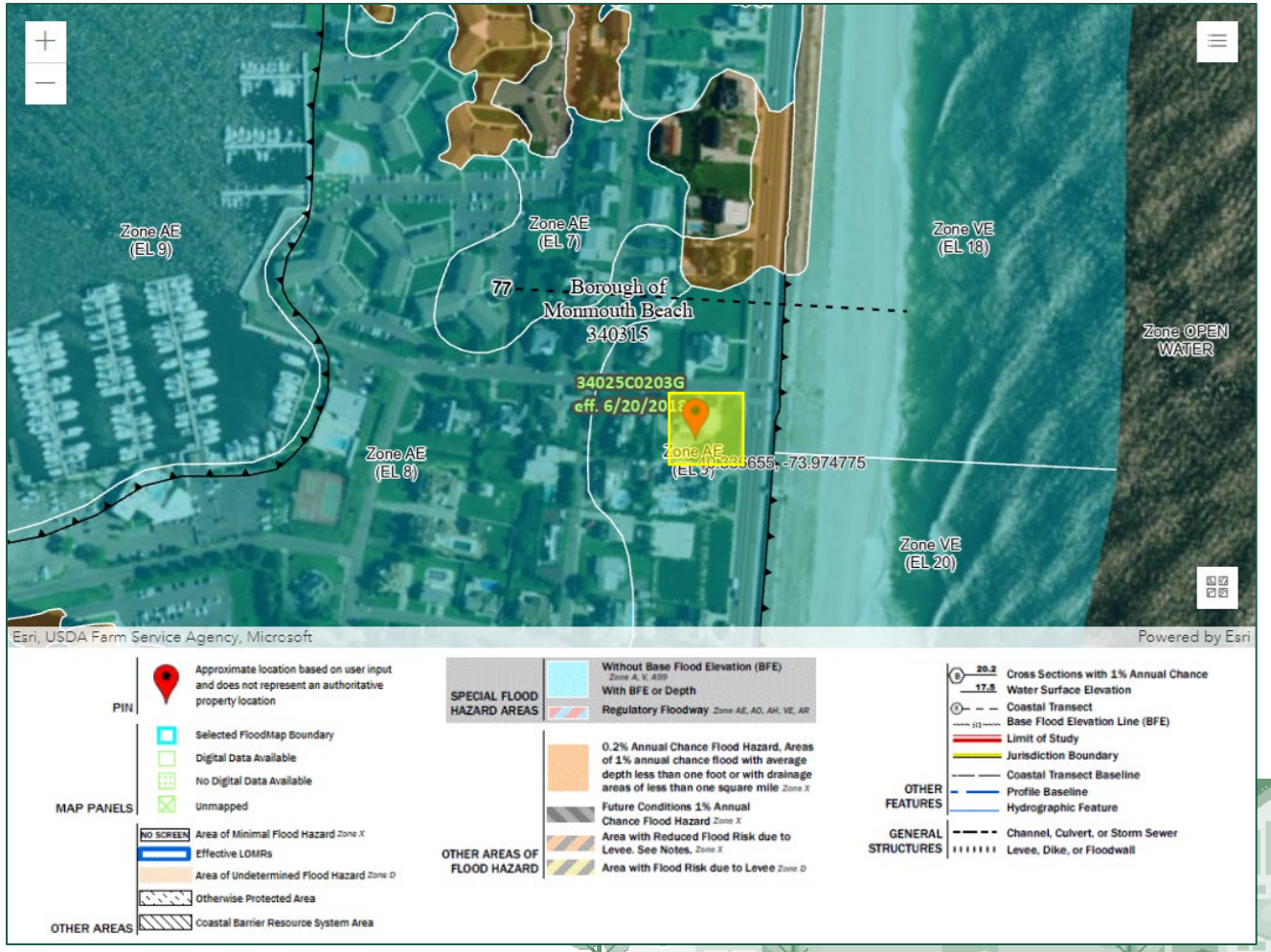


Project Summary: Substantial improvements, non-critical action, and residential

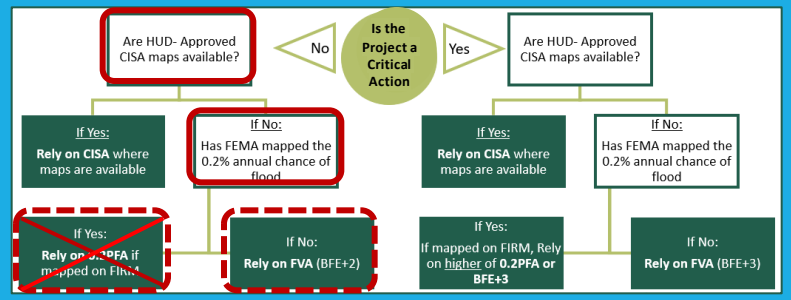
Location: Monmouth Beach, NJ

40.336655, -73.974775

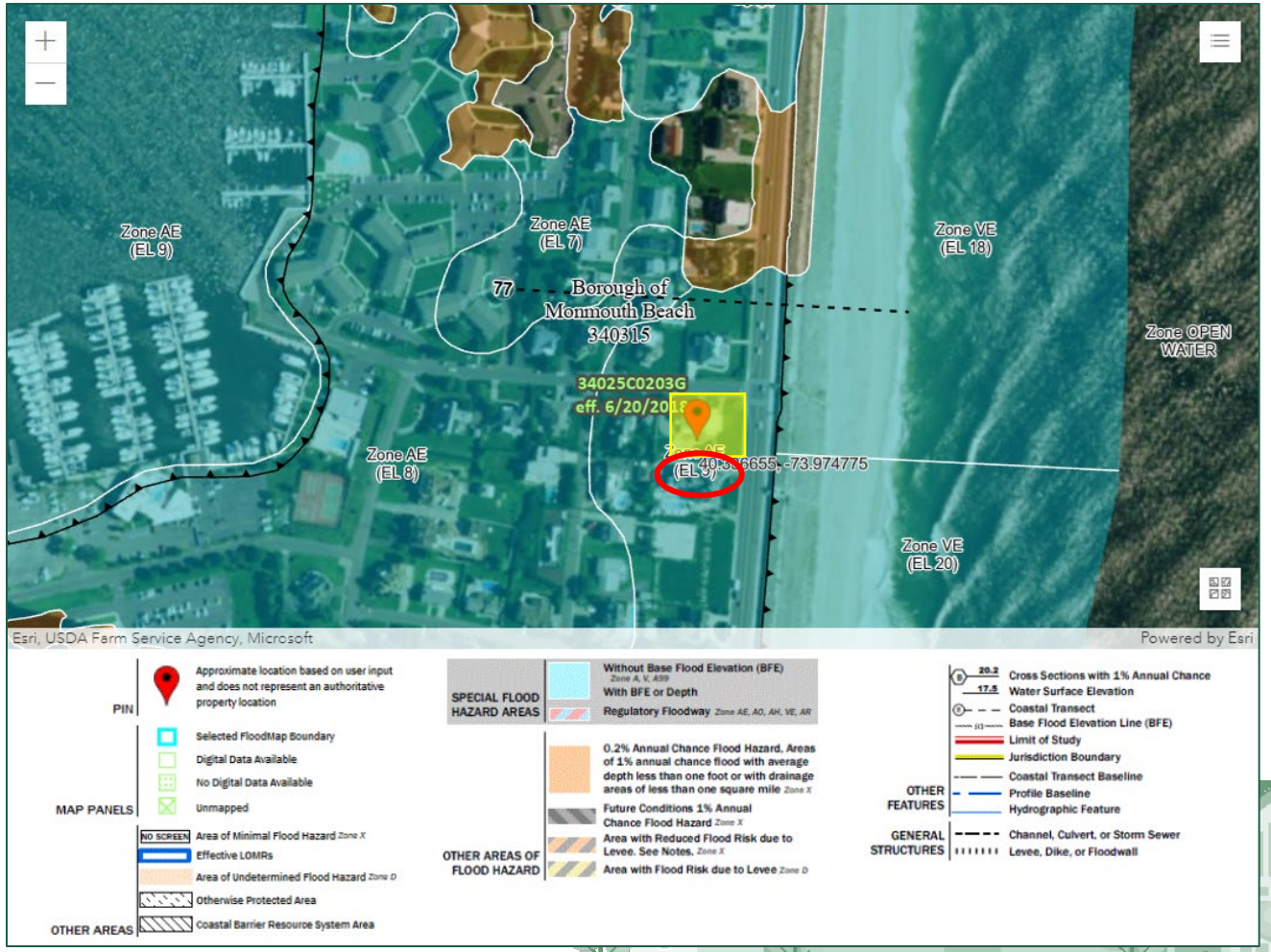
- Step 1: Determine if CISA data is available for the project area.
  - No
- Step 2: Determine if 0.2PFA is mapped on FIRM
  - Yes – Panel 34025C0203G eff. 6/20/2018
