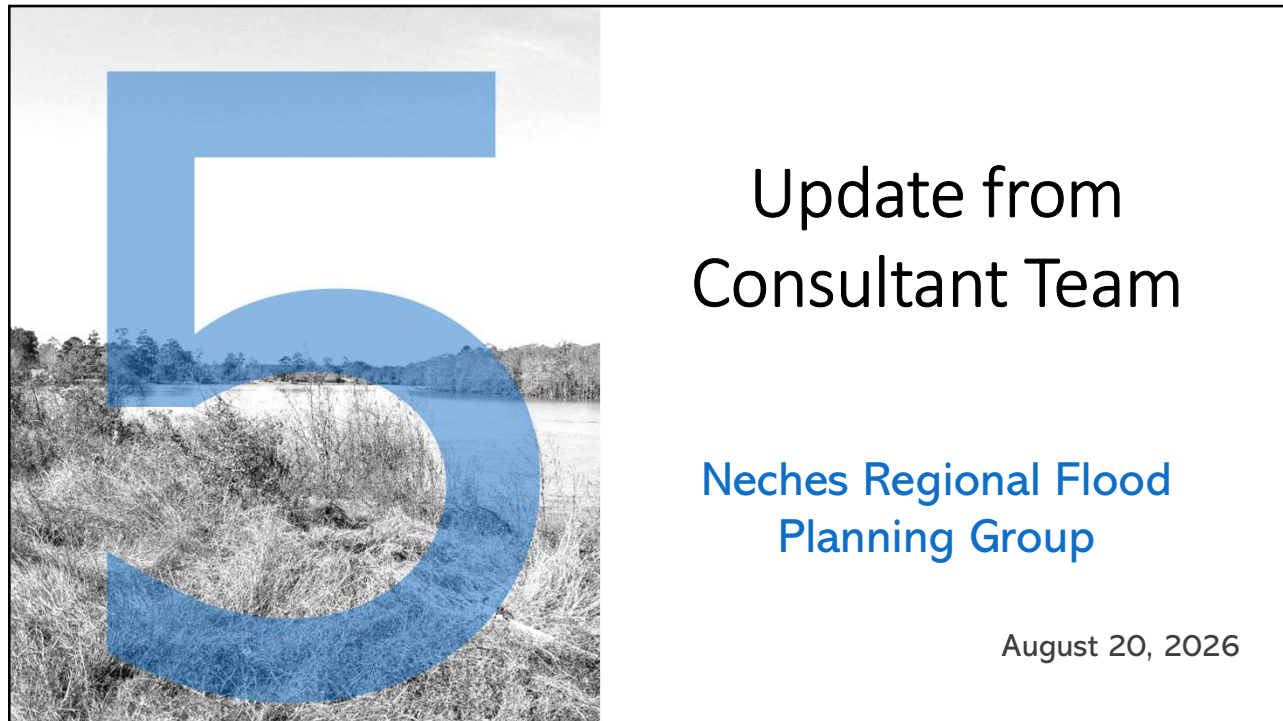




1

Agenda

- TWDB Informal Comments on the Technical Memo
- Task 4C – Performance of FMEs
- Task 7 – Flood Response Information and Activities
- Task 8 – Administrative, Regulatory, and Legislative Recommendations
- Task 9 – Flood Infrastructure Financing Analysis

2

5

Informal Technical Memorandum Comments

3

5

Informal Tech Memo Comments

- Comments received July 21st
- Summary of July 21st Comments
 - GIS Updates to Infrastructure feature classes
 - Owning and Operating Entity
 - Update Ponds and Wetlands geometries
 - Separate out Bridges and LWCs – points previously were classified as both
 - GIS Updates to Exposure feature classes
 - Resolve issues where buildings footprints have estimated daytime and nighttime populations of 0.
 - Ad-hoc edits to fields to provide clarity and conform to requirements.
 - Updates to FMEs, FMSs, and FMPs
 - Ensure consistency in naming between Cycle 1 and Cycle 2
 - Ad-hoc edits to fields to provide clarity and conform to requirements

