

FLOOD CONTROL FORUM



OUR SPEAKERS



RUSSELL POPPE, P.E.

Executive Director of Harris County Flood
Control District



KATHLEEN JACKSON, P.E.

Texas Water Development Board



RUSSELL POPPE, P.E.

Executive Director of Harris County Flood Control District



West Houston Association

Russ Poppe, P.E.
Executive Director

Harris County Flood Control District

Flood Insurance

 **GET FLOOD INSURANCE**

EVERYONE NEEDS IT



Hurricane Season: June-Nov
Flood Season: Year-round

HCFCDD.org

- Flooding conditions can occur year-round, and you do not have to live in the 100-year floodplain to be at risk.
- Approximately 68% of flood loss claims from Hurricane Harvey were outside of the FEMA mapped 100-year floodplain.

Bond Approved Aug. 25, 2018



Channel
Modification



Stormwater
Detention



Channel
Maintenance



Storm
Repair



Home
Buyouts



Engineering
Study



Other
Jurisdiction

As updated May 2020

- **181** projects across all watersheds (37 left to initiate)
- **38** projects added based on community input (\$400M+)

	\$2.5B	Bond funds
+	~\$2.4B	Partner funds (\$680M received)
=	~\$4.9B	Total Anticipated

How is



**funded for
disaster recovery
& resiliency?**



United States
Department of
Agriculture
Natural Resources Conservation Service



US Army Corps
of Engineers®



FEMA

*10% Local Match
for Hurricane Harvey



Includes Local
Match for Federally
Funded Projects

**Texas
Senate
Bills 7/8**
Varies by
Project

Grantee



Harvey-
related
Projects

**Texas Water
Development Board**

Varies by
Project

**Emergency Watershed
Protection Program**
10% Local Match
**Watershed & Flood
Prevention Operations**
10% Local Match

Pilot Program

**DAMAGE-
RELATED**
Public Assistance
10% Local Match
Section 406
Varies by Project*

Pre-Disaster Mitigation
25% Local Match

**Hazard Mitigation
Grant Program**
25% Local Match

**Flood Mitigation
Assistance Program**
25% Local Match

**Community
Development
Block Grants**
0% Local Match

**Disaster Supplemental
Notice of Funding
Opportunity Grant**
Varies: 20% Local
Match for Harvey

State-level
Grantees



**Texas Water
Development Board**



**Operations &
Maintenance**

**Capital
Improvement
Program**

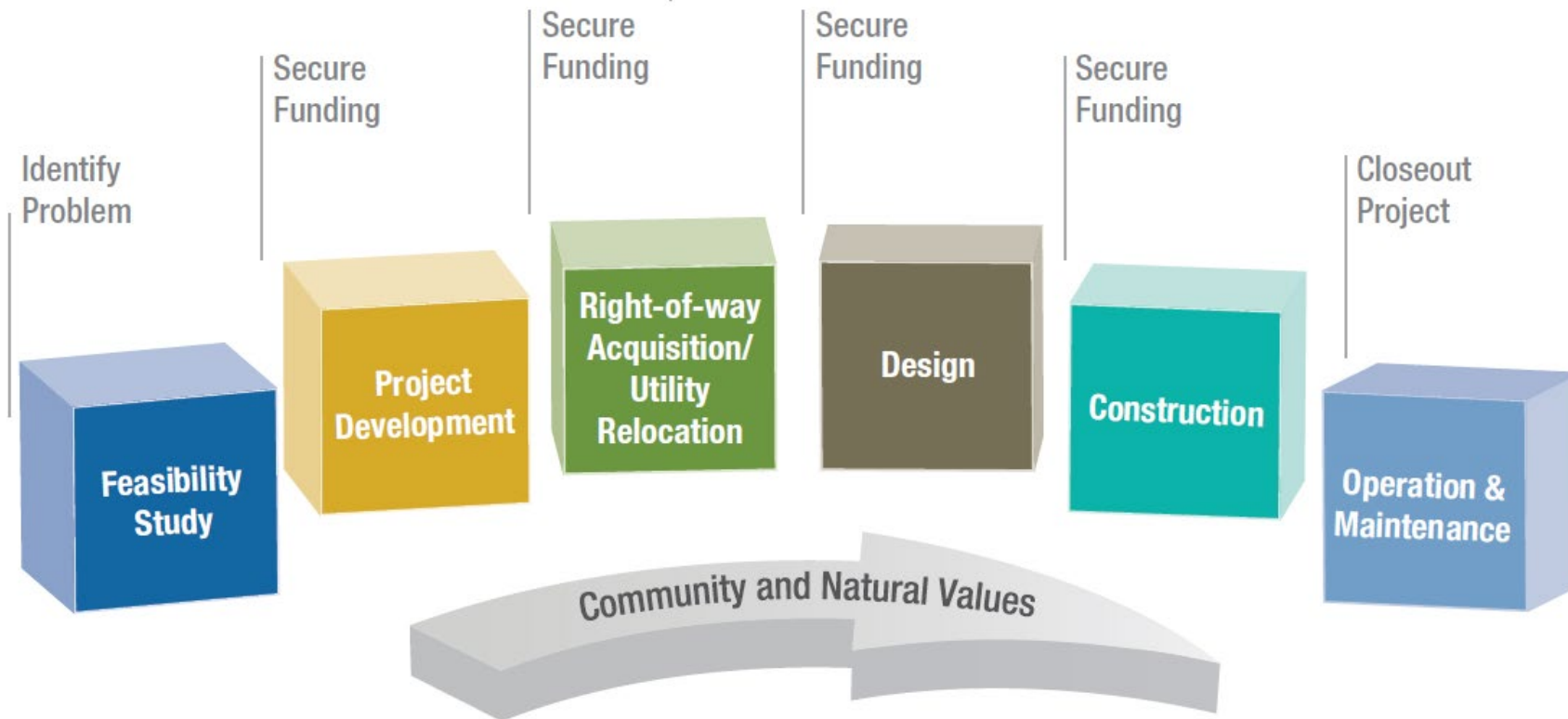
**Existing
Federal
Projects**

Repairs

**New
Structural
Projects**

**Home
Buyout
Program**

Flood Damage Reduction Project Lifecycle



Bond Program Update

Construction

- \$303M awarded since Aug 2018 (45 Projects)
- \$37M on the street bidding right now
- Bid \$94M in projects since January 2020
- \$447M planned advertisements through end of year
- Currently over \$400M in active construction

Overall – Total ~\$4 Billion in project value underway

- 2nd Quartile projects all authorized in April 2020
- 105 Neighborhood Drainage Improvement Projects (Harris County Engineering) underway
- Capital Improvement Program averaging \$40M per month
- Purchased over 500 homes via buyout program

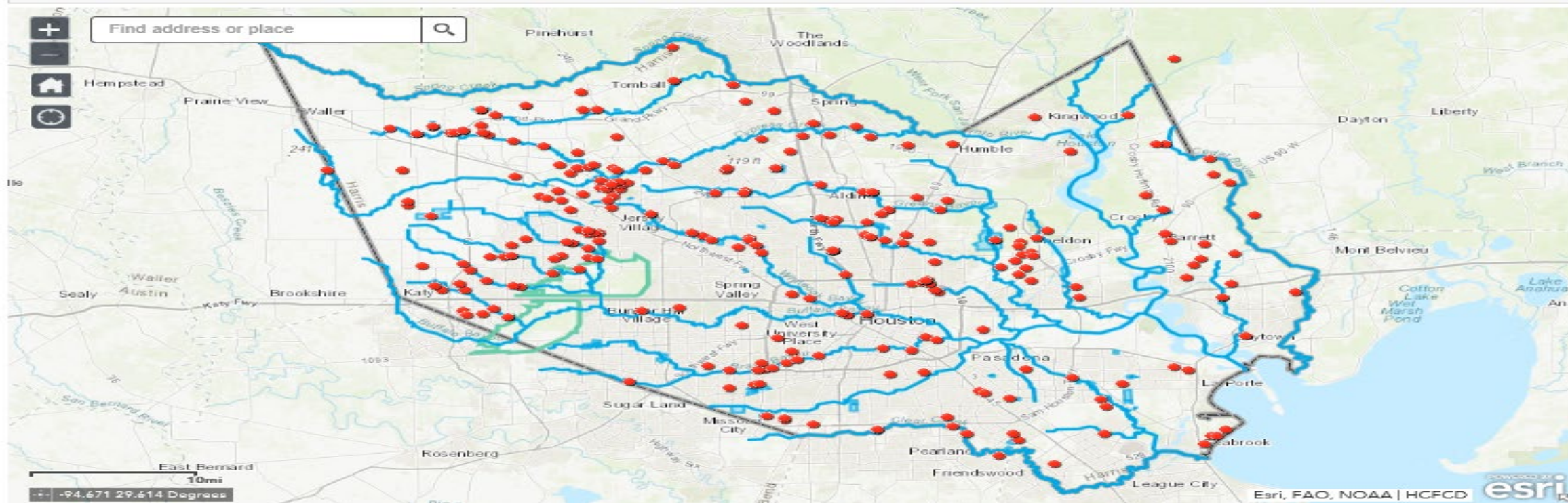
RESILIENCE

CAPITAL AND BOND FUNDED PROJECTS

BUILDING OUR INFRASTRUCTURE

Capital projects reduce flooding risks and damages by expanding channels or constructing new stormwater detention basins or buying out floodprone homes. Bond funding, federal grants and local partnerships help finance these projects.