  - 0.2PFA elevation is not recorded



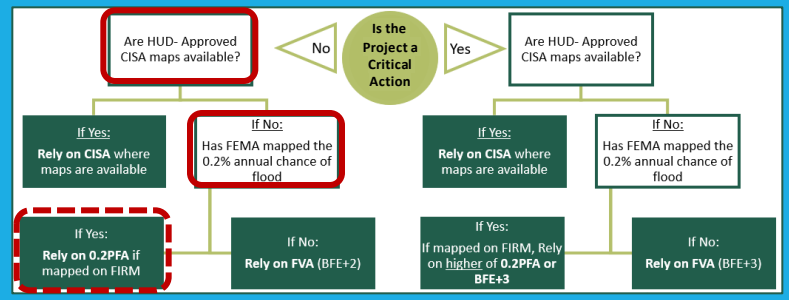
Case Study: FVA in Coastal Floodplain



- Step 3: Identify BFE elevation
  - 100-year floodplain: 9’
- Step 4: Calculate FVA elevation
  - Non-critical actions: BFE + 2’
    - 9’+2’ = 11’
- Step 5: Verify site elevation
- Conclusion
  - Project is located in the FFRMS floodplain
    - FVA elevation = 11’
  - 8-Step process is required
  - Flood insurance is required



