

Chapter 4: Assessment and Identification of Flood Mitigation Needs

Task 4A: Flood Mitigation Needs Analysis

This chapter describes the process adopted by the RFPG to conduct the Flood Mitigation Needs Analysis (Task 4A), resulting in identifying the areas with the greatest gaps in flood risk knowledge and the areas of greatest known flood risk and mitigation needs. The Task 4A process is a big picture assessment that helps guide the subsequent Task 4B effort of identifying Flood Management Evaluations (FMEs), Flood Mitigation Projects (FMPs), and Flood Management Strategies (FMSs). **Table 4.1** provides a summary of the TWDB guidance and factors that were considered in the Flood Mitigation Needs Analysis.

Table 4.1: TWDB Guidance and Factors to Consider

Guidance	Factors to Consider
1. Most prone to flooding that threatens life and property	<ul style="list-style-type: none"> • Buildings and Critical Facilities within 100-yr floodplain • Low water crossings • Agricultural and ranching areas in 100-yr floodplain
2. Locations, extent and performance of current floodplain management and land use policies and infrastructure	<ul style="list-style-type: none"> • Communities not participating in NFIP • Disadvantaged / Underserved communities • City / County design manuals • Land use policies • Floodplain ordinance(s)
3. Inadequate inundation mapping	<ul style="list-style-type: none"> • No mapping • Presence of Fathom/BLE/FEMA Zone A flood risk data • Detailed FEMA models older than 10 years
4. Lack of hydrologic and hydraulic (H&H) models	<ul style="list-style-type: none"> • Communities with zero or limited models
5. Emergency need	<ul style="list-style-type: none"> • Damaged or failing infrastructure • Other emergency conditions
6. Existing modeling analyses and flood risk mitigation plans	<ul style="list-style-type: none"> • Exclude flood mitigation plans already in implementation • Leverage existing models, analyses, and flood risk mitigation plans
7. Previously identified and evaluated flood mitigation projects	<ul style="list-style-type: none"> • Exclude flood mitigation projects already in implementation • Leverage existing flood mitigation projects
8. Historic flooding events	<ul style="list-style-type: none"> • Disaster declarations • Flood insurance claim information • Areas with a history of flooding according to survey responses • Other significant local events
9. Previously implemented flood mitigation projects	<ul style="list-style-type: none"> • Exclude areas where flood mitigation projects have already been implemented unless significant residual risk remains
10. Additional other factors deemed relevant by RFPG	<ul style="list-style-type: none"> • Alignment with RFPG goals • Alignment with TWDB guidance principles • Social Vulnerability Index (SVI)

4A.1: Process and Scoring Criteria

The main objectives of Task 4A are to identify the areas of greatest **known flood risk** and areas where the greatest **flood risk knowledge gaps** exist. The Task 4A analysis is based on a geospatial process that combines information from multiple datasets representing several of the factors listed in **Table 4.1** and provides a basis for achieving the Task 4A objectives. The geospatial process was developed in GIS and was based on the data collected in Tasks 1 through 3. A variety of data sources were used in this assessment, including GIS data collected directly from stakeholders during outreach efforts. During the data collection phase, stakeholders participated in an online survey where they were able to respond geographically on a map. The stakeholder responses, as of September 16, 2021, were directly applied to this assessment.

The geospatial assessment was prepared at a HUC-12 watershed level of detail, which is consistent with the minimum watershed size for Task 4B specified in the Technical Guidelines (at least 1 square mile). A Hydrologic Unit Code (HUC) is a unique code assigned to watersheds in the United States. As the watersheds get smaller, the number of units used to identify them get longer. Therefore, the smallest unit of division used to identify a watershed is 12 digits, or a HUC-12. The Trinity Region has a total of 471 HUC-12 watersheds, with an average size of 40 square miles.

A total of 13 data categories (listed later in **Table 4.2**) were used in the geospatial assessment. A scoring range was determined for each data category based on the statistical distribution of the data. The scoring ranges vary for each category based on the HUC-12s with the smallest and largest quantity. A uniform scoring scale of zero to five was adopted and each HUC-12 was assigned an appropriate score for each category. The scores for each HUC-12 under each category were then added to obtain a total score that was used to reveal the areas of greatest known flood risk. The Inadequate Inundation Mapping category (see Section 4A.1.c) was selected as the basis for determining the areas where the greatest flood risk knowledge gaps exist.

The following sections provide a brief description of the data categories included and how each HUC-12 watershed was scored. Note that the objective of the Task 4A process is to determine the factors that are present within a given HUC-12, and to what degree; not necessarily to determine the relative importance of each factor in determining flood risk. Therefore, no weight has been applied to emphasize one factor over another at this time.

4A.1.a. Areas Most Prone to Flooding that Threatens Life and Property

4A.1.a.1 Buildings in the 100-year Floodplain

The buildings footprints dataset was provided by the TWDB on the Data Hub. This dataset was divided into point values based on the total number of buildings in the 100-year floodplain within each HUC-12. The count ranged widely throughout the region, with rural HUC-12s only having 1-2 buildings in the floodplain, while major urban centers may have over 1,000 buildings in the floodplain. The points breakdown for this metric is shown in **Table 4.2**.

