



SAN ANTONIO
RIVER AUTHORITY

Bexar County Draft Floodplain Maps

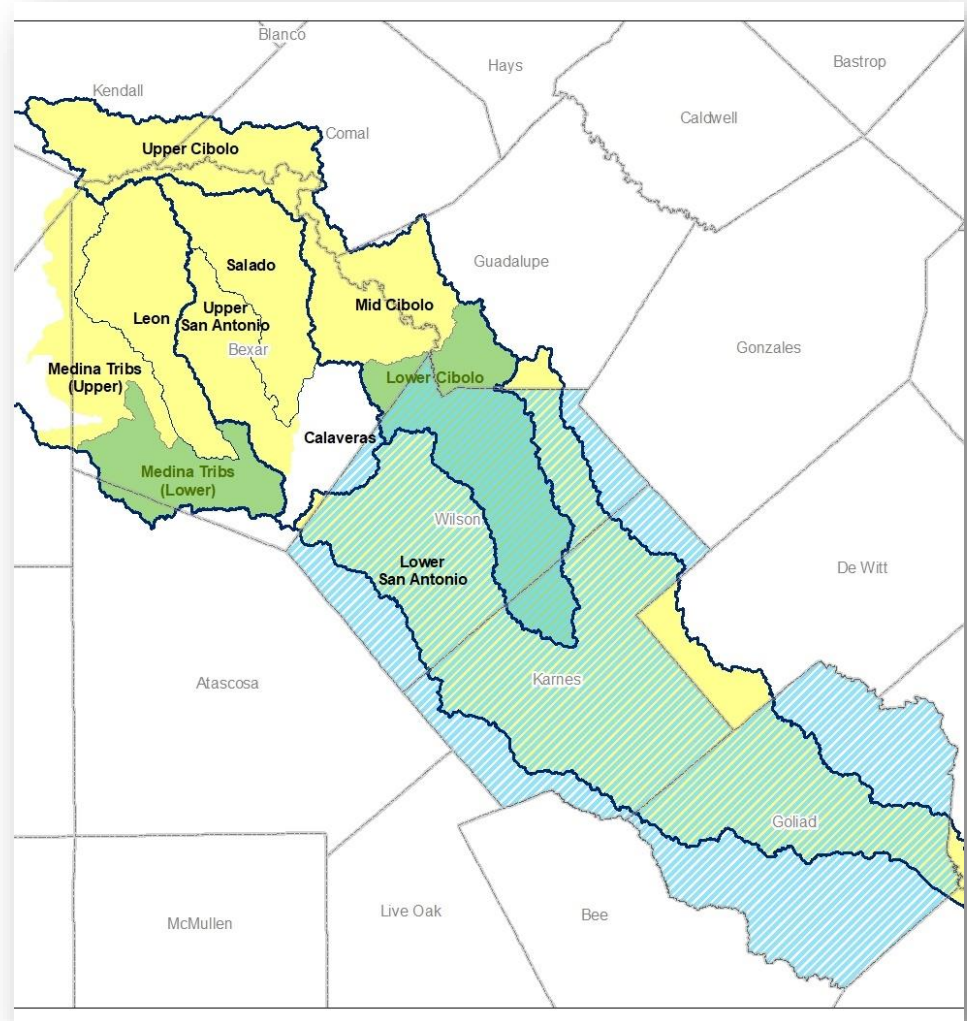
October 19, 2022



Committed to Safe, Clean, Enjoyable Creeks and Rivers.

Floodplain Study Areas

Study Area	Draft Floodplains For Review
Upper Cibolo	Current rollout
Mid Cibolo	
Leon, Salado, and Upper San Antonio	
Medina Tribs (Upper)	
Lower San Antonio (1st set)	
Lower Cibolo	End of 2022/Early 2023
Medina Tribs (Lower)	
Lower San Antonio (remaining sets)	End of 2023

