



Advisory Base Flood Elevation (ABFE) PMR Update

Status of the Physical Map Revision (PMR) Central TX

FEMA Region 6

March 2016

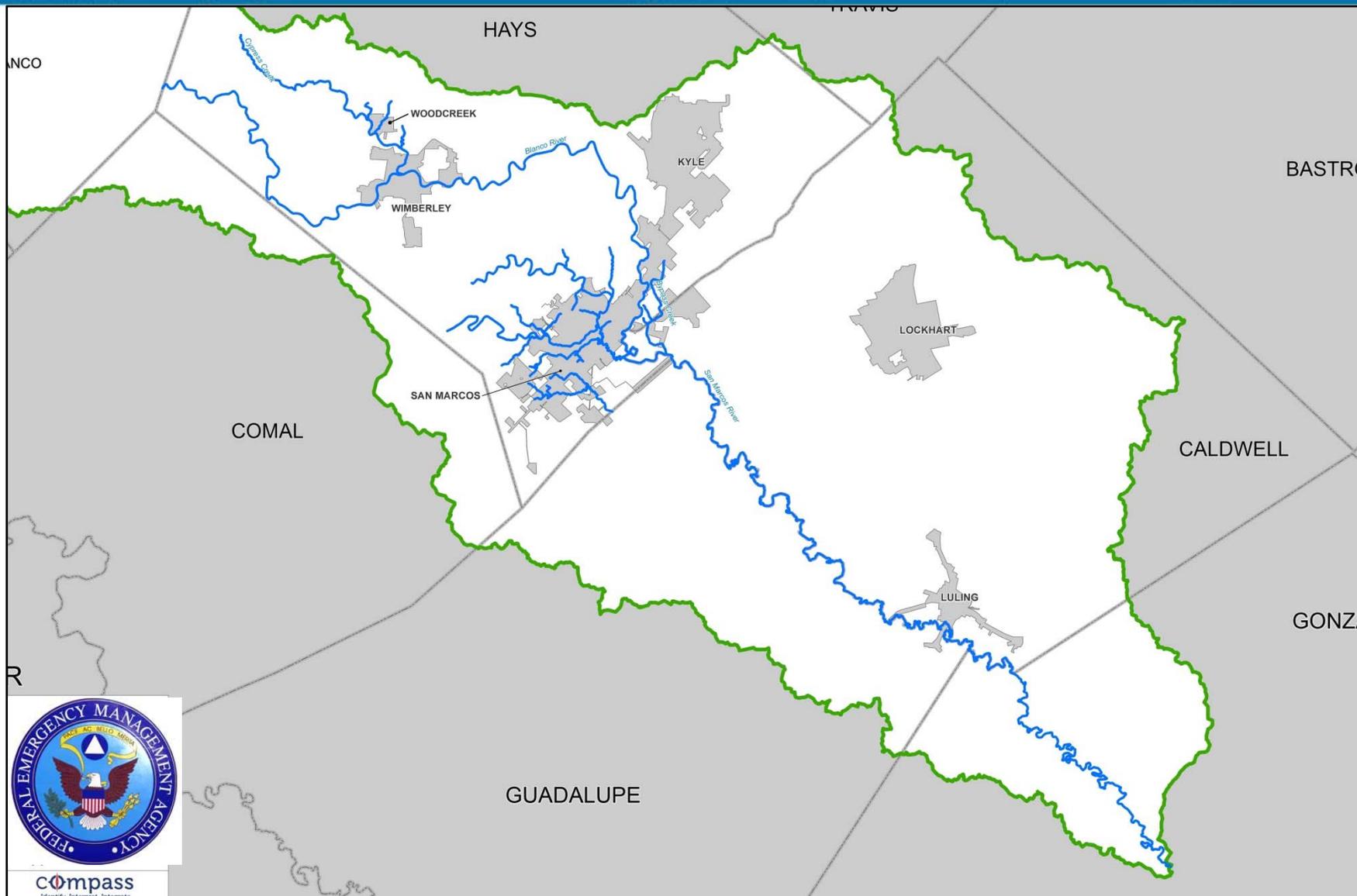


FEMA

What's New

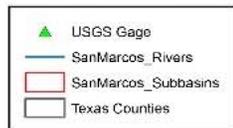
