

Western Estancia Watershed Discovery Findings Meeting



New Mexico's Risk MAP Program



September 18, 2024
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CTP Program Coordinator

Western Estancia Watershed Discovery Findings Meeting Protocol



- Please put your name, title, community, and email address in the chat box.
- Please mute your line
- Please feel free to ask questions at anytime. You can unmute and ask your question or type the question in the chat box
- Thank you for attending, your time is appreciated

Agenda

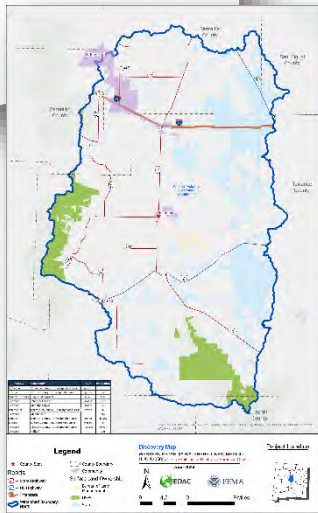
- Discovery Review
- Products
- Actions to Reduce Risk
- Community Opportunities
- Base Level Engineering & Hazard Mitigation Plans



Discovery Phase – Background

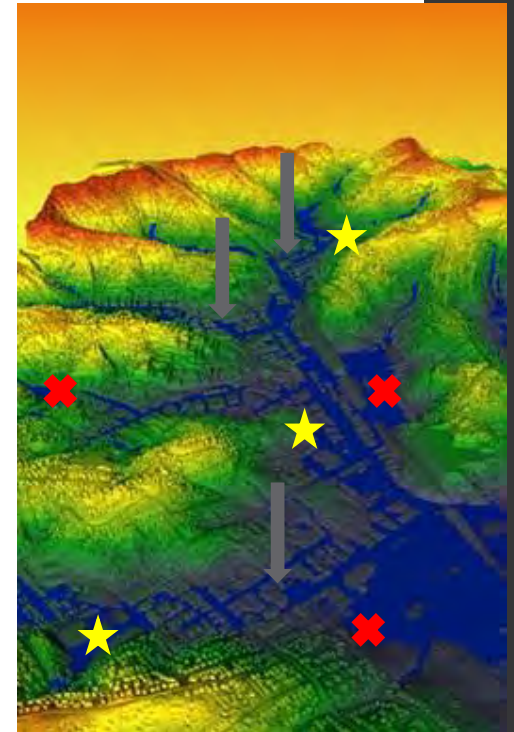


- For Western Estancia Watershed:
 - Pre-Meeting Analysis and Coordination
 - State
 - FEMA (NFIP, Mapping, & Mitigation groups)
 - USACE
 - Local Communities
 - Discovery Meeting with Communities and Stakeholders
 - Discovery Meeting held in-person & virtually (September 4, 2024)



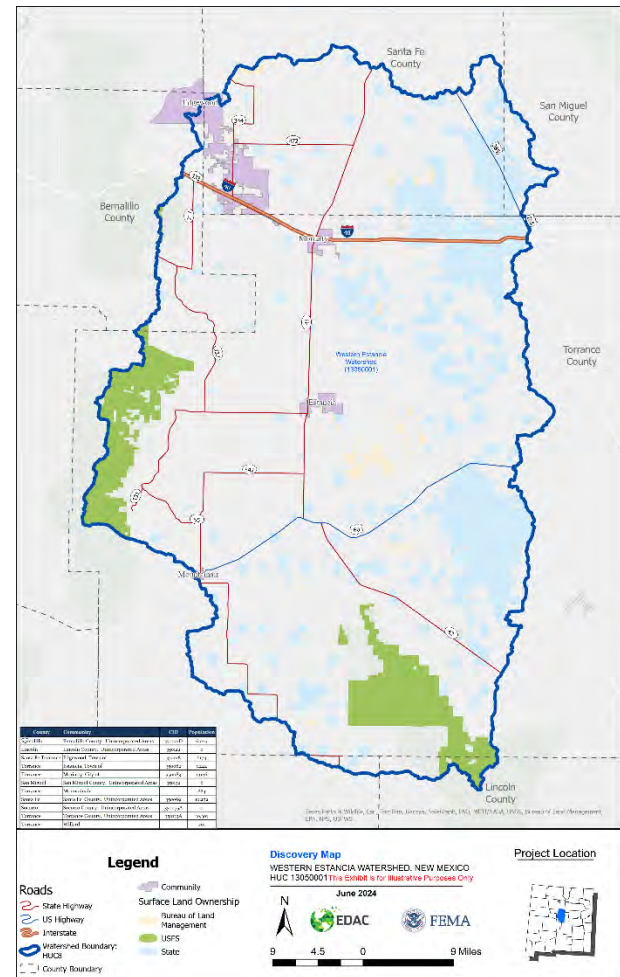
The Discovery Phase

- Assess understanding of natural hazards
- Identification of Mitigation Actions and potential projects
- Community Engagement and Coordination to include:
 - Capability and capacity assessment
 - Risk Communication and Awareness needs
- Introduction to FEMA products and service available
- Spark watershed-wide discussions about:
 - Increasing resilience to flooding
 - Watershed partnerships



Watershed Engagement to Date

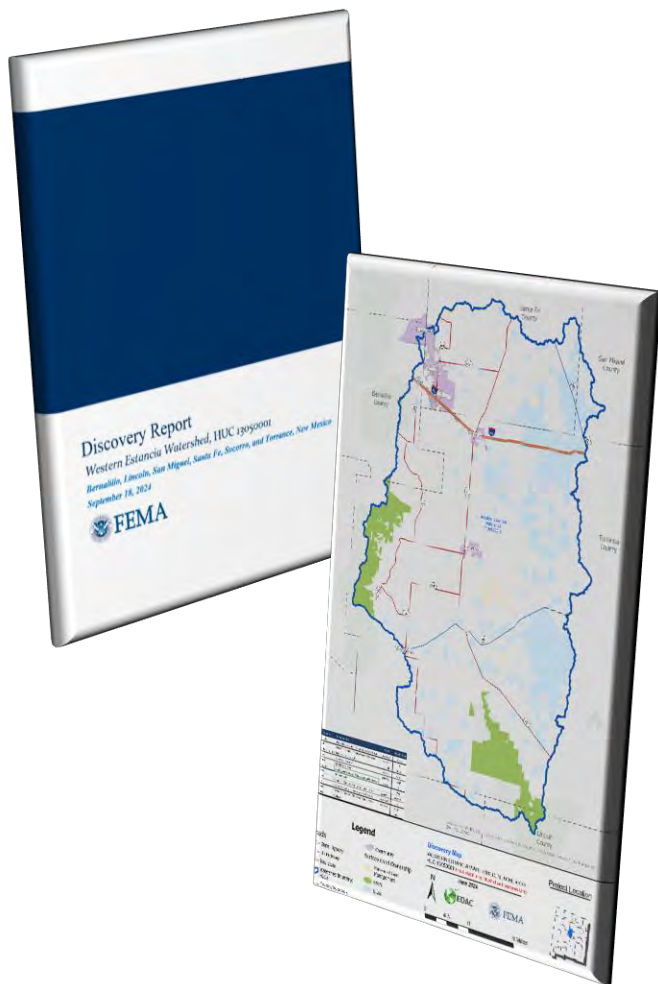
- For Western Estancia Watershed:
 - Pre-Meeting Analysis and Coordination
 - State
 - Dam Safety Bureau
 - FEMA
 - USACE
 - NRCS
 - Local Communities
 - Watershed Districts
 - Soil & Water Conservation Districts



Post-Discovery Follow Up Activities

- Risk Identification & Assessment Possibilities
 - Reviewed Available Engineering Analysis
 - Dam Status
 - LOMR data for incorporation
 - Reviewed input provided at Discovery Meetings
 - Understanding of Local Flooding conditions
-
- Review Community Identified Actions
 - Review of Available Non-Regulatory Products
 - Identify education & training needs
 - Review of risk communications needs

Discovery Report & Map

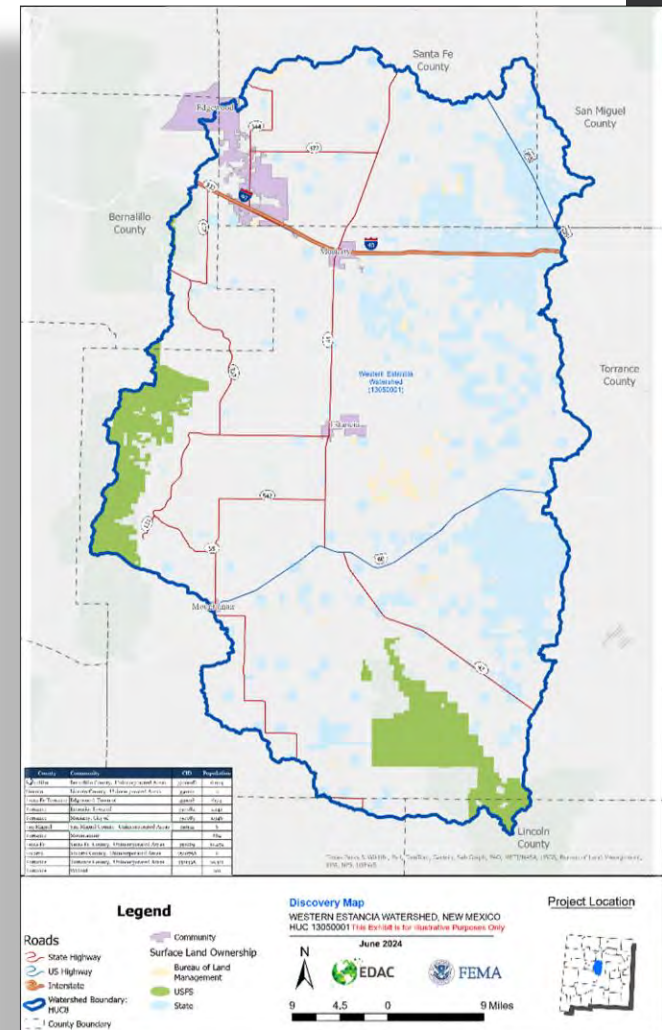


- NMFlood.org
 - Select Western Estancia Watershed
- Discovery data provided by communities and other sources centralized in report
- Report includes:
 - Exhibits and Mapping
 - Tabular reports – Community & Watershed Level

Products & Delivery Items: *Areas of Mitigation Interest (Non-Regulatory)*

• GIS Dataset

- Identifies areas where mitigation actions may be beneficial
- First step to prioritizing mitigation actions and identify needed resources
- Helps visually communicate flood risk reduction opportunities to the public
- Foster collaboration with neighboring communities by identifying factors that may impact them
- Better communicate understanding of risk for Local Hazard Mitigation Plans



Benefits of Tools & Data :

How can these tools benefit my community?

