

## AGENDA ITEM MEMO

**BOARD MEETING DATE:** November 9, 2023

**TO:** Board Members

**THROUGH:** Jeff Walker, Executive Administrator  
Ashley Harden, General Counsel  
Rebecca Trevino, Chief Financial Officer  
Matt Nelson, Deputy Executive Administrator, Office of Planning

**FROM:** Reem Zoun, PE, CFM, Director, Flood Planning

**SUBJECT:** Regional Flood Planning Grants (2023-2028)

### **ACTION REQUESTED**

Consider authorizing (a) publications of a Request for Applications for Regional Flood Planning Grants and (b) the TWDB Executive Administrator to award and execute flood planning grant contracts with the planning group sponsors for an amount not to exceed \$38,000,000 to commence the second cycle (2023-2028) of regional flood planning.

### **BACKGROUND**

Chapter 16 of the Texas Water Code (TWC) requires the Texas Water Development Board (TWDB) to develop and adopt a comprehensive state flood plan every five years that incorporates the 15 regional flood plans developed by the regional flood planning groups (RFPGs).

The RFPGs are beginning the second cycle (2023-2028) of the regional flood planning process that was created in 2019 by 86<sup>th</sup> Texas Legislature. The 2028 Regional Flood Plans that are due to TWDB on January 10, 2028, will be the basis for the 2029 State Flood Plan.

On October 5, 2023, the Board adopted amended 31 Texas Administrative Code (TAC) Chapters 361 and 362 relating to Regional and State Flood Planning in preparation for the second cycle of regional flood planning. Each RFPG is required to select a political subdivision to serve as their sponsor and act on their behalf to enter into a grant contract with the TWDB to receive funds for developing their regional flood plans.

TWDB will be requesting the submission of Regional Flood Planning Grant applications to develop regional flood plans (Attachment 1). Activities to be performed under this request

for applications will be based on statute, rule, a scope of work (Attachment 2), and guidance documents developed by the TWDB.

After receiving applications, the TWDB will execute contracts with the RFPG sponsor political subdivisions which will enable them to solicit and procure technical consultants to develop the first sets of regional flood plans.

**SCOPE AND FUNDING**

Texas Legislature appropriated funds for the statewide regional flood planning program. The total available funds were allocated by region, under an approach intended to reflect the relative amount of work between regions that may be required to develop the second regional flood plans including certain factors considered most relevant to, or indicative of, the amount of flood risk faced by regions and that must be addressed in the planning process. Table 1 shows the total amounts, by region, of the funding allocation.

**Table 1: Available funds allocated by region.**

<b>Region number</b>	<b>RFPG name</b>	<b>Allocated funds</b>
1	Canadian-Upper Red	\$2,305,100
2	Lower Red-Sulphur-Cypress	\$2,078,400
3	Trinity	\$2,857,800
4	Sabine	\$2,151,300
5	Neches	\$2,394,700
6	San Jacinto	\$3,770,000
7	Upper Brazos	\$2,345,100
8	Lower Brazos	\$2,520,600
9	Upper Colorado	\$2,324,000
10	Lower Colorado-Lavaca	\$2,612,500
11	Guadalupe	\$2,144,600
12	San Antonio	\$2,146,300
13	Nueces	\$2,653,900
14	Upper Rio Grande	\$2,591,800
15	Lower Rio Grande	\$3,103,900
<b>Total</b>		<b>\$38,000,000</b>

The funding allocations include base funding for each region to cover RFPG meetings, public participation and outreach, and flood planning document development, with additional formula funding, allocated by region, based on each region’s relative estimated 2020 population total stream miles within the region; area within the 1% annual chance floodplain; area within the 0.2% annual chance floodplain; population within the identified flood hazard area (1% plus 0.2%); structures within the identified flood hazard area (1% plus 0.2%); the number of counties within each region; number of counties in the GLO coastal

management zone; the length of gulf coastline of each region; and historic National Flood Insurance Program (NFIP) claims.

The allocated amounts for each region were then allocated to task budget amounts based on a standard budget profile, and a common set of standard tasks associated with the regional flood planning rules, guidelines, and contract scope of work (Attachment 2). See Attachment 3 for the recommended task budget breakdown. Each of the task numbers correspond, generally, to a separate chapter or subchapter in the RFPG's regional flood plan. The RFPGs are expected to revise the task budget breakdown to align with region needs.

### **WORKING TIMELINE**

- **November 9, 2023** – Request for Applications
- **February 22, 2024** – Deadline for applications.
- **May 2024** – Estimated deadline for executing second cycle Regional Flood Planning Grant contracts.

### **KEY ISSUES**

Funding recommendations for this cycle of regional flood planning recognize that not all regions will require an equal amount of effort to complete the fundamental planning tasks as defined in statute and rule. While the total amount of first cycle funds for each region is fixed, the TWDB understands that regional differences in the availability of flood risk information and other relevant factors may necessitate RFPGs shifting the allocations of funds between certain tasks. If an RFPG sponsor chooses to request modifications to the TWDB's recommended task budget, the applicant is required to submit a revised task budget with their application and provide written justification for the changes.

Only RFPG planning group sponsors may submit a Regional Flood Planning Grant Application. A planning group sponsor is a political subdivision, as defined by Texas Administrative Code §361.10, that has been designated by the RFPG to receive funds for all or part of the cost of developing a regional flood plan.

The TWDB will allow to reimburse planning group sponsors for all eligible direct (non-labor) costs beginning with posting public notices associated with this Request for Applications and all subsequent, eligible direct (non-labor) administrative dollar amounts expended to support the RFPGs that are incurred prior to grant contract execution beginning on November 9, 2023.

### **RECOMMENDATION**

The Executive Administrator recommends approval of this item for flood planning grant contracts with the planning group sponsors for an amount not to exceed \$38,000,000 to commence the second cycle (2023-2028) of regional flood planning.

Attachment(s):

1. Request for Applications
2. TWDB Regional Flood Planning Grant Scope of Work
3. Recommended Contractor (RFPG Sponsor) Task Budget

## **Request for Applications - Regional Flood Planning**

Pursuant to 31 TAC 361, Subchapter F, the Texas Water Development Board (TWDB) requests submission of regional flood planning grant applications leading to the possible award of contracts to develop a regional flood plan as described in 31 TAC Chapter 361. In order to receive a grant, the applicant must be a political subdivision of the state and must have been designated a planning group sponsor by a regional flood planning group (RFPG) as set forth in 31 TAC §361.12(a)(1).

### **Purpose and Objectives**

Activities to be performed under this Request for Applications (RFA) will be based on a scope of work developed by TWDB that supports RFPG efforts to complete their 2028 Regional Flood Plans in accordance with statute, rule, and guidance requirements.

### **Description of Funding Consideration**

Total funding for activities related to the development or revision of a regional flood plan must not exceed 100 percent of the total cost of the planning for that flood planning region.

In the event that acceptable applications are not submitted or that insufficient funds are available to fund proposed activities, TWDB retains the right to not award and/or commit contract funds.

Applicants should review and utilize the following documents, also found online at <http://www.twdb.texas.gov/flood/planning/planningdocu/2028/index.asp>

1. [Regional Flood Planning Grant Application Instructions](#)
2. [Regional Flood Planning Grant Application Checklist](#)
3. [Draft Regional Flood Planning Grant Scope of Work](#)
4. [Draft Recommended Contractor \(RFPG Sponsor\) Task Budget](#)

### **Contact Person for Additional Information**

Requests for information may be directed to Anita Machiavello at [floodplanning@twdb.texas.gov](mailto:floodplanning@twdb.texas.gov) or by calling (512) 463-5158.

### **Deadline**

One complete regional flood planning grant application must be submitted electronically via email and in Portable Document Format (PDF) to **TWDB no later than 5:00 PM (CST) on February 22, 2024**. TWDB file limit is 100 MB.