Case Study: FVA Outside 100-year

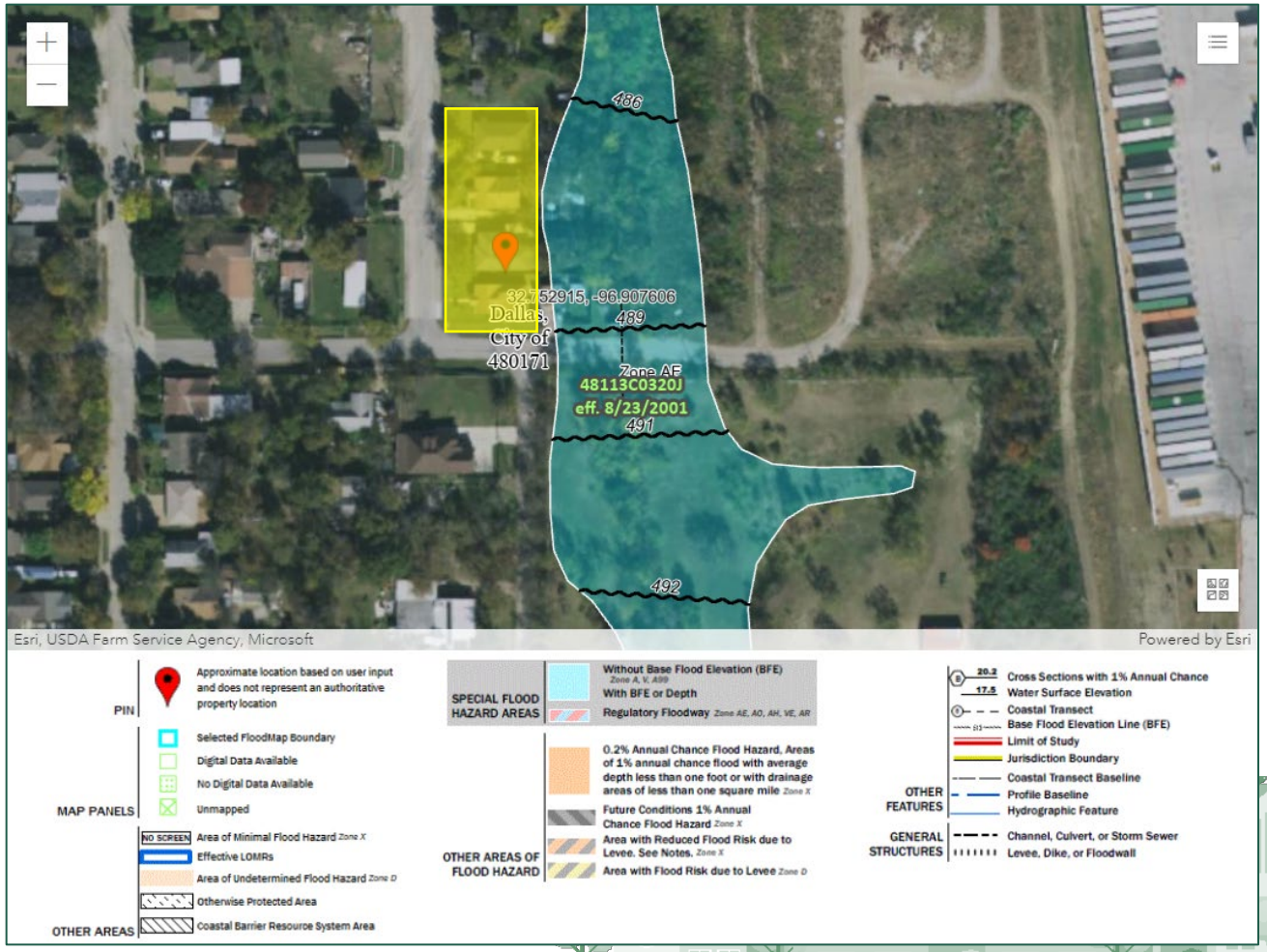


Project Summary: New construction, non-critical action, and residential

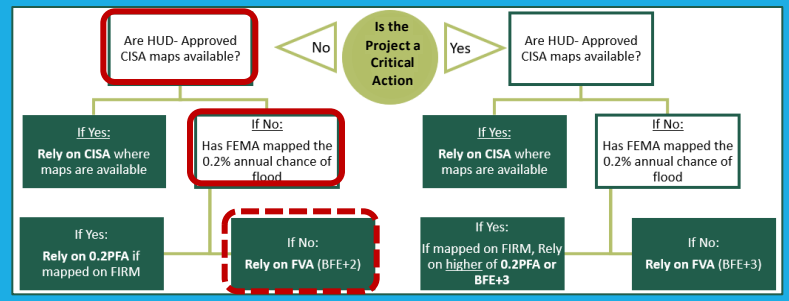
Location: Dallas, TX

32.752915, -96.907606

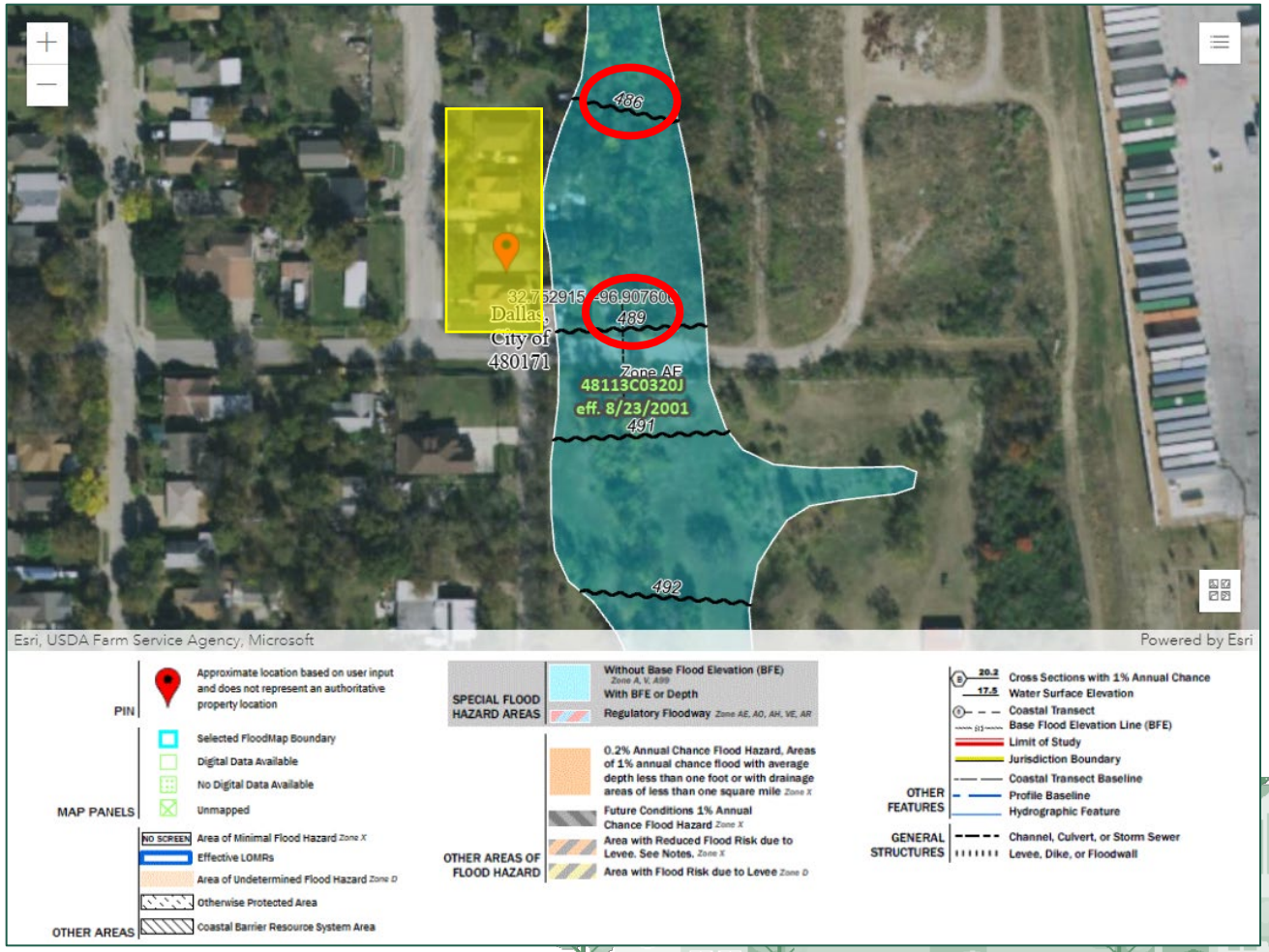
- Step 1: Determine if CISA Data is available for the project area.
  - No – FFSST
- Step 2: Determine if 0.2PFA is mapped on FIRM
  - No – Panel 48113C0320J eff. 8/23/2001