4

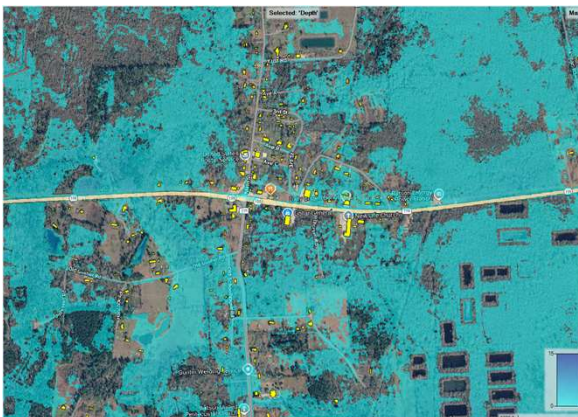
5

Task 4C – Performance of Flood Management Evaluations

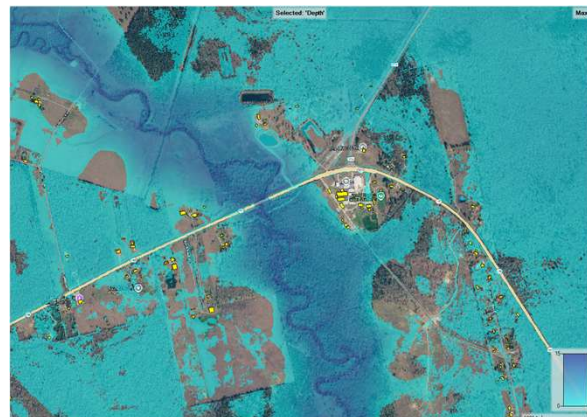
5

Batson Areas of Interest

5



Residential Development near intersection of HWY 105 and FM 770



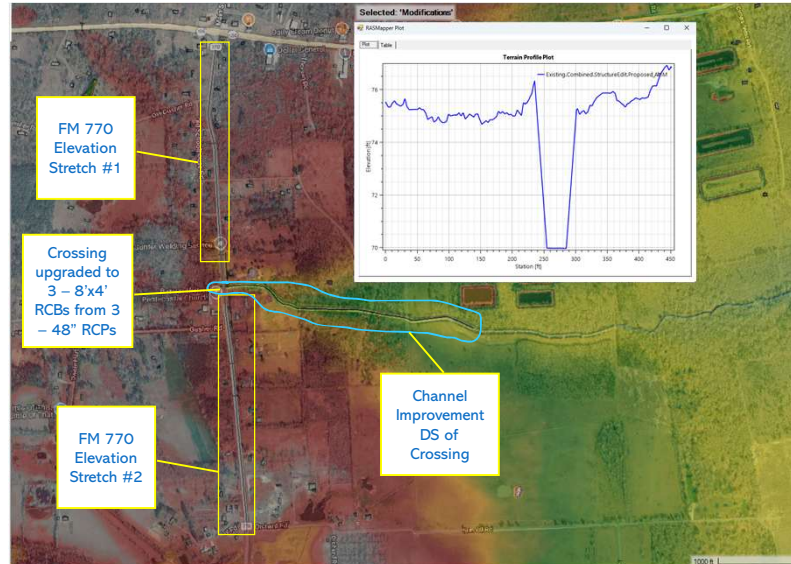
Residential Development near West Hardin High School & intersection of HWY 105 and FM 770

6

1st Alternative: Road Elevation along FM 770

5

- Properties along FM 770 mostly above 100YR WSEL – opted to elevate roadway to preserve emergency access
 - Equalization structures mitigate ponding to the west
- 30 ft bottom width channel with 3:1 side slopes to aid in mitigating impacts

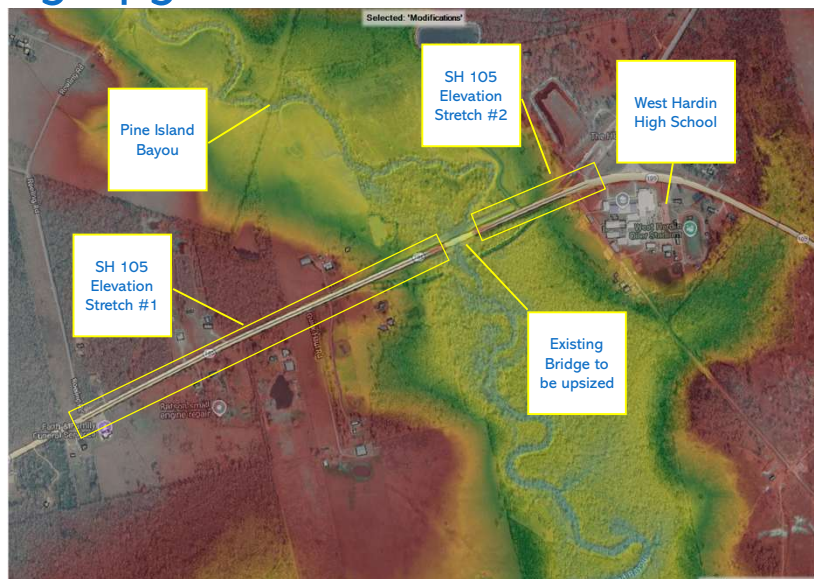


7

2nd Alternative: Road Elevation along SH 105 + Bridge Crossing Upgrade

5

- Road elevation along SH 105 to provide emergency access to West Hardin High School
- Bridge crossing at Pine Island Bayou to be upsized

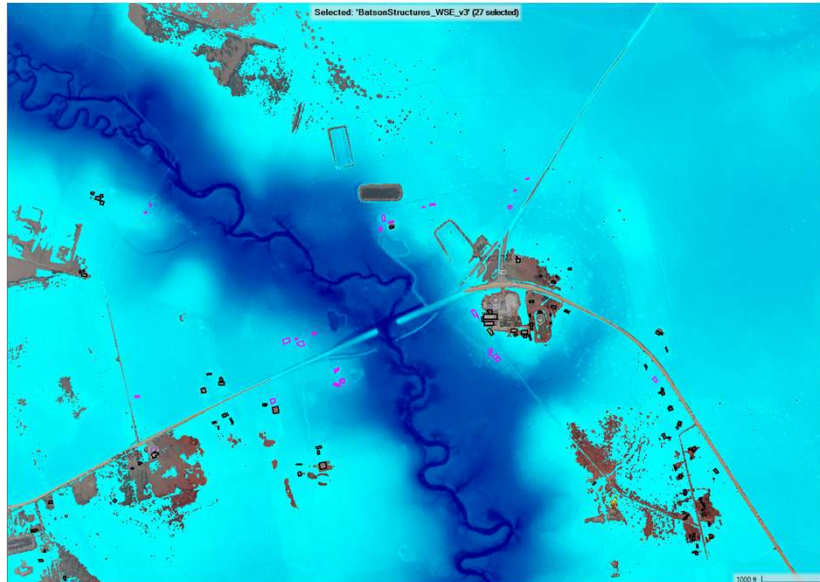


8

3rd Alternative: Structure Elevation of Properties in Batson

5

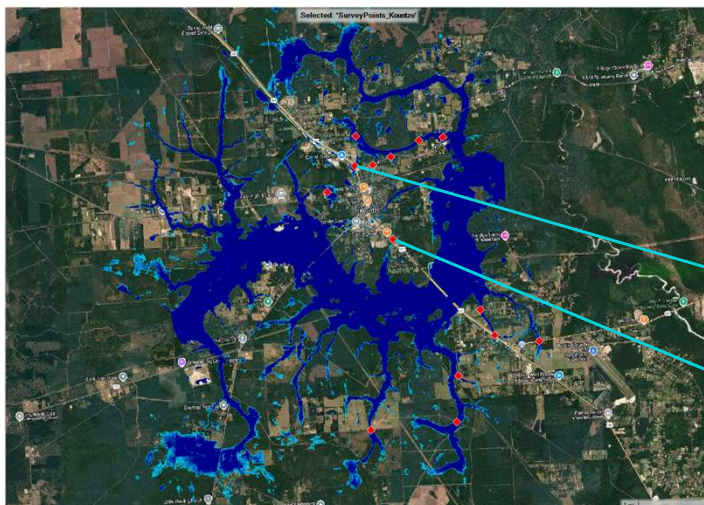
- 27 properties at 100YR flood risk along SH 105 and FM 770
- Structure elevation considered due to proximity to Pine Island Bayou



9

Kountze Surveyed Structures

5



HWY 287 & Vila Rd.

