Table of Contents

A.1 Introduction and Planning Group Action 1
A.1.1 Summary of Amendment 1
A.2 Consistency with Rules and Statute 1
A.3 Modifications and Additions to the 2023 Regional Flood Plan Report 2
A.3.2 Changes to the Executive Summary 2
Identification, Evaluation, and Recommendation of Flood Management and Mitigation Actions 2
A.3.3 Changes to Chapter 4 5
A.3.4 Changes to Chapter 5 7
A.3.5 Changes to Chapter 6 16
A.3.6 Changes to Chapter 9 20
A.3.7 Changes to Chapter 10 20
A.4 Modifications and Additions to the 2023 Regional Flood Plan Appendices 22
A.4.8 Changes to Exhibit C Tables 22
Table 12: Potential Flood Management Evaluations 22
Table 13: Potentially Feasible Flood Mitigation Projects 22
Table 14: Potentially Feasible Flood Mitigation Strategies 22
Table 15: Recommended Flood Management Evaluations 22
Table 16: Recommended Flood Mitigation Projects 22
No Negative Impact Table 22
Project Details Table 22
A.4.9 Changes to Maps 22
Map 16: Extent of Potential FMEs and Existing Mapping Needs 22
Map 18: Extent of Potential FMSs 23
Map 19: Recommended FMEs 23
Map 20: Recommended FMPs 23
Map 21: Recommended FMSs 23
A.5 Modifications and Additions to the Geodatabase 23

List of Attachments

Attachment 1: Exhibit C Tables
Attachment 2: TWDB Maps

Attachment 3: Geodatabase Change Log

A.1 Introduction and Planning Group Action

A.1.1 Summary of Amendment

The Texas Water Development Board (TWDB) has recently advertised their intent to solicit applications for Flood Infrastructure Funding (FIF) in 2026 to be awarded in 2027. Only flood mitigation and management actions listed within the 2024 State Flood Plan will be eligible for funding through the FIF. Many communities within the Trinity Flood Planning Region (Region 3) have expressed an interest in pursuing this funding opportunity, but do not have some of their flood mitigation needs listed in the 2024 State Flood Plan, making them ineligible for funding.

On October 4, 2024, the Trinity RFPG approved an opportunity for communities to incorporate additional flood mitigation and management needs into the Trinity 2023 Regional Flood Plan through a minor amendment in order to give communities the opportunity to make these additional needs eligible for 2026 FIF funding. Due to limitations in time and budget available to complete the amendment, the RFPG chose only to accept Flood Management Evaluations (FMEs), Flood Mitigation Projects (FMPs), and Flood Management Solutions (FMSs) submissions that were complete and already in accordance with TWDB guidance. Instead, the RFPG also allowed for FMEs to be upgraded to FMPs and for additional information to be provided for existing, recommended FMEs, FMPs, and FMSs.

Following the October RFPG meeting, a data collection window was opened to allow communities to submit FMEs, FMSs, and revisions to FMPs for inclusion in the amendment. The data collection period ended on December 1, 2024. Requests received during this period of time were evaluated by the technical consultant team and brought to the RFPG for review on December 11, 2024. After receiving feedback on the potentially feasible FMEs, FMPs and FMSs, the RFPG approved their incorporation into the second amendment and all effected data was updated. The Trinity 2023 Regional Flood Plan Amendment was then brought to the RFPG on March 12, 2025. The RFPG voted to approve and adopt the amendment, to be submitted to the TWDB on or before the April 1, 2025 deadline.

A.2 Consistency with Rules and Statute

The Trinity 2023 Regional Flood Plan Amendment was developed in conformance with all relevant administrative rules and statute. In particular, the amendment was adopted by the RFPG in accordance with 31 TAC §361.21 notice requirements and adheres to the requirements and guidance principles for regional flood plans as described in TWC §16.062(h)(1). The recommendations included in this amendment will not negatively impact neighboring areas and would adequately provide for the preservation of life and property.

A.3 Modifications and Additions to the 2023 Regional Flood Plan Report

A.3.2 Changes to the Executive Summary

The Executive Summary was updated to reflect changes made throughout the document to various chapters and appendices effected by the amendment. Changes include adjustments to the descriptions of public engagement and participation, adjustments to the counts of identified, evaluated, and recommended flood management and mitigation actions, and adjustments to descriptions of the plan implementation impact and funding.

Chapters Included in the Plan – *Total number of recommended FMEs, FMPs, and FMSs adjusted in the Chapter 5 summary.*

"The Trinity RFPG established a Technical Subcommittee to review each of the potentially feasible actions and develop lists of FMEs, FMPs, and FMSs for the full RFPG to consider including in this plan. The RFPG applied screening processes to determine the actions for inclusion in the plan, as well as a tiering system to prioritize requested actions according to those that provided the most complete data required for inclusion in the plan. A total of ~~507~~ 510 FMEs, ~~56~~ 83 FMPs, and ~~138~~ 144 FMSs were recommended in this regional flood plan.

Identification, Evaluation, and Recommendation of Flood Management and Mitigation Actions – *Modifications to distinguish between first and second amendment to the 2023 plan and additional text to describe the process and participation of the second amendment.*

Pg ES-12: "For ~~this~~ the first amended plan, the RFPG solicited new FMPs, FMEs, and FMSs for consideration between November 2022 and January 2023. Potential actions assigned to the appropriate category were based on the information received. To allow interested sponsors the opportunity to include additional FMPs in the plan, the RFPG utilized the data received to establish a tiering system for FMPs. The requests for inclusion were summarized in a work order process that the RFPG approved at its February 2023 meeting.

"The Trinity Region provided a region-wide opportunity for entities to participate in a second amendment to the Regional Flood Plan during October 2024 through December 2024. During this time frame, 15 communities submitted additional solutions for consideration. The requests for inclusion were presented to the RFPG in the March 12, 2025 meeting, and the amendment was approved for submittal to the State."

Selection of Flood Mitigation Projects and Floodplain management Strategies – *Modifications to the values associated with recommended FMEs, FMSs, and FMPs and additional text to describe the second amendment process.*

Pg ES-13: "The Technical Subcommittee recommended ~~507~~ 510 FMEs, ~~56~~ 83 FMPs, and ~~138~~ 144 FMSs to the Trinity RFPG that were ultimately adopted for inclusion in this plan."

Pg ES-13: "During the 2025 amendment, an additional eight FMEs, 27 FMPs, and six FMSs were included in the Trinity Regional Flood Plan. These mitigation actions were approved for submittal to the State by the RFPG during the March 2025 meeting."

Pg ES-14: Table ES.2: Summary of Flood ~~Mitigation~~ Management Evaluations

FME Type	FME Description	# of Potential FMEs Identified	# of FMEs Recommended	Total Cost of Recommended FMEs
Watershed Planning	Flood Mapping Updates, Drainage Master Plans, H&H Modeling, Dam and Levee Failure Analysis	~~160~~ 167	~~156~~ 164	~~$89,981,000~~ $92,434,000
Project Planning	Feasibility Assessments and Preliminary Engineering Studies (alternative analysis and up to 30% design)	~~334~~ 335	~~324~~ 319	~~$118,171,000~~ $117,171,000
Preparedness	Studies on Flood Preparedness	5	5	$3,150,000
Other	Dam Studies	~~22~~ 24	~~22~~ 24	~~$9,260,000~~ $9,710,000
	Total	~~**521**~~ 531	~~**507**~~ 512	~~**$220,562,000**~~ $222,465,000

Pg ES-15: Table ES.3: Summary of Recommended Flood Mitigation Projects

FMP Type	FMP Description	# of Potential FMPs Identified	# of FMPs Recommended	Total Cost of Recommended FMPs
Infrastructure	Improvements to stormwater infrastructure including channels, ditches, ponds, stormwater pipes, etc.	~~46~~ 55	~~33~~ 42	~~$468,864,000~~ $1,683,992,000
Storm Drain Improvements	Improvements exclusively to underground urban stormwater infrastructure	14	11	~~$38,631,000~~ $38,700,000
Comprehensive Regional Project	Multi-faceted projects that involve several components or phases	14	14	$221,113,000
Regional Detention Facilities	Runoff control and management via detention facilities	~~5~~ 6	~~4~~ 5	~~$138,099,000~~ $316,658,000

Property or Easement Acquisition	Acquisition of properties located in the floodplain	~~3~~ 5	~~3~~ 5	~~$48,279,000~~ $61,953,000
Dam Improvements, Maintenance and Repair	Dam upgrades to meet TCEQ dam safety requirements	2	2	$5,565,000
Flood ~~Early Warning Systems~~ Readiness and Resilience	Installation of safety improvements at hazardous stream crossings	2	2	$640,000
Low Water Crossing or Bridge Improvement	Low water crossing replaced by a bridge crossing	~~1~~ 2	~~1~~ 2	~~$3,319,000~~ $4,819,000
	Total	~~73~~ 100	~~56~~ 83	~~$703,397,000~~ $2,333,440,000