Capital projects are represented as red dots on this map. You can zoom-in to see project boundaries and click on the highlighted areas to see project details. Click on the Recovery tab below the map to see Maintenance projects across the county.



Federal and State Funding Pursuits

Total federal grants APPROVED

- Total - \$872M (\$678 / \$257M)

Corps

- Clear Creek Progressive Design Build RFQ later this year
- \$6M Buffalo Bayou and Tributaries Resiliency Study draft report to be released this summer

Texas Water Development Board

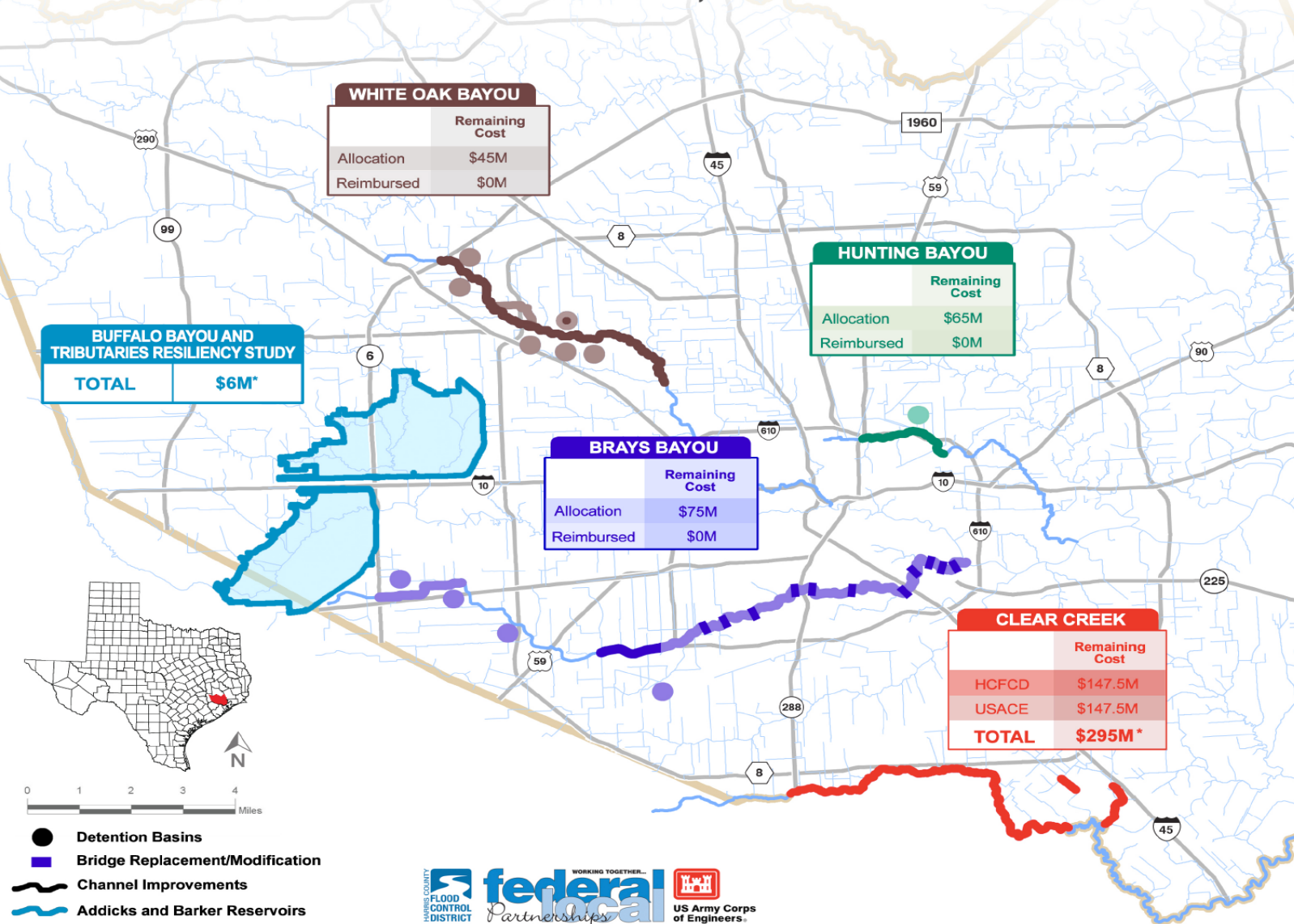
- Submitted 9 abridged applications
- \$34M local / \$71M grant / \$202M loan ~ \$307M total

GLO and CDBG-MIT grant applications

- 6 applications ~\$50M to \$100M range each due this October

EMERGENCY SUPPLEMENTAL FUNDING IMPLEMENTATION

PARTNERSHIP PROJECTS UNDER CONSTRUCTION TO COMPLETE AND NEW STUDIES HARRIS COUNTY, TEXAS



SEPTEMBER 2019

*CURRENT WORKING ESTIMATE IDENTIFIED IN 7-5-18 USACE LONG TERM DISASTER RECOVERY INVESTMENT PLAN

White Oak Bayou

30%
remaining

- 15.3 miles grass-lined channel conveyance improvements
- 4 detention basin complexes (350 acres / 2,950 acre-feet)
- 12 miles of linear park/trails along the channel, and other recreation features

Active Construction

- Final basin (Mar 2020)

Remaining Construction

- Upstream channel (Dec 2021)
- Downstream channel (Oct 2021)

Project Complete: December 2021

Brays Bayou

20%
remaining

- 21.2 miles channel conveyance improvements
- 4 detention basin complexes (850 acres / 11,500 acre-feet)
- 30 bridge replacements/modifications

Completed Construction

- One bridge (Aug 2019)

Active Construction

- Upstream channel + 2 bridge mods (Dec 2019)
- 4 bridges (May-Dec 2020)

Remaining Construction

- 7 bridges (Dec 2021)

Project Complete: December 2021

Hunting Bayou

65%
remaining

- 3.8 miles grass-lined channel conveyance improvements
- One detention basin (75 acres / 1,000 acre-feet)
- 17 bridge replacements/modifications

Active Construction

- Pedestrian bridges (May 2020)

Remaining Construction

- Upstream channel (Jun 2021)
- Downstream channel (Dec 2021)
- Railroad bridges (Dec 2020)

Project Complete: December 2021

Clear Creek (upstream of I-45)

100%
remaining

- 20.4 miles channel conveyance improvements on Clear Creek and tributaries
- 500 acre-feet in-line detention
- Second outlet channel and gated structure complete, 9 bridges replaced or modified downstream of IH-45

Final Design

- Aug 2020
- Final Gully (Dec 2019)

Detailed schedule to be developed pending analysis of procurement method for remainder of project.

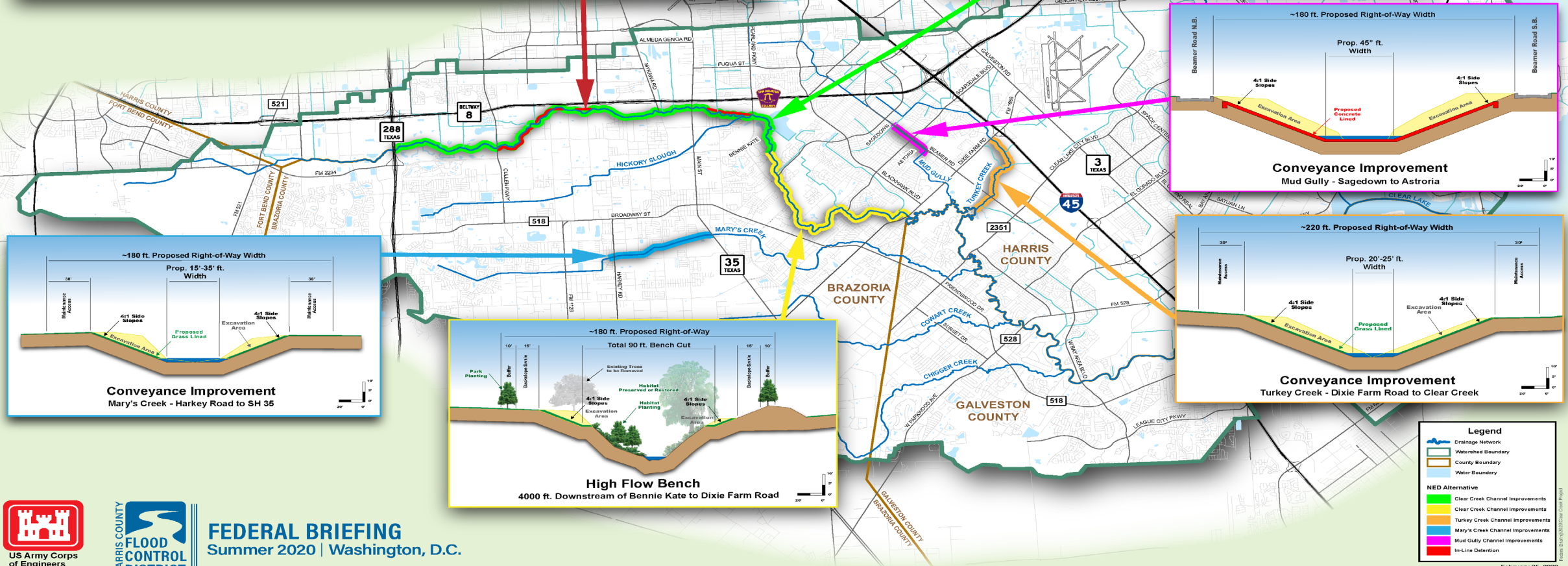
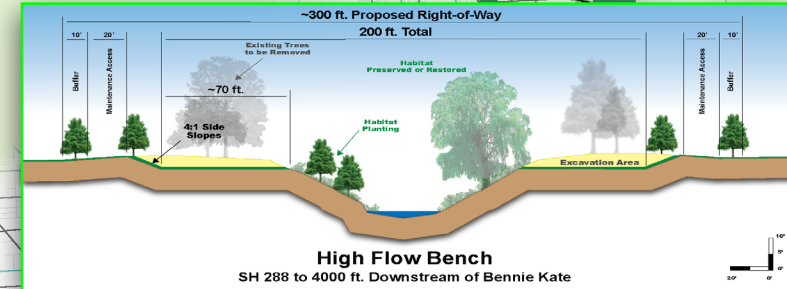
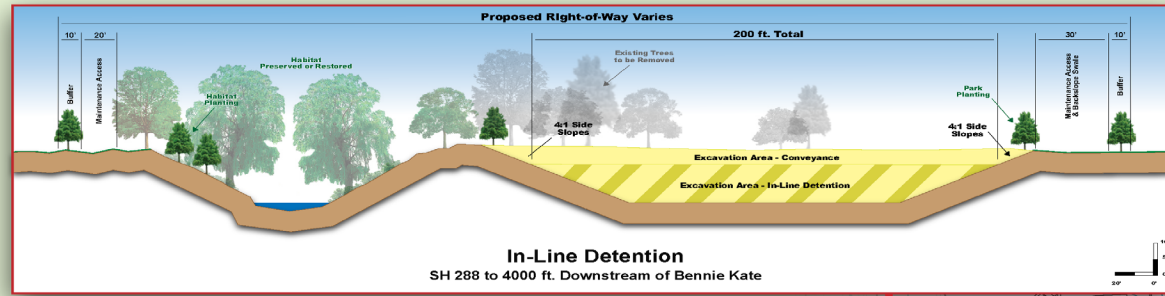
2026 **Completion:** December 2023