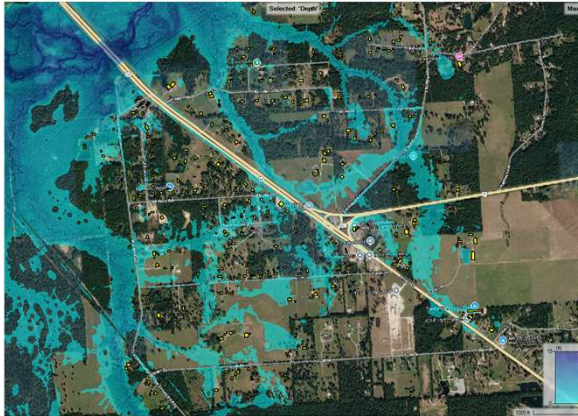


Hwy 287 & Shires Ln.

10

Kountze Areas of Interest

5



Residential Development near intersection of HWY 69 and HWY 327

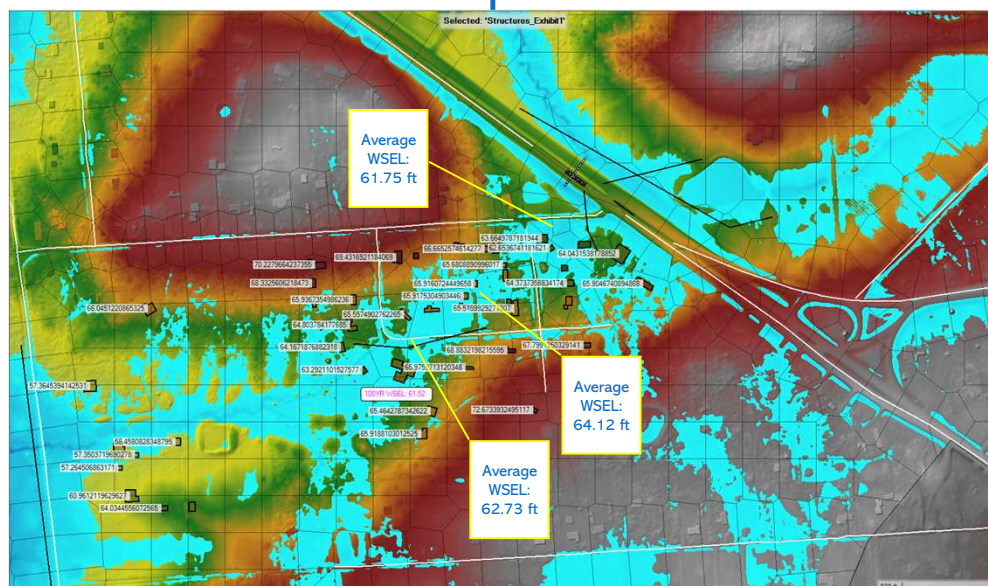


Residential Development near intersection of HWY 287 and HWY 418

11

Residential Development near intersection of HWY 69 and HWY 327 Update

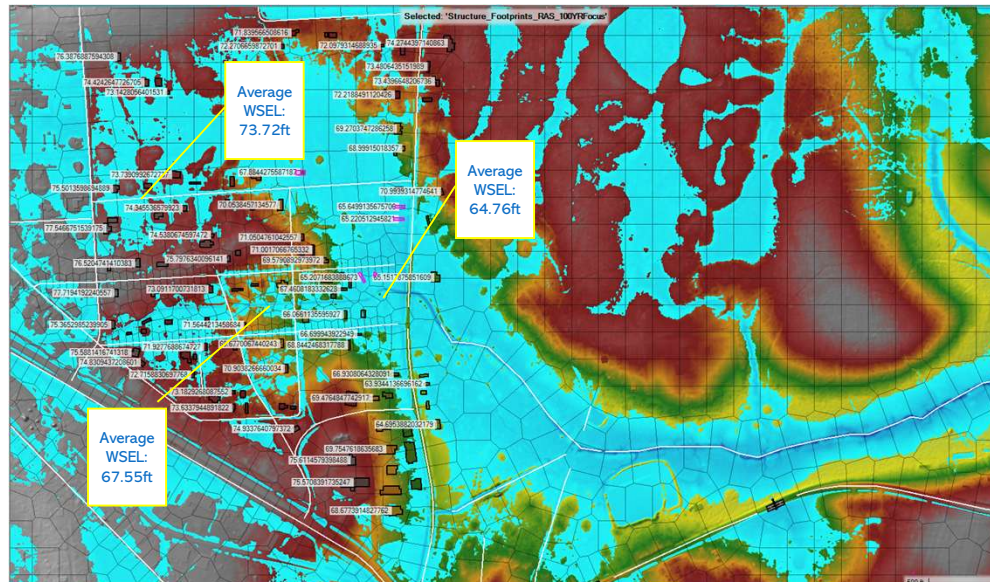
5



12

Residential Development near intersection of HWY 287 and HWY 418

5

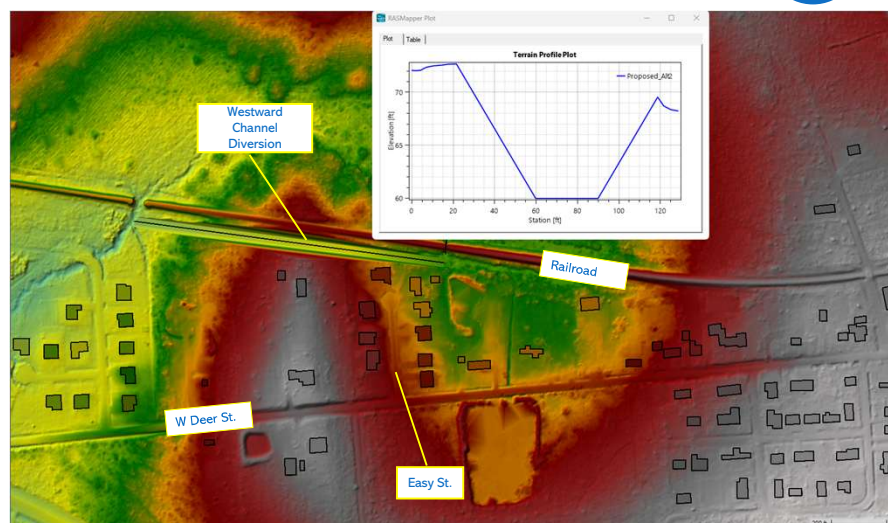


13

Alternative #1: Channel Diversion for Easy St. Neighborhood

5

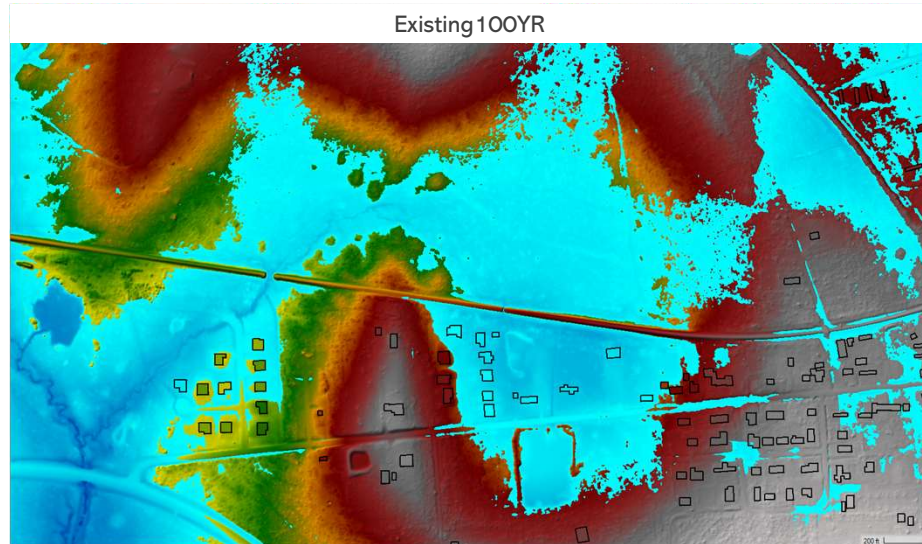