Applications must be emailed to [Bid-Room@twdb.texas.gov](mailto:Bid-Room@twdb.texas.gov) with a copy to [floodplanning@twdb.texas.gov](mailto:floodplanning@twdb.texas.gov).

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**Exhibit A**

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# TWDB Regional Flood Planning Grant Scope of Work

January 2024

Disclaimer: This document includes the standard Scope of Work developed for Regional Flood Planning Grant Contracts by the Texas Water Development Board. The Scope of Work for certain grant contracts may contain revised language to reflect requested edits from Regional Flood Planning Groups and Planning Group Sponsors

**Second Cycle of Regional Flood Plan Development (2023–2028)**

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**Summary of Task and Associate Rules Reference**

**Task 1** – Planning area description (361.30, 361.31, 361.32)

**Task 2** – Flood risk analyses

Task 2A – Existing condition flood risk analyses (361.33)

Task 2B – Future condition flood risk analyses (361.34)

**Task 3** – Floodplain management practices, needs analysis and flood protection goals

Task 3A – Evaluation and recommendations on floodplain management practices (361.35)

Task 3B – Flood Mitigation Needs Analysis (361.36)

Task 3C – Flood mitigation and floodplain management goals (361.37)

**Task 4** – Identification, assessment, and evaluations of flood FMEs, FMPs, and FMSs

Task 4A – Identification and evaluation of potential flood management evaluations and potentially feasible flood mitigation projects and flood management strategies (361.38)

Task 4B – Preparation and submission of technical memorandum

Task 4C – Performance of Identified flood management evaluations

**Task 5** – Recommendation of flood management evaluations, flood mitigation projects and flood management strategies (361.39)

Task 5A – Recommendation of flood management evaluations, flood mitigation projects and flood management strategies (361.39)

Task 5B – Recommend a list of flood management evaluations to be performed by TWDB.

**Task 6** – Plan impacts and contribution to water supply of the regional flood plan

Task 6A – Impacts of regional flood plan (361.40)

Task 6B – Contributions to and impacts on water supply development and the state water plan (361.41)

**Task 7** – Flood response information and activities (361.42)

**Task 8** – Administrative, regulatory, and legislative recommendations (361.43)

**Task 9** – Flood infrastructure financing analysis (361.44)

**Task 10** – Public participation and plan adoption

**Task 11** – Implementation and comparison to previous regional flood plan (361.45)

## Task 1 – Planning Area Description

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 Texas Administrative Code (TAC) Chapters 361 and 362, this portion of work must specifically include all work necessary to meet all the requirements of 31 TAC §361.30, 361.31, and 361.32.

The objective of this task is to prepare a standalone chapter to be included in the 2028 Regional Flood Plan that describes the Flood Planning Region (FPR).

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to prepare a chapter that includes:**

1. Brief, general descriptions of the following:
  - a. social and economic character of the region such as information on development, population, and economic activity.
  - b. the areas in the FPR that are flood-prone and the types of major flood risks to life and property in the region.
  - c. key historical flood events within the region including associated fatalities and loss of property when the information is available.
  - d. key political subdivisions with flood-related regulatory authority or political subdivisions that perform flood planning, floodplain management, or flood mitigation activities.
  - e. the general extent of local regulation and development codes relevant to existing and future flood risk.
  - f. agricultural and natural resources most impacted by flooding; and
  - g. existing local and regional flood plans within the FPR.
2. A general description of the location, condition, and functionality of existing natural flood mitigation features and constructed major flood infrastructure within the FPR as identified in the rules and guidance document.
3. Include a tabulated summary and GIS map of existing infrastructure.
4. Include an inventory and feature class of low water crossings.
5. Include a specific levee and dam inventory including the location, designated owner of every major levee and dam located within the regional planning area, and an indication of whether levees have FEMA accreditation or not.
6. Include an assessment of condition and functionality for existing major flood risk reduction infrastructure.
7. Please provide a general description by general geographic location (e.g., within political subdivisions) of the condition and functionality of key natural flood mitigation features or major flood infrastructure by feature type and provide the name of the owner and operator of the flood infrastructure. For non-functional or deficient natural flood mitigation features or major flood infrastructure, explain, in general, the reasons for the features or infrastructure being non-functional or deficient by feature type.
8. A general description of the location, source of funding, and anticipated benefits of proposed or ongoing major infrastructure and flood mitigation projects in the FPR, including:
  - a. new structural flood mitigation projects currently under construction.
  - b. non-structural flood mitigation projects currently being implemented; and

- c. structural and non-structural flood mitigation projects with dedicated funding to construct and the expected year of completion.
9. A review and summary of relevant existing planning documents in the FPR. Documents to be summarized include those referenced under 31 TAC §361.22.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the Regional Flood Plan chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** A complete Chapter 1 describing the FPR, existing natural flood mitigation features, constructed major flood infrastructure, and major infrastructure and flood mitigation projects currently under development. A tabulated summary and GIS map of existing infrastructure including condition and functionality. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 2A – Existing Condition Flood Risk Analyses

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must specifically include all work necessary to meet all the requirements of 31 TAC §361.33.

The objective of this task is to prepare a chapter to be combined with Task 2B and included in the 2028 Regional Flood Plan that describes the existing and future condition flood risk in the FPR.

The RFPGs must perform existing condition flood risk analyses for the region comprising: (1) flood hazard analyses that determine the location, magnitude, and frequency of flooding; (2) flood exposure analyses to identify who and what might be harmed within the region; and (3) vulnerability analyses to identify vulnerabilities of communities and critical facilities.

The information developed must be used to assist the RFPG to establish priorities in subsequent planning tasks, to identify areas that need Flood Management Evaluations (FMEs), and to efficiently deploy its resources.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Perform existing condition flood hazard analyses to determine the location and magnitude of 10% annual chance, 1% annual chance and 0.2% annual chance flood events as follows:
  - a. collect data and conduct analyses sufficient to characterize the existing conditions for the planning area.
  - b. identify areas within each FPR where hydrologic and hydraulic model results are already available and summarize the information.
  - c. utilize best available data, including hydrologic and hydraulic models for each area.

- d. identification of known flood-prone areas based on location of hydrologic features, historic flooding, and local knowledge obtained from outreach activities and public meetings.
  - e. all analyses shall consider the location of existing levees that do not meet FEMA accreditation as inundated by flooding without those structures in place. Provisionally accredited levees may be allowed to provide flood protection, unless the best available information demonstrates otherwise.
  - f. the analyses shall consider existing dams when data is available.
  - g. prepare a map showing areas identified by the RFPG as having an annual likelihood of inundation of greater than or equal to 10%, 1% and 0.2%, the areal extent of this inundation, and the sources of flooding for each area; and
  - h. prepare a map showing gaps in inundation boundary mapping and identify known flood-prone areas based on location of hydrologic features, historic flooding and/or local knowledge.
2. Develop existing condition flood exposure analyses, using the information identified in the flood hazard analyses to identify who and what might be harmed within the region for, at a minimum, 10% annual chance, 1% annual chance and 0.2% annual chance flood events as follows:
- a. analyses of existing development within the existing condition floodplain and the associated flood hazard exposure.
  - b. may include only those flood mitigation projects with dedicated construction funding and scheduled for completion prior to adoption of the next state flood plan.
  - c. must consider the population and property located in areas where existing levees do not meet FEMA accreditation as inundated by flooding without the levees in place. Provisionally accredited structures may be allowed to provide flood protection, unless the best available information demonstrates otherwise.
  - d. must consider available datasets to estimate the potential flood hazard exposure including, but not limited to:
    - i. number of residential properties and associated population
    - ii. number of non-residential properties
    - iii. other public infrastructure
    - iv. major industrial and power generation facilities
    - v. number and types of critical facilities
    - vi. number of roadway crossings
    - vii. length of roadway segments; and
    - viii. agricultural area and value of crops exposed
  - e. must include a qualitative description of expected loss of function, which is the effect that a flood event could have on the function of inundated structures (residential, commercial, industrial, public, or others) and infrastructure, such as transportation, health and human services, water supply, wastewater treatment, utilities, energy generation, and emergency services.
3. Perform existing condition vulnerability analyses as follows:
- a. use relevant data and tools to identify resilience of communities located in flood-prone areas.