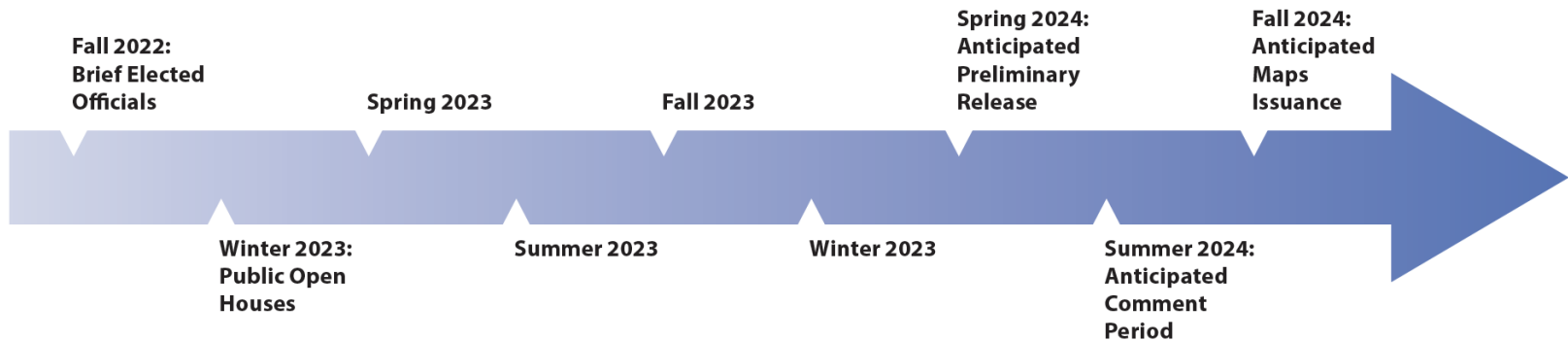


Draft Floodplain Maps

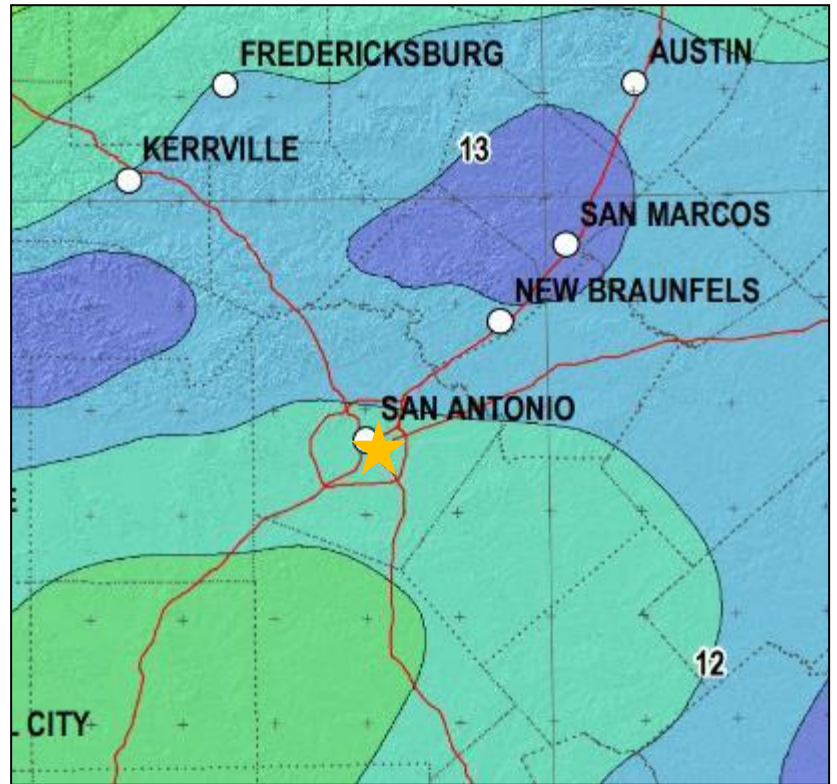
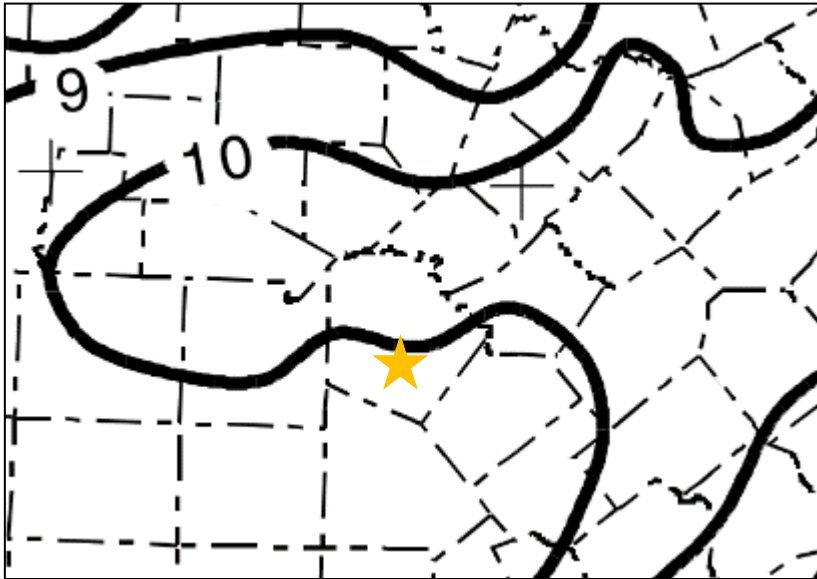
- Rollout Schedule
- Summary of major changes
 - Input and methods
 - Results
- Best Available Data/Models
- LOMC Studies