- Existing culvert crossing across RR to north causing ponding of neighborhood to south
- Channel diversion to westward stream proposed to alleviate flooding for neighborhood
- Channel currently 30 ft bottom width with 3:1 side slopes



14

Alternative #1: Channel Diversion for Easy St. Neighborhood

5

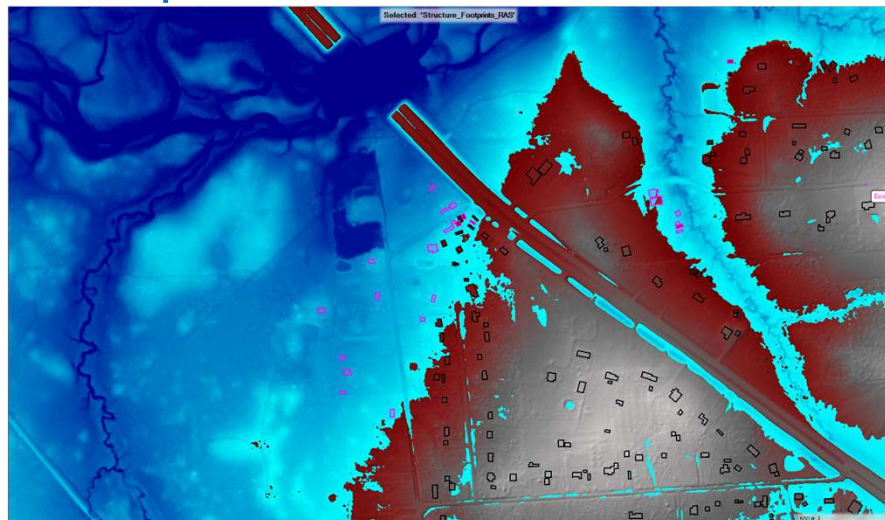


15

Alternative #2: Structure Elevation along HWY 287 & Overstreet Loop

5

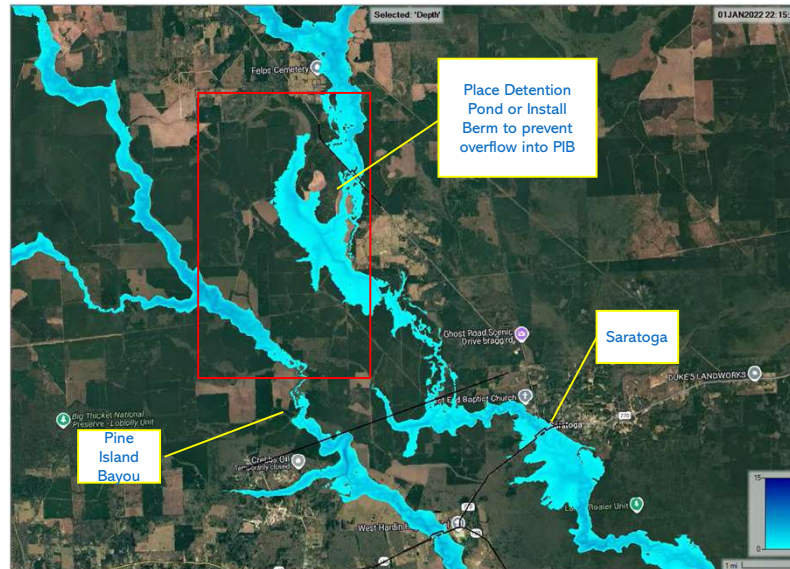
- 24 residential properties at 100YR flood risk along Overstreet Loop.
- Structure elevation considered due to property locations.