Pg ES-17: Table ES.4: Summary of Flood ~~Mitigation~~ Management Strategies

FMS Type	FMS Description	# of Potential FMSs Identified	# of FMSs Recommended	Total Cost of Recommended FMSs
Education and Outreach	Turn Around, Don't Drown Campaigns; NFIP Education; Flood Education; Dam Safety Education; Floodplain Regulatory Awareness	22	19	$975,000
Flood Measurement and Warning	Flood Warning Systems; Rain/Stream Gauges and Weather Stations; Low Water Crossings (LWCs)	~~20~~ 22	~~20~~ 22	~~$5,300,000~~ $5,645,000
Property Acquisition and Structural Elevation	Acquire High Risk and Repetitive Loss Properties; Acquire and Preserve Open Spaces	~~20~~ 28	~~20~~ 28	~~$181,545,000~~ $262,569,000
Regulatory and Guidance	City Floodplain Ordinance Creation/Updates; Zoning Regulations; Land Use Programs; Open Space Regulations	~~62~~ 58	~~59~~ 55	~~$86,600,000~~ $6,848,000
Infrastructure Projects	Hazardous Roadway Overtopping Mitigation Program; Citywide Drainage Improvements; Flood-Proofing facilities	5	5	$430,000,000
Floodproofing	Floodproofing Critical Facilities; Elevating Electrical and	2	2	$30,500,000

FMS Type	FMS Description	# of Potential FMSs Identified	# of FMSs Recommended	Total Cost of Recommended FMSs
	Mechanical Equipment; Roof Straps; Storm Shutters; Impact Resistant Windows/Doors; Surge Protection			
Other	Debris Clearing Maintenance; Channel Maintenance and Erosion Control; Dam Inspections; Levee Inspections; City Parks; Green Infrastructure; Open Space Programs; Nature-Based Solution Planning Studies	14	13	$10,489,000
	Total	~~145~~ 151	~~138~~ 144	~~$745,409,000~~ $747,026,000

Public Participation and Outreach – *Text added to describe outreach performed as part of the second amendment and to document the Amendment Summary.*

Once the 2028 flood planning cycle contracting was finalized, the Trinity RFPG solicited FMEs, FMPs, and FMSs for potential inclusion in a second amendment to the 2023 Regional Flood Plan. This effort included an e-blast through the Trinity distribution list, along with follow-up phone calls and emails with interested entities. The opportunity was also posted on the RFPG website and social media platforms. The draft amended plan was posted to the RFPG website for public review on March 5, 2025. The Trinity RFPG approved this amended plan for submittal to the TWDB and the public during the March 2025 meeting. ***Appendix L*** provides a summary of changes to this document titled "Amendment Summary April 2025".

A.3.3 Changes to Chapter 4

Chapter 4 was updated to describe the additional FMEs and FMSs that were identified and evaluated during the amendment process. Values related to the number of identified actions, as well as qualitative descriptions of the identified needs were modified as applicable.

Flood ~~Mitigation~~ Management Evaluation Types – *Text updated to reflect changes in values of types of FMEs that were recommended as part of the amendment.*

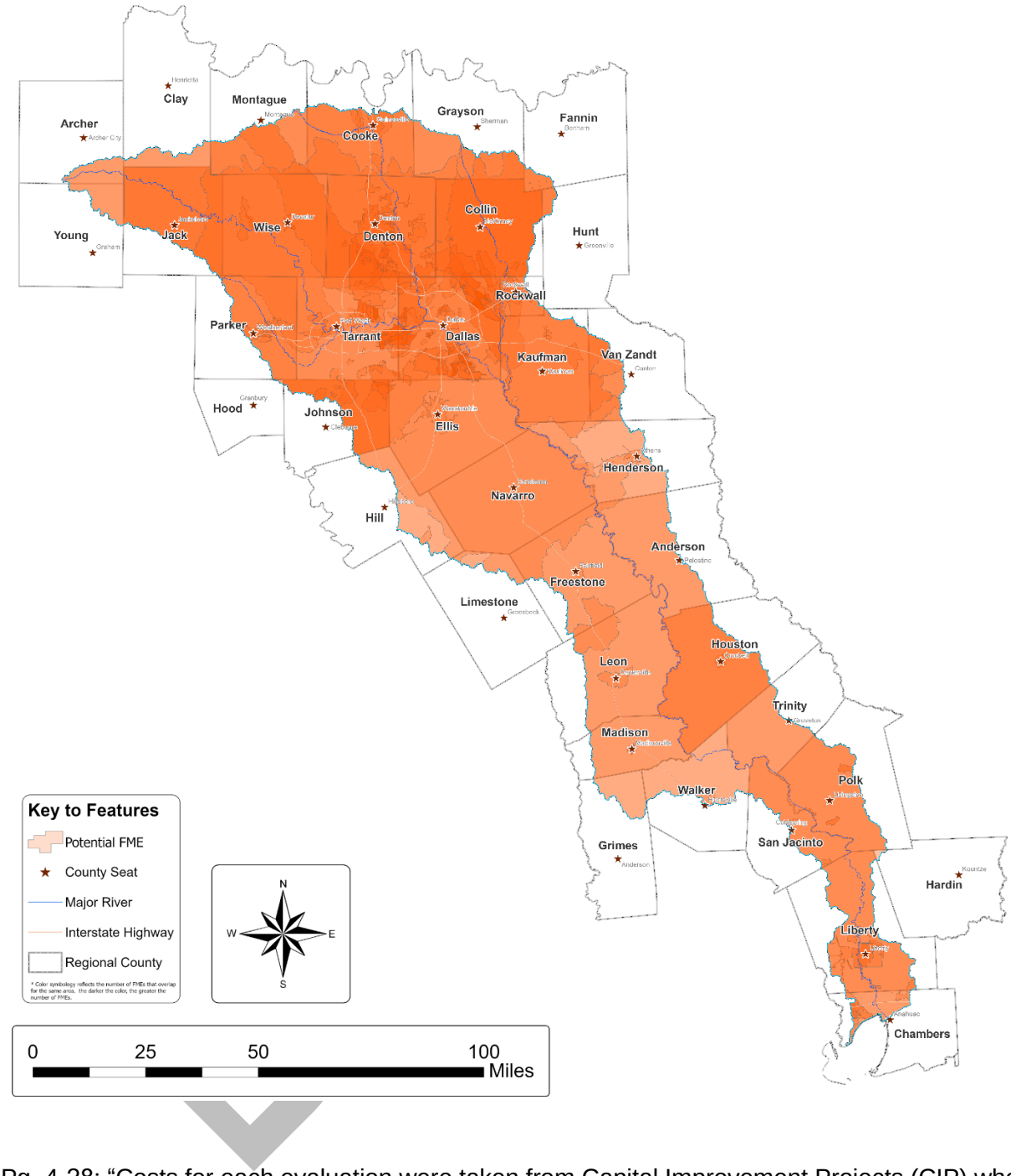
Pg. 4-23: Table 4.12: Flood ~~Mitigation~~ Management Evaluation Types and General Description

FME Type	FME Sub-Types	General Description	Number of FMEs Identified
	Watershed Planning – Drainage Master Plans	Supports the development and analysis of H&H models to evaluate flood risk within a given jurisdiction, evaluate potential alternatives to mitigate flood risk, and develop capital improvement plans.	~~53~~ 59

Watershed Planning	Watershed Planning – H&H Modeling, Regional Watershed Studies	Supports the development and analysis of H&H models to define flood risk or identify flood prone areas OR large-scale studies that are likely to benefit multiple jurisdictions.	~~21~~ 22
	Watershed Planning – Flood Mapping Updates	Promotes the development and/or refinement of detailed flood risk maps to address data gaps and inadequate mapping. Creates FEMA mapping in previously unmapped areas and updates existing FEMA maps as needed.	75
	Watershed Planning – Flood Mapping for Dam and Levee Failure	Conducts studies to develop dam and levee failure inundation maps and models. Hydrologic studies to determine threat, risk, and potential impacts of flooding from dam and levee failure.	11
Project Planning	Engineering Project Planning	Evaluation of a proposed project to determine whether implementation would be feasible OR initial engineering assessment that includes conceptual design, alternative analysis, and up to 30 percent engineering design.	~~334~~ 335
Preparedness	Studies on Flood Preparedness	Encourages preemptive evaluations and strategies to better prepare an area in the event of flood.	5
Other	Other – Dam Studies	Other projects not classified above.	~~22~~ 24

Flood ~~Mitigation~~ Management Evaluation Classification Summary – Pg. 4-25: "An overall summary of the identified FMEs was provided in *Error! Reference source not found.***.** All potential FMEs that were identified are listed with their supporting technical information in ***TWDB-Required Table 12*** (***Appendix A***). In total, ~~521~~ 531 potential FMEs were identified and evaluated. The geographical distribution of the identified FMEs is shown in *Error! Reference source not found.*. Color gradations in *Error! Reference source not found.* reflect the number of FMEs that overlap for the same area, the darker the color, the greater the number of FMEs.

Pg 4-25: Updated "**Figure 4.6: Geographical Distribution of Potential Flood ~~Mitigation~~ Management Evaluations**" to reflect new FME boundaries.