- Identify and prioritize mitigation actions/projects
- Help visually communicate flood risk to the public and stakeholder groups
- Inform development decisions and community planning
- Advanced recovery planning and disaster preparedness tool
- Assist communities in the development and update of Local Hazard Mitigation Plans
- Can be combined with Base Level Engineering Products



Benefits of Tools & Data :

Who benefits from better flood risk understanding?

Interested Party	Data & Tool Availability
Emergency Management	Emergency Operations Plan, EAPs, Evacuation Plans, Public Safety Education, Flood Fight Strategies, Enough First Responders with Training
Planning/Development	Comprehensive Plans, Growth Management, Subdivision Regulations, Building Code, Zoning, Open Space Planning, Sustainability Activities like Low-Impact-Development
GIS and Mapping	Map Layers, Local Vulnerability Analysis
Floodplain Management	Ordinance Enforcement, Changes to Permitting Requirements, Flood Insurance Outreach to Citizens and Businesses, Joining the CRS
Public Works/Finance	Stormwater Management, Capital Improvements Plan
Local Officials	Economic Development Plan, Sustainability Plans, Policies

Actions to Reduce Risk

Land Use Ordinances	<ul style="list-style-type: none"> • Zoning, Open space preservation • Floodplain management, Stormwater management • Setbacks, Freeboard requirements, Higher standards
Local Building Codes	<ul style="list-style-type: none"> • Local Inspections & Enforcement • International Building Codes • Local Regulations, Permitting Development
Best Management Practices	<ul style="list-style-type: none"> • Hazard Mitigation Plan is a living document – update often • Integrate Natural Hazards into other Planning Efforts • Community resource management • Inter-Agency Agreements, Increase capability through partnering • Lessons learned for process improvement • Education and Training for local staff (EMI)
Mitigation Projects	<ul style="list-style-type: none"> • Floodproofing, Relocation, Elevation, Demolition, and Acquisition • Drainage Improvements (Bridge, Culverts, Dams, etc) • Restoration of Erosion Control, Soil Stabilization • Non-Structural and Structural Retrofits • Safe Room Construction
Community Identified Mitigation Programs	<ul style="list-style-type: none"> • CRS, Firewise, StormReady • National Dam Safety Program • Community Emergency Response Teams • Community Outreach & Risk Awareness - Turn Around Don't Drown

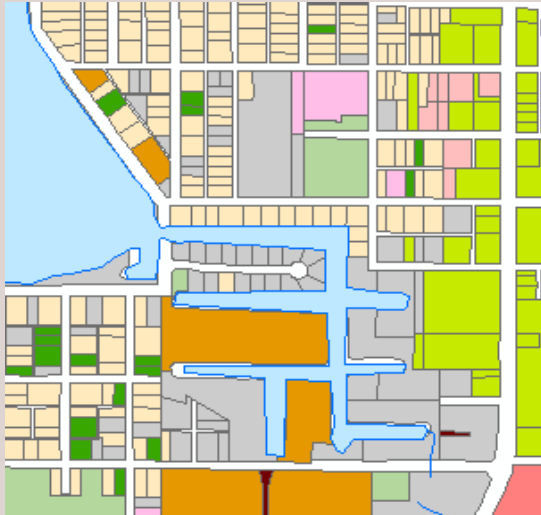
Actions to Reduce Risk:

Identified Action Opportunities in Watershed

Category

Action & Opportunities Identified

**Risk Identification
and Communication**



Multi-hazard Public Education Program


Stormwater management and drainage plans

Community Hazard Awareness and Education

Utilize Base Level Engineering to communicate risk

Actions to Reduce Risk:

Identified Action Opportunities in Watershed

Category	Action & Opportunities Identified
<p>NFIP Community Action</p> 	<p>NFIP & CRS Continued Compliance and Participation</p>
	<p>Join Community Rating System (CRS) program.</p>
	<p>Consider higher standards</p>
	<p>Map revisions and additional studies in the East Mountain area</p>
	<p>Update and implement floodplain and floodway maps in Torrance County and conduct new hydraulic studies where necessary.</p>
	<p>Review NM floodplain statutes, communities with floodplains are required to have a CFM on staff (§ 3-18-7)</p>
	<p>Flood Insurance Awareness Program</p>

Actions to Reduce Risk:

Identified Action Opportunities in Watershed

Category

Action noted by Communities and Partners

Mitigation Planning and Mitigation Actions

Assist communities in the preparation, update and adoption of HMPs. Torrance County has grant to update HMP.

Develop and Implement a flood control plan for Willard and Torrance County. Integrate with a water management plan.

Storm water Plans, Drainage Plans


Develop and Implement Hazardous Fuels Reduction Program

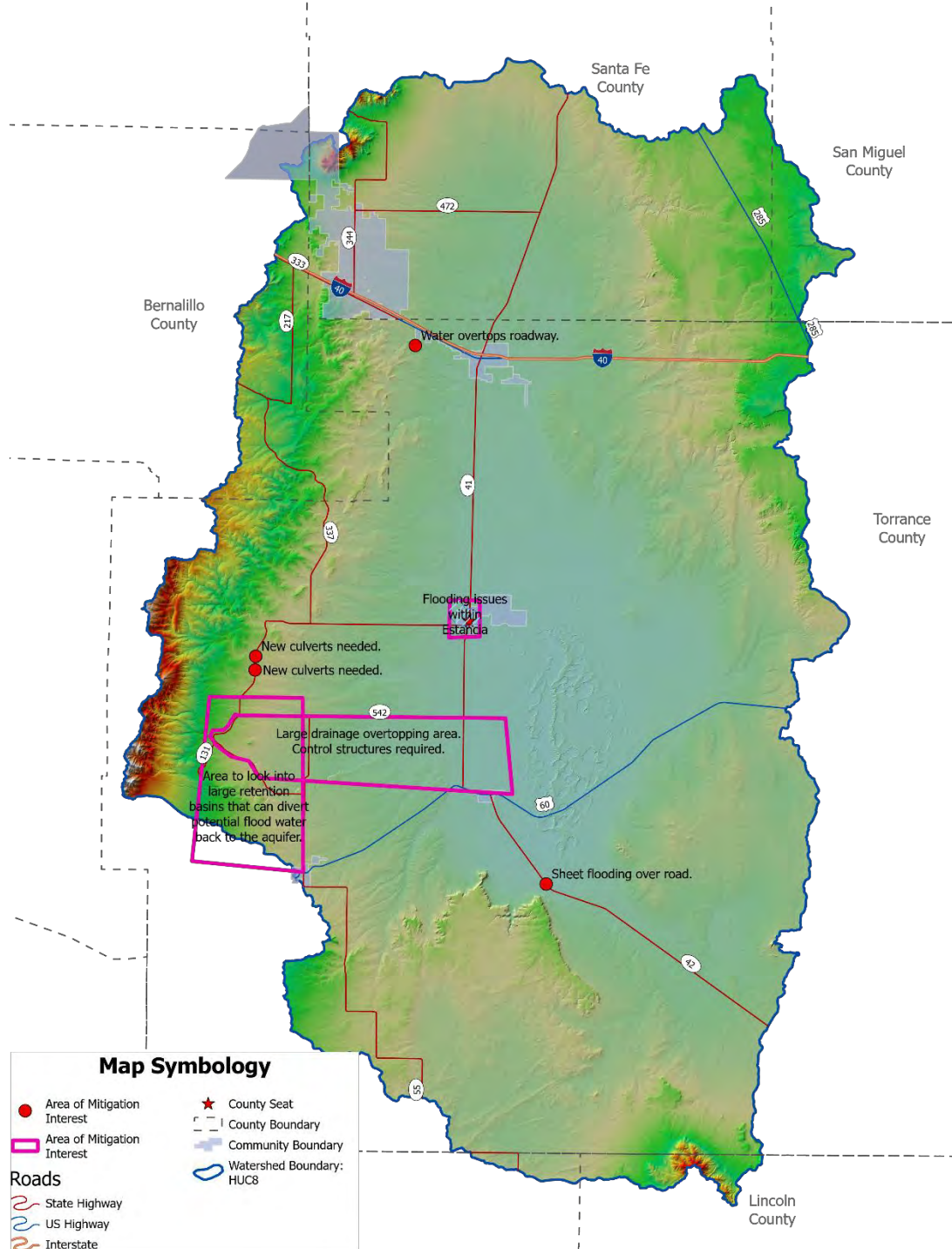
Low Water Crossings - Identify low water crossings and repetitive flood damaged roads for potential mitigation such as low water crossing signs, TADD signs, remedial design, and culvert improvements.



Actions to Reduce Risk:

Identified Action Opportunities in Watershed

Category	Action noted by Communities and Partners
Community Benefits and Grant Opportunities	Mitigation of flooding concerns in the county Identified local drainage issues and possible solutions.
	Updated and current flood hazard information for communities.



Map Symbology

- Area of Mitigation Interest
 - Area of Mitigation Interest
 - ★ County Seat
 - County Boundary
 - Community Boundary
 - Watershed Boundary: HUC8
- Roads**
- State Highway
 - US Highway
 - Interstate



WILLARD DRUG Co

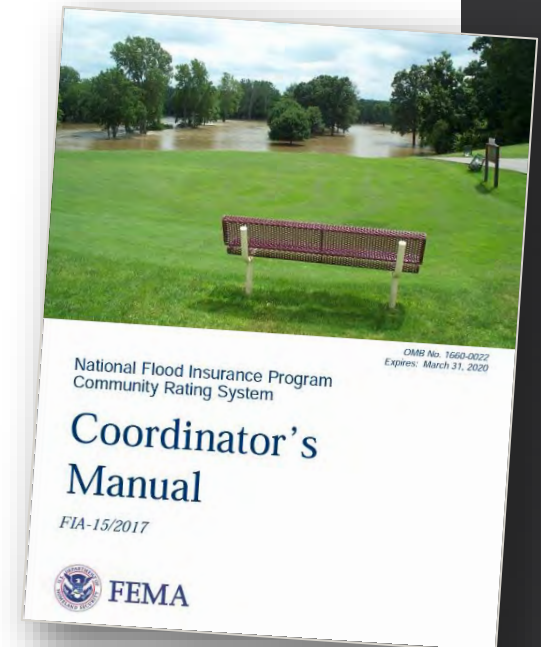
GREAT SALT LAKE, 7 MILES EAST OF WILLARD, NEW MEXICO.
PURE SALT IS TAKEN OUT OF THIS LAKE BY THE CAR LOAD.

New Mexico State University Library

Other
Community
Opportunities

Other Community Opportunities: *Community Rating System (CRS)*

- Voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements
- Flood insurance premium rates are discounted to reflect the reduced flood risk.
- The three goals of the CRS:
 - Reduce flood damage to insurable property;
 - Strengthen and support the insurance aspects of the NFIP, and
 - Encourage a comprehensive approach to floodplain management.