16

Further Alternatives – Saratoga Detention/Berm

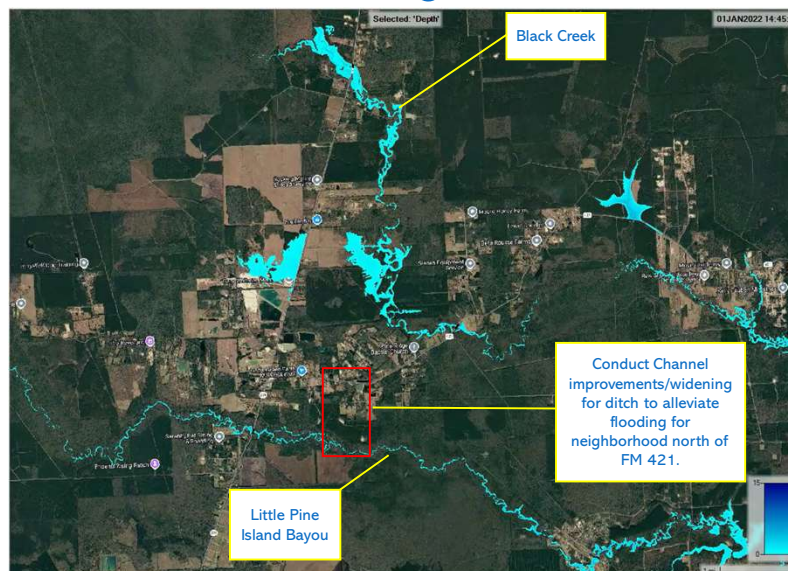
5



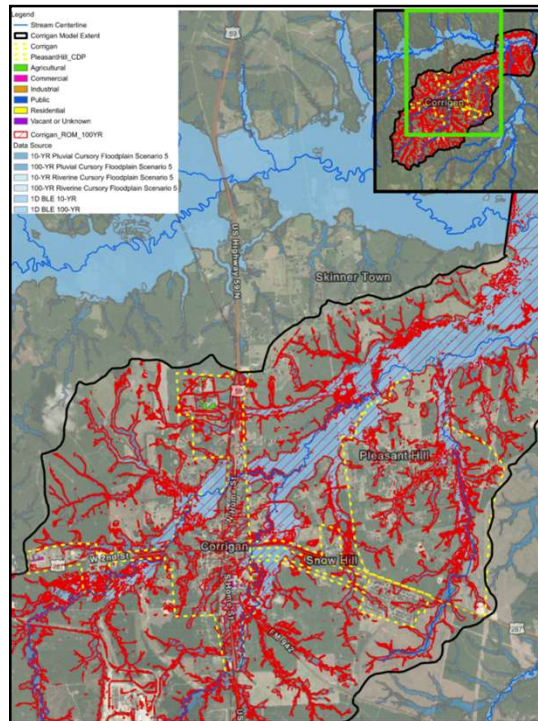
17

Further Alternatives – Black Creek Improvements for Pine Ridge

5



18



Polk County – Corrigan and Reily Village

5

- Preliminary existing conditions modeling completed (red)
- Model results matched with BLE and cursory data (blue) and showed more extensive flooding conditions along unmapped tributaries
- Next steps include existing model refinement with field measurements and proposed project alternatives analysis

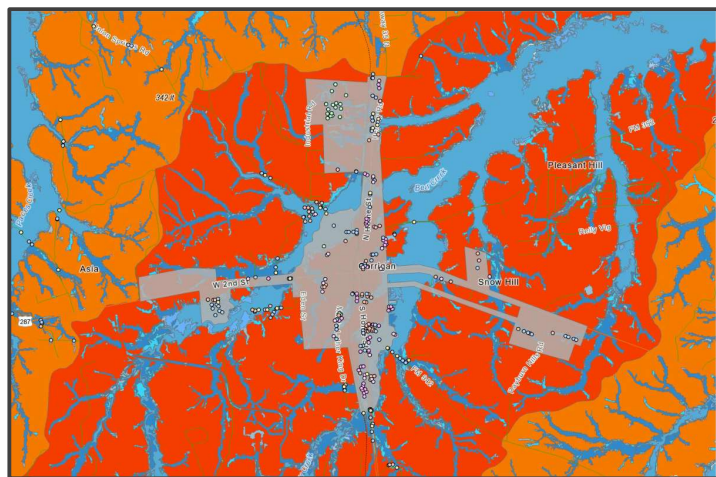
19

Polk County – Corrigan and Reily Village

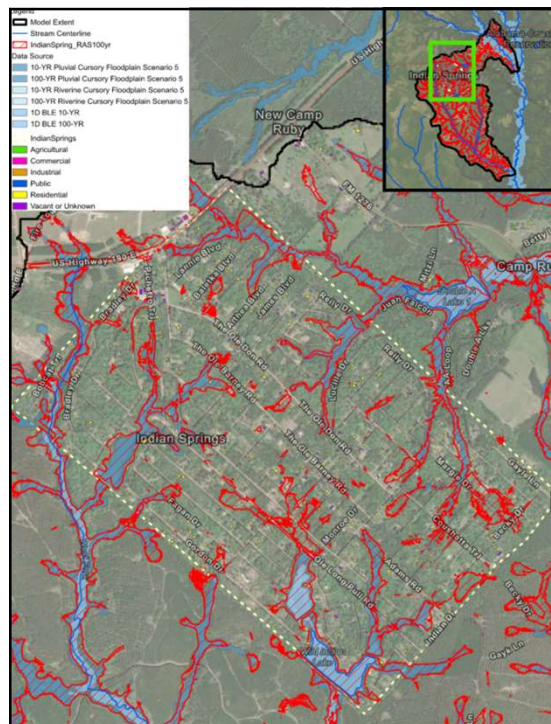
5

Potential projects from Polk County HMPs:

- Corrigan-Camden School: homes south of campus are in low lying area, reduce floodplain with channel improvements north of baseball field
- Corrigan detention pond(s) to address flooding along west side of town (W 5th Street, Voss Street, W 3rd Street, W 1st Street, W Front Street)
- Raise Union Springs Road NW of Corrigan at 4 potential crossings
- Elevate CR 352 bridges at Dry Creek and McManus Creek



20



Community of Indian Springs

5

- Preliminary existing conditions modeling completed (red)
- Model results matched with BLE and cursory data (blue) and showed more extensive flooding conditions along unmapped tributaries
- Preliminary results confirmed exposure analysis that several residential buildings are located within flood extents
- Next steps include existing model refinement with field measurements and proposed project alternatives analysis

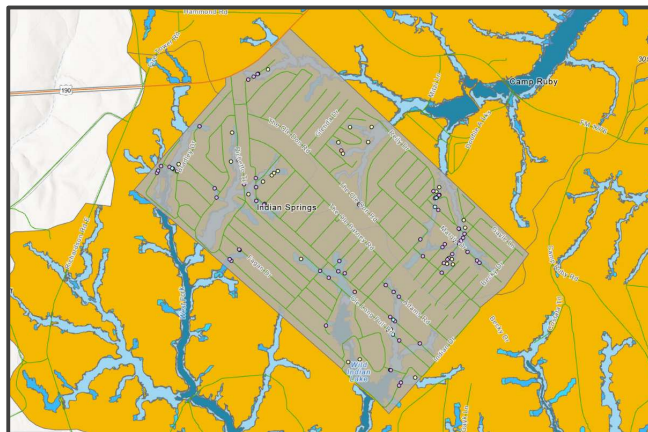
21

Polk County – Community of Indian Springs

5

Potential projects:

- Low Water Crossing road improvements on Pichetto Trail and Ole Long Pull Road
- Channel improvements
- Ditch improvements along residential streets
- Increase detention storage at Lake Winnepesaukee, Lake Downs, Double A Lake, or Wild Indian Lake.