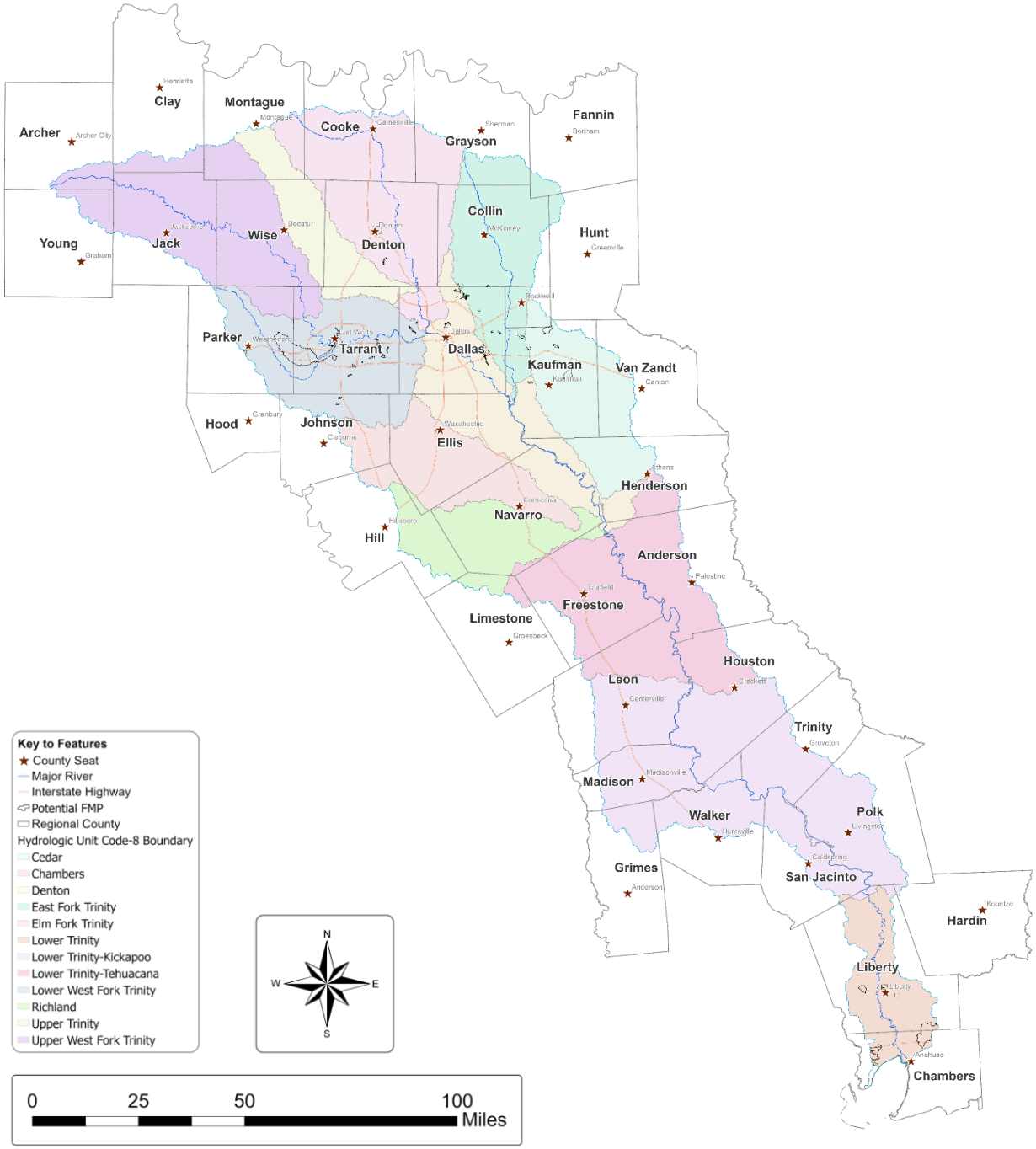


Pg. 4-28: “Costs for each evaluation were taken from Capital Improvement Projects (CIP) when available. It was assumed that the total cost represented in the report was the overall construction cost and that the evaluation effort would equate to five percent of the total construction cost or a minimum of $250,000. This methodology was applicable to the City of Grand Prairie and the City of Hurst – both of which, together, comprised 81 out of the ~~332~~ 335 engineering project planning FMEs.”

Potentially Feasible Flood Mitigation Projects – Pg. 4-31: “The Trinity RFPG identified ~~73~~ 100 potentially feasible FMPs for the Trinity Region. The geographical distribution of each identified

FMP is shown in *Error! Reference source not found.***,** with technical information for each FMP summarized in ***TWDB-Required Table 13*** (***Appendix A***)."

Pg 4-25: Updated "**Figure 4.7: Geographical Distribution of Potential Flood Mitigation Projects**" to reflect new FMP boundaries.



Pg. 4-33: "Table 4.14: Summary of Flood Mitigation Project Types

FMP Type	General Description	Number of FMPs Identified
Infrastructure	Improvements to stormwater infrastructure including channels, ditches, ponds, stormwater pipes, etc.	~~46~~ 55
Storm Drain Improvements	Improvements exclusively to underground urban stormwater infrastructure.	14
Comprehensive Regional Project	Multi-faceted projects that involve several components or phases	14
Regional Detention Facilities	Runoff control and management via detention facilities.	~~5~~ 6
Property or Easement Acquisition	Acquisition of properties located in the floodplain	~~3~~ 5
Dam Improvements, Maintenance and Repair	Dam upgrades to meet TCEQ dam safety requirements	2
Flood Early Warning Systems	Installation of safety improvements at hazardous stream crossings	2
Low Water Crossing or Bridge Improvement	Low water crossing replaced by a bridge crossing	1

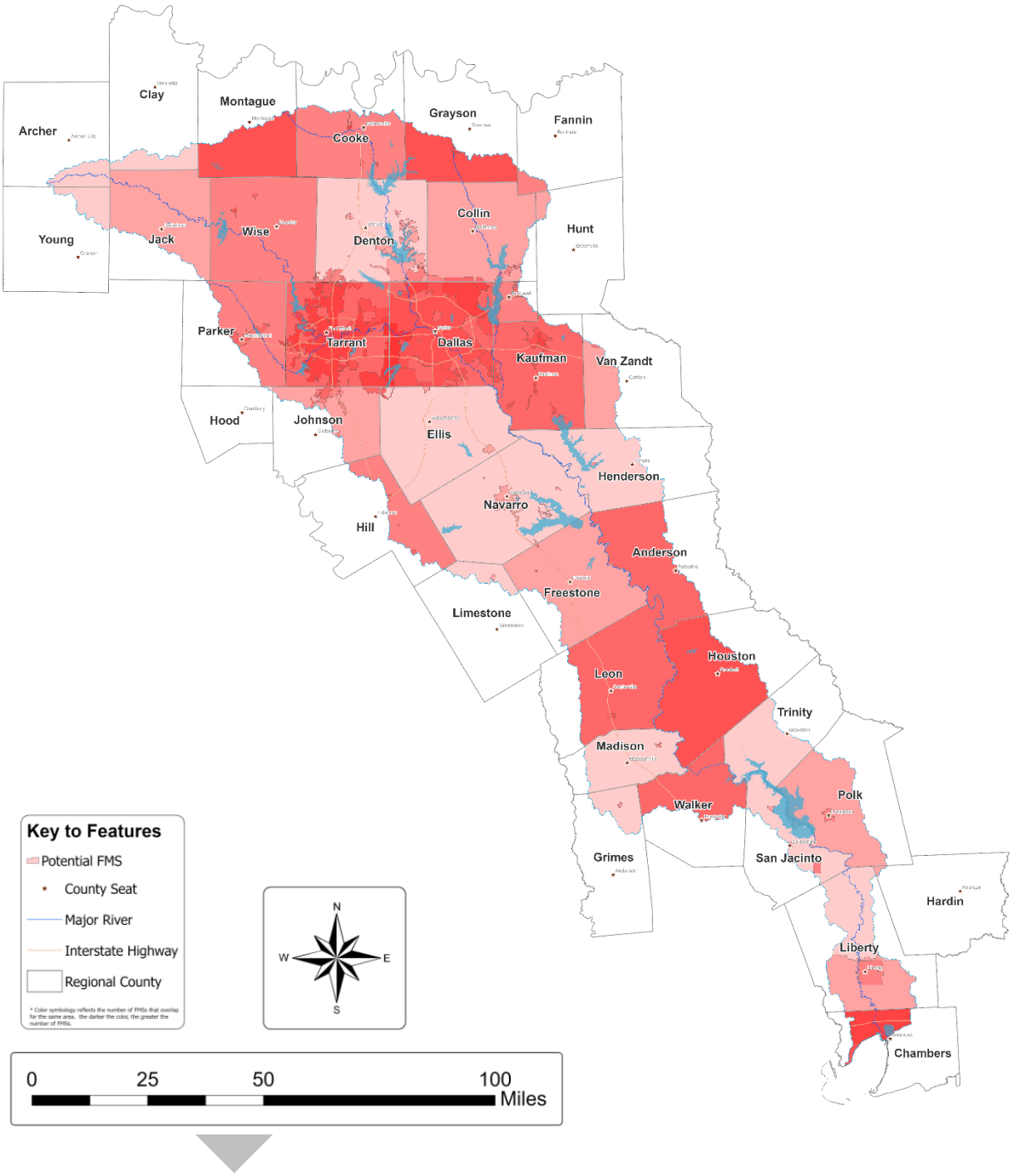
The identified potentially feasible FMPs were primarily located within the Upper Basin area. These were the only actions for which a sponsor provided sufficient information to be considered as a potentially feasible FMP, or that an existing FIF application was potentially available. The potential sponsors and their associated number of FMPs are listed below:

- City of Arlington (~~6~~ 8)
- City of Fort Worth (4)
- City of Irving (2)
- City of Richardson (29)
- City of Sachse (1)
- Town of Sunnyvale (2)
- City of Burleson (4)
- Liberty County Water Control Improvement District #5 (3)
- City of Waxahachie (2)
- City of Weatherford (2)
- City of Dalworthington Gardens (1)
- City of Terrell (1)
- City of Denton (3)
- Kaufman County (5)
- City of Balch Springs (3)
- City of Westworth Village (3)
- City of Garland (1)
- Town of Copper Canyon (1)
- Tarrant Regional Water District (2)
- City of Everman (3)
- Town of Highland Park (8)
- City of Forest Hill (1)
- Chambers County (9)
- City of Dayton (2)

Potentially Feasible Flood Management Strategies – Pg. 4-34: "The Trinity RFPG identified ~~145~~ 151 potentially feasible FMSs for the Trinity Region. The geographical distribution of each identified FMS is shown in *Error! Reference source not found.*, with technical information for each FMS summarized in ***TWDB-Required Table 14*** (***Appendix A***). Color gradations in *Error! Reference source not found.* reflect the number of FMSs that overlap for the same area, and the darker the color is, the greater the number of FMSs."

Potentially Feasible Flood Mitigation Project Comparison and Assessment – Pg. 4-34: "Over ~~70~~ 80 FMPs were collected and met the recommendation requirements to be considered for inclusion. Approximately 80 percent of the FMPs recorded are categorized as infrastructure or storm drain improvements. These FMPs represented proposed design and construction projects that would improve a sponsor's storm drainage and channel infrastructure to reduce flooding in high flood risk areas. The City of Fort Worth's Zoo Creek Storm Drain Flood Mitigation project had the potential to protect the highest population count from flooding compared to the other FMPs listed. Drainage improvement projects located in Fort Worth and Irving were proposed to mitigate flood threat to the highest number of residential properties. FMPs located in Arlington, Balch Springs, Fort Worth, Irving, Richardson, Terrell, and Liberty County had the highest SVI, ranging from 0.7 to 0.9."

Pg 4-35: Updated "**Figure 4.8: Geographical Distribution of Potential Flood Management Strategies**" to reflect new FMP boundaries.


Clay
Montague
Grayson
Fannin
Archer
Cooke
Collin
Hunt
Young
Jack
Wise
Denton
Parker
Tarrant
Dallas
Kaufman
Van Zandt
Hood
Johnson
Ellis
Henderson
Navarro
Hill
Anderson
Freestone
Limestone
Houston
Leon
Trinity
Madison
Walker
Polk
Grimes
San Jacinto
Hardin
Liberty
Chambers
Key to Features
Potential FMS
County Seat
Major River
Interstate Highway
Regional County
N
W
E
S
0
25
50
100
Miles

Pg. 4-36: "Table 4.15: Summary of Flood Management Strategy Types

FMS Type	General Description	Number of FMSs Identified
Education and Outreach	Develop a coordinated education, outreach, and training program to inform and educate the public about the dangers of flooding and how to prevent flood damages to property.	22
Flood Measurement and Warning	Install gauges, sensors, and precipitation measuring sites to monitor streams and waterways for potential flooding.	~~20~~ 22
Infrastructure Projects	City-wide improvement projects.	5
Property Acquisition and Structural Elevation	Acquire, relocate, and/or elevate flood-prone structures.	~~20~~ 28
	Acquire floodplain and protect environmentally sensitive areas by converting floodplain encroachments into open space land.	
Regulatory and Guidance	Develop and implement flood damage prevention ordinances.	~~62~~ 58
	Catalog, evaluate, and update floodplain regulations to comply with the latest FEMA minimum regulations or to adopt higher standards.	
	Incorporate regulatory standards to protect open space in flood prone areas.	
	Promote the inclusion of low impact development requirements in local and regional development ordinances.	
Floodproofing	Structural and nonstructural measures to reduce a structure's risk of flooding; weather hardening.	2
Other	Other items may include preventive maintenance programs, erosion control programs, funding mechanisms, nature-based solutions - implement the use of green infrastructure.	14

Potentially Feasible Flood Management Strategy Comparison and Assessment – Pg. 4-37: "Approximately ~~25~~ 38 percent of the FMSs listed are categorized as floodplain management policy/regulatory guidance. Developing minimum NFIP or higher floodplain regulatory standards for new development near a regulatory or community effective floodplain preserves the natural capacity of the flooding source and limits upstream and downstream negative impacts. Minimum FEMA NFIP floodplain regulations can be found in Chapter 44 of the *Code of Federal Regulations* (FEMA, 2022). The Texas Floodplain Management Association (TFMA) has developed a *Guide for Higher Standards for Floodplain Management (2018)* (TFMA Higher Standards Committee, 2018), which can serve as an example for higher floodplain development standards for the referenced FMSs.

Twenty-two sponsors requested flood awareness and safety education support. These FMSs ranged from implementing the NWS's "Turn Around, Don't Drown" campaign to general education regarding the NFIP. Of the sponsors requesting education and outreach support, ~~Houston County~~ Tarrant County demonstrated the highest flood risk to habitable structures, road crossings, and agricultural land.

~~Nearly 20~~ Nineteen sponsors expressed interest in flood measuring, monitoring, and warning systems. These systems may include local warning notifications, monitoring/measuring gages, highwater detection systems, sirens, warning lights, signage, and automated gates. ~~Seven~~ Nine of these types of FMSs were requested in Dallas and Tarrant counties, which had the highest flood exposure in the Trinity Region. The proposed ~~flood warning system~~ gage network improvements in ~~Leon~~ Liberty County would service the most socially vulnerable among the list of flood warning FMSs."

Page 4-45: "Table 4.16: Flood ~~Mitigation~~ Management Strategy Cost Estimate Assumptions

FMS Type	Cost Estimate Range	Scope and Assumptions
Education and Outreach	$50K to $65K	"Turn Around Don't Drown" Campaign: Assume $50,000 based on other similar educational programs.
		NFIP Public Education: Assume $50,000 based on other similar educational programs.
Flood Measurement and Warning	$250K to $500K	Early/Local Flood Warning System: Assume $250,000 based on similar projects that have received TWDB FIF grants.
		Rain/Stream Gauge and Weather Station Installation: Assume $250,000 based on similar projects that have received TWDB FIF grants.
		LWC Warning Devices: Assume $250,000 based on similar projects that have received TWDB FIF grants.
Infrastructure Projects	~~$500K to 35M~~ $18M to $243M	Hazardous Roadway Crossings: There is one strategy identified within the region that consists of strategically improving hazardous road crossings within a community. This program cost is estimated at $35,000,000 for a single community.
		Capital Improvement Plan (CIP): Community planning tool including a compilation of drainage infrastructure projects. Costs are included in the CIP and aggregated for the assigned FMS.
Other	$50K to $5M	Debris Clearing Maintenance Program: Assume $100,000 based on a similar project in the region.
		Channel Maintenance and Erosion Control: Assume $250,000 based on high level engineering consultant estimate.
		Dam Inspection Program: Assume $100,000 per dam, per year based on high level engineering consultant estimate.
		Levee Inspection Program: Assume $50,000 per levee system, per year based on high level engineering consultant estimate.
		Establish City Parks: Assume $1,000,000 based on high level engineering consultant estimate.
		Implement Green Infrastructure: Assume $500,000 based on high level engineering consultant estimate.

Property Acquisition and Structural Elevation	$500K to $50M	Acquire High Risk and Repetitive Loss Properties: Assume $5,000,000 to acquire as many properties as possible with this cost. This assumption is based on other similar projects in the region.
		Acquire and Preserve Open Space: Assume $5,000,000 based on other similar projects in the region.
Regulatory and Guidance	$100K to $1M	City Floodplain Ordinance Creation/Update: Assume $100,000 to cover engineering consultant fees.
		Zoning Regulations and Land Use Programs: Assume $100,000 to cover engineering consultant fees.
		Stormwater Management Plan: Assume $300,000 to cover engineering consultant fees.
		Levy Stormwater Fee: Assume $200,000 based on another similar project.

A.3.4 Changes to Chapter 5

Chapter 5 was updated to reflect the addition of new, recommended FMEs, FMPs and FMSs, including the progression of five flood management evaluations (FMEs) to flood mitigation projects (FMPs) and four, existing flood mitigation projects (FMPs) that were recommended as part of the amendment. Values related to the number of recommended actions, as well as qualitative descriptions of the recommended needs were modified as applicable.