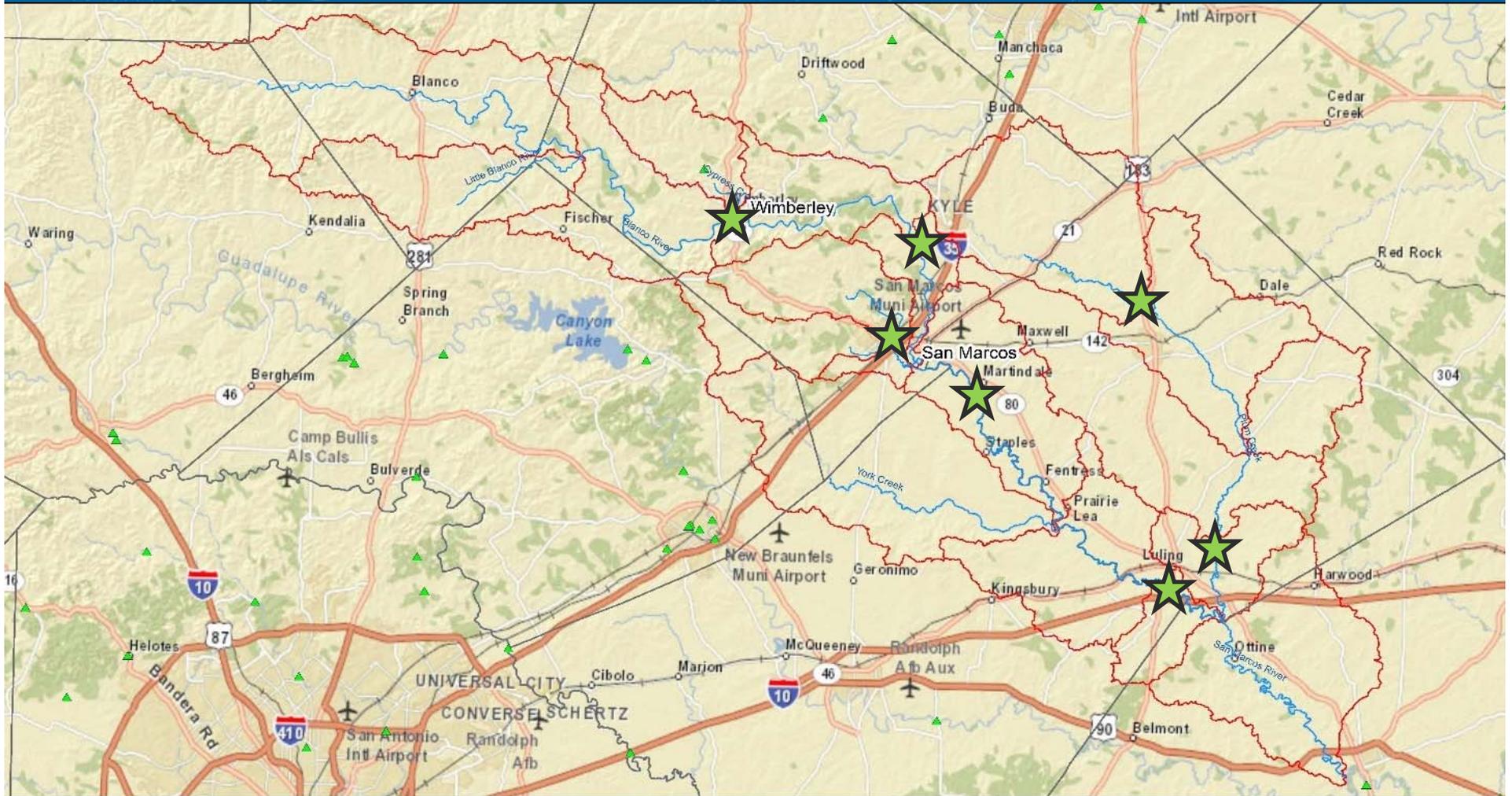
- ▶ **PMR Scope – Adjusted based on community input**
- ▶ **Schedule Change – Delivery Areas 1 and 2 switched**
- ▶ **USACE Hydrology completed**
- ▶ **Delivery Area 4 added**