22

5

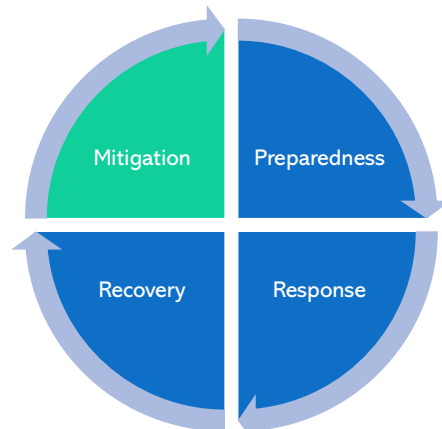
Task 7 – Flood Response Information and Activities

23

Task 7 – Flood Response Information and Activities

5

- Task Goals:
 - Summarize nature and types of flood response preparations
- Not an analysis related to planning for disaster response or activities



24

Task 7 – Relevant Entities in Region

5

Local

- Police Departments
- Fire Departments
- County Emergency Responders
- Drainage Districts

State

- DPS
- TWDB
- TDEM
- TxDOT
- Texas Army National Guard
- River Authorities

Federal

- FEMA
- NOAA
- USACE
- USFS
- NWS
- USGS

25

Task 7 – Mitigation

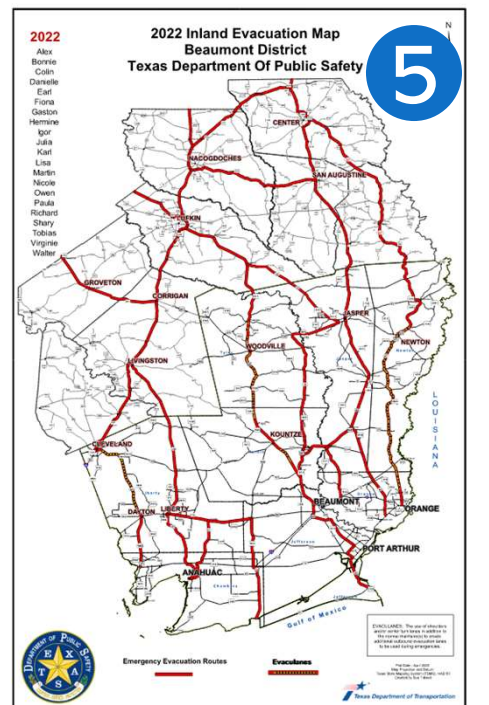
5

- Primary focus of the Regional Flood Planning Process
- Implementation of actions, including both structural and non-structural solutions, to reduce flood risk to protect against the loss of life and property
- Examples (Structural):
 - Regional Detention
 - Storm Drain Improvements
 - Low Water Crossing/Bridge Improvements
- Examples (Non-Structural):
 - Flood Early Warning Systems
 - Floodplain property acquisition
 - Elevation of Structures above BFE

26

Task 7 – Preparedness

- Actions, aside from mitigation, that are taken before flood events to prepare for flood response activities
- Examples:
 - Identification of Critical Infrastructure
 - Emergency Action Plans
 - Public Notification/Education
 - Identification of Evacuation Routes
 - Tabletop exercises
 - Staff training for response/recovery



27

Task 7 – Response

- Actions taken during and in the immediate aftermath of a flood event
- Examples:
 - Reverse 911 & other notifications
 - Social Media Posts/Alerts
 - Radio stations & Emergency Alert systems
 - Emergency Operation Centers
 - Forecast tools & centers
 - Closing roadways and traffic control
 - Providing high water rescues
 - Food & First Aid Distribution



Aerial photo of the Hillebrandt area of Jefferson County immediately after Hurricane Harvey, Beaumont Enterprise

28

Task 7 – Recovery

5

- Actions taken after a flood event involving repairs or other actions necessary to return to pre-event conditions
- Examples:
 - Providing information on flood insurance
 - Coordinating debris removal and cleanup
 - Providing traffic control
 - Assisting residents to find temporary housing
 - Regular communication with disaster victims
 - Coordinating with local businesses
 - Compiling and conducting damage assessments



29

5

Task 8 – Legislative, Administrative, and Regulatory Recommendations

30

Task 8 – Legislative, Administrative, and Regulatory Recommendations

5

RFPGS must develop and include in their Flood Plans

1. Legislative recommendations that they consider necessary to facilitate floodplain management and flood mitigation planning and implementation
2. Other regulatory or administrative recommendations that they consider necessary to facilitate floodplain management and flood mitigation planning and implementation;
3. Any other recommendations that the RFPG believes are needed and desirable to achieve its regional flood mitigation and floodplain management goals; and
4. Recommendations regarding potential, new revenue-raising opportunities, including potential new municipal drainage utilities or regional flood authorities, that could fund the development, operation, and maintenance of floodplain management or flood mitigation activities in the region.

31

Cycle 1 Legislative Recommendations

5

- Recurring biennial appropriations to Flood Infrastructure Fund project/study implementation
- Increase state funding for technical assistance to develop accurate watershed models and floodplain maps
- Provide counties legislative authority
 - Establish drainage utilities and assess fees
 - Manage new development to reduce future flood risk and benefit water supply
- Incentivize jurisdictions to work together to provide regional flood mitigation.

32

Cycle 1 Legislative Recommendations

5

- Incentivize buy-out programs to convert frequently flooded properties/neighborhoods into parkland
- Incentivize conservation easements for land in the 100-year floodplains
- Establish grant programs for the ongoing operations and maintenance (O&M) of existing flood mitigation and other drainage infrastructure.