Community Resources: Mitigation Assistance

REGION 6

NEW MEXICO MITIGATION ASSISTANCE RESOURCE GUIDE

About the New Mexico Mitigation Assistance Resource Guide

PURPOSE OF THE GUIDE

According to the National Institute of Building Sciences 2019 Natural Hazard Mitigation Saves report, every federal grant dollar invested in mitigation results in \$6 saved, on average, during disaster recovery. However, finding those initial dollars to invest, and determining the best way to spend them, can pose a challenge for communities across the nation. Many resources exist, but they can be difficult to access and may not fit the needs of the community.

This guide aims to fill that gap by providing an initial list of federal and state resources, including grants, technical assistance, loans, and other means of support. It will help state, local, and tribal officials determine a possible source(s) of funding and technical assistance for their potential mitigation projects. For more information on available federal grants, visit [grants.gov](https://www.grants.gov).

DEVELOPMENT OF THE GUIDE

The federal assistance resources were compiled by a FEMA contract provider. The information was agency/organization's website. The state-specific resources are referenced in the State Hazard Mitigation Plan.




GUIDE ORGANIZATION

This guide provides information about federal and state resources that are currently available in New Mexico. The guide is organized alphabetically by agency/department.

HOW TO USE THIS GUIDE

Each resource includes information such as the name of the program, resource type, hazards addressed, as well as practical details on cost-sharing and eligibility requirements. The guide also provides information on where to find the next steps for applying and additional details.

The icons at the top of each page display key information:

RESOURCE TYPE		
	Grants	Resources that provide financial support, often with a cost-share requirement
	Loans	Resources that provide initial financial support, often for low or no interest
	Technical Assistance	Resources that provide technical guidance and information

MITIGATION TYPE	
	Education and Outreach Sustained programs to educate residents and community leaders about risks, vulnerabilities, and mitigation opportunities
	Natural Systems Protection Actions that minimize damage preservation or restoration of natural systems
	Planning and Regulations Policies or codes that influence the way land is developed and buildings are constructed
	Structure and Infrastructure Actions modifying existing structures to remove them from a vulnerable area or construction of new structures development

November 2020

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NOVEMBER 2020



About the Resource

Through WaterSMART, the Bureau of Reclamation will continue to work with states, tribes, and local entities as they plan for and implement actions to increase their water supply through investments to modernize existing infrastructure and attention to local water conflicts. WaterSMART is an umbrella for a variety of programs, including water and energy efficiency grants, drought planning grants, and watershed management planning grants.



Firewise	
Technical Assistance	
Department or Organization	National Fire Prevention Association
Type of Mitigation Action	Education and Outreach
Hazard Addressed	Wildfire
Specific to Recovery	No
National Mitigation Framework Core Capability	Public Information and Warning
Eligible Applicants	Communities
Funding Available	N/A
Cost Sharing	N/A
Restrictions	None
Website	nfpfa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA
Next Steps for New Mexico Communities	More resources from this nonprofit program are available at the website

About the Resource

Firewise USA is a voluntary program that provides a framework to help neighbors get organized, find direction, and take action to increase the ignition resistance of their homes and community.



Five Star and Urban Waters Restoration Grant Program	
Grant	
Department or Organization	National Fish and Wildlife Foundation
Type of Mitigation Action	Natural Systems Protection
Hazard Addressed	All
Specific to Recovery	No
National Mitigation Framework Core Capability	Community Resilience
Eligible Applicants	Local governments or organizations
Funding Available	Awards range from \$20,000 to \$50,000 with an average size of \$30,000 and 40-50 grants awarded per year
Cost Sharing	Matching required
Restrictions	All projects must have: <ul style="list-style-type: none"> On-the-ground activities such as wetland, river, or coastal habitat restoration and/or targeted green infrastructure creation and monitoring.

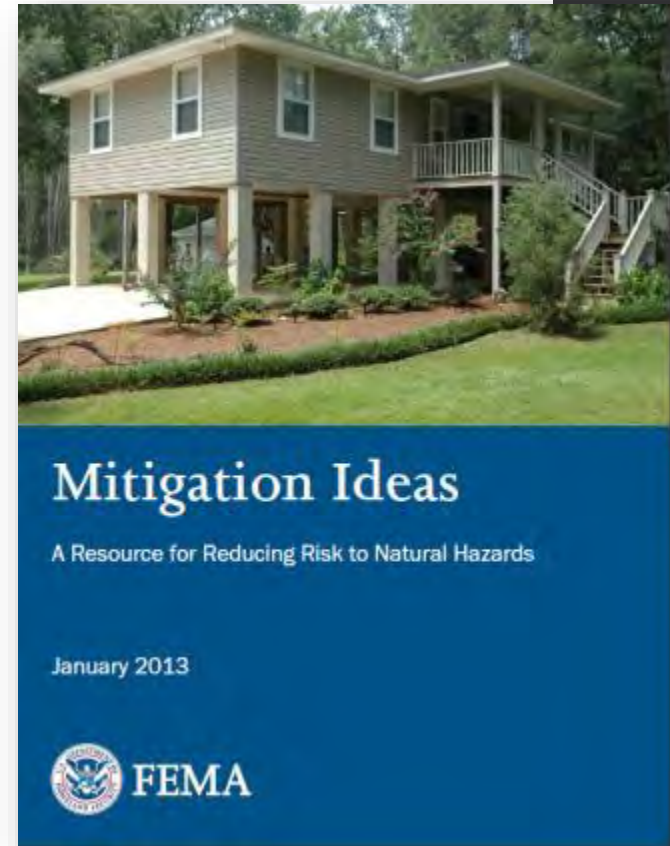
November 2020

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Community Resources: *Mitigation Ideas*

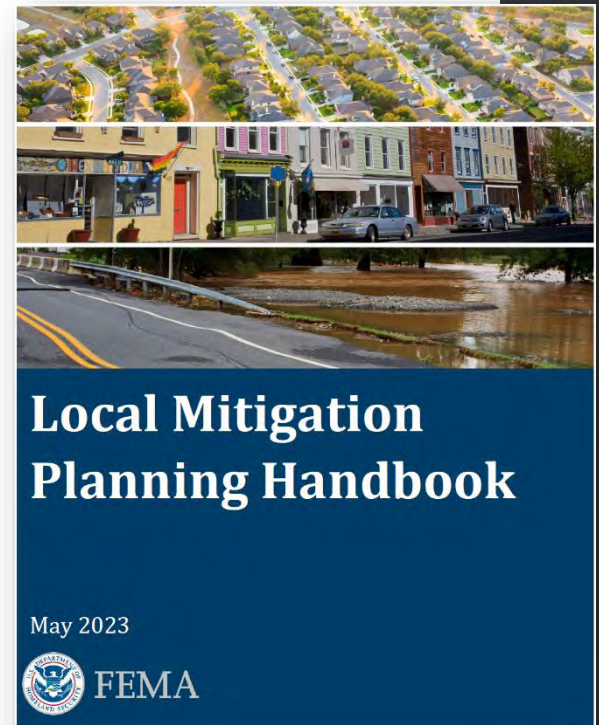
- Resource for communities to use to identify and evaluate a range of potential mitigation actions to reduce risk due to natural hazards
- 16 hazards are profiled and actions are summarized into four types:
 - Local Planning & Regulations
 - Structure & Infrastructure Projects
 - Natural Systems Protection
 - Education & Awareness Programs



Community Resources:

Local Mitigation Planning Handbook

- Tool for local governments to use in developing or updating a local hazard mitigation plan.
- Offers practical approaches and examples for how communities can engage in effective planning to reduce long term risk from natural hazards
- The Handbook is a companion to the Local Mitigation Plan Review Guide



Community Resources:

Mitigation Assistance - NMDHSEM Grants

- DHSEM Mitigation Program
 - DHSEM.Mitigation@state.nm.us
 - 505-476-9682



Hazard Mitigation Assistance Program and Policy Guide

Hazard Mitigation Grant Program, Hazard Mitigation Grant Program Post Fire, Building Resilient Infrastructure and Communities, and Flood Mitigation Assistance

Effective March 23, 2023

Version 1.1 - Updated September 22, 2023

Federal Enterprise Architecture (FEA) Number: FP-206-21-0001



Hazard Mitigation Assistance Guidance

Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program

February 27, 2015



Federal Emergency Management Agency
Department of Homeland Security
500 C Street, S.W.
Washington, DC 20472

Now what?

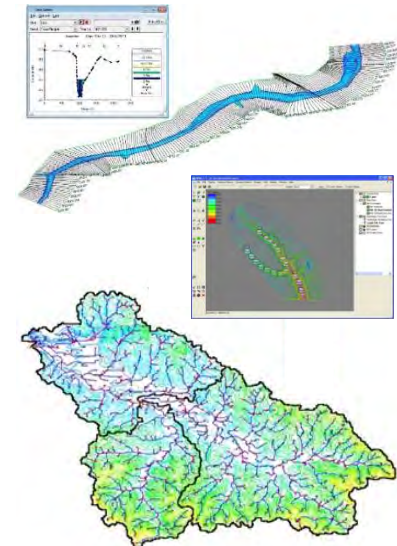
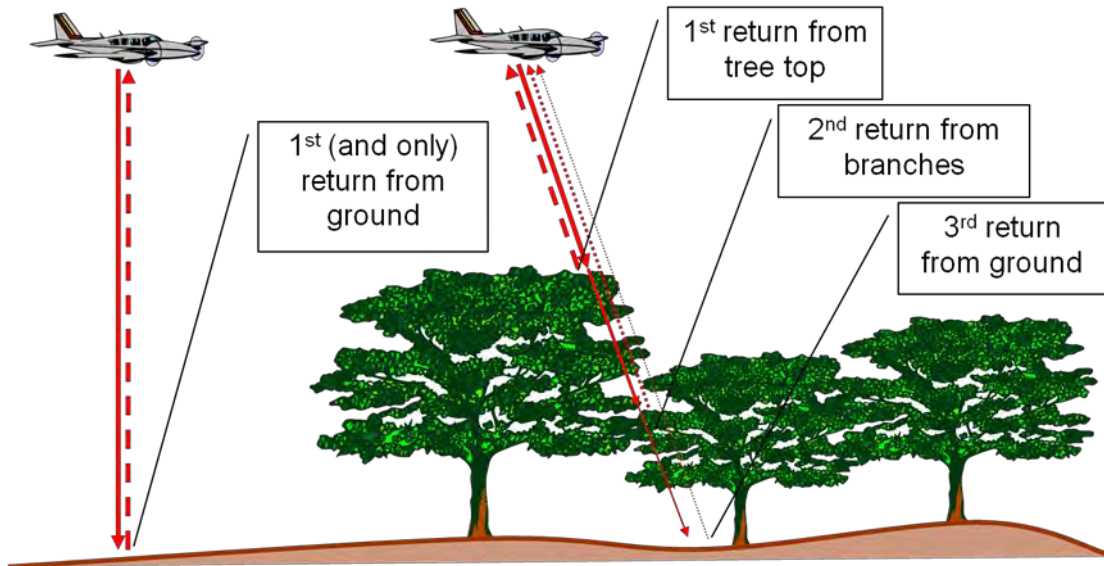
- Use Basic Flood Risk Products to better understand risk
- Revise current HM Plan to add newly identified information
- Review ordinance for possibility of higher standards
- Plan for ongoing interaction with FEMA
- Identify potential projects for mitigation action
- Promote risk awareness to residents and business owners
- Identify educational and training opportunities on flood risk tools for local staff