- b. consider and identify factors such as proximity to a floodplain to identify vulnerability of critical facilities, in accordance with EA guidance.
4. All data produced as part of the existing condition flood exposure analysis and the existing condition vulnerability analysis must include:
  - a. underlying flood event return frequency
  - b. type of flood risk
  - c. county
  - d. existing flood authority boundaries
  - e. social vulnerability indices for counties and census tracts; and
  - f. other categories as determined by RFPGs or in TWDB Flood Planning guidance documents

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 2 (including work from both Tasks 2A & 2B) to be included in the 2028 Regional Flood Plan.
- Prepare maps according to 1(g) and 1(h).
- A tabulated list and GIS map of all pertinent information. All maps should be submitted with underlying GIS data utilized to prepare them.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 2B – Future Condition Flood Risk Analyses

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.34.

The objective of this task is to prepare a chapter to be combined with Task 2A and included in the 2028 Regional Flood Plan that describes the existing and future condition flood risk in the FPR.

RFPGs must perform future condition flood risk analyses for the region comprising: (1) flood hazard analyses that determine the location, magnitude, and frequency of flooding; (2) flood exposure analyses to identify who and what might be harmed within the region; and (3) vulnerability analyses to identify vulnerabilities of communities and critical facilities.

The information developed must be used to assist the RFPG to establish priorities in subsequent planning tasks, to identify areas that need FMEs, and to efficiently deploy its resources.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Perform future condition flood hazard analyses to determine the location and magnitude of 10% annual chance, 1% annual chance and 0.2% annual chance flood events as follows:
  - a. collect data and conduct analyses sufficient to characterize the future conditions for the planning area based on a "no-act" scenario of approximately 30 years of continued development and population growth under current development trends and patterns, and existing flood regulations and policies. RFPGs shall consider the following as available and pertinent in the FPR:
    - i. current land use and development trends and practices and associated projected population based on the most recently adopted State Water Plan decade and population nearest the next regional flood plan adoption date plus approximately 30 years or as provided for in TWDB Flood Planning guidance documents.
    - ii. reasonable assumptions regarding locations of residential development and associated population growth.
    - iii. anticipated relative sea level change and subsidence based on existing information.
    - iv. anticipated changes to the functionality of the existing floodplain.
    - v. anticipated sedimentation in flood control structures and major geomorphic changes in riverine, playa, or coastal systems based on existing information.
    - vi. assumed completion of flood mitigation projects currently under construction or that already have dedicated construction funding; and
    - vii. other factors deemed relevant by the RFPG.
  - b. identify areas within each FPR where future condition hydrologic and hydraulic model results are already available and summarize the information.
  - c. utilize best available data, including hydrologic and hydraulic models for each area.
  - d. where future condition results are not available, but existing condition hydrologic and hydraulic model results are already available, the RFPGs may modify hydraulic models or existing condition flood hazard boundary to identify future conditions flood risk for 1% and 0.2% annual chance storms based on simplified assumptions in accordance with EA guidance.
  - e. prepare a map showing areas of 1% and 0.2% annual chance of inundation for future conditions, the areal extent of this inundation, and the types of flooding for each area.
  - f. prepare a map showing gaps in inundation boundary mapping and identify known flood-prone areas based on location of hydrologic features, historic flooding, and/ or local knowledge.
2. Perform future condition flood exposure analyses using the information identified in the potential future condition flood hazard analysis to identify who and what might be harmed within the region for the potential future condition 10% annual chance, future condition 1% annual chance and future condition 0.2% annual chance flood events. At the RFPGs' discretion, the future condition flood exposure analysis may include an analysis of existing and future developments within the future condition floodplain and the associated flood hazard exposure.
3. Perform future condition vulnerability analyses as follows:

- a. identify resilience of communities located in flood-prone areas identified as part of the future condition flood exposure analyses, utilizing relevant data and tools.
- b. identify vulnerabilities of critical facilities to flooding by looking at factors such as proximity to a floodplain and other factors as included in the EA guidance.
4. All data produced as part of the future condition flood exposure analysis and the future condition vulnerability analysis must include:
  - a. underlying flood event return frequency
  - b. type of flood risk
  - c. county
  - d. existing flood authority boundaries
  - e. social vulnerability indices for counties and census tracts; and
  - f. other categories as determined in TWDB Flood Planning guidance document.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 2 (including work from both Tasks 2A & 2B) to be included in the 2028 Regional Flood Plan.
- Prepare maps according to 1(e) and 1(f). A tabulated list and GIS map of all pertinent information. All maps should be submitted with underlying GIS data utilized to prepare them.

## **Any additional deliverables identified in the TWDB Flood Planning guidance documents. Task 3A – Evaluation and Recommendations on Floodplain Management Practices**

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.35.

Recognizing the extent that previous and current practices may have increased flood risks, including residual risks, and considering broad floodplain management and land use approaches that will avoid increasing flood risks, and avoid negatively affecting neighboring areas, the RFPG must accomplish the following tasks.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Consider the extent to which a lack of, insufficient, or ineffective current floodplain management and land use practices, regulations, policies, and trends related to land use,

economic development, and population growth, allow, cause, or otherwise encourage increases to flood risks to both:

- a. existing population and property, and
  - b. future population and property.
2. Take into consideration the future flood hazard exposure analyses performed under Task 2B, consider the extent to which the 1% annual chance floodplain, along with associated flood risks, may change over time in response to anticipated development and associated population growth and other relevant man-made causes, and assess how to best address these potential changes.
  3. Based on the analyses in (1) and (2), make recommendations regarding forward-looking floodplain management and land use recommendations, and economic development practices and strategies, that should be implemented by entities within the FPR. These region-specific recommendations may include floodplain management and land use standards and should focus on how to best address the changes in (2) for entities within the region. These recommendations will inform recommended strategies for inclusion in the Regional Flood Plan.
  4. RFPGs may also choose to adopt region-specific, floodplain management or land use or other standards that impact flood-risk, that may vary geographically across the region, that each entity in the FPR must adopt prior to the RFPG including in the Regional Flood Plan any Flood Management Evaluations, Flood Mitigation Projects, or Flood Management Strategies that are sponsored by or that will otherwise be implemented by that entity.
  5. Consider example floodplain management and infrastructure protection standards provided by TWDB.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 3 (including work from Tasks 3A,3B, & 3C) to be included in the 2028 Regional Flood Plan.
- List region-specific recommendations regarding forward-looking floodplain management and land use, which may include minimum floodplain management and land use standards.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 3B – Flood Mitigation Needs Analysis

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.36.

The RFPG must conduct the analysis in a manner that will ensure the most effective and efficient use of the resources available to the RFPG.