Buffalo Bayou and Tributaries Resiliency Study

- Assess flood risks upstream and downstream of Addicks and Barker reservoirs under existing and future conditions. Conditions have changed significantly since the project was built in the 1940s.
- Recommend operational changes and/or physical projects to improve the effectiveness of the reservoirs in reducing flood risks upstream and downstream.
- Complete study in partnership with HCFCF in three years or fewer.
- Expedite processes to implement recommendations.

Houston Regional Watershed Assessment (\$3M*)

Clear Creek Federal Flood Risk Management Project



Clear Creek

- One of 2 projects nationwide executed under Section 1043(b) authority of WRRDA 2014
- The Mud Gully portion bidding this month ~\$10.2M
- The remainder of the federal project is in preliminary engineering including a drainage analysis and conceptual plan update, with construction expected to begin in 2021.
- Updating hydrology and hydraulics
- Hundreds of parcel acquisitions including outside Harris County
- Additional utilities and other physical changes in last 8 years

Clear Creek

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Community Engagement & Task Force Update

- Harris County Flood Control Task Force created 1972
- Worked well over the years for community input
- Repurpose to the Harris County Community Resiliency Task Force
- Focus areas include transportation, flood control, housing, budgeting, economic equity and opportunity
- Revised bylaws to go before Commissioners Court in August

KATHLEEN JACKSON, P.E

Texas Water Development Board



WATER for TEXAS

Water for the Future



Kathleen Jackson, P.E.
West Houston Flood Control Forum
August 4, 2020

NEW STATE FLOOD PLANNING & FUNDING PROGRAMS

OUTCOME OF 2019 TEXAS LEGISLATIVE SESSION

PLANNING

\$47 MILLION

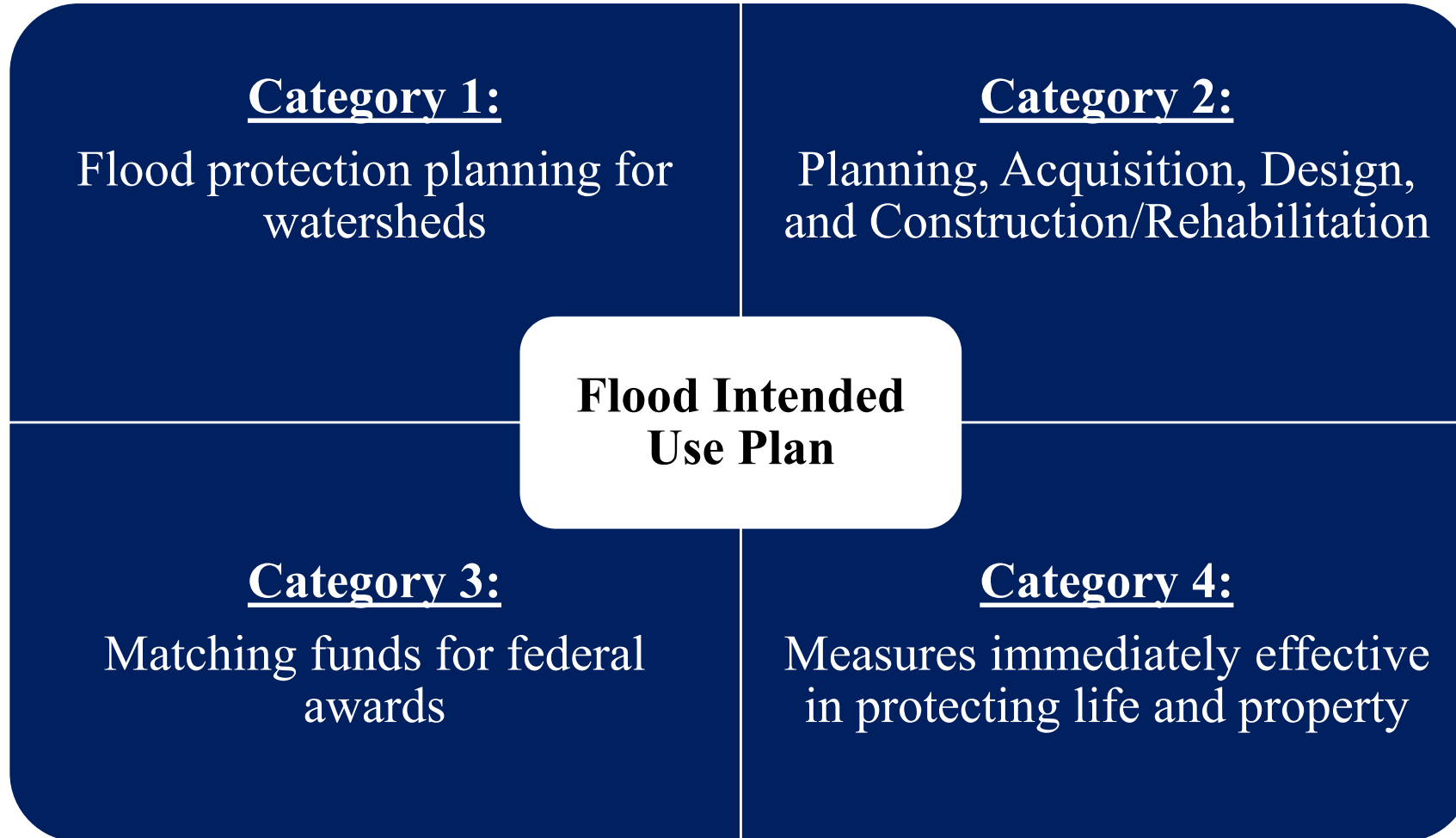
- Update Floodplain Mapping
- Coordinated Regional Planning
- State Flood Plan

FUNDING

\$1.4 BILLION

- Texas Infrastructure Resiliency Fund (TIRF)
 - Hurricane Harvey Account – \$638M
 - TWDB to provide funding to TDEM
 - Hazard Mitigation Grant Program – \$273M
 - Public Assistance Grant Program – \$365M
 - Floodplain Management Account – \$47M
- Flood Infrastructure Fund (FIF) – \$793M