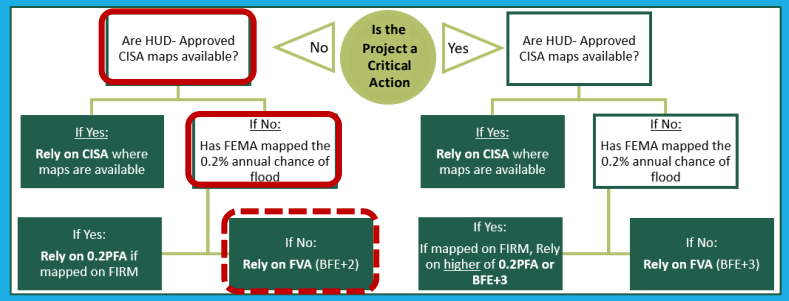
Case Study: FVA Outside 100-year

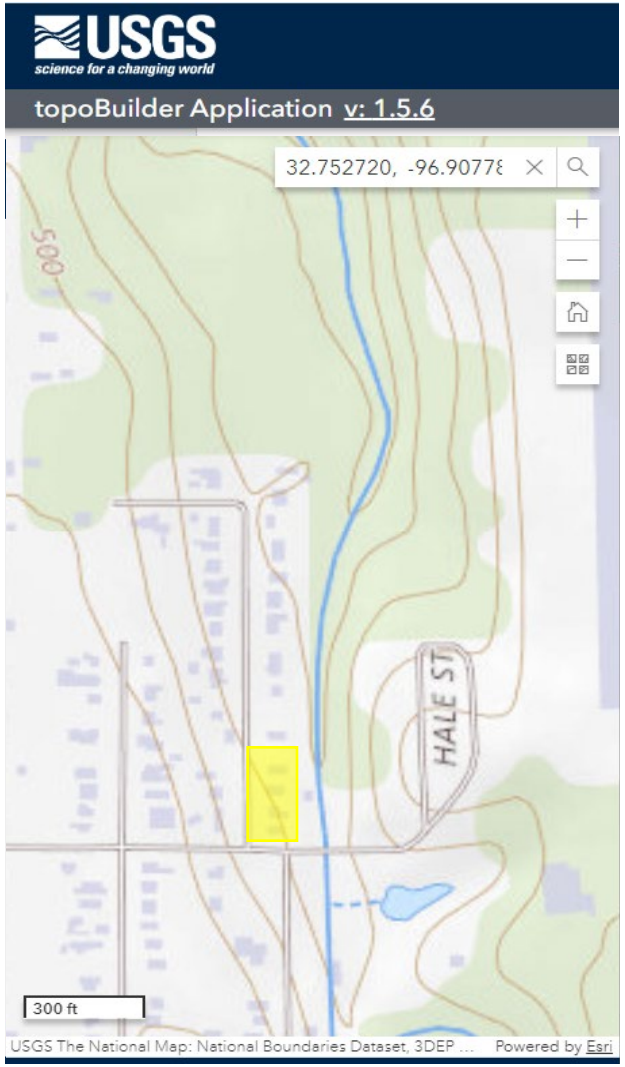


- Step 3: Determine if the project is in the 100-year floodplain.
  - No, but it is adjacent and could be included in the horizontal extent.
- Step 4: Identify BFE elevation
  - 100-year floodplain: 489’ to 486’
- Step 5: Calculate FVA elevation
  - Non-critical actions: BFE + 2’
    - 489’+ 2’ = 491’
    - 486’+ 2’ = 488’
  - Highest elevation used as a conservative approach to determine horizontal extent.



Case Study: FVA Outside 100-year

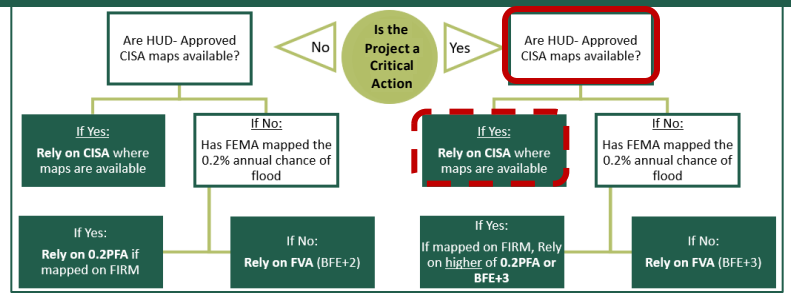




Location	Elevation	FVA Upper Limit (491')	FVA Lower Limit (488')
(SW corner) 32.752720, -96.907789	494.61'	Outside FFRMS	Outside FFRMS
(SE corner) 32.752713, -96.907336	487.54'	Inside FFRMS	Inside FFRMS
(NW corner) 32.753301, -96.907816	489.60'	Inside FFRMS	Outside FFRMS
(NE corner) 32.753304, -96.907363	485.39'	Inside FFRMS	Inside FFRMS

- Step 6: Verify site elevation
  - Reference: USGS-EPQS
- Conclusion
  - Project is located in the FFRMS floodplain via FVA horizontal expansion.
  - FVA Elevation: 491'
  - 8-Step Process is required
  - Flood insurance is recommended but not required

Environmental Reviews for Critical Actions



Demonstrating Compliance Using CISA maps

a) Verify CISA floodplain and elevation
   - Federal CISA data must be equal to or greater than base flood elevation (BFE) to use.
   - Local CISA data must be at least as high as the lower of the 0.2PFA or FVA (BFE+2 for non-critical actions and BFE+3 for critical actions).

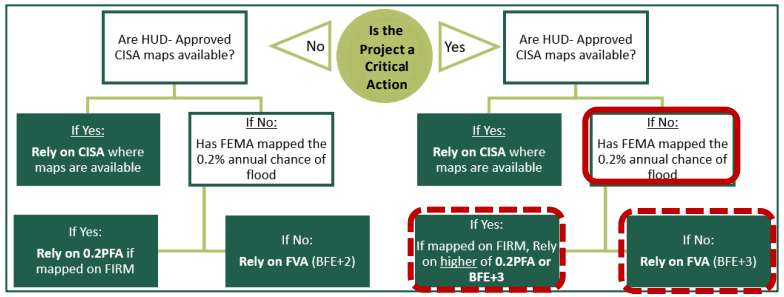
b) If a project location is within the FFRMS floodplain, then the 8-step process is required.

c) If the project involves new construction or substantial improvement, elevation requirements apply.

d) If a project is located outside the FFRMS floodplain, then floodplain management compliance is complete.

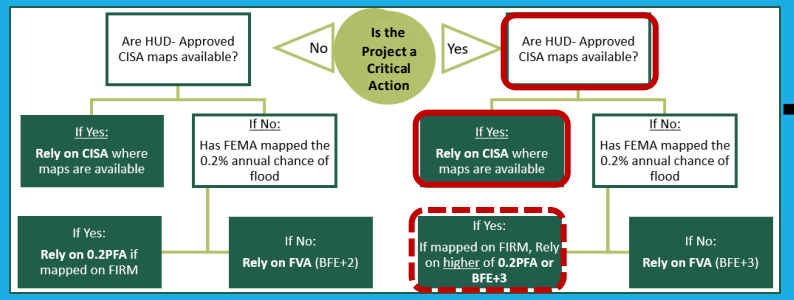
Environmental Reviews for Critical Actions

Demonstrating Compliance Using FEMA Maps (0.2PFA and FVA)



a) Go to FEMA Map Service Center and locate project using the mapping tool.
b) Locate the BFE for the project area.
c) Determine the elevation of the project.
d) The FFRMS floodplain is the higher of the 500-year floodplain and BFE+3.
e) If project location is within the FFRMS, then the 8-step process is required.
f) If the project involves new construction or substantial improvement, elevation requirements apply.
g) If project is located outside mapped FFRMS floodplain, then floodplain management compliance is complete.
h) If FEMA has not mapped the area, then use best available information.