4A.1.a.2 Low Water Crossings

Low Water Crossings were identified in Tasks 1 and 2 and were downloaded from the TWDB Data Hub. Low Water Crossing data was also provided by communities through the data collection portal

developed for the Trinity Region. Task 2 also identified a few more based on bridge deck elevation from LiDAR data and flood depths. This category is scored based on the quantity of low water crossings occurring in a HUC-12. The points breakdown for this metric is shown in **Table 4.2**.

4A.1.a.3 Agricultural Areas at Risk of Flooding

Agricultural areas have been defined for this task as a land use of either farming or ranching. Impacted agricultural areas are those intersecting the 100-year floodplain as determined in the flood exposure analysis (See Chapter 2). This layer will emphasize rural HUC-12s where agricultural impacts due to flooding are most prominent. The total impacted agricultural area in each HUC-12 was the criteria considered to assign points. The points breakdown for this metric is shown in **Table 4.2**.

4A.1.a.4 Existing Critical Facilities

Critical facilities for this assessment include hospitals, schools, fire stations, shelters, and electric and gas lines. Critical facilities within the 100-year floodplain were identified as part of the flood exposure analysis (See Chapter 2). The stakeholders were able to update the existing critical facilities by adding or removing facilities in the web GIS survey from Task 2. A total of 159 critical facilities were added by survey participants and 26 were removed or corrected. This category is scored based on the total number of critical facilities identified within the 100-year floodplain. The points breakdown for this metric is shown in **Table 4.2**.

4A.1.a.5 Locations where the Road Floods

This dataset is based on survey responses from Task 2. Survey participants identified roads that are prone to flooding by drawing lines on the interactive map. A total of 49 locations were added by survey participants. Although this factor primarily addresses water over roadways, it also represents potential urban flooding scenarios. Each line entered was given 1 point. If the line was drawn across multiple HUC-12s, then both HUCs receive a point. The points breakdown for this metric is shown in **Table 4.2**.

Table 4.2: Task 4A Scoring Ranges: Areas Most Prone to Flooding that Threatens Life and Property

Score (points)	0	1	2	3	4	5
Number of Buildings	0	1-50	51-250	251-500	501-750	751+
Number of Low Water Crossings	0	1-5	6-10	11-15	16-20	21+
Total Agricultural Area (sq. mi.)	0	0.01-0.35	0.36-2	2.01-3	3.01-5.5	5.51+
Number of Critical Facilities	0	1-5	5-10	11-25	26-50	51+
Number of Locations where Roads Flood	0	1	2	3	4	5+

4A.1.b. Current Floodplain Management and Land Use Policies and Infrastructure

4A.1.b.1 Communities Not Participating in the NFIP

Participation in the NFIP was considered as a proxy for having adequate floodplain management regulations in a given community. The NFIP participation status for each community is presented in Chapter 3. Non-participating communities are not eligible for flood insurance under the NFIP. Furthermore, if a presidentially declared disaster occurs as a result of flooding, no federal financial assistance can be provided to non-participating communities for repairing or reconstructing insurable buildings in Special Flood Hazard Areas. Therefore, this analysis considered non-NFIP communities as being more vulnerable to flooding risks. If most of the HUC-12 ($\geq 50\%$) intersected a non-NFIP community it was assigned 5 points. Otherwise, no points were allocated. Non-NFIP communities are mostly clustered in the mid-basin area, with others dispersed throughout the region. The points breakdown for this metric is shown in **Table 4.3**.

Table 4.3: Task 4A Scoring Range: Current Floodplain Management and Land Use Policies and Infrastructure

Score (points)	0	1	2	3	4	5
Community	NFIP Participant					Non-NFIP Participant

4A.1.c. Areas Without Adequate Inundation Maps

4A.1.c.1 Inadequate Inundation Mapping

This analysis is completed using the ExFldHazard layer. This layer contains existing seamless floodplain quilt inundation boundaries gathered for the Trinity Region in Task 2. The floodplain quilt attributes includes the source of the floodplain data. Based on the definitions of the source data from TWDB¹, the RFPG assumed that the sources that represented adequate inundation mapping data are:

- National Flood Hazard Layer (NFHL) Preliminary Data (Zones AE, AH, AO, VE, and X)
- NFHL Effective Data (Zones AE, AH, AO, VE, and X)

The following data sources were considered inadequate inundation mapping data in this assessment as they are not considered appropriate for regulatory purposes:

- Base Level Engineering (BLE)
- NFHL Zone A
- First American Flood Data Services (FAFDS)
- Fathom

The total floodplain area (from all sources in the floodplain quilt) and the amount of inadequate floodplain data in each HUC-12 were calculated. This computation produced a percentage of the HUC-12 floodplain data that is considered inadequate for the purposes of this assessment. The HUC-12s with the highest percentages of inadequate data appear in the very far north and the middle of the region. The points breakdown for this metric is shown in **Table 4.4**.