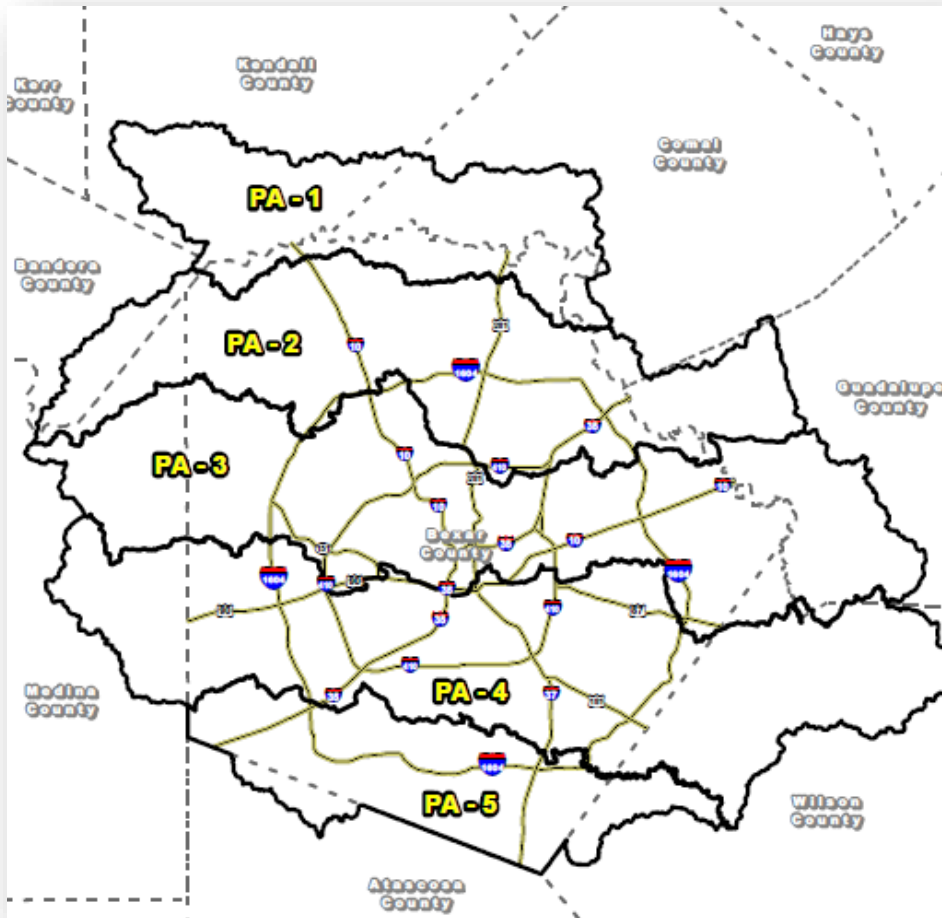
Draft Floodplain Rollout



New Data #1: Atlas 14



Rainfall Depths: Bexar County



Precipitation Area	Atlas 14 100-Year Design Depth
PA-1	12.87"
PA-2	12.49"
PA-3	11.97"
PA-4	11.50"
PA-5	11.15"