Project Overview



USACE Hydrology

USACE Hydrology Refinement (Blanco/San Marcos Rivers)



★ Gage Analysis Completed

San Marcos River Basin
USACE-FEMA Hydrology Study
Blanco & San Marcos Rivers



USACE Hydrology

USACE Hydrology Refinement (Blanco River)

Blanco River at Wimberley				
Return Period (years)	Effective FIS	USACE Frequency Analysis WY 2012	USGS Frequency Analysis WY 2015	Updated USACE HMS Model
500	199000	198000	262000	248000
100	111000	126000	149000	167800
50	85000	98300	111000	132000
10	36700	44100	44900	60900
Blanco River at Kyle				
Return Period (years)	Effective FIS	USACE Frequency Analysis WY 2012	USGS Frequency Analysis WY 2015	Updated USACE HMS Model
500	218000	266000	268000	241800
100	122000	158000	160000	162100
50	93400	119000	122000	127000
10	40600	49500	51400	56700



USACE Hydrology

USACE Hydrology Refinement (San Marcos River)

San Marcos River at San Marcos				
Return Period (years)	Effective FIS	USACE Frequency Analysis WY 2012	USGS Frequency Analysis WY 2015	Updated USACE HMS Model
500	20290	12600	26600	21100
100	7660	5970	11600	7860
50	6220	4200	7800	5640
10	3680	1640	2600	2850
San Marcos River at Luling				
Return Period (years)	Effective FIS	USACE Frequency Analysis WY 2012	USGS Frequency Analysis WY 2015	Updated USACE HMS Model
500	183000	221000	239600	234100
100	110000	130000	136600	142700
50	85100	98400	102600	103600
10	40000	43500	44400	44200



USACE Hydrology

Summary

- ▶ **USACE HMS Flows generally higher than effective flows**
 - Higher differences on Blanco River
 - Within 5% at Luling
- ▶ **USACE HMS flows match ABFE flows for the Blanco**
- ▶ **USACE HMS flows slightly higher than ABFE flow for the Lower San Marcos.**
- ▶ **Cypress and Upper San Marcos watershed model results will be used on respective tributaries rather than USACE HMS**
 - Note: HMS is a rainfall-runoff hydrology model