Trinity Regional Flood Planning Group Evaluation and Recommendation Process – *Text added to discern between the first and second amendment cycles and describe the recommendation process for the second amendment.*

Pg 5-7: "On November 17, 2022, the RFPG met and approved the Technical Subcommittee's recommendations for ***Task 12***. The RFPG established January 27, 2023, as the deadline for potential new FMEs, FMPs, and FMSs to be submitted for consideration in the first Amended Plan. The RFPG subsequently approved the Work Order of FMPs at its meeting on February 16, 2023. On June 29, 2023, the RFPG held a regularly scheduled meeting at which time it approved the recommended FMEs, FMPs, and FMSs for inclusion in the first Amended Plan.

A second amendment cycle was held from October 2024 to December 2024. The Trinity RFPG solicited additional flood mitigation actions from the communities within the Trinity region. As a result, 15 communities responded with eight FMEs, 27 FMPs, and six FMSs. The RFPG met on March 13, 2025 to review, recommend, and approve the submitted actions for approval in the second Regional Flood Plan amendment.

All meetings were held in accordance with the requirements of the Trinity RFPG bylaws, the Texas Open Meetings Act, the general requirements of the Texas Water Code, and the TWDB's flood planning process requirements. Additional details regarding the flood mitigation action evaluation process and final recommendations are provided in subsequent sections."

Sponsor Outreach – *Text added to discern between the first and second amendment cycles and describe sponsor outreach during the second amendment.*

Pg 5-8: "The RFPG implemented an outreach program between November 2022 and January 2023 soliciting new FMPs, FMEs, and FMSs for potential inclusion in the first Amended Plan. The outreach program included multiple emails, a website notification posting, and meetings with the consultant team as requested by potential sponsors.

It is important to note that all sponsors associated with recommended actions subsequently received a survey to communicate that they were identified as a sponsor and were asked to provide information for potential funding sources for the actions listed in the plan. This effort is detailed in ***Chapter 9***.

An outreach effort was also initiated to support the second amendment to the Regional Flood Plan. The RFPG distributed e-blasts requesting flood mitigation actions for inclusion and followed up with any interested entities with additional email communications and phone calls. In all, 15 communities responded to the second amendment cycle. The opportunity was also posted on the RFPG website and social media platforms."

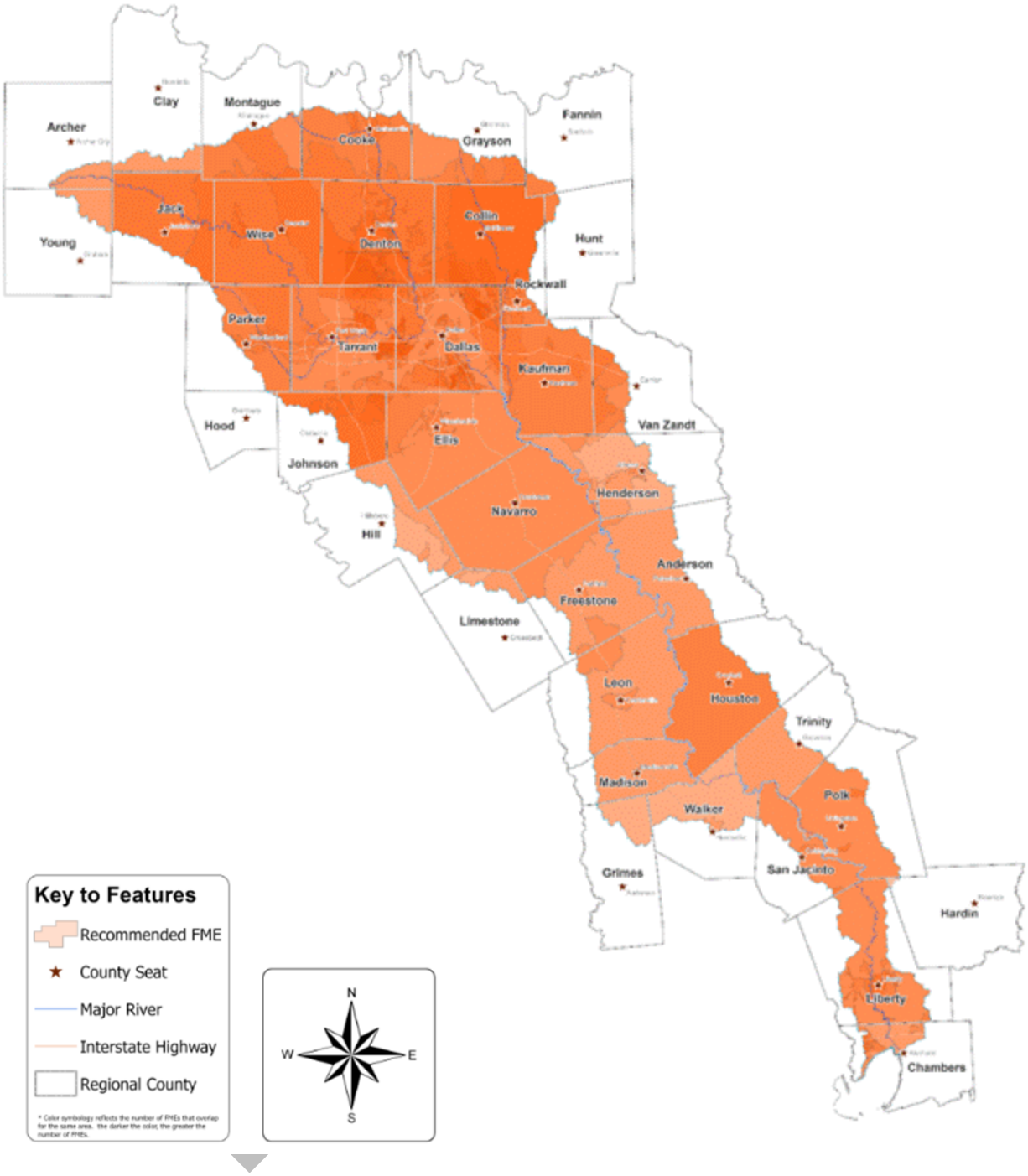
Description and Summary of Recommended Flood Management Evaluations – *Text modified to indicate two amendments were performed and to update values of potentially feasible FMEs, recommended FMEs, and the cost of the recommended FMEs.*

"Between the Final Plan in January 2023 and both Amended Plans, a total of ~~521~~ 529 potential FMEs were identified and evaluated by the Trinity RFPG. Of these projects, ~~507~~ 510 were recommended, representing a combined total of approximately ~~$221~~ $222.5 million dollars of FME needs across the region."

Pg 5-10: Table 5.1: Summary of Recommended Flood Management Evaluations

FME Type	FME Description	# of Potential FMEs Identified	# of FMEs Recommended	Total Cost of Recommended FMEs
Watershed Planning	Flood Mapping Updates, Drainage Master Plans, H&H Modeling, Dam, and Levee Failure Analysis	~~160~~ 165	~~156~~ 162	~~$89,981,000~~ $92,434,000
Project Planning	Feasibility Assessments and Preliminary Engineering Studies (alternative analysis and up to 30% design)	~~334~~ 335	~~324~~ 319	~~$118,171,000~~ $117,171,000
Preparedness	Studies on Flood Preparedness	5	5	$3,150,000
Other	Dam Studies	~~22~~ 24	~~22~~ 24	~~$9,260,000~~ $9,710,000
	Total	**~~521~~ 529**	**~~507~~ 510**	**~~$220,562,000~~ $222,465,300**

Pg 5-11: Updated "**Figure 5.4: Map of Recommended Flood Management Evaluations**" to reflect new FME boundaries.



No Negative Impact Determination – *Values for the number of FMPs that meet the NNI requirements was updated to reflect amendment FMPs.*

Pg 5-14: “A general description of the scope of work and a summary of the expected benefits and impacts of the proposed improvements for each potentially feasible FMP is provided in ***Appendix F***. This appendix also provides a summary of the comparative assessment of H&H parameters and the final determination of no negative impacts for each FMP. Based on this evaluation, it was determined that ~~73~~ 100 potentially feasible FMPs conform to the no negative

impact requirements (see ***Appendix F***). However, ~~16~~ 17 FMPs that do not strictly comply with these requirements were still considered by the Trinity RFPG as not having adverse impacts due to various justified conditions and based on RFPG team's professional judgment. These particular cases are explained as appropriate in the project descriptions included in ***Appendix F*** and are identified in ***Table F.1***."

FMP Tiers System – *Text modified to clarify that the tiering system was only used as part of the first amendment and to update cost of recommended FMPs.*

Pg. 5-15: "For the first Amended Plan, the RFPG approved a tiering system shown in *Error! Reference source not found.* that categorized potential FMPs according to the data received."

Pg. 5-16: "For the second Amended Plan, all projects that were submitted were included in the plan as potentially feasible and all FMPs were recommended for inclusion in the amended plan."