Case Study: FVA in Riverine Floodplain

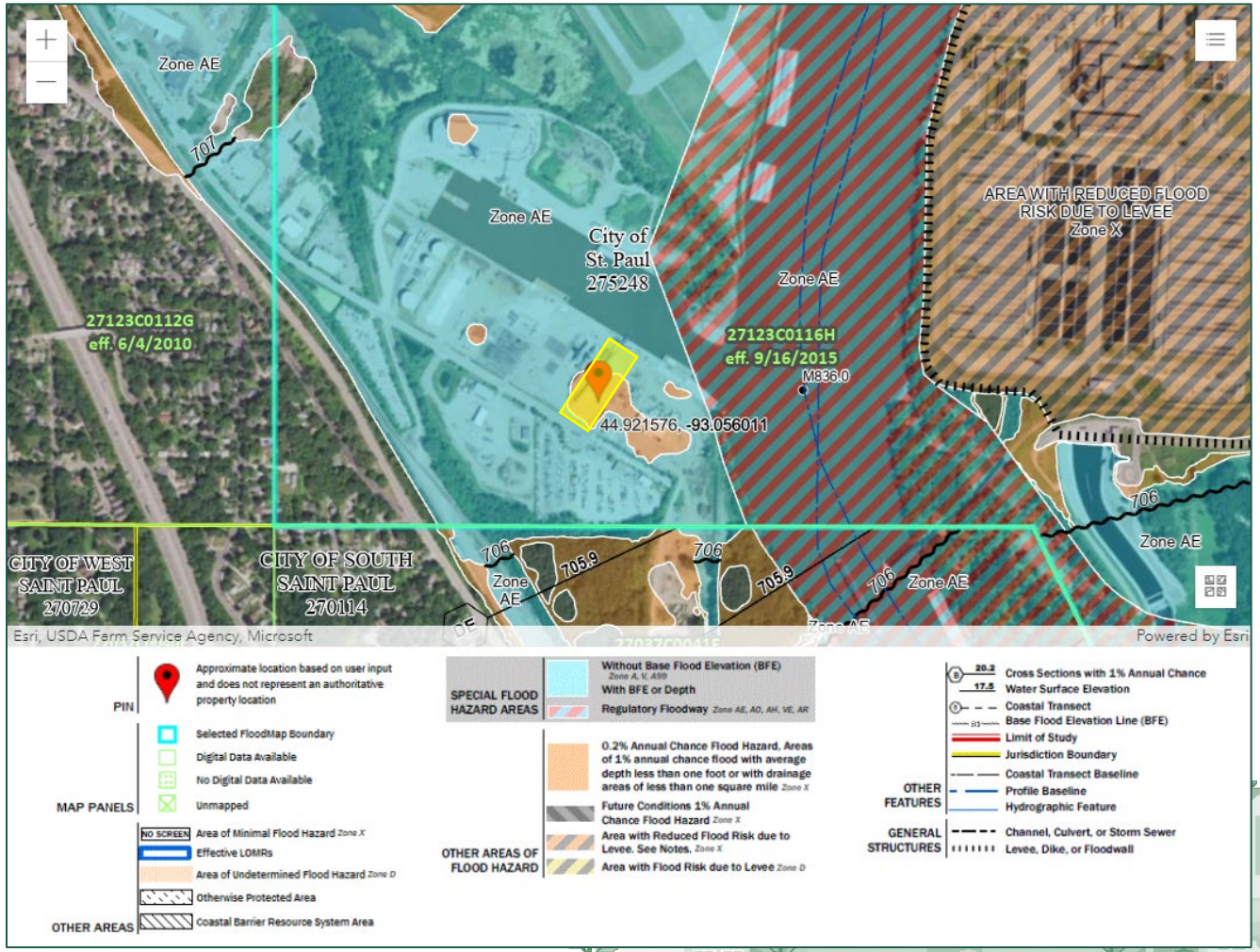


Project Summary: New construction, critical action, and non-residential

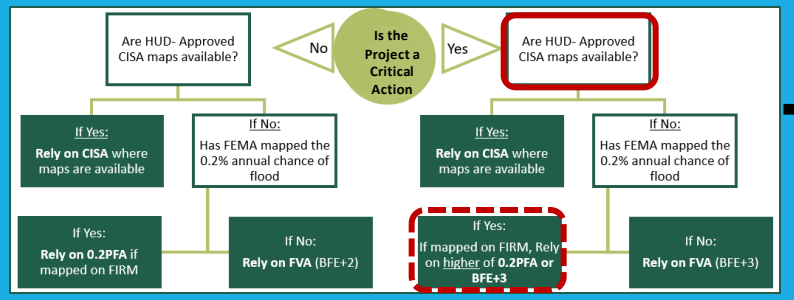
Location: St. Paul, MN

44.921576, -93.056011

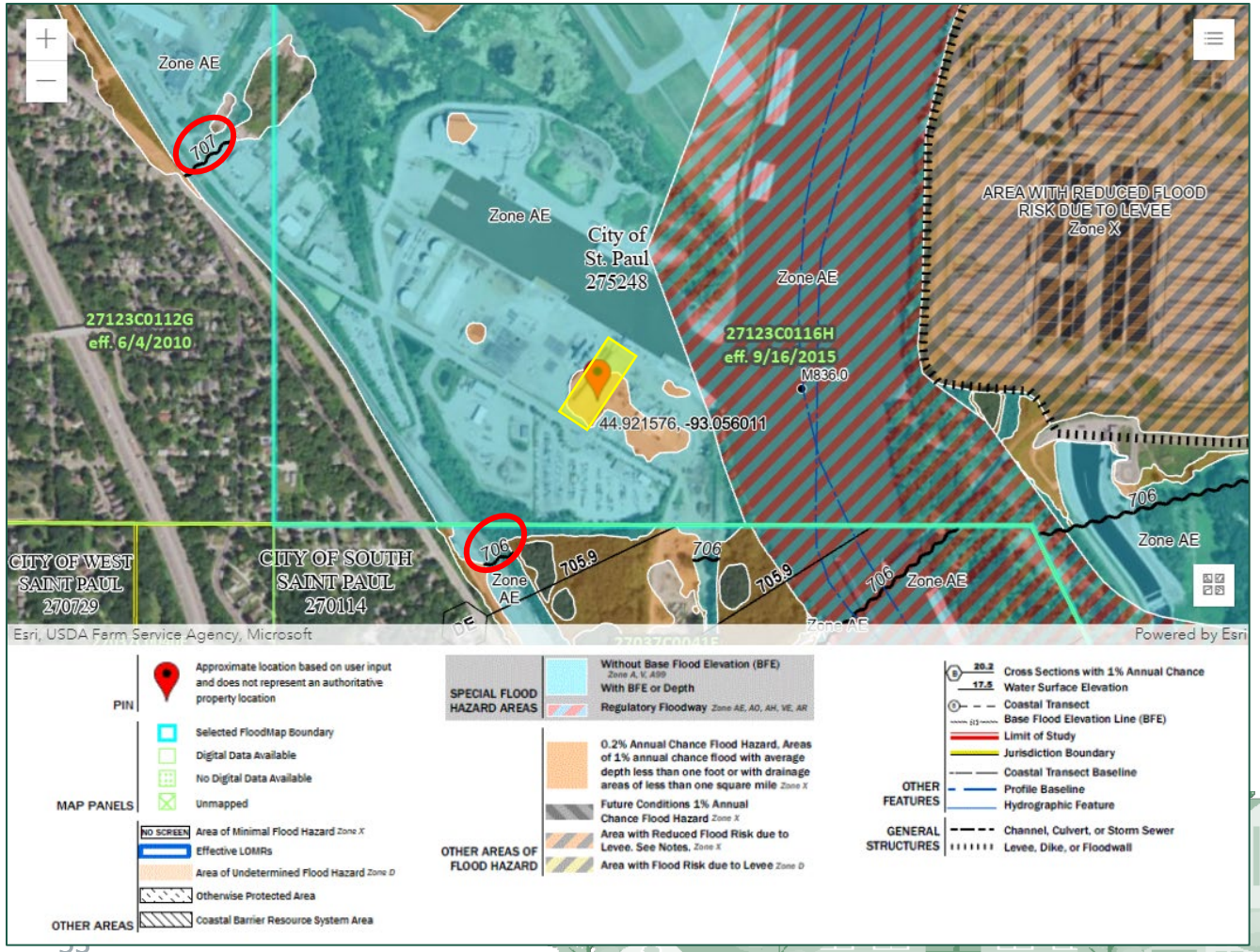
- Step 1: Determine if CISA data is available for the project area.
  - No – FFSST
- Step 2: Determine if 0.2PFA is mapped on FIRM
  - Yes – Panel 27123C0116H eff. 9/16/2015
  - 0.2PFA elevation is not recorded