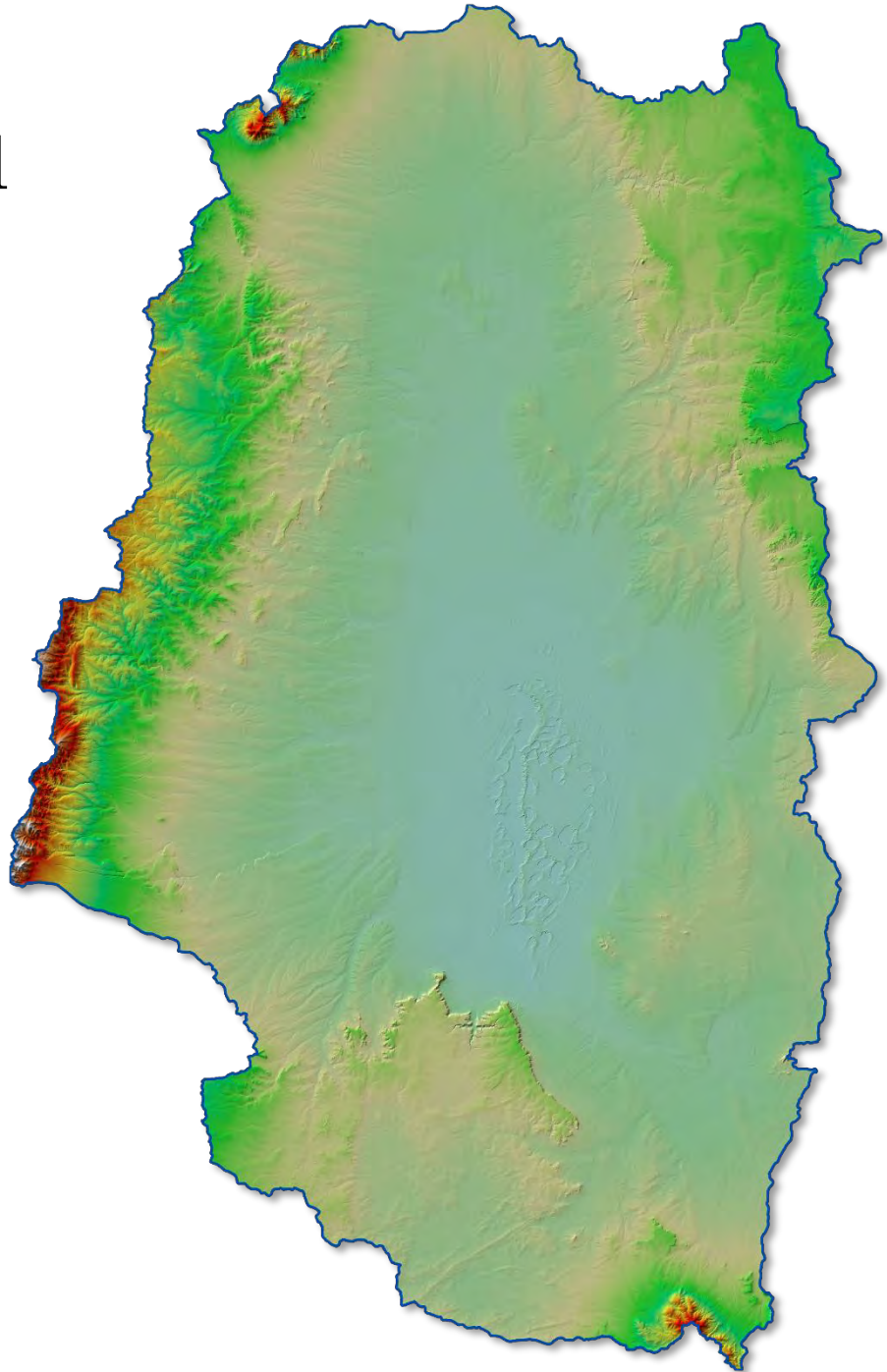
BLE & Hazard Mitigation Plans

Base Level Engineering

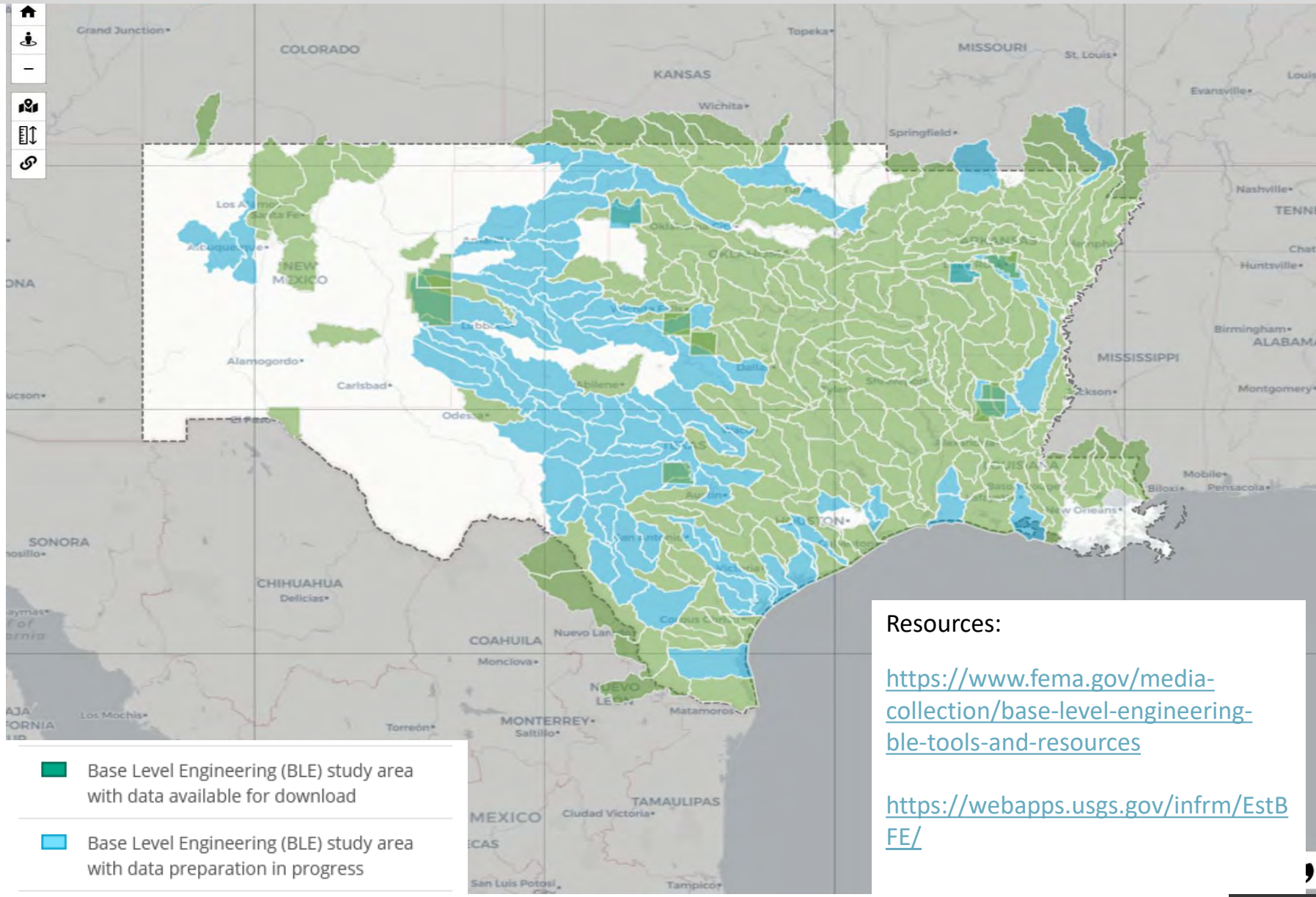
- 2014, 2017 & 2018 QL-2 Lidar collected
- 2021 Base Level Engineering



Lidar Digital
Elevation Model
(DEM)



Base Level Engineering Availability



Download the Data

The screenshot shows a web application interface for FEMA's 'Estimated Base Flood Elevation' tool. A 'Download Data' modal window is open, displaying a table of data sets for the 'Upper Rio Grande' study area. The table lists various data sets with their file names and sizes, and provides a 'Download' button for each. A 'Description' link is also available for each data set. Below the table, there is a note from FEMA about tools for local communities and a link to more information.

Data Set	File Name	Size	Download This Table
HECRAS models	13020101_Models.zip	77.21 MB	Description Download
1% event depths, raster	13020101_Depth01.zip	24.56 MB	Description Download
0.2% event depths, raster	13020101_Depth002.zip	27.97 MB	Description Download
1% event elevations, raster	13020101_Elev01.zip	16.59 MB	Description Download
0.2% event elevations, raster	13020101_Elev002.zip	18.03 MB	Description Download
Vector spatial data, file geodatabase	13020101_VectorData.zip	39.75 MB	Description Download
Reports and documents	13020101_Documents.zip	12.68 MB	Description Download

FEMA has prepared a number of tools to assist local communities in utilizing the Base Level Engineering data locally. For more information about the downloadable files available and the contents of the Vector Geodatabase, click [here](https://www.fema.gov/media-collection/base-level-engineering-ble-tools-and-resources). Additional tools and resources are available at: <https://www.fema.gov/media-collection/base-level-engineering-ble-tools-and-resources>

<https://webapps.usgs.gov/infrm/estbfe/>

A Closer Look at a few BLE datasets?