¹ <https://twdb-flood-planning-resources-twdb.hub.arcgis.com/pages/flood-quilt-pri>

Table 4.4: Task 4A Scoring Range: Areas Without Adequate Inundation Maps

Score (points)	0	1	2	3	4	5
% Inadequate	0	0.01-20%	21-50%	51-75%	76-90%	90%+

4A.1.d. Areas Without Hydrologic & Hydraulic Models

The existing hydrologic and hydraulic (H&H) models that were identified for the Trinity Region are presented in Chapter 2. A separate scoring criteria was not developed for this category since the risk associated with lack of technical data is already being considered by the “Inadequate Inundation Mapping” category (Section 4A.1.c.1). Any areas with detailed mapping are presumed to have hydrologic and hydraulic modeling.

4A.1.e. Areas with Emergency Needs

The RFPG has developed a definition for Emergency Needs based on regional needs and input from the planning committee. Areas with Severe Repetitive Loss, critical facilities within the 1% annual chance flood area, and locations identified as having high number of fatalities associated with it are the three metrics the Trinity region has decided to use to attribute as Emergency Need. For a more detailed description, please see the Emergency Needs section in 4B.

4A.1.f. Existing Modeling Analyses and Flood Risk Mitigation Plans

Hazard Mitigation Action Plans were identified for all 38 Counties within the Trinity Region. Therefore, this category was not included in the assessment since it does not provide any differentiation regarding flood risk within the Region.

4A.1.g. Flood Mitigation Projects Previously Identified

Per the public survey responses, only two (2) projects were identified as in progress and having dedicated funding in place (see Section 2A.2.b). Due to the limited data available, this category was not included in this assessment.

4A.1.h. Historic Flooding Events

4A.1.h.1 Report Flood Concerns

This category was generated by the community responses to the survey in Task 2. A total of 110 data point data locations were provided by survey participants. This dataset primarily includes flood concerns related to undersized storm drain systems and localized street flooding. The score for this factor was based on the count of flood concern locations within each HUC-12 as input by survey participants. The points breakdown for this metric is shown in **Table 4.5**.

4A.1.h.2 FEMA Claims

This dataset compiles all the FEMA flood claims within the Trinity Region as of July 31st, 2021. The geospatial data assigned to the claims was highly redacted. Therefore, the RFPG opted for using the cities to which the flood claims were assigned. Each city was divided into the HUC-12s that intersected the city limits. The number of flood claims for each city was divided proportionately amongst the HUC-

12s composing each city. Most of the claims recorded in this dataset occurred in the DFW metropolitan area. The points breakdown for this metric is shown in **Table 4.5**.

4A.1.h.3 Historic Storm Events

The occurrence of historic storms events was evaluated using the NOAA National Centers for Environmental Information Storm Events Database². This database compiles historic storm events from 1950 to 2021. This dataset is an official NOAA publication which documents:

- a) The occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce.
- b) Rare, unusual, weather phenomena that generate media attention.
- c) Other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occur in connection with another event.

Storm events are included in this database following the procedures established in the National Weather Service Directive number 10-1605 – Storm Data Preparation³. Storm events are subdivided into 48 categories, which include flood related events as well as other natural hazards. Three primary categories were selected for this assessment: Floods, Flash Floods, and Heavy Rain. A total of 837 storm events were reported for the Trinity Region between 1996 and 2020, consisting of 158 floods, 660 flash floods, and 19 heavy rain events. Each event includes the source of data and a narrative describing the details of the event.

The number of historic storm events occurring within each HUC-12 was tabulated and scores were assigned according to the points breakdown shown in **Table 4.5**.

4A.1.h.4 Damages from Historic Storms

In addition to the frequency of historic storm events, the severity of these events was also considered in the assessment. Event severity was represented by reported damages, injuries, and deaths associated with each event as recorded in the Historic Storm Events database. A score of 0 to 5 points was first assigned based on reported property damages (see scoring scale in **Table 4.5**). One additional point was added if injuries were reported, and 2 additional points if deaths were reported.

4A.1.h.5 Areas with a History of Flooding / Areas that need Mitigation

The data collection survey performed in Task 2 also provided an opportunity for participants to mark areas in their communities that repetitively flood or that they consider to be in need of mitigation. A total of 87 data points were provided by survey participants. Within each HUC-12 boundary, the number of areas marked were scored according to the scale shown in **Table 4.5**. This dataset is limited to locations identified by stakeholders in the Task 2 survey.

² <https://www.ncdc.noaa.gov/stormevents/details.jsp>

³ <https://www.nws.noaa.gov/directives/sym/pd01016005curr.pdf>

Table 4.5: Task 4A Scoring Ranges: Historic Flood Events

Score (points)	0	1	2	3	4	5
Number of Flood Concerns	0	1	2	3	4	5+
Number of FEMA Claims	0	1-5	6-10	11-30	31-50	51+
Number of Historic Storms Events	0	1-2	3-4	5-6	7-8	9+
Property Damages (\$)*	0	1-10,000	10,001-30,000	30,001-100,000	100,001-500,000	500,000+
Number of Areas with History of Flooding or need Mitigation	0	1	2	3	4	5+

* One additional point was added if injuries were reported, and 2 additional points if deaths were reported.