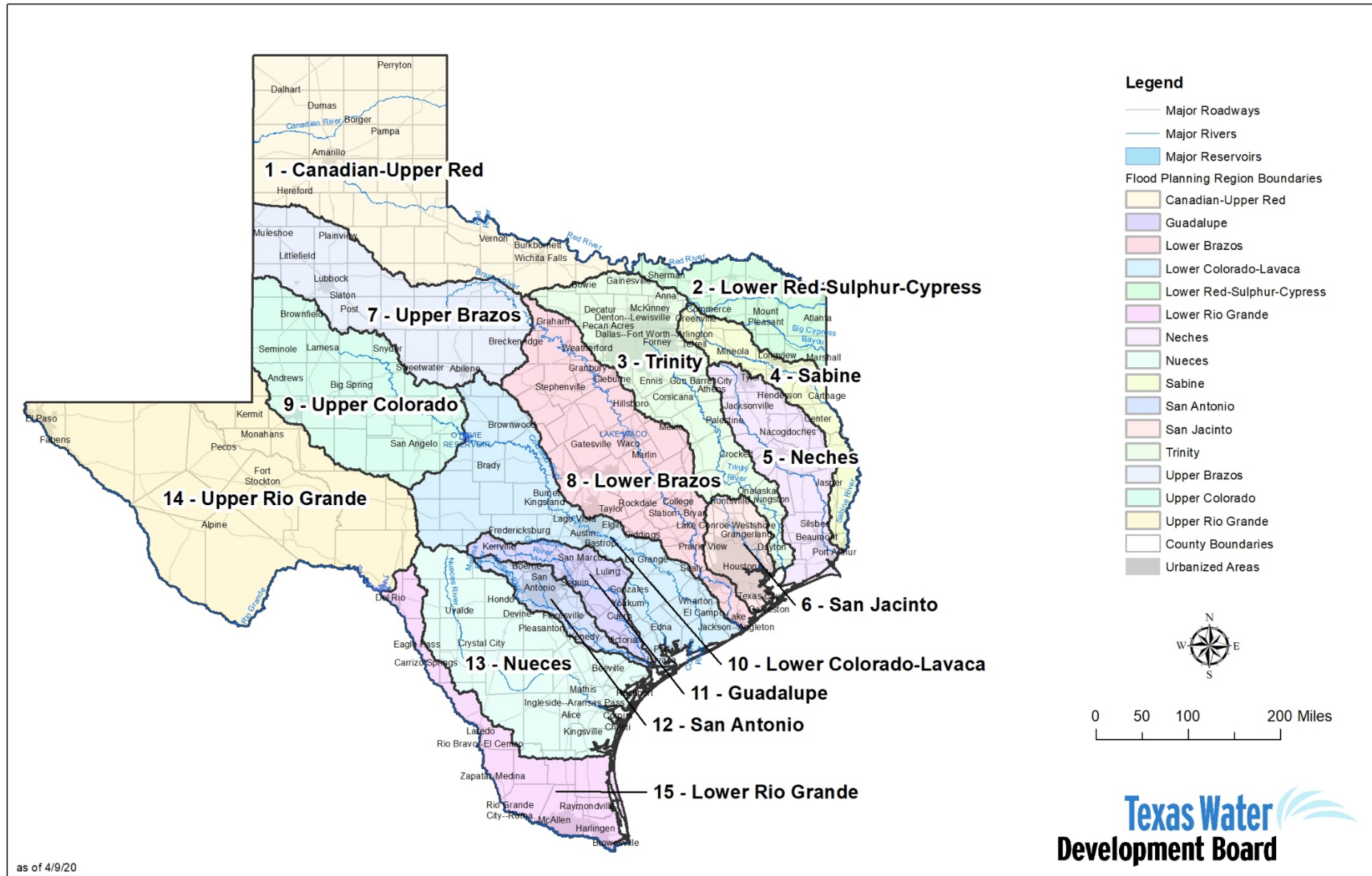
FIF Project FUNDING Categories



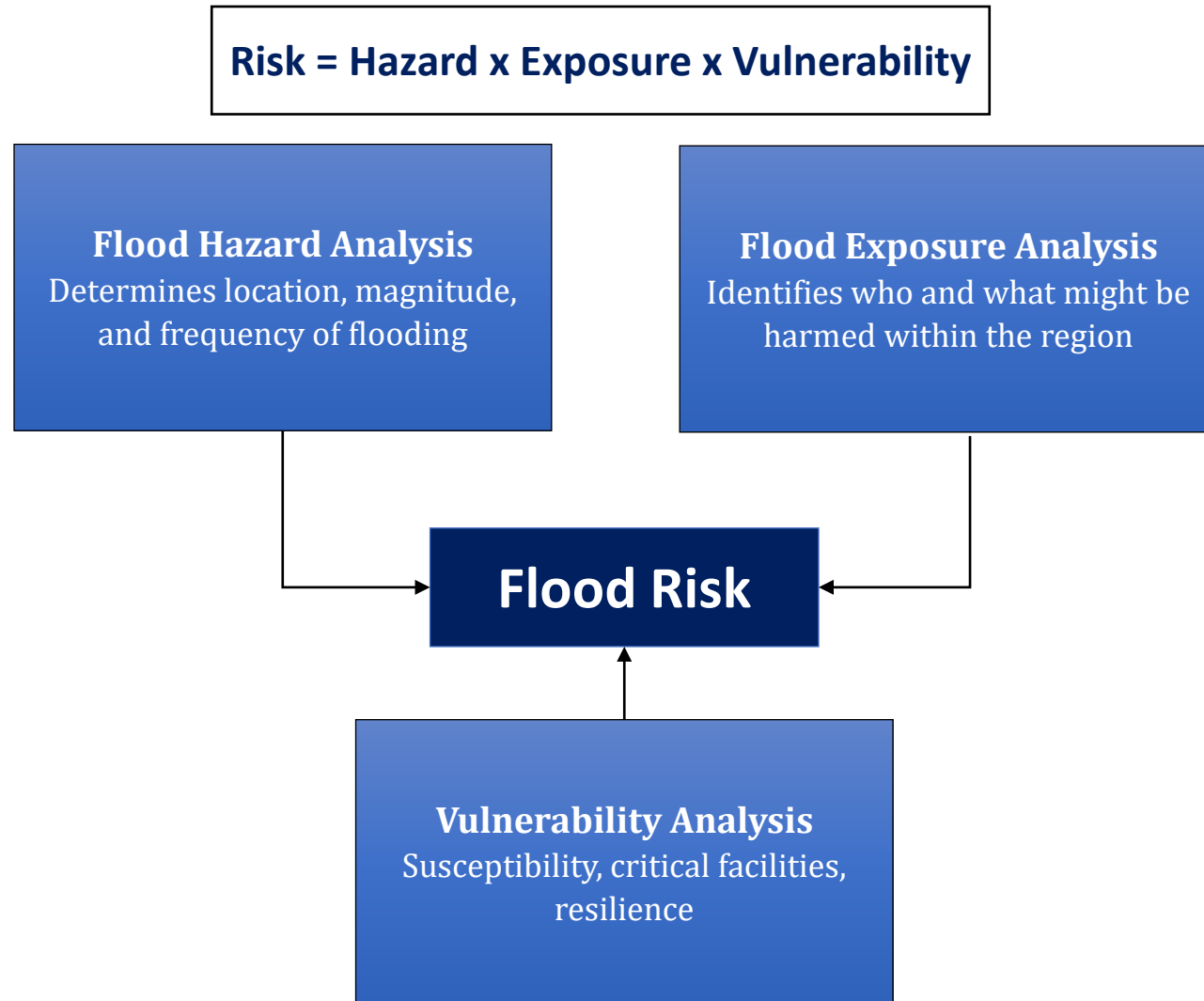
TWDB FIF webpage:

<https://www.twdb.texas.gov/financial/programs/fif/index.asp>

15 REGIONAL FLOOD PLANNING GROUPS

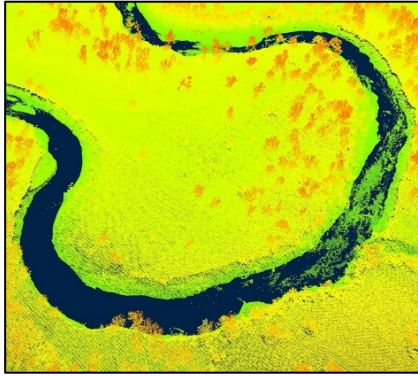


Regional Flood Plan Components

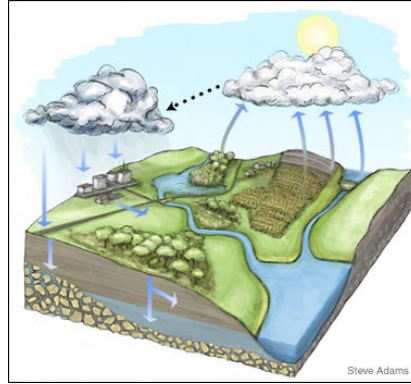


Identify specific flood risk, existing & future condition flood risk analyses

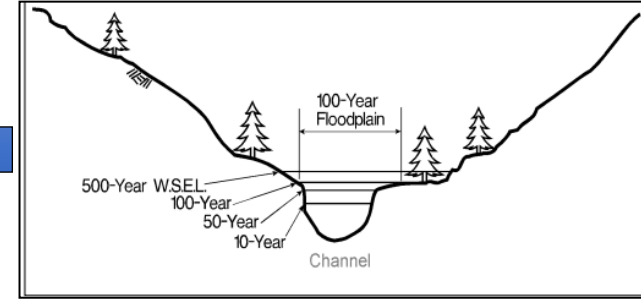
THE BETTER THE DATA, THE BETTER THE SCIENCE... THE BETTER THE SCIENCE, THE BETTER THE POLICY!