33

Cycle 1 -> Cycle 2 Legislative Recommendation Edits

5

Recommendation	Cycle 2 Action?	Justification
Continue biennial appropriations to the Flood Infrastructure Fund (FIF)	Keep with acknowledgement of progress	While there have been FIF studies conducted throughout the region, it is suggested that the recommendation be maintained in order to continue funding for future flood studies.
Increase state funding for technical assistance to develop accurate watershed models and floodplain maps.	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action. Recommendation specifically targets allocating funding and support to local governments to update their maps to FEMA standards.
Allow counties the opportunity to establish drainage utilities and to collect drainage utility fees from unincorporated areas.	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.
Incentivize jurisdictions to work together to provide regional flood mitigation	Keep with acknowledgement of progress	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.
Incentivize buy-out programs to convert frequently flooded properties/neighborhoods into natural beneficial use areas.	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.

34

Cycle 1 -> Cycle 2 Legislative Recommendation Edits

5

Recommendation	Cycle 2 Action?	Justification
Incentivize conservation easements for land in the 100-year floodplains	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.
Establish grant programs for the ongoing operations and maintenance (O&M) of existing flood mitigation and other drainage infrastructure	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.

35

Potential **New** Legislative Recommendations for Cycle 2

5

Recommendation	Cycle 1 Region	Relevance?
Clarify and expand county regulatory authority for floodplain management, land use planning, setbacks, permitting, and management of undeveloped areas.	R1, R2, R7, R11, R13	Much of the Neches region is composed of unincorporated areas outside of major city limits.
Continue and expand funding for flood early warning systems, stream gages, frequently flooded crossing safety improvements, and flood hazard signage.	R1, R11, R13	RFPG has declared an interest in improving signage within the region and the SE TEXAS Regional Alerting & Information Network has a series of gages located within the region that helps to supply information during threatening weather conditions.
Enable or support regional flood authorities, river authority programs, drainage districts, or watershed-based district boundaries where regional support is needed.	R11, R13	While the Neches region has drainage districts and river authorities, many of them are concentrated to the south of the region. Additional support would help to create new ones in other areas of the region where they are most needed.

36

Cycle 1 Regulatory/Administrative Recommendations

5

- Develop model floodplain management standards and ordinances.
- Provide support for ongoing education/training for floodplain managers.
- Provide technical assistance to smaller jurisdictions (assist w/applications, funding for rural communities to complete studies, etc.).
- Increase public education efforts.
- Establish a process to take BLE data to regulatory information.
- Establish a process to utilize BLE data for evaluation of FMPs.
- Review and update TxDOT design criteria.

37

Cycle 1 -> Cycle 2 Regulatory/Administrative Recommendation Edits

5

Recommendation	Cycle 2 Action?	Justification
Develop model floodplain management standards and ordinances	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.
Provide support for ongoing education/training for floodplain management.	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.
Provide technical assistance to smaller jurisdictions.	Keep with acknowledgement of progress	Recommendation partially addressed on virtue of assistance provided on funding applications for DD6 projects, but ideally more of an emphasis placed on aiding smaller communities.
Increase public education efforts	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.
Establish a process to take BLE data to regulatory information	Keep	Recommendation not substantially addressed for Cycle 2 but can retain as a recommendation for future action.

38

Cycle 1 -> Cycle 2 Regulatory/Administrative Recommendation Edits

5

Recommendation	Cycle 2 Action?	Justification
Establish a process to utilize BLE data for evaluation of FMPs	Remove	Recommendation no longer pertinent with recent reworks to the regional flood planning process, specifically Tasks 4C and 5B, allocating funds for smaller flood management evaluations to be performed to be promoted to flood mitigation projects.
Review and Update TxDOT design criteria	Keep, but edit to incorporate recent RFPG discussion.	RFPG has expressed interest in TxDOT having stricter guidelines on water conveyance along roads. Currently the recommendation includes language of TxDOT ensuring roadways provide a flood protection level equivalent to or greater than the 1% ACE storm even wherever feasible.

39

Potential **New** Regulatory/Administrative Recommendations for Cycle 2

5

Recommendation	Cycle 1 Region	Relevance?
Develop riparian vegetation management guidance addressing purpose, timing, methods, and locations for vegetation management in floodplains and floodways.	R11	Much of the Neches region is composed of unincorporated areas outside of major city limits.
Develop model floodplain ordinances for General Law Cities	R6	There are numerous unincorporated communities and small cities within the region that constitute as General Law Cities which could benefit from definitive floodplain ordinance language.
Promote, incentivize, and provide training and technical resources for nature-based solutions, green infrastructure, natural floodplain preservation, conservation, and hybrid structural/nature-based approaches.	R1, R6, R7, R11, R13	The RFPG has expressed an interest in exploring nature-based solutions to flood mitigation in addition to conventional drainage improvement projects.

40

Cycle 1 Other Recommendations

5

- Promote nature-based projects.
- Utilize alternative statewide Social Vulnerability Index (SVI) than the one developed by the CDC.
- Reassess requirements for potentially feasibility Flood Mitigation Projects (FMP) that present challenges for inclusion of FMPS in regional flood plans.
- Develop publicly available, statewide database of all the GIS deliverables associated with the development of the State Flood Plan.
- Incorporate FEMA in the Regional Flood Planning process as a nonvoting RFPG member.
- Adjust population estimates to include transient population within each region.
- Future Population Projections
- Expanding scope of flood mitigation needs analysis
- Establish flood response and flood warning activities that consider needs of disabled community

41

Cycle 1 -> Cycle 2 Other Recommendation Edits

5

Recommendation	Cycle 2 Action?	Justification
Promote nature-based projects	Keep with acknowledgement of progress and provide clearer delineation of what is considered a nature-based project	Recommendation addressed – there has been a concerted effort to include more nature-based projects in the RFP in addition to the development of a Nature-based Solutions Manual.
Utilize alternative statewide Social Vulnerability Index (SVI) than the one developed by the CDC.	Remove	Recommendation addressed – TWDB participated in the development of the Texas Flood Social Vulnerability Index (TX F-SVI).
Reassess requirements for potentially feasibility Flood Mitigation Projects (FMP) that present challenges for inclusion of FMPS in regional flood plans.	Keep with acknowledgement of progress	Recommendation addressed – TWDB has removed BCR as a requirement for FMPs, but there is still a substantial amount of information required for FMPs for inclusion in the RFP.
Develop publicly available, statewide database of all the GIS deliverables associated with the development of the State Flood Plan.	Keep, but edit to change “Develop” to “Maintain”	Recommendation addressed – TWDB has developed a State Flood Plan viewer that allows stakeholders, members of the public, and technical consultants to view data across the state. It will likely require an update for the Cycle 2 data.
Incorporate FEMA in the Regional Flood Planning process as a nonvoting RFPG member.	Keep	Recommendation not addressed for Cycle 2 but can retain as a recommendation for future action.