Project Timeline

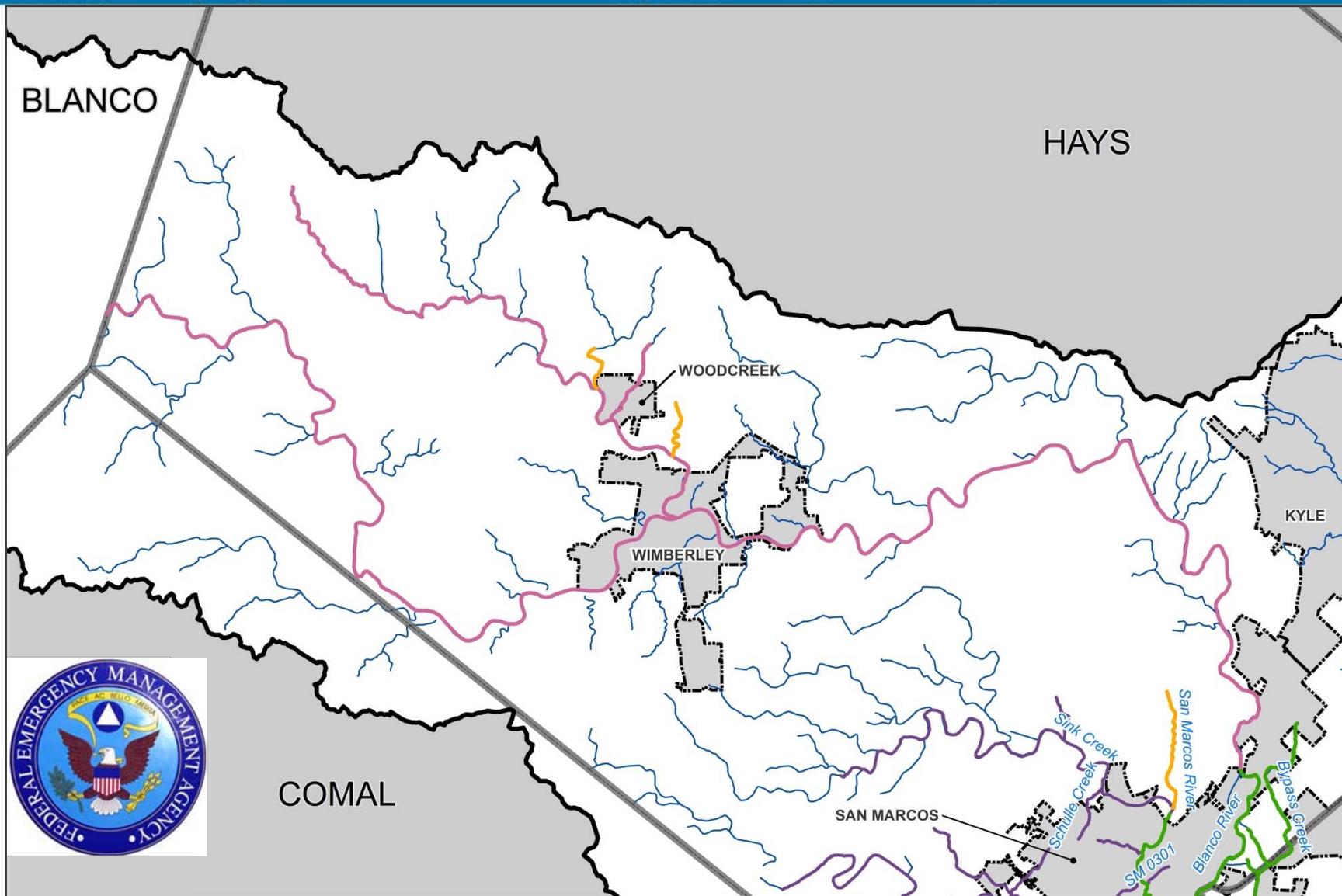
- ▶ **November 2015** PMR Project Initiated
- ▶ **January 2016** Survey of Structures (Complete)
- ▶ **February 2016** SM River Hydrology USACE (Complete)
- ▶ **May 2016*** Delivery Area 2
- ▶ **June 2016*** Delivery Area 1
- ▶ **July 2016*** Delivery Area 3
- ▶ **August 2016*** Delivery Area 4
- ▶ **August 2016** Flood Risk Review Meetings
- ▶ **November 2016** Preliminary FIRMs issued

**Four delivery areas will be working simultaneously.*

**Date shown indicates the final delivery of data for community review.*

Delivery Area 2

Community Release:
May 2016



Delivery Area 2

Community Release:
May 2016

Community Data Provided

- ▶ Hydrologic and Hydraulic Modeling provided by USACE, GBRA and local communities
- ▶ Gage analysis updated to include 2015 event in hydrologic analysis
- ▶ Advisory Base Flood Elevations previously released

Scope of Work

- ▶ Minor structure survey to refine community/ABFE modeling
- ▶ Floodway analysis
- ▶ Floodplain mapping & work maps ([digital format unless paper is requested](#))
- ▶ Flood Risk Review meetings

Streams for Update

- ▶ Blanco River (above City of San Marcos boundary upstream to Blanco County line)
- ▶ Cypress Creek/Hog Creek

Delivery Communities

- ▶ Comal & Hays Counties (Unincorporated Areas)
- ▶ City of Wimberley
- ▶ City of Woodcreek