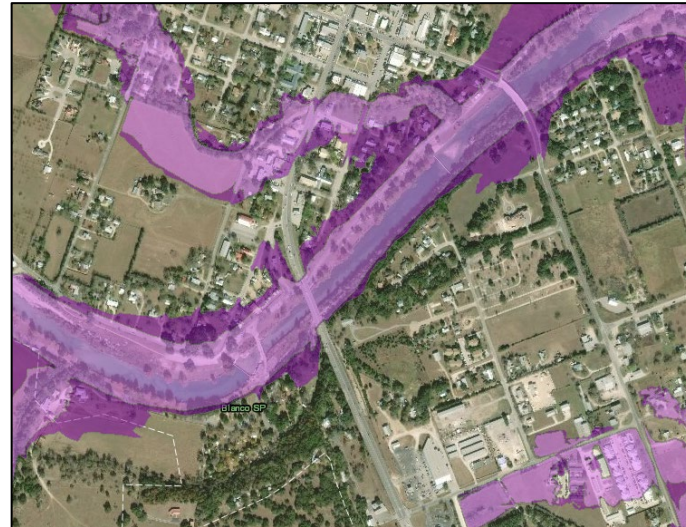
LiDAR



Hydrology



Hydraulics

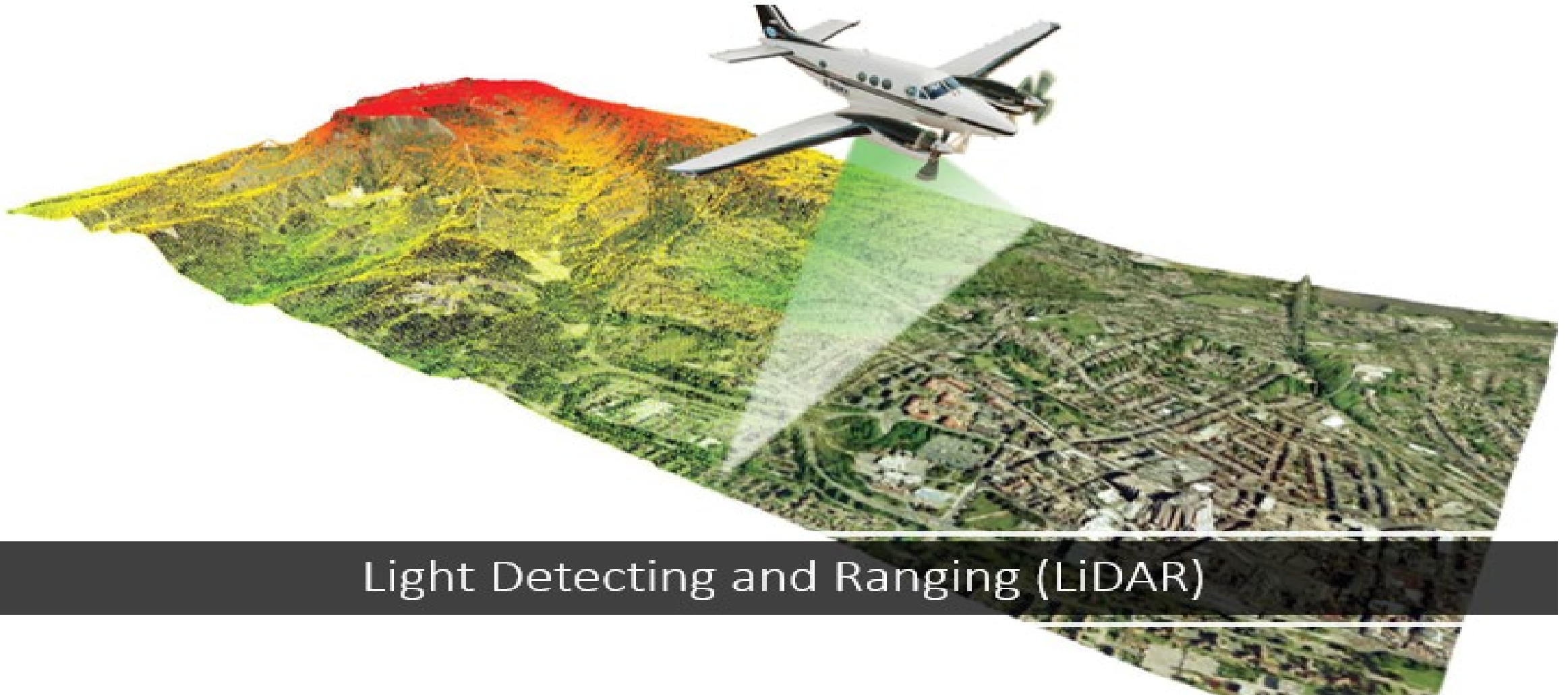


FLOOD MAP

Base Level Engineering as Supporting Data for Planning

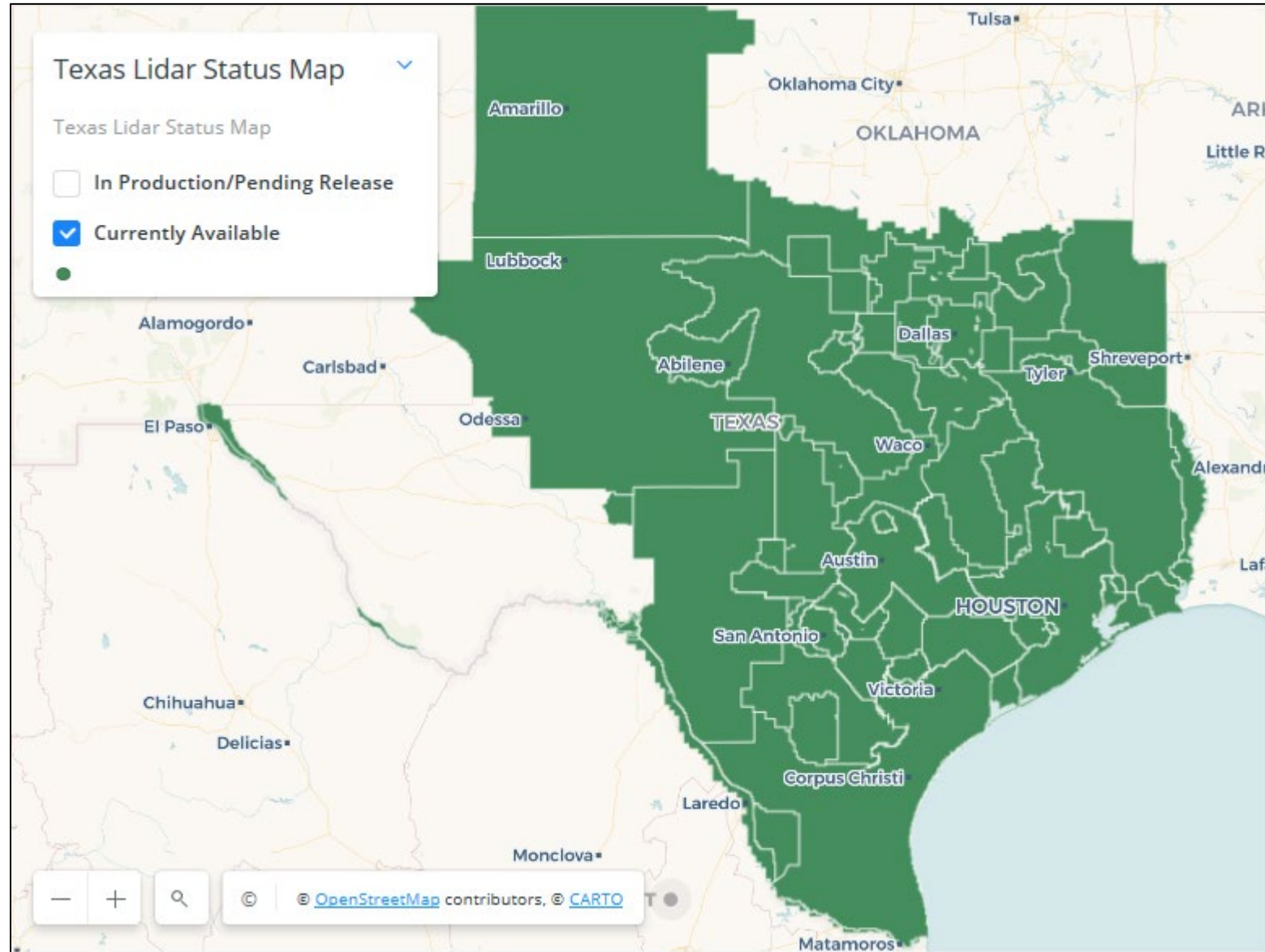
DATA DRIVES SCIENCE BASED APPROACH!