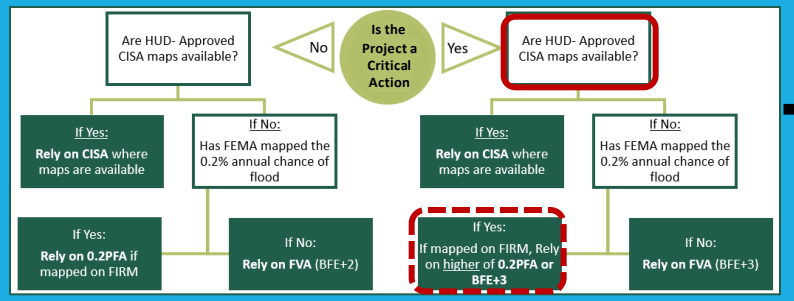
Case Study: FVA in Riverine Floodplain



- Step 3: Identify BFE elevation
  - Project site is between two elevation markers: 707’ and 706’
- Step 4: Calculate FVA elevation
  - Use the higher BFE elevation
  - Critical Actions: BFE + 3’
    - 707’+3’=710’



Case Study: FVA in Riverine Floodplain



USGS science for a changing world

The National Map - Elevation Point Query Service

The **Elevation Point Query Service** returns the elevation in international feet or meters for a specific latitude/longitude (NAD 1983) point from the USGS Elevation Service hosted at the NGTOC. Input parameters: **x** (*longitude*), **y** (*latitude*), **units** (*Feet, Meters*), **output** (*XML, JSON*). Latitude and longitude must be specified in decimal degrees with southern latitudes and western longitudes represented as negative values.

Go to FAQs:

- https://www.usgs.gov/ngp-standards-and-specifications/3dep-product-metadata
- https://www.usgs.gov/faqs/what-are-projection-horizontal-and-vertical-datum-units-and-resolution-3dep-standard-dems
- https://www.usgs.gov/faqs/how-accurate-are-elevations-generated-elevation-point-query-service-national-map
- API Documentation
- Bulk Point Query

X: -93.056011

Y: 44.921576

Spatial Reference: 4326

Units: Feet

Format: XML

Include Date: True

Get Elevation

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- Step 5: Verify site elevation
  - (44.921576, -93.056011) El: 707.2’
  - Reference: USGS-EPQS
  - Best Practice: use multiple reference points
- Conclusion
  - Project is located in the FFRMS floodplain
    - FVA elevation = 710’
  - Structure will be elevated approx. 3’ off the ground.
  - 8-Step process is required
  - Additional Note: flood insurance is required

Summary of Elevation and Floodproofing Requirements

Property type	Activity	Elevation	Floodproofing alternative permitted
Residential*	New construction & Substantial improvement**	Required to the elevation of the FFRMS floodplain	Only for mixed-use buildings where all residential is elevated
Residential*	Minor improvements & other	Not required	N/A
Non-residential	New construction & Substantial improvement**	Required to the elevation of the FFRMS floodplain	Yes
Non-residential	Minor improvements & other	Not required	N/A
FHA Single Family	New construction & Substantial improvement**	Required to BFE+2	No
FHA Single Family	Minor improvements & other	Not required	N/A

*Except FHA Single Family

**As defined in 24 CFR 55.2(b)(10). Any other repairs, rehabilitation, etc. not meeting this definition are considered minor.

Elevation Standards by Program: CPD and PIH

Program	Previous elevation requirements	New elevation requirements
CDBG, HOME, SHOP	NFIP minimum: NC/SI within 100-year floodplain required to elevate to BFE	Part 55: All new construction/substantial improvements within FFRMS floodplain required to elevate to FFRMS
CDBG-DR, CDBG-MIT	Disaster Notices: NC/SI of non-critical actions within 100-year floodplain required to elevate to BFE+2. Critical actions required to elevate to BFE+3 or 500-year floodplain (whichever is higher).	Part 55: NC/SI within FFRMS Floodplain required to elevate to FFRMS
Public Housing Cap Funds	NFIP minimum: NC/SI within 100-year floodplain required to elevate to BFE	Part 55: NC/SI within FFRMS Floodplain required to elevate to FFRMS
RAD Conversions	PBRA: Follow MAP Guide (new construction BFE+2) PBV: Follow NFIP minimum (BFE)	Part 55: NC/SI within FFRMS Floodplain required to elevate to FFRMS

Elevation Standards by Program: Housing

Program	Previous elevation requirements	New elevation requirements
FHA Multifamily	MAP Guide requires all new construction within 100-year floodplain to elevate to BFE+2	Part 55: NC/SI (i.e., 221(d)(4)s) within FFRMS floodplain required to elevate to FFRMS
FHA Healthcare	NFIP minimum: NC/SI within 100-year floodplain required to elevate to BFE *Critical Actions regulate based on 500-year Floodplain (equal to FFRMS in some cases)	Part 55: NC/SI within FFRMS floodplain required to elevate to FFRMS *Because these are **critical actions**, the FFRMS floodplain will be larger and more protective than for many other programs.
FHA Single Family	NFIP minimum: NC/SI within 100-year floodplain required to elevate to BFE	Minimum Property Standards: NC within the 100-year floodplain required to elevate to BFE+2

Limitations on HUD Assistance in Floodplains, Exceptions and Other Processes

Limitations on HUD Assistance in Floodplains

Incidental Exception Changes and Expansion of Activities in **Floodways**

- Floodways removed from the incidental exception at 55.12(c)(7).
- Allows for broader range of activities in the floodway or on sites containing the floodway including:
  - Functionally dependent uses
  - *De minimis* improvements that do not increase flood risk
  - Buildings or improvements removed as part of the proposed action
- Requires the 8-step process and a permanent covenant or comparable restriction in FFRMS floodplains to preserve all onsite FFRMS floodplain and/or wetland areas from future development or expansion of existing uses in the floodplain or wetland areas.
  - Rehab (and reconstruction in the case of disaster) that does not expand the footprint or number of units is allowed.