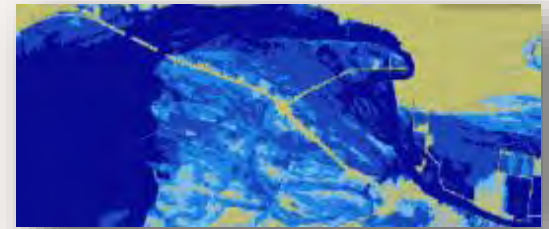
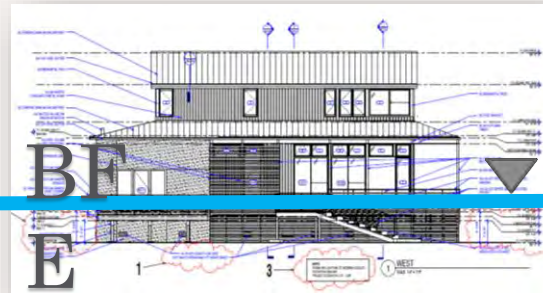
Floodplains

- 1-Dimensional
- Elevations provided at XS
- Good for:
 - In/out determinations
 - Zoning updates
 - Neighborhood/facilities planning



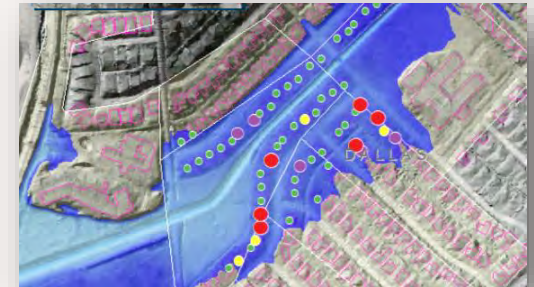
Water Surface Grids

- ▶ 1-Dimensional
- ▶ Elevations provided for each grid cell
- ▶ Good for:
 - BFE Determinations



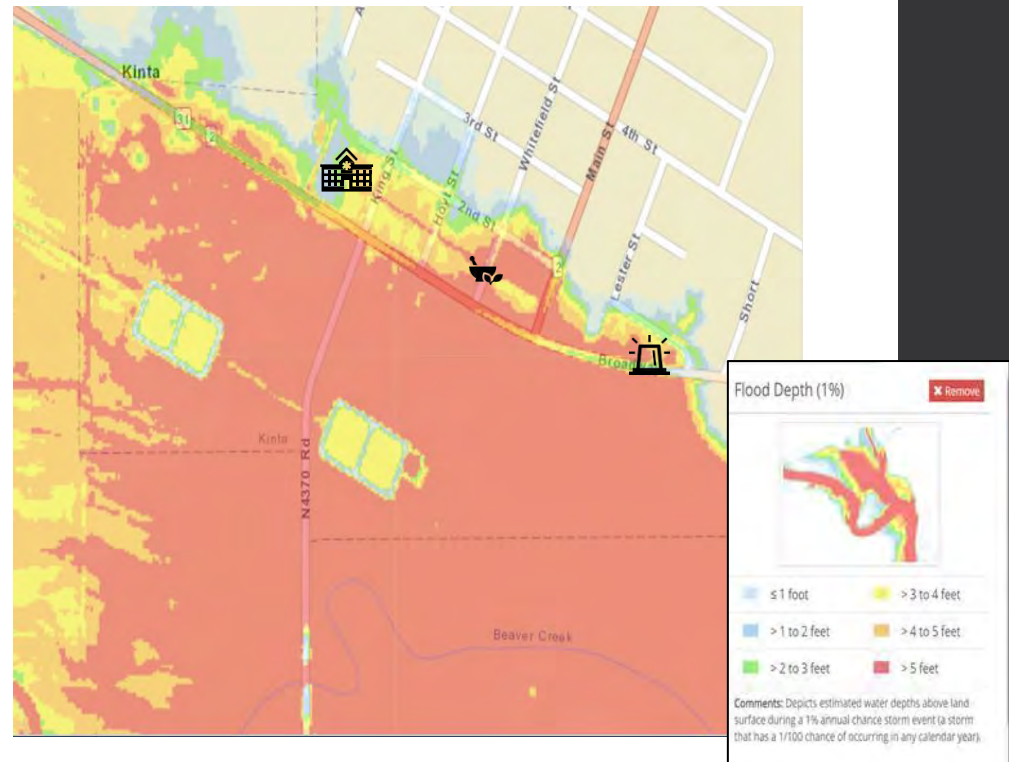
Flood Depth Grids

- ▶ 2-Dimensional
- ▶ Depths provided for each grid cell
- ▶ Good for:
 - Review of Development Proposals
 - Risk Assessments



Hazard Mitigation Plan Requirements

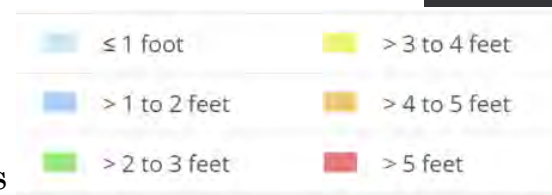
- Hazard Identification
 - Location
 - Extent
 - Vulnerable Assets
- Mitigation Strategy Development
 - Site Specific Actions
 - Influence Development
 - Action Prioritization



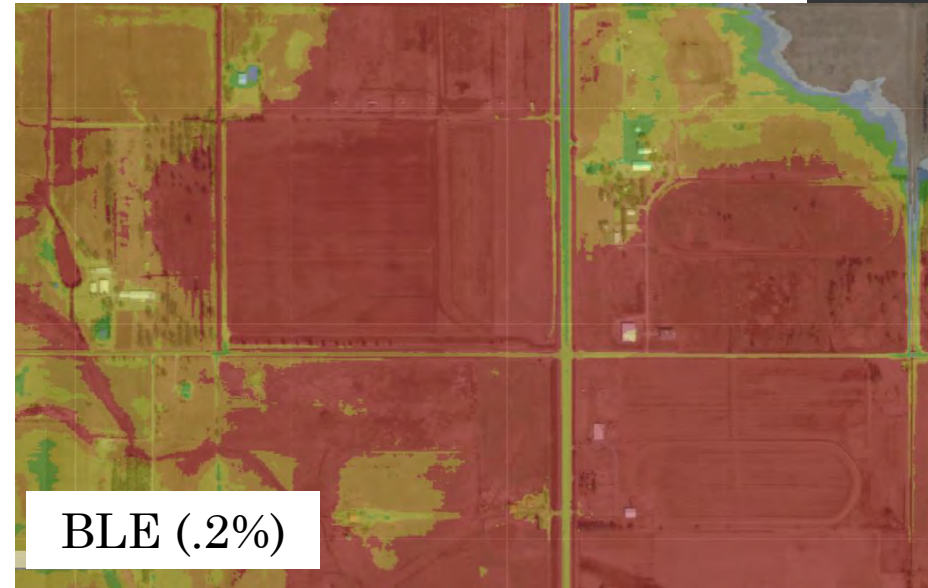
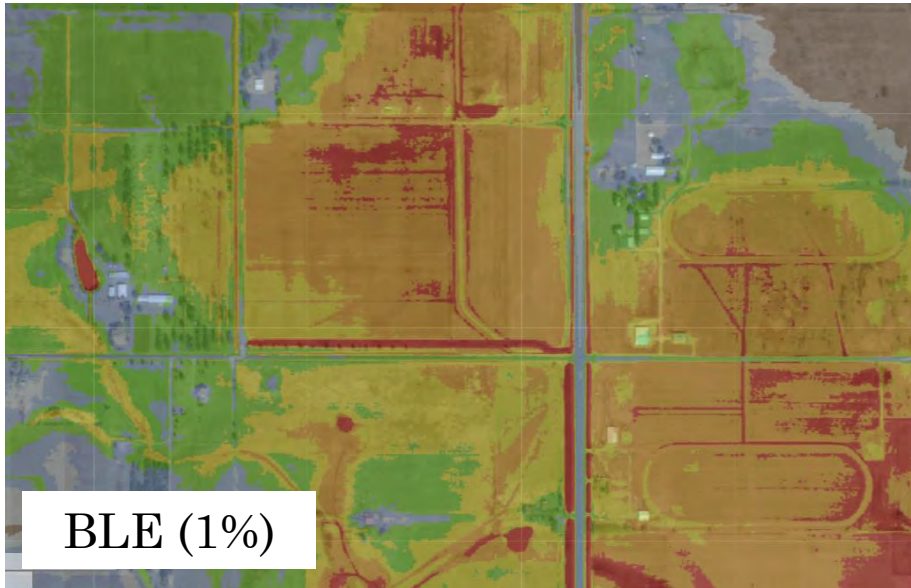
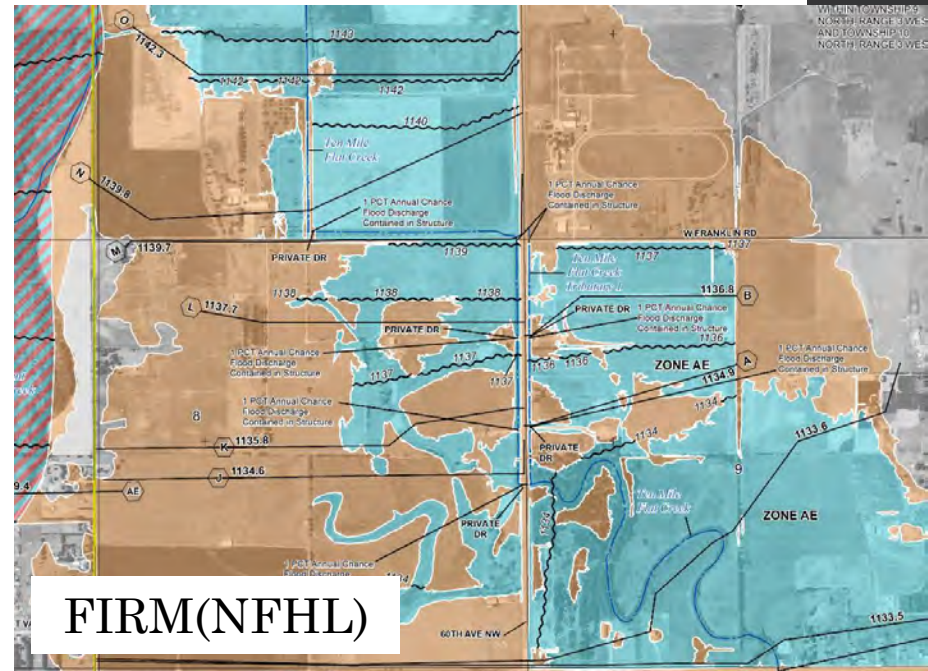
Faux Flood Hazard Profile

(Location, Extent, Previous Occurrences, Probability, Vulnerability and Impacts)

- Flooding occurs throughout the southwest areas of Faux City. Hwy 31, 2, and N 4370 Rd is frequently under water, including adjacent areas due northeast to 3rd St. This area also includes King, Hoyt, Whitefield, Lamar and Main Streets.
- Flooding events causing road closures occurred in 1996, 2001, 2009, 2016, and 2018. At least 30 other minor events have occurred based on accounts from residents. Faux City was included in 3 Disasters (2001, 2016, and 2018) where Public Assistance repaired the damaged roads.
- Flooding occurs in these areas 2-3 times a year with flash flooding after heavy rainfall events, but the water quickly recedes. Flooding from the Winding River occurs less frequently but is consistent with the 1% annual flood.
- There are homes and businesses in these inundated areas, including 2 fire stations and a pharmacy which can be potentially impacted. Impacts include loss of life when drivers drive into inundated flood waters, road and business closures, displaced families, slow response times, and inability to obtain pharmaceuticals.