4A.1.i. Previously Implemented Flood Mitigation Projects

Per the data collection survey responses, no flood mitigation project was identified as previously implemented (see Section 2B.1.a) and therefore this category was not included in this assessment.

4A.1.j. Other Factors

4A.1.e.1 Social Vulnerability Index (SVI)

As discussed in chapter 2, SVI refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. SVI values for the State of Texas were downloaded from the Centers for Disease Control and Prevention’s (CDC) Agency for Toxic Substances and Disease Registry (ATSDR) website⁴. The most recent SVI values published on the website (2018) were used in this assessment. SVI values are assigned per census tract, which needed to be converted to SVI per HUC-12. SVI values were assigned to each HUC-12 based on an area-weighted average. The percent of a census tract that intersects a HUC-12 was multiplied by the SVI for the census tract. This procedure is followed for all census tracts intersecting a HUC-12 boundary, and those weighted SVI values are added together to produce one SVI value for each HUC-12. The SVI ratings vary between 0-1 and were scored according to **Table 4.6**. The higher the SVI, the higher the vulnerability of a community; the lower the SVI, the higher the resilience. Overall, the HUC-12s in the middle and lower portions of the region resulted in the highest SVI values.

Table 4.6: Task 4A Scoring Ranges: SVI ratings

Score (points)	1	2	3	4	5
SVI rating	0.01-0.16	0.17-0.33	0.34-0.50	0.51-0.67	0.67+

⁴ <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

4A.2: Scoring Example

Five HUC-12 basins were selected to demonstrate in detail the scoring process described in **Section 4A.1**. The selected basins are located in the same general area of the region, on the Lower Trinity-Kickapoo and Lower Trinity subbasins, south of Lake Livingston (see **Figure 4.1**). These 5 basins, labeled A through E for simplicity, had a wide variety of scores for each category and resulted in total scores that represent the entire range of known flood risk levels as defined in this assessment.

Figure 4.1: Example Task 4A HUC-12 Scoring

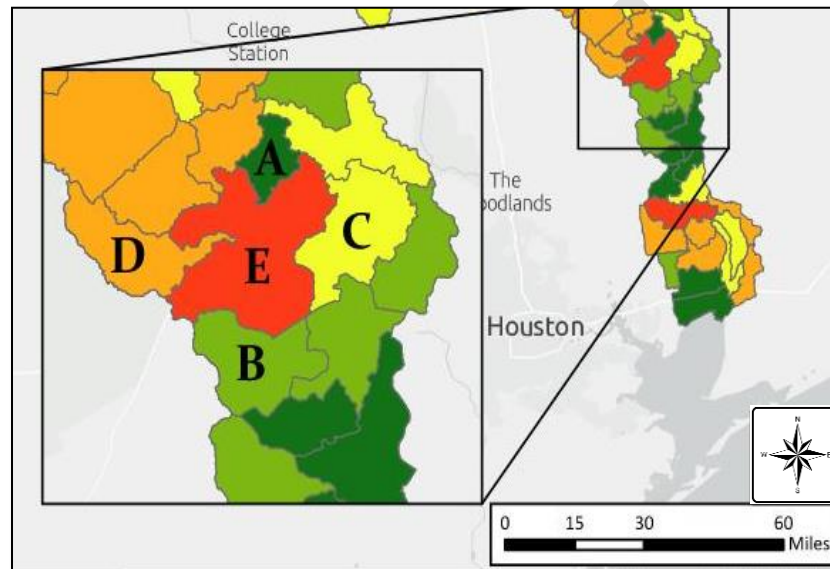


Table 4.7 shows the detailed scores for the selected HUC-12 basins. These results are presented graphically in **Figure 4.2**. This data demonstrates how the combination of different factors can help determine if a given HUC-12 has a high level of known flood risk relative to the others. In this example, basin E scored high in several categories, which resulted in the highest total score. Conversely, basin A only scored high in the SVI category, indicating a much lower level of known flood risk. However, the fact that a HUC-12 results in a low score does not necessarily mean that there is no flood risk in this area. The results for basin B show a relatively low total score, but it scored high in the SVI and inadequate inundation mapping categories. In addition, there are some buildings, critical facilities, and low water crossings that would be impacted by the 1% annual chance flood event. This clearly indicates that there is still a level of flood risk associated to this area, but not as significant as in basin E.