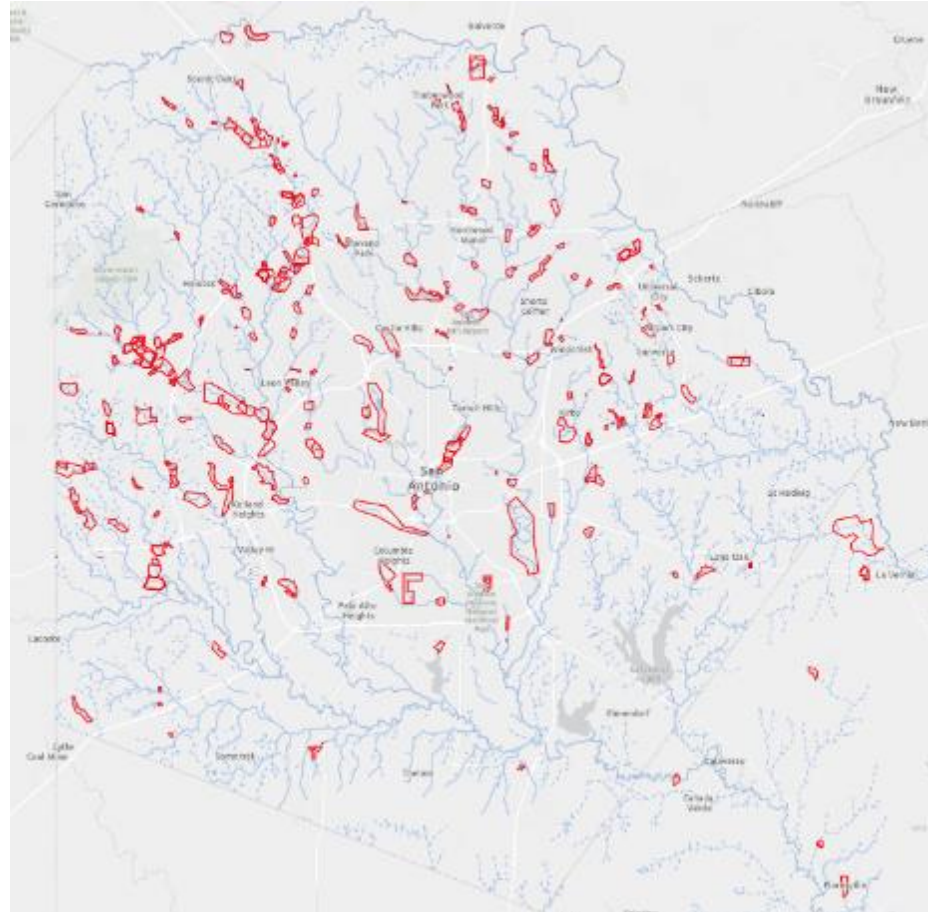


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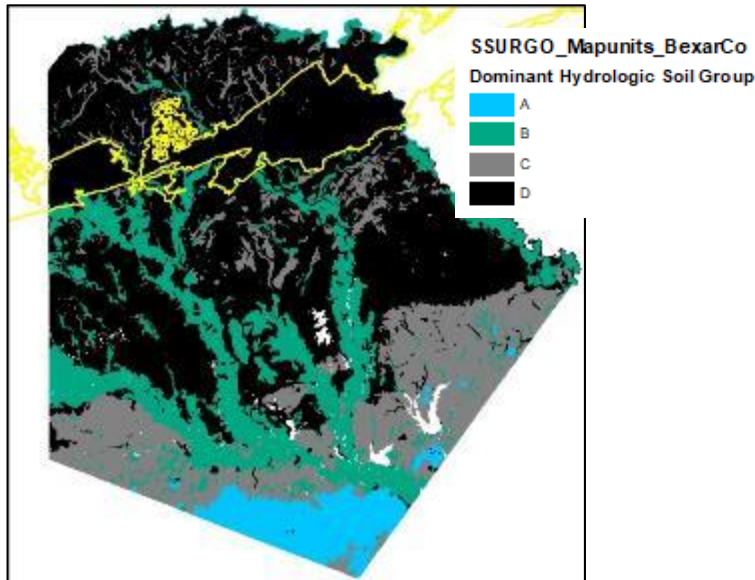
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New Data #2: Development/Updated land use