Texas Natural Resources Information System (TNRIS)

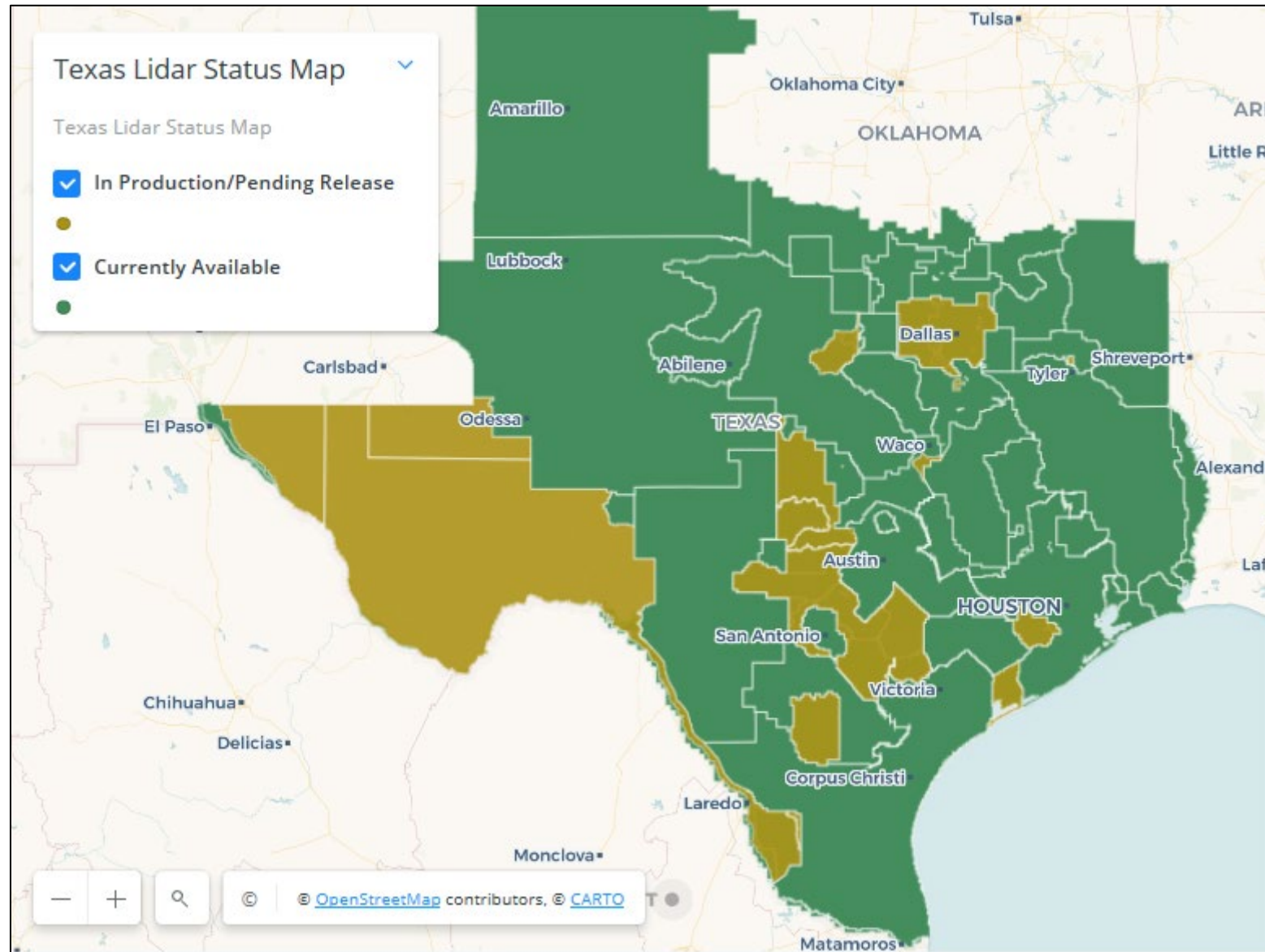


Light Detecting and Ranging (LiDAR)