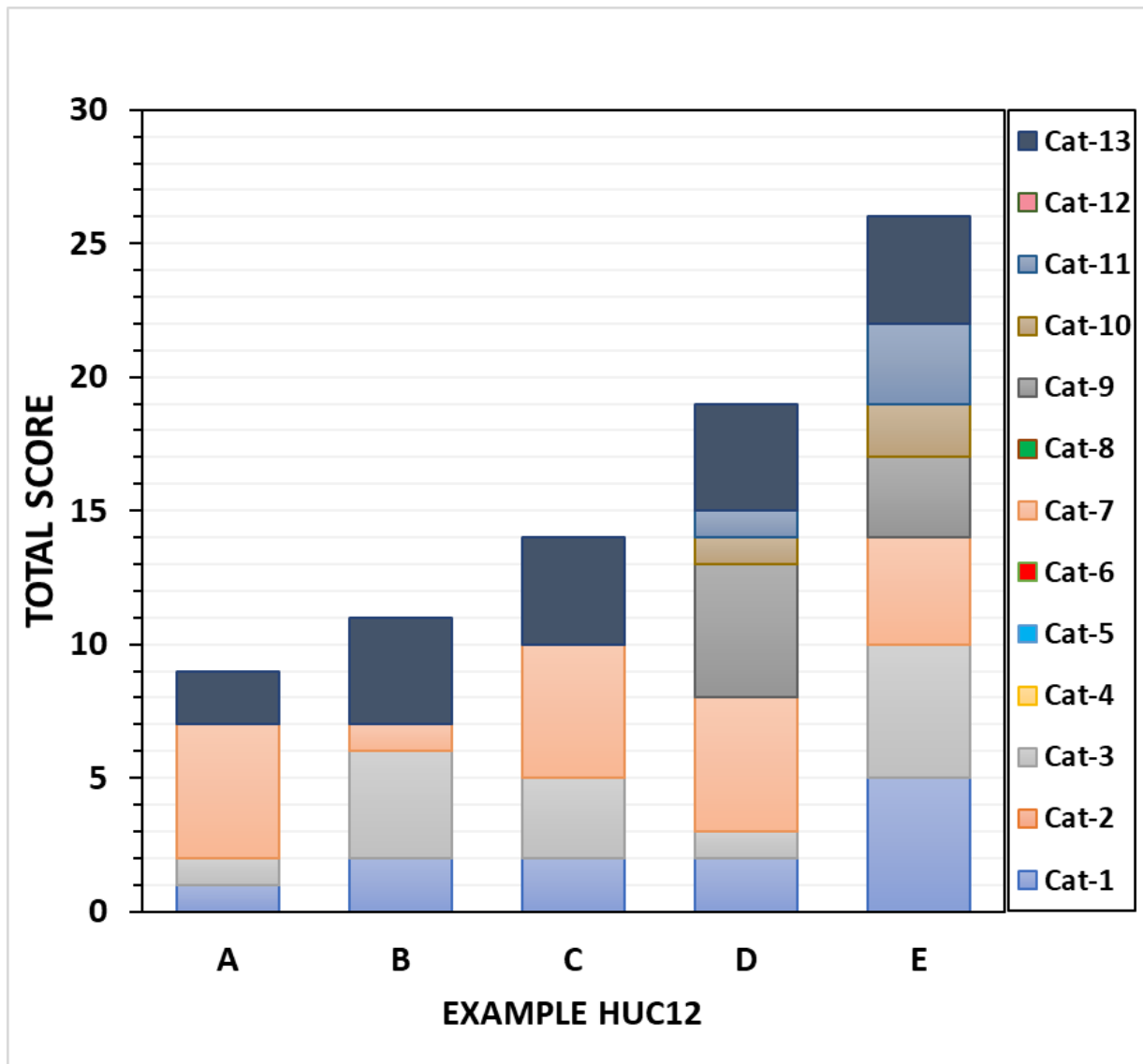
The Inadequate Inundation mapping category was selected as the basis for determining the areas where the greatest flood risk knowledge gaps exist. In this example, four of the selected HUC-12s scored high on this category, indicating that inundation maps in these areas are considered inadequate. This result indicates that there is significant uncertainty regarding floodplain boundaries in these areas and studies (FMEs) would be needed to reduce that uncertainty and in turn minimize flood risk.

Table 4.7: Example Task 4A HUC-12 Scoring

Category / Score	HUC12				
	A	B	C	D	E
Category 1 - # of Buildings	2	191	203	56	1018
Category 1 - Score	1	2	2	2	5
Category 2 - # of Crossings	0	0	0	0	0
Category 2 - Score	0	0	0	0	0
Category 3 - Agricultural Area Impacted (mi ²)	0.09	4.64	2.27	0.34	16.67
Category 3 - Score	1	4	3	1	5
Category 4 - # of Critical Facilities	0	0	0	0	0
Category 4 - Score	0	0	0	0	0
Category 5 - # of Locations where Road Floods	0	0	0	0	0
Category 5 - Score	0	0	0	0	0
Category 6 - NFIP Community	0	0	0	0	0
Category 6 - Score	0	0	0	0	0
Category 7 - Inadequate Inundation Mapping	100%	5%	96%	100%	84%
Category 7 - Score	5	1	5	5	4
Category 8 - # of Flood Concerns	0	0	0	0	0
Category 8 - Score	0	0	0	0	0
Category 9 - # of FEMA Claims	0	0	0	76	12
Category 9 - Score	0	0	0	5	3
Category 10 - # of Historic Storm Events	0	0	0	1	3
Category 10 - Score	0	0	0	1	2
Category 11 - Damages (\$)	0	0	0	\$ 10,000	\$ 35,000
Category 11 - Score*	0	0	0	1	3
Category 12 - # of Areas with History of Flooding	0	0	0	0	0
Category 12 - Score	0	0	0	0	0
Category 13 - SVI Rating	0.23	0.57	0.59	0.60	0.61
Category 13 - Score	2	4	4	4	4
Total Score	9	11	14	19	26

*HUC-12 did not have any injuries or deaths associated with the Historic Storms; therefore, no additional points were given for this category.