Limitations on HUD Assistance in Floodplains

Critical Actions

- HUD financial assistance other than a functionally dependent use where any existing or new structure has been or will be elevated or floodproofed to the FFRMS elevation, may not be approved for any critical action located in a floodway, coastal high hazard area, or *limit of moderate wave action* (LiMWA).

Noncritical actions located in coastal high hazard area or LiMWA allowed if action is:

- A functionally dependent use;
- Limited to existing structures or improvements; or
- Reconstruction after a disaster – must be designed for location in coastal high hazard area

Limitations on HUD Assistance in Floodplains

Best Available Information

- All determinations in 55.8 shall be based on the effective FIRM or Flood Insurance Study (FIS) unless FEMA has provided more current information.
- When FEMA provides interim flood hazard data (such as ABFE or preliminary FIRM and studies).
  - HUD or the responsible entity shall use the latest of these sources.
  - However, a base flood elevation from such a source cannot be used if it is lower than the base flood elevation on the current FIRM and FIS.

Limitations on HUD Assistance in Floodplains

Severe Repetitive Loss:

- Where HUD assistance is proposed for actions subject to the 8-step decision-making process on structures designated by FEMA as *severe repetitive loss* (SRL) properties, and FEMA has approved measures that if implemented would qualify the property for a status of "mitigated" as to the SRL list, HUD or the responsible entity will ensure that FEMA-identified mitigation measures are identified and implemented as part of the decision-making process under Step 5 (Elevation and Mitigating Adverse Impacts)

Exceptions – Summary of Changes

Clarification and Revision of Exceptions at 55.12

- Exceptions at 55.12 (a)-(c) are broken into separate sections 55.12, 55.13, 55.14
  - 55.12 – Activities excluded from all compliance with Part 55 (except flood insurance requirements)
  - 55.13 – Activities excluded from full 8-step process
  - 55.14 – Activities that qualify for modified 5-step process
- Removal of FEMA-issued CLOMR/LOMR exception at 55.12(c)(8)
- Removal of ships and waterborne vessels exception at 55.12(c)(11)

Alternative Processing for Existing Nonconforming Sites

Alternative process for **existing** nonconforming sites available if:

- The requirements in 55.8 (limitations on HUD assistance in floodplains) cannot be met
- An 8-step pursuant to 55.20 is completed
- Transferring HUD assistance to a lower-risk site is not practicable
- Site has no other compliance concerns from parts 50, 51, 55, or 58
- The site incorporates measures to minimize flood risk, including
  - Removal of residential units and critical action structures from the floodway
  - Identification of evacuation routes out of the FFRMS floodplain
  - A No-Rise certification for any new improvements in the floodway, and
  - Elevation/floodproofing of existing structures within the FFRMS floodplain where practicable
- Approved by CPD Assistant Secretary at the discretion of OEE

8-Step Process Overview and Changes Under FFRMS

Changes to the 8-Step Process under FFRMS

Under the Final Rule

- Projects within the FFRMS floodplain are required to complete the 8-step process
  - FFRMS floodplain (CISA, 0.2PFA, or FVA) replaces the 100-year floodplain previously used
  - 500-year floodplain can now trigger the 8-step process for non-critical actions
- Exceptions are identified at 24 CFR 55.12 or 55.13
- Activities that are permitted to complete a 5-step process are identified at 24 CFR 55.14
- No effect on which actions require elevation/floodproofing

Changes to the 8-Step Process under FFRMS

- Alternative means of publication for public notices on government websites in addition to newspapers (Steps 2 and 7)
- Clarification on restoration and preservation of wetlands and beneficial functions of the floodplain (Step 4)
- Additional examples of required and suggested analysis, such as expanded examples of stormwater management and green infrastructure, and resilient building standards (Step 5)
- Requirements to document the minimum elevation or floodproofing requirement consistent with the identified FFRMS floodplain on an Elevation Certificate or Floodproofing Certificate for new construction or substantial improvements (Step 5)
- An additional requirement to coordinate the 8-step process with any public engagement process associated with environmental justice where project planners are also engaging with stakeholders, consistent with EO 14096 (Step 6)

Changes to the 8-Step Process under FFRMS

Step 1: Determine if the project is in the FFRMS floodplain or wetland

- Look at the FFRMS floodplain, not the 100-year floodplain
- Use the tiered approach (CISA, 0.2PFA or FVA) to determine the FFRMS floodplain
- Proceed to the next steps if the proposal does occur in the FFRMS floodplain

Step 2: Involve the public in decision-making process (early public notice)

- Notify the public and interested agencies of the proposal to consider an action in the floodplain
- Publish the notice to allow for a minimum of 15 calendar days for public comment:
  - on an appropriate government website or
  - in a newspaper of general circulation in the affected community
  - and sent to public agencies and individuals interested in the action

Changes to the 8-Step Process under FFRMS

Step 3: Determine if there is a practicable alternative

- Identify and evaluate alternatives, including locations outside the floodplain or wetland, alternative methods to serve same project goals, and a "no action" alternative.
- Include the costs of flood insurance and potential property losses from flooding in an economic consideration of the practicability of alternatives.

Step 4: Identify adverse and beneficial impacts

- Identify and evaluate any direct and indirect support of other floodplain and wetland development that might result from the project, including taking into account impacts related to future climate-related flood levels and sea level rise.

Changes to the 8-Step Process under FFRMS

Step 5: Mitigate adverse impacts

- Minimize the impacts identified and restore and preserve the beneficial values served by floodplains and wetlands, and mitigate impacts that cannot be minimized
- Elevation – required for all new construction and substantial improvements
  - The required elevation must be documented on an Elevation Certificate or Floodproofing Certificate in the ERR prior to construction
  - The minimum elevation or floodproofing requirement for new construction or substantial improvement actions is the elevation of the FFRMS floodplain
- Minimization
  - The ERR must include a discussion of all minimization techniques incorporated into project designs and those considered but not approved
  - Techniques may include stormwater management and green infrastructure, such as permeable surfaces and nature-based approaches, as well as adjusting project footprints, resilient building codes, and FEMA-identified Severe Repetitive Loss (SRL) mitigations