**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Based on the analyses developed by the RFPG under Tasks 2A through 3B and any additional analyses or information developed using available screening-level models or methods, the RFPG must identify locations within the FPR that the RFPG considers having the greatest flood mitigation and flood risk study needs by considering:
  - a. the areas in the FPR that the RFPG identified as the most prone to flooding that threatens life and property.
  - b. the relative locations, extent, and performance of current floodplain management and land use policies and infrastructure located within the FPR, particularly within the locations described in (a).
  - c. areas identified by the RFPG as prone to flooding that don't have adequate inundation maps.
  - d. areas identified by the RFPG as prone to flooding that don't have hydrologic and hydraulic models.
  - e. areas with an emergency need.
  - f. existing modeling analyses and flood risk mitigation plans within the FPR.
  - g. flood mitigation projects already identified and evaluated by other flood mitigation plans and studies.
  - h. documentation of historic flooding events.
  - i. flood mitigation projects already being implemented; and
  - j. any other factors that the RFPG deems relevant to identifying the geographic locations where potential FMEs and potentially feasible FMPs and FMSs must be identified and evaluated under §361.38.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 3 (including work from Tasks 3A, & 3B and 3C) to be included in the 2028 Regional Flood Plan.
- A map identifying the geographic locations within the FPR considered to have the greatest flood mitigation and flood risk study needs where potential FMEs and potentially feasible FMPs and FMSs must be evaluated.
- A tabulated list and GIS map of all pertinent information. All maps should be submitted with underlying GIS data utilized to prepare them.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 3C – Flood Mitigation and Floodplain Management Goals

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.37.

In this task, the RFPG must consider the Guidance Principles under 31 TAC §362.3, Tasks 1-3B, input from the public, and other relevant information and considerations.

The RFPG must use these goals to guide the RFPG in carrying out the following Tasks 4A – 5.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Identify specific and achievable flood mitigation and floodplain management goals along with target years by which to meet those goals for the FPR to include, at a minimum, goals specifically addressing risks to life and property.
2. Recognize and clearly state the levels of residual risk that will remain in the FPR even after the stated flood mitigation goals are fully met.
3. Structure and present the goals and the residual risks in an easily understandable format for the public including in conformance with TWDB Flood Planning guidance documents.
4. When appropriate, choose goals that apply to full single HUC8 watershed boundaries or coterminous groups of HUC8 boundaries within the FPR.
5. Identify both short-term goals (10 years) and long-term goals (30 years).

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

### **Deliverables:**

- Prepare a stand-alone Chapter 3 (including work from Tasks 3A, 3B and 3C) to be included in the 2028 Regional Flood Plan.
- Identify flood mitigation and floodplain management goals considering minimum recommended flood protection goal provided by TWDB.
- Identify specific and achievable flood mitigation and floodplain management goals (10 year and 30 year) in an easily understandable format for the public.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 4A – Identification, and Evaluation of Potential Flood Management Evaluations and Potentially Feasible Flood Mitigation Projects and Flood Management Strategies

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.38.

Based on analyses and decisions under Tasks 2A through 4A the RFPG must identify and evaluate potential FMEs, and identify and evaluate potentially feasible FMPs and FMSs, including nature-based solutions, some of which may have already been identified by previous evaluations and analyses by others.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Receive public comments on a proposed process to be used by the RFPG to identify and select FMEs, FMPs, and FMSs for the 2028 Regional Flood Plan.
2. Summarize the RFPG process for identifying potential FMEs and potentially feasible FMPs and FMSs and include a description of the process in the draft and in the final adopted Regional Flood Plan.
3. Identify potentially feasible FMPs and FMSs in accordance with the RFPG established process.
4. When evaluating FMPs and FMSs the RFPG must, at a minimum, identify one solution that provides flood mitigation associated with a 1% annual chance flood event. In instances where mitigating for 1% annual chance events is not feasible, the RFPG must document the reasons for its infeasibility, and at the discretion of the RFPG, other FMPs and FMSs to mitigate more frequent events may also be identified and evaluated based on TWDB Flood Planning guidance documents.
5. For areas within the FPR that the RFPG does not yet have sufficient information or resources to identify potentially feasible FMPs and FMSs, the RFPG must identify areas for potential FMEs that may eventually result in FMPs and/or FMSs.
6. The RFPG must evaluate potentially feasible FMPs and FMSs understanding that, upon evaluation and further inspection, some FMPs or FMSs initially identified as potentially feasible may be reclassified as infeasible.
7. FMPs will be ranked in the state flood plan and
  - a. must represent discrete projects.
  - b. must not entail an entire capital program or drainage masterplan; and
  - c. may rely on other flood-related projects.
8. Evaluations of potentially feasible FMPs and FMSs, as applicable, will require associated, detailed hydrologic and hydraulic modeling results that quantify the reduced impacts from flood events and the associated benefits and costs. Information may be based on previously performed evaluations of projects and related information. Evaluations of potentially feasible FMPs and FMSs must include the following information and be based on the following analyses:
  - a. A reference to the specific flood mitigation or floodplain management goal addressed by the feasible FMP or FMS.
  - b. A determination of whether FMP or FMS meets an emergency need.

- c. An indication regarding the potential use of federal funds, or other sources of funding, as a component of the total funding mechanism.
  - d. An equitable comparison, as appropriate, and assessment among all FMSs and an equitable comparison and assessment among all FMPs that the RFPG determines to be potentially feasible.
  - e. A demonstration that the FMS or FMP will not negatively affect a neighboring area.
  - f. A quantitative report of the estimated benefits of the FMP or FMS, as applicable. This includes reductions of flood impacts of the 1% annual chance flood event and other storm events identified and evaluated if the project mitigates to a more frequent event to include, but not limited to:
    - (1) associated flood events that must, at a minimum, include the 1% annual chance flood event and other storm events identified and evaluated.
    - (2) reduction in habitable, equivalent living units flood risk.
    - (3) reduction in residential population flood risk.
    - (4) reduction in critical facilities flood risk.
    - (5) reduction in road closure occurrences.
    - (6) reduction in acres of active farmland and ranchland flood risk.
    - (7) estimated reduction in fatalities, when available.
    - (8) estimated reduction in injuries, when available.
    - (9) reduction in expected annual damages from residential, commercial, and public property; and
    - (10) other benefits as deemed relevant by the RFPG including environmental benefits and other public benefits.
    - (11) avoidance of future flood risk; and
    - (12) prevention of creation of future flood risk.
  - g. A quantitative reporting of the estimated capital cost of FMPs in accordance with TWDB Flood Planning guidance documents.
  - h. For projects that will contribute to water supply, all relevant evaluations required under §357.34(e) (relating to Identification and Evaluation of Potentially Feasible Water Management Strategies and Water Management Strategy Projects), as determined by the EA based on the type of contribution, and a description of its consistency with the currently adopted State Water Plan.
  - i. A description of potential impacts and benefits from the FMS or FMP to the environment, agriculture, recreational resources, navigation, water quality, erosion, sedimentation, and impacts to any other resources deemed relevant by the RFPG.
  - j. A description of residual, post-project, flood risk and future risks associated with FMPs including the risk of potential catastrophic failure and the potential for future increases to these risks due to lack of maintenance.
  - k. Implementation issues including those related to rights-of-way, permitting, acquisitions, relocations, utilities, and transportation; and
  - l. Funding sources and options that exist or will be developed to pay for development, operation, and maintenance of the FMS or FMP.
9. Flood Management Evaluation (FME) is a proposed study to identify, assess and quantify flood risk or identify, evaluate, and recommend flood risk reduction solutions. Evaluations of potential

FMEs may be at a reconnaissance or screening-level, unsupported by associated detailed hydrologic and hydraulic analyses. These must be identified for areas that the RFPG considers a priority for flood risk evaluation but that do not yet have the required detailed hydrologic and hydraulic modeling or associated project evaluations available to evaluate specific FMPs or FMSs for recommendation in the Regional Flood Plan. Evaluations of potential FMEs must include the following analyses:

- a. A reference to the specific flood mitigation or floodplain management goal to be addressed by the potential FME.
  - b. An indication of whether FME may meet an emergency need.
  - c. An indication regarding the potential use of federal funds, or other sources of funding as a component of the total funding mechanism.
  - d. An equitable comparison and assessment among all FMEs.
  - e. An indication of whether hydrologic and or hydraulic models are already being developed or are anticipated in the near future and that could be used in the FME.
  - f. A quantitative reporting of the estimated flood risk within the FME area, to include, as applicable:
    - (1) Estimated habitable, living unit equivalent and associated population in FME area.
    - (2) Estimated critical facilities in FME area.
    - (3) Estimated number of roads closures occurrences in FME area.
    - (4) Estimated acres of active farmland and rangeland in FME area; and
    - (5) A quantitative reporting of the estimated study cost of the FME and whether the cost includes use of existing or development of new hydrologic or hydraulic models.
  - g. For FMEs, RFPGs do not need to demonstrate that an FME will not negatively affect a neighboring area.
10. RFPGs must evaluate and present potential FMEs and potentially feasible FMPs and FMSs with sufficient specificity to allow state agencies to make financial or regulatory decisions to determine consistency of the proposed action before the state agency with an approved Regional Flood Plan.
  11. Analyses must clearly designate a representative location of the FME and beneficiaries including a map and designation of HUC12 and county location.
  12. The RFPG may also use funding under this Task to perform a portion of the identified Flood Management Evaluations and, in doing so, identify and evaluate additional Flood Mitigation Projects that could be recommended under Task 5A. This task includes performing work to carry out FMEs that may include work to perform hydrologic and hydraulic modeling, for example, evaluating flood risks in areas with currently limited flood risk data, and evaluating potential flood risk reduction solutions, including performing feasibility studies and preliminary engineering needed to identify, evaluate, and recommend additional potentially feasible FMPs. Note that RFPGs must approve the list of FMEs to be performed under this Task prior to expending grant funds for this purpose. Additional FMPs that are identified and evaluated under this Task may be recommended under Task 5A. FMEs that are performed under this Task would also not be recommended as FMEs under Task 5B.
  13. Analyses must be performed in accordance with TWDB Flood Planning guidance documents.

14. All data produced as part of the analyses under this task must be organized and summarized in the Regional Flood Plan in accordance with TWDB Flood Planning guidance documents.
15. Rules to be considered in developing this chapter include relevant rules referenced under 31 TAC §361.22.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. RFPG approval of the list of identified FMEs to also be performed under this Task.
2. Review of the chapter documents and related information by RFPG members.
3. Modifications to the chapter document based on RFPG, public, and/or agency comments.
4. Submittal of chapter document to TWDB for review and approval.
5. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 4 (including work from Tasks 4A, and 4C) to include analyses and assessments used to identify potential FMEs, FMSs, and FMPs and all technical analyses of all evaluated FMPs and FMSs to be included in the 2028 Regional Flood Plan.
- A list of the potentially feasible FMSs and associated FMPs that were identified by the RFPG.
- The TWDB Flood Planning guidance documents will include minimum data submittal requirements and deliverable format.
- A map identifying the geographic locations within the FPR considered to have the greatest flood mitigation and flood risk study needs where potential FMEs and potentially feasible FMPs and FMSs must be evaluated. TWDB Flood Planning guidance documents will include minimum data submittal requirements and deliverable format.
- Data must be organized and summarized in the Regional Flood Plan in accordance with TWDB Flood Planning guidance documents.
- A tabulated list and GIS map of all pertinent information. All maps should be submitted with underlying GIS data utilized to prepare them.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## **Task 4B – Preparation and Submission Technical Memorandum**

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.13(e).

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Prepare a concise Technical Memorandum to include:
  - a. A list of existing political subdivisions within the FPR that have flood-related authorities or responsibilities.
  - b. A list of previous and ongoing flood studies considered by the RFPG to be relevant to development of the Regional Flood Plan.

- c. A geodatabase and associated maps in accordance with TWDB Flood Planning guidance documents that the RFPG considers to be best representation of the region-wide 1% annual chance flood event and 0.2% annual chance flood event inundation boundaries, and the type of flooding for each area, for use in its risk analysis, including indications of locations where such boundaries remain undefined.
  - d. A geodatabase and associated maps in accordance with TWDB Flood Planning guidance documents that identifies additional flood-prone areas not described in (c) based on location of hydrologic features, historic flooding, and/or local knowledge.
  - e. A list of available flood-related models that the RFPG considers of most value in developing its plan.
  - f. A summary and associated maps of locations within the FPR that the RFPG considers having the greatest flood risk and flood risk reduction needs.
  - g. The flood mitigation and floodplain management goals adopted by the RFPG per §361.36.
  - h. The documented process used by the RFPG to identify potentially feasible FMPs and FMSs.
  - i. A list of potential FMEs and potentially feasible FMPs and FMSs identified by the RFPG, if any; and
  - j. A list of FMSs and FMPs that were identified but determined by the RFPG to be infeasible, including the primary reason for it being infeasible.
2. Approve submittal of the Technical Memorandum to TWDB at a RFPG meeting subject notice requirements in accordance with 31 TAC §361.21(h). The Technical Memorandum must be submitted to TWDB in accordance with Section I Article I of the contract.

## Task 4C – Performance of Flood Management Evaluations

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.38.

The RFPG shall utilize this task to perform a portion of the identified Flood Management Evaluations identified in Task 4A and, in doing so, identify and evaluate additional Flood Mitigation Projects that could be recommended under Task 5A. This list of FMEs that are to be performed under this subtask must be approved by the RFPG.

The objective of this task is to perform identified potential FMEs to, for example, evaluating flood risks in areas with currently limited flood risk data, and evaluating potential flood risk reduction solutions, including performing hydrologic and hydraulic modeling, feasibility studies and preliminary engineering needed to identify, evaluate, and recommend additional potentially feasible FMPs. Additional FMPs that are identified and evaluated under this Task may be recommended under Task 5A. FMEs that are performed under this Task would also not be recommended as FMEs under Task 5B.

RFPGs must adhere to the requirements for identification, evaluation, and recommendation of FMEs and FMPs in Tasks 4A and 5 as well as applicable requirements in the TWDB Flood Planning guidance documents.

RFPGs must submit all data deliverables, including required GIS files, maps, and project details worksheet, to reflect work performed under this task in accordance with the requirements in Tasks 4A and 5 and the TWDB Flood Planning guidance documents.

**Deliverables:**

- Prepare a stand-alone Chapter 4 (including work from Tasks 4A and 4C) to be included in the 2028 Regional Flood Plan.
- A list of the FMEs, as approved by the RFPG, that were performed to identify potential FMPs and/or FMSs under Task 4C.
- Outcomes of FMEs that were performed to identify potential FMPs and/or FMSs under Task 4C.
- List of FMPs and FMSs that are identified as a result of performing FMEs under Task 4C.
- All data produced as part of the analyses under this task must be organized and summarized in the Regional Flood Plan in accordance with TWDB Flood Planning guidance documents.
- The TWDB Flood Planning guidance documents will include minimum data submittal requirements and deliverable format.

## **Task 5A – Recommendation of Flood Management Evaluations, Flood Mitigation Projects, and Flood Management Strategies**

**Performing any work associated with any Task 5 subtasks is contingent upon a written notice-to-proceed.**

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet associated requirements of 31 TAC §361.39.