LIDAR STATUS – CURRENTLY AVAILABLE

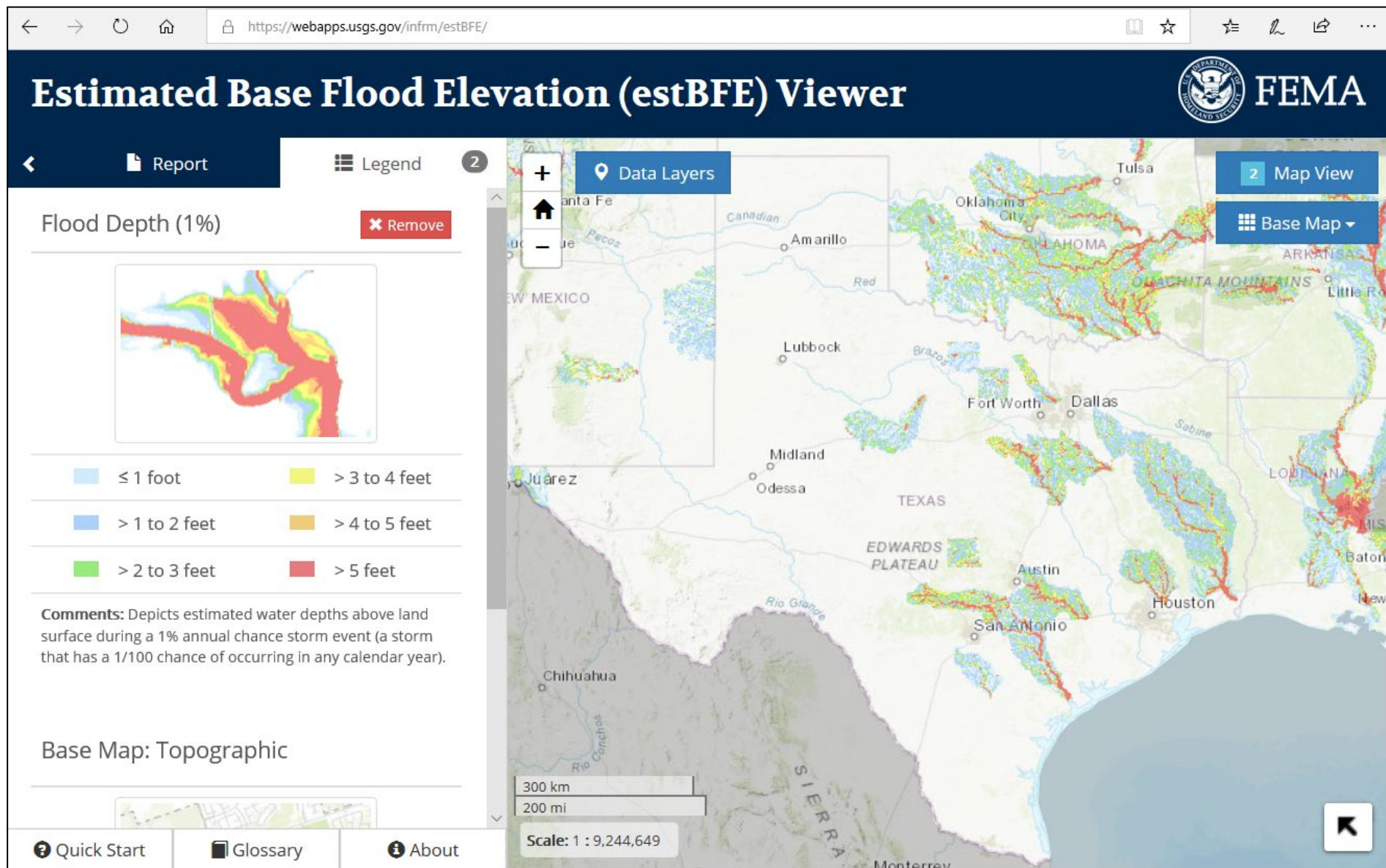


LIDAR STATUS – IN PRODUCTION/PENDING RELEASE

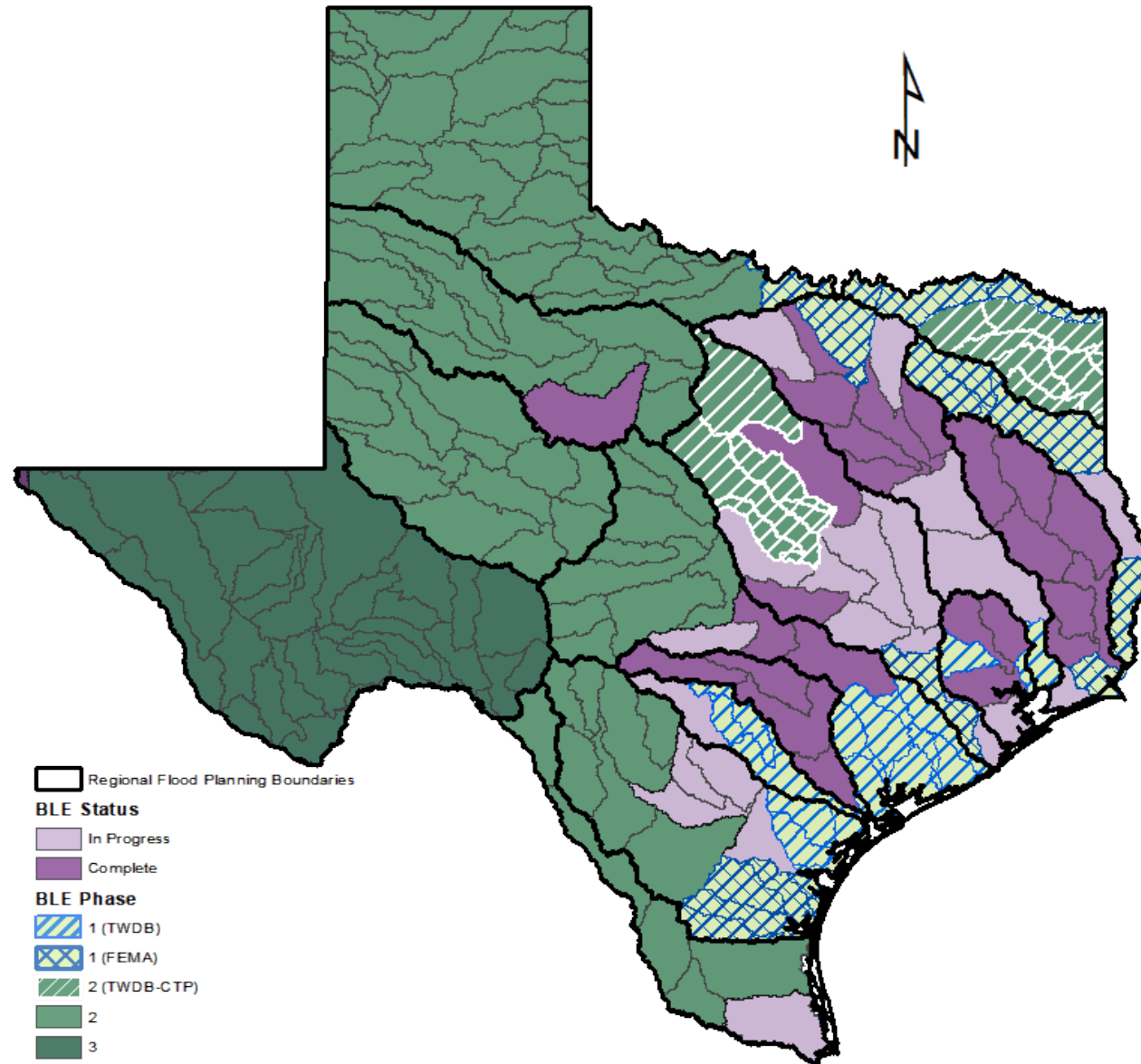


ESTIMATED Base Flood Elevation Viewer

www.InFRM.us/estBFE



Base Level Engineering (BLE) status

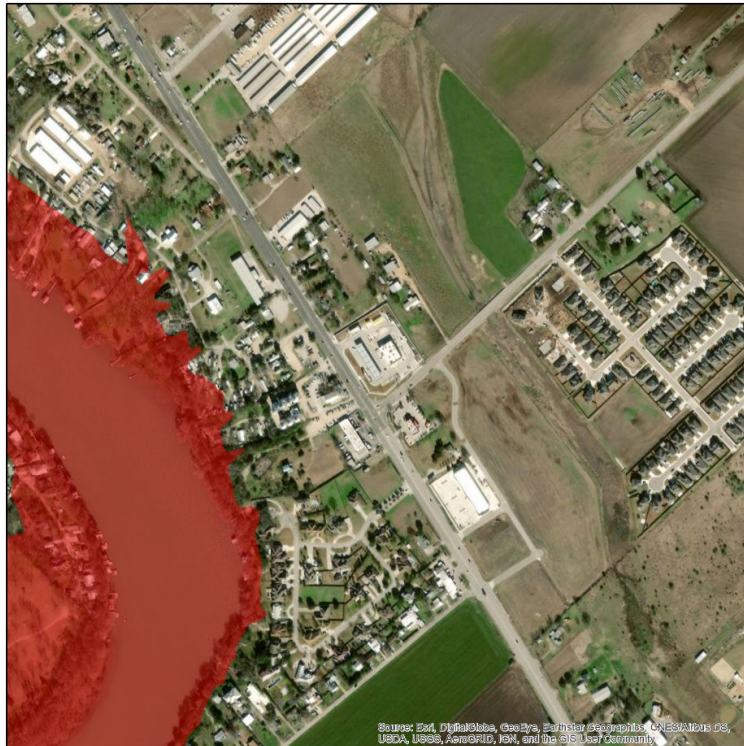


FLOOD RISK MANAGEMENT

PROTECT PEOPLE AND PROPERTY

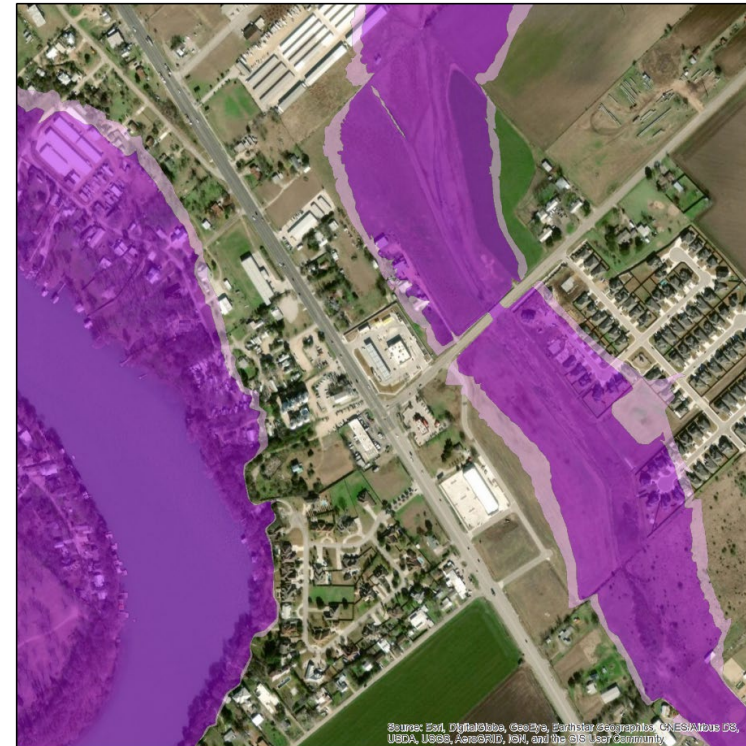
Mapping → Planning → Mitigation

Digital FEMA Flood Insurance Rate Map
Guadalupe County



1% Annual Chance

Base Level Engineering data
Guadalupe County



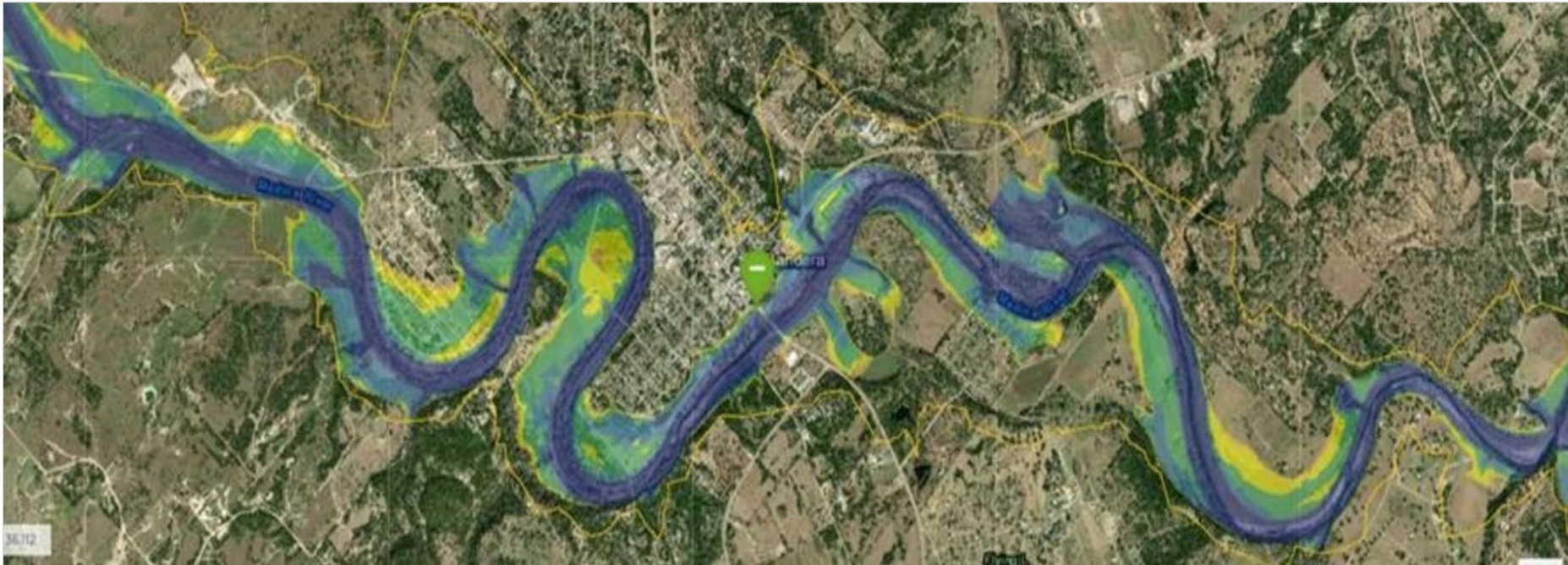
1% Annual Chance
.2% Annual Chance

Flood Information Clearinghouse

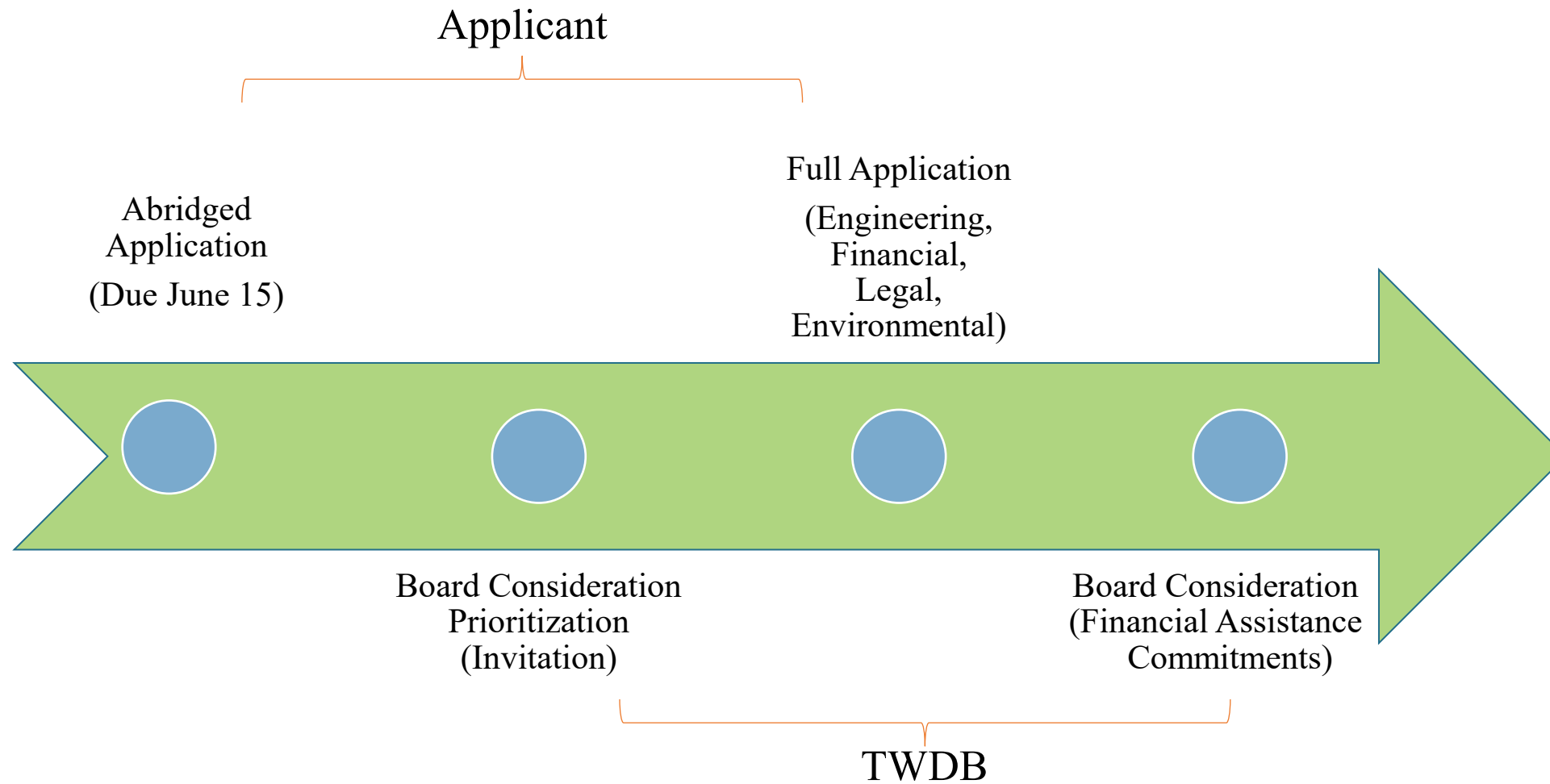
<https://texasfloodclearinghouse.org>

FLOOD INFORMATION
CLEARINGHOUSE

[Home](#) [About](#) [Funding Opportunities](#) [Events](#) [Contact](#) [Resources](#)



FLOOD INFRASTRUCTURE FUND (fif) Funding Cycle

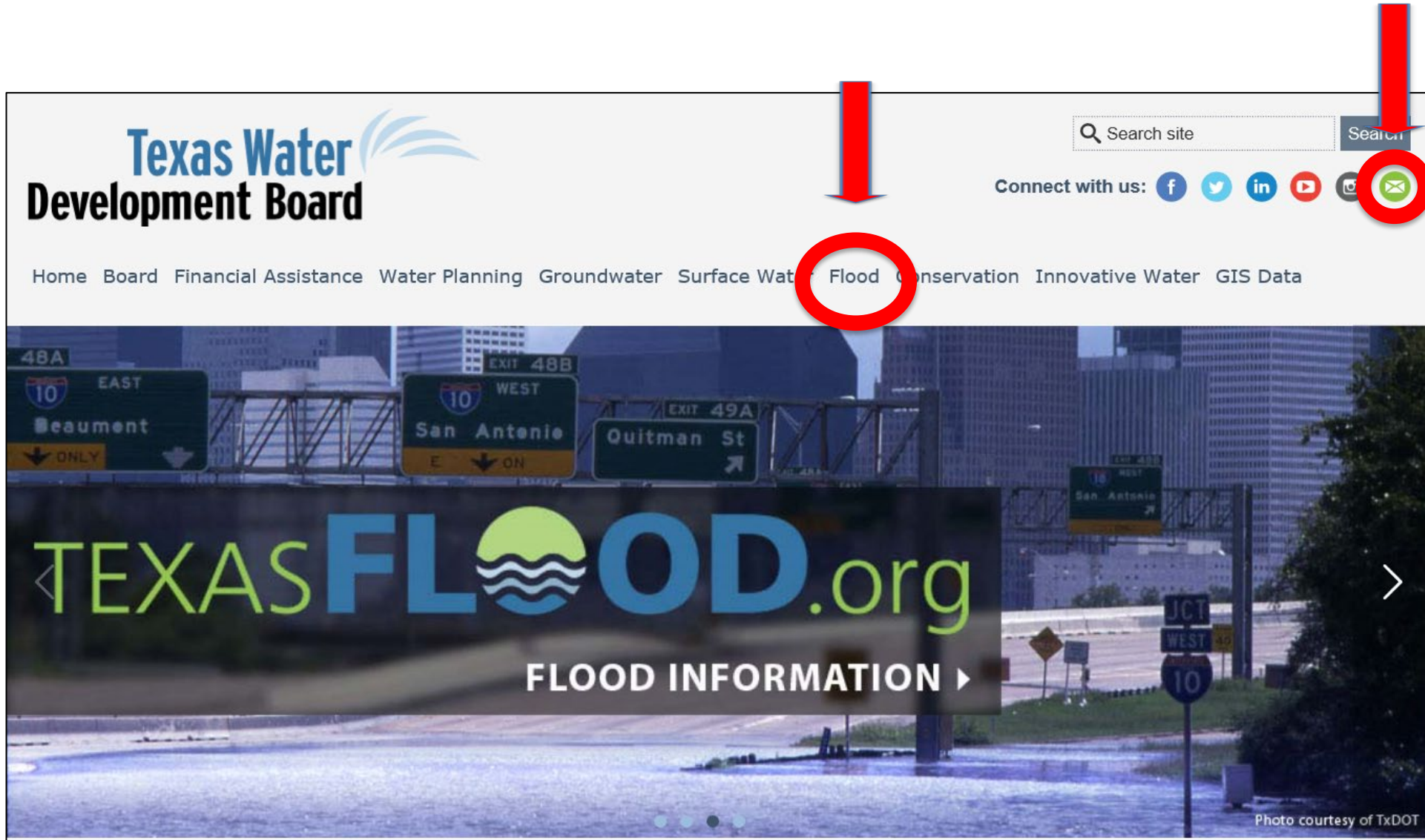


BE CHAMPIONS FOR REGIONAL COLLABORATION!

- “Future-proofing” Texas
- Neighbors upstream and downstream promoting resiliency



STAY IN TOUCH!
WWW.TWDB.TEXAS.GOV



The screenshot shows the Texas Water Development Board website. The header includes the logo on the left, a search bar on the right, and a row of social media icons. A navigation menu is located below the header. A large banner image at the bottom features highway signs and flood information. Red annotations highlight specific elements: a red arrow points to the 'Flood' link in the navigation menu, and a red circle highlights the email icon in the social media row.