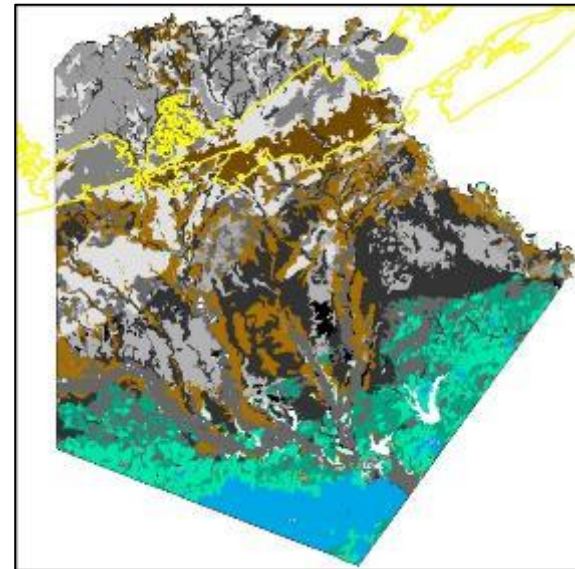


New Data #3: Loss Method

Curve Number:
Hydrologic Soil Group



Green and Ampt:
Soil Texture Class



New Data #4: Directly Connected Impervious Cover

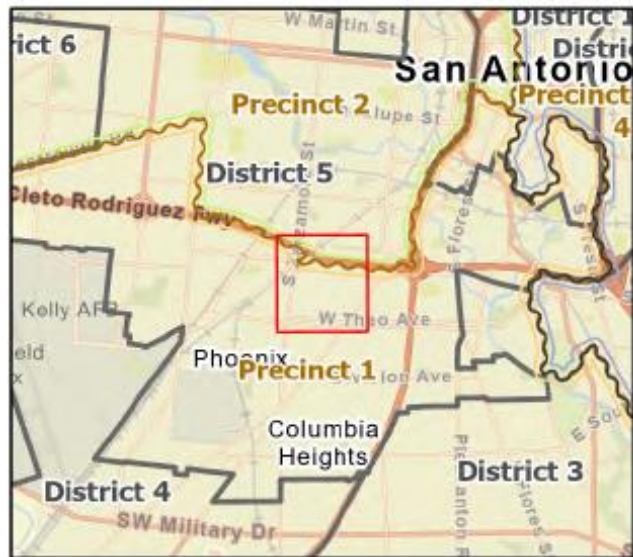
To provide an initial estimate for DCIA for use in HMS (for Green and Ampt Loss calculations), guidance from *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Areas (DCIA) for Massachusetts Small MS4 Permit* (USEPA, April 2014) was referenced. This guidance estimates DCIA using empirical formulas as a function of total impervious area for five basic watershed types. These five watershed types are associated with a grouping of land use types. Each watershed type uses formulas developed by Sutherland (2000). **Table 2** provides the five watershed types and assigned category, the associated land use for each, and the equation used to estimate DCIA.