Delivery Area 1

Community Release:
June 2016

Community Data Provided

- ▶ Hydrologic and Hydraulic Modeling provided by the City of San Marcos

Scope of Work

- ▶ Minor structure survey to refine community modeling
- ▶ Floodway analysis
- ▶ Floodplain mapping & work maps (digital format unless paper is requested)
- ▶ Flood Risk Review meetings

Streams for Update

- ▶ Sink Creek and selected tributaries
- ▶ Purgatory Creek and selected tributaries
- ▶ Willow Springs Creek and selected tributaries

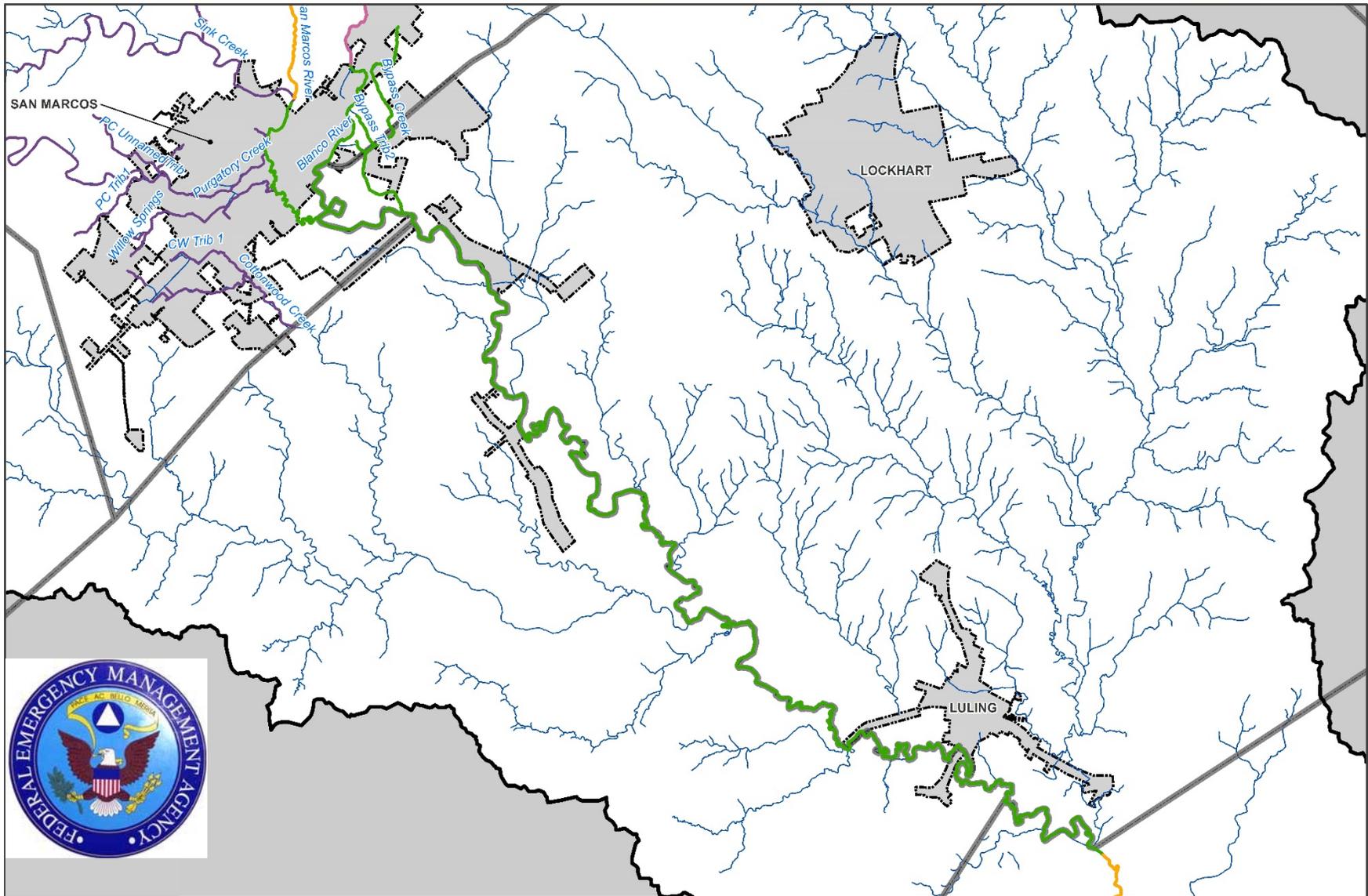
Communities for Delivery

- ▶ City of San Marcos
- ▶ Hays County (Unincorporated Areas)