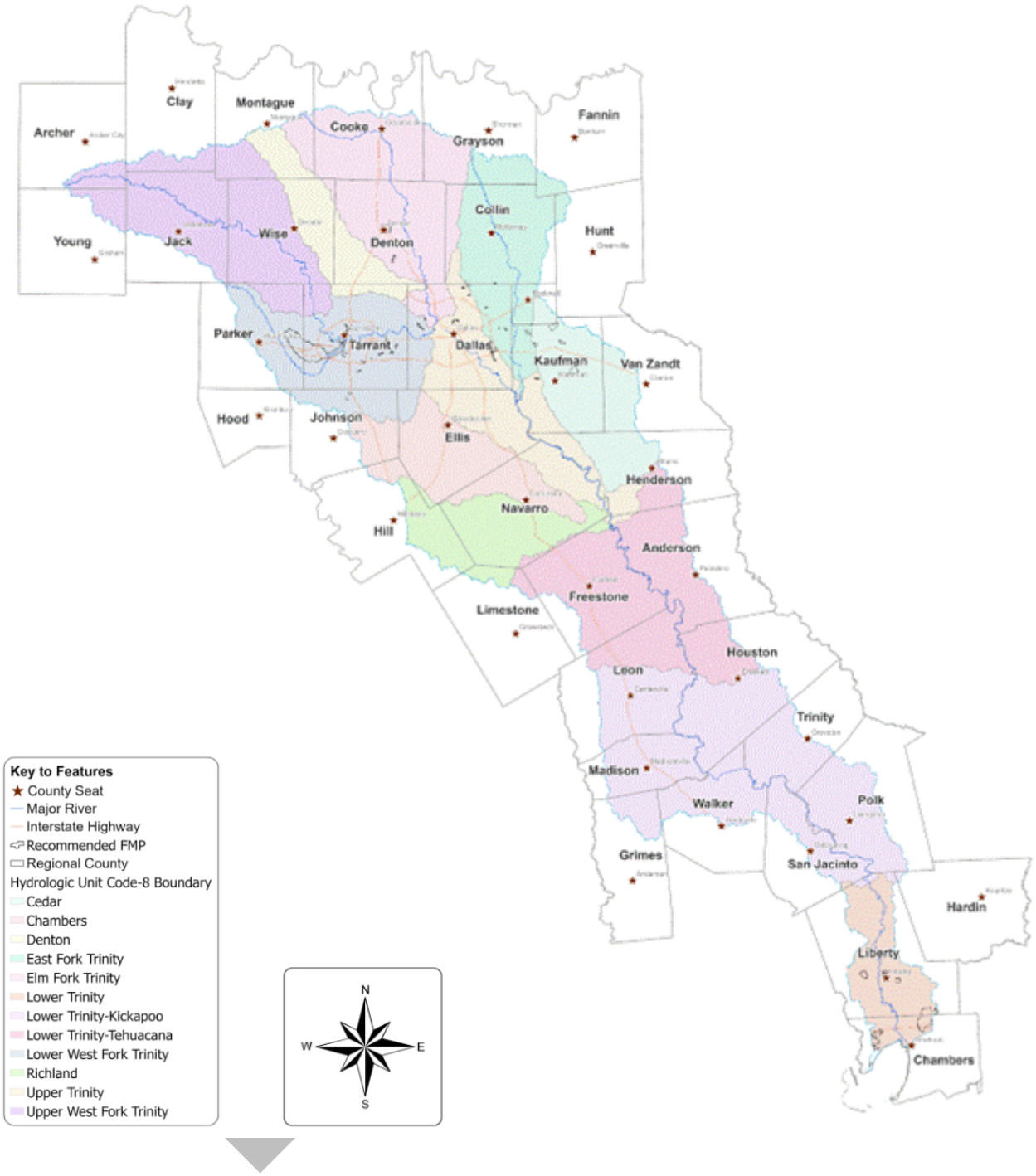
Pg. 5-17: "A summary of the recommended FMPs for inclusion in the Trinity Regional Flood Plan is presented in Table 5.2. These projects are primarily located within the Upper Subregion, and they represent a combined total construction cost of more than ~~$703 million~~ $2.3 billion."

Pg. 5-18: Table 5.2: Summary of Recommended Flood ~~Management~~ Mitigation Projects

FMP Type	FMP Description	# of Potential FMPs Identified	# of FMPs Recommended	Total Cost of Recommended FMPs
Infrastructure	Improvements to stormwater infrastructure including channels, ditches, ponds, stormwater pipes, etc.	~~46~~ 55	~~33~~ 42	~~$468,864,000~~ $1,683,992,000
Storm Drain Improvements	Improvements exclusively to underground urban stormwater infrastructure	14	11	$38,700,000
Comprehensive Regional Projects	Multi-faceted projects that involve several components or phases	14	14	$221,113,000
Regional Detention Facilities	Runoff control and management via detention facilities	~~5~~ 6	~~4~~ 5	~~$138,099,000~~ $316,658,000
Property or Easement Acquisition	Acquisition of properties located in the floodplain	~~3~~ 5	~~3~~ 5	~~$48,279,000~~ $61,953,000
Dam Improvements, Maintenance and Repair	Dam upgrades to meet TCEQ dam safety requirements	2	2	$5,565,000

Flood Early Warning Systems	Installation of safety improvements at hazardous stream crossings	2	2	$640,000
Low Water Crossing or Bridge Improvement	Low water crossing replaced by a bridge crossing	~~1~~ 2	~~1~~ 2	~~$3,319,000~~ $4,819,000
Total		~~73~~ 100	~~56~~ 83	~~$703,466,000~~ $2,333,440,000

Pg 5-20: Updated "**Figure 5.6: Map of Recommended Flood Mitigation Projects**" to reflect new FMP boundaries.



Summary of Approach in Recommending Flood Management Strategies – *Text updated to clarify between the first and second amendments and provide values for the FMSs submitted in the second amendment.*

Pg. 5-21: “In addition to the above requirements, some FMSs were not recommended if they were redundant with another recommended FMS or if their purpose was primarily related to stormwater quality. In some cases, multiple FMSs were combined into a single FMS for recommendation. These merged FMSs included the development of county-wide educational

programs and updates to land use planning and zoning regulations. Only two additional FMSs were submitted for the first Amended Plan. Both FMSs were submitted with sufficient information to complete the required analyses. Six FMSs were submitted for the second Amended Plan and were recommended for inclusion."

Description and Summary of Recommended Flood Management Strategies – *Values of potentially feasible and recommended FMSs updated and cost of recommended FMSs updated.*

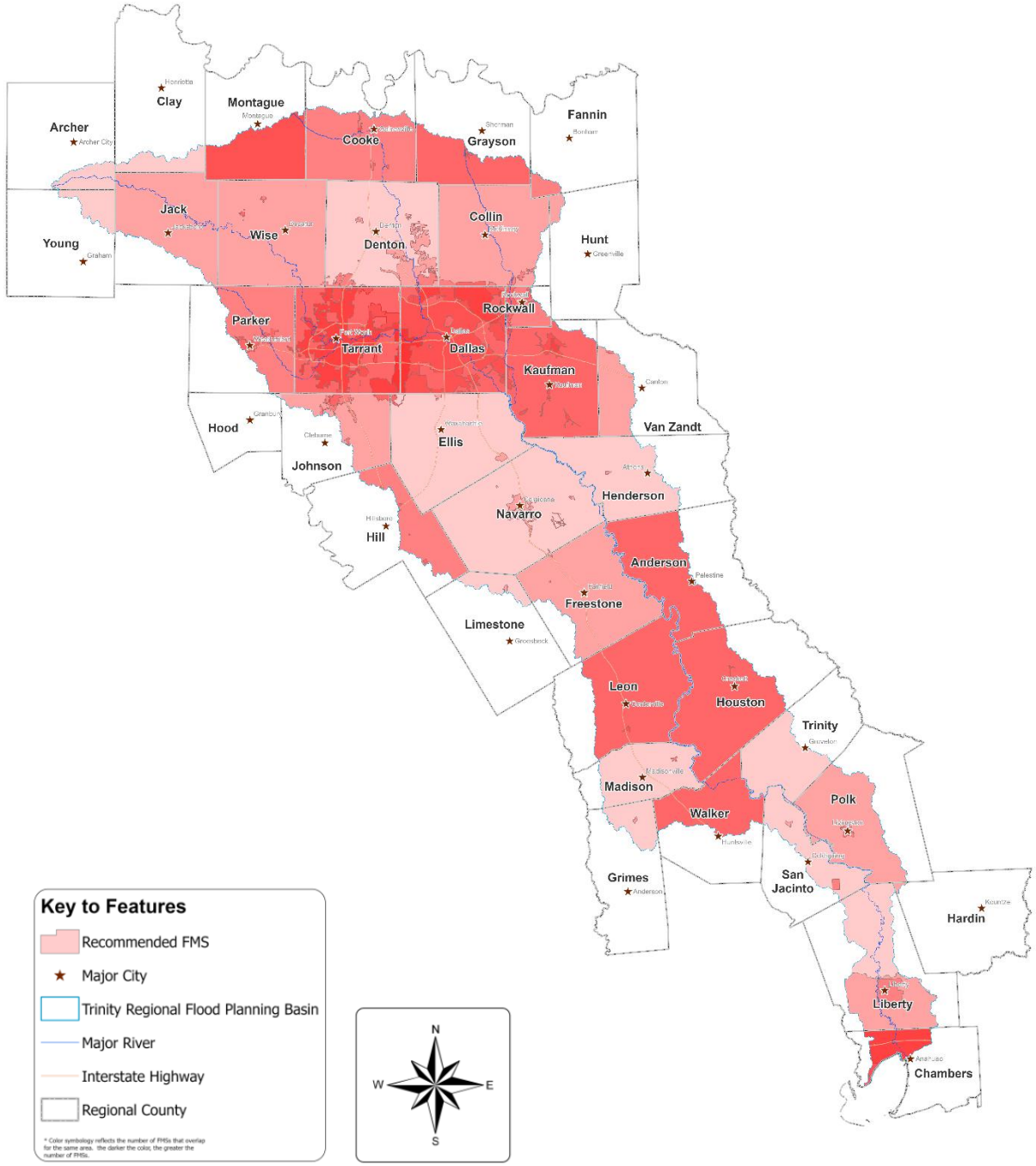
Pg. 5-22: "A wide variety of FMS types were identified and evaluated for the Trinity Region. A total of ~~145~~ 151 potentially feasible FMSs were considered by the Trinity RFPG and ~~138~~ 144 were recommended for inclusion in the Trinity Regional Flood Plan. Generally, these FMSs recommend city-wide, county-wide, and region-wide strategies and initiatives that represent a combined total cost of approximately ~~$745~~ $747 million. Some projects did not meet FMP requirements and therefore were listed individually as FMEs or collectively as city-wide FMSs to capture the anticipated construction costs. These FMSs support several of the regional floodplain management and flood mitigation goals established in Chapter 3."