Table 2: Directly Connect Impervious Cover Estimation Equations

Watershed Selection Criteria	Associated Land Use Categories	Sutherland Equation (where IA (%)>1)	Assigned Category
Mostly Disconnected: Small percentage of urban storm area is storm sewered or 70% or more infiltrate/disconnected	Agricultural; Forested	$DCIA = 0.01(IA)^2$	1
Somewhat Disconnected: 50% not storm sewered but open section roads, grassy swales, rooftops not directly connected, some infiltration	Low density residential	$DCIA = 0.04(IA)^{1.7}$	2
Average: Mostly storm sewered with curb and gutter, rooftops not directly connected	Commercial, Industrial, Institutional, Open land, and Medium density residential	$DCIA = 0.1(IA)^{1.5}$	3
Highly connected: Matches average with rooftops are directly connected	High density residential	$DCIA = 0.4(IA)^{1.2}$	4
Totally connected: 100% storm sewered with all IA connected	-	$DCIA = IA$	5

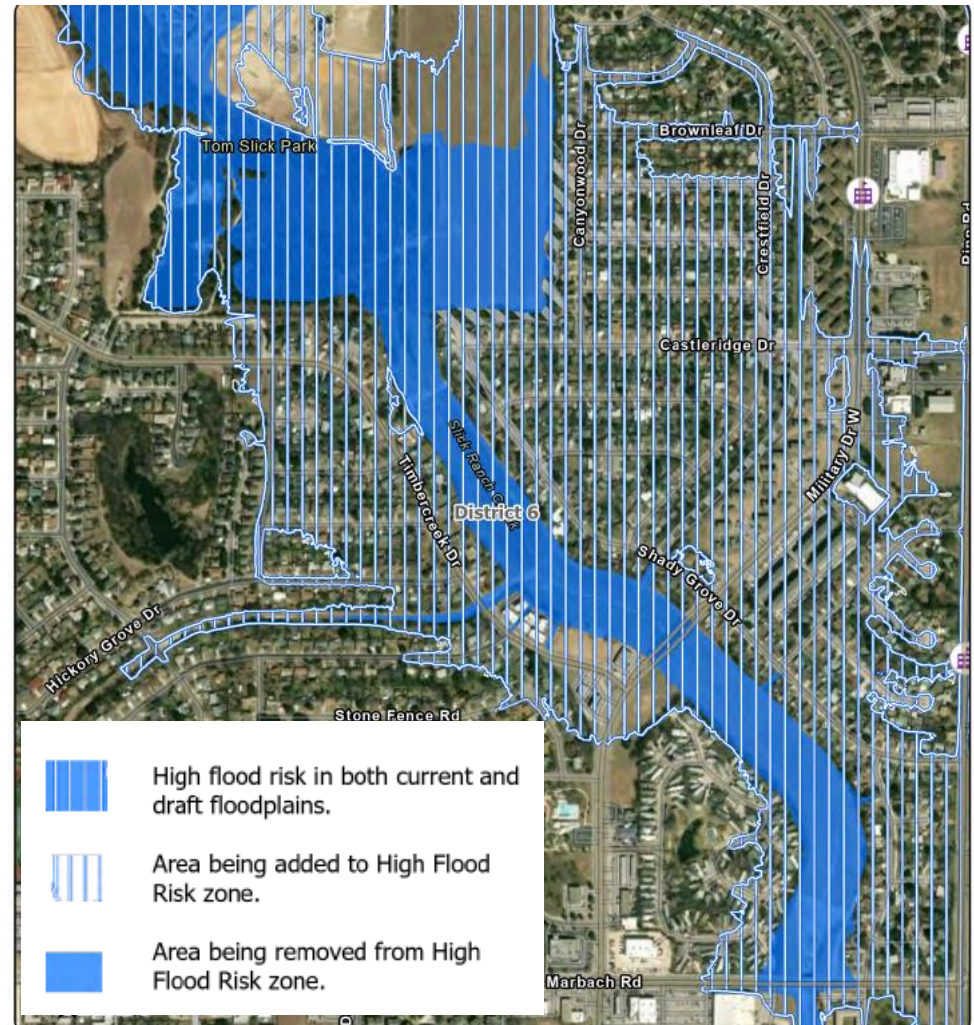


Key Area of Increase #1 Concepcion Creek



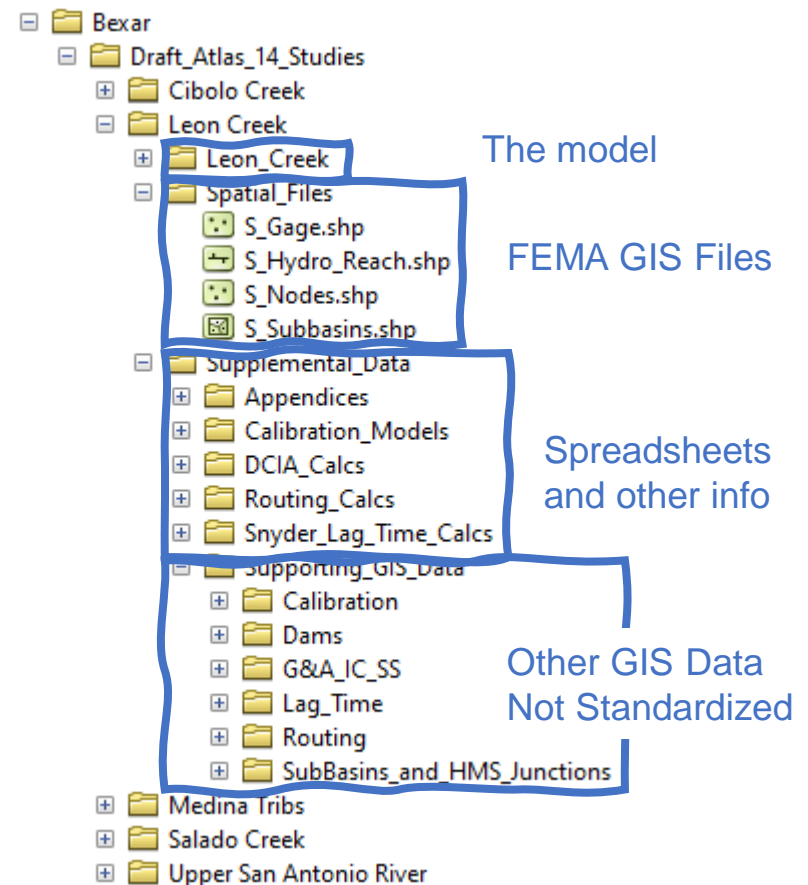
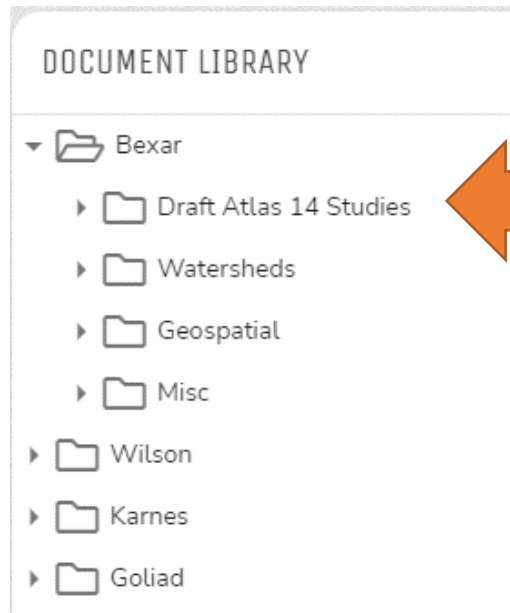
Key Area of Increase #2

Slick Ranch Creek



How to Download Hydrology from D2MR

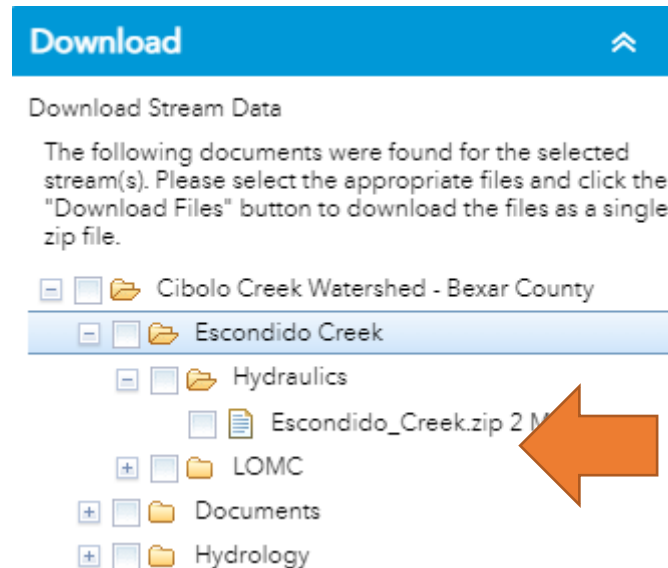
<https://d2mr.sara-tx.org/>



Hydraulics on D2MR

“Draft DFIRM 2.0”