Texas Water Development Board

Search site Search

Connect with us: [f](#) [t](#) [in](#) [v](#) [e](#) [m](#)

Home Board Financial Assistance Water Planning Groundwater Surface Water **Flood** Conservation Innovative Water GIS Data

48A 10 EAST Beaumont ONLY
EXIT 48B 10 WEST San Antonio E ON
EXIT 49A Quitman St
10 WEST San Antonio
JCT WEST 10

TEXAS FLOOD.org
FLOOD INFORMATION ▶

Photo courtesy of TxDOT

HOW TO CONTACT ME



Kathleen Jackson, P.E.

@twdb_kathleen

512.463.7847

Kathleen.Jackson@twdb.texas.gov

ANNOUNCEMENTS

A graphic for the State Issues Forum. It features a low-angle shot of several tall skyscrapers under a clear blue sky. In the foreground, a Texas state flag and an American flag are flying. The West Houston Association logo is in the top left, and the event title is in the bottom right.

**WEST HOUSTON**
ASSOCIATION
Leadership in Quality Growth

**SEPTEMBER 30th, 2020
11:30 AM - 1:00 PM**

**STATE
ISSUES FORUM**

A graphic for the Federal Issues Forum. It features a close-up of a wooden gavel with a gold band, resting on a wooden surface. The background is a blurred American flag. The West Houston Association logo is in the top left, and the event title is in the bottom right.

**WEST HOUSTON**
ASSOCIATION

**OCTOBER 29th, 2020
11:30 AM - 1:00 PM**

**FEDERAL
ISSUES FORUM**



Howard Hughes



LJA ENGINEERING

ABHR

ALLEN BOONE HUMPHRIES ROBINSON LLP



ENGINEERING THE FUTURE
SINCE 1936



THANK
YOU TO
OUR
SPONSORS