Delivery Area 3

Community Release:
July 2016



Delivery Area 3

**Community Release:
July 2016**

Streams for Update

- ▶ Blanco River (City of San Marcos)
- ▶ San Marcos River (City of San Marcos through Caldwell County)

Scope of Work

- ▶ Refined USACE hydrology for San Marcos River
- ▶ Minor structure survey to refine existing modeling
- ▶ Floodway analysis
- ▶ Floodplain mapping & work maps (digital format unless paper is requested)
- ▶ Flood Risk Review meetings

Community Data Provided

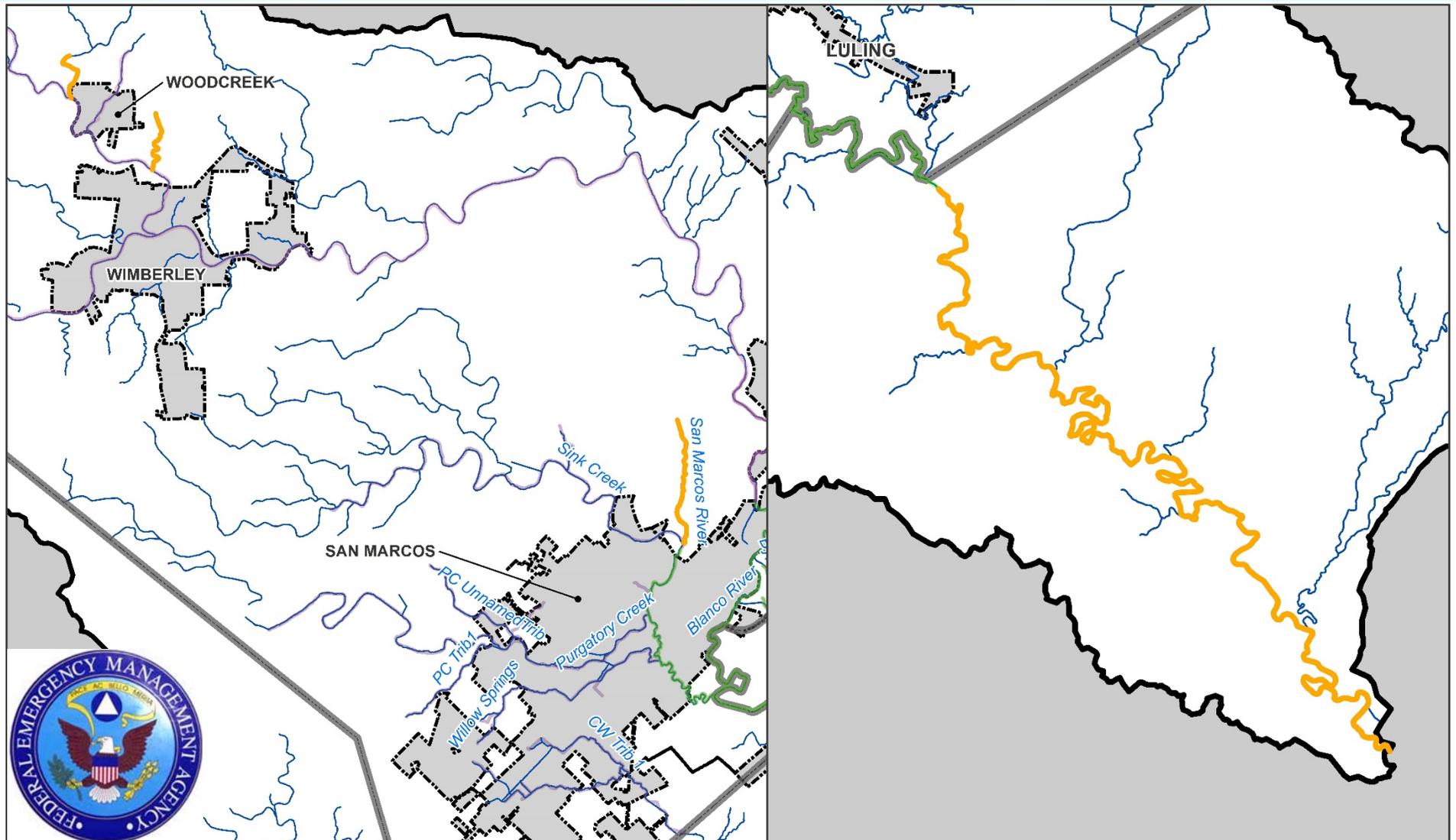
- ▶ Hydrologic and Hydraulic Modeling provided by GBRA
- ▶ 2D Analysis provided by City of San Marcos
- ▶ Advisory Base Flood Elevations released for Blanco and San Marcos