The objective of this task is to consider and recommend Flood Management Evaluations (FMEs), Flood Management Strategies (FMSs) and their associated Flood Mitigation Projects (FMPs) to be included in the 2028 Regional Flood Plan that describes the work completed, presents the potential FMEs, potentially feasible FMPs and FMSs, recommended and alternative FMPs and FMSs, including all the technical evaluations, and presents which entities will benefit from the recommended FMPs and FMSs.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Recommend FMEs that the RFPG determines are most likely to result in identification of potentially feasible FMPs and FMSs that would, at a minimum, identify and investigate one solution to mitigate for flood events associated with a 1% annual chance flood event and that support specific RFPG flood mitigation and/or floodplain management goals.
2. Recommend FMPs and FMSs to reduce the potential impacts of flood based on the evaluations under §361.38 and RFPG goals and that must, at a minimum, mitigate for flood events associated with at 1% annual chance (100-yr flood) where feasible. In instances where mitigating for 100-year events is not feasible, FMS and FMPs to mitigate more frequent events may be recommended based on TWDB Flood Planning guidance documents. Recommendations must be based upon the identification, analysis, and comparison of alternatives that the RFPG



determines will provide measurable reductions in flood impacts in support of the RFPG's specific flood mitigation and/or floodplain management goals.

3. Provide additional information in conformance with TWDB Flood Planning guidance documents which may be used to rank recommended FMEs, FMPs, and FMSs with non-recurring, non-capital costs in the state flood plan.
4. RFPGs shall provide the benefit-cost ratio for recommended FMPs in accordance with guidance provided by the EA.
5. Recommended FMSs or FMPs may not negatively affect a neighboring area or an entity's water supply.
6. Recommended FMSs or FMPs that will contribute to water supply may not result in an overallocation of a water source based on the water availability allocations in the most recently adopted State Water Plan.
7. Specific types of FMEs, FMSs, or FMPs that should be included and that should not be included in Regional Flood Plans must be in accordance with TWDB Flood Planning guidance documents.
8. FMS and FMP documentation must include a strategy or project description, discussion of associated facilities, project map, and technical evaluations addressing all considerations and factors required under 31 TAC §361.38(h).
9. Coordinate and communicate with the sponsors of FME, FMS, and FMP including individual local governments, regional authorities, and other political subdivisions.
10. Production of process documentation used in selecting all recommended FMSs and associated FMPs including development of FMS evaluations matrices and other tools required to assist the RFPG in comparing and selecting recommended FMPs and FMSs.
11. Document the evaluation and selection of all recommended FMS and FMPs, including an explanation for why certain types of strategies may not have been recommended.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 5 (including work from Tasks 5A and 5B) to be included in the 2028 Regional Flood Plan
- A list of the recommended FMEs, FMSs, and associated FMPs that were approved by the RFPG. TWDB Flood Planning guidance documents will include minimum data submittal requirements and deliverable format.
- Data must be organized and summarized in the Regional Flood Plan in accordance with TWDB Flood Planning guidance documents.
- A tabulated list and GIS map of all pertinent information. All maps should be submitted with underlying GIS data utilized to prepare them.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 5B – Recommend a list of flood management evaluations to be performed by TWDB

Must generally meet all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362.

The objective of this task is for the RFPG to submit a list to TWDB that is a subset of the FMEs that were identified by the RFPG under Task 4A, and not performed under Task 4C, along with a request to TWDB to perform those FMEs on behalf of the RFPG, subject to TWDB's available resources. This Task relies on completed work under Tasks 2A through 4A. TWDB will complete performance of these FMSs with the intention of generating additional FMPs that will be in consideration for RFPGs for recommendation during the current or the following planning cycle.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Consider the identified FMEs from Task 4A that the RFPG determines are most likely to result in identification of potentially feasible FMPs and FMSs that would, at a minimum, identify and investigate one solution to mitigate for flood events associated with a 1% annual chance flood event and that support specific RFPG flood mitigation and/or floodplain management goals.
2. Once Tasks 2A through 4A are completed, develop, and obtain RFPG approval of a list of identified FMEs that comprises a subset of all the FMEs the RFPG had identified under Task 4A, and not performed under 4C to submit to TWDB to be performed by TWDB on behalf of the RFPG. The FME list developed and submitted by the RFPG to TWDB shall be developed in accordance with guidance be provided by the EA and, at a minimum, shall take into consideration:
  - a. The FMEs that the RFPG is already intending to perform, itself, via its Technical Consultant, under Task 4C using a portion of the RFPG's existing grant funding.
  - b. The nature of the sponsor/beneficiary of the identified FME study including whether, for example, the community is a smaller community without appropriate staff and resource, located in a rural area and/or whether that entity might otherwise have difficulty in funding and overseeing the FME study itself.
  - c. The amount of estimated capacity that TWDB allocates to each planning region for performing FMEs on behalf of the region
  - d. The potential length of time that might be required for TWDB to perform the FME and the likelihood that it will result in potential FMPs being identified in time to incorporate into the regional flood plan currently under development or if the results may become available during the next flood planning cycle.
  - e. The relative order of the FMEs on the list to be submitted to TWDB.
  - f. The extent of existing flood risk information available in the area of the recommended FME, and
  - g. And any other guidance or criteria provided by the EA prior to submission of the RFPG FME list to TWDB.
3. Obtain RFPG authorization to submit, in writing, a request to TWDB to perform the FMEs on the list above, subject to available TWDB resources. This will include TWDB performing recommended FMEs to, for example, evaluate flood risks in areas with currently limited flood

risk data, and to evaluate flood risk reduction solutions, including feasibility studies and preliminary engineering needed to identify, evaluate, and recommend additional potentially feasible FMPs.

4. Work, as necessary, to coordinate with TWDB on refining or modifying the submitted FME list, if required by TWDB, for example, due to limited resources or other factors determined by the EA.
5. Develop an initial scope of work for each FME to be submitted along with or soon after submitting the FME list to TWDB and coordinate with TWDB staff in refining the scopes of the FMEs on the list, as necessary, including sharing information, communicating and being responsive to the benefiting communities and potential sponsors of the FMEs, TWDB staff, and any TWDB Contractors.
6. Receive and consider the results of the FME work performed by TWDB on behalf of the RFPG including information regarding additional, potentially feasible FMPs and incorporate that information into the regional plan, as appropriate.
7. Consider the FMPs identified through the FMEs performed by TWDB on behalf of the RFPG.
8. Coordinate and communicate with the potential sponsors of FMPs identified through the performance of the FMEs by TWDB, including individual local governments, regional authorities, and other political subdivisions regarding their potential inclusion in the regional flood plan.
9. As appropriate, incorporate in accordance with Task 5A, by recommendation, additional FMPs resulting from the FME studies performed by TWDB on behalf of the RFPGs.
10. Summarize all work associated with this Task and incorporate it into the regional flood plan.
11. This effort will require a highly coordinated chain of events that will involve RFPGs, communities, TWDB, and TWDB contractors.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. RFPG approval of the FME list to be submitted to TWDB for TWDB to perform.
2. Facilitate development of, and reviews by impacted/benefitting communities, as appropriate, of initial FME scopes of work to support TWDB performance of FMEs and any resulting FMPs from the FMEs performed by TWDB.
3. Review of the chapter documents and related information by RFPG members.
4. Modifications to the chapter document based on RFPG, public, and/or agency comments.
5. Submittal of chapter document to TWDB for review and approval.
6. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:**

- Prepare a stand-alone Chapter 5 (including work from Tasks 5A and 5B) to be included in the 2028 Regional Flood Plan
- A list of FMEs recommended and approved by the RFPGs to be performed by TWDB to identify FMPs to be included in the current or the following cycle of the regional flood plans.

## Task 6A – Impacts of Regional Flood Plan

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.40.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to include:**

1. a region-wide summary of the relative reduction in flood risk that implementation of the RFP would achieve with regard to life, injuries, property, and other factors such as environment and agriculture.
2. a statement that the FMPs in the plan, when implemented, will not negatively affect neighboring areas located within or outside of the FPR.
3. a general description of the types of potential positive and negative socioeconomic or recreational impacts of the recommended FMPs and FMSs within the FPR.
4. a general description of the overall impacts of the recommended FMPs and FMSs in the Regional Flood Plan on the environment, agriculture, recreational resources, water quality, erosion, sedimentation, and navigation; and
5. a summary describing how RFPG recommendations in the RFP meet the needs identified during the needs analysis task as well as adopted goals.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** Prepare a stand-alone Chapter 6 (including work from both Tasks 6A & 6B) to be included in the 2028 Regional Flood Plan. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 6B – Contributions to and Impacts on Water Supply Development and the State Water Plan

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.41.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Include a region-wide summary and description of the contribution that the regional flood plan would have to water supply development including a list of the specific FMPs and FMSs that would contribute to water supply.