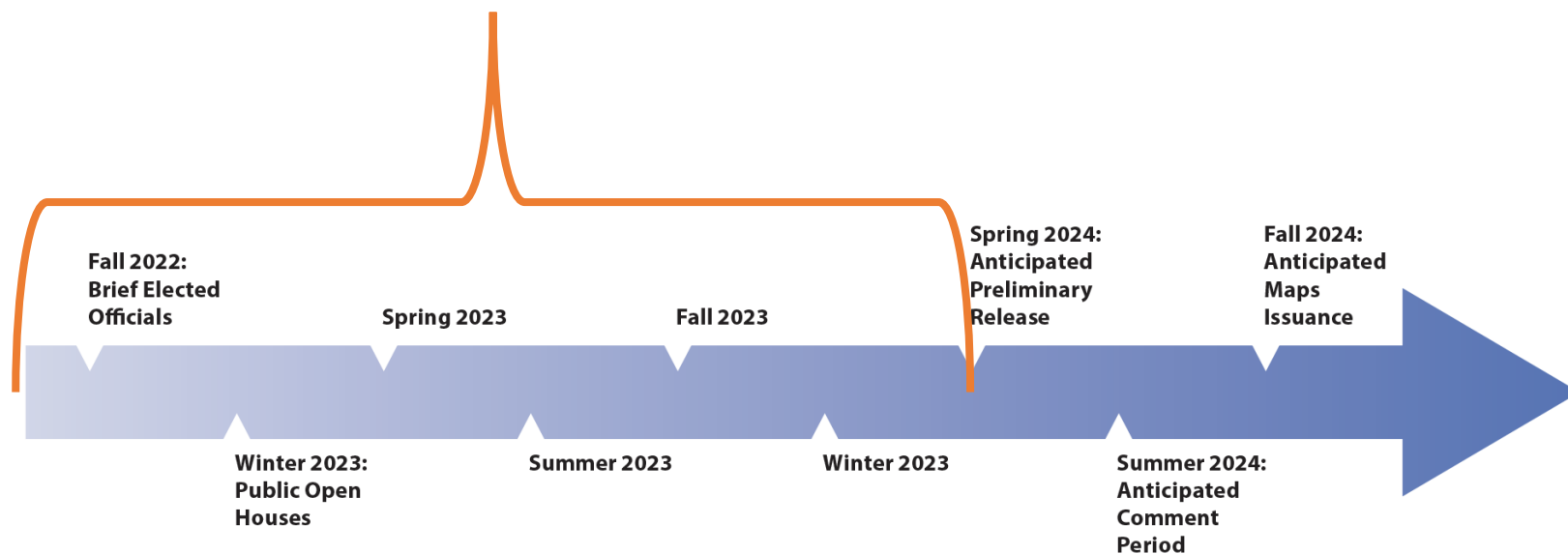
- Simulation
- Hydraulic Notebook



Reports and spatial data in Document Library (Dashboard)



Use of “Best Available”



LOMC Studies in the Interim

Submit effective and “Best Available” model versions.

- Map revision can be processed using “Best Available” if it meets tie-in requirements of effective profile and mapping.
- Otherwise map revision will be processed using effective data.
- “Best Available” will be incorporated into “Preliminary.” These will not be reflected in “Draft.”

LOMRs following previously approved CLOMRs:

- Incorporate “best available” hydrology
- Update pre-project geometry to include “best available” hydraulics
- Confirm the project was constructed per plan.

A cutoff date will be set for incorporation into “Preliminary” when that schedule is more defined with Region 6.



Thank you

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