42

Cycle 1 -> Cycle 2 Other Recommendation Edits ctd.

5

Recommendation	Cycle 2 Action?	Justification
Adjust population estimates to include transient population within each region.	Keep	Recommendation not addressed for Cycle 2 but can retain as a recommendation for future action.
Revisit Future Population Projections	Keep	Recommendation not addressed for Cycle 2 but can retain as a recommendation for future action. Population Projections obtained from Regional Water Planning estimates.
Expand scope of flood mitigation needs analysis to also consider individual structure values and cost of lost industrial production and repair	Keep	Recommendation not addressed for Cycle 2 but can retain as a recommendation for future action.
Establish flood warning activities and flood warning activities that consider the needs of the disabled community	Keep	Recommendation not addressed for Cycle 2 but can retain as a recommendation for future action.

43

Potential **New** Other Recommendations for Cycle 2

5

Recommendation	Cycle 1 Region	Relevance?
Scoring criteria and methodology for projects that benefit agricultural activities should be updated to allow for these types of projects to compete with urban focused projects.	R6	Much of the Neches region is composed of agricultural land, especially towards the middle and north of the region.
Expand eligibility for stormwater and flood mitigation solutions, including local, state, federal, and public/private funding.	R2	Flood mitigation projects often do not generate revenue, making broad funding eligibility important.

44

5

Task 9 – Flood Infrastructure Financing Analysis

45

Task 9 – Flood Infrastructure Financing Analysis

5

Goals:

- Indicate how Sponsors propose to finance recommended FMEs, FMSs, and FMPs
- Describe what role the RFPG proposes for the State in financing recommended FMEs, FMSs, and FMPs

Table 19: FMS, FMP, FME funding survey template format (with illustrative examples)

RFPG Number	Sponsor Entity Name	FMS or FMP or FME	FMS FMP FME - Name	Regional plan's unique FMS/FMP/FME identification number	Target year of full implementation	Estimated costs in plan			Estimated percent (share) of total FMS, FMP, or FME estimated cost			
						Non-construction costs	Construction-related costs	Total estimated cost	Sponsor Funding		Other Funding Needed (including state, federal and/ or other funding)	TOTAL (auto) sum must = 100%
									ANTICIPATED SOURCE of Sponsor funding (e.g., taxes; general revenue; dedicated revenue incl. fees)	FUNDING TO BE FINANCED BY SPONSOR (including local, county, or regional mechanisms available but not yet fully utilized)		
21	City of Howdy	FMP	Widen main downtown channel	2003	2028	\$3,484,000	\$8,129,000	\$11,613,000	stormwater fees	75%	25%	100%
21	Major River Authority	FMP	Levee improvements	3001	2030	\$37,544,000	\$212,754,000	\$250,298,000	fees	50%	50%	100%

Exhibit C Technical Guidelines for Regional Flood Planning (Jan 2025), Table 21

46

Common Sources of Flood Project Funding (Federal)

5

Source	Federal Agency	State Agency	Program Name	Grant (G)	Loan (L)	Post-Disaster (D)
Federal	FEMA	TDEM	Hazard Mitigation Grant Program (HMGP)	G		D
	FEMA	TWDB	Flood Mitigation Assistance Grant Program (FMA)	G		
	FEMA	TDEM	Building Resilient Infrastructure and Communities (BRIC)	G		
	FEMA	TCEQ	Rehabilitation of High Hazard Potential Dam Grant Program	G		
	HUD	GLO	Community Development Block Grant – Mitigation (CDBG-MIT)	G		
	HUD	GLO	Community Development Block Grant Disaster Recovery Funds (CDBG-DR)	G		D
	HUD	TDA	Community Development Block Grant (TxCDBG) Program for Rural Texas	G		
	FEMA	TBD	Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM)		L	
	USACE		Continuing Authorities Program (CAP)	G		
	FEMA	TDEM	Public Assistance (PA)	G		D
	EPA	TWDB	Clean Water State Revolving Fund (CWSRF)	G*	L	
	NRCS	TSSWCB	Structural Dam Repair Grant Program	G		

*The CWSRF program offers principal forgiveness, which is similar to grant funding

47

Common Sources of Flood Project Funding (State and Local)

5

Source	State Agency	Program Name	Grant (G)	Loan (L)	Post-Disaster (D)
State	TWDB	Flood Infrastructure Fund (FIF)	G	L	
	TWDB	Texas Water Development Fund (Dfund)		L	
	TSSWCB	Operation and Maintenance (O&M) Grant Program	G		
	TSSWCB	Flood Control Dam Infrastructure Projects - Supplemental Funding	G		
Local		General fund			
		Bonds			
		Drainage utility fee			
		Stormwater utility fee			

48

Challenges in accessing funding

5

- High demand: More need than available funding.
- Local funds: Flood projects don't typically generate revenue and many communities do not have steady revenue streams to fund flood projects. Communities struggle to generate funds for local match requirements or loan repayment.
- Complex or burdensome application or program requirements and prolonged timelines of funding programs.

49

Planning Schedule

5

August

- Technical Consultant to work on:
 - Task 4C – Performance of FMEs
 - Incorporate TM Comments into Draft Chapters for Chapters 1 - 3

September

- Technical Consultant to work on:
 - Task 4C – Performance of FMEs
 - Task 5A – Recommendation of FMEs, FMSs, and FMPs
 - Task 7 – Flood Response Information and Activities
 - Task 9 – Flood Infrastructure Financing Analysis
 - Public Flood Risk Input

October

- Technical Consultant to work on:
 - Task 4C – Performance of FMEs
 - Task 5A – Recommendation of FMEs, FMSs, and FMPs
 - Draft Chapters for Chapters 7 - 9

50