2. Include a description of any anticipated impacts, including to water supply or water availability or projects in the State Water Plan, that the regional flood plan FMPs and FMSs may have.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** Prepare a stand-alone Chapter 6 (including work from both Tasks 6A & 6B) to be included in the 2028 Regional Flood Plan. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 7 – Flood Response Information and Activities

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.42.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Summarize the nature and types of flood response preparations within the FPR including providing where more detailed information is available regarding recovery.
2. Coordinate and communicate, as necessary, with entities in the region to gather information.
3. RFPGs must not perform analyses or other activities related to planning for disaster response or recovery activities.
4. Plans to be considered in developing this chapter include relevant plans referenced under 31 TAC §361.22.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** Prepare a stand-alone Chapter 7 to be included in the 2028 Regional Flood Plan. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 8 – Administrative, Regulatory, and Legislative Recommendations

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.43.

The objective of this task is to prepare a separate chapter to be included in the 2028 Regional Flood Plan that presents the RFPG’s administrative, legislative, and regulatory recommendations.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to develop:**

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.
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.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** Prepare a stand-alone Chapter 8 to be included in the 2028 Regional Flood Plan. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 9 – Flood Infrastructure Financing Analysis

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must include all work necessary to meet all the requirements of 31 TAC §361.44.

The objective of this task is to report on how sponsors of recommended FMPs propose to finance projects.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Coordinate and communicate with individual local governments, regional authorities, and other political subdivisions.

2. Perform a survey, including the following work:
  - a. Contacting FME and FMP sponsors.
  - b. Collection and collation of data.
  - c. Documentation of the effectiveness of survey methodology, providing percent survey completions, and whether an acceptable minimum percent survey completion was achieved.
  - d. Submission of data.
3. Coordinate with FME and FMP sponsors as necessary to ensure detailed needs and costs associated with their anticipated evaluations and projects are sufficiently represented in the Regional Flood Plan for future funding determinations.
4. Indicate how individual local governments, regional authorities, and other political subdivisions in their region propose to finance the region's recommended FMPs, and FMEs included in their flood plan. The assessment must also describe what role the RFPG proposes for the state in financing recommended FMPs, and FMEs. As projects are implemented, those improvements and associated benefits must be incorporated into and reflected in the subsequent Regional Flood Plans.
5. Summarize the survey results.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** A completed Chapter 9 must be delivered in the 2028 Regional Flood Plan to include a summary of reported financing approaches for all recommended FMPs and FMEs. Data must be submitted in accordance with TWDB guidance documents. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## Task 10 – Public Participation and Plan Adoption

The objective of this task is to address public participation, public meetings, eligible administrative and technical support activities, and other requirements and activities eligible for reimbursement. Objectives also include activities necessary to complete and submit a draft and final Regional Flood Plan and obtain TWDB approval of the Regional Flood Plan.

In this task, the RFPG must evaluate and ensure that the draft and final Regional Flood Plan satisfies the requirements for regional flood plans in the guidance principles adopted in Title 31 TAC §362.3 and must include a statement in the draft and final Regional Flood Plan explaining how the Regional Flood Plan satisfies the requirements of each of the guidance principles in accordance with Title 31 TAC §361.20.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. In addition to generally meeting all applicable statute requirements governing regional and state flood planning this portion of work must, in particular, include all technical and administrative support activities necessary to meet all the requirements of 31 TAC Chapters 361 and 362 that are not already addressed under the scope of work associated with other contract Tasks but that are necessary and or required to complete and deliver an draft Regional Flood Plan and final, adopted Regional Flood Plan to TWDB and obtain approval of the adopted Regional Flood Plan by TWDB.
2. Organization, support, facilitation, and documentation of all meetings associated with preplanning meeting; consideration of a substitution of alternative flood management strategies; public meeting after adoption of the draft Regional Flood Plan and prior to adoption of the final Regional Flood Plan; and consideration of Regional Flood Plan amendments, alternative FMS substitutions, or Board-directed revisions.

**Technical Support and Administrative Activities**

1. RFPGs must support and accommodate periodic presentations by the TWDB for the purpose of orientation, training, and retraining as determined and provided by the TWDB during regular RFPG meetings.
2. Attendance and participation of technical consultants at RFPG, subgroup, subcommittees, special and or other meetings including preparation and follow-up activities.
3. Developing technical and other presentations and handout materials for regular and special meetings to provide technical and explanatory data to the RFPG and its subcommittees, including follow-up activities.
4. Administrative and technical support and participation in RFPG activities, and documentation of any RFPG workshops, work groups, subgroup and/or subcommittee activities.
5. Technical support and administrative activities associated with periodic and special meetings of the RFPG including developing agendas and coordinating activities for the RFPG.
6. Provision of progress reports to TWDB for work performed under this Contract.
7. Development of draft and final responses for RFPG approval to public questions or comments as well as approval of the final responses to comments on Regional Flood Plan documents.
8. Intra-regional and inter-regional coordination and communication, and or facilitation required within the FPR and with other RFPGs to develop a Regional Flood Plan.
9. Incorporation of all required data and reports into Regional Flood Plan document.
10. Modifications to the Regional Flood Plan documents based on RFPG, public, and or agency comments.
11. Preparation of a Regional Flood Plan chapter summarizing Task 10 activities including review by RFPG and modification of document as necessary.
12. Development and inclusion of Executive Summaries in both draft Regional Flood Plan and final Regional Flood Plan.
13. Production, distribution, and submittal of all draft and final Regional Flood Plan-related planning documents for RFPG, public and agency review, including in hard-copy format when required.



14. Assembling, compiling, and production of the completed draft Regional Flood Plan and Final Regional Flood Plan document(s) that meet all requirements of statute, 31 TAC Chapters 361 and 362, Contract and associated guidance documents.
15. Submittal of the Regional Flood Plan documents in both hard copy and electronic formats to TWDB for review and approval; and all effort required to obtain final approval of the Regional Flood Plan by TWDB.

#### **Other Activities**

1. Review of all Regional Flood Plan-related documents by RFPG members.
2. Development and maintenance of a RFPG website or RFPG-dedicated webpage on the RFPG administrator's website for posting planning group meeting notices, agendas, materials, and plan information.
3. Limited non-labor, direct costs associated with maintenance of the RFPG website.
4. Development of agendas, presentations, and handout materials for the public meetings to provide to the public.
5. Documentation of meetings to include recorded minutes and/or audio recordings as required by the RFPG bylaws and archiving and provision of minutes to public.
6. Preparation and transmission of correspondence, for example, directly related to public comments on Regional Flood Plan documents.
7. Promoting consensus decisions through conflict resolution efforts including monitoring and facilitation required to resolve issues between and among RFPG members and stakeholders in the event that issues arise during the process of developing the Regional Flood Plan, including mediation between RFPG members, if necessary.
8. RFPG membership solicitation activities.
9. Meeting all posting, meeting, and other public notice requirements in accordance with the open meetings act, statute, and 31 TAC §361.21 and any other applicable public notice requirements.
10. Solicitation, review, and dissemination of public input, as necessary.
11. Any efforts required, but not otherwise addressed in other SOW tasks that may be required to complete a Regional Flood Plan in accordance with all statute and rule requirements.