Figure 4.2: Distribution of Points and Total Score for HUC-12 examples



4A.3: Analysis Results

The process and scoring methodology described above was implemented across the entire Trinity Region. As previously discussed, this assessment was performed to address the two goals of Task 4A. The first goal is to identify the areas where the greatest **flood risk knowledge gaps** exist. The Inadequate Inundation Mapping category was selected as the basis for identifying these areas. Based on the data utilized in this preliminary assessment, approximately two-thirds of the Trinity watershed is considered inadequately mapped (as indicated by the red HUC-12s in **Figure 4.3**). Note that the red HUC-12s may contain studies that have been completed but are not yet regulatory products.

The second goal is to determine the areas of greatest **known flood risk** and flood mitigation needs. For each HUC-12 in the Trinity Region, the scores from the 13 categories were added to obtain a total score. All categories have an equal representation in the total score. This analysis also included the Inadequate

Inundation Mapping category because uncertainty itself is a risk. Based on the distribution of the final scores in this preliminary assessment, the top 10% were colored red, and the top 30% were colored either red or orange to highlight the areas with the greatest known flood risks (**Figure 4.4**). It is important to note that the fact that a HUC-12 resulted in a low score does not necessarily mean that there is no flood risk in this area, only that this risk is relatively low compared to the others.

The maps resulting from the Task 4A assessment served as a guide to the RFPG's subsequent efforts in Task 4B. The red and orange HUC-12s in **Figure 4.3** highlight the areas in the Trinity watershed where potentially feasible flood risk studies (FMEs) should be considered as part of Task 4B. The red and orange HUC-12s in **Figure 4.4** emphasize watersheds where the RFPG should strive to identify and implement FMSs and FMPs as part of Task 4B to reduce the known flood risks within those areas.

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Figure 4.3: Flood Risk Knowledge Gaps