Changes to the 8-Step Process under FFRMS

Step 5 (Continued): Mitigate adverse impacts

- Restoration and Preservation
  - Restoration: reestablishing the environment in which floodplains and wetlands can function again
  - Preservation: preventing changes to the natural floodplain or wetland or maintaining it as closely as possible to its natural state
  - Techniques may include conservation easements or compensatory mitigation, such as mitigation banking, purchase of mitigation credits, creation of offsetting wetlands off-site, preservation easements or restrictive covenants
- Planning for safety
  - For critical actions, an **early warning system** must be in place
  - For multifamily properties and residential healthcare facilities, an **evacuation plan** must be in place
  - For all healthcare facilities, **evacuation routes** must be identified and clearly communicated and include a plan for emergency evacuation and relocation to a similar facility that can offer the same level of medical care

Changes to the 8-Step Process under FFRMS

Step 6: Re-evaluate alternatives

- Consider the information gained from the previous steps to determine if the proposed action is still practicable
- If new construction occurs within a floodplain or wetland, apply accepted floodproofing and other mitigation measures
- Elevate the structures above the FFRMS flood risk level rather than fill in land to achieve flood protection, wherever practicable
- Conduct an analysis that must consider if the proposal is still practicable in consideration of floodplain and wetlands impacts and risks, aggravation of current hazards or disruptions of natural benefits
- Reevaluate alternatives including considerations of potential impacts inside and outside of the floodplain or wetland and economic costs
- Environmental justice: if the project is located in or impacts an EJ community, the reevaluation must address public input provided during the public outreach process and document how the activity reduces historical environmental disparities related to flood risk or wetlands impacts in the community

Changes to the 8-Step Process under FFRMS

Step 7: Announce and explain decision to the public (final public notice)

- Again, notify the public of the final decision
- Publish the final notice for 7 calendar days:
  - on an appropriate government website or
  - in a newspaper of general circulation in the affected community
- Describe why the project must be located in the floodplain, indicate a list of alternatives considered, describe all mitigation measures to be taken

Step 8: Implement proposal with appropriate mitigation

- Upon completion of the decision-making process in Steps 1 through 7, implement the proposed action.
- Ensure that mitigation measures are fully implemented during site visit reviews.

When Can the 5-Step Decision-Making Process Be Followed?

- The 5-Step Decision-Making Process (where steps 2, 3, and 7 are omitted) applies to:
  - Disposition of housing (under certain circumstances)
  - Purchase or refinance of existing multifamily housing, hospitals, & nursing homes (under certain circumstances)
  - Rehab of existing multifamily housing, hospitals, nursing homes, assisted living facilities, board and care facilities, intermediate care facilities, one- to four-family properties, and existing nonresidential buildings in structures
    - Provided the footprint of the structure and paved areas is not increased by more than 20 percent (clarifying/replacing "is not significantly increased")
  - Rehab or replacement of existing nonstructural improvements
  - Any increase in total impervious surface area must be *de minimis*
  - Does not cover critical actions, levee systems, chemical storage facilities (including any tanks), wastewater facilities, or sewer lagoons

Environmental Review Compliance and Documentation

The environmental review record should contain one of the following:

- Documentation supporting the determination that an exception at 55.12 applies.
- A map or other relevant documentation supporting the determination that the project is located outside the FFRMS floodplain.
- A completed 8-Step Process, including a map, early and final public notices, and other documentation associated with each of the steps.
- A completed 5-Step Process, including a map, and other documentation associated with each of the steps.

Sample environmental review in the HUD Environmental Review Online System (HEROS)

Floodplain Management [Executive Order 11988, particularly section 2(a); 24 CFR Part 55]	○ Yes ● No	This project is not located in an FFRMS floodplain. See attached documentation supporting this determination. The project is in compliance with Executive Order 11988.

FFRMS Key Takeaways

Key Takeaways

- Compliance with 24 CFR Part 55 in the HUD environmental review now looks to the FFRMS Floodplain instead of 100-year floodplain as floodplain of concern
  - The FFRMS Floodplain is determined through one of three approaches
    - Use CISA data first if available and approved by HUD, or voluntarily use local CISA data
    - Use the 500-year floodplain (0.2PFA approach) if CISA data not available
    - Use the freeboard value approach if the 500-year floodplain is not mapped.
- Other requirements have changed
  - The analysis for projects that are critical actions
  - The requirements for projects located in floodways
  - The elevation requirements when applicable
- Components of the 8-step process have also changed

Relevant Dates

- Final Rule Published: **April 23, 2024**
- Date Effective: **May 23, 2024**
  - 30 days after Federal Register publication
- Compliance Date for Most Projects: **June 24, 2024**
  - 60 days after Federal Register publication

- Extended Compliance Dates:
  - Final rule's amendments to 24 CFR part 200: **January 1, 2025**
    - Applies to new construction
    - Based on submission of building permit application
  - Final rule's amendments to 24 CFR part 55 for certain programs: **January 1, 2025**
    - Programs subject to Chapter 9 of the Federal Housing Administration's (FHA) Multifamily Accelerated Processing (MAP) Guide
    - Section 202 and 811 capital advance grants
    - Other mortgage insurance programs subject to Part 55

Next Webinar - June 13, 2024

FFRMS Final Rule Webinar Series, Part 2: Part 200 Overview, Protection of Wetlands, Flood Insurance and Notifications

June 13, 2024, 1:30 PM – 3:30 PM EDT

This webinar discusses changes made to 24 CFR Part 55, which includes protection of wetlands, flood insurance, notification of flood hazards, public posting, and categorical exclusion, as well as provides guidance on changes made to 24 CFR Part 200: Minimum Property Standards. The presentation will be followed by a Q&A.

Register on HUD Exchange

Resources

- Federal Flood Risk Management Standard | HUD.gov
- HUD FFRMS Final Rule: 89 FR 30850
- Environmental Review Federal Related Laws and Authorities - HUD Exchange
- Floodplain Management - HUD Exchange
- Wetlands Protection - HUD Exchange
- 24 CFR Part 55 | eCFR

Additional FFRMS Resources Available Soon

Additional Resources

- FEMA Map Service Center
- Federal Flood Standard Support Tool (FFSST)
- FFRMS Climate-Informed Science Approach (CISA) State of the Science Report
- FFRMS Floodplain Determination Job Aid
- FFRMS Floodplain Determination Fillable Worksheet
- FFRMS Interim Flood Mapping Data Development Methodology
- FEMA Response to the Review of the Interim FFRMS Flood Mapping Data Development Methodology Report
- USGS Elevation Point Query Service
- National Oceanic and Atmospheric Administration video on key FFRMS flood terms and overview of FFRMS job aid

Questions?

Questions

- Please submit content-related questions in the Q&A box in your Zoom toolbar
- Some questions have been submitted in advance
- ICF and HUD will respond to select questions as part of this webinar session
- Additional questions can be submitted in advance of the second webinar in this series as part of registration at
  - https://www.hudexchange.info/news/ffrms-final-rule-webinar-series/
- Additional questions will be addressed in the second webinar, through future FAQs, or other future resources and guidance
- Additional questions can be submitted to **EnvironmentalPlanningDivision@hud.gov**