#### **Deliverables:**

- A completed Chapter 10 summarizing public participation activities and appendices with public comments and RFPG responses to comments.
- Complete draft Regional Flood Plan and final, adopted Regional Flood Plan documents.
- Any additional deliverables identified in the TWDB Flood Planning guidance documents.

## **Task 11 – Implementation and Comparison to Previous Regional Flood Plan**

In addition to generally meeting all applicable rules and statute requirements governing regional and state flood planning under 31 TAC Chapters 361 and 362, this portion of work must specifically include all work necessary to meet all the requirements of 31 TAC §361.45.

The objective of this task is to.

**This Task includes, but is not limited to, performing all work in accordance with TWDB rules and guidance required to:**

1. Collect information from local sponsors of FMEs, FMSs, and FMPs regarding implementation of previously recommended FMEs, FMSs, and FMPs and provide to the EA; and
2. Include a general description of how the new RFP differs from the previous plan including with regards to the status of existing flood infrastructure, flood mitigation achieved, goals, and changes to the recommended FMEs, FMSs, and FMPs.

The information gathered and developed in preparation of this chapter must be subject to the following review process prior to submission of any deliverables:

1. Review of the chapter documents and related information by RFPG members.
2. Modifications to the chapter document based on RFPG, public, and/or agency comments.
3. Submittal of chapter document to TWDB for review and approval.
4. All effort required to obtain final approval of the Regional Flood Plan chapter by TWDB.

**Deliverables:** A completed Chapter 11 must be delivered in the 2028 Regional Flood Plan to include information regarding differences between the plans. Data must be submitted in accordance with TWDB guidance documents. Any additional deliverables identified in the TWDB Flood Planning guidance documents.

RFPGs must submit all data deliverables, related regional flood plan chapters, and related documents, as applicable, in the FINAL REGIONAL FLOOD PLAN, including required GIS files, maps, etc., to reflect work performed. Data must be organized and summarized in the Regional Flood Plan in accordance with TWDB Flood Planning guidance documents.

## Summary of Recommended Funding Allocations for the Second Cycle of Regional Flood Planning (2023 -2028)

TASK		REGION														
		1. Canadian-Upper Red	2. Lower Red-Sulphur-Cypress	3. Trinity	4. Sabine	5. Neches	6. San Jacinto	7. Upper Brazos	8. Lower Brazos	9. Upper Colorado	10. Lower Colorado-Lavaca	11. Guadalupe	12. San Antonio	13. Nueces	14. Upper Rio Grande	15. Lower Rio Grande
<b>1</b>	Planning Area Description	\$115,255.00	\$103,920.00	\$142,890.00	\$107,565.00	\$119,735.00	\$188,500.00	\$117,255.00	\$126,030.00	\$116,200.00	\$130,625.00	\$107,230.00	\$107,315.00	\$132,695.00	\$129,590.00	\$155,195.00
<b>2A</b>	Existing Condition Flood Risk Analyses	\$161,357.00	\$145,488.00	\$200,046.00	\$150,591.00	\$167,629.00	\$263,900.00	\$164,157.00	\$176,442.00	\$162,680.00	\$182,875.00	\$150,122.00	\$150,241.00	\$185,773.00	\$181,426.00	\$217,273.00
<b>2B</b>	Future Condition Flood Risk Analyses	\$161,357.00	\$145,488.00	\$200,046.00	\$150,591.00	\$167,629.00	\$263,900.00	\$164,157.00	\$176,442.00	\$162,680.00	\$182,875.00	\$150,122.00	\$150,241.00	\$185,773.00	\$181,426.00	\$217,273.00
<b>3A</b>	Evaluation and Recommendations on Floodplain Management Practice	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>3B</b>	Flood Mitigation Needs Analysis	\$46,102.00	\$41,568.00	\$57,156.00	\$43,026.00	\$47,894.00	\$75,400.00	\$46,902.00	\$50,412.00	\$46,480.00	\$52,250.00	\$42,892.00	\$42,926.00	\$53,078.00	\$51,836.00	\$62,078.00
<b>3C</b>	Flood Mitigation and Floodplain Management Goals	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>4A</b>	Identification and Evaluation of Potential Flood Management Evaluations and Potentially Feasible Flood Management Strategies and Flood Mitigation Projects	\$230,510.00	\$207,840.00	\$285,780.00	\$215,130.00	\$239,470.00	\$377,000.00	\$234,510.00	\$252,060.00	\$232,400.00	\$261,250.00	\$214,460.00	\$214,630.00	\$265,390.00	\$259,180.00	\$310,390.00
<b>4B</b>	Prepare and Submit Technical Memorandum	\$46,102.00	\$41,568.00	\$57,156.00	\$43,026.00	\$47,894.00	\$75,400.00	\$46,902.00	\$50,412.00	\$46,480.00	\$52,250.00	\$42,892.00	\$42,926.00	\$53,078.00	\$51,836.00	\$62,078.00
<b>4C</b>	Performance of Identified Flood Management Evaluations	\$576,275.00	\$519,600.00	\$714,450.00	\$537,825.00	\$598,675.00	\$942,500.00	\$586,275.00	\$630,150.00	\$581,000.00	\$653,125.00	\$536,150.00	\$536,575.00	\$663,475.00	\$647,950.00	\$775,975.00
<b>5A</b>	Recommendation of flood management evaluations, flood mitigation projects and flood management strategies	\$230,510.00	\$207,840.00	\$285,780.00	\$215,130.00	\$239,470.00	\$377,000.00	\$234,510.00	\$252,060.00	\$232,400.00	\$261,250.00	\$214,460.00	\$214,630.00	\$265,390.00	\$259,180.00	\$310,390.00
<b>5B</b>	Recommend a list of flood management evaluations to be performed by TWDB	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>6A</b>	Impacts of Regional Flood Plan	\$69,153.00	\$62,352.00	\$85,734.00	\$64,539.00	\$71,841.00	\$113,100.00	\$70,353.00	\$75,618.00	\$69,720.00	\$78,375.00	\$64,338.00	\$64,389.00	\$79,617.00	\$77,754.00	\$93,117.00
<b>6B</b>	Contributions to and Impacts on Water Supply Development and the State Water Plan	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>7</b>	Flood Response Information and Activities	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>8</b>	Administrative, Regulatory, and Legislative Recommendations	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>9</b>	Flood Infrastructure Financing Analysis	\$46,102.00	\$41,568.00	\$57,156.00	\$43,026.00	\$47,894.00	\$75,400.00	\$46,902.00	\$50,412.00	\$46,480.00	\$52,250.00	\$42,892.00	\$42,926.00	\$53,078.00	\$51,836.00	\$62,078.00
<b>10</b>	Public Participation and Plan Adoption	\$461,020.00	\$415,680.00	\$571,560.00	\$430,260.00	\$478,940.00	\$754,000.00	\$469,020.00	\$504,120.00	\$464,800.00	\$522,500.00	\$428,920.00	\$429,260.00	\$530,780.00	\$518,360.00	\$620,780.00
<b>11</b>	Implementation and Comparison to Previous Regional Flood Plan	\$23,051.00	\$20,784.00	\$28,578.00	\$21,513.00	\$23,947.00	\$37,700.00	\$23,451.00	\$25,206.00	\$23,240.00	\$26,125.00	\$21,446.00	\$21,463.00	\$26,539.00	\$25,918.00	\$31,039.00
<b>TOTAL</b>		\$2,305,100.00	\$2,078,400.00	\$2,857,800.00	\$2,151,300.00	\$2,394,700.00	\$3,770,000.00	\$2,345,100.00	\$2,520,600.00	\$2,324,000.00	\$2,612,500.00	\$2,144,600.00	\$2,146,300.00	\$2,653,900.00	\$2,591,800.00	\$3,103,900.00