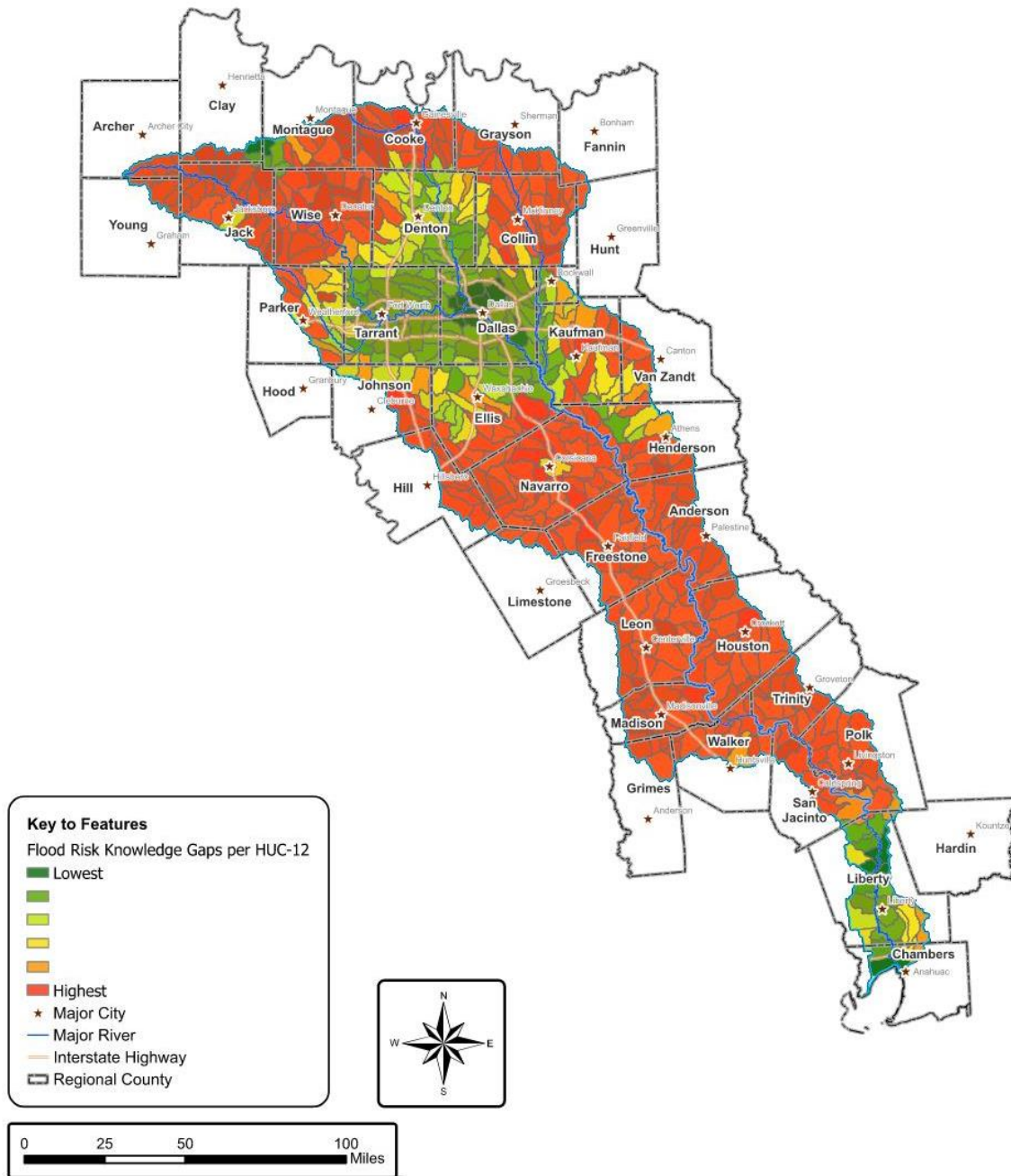
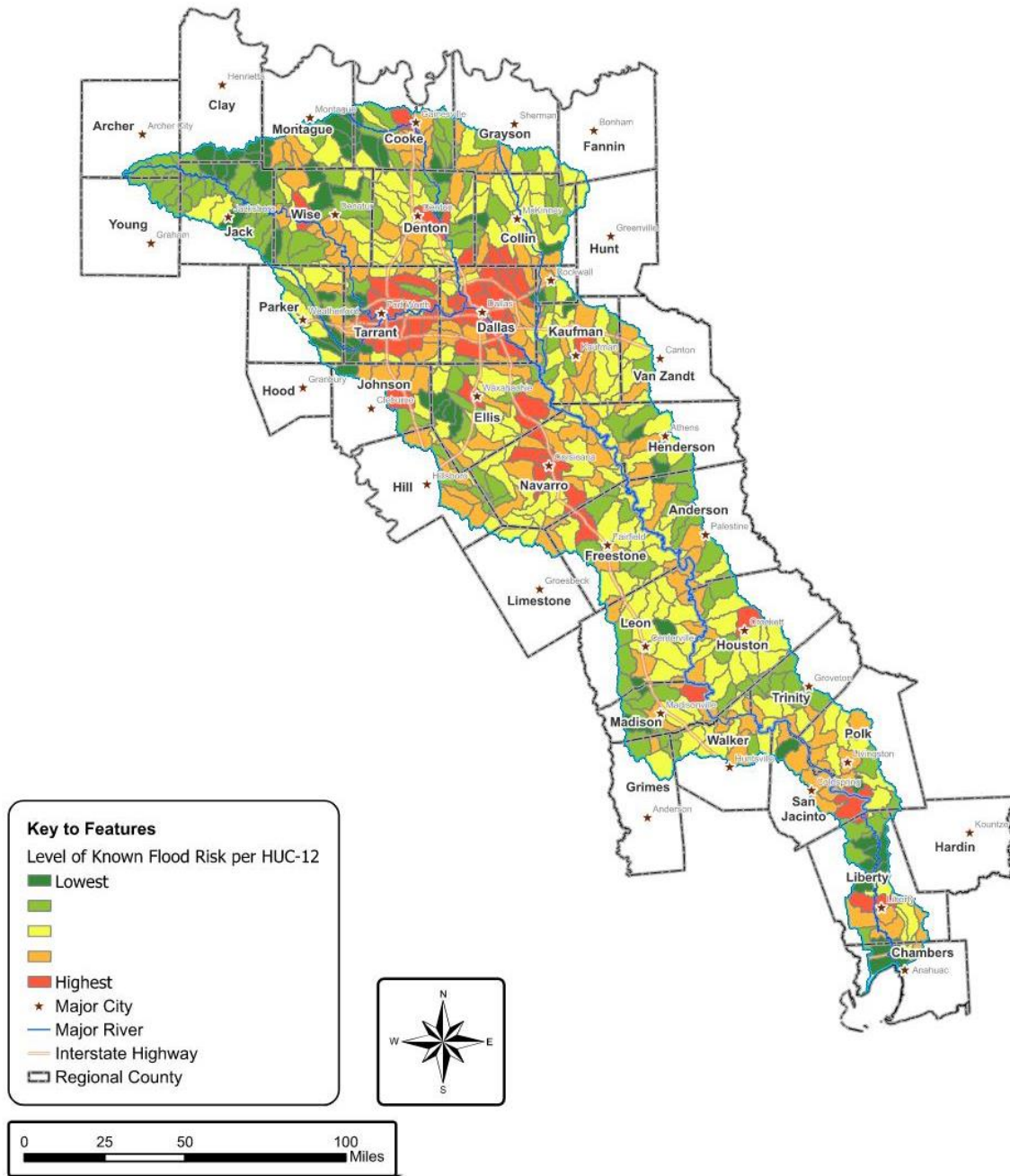


Figure 4.4: Areas of Greatest known Flood Risk



Task 4B: Identification and Evaluation of Potential Flood Management Evaluations, Potentially Feasible Flood Management Strategies, and Flood Mitigation Projects