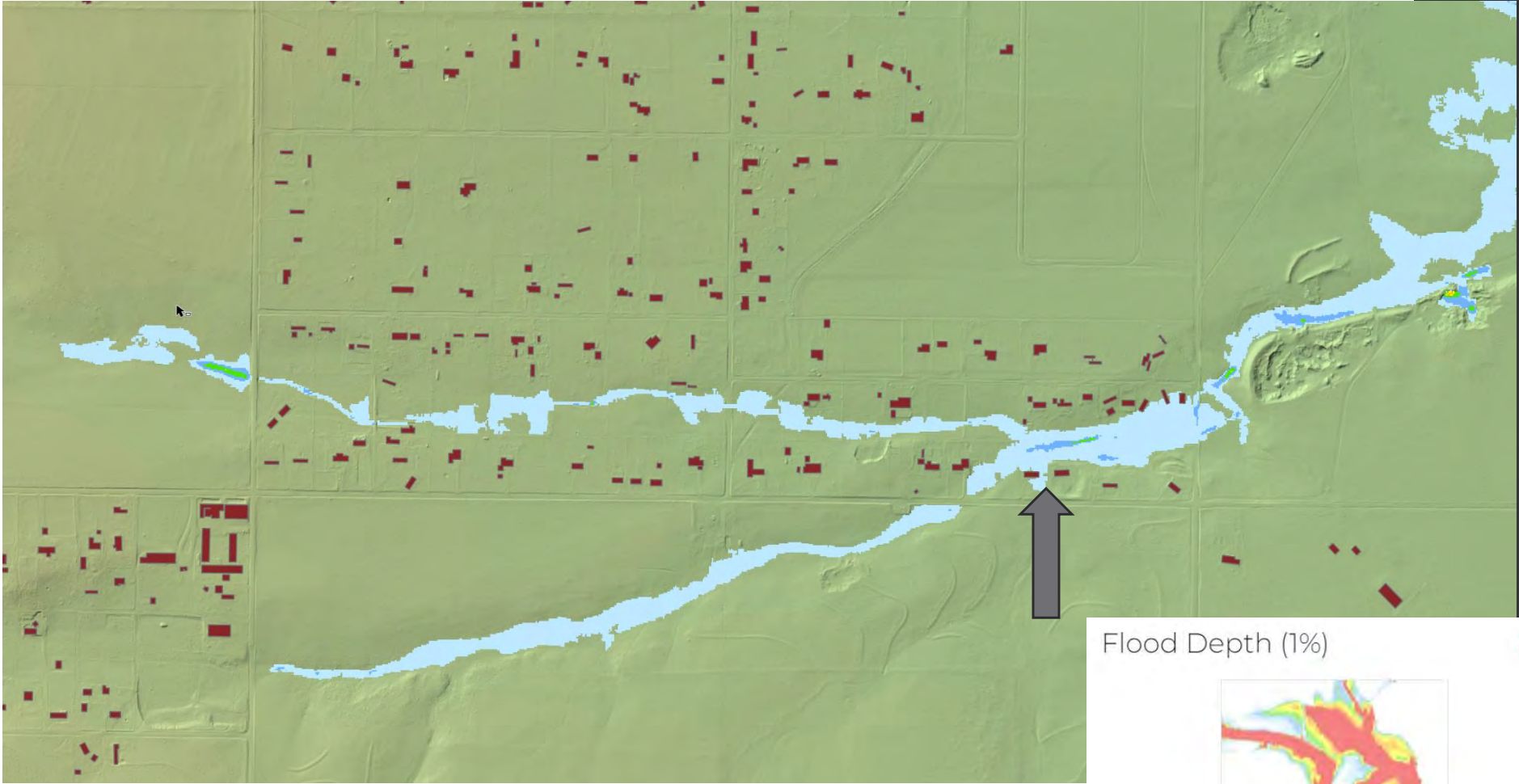
Comments: Depicts estimated water depths above land surface during a 1% annual chance storm event (a storm that has a 1/100 chance of occurring in any calendar year).



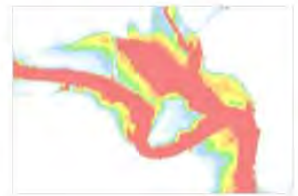
BLE (1%)







BLE (.2%)

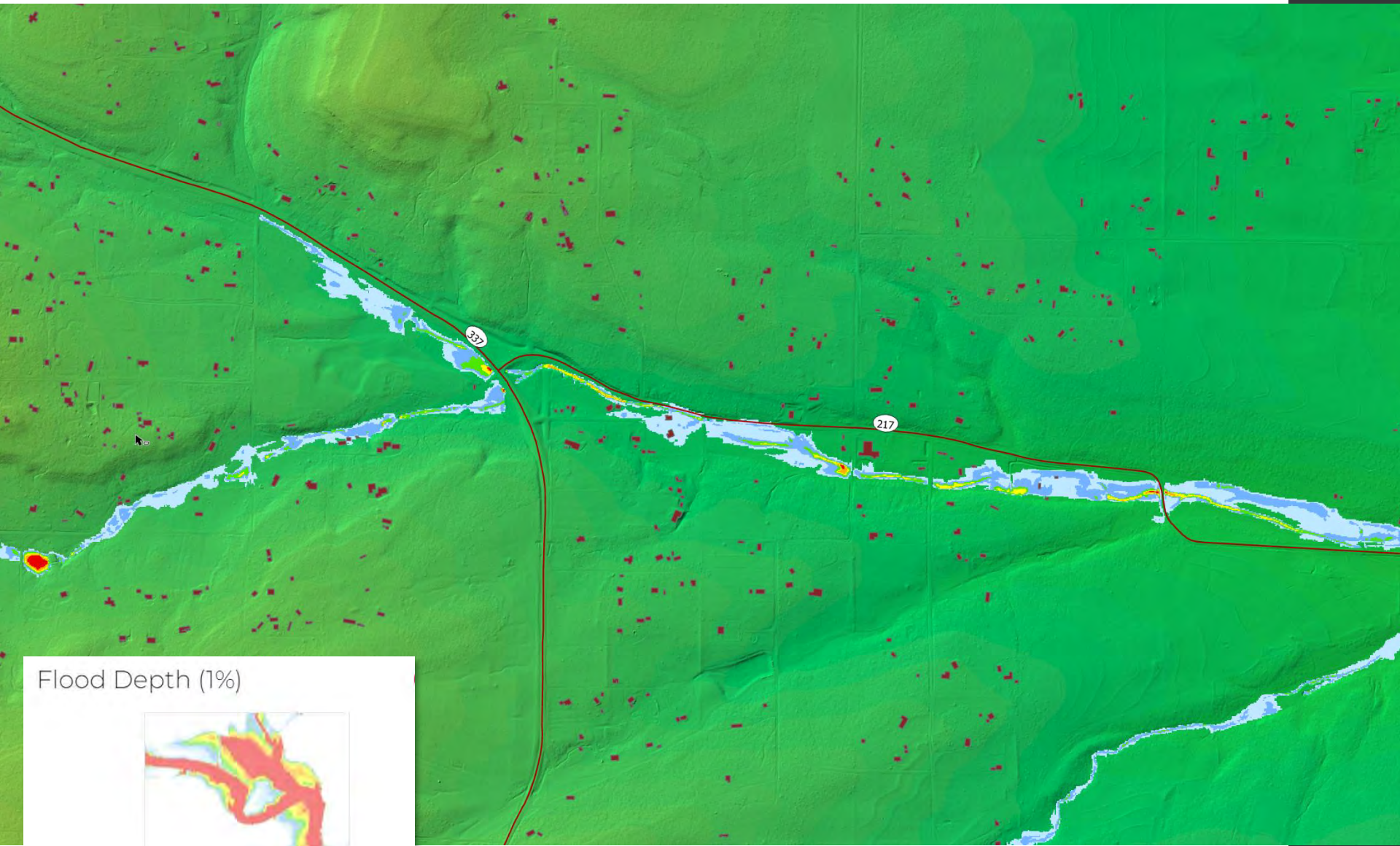
Scenario planning: What influence can BLE have within this community?



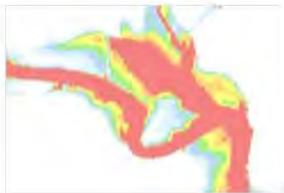
Flood Depth (1%)









- | | |
|---|---|
|  ≤ 1 foot |  > 3 to 4 feet |
|  > 1 to 2 feet |  > 4 to 5 feet |
|  > 2 to 3 feet |  > 5 feet |

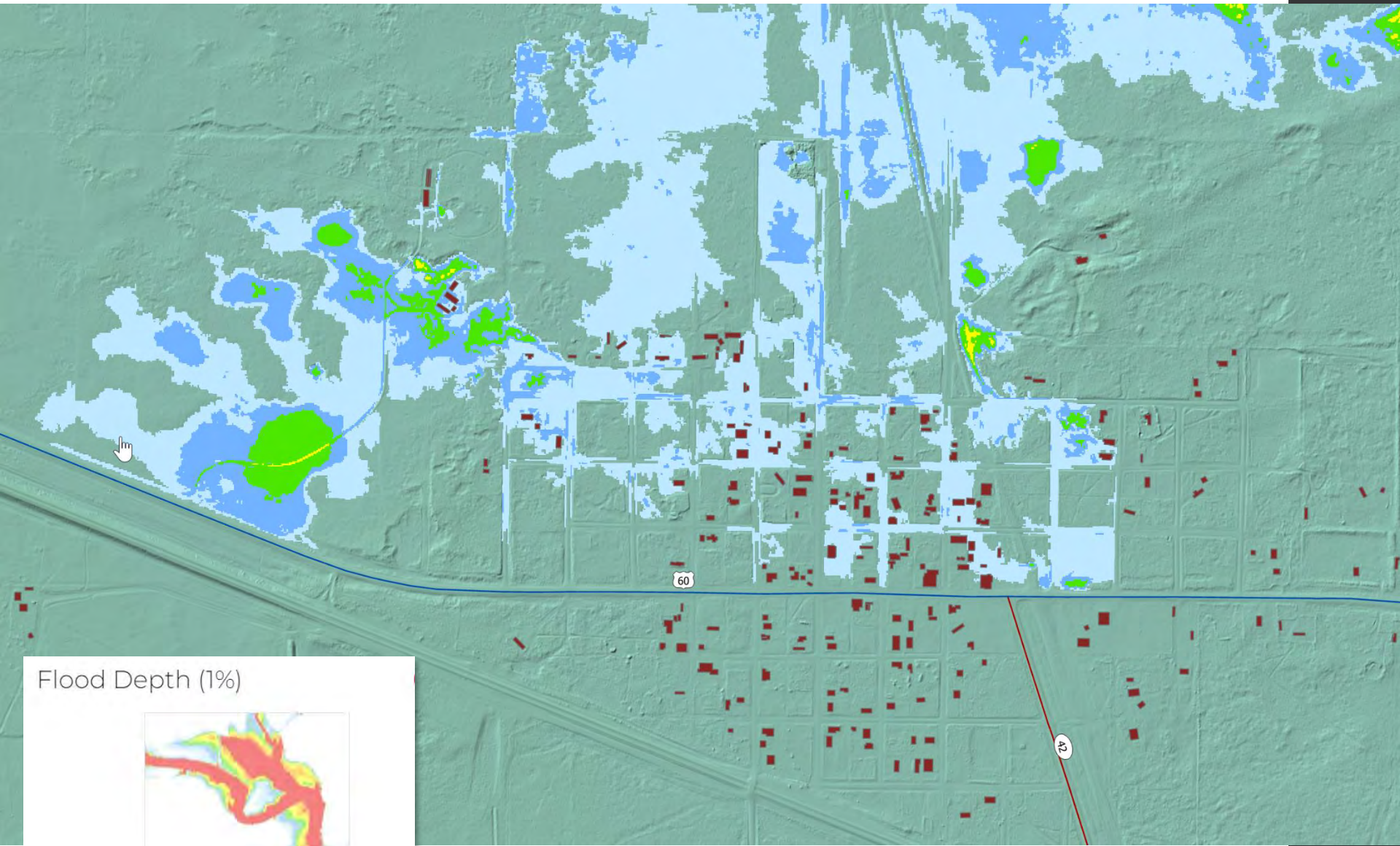


Flood Depth (1%)