Pg. 5-23: Table 5.3: Summary of Recommended Flood Management Strategies

FMS Type	FMS Description	# of Potential FMSs Identified	# of FMSs Recommended	Total Cost of Recommended FMSs
Education and Outreach	Turn Around, Don't Drown Campaigns; NFIP Education; Flood Education; Dam Safety Education; Floodplain Regulatory Awareness	22	19	$975,000
Flood Measurement and Warning	Flood Warning Systems; Rain/Stream Gauges and Weather Stations; Low Water Crossings (LWCs)	~~20~~ 22	~~20~~ 22	~~$5,300,000~~ $5,645,000
Property Acquisition and Structural Elevation	Acquire High Risk and Repetitive Loss Properties; Acquire and Preserve Open Spaces; Flood-Proofing Facilities	~~20~~ 28	~~20~~ 28	~~$181,545,000~~ $262,569,000
Regulatory and Guidance	City Floodplain Ordinance Creation/Updates; Zoning Regulations; Land Use Programs; Open Space Regulations	~~62~~ 58	~~59~~ 55	~~$86,600,000~~ $6,848,000
Infrastructure Projects	Hazardous Roadway Overtopping Mitigation Program; Citywide Drainage Improvement	5	5	$430,000,000
Floodproofing	Structural and nonstructural measures to reduce a	2	2	$30,500,000

	structure's risk of flooding; weather hardening.			
Other	Debris Clearing Maintenance; Channel Maintenance and Erosion Control; Dam Inspections; Levee Inspections; City Parks; Green Infrastructure; Open Space Programs; Nature-Based Solution Planning Studies	14	13	$10,489,000
Total		**~~145~~ 151**	**~~138~~ 144**	**~~$745,409,000~~ $747,026,000**

Pg 5-25: Updated "**Figure 5.7: Map of Recommended Flood Management Strategies**" to reflect new FMS boundaries.



A.3.5 Changes to Chapter 6

Chapter 6 was updated to reflect the impacts of plan implementation based on the newly recommended FMEs, FMSs, and FMPs.

Summary of Flood Risk Reduction – *Text was updated to reflect the values of FMPs and FMSs as well as the resulting percentages, improvements, and statistics associated with the implementation of the FMPs and FMSs included in the second amendment.*

Pg. 6-2: "~~Fifty-six~~ Eighty-three FMPs were identified and recommended, as discussed in Chapters 4 and 5. As proposed, the recommended FMPs within this plan, when implemented, will not negatively affect neighboring areas located within or outside of the Trinity Region. The local sponsor will ultimately be responsible for proving that the final project design has no negative flood impacts prior to construction."

Pg. 6-2: "~~Thirty-three~~ Fifty-five of these recommended projects are infrastructure improvement projects that have the potential to increase flows downstream by adding and expanding channels, culverts, storm drain systems, and/or bridges. ~~Four~~ Seven of the recommended FMPs are local or regional detention projects that provide sufficient storage capacity to mitigate for flood events associated with the 25-year (~~25~~ 4% annual chance storm event) or 100-year flood (1% annual chance storm event). Eleven of the recommended projects are infrastructure improvements exclusively related to urban storm drain enhancements. ~~Three~~ Five of the recommended FMPs are property acquisitions that are located within the 100-year floodplain extents. Two of the recommended projects are dam improvements to meet Texas Commission on Environmental Quality (TCEQ) dam safety requirements. Two of the recommended FMPs involve the installation of safety improvements at hazardous stream crossings. The last recommended project proposes to replace a low water crossing with a bridge crossing."

Pg. 6-2: "Table 6.1 provides a summary of the expected reduction in flood risk (100-year flood) that would result from the implementation of the ~~56~~ 83 recommended FMPs. These FMPs will provide flood risk reduction benefits to nearly ~~26,000~~ 32,000 people within their zone of influence and help alleviate roadway flooding conditions. It is anticipated that these exposure reduction results will significantly increase as additional FMPs are further developed and added to the plan in the future."

Pg. 6-3: Table 6.1: Summary of Impacts of Recommended Flood Mitigation Projects to Flooding in the Trinity Region for the 1% Annual Chance Storm Event Flood

Flood Exposure*	Existing Conditions	After FMP Implementation	Exposure Reduction from FMPs
Exposed structures	~~5,084~~ 8,125	~~3,102~~ 5,577	~~1,982~~ 2,548
Exposed population	~~45,691~~ 56,022	~~25,880~~ 31,735	~~19,811~~ 24,287
Exposed LWCs	~~129~~ 149	~~91~~ 95	~~38~~ 54
Number of road closure occurrences	~~950~~ 1,005	~~604~~ 633	~~346~~ 372
Road length (mile)	~~154~~ 247	~~97~~ 165	~~57~~ 82

Pg. 6-3: “If fully implemented, this plan will have profound and lasting impacts on flood reduction in the Trinity Region. It is important to note that Table 6.1 only demonstrates the flood exposure analysis for the ~~56~~ 83 recommended FMPs.”

Flood Management Strategy Impacts

Pg. 6-3: “One hundred ~~thirty-eight~~ forty-four FMSs have been recommended by the Trinity RFPG, in seven comprehensive categories. While not readily quantifiable, these strategies and measures will generally:”

Regulatory and Guidance - Pg. 6-4: “There are ~~59~~ 55 recommended FMSs that are classified in this category.”

Property Acquisition and Structural Elevation – Pg. 6-4: “These actions acquire properties or raise structures to protect against flooding. There are ~~20~~ 28 FMSs in the Trinity Region that fall within this category.”

Flood ~~Measurement and Warning~~ Readiness and Resilience – Pg. 6-4: “There are ~~20~~ 22 of these strategies for the Trinity Region.”

Flood Management Evaluation Impacts

Pg. 6-7: “A total of ~~507~~ 510 FMEs were recommended by the Trinity RFPG in four broad categories. Descriptions of these categories, examples, and their positive and negative impacts follow.

Project Planning – Pg. 6-7: “Evaluations marked as project planning are those associated with feasibility assessments and preliminary engineering studies to evaluate alternatives and/or perform designs up to 30 percent for specific flood prone areas that were previously identified by sponsors. There are ~~324~~ 319 recommended FMEs in the Trinity Region in this category.”

Watershed Planning – Pg. 6-8: “Actions conducting watershed studies to establish accurate floodplain modeling and mapping and evaluation of potential flood mitigation measures are marked as watershed planning. The Trinity Region has 162 of these FMEs recommended and typically includes Flood Insurance Studies (FIS), watershed studies, and city-wide and county-wide drainage master plans.”

Other – Pg. 6-8: “There are ~~22~~ 24 evaluations outside of the categories previously discussed, and they include dam studies and evaluations.”

Pg. 6-9: Table 6.3: Summary of Existing Flood Risk Exposure in the Trinity Region

Flood Management FME Exposures	1% Annual Chance Storm Event	0.2% Annual Chance Storm Event
Population	~~11,032,923~~ 11,257,020	444,808
Agricultural land (square miles)	~~9,178,538~~ 15,047	234
Critical facilities	~~284,145~~ 284,355	474
Road length (miles)	~~170,778~~ 173,148	1,940
Structures	~~3,129,957~~ 3,173,003	55,581
Residential structures	~~2,701,686~~ 2,747,760	36,454
LWCs	~~11,247~~ 12,883	110

Avoidance of Negative Effects – Pg. 6-10: "Potential negative effects were analyzed in detail for each FMP. The Trinity RFPG reviewed the models submitted for adherence to the Texas Water Development Board (TWDB) guidance on determining negative effects. While impacts were discovered for ~~16~~ 24 of the ~~56~~ 83 FMPs, the Trinity RFPG determined that the impacts were minor based on professional engineering judgement."