Delivery Communities

- ▶ City of San Marcos
- ▶ Caldwell, Guadalupe, Hays Counties (Unincorporated Areas)

Delivery Area 4

Community Release:
August 2016



Delivery Area 4

**Community Release:
August 2016**

Streams for Update

- ▶ Cypress Tribs (Hays County)
- ▶ San Marcos River Zone A (Hays County)
- ▶ San Marcos River (Gonzales County)

Scope of Work

- ▶ Refined USACE hydrology for San Marcos River
- ▶ No additional structure survey
- ▶ Floodway analysis
- ▶ Floodplain mapping & work maps (digital format unless paper is requested)
- ▶ Flood Risk Review meetings

Community Data Provided

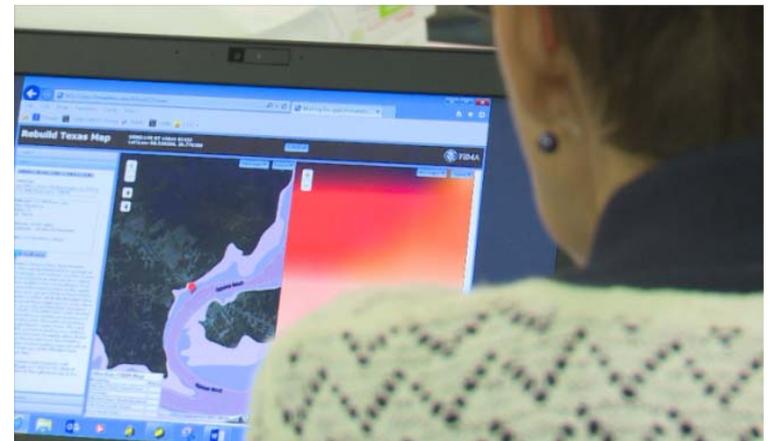
- ▶ Hydrologic and Hydraulic Modeling provided by GBRA for all streams

Delivery Communities

- ▶ Gonzales, Hays Counties (Unincorporated Areas)

Future Community Coordination

- ▶ Providing Data for Community/County Review (Digital) **May/June/July/Aug 2016**
- ▶ Flood Risk Review (Draft Maps and Meeting with Local Officials) **Aug 2016**
- ▶ Preliminary Maps Created (Available online for Public) **estimated Nov 2016**
- ▶ Consultation Coordination Officer Meet w/ Local Officials **estimated Dec 2016/Jan 2017**
- ▶ Insurance Stakeholder Workshop (for Agents, Lenders, Real Estate Professionals) **early 2017**
- ▶ Public Flood Risk Open House (2-7 p.m. in Wimberley, San Marcos, Luling) **early 2017**
- ▶ 90-day Appeal and Comment Period
- ▶ Resolution of appeals
- ▶ Letter of Final Determination
- ▶ Map adoption and Compliance
- ▶ Effective Map





FEMA

Questions:

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