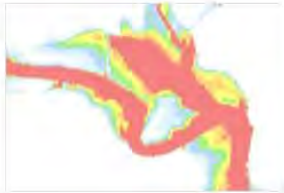


- | | |
|--|---|
|  ≤ 1 foot |  > 3 to 4 feet |
|  > 1 to 2 feet |  > 4 to 5 feet |
|  > 2 to 3 feet |  > 5 feet |

Bernalillo County Area – Zone D

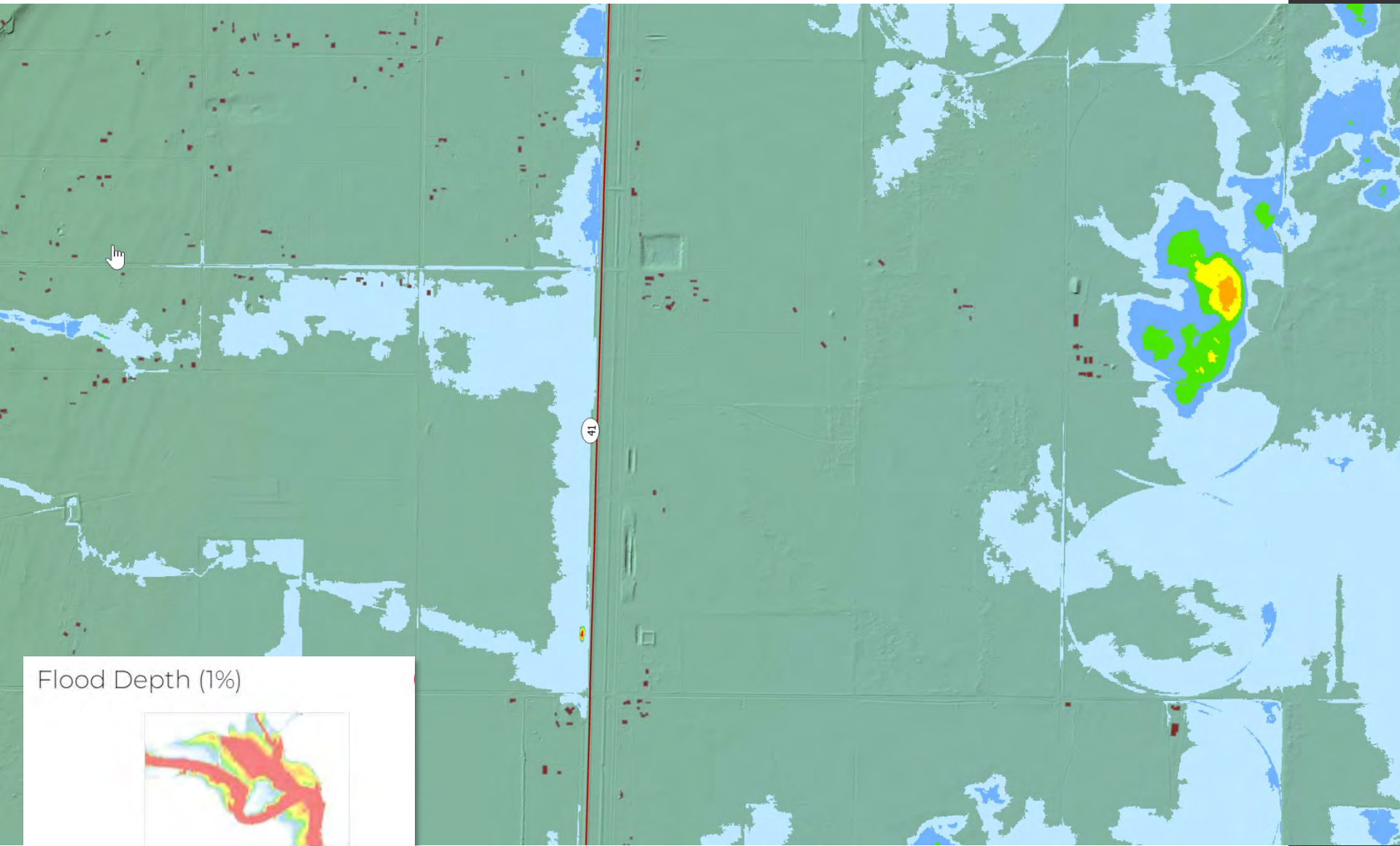


Flood Depth (1%)

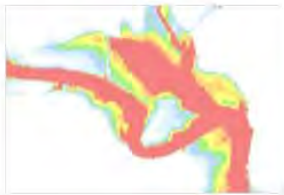








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|---------------|---------------|
| ≤ 1 foot | > 3 to 4 feet |
| > 1 to 2 feet | > 4 to 5 feet |
| > 2 to 3 feet | > 5 feet |

Willard

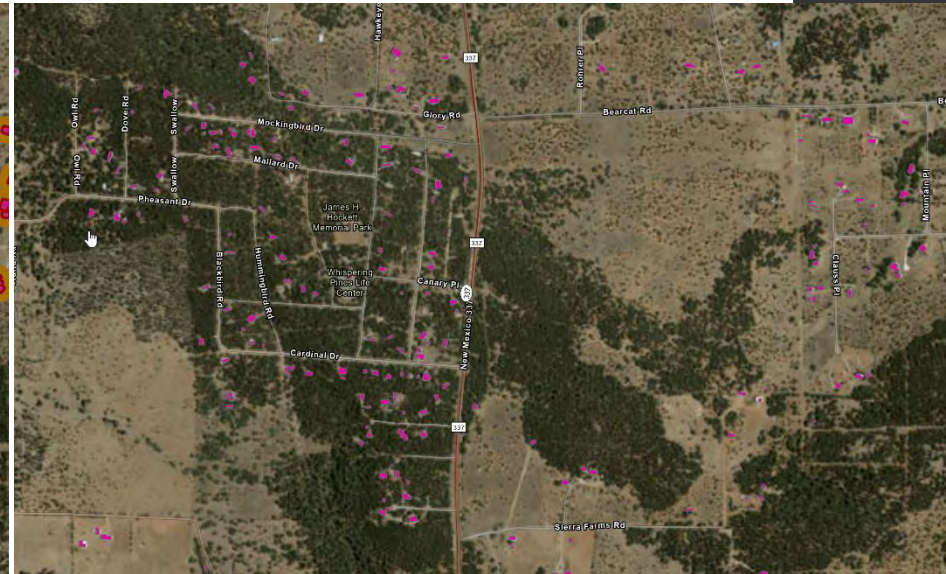
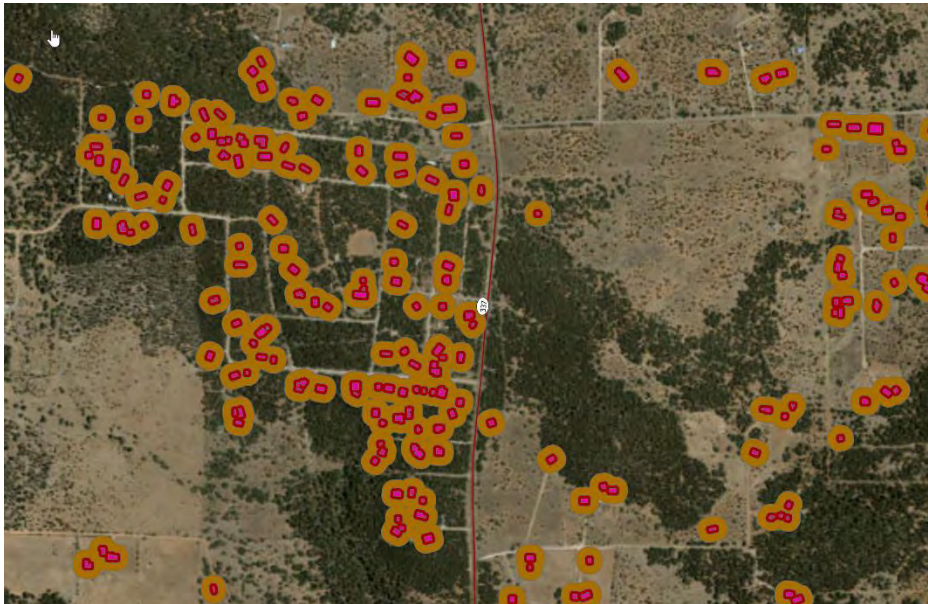
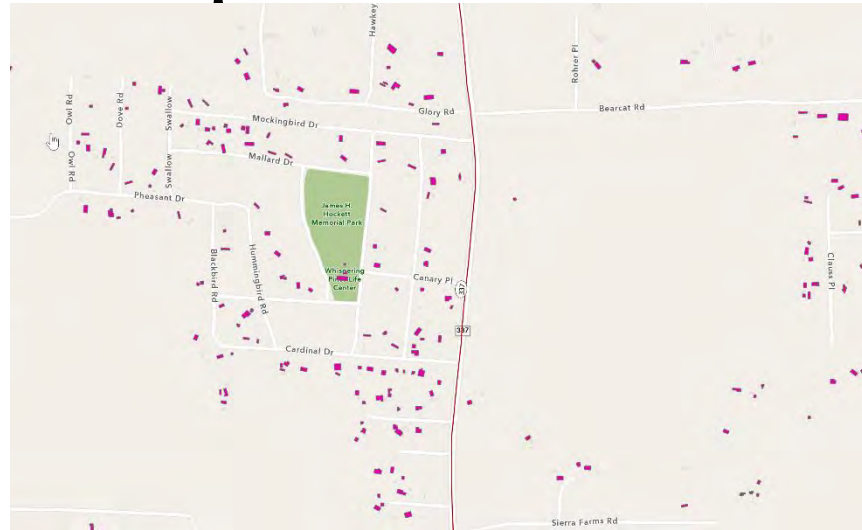


Flood Depth (1%)