Summary of Regional Flood Plan Impacts

Pg. 6-13: "Only ~~56~~ 83 out of ~~73~~ 100 potentially feasible FMPs and ~~138~~ 144 out of ~~145~~ 151 potentially feasible FMSs were recommended. Each of the recommended FMPs and FMSs demonstrated no negative impacts on its neighboring area, which means the action will not increase the flood risk of surrounding properties and will have no negative impact on an entity's water supply. While evaluating the FMPs, the Trinity RFPG confirmed that each of the recommended FMPs supports at least one of the regional floodplain management and flood mitigation goals established in ***Chapter 3*** and each FMP does not have any anticipated impacts to water supply or water availability allocations as established in the most recently adopted State Water Plan. Only ~~56~~ 83 FMPs out of ~~73~~ 100 potential ones complied with the TWDB data requirements. For the FMSs, some were not recommended if they were redundant with another recommended FMS or if their purpose was primarily related to stormwater quality."

Pg. 6-13: "~~Sixteen~~ Twenty-four of the recommended FMPs did not strictly comply with the no negative impacts requirements. However, they were still considered by the Trinity RFPG as not having adverse impacts due to various justified conditions and based on professional engineering judgment."

Anticipated Impacts to the Water Plan

Flood Mitigation Projects – Pg. 6-19: "Additionally, several FMPs could be relevant to water supply. ~~Five~~ Eight FMPs involve the design and construction of detention ponds which will reduce peak flows and improve water quality."

A.3.6 Changes to Chapter 9

Chapter 9 was updated to include the additional recommended FMEs, FMSs, and FMPs in the financial analysis. Number of entities responding was corrected to reflect number of responsive communities rather than number of FMXs that had a response. This affected the overall percent participation in the funding survey.

Flood Infrastructure Financing Survey Methodology – *Text added and amended to include mention of the second amendment financing outreach.*

"The Trinity RFPG performed surveys of the sponsors for the recommended FMEs, FMPs, and FMSs in preparation of the January 2023 Final Plan, ~~and~~ the July 2023 Amended Plan, and the April 2025 Amended Plan. The Trinity RFPG primarily used email to send the surveys to the sponsors. When email addresses were unavailable, additional outreach such as phone calls were used to obtain emails."

Amended Plan Methodology – Pg. 9-14 and 9-15: "For the second amendment cycle, entities were required to submit their own, personal versions of ***TWDB-Required Table 19***. These individual tables were compiled into a composite Table 19 and included in ***Appendix A*** in the second Amended Plan. This resulted in a 100% response rate regarding the intended source funding for flood mitigation actions and the intended portion to be requested from those sources."

Flood Infrastructure Financing Survey Results – *Text amended to reflect number of responsive entities included in the second amendment as well as the total cost of the actions.*

Pg. 9-15: "The flood infrastructure funding survey was sent to ~~194~~ 191 sponsors of recommended FMEs, FMSs, and FMPs in the development of the Final Plan and the Amended Plans. The primary goal of the survey effort was to understand the funding needs of local sponsors and then propose what role the state should have in financing the recommended FMEs, FMSs, and FMPs. Of the ~~195~~ 191 entities surveyed, ~~43~~ 32 responded. This represents a response rate of ~~22~~ 17 percent."

Pg. 9-15: "**Overall, there is a total cost of ~~$1,595,648,000~~ $3,268,465,000 needed to implement the recommended FMEs, FMSs, and FMPs in this regional flood plan. From the total cost, it is projected that ~~$1,426,504,000~~ $2,577,168,000 of state and federal funding is needed."**

A.3.7 Changes to Chapter 10

Chapter 10 was updated to describe the public outreach and engagement performed as part of the amendment. These revisions included additional sections describing data collection efforts, RFPG monthly meetings, and guidance and principle adherence in the development of the amendment document.

Outreach to Cities, Counties, and Other Entities – Pg. 10-10: "For the second Amended Regional Flood Plan, solicitations for additional flood mitigation actions were distributed on the RFPG's website and via email to the Trinity RFPG's distribution list. As a result, eight new FMEs, six new FMSs, and 27 new FMPs were received and recommended to be included in the second Amended Regional Flood Plan."

Adoption of Amended Flood Plans – Pg. 10-25: "The RFPG held a regularly scheduled public meeting on June 29, 2023. At which time, the RFPG approved the addition of the new

recommended FMEs, FMPs, and FMSs for inclusion in this amended plan. The RFPG approved the adoption of the amended plan for submittal to the TWDB. Appendix L includes an index listing the revisions made in this amended plan since the January 2023 final plan.

"A second amendment was performed and approved during the regularly scheduled public RFPG meeting on March 12, 2025. Action was taken by the RFPG during this meeting to recommend new FMEs, FMPs, and FMSs. The RFPG further approved the adoption of the second amendment to the 2023 regional flood plan and approved subsequent submittal to TWDB. Appendix L includes this summary document of changes made during the second amendment."

A.4 Modifications and Additions to the 2023 Regional Flood Plan Appendices

A.4.8 Changes to Exhibit C Tables

The Trinity Regional Flood Plan includes many deliverable components that support the narrative in the report. The TWDB prescribed Exhibit C Tables are one of these components. Several of the tables were updated to reflect the new FMEs, FMSs and FMPs, as well as revisions to existing FMEs, FMSs, and FMPs made during the amendment process. These updated tables are provided as **Attachment 1**, highlighted rows indicate new FMEs and FMSs added to the plan during the amendment while red text indicates revisions to existing entries. Summaries of the changes are provided in the subsequent sections.

Table 12: Potential Flood Management Evaluations
Table 12 was revised to include the 8 additional FMEs incorporated into the Trinity Regional Flood Plan as part of the amendment. The table was also updated to remove 5 existing FMEs that were promoted to FMPs during the off-cycle.

Table 13: Potentially Feasible Flood Mitigation Projects
Table 13 was revised to reflect revisions to four existing FMPs and include 27 new FMPs.

Table 14: Potentially Feasible Flood Mitigation Strategies
Table 14 was revised to include the 6 additional FMSs incorporated into the Trinity Regional Flood Plan as part of the amendment.

Table 15: Recommended Flood Management Evaluations
Table 12 was revised to include the 78 additional FMEs incorporated into the Lower Brazos Regional Flood Plan as part of the amendment. The table was also updated to reflect revisions to 15 existing FMEs.

Table 16: Recommended Flood Mitigation Projects
Table 16 was revised to reflect revisions to four existing FMPs and include 27 new FMPs.

No Negative Impact Table
No Negative Impact table was revised to include negative impact analysis description for 27 additional recommended FMPs.

Project Details Table
The Project Details Table was revised to include project details for 27 additional recommended FMPs.

A.4.9 Changes to Maps

Several maps were developed in accordance with TWDB guidance in support of the Lower Brazos Regional Flood Plan. Relevant maps were updated to reflect the new FMEs and FMSs and revisions to existing FMEs, FMSs, and FMPs made during the amendment process. These updated maps are provided as **Attachment 2**; summaries of the changes are provided in the subsequent sections.

Map 16: Extent of Potential FMEs and Existing Mapping Needs
Map 16 was updated to show the additional 8 FMEs incorporated into the Trinity Regional Flood Plan as part of the amendment.

Map 17: Extent of Potential FMPs

Map 17 was updated to show the additional 27 FMPs incorporated into the Trinity Regional Flood Plan as part of the amendment.

Map 18: Extent of Potential FMSs
Map 18 was updated to show the 6 additional FMSs incorporated into the Trinity Regional Flood Plan as part of the amendment.

Map 19: Recommended FMEs
Map 19 was updated to show the 8 new FMEs that were incorporated into the Trinity Regional Flood Plan as part of the amendment.

Map 20: Recommended FMPs
Map 20 was updated to show 27 additional FMPs recommended from the existing list that were incorporated into the Trinity Regional Flood Plan as part of the amendment.

Map 21: Recommended FMSs
Map 21 was updated to show the 6 new FMSs that were incorporated into the Trinity Regional Flood Plan as part of the amendment.

A.5 Modifications and Additions to the Geodatabase

The Trinity Regional Flood Plan is accompanied by a geodatabase containing the data discussed in the report, tables, and displayed on the maps. Relevant feature classes within the geodatabase were updated to reflect the additional FMEs and FMSs and revisions to FMEs, FMSs, and FMPs incorporated during the amendment. A detailed log of changes is provided in **Attachment 3**, and the geodatabase is provided as a supplementary dataset to this amendment document. Below is a summary list of the feature classes and data tables updated as part of the amendment effort:

- **FME**: Updated to include 8 new FMEs.
- **FMS**: Updated to include 6 new FMSs.
- **FMP**: Updated to include 27 new FMPs.
- **Project Details**: Updated to include entries for 27 FMPs recommended as part of the amendment.