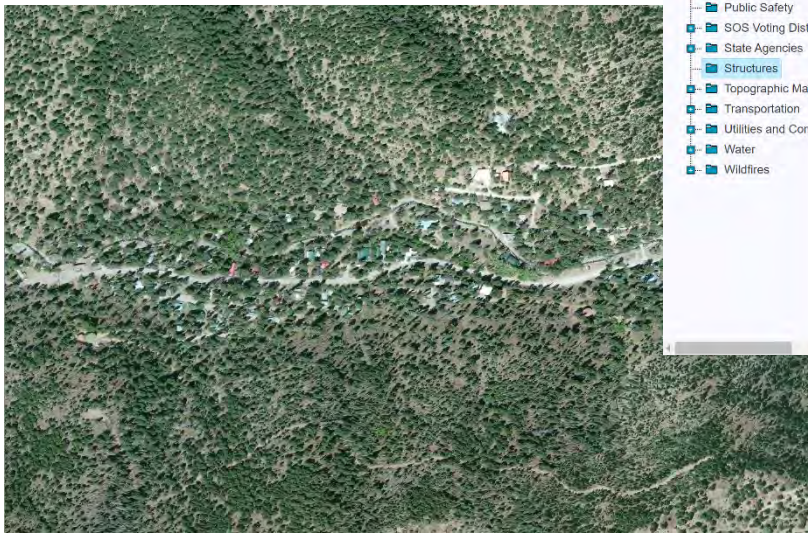
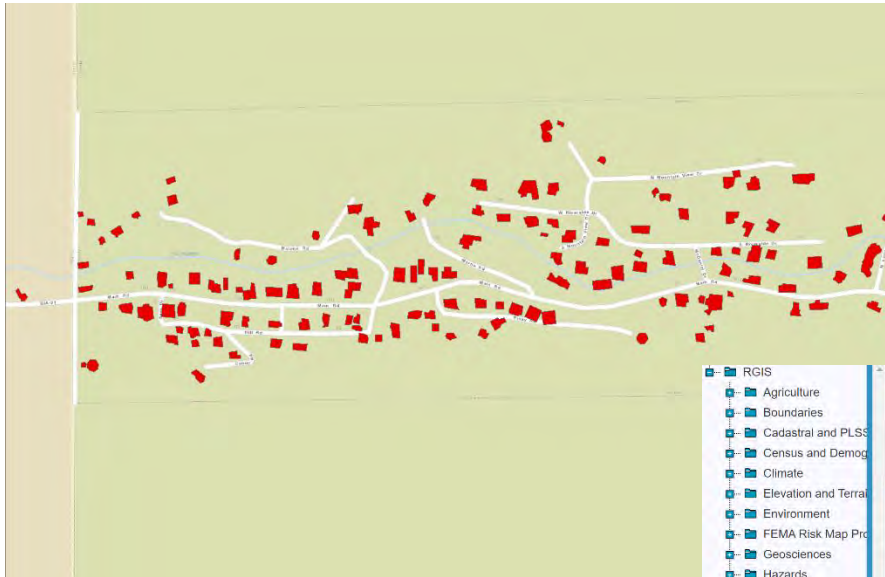


- | | |
|--|---|
|  ≤ 1 foot |  > 3 to 4 feet |
|  > 1 to 2 feet |  > 4 to 5 feet |
|  > 2 to 3 feet |  > 5 feet |

Building Footprints



Building Footprints



- RGIS
 - Agriculture
 - Boundaries
 - Cadastral and PLSS
 - Census and Demog
 - Climate
 - Elevation and Terrai
 - Environment
 - FEMA Risk Map Pro
 - Geosciences
 - Hazards
 - Health
 - Imagery
 - Location
 - Public Safety
 - SOS Voting Districts
 - State Agencies
 - Structures
 - Topographic Maps
 - Transportation
 - Utilities and Commu
 - Water
 - Wildfires

New Mexico Building Footprints

Download: [shp](#) [gml](#) [kml](#) [geojson](#) [json](#) [csv](#) [xls](#)

Metadata: [xml](#) [html](#)

Services: [wms](#) [wfs](#)

Share: [Info](#) [E-Mail](#) [Twitter](#)

Last Updated: 20240905

New Mexico Address Points - August 2024	Download +
New Mexico Address Points - July 2024	Download +
New Mexico Address Points - July 2024	Download +
New Mexico Microsoft Computer Building Footprints	Download +
New Mexico Convention Centers	Download +
New Mexico Fred Harvey House Locations	Download +
New Mexico Government or Community Resources	Download +
New Mexico Higher Education Institutions	Download +
New Mexico Major Dams	Download +
New Mexico Museums and Cultural Centers	Download +

First Previous 1 Next Last

<https://rgis.unm.edu/rgis6/>

FIRM Status

- Torrance County - Paper maps, no digital data
- EDAC Digitized the maps and created a Web app viewer

MAP REPOSITORY
Town Hall, 1001 Highland Avenue, Estancia, New Mexico 87016 (Maps available for reference only, not distribution).

INITIAL IDENTIFICATION:
JUNE 14, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
DECEMBER 12, 1975

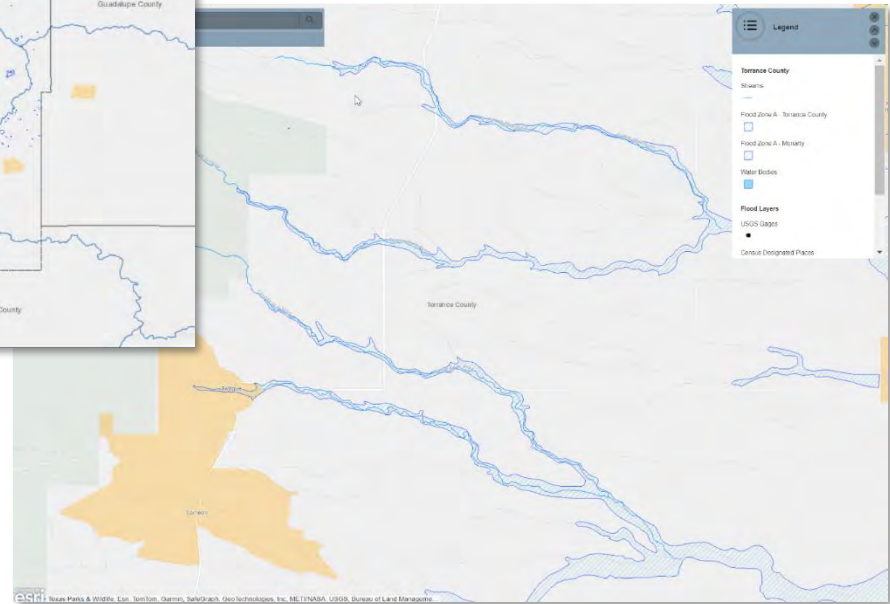
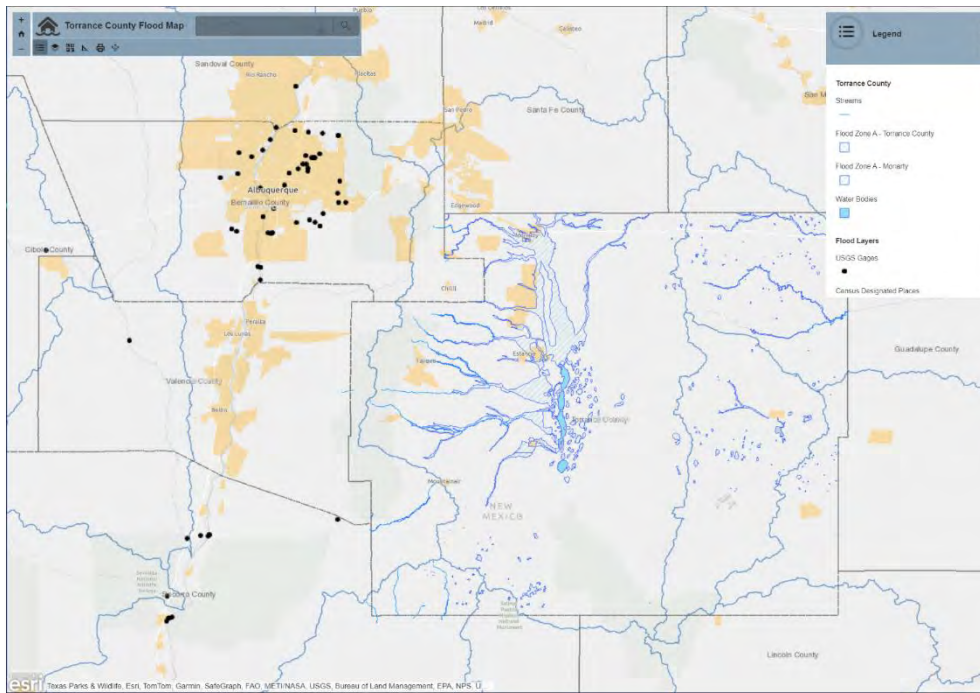
FLOOD INSURANCE RATE MAP EFFECTIVE:
JULY 16, 1990

FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the Flood Insurance Rate Map Effective date shown on this map to determine when actual rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-3633.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION



<https://edac.maps.arcgis.com/apps/View/index.html?appid=224e2f56d7f345df97e9d444053f5f84>

NMFLOOD.org

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NMFLOOD.ORG

A collaborative resource to promote New Mexico flood risk awareness and resiliency

Watershed Projects

Discovery Project Areas

- Western Estancia Watershed
- Rio Chama Watershed
- Upper Rio Grande Watershed
- Valencia County
- Curry and Roosevelt Counties

Base Level Engineering Project Areas

- Animas Watershed
- Cimarron Watershed
- Rio Hondo Watershed
- Upper Rio Grande Watershed
- Curry & Roosevelt Counties
- Rio Chama Watershed
- Southern Sandoval County Arroyo and Flood Control Authority (SSCAFCA)
- Western Estancia Watershed

Special Projects

Lidar Building Footprint Toolbar

The LIDAR Building Extraction Toolbox for LIDAR LAS 1.4 files works with ESRI ArcGIS version 10.4, 10.5 and ArcGIS Pro.

- LIDAR Building Footprint Extraction Tool User Guide
- LIDAR Building Footprint Extraction Tool Video Playlist
- LIDAR Building Footprint Tool Download

Statewide Projects

New Mexico Debris Flow Story Map & Resources

New Mexico Multi-Hazard Risk Portfolio

- Risk Portfolio Landslide Risk
- Risk Portfolio Wildfire Risk
- Risk Portfolio Flood Risk

Other Statewide Projects

- Stream Gage Analysis
- Alluvial Fan and Debris Flow Report
- Automated Landslide Hazard Detection
- New Mexico Zone D Report

Interactive Maps

Statewide flood data

- FEMA's National Flood Hazard Layer (NFHL)

Region VI Viewers

- Estimated Base Flood Elevation (estBFE) Viewer

CTP Interactive Maps

- Lidar Status for New Mexico

Story Maps

- Impacts of September 2013 Flooding in New Mexico
- Turn Around Don't Drown New Mexico

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Questions?



Western Estancia Watershed
Discovery Findings Meeting
September 18, 2024

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View of Mountainair from the north, New Mexico, 1909. Courtesy of the Palace of the Governors
Photo Archives (NMHM/DCA), Negative No. HP.2014.02.1.