4B.1 Process to Identify Flood Management Evaluations (FME), Flood Management Strategies (FMS), and Flood Mitigation Projects (FMP)

The goal of Task 4B is to identify and evaluate a wide range of potential actions to define and mitigate flood risk across the basin. These actions have been broadly categorized into three distinct types, as defined below:

- **Flood Management Evaluation (FME):** a proposed flood study of a specific, flood prone area that is needed in order to assess flood risk and/or determine whether there are potentially feasible FMSs or FMPs.
- **Flood Mitigation Project (FMP):** a proposed project, either structural or non-structural, that has non-zero capital costs or other non-recurring cost and when implemented will reduce flood risk or mitigate flood hazards to life or property.
- **Flood Management Strategy (FMS):** is a proposed plan to reduce flood risk or mitigate flood hazards to life or property.

Identification of potential FMEs and potentially feasible FMPs and FMSs begins with the execution of the Flood Mitigation Needs Analysis to identify the areas with the greatest gaps in flood risk knowledge and the areas of greatest known flood risk. This process and its outputs have been described previously in Section 4A. Based on the results of this analysis, several sources of data were used to develop a list of potential flood risk reduction actions for addressing the basin's needs. The data includes information compiled under previous tasks, such as:

- Existing flood infrastructure, flood projects currently in progress, and known flood mitigation needs (Task 1);
- Existing and future flood risk exposure and vulnerability (Tasks 2A and 2B);
- Floodplain management and flood protection goals and strategies developed by the RFPG for the Region (Task 3A and 3B); and
- Stakeholder input.

Once these datasets were identified and evaluated through initial screening and data gathering under this task, then the FMEs, FMSs, and FMPs were further evaluated in order to compile the necessary technical data for the RFPG to decide whether or not to recommend these actions, or a subset of these actions, as part of Task 5.

This first Regional Flood Planning cycle relies primarily on compiling readily available information to determine appropriate flood mitigation actions to recommend for inclusion in the Regional Flood Plan, rather than performing technical analyses to identify new actions.

The list of potential FMEs and potentially feasible FMSs and FMPs were compiled based on contributions from the RFPG and other regional stakeholders from sources such as previous flood studies, drainage master plans, flood protection studies, and capital improvement studies. In addition, plans that were

considered in the flood planning process include local and countywide Hazard Mitigation Plans, various Ordinances, and Planning and Zoning documents, as well as FEMA National Flood Hazard data. Each of these documents and datasets provide insight into the jurisdiction’s capabilities, the guidelines of each location, and the potential challenges of implementing FMEs, FMSs, and FMPs within the flood planning area. A list of data sources relevant to Flood Plan development for Region 3 are provided **Tables 4-8 through 4-10**.

In all, 38 counties and 7 cities within the Trinity Region had Hazard Mitigation Plans ranging from 2013 to 2021. Several communities provided their zoning and land use documents. Drainage studies, Flood Prevention Ordinances, Regulations for Floodplain Managements, and Flood Control Ordinances were also included in the planning process. All participating counties have data in the National Flood Hazard Layer, however, Trinity County does not have countywide data available. Additionally, seven counties have preliminary flood studies in progress to go effective in the near future.

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Table 4.8: Local Plans, Manuals, and Ordinances Submitted to the RFPG through the Survey

Document	Year
Anderson County Floodplain Resolution	2010
Chambers County Drainage Criteria Manual	2020
Chambers County Floodplain Regulations	2015
City of Addison Code of Ordinances	2021
City of Aledo Subdivision Ordinance	2007
City of Allen Land Development Code	2020
City of Alma Planning and Zoning	n/a
City of Alvarado Code of Ordinances	2018
City of Ames Subdivisions	2021
City of Anahuac Code Compliance	2021
City of Anna Code of Ordinances	2021
City of Burleson Design Standards Manual	2008
City of Burleson Future Land Use Map	n/a
City of Burleson Subdivision Regulations	2021
City of Combine Code of Ordinances	2018
City of Crockett Zoning Map	2006
City of Dallas Floodplain and Escarpment Zone Regulations	n/a
City of Decatur Executed Flood Control Ordinance	2011
City of Decatur Future Land Use Map	n/a
City of Decatur Zoning	n/a
City of Keene Flood Hazard Reduction	2012
City of Mansfield Flood Damage Prevention Ordinance	2013
City of Mansfield Storm Water Management Design Manual	2010
City of McKinney Engineering Design Manual	2021
City of McKinney Stormwater Management	2018
City of Mesquite Engineering Design Manual	2020
City of Mesquite Stormwater and Flood Prevention Ordinance	2012
City of Mont Belvieu Infrastructure Design and Construction Manual	2020
City of Mont Belvieu City Limits and ETJ Map	2021
City of Newark Floodplain Ordinance	2001
City of Retreat Code of Ordinances	1986
City of Sanger Comprehensive Land Use Plan	2007
City of Sanger Future Land Use Map	2007
City of Talty Flood Damage Prevention Ordinance	2009
City of Tioga Flood Damage Prevention Ordinance	1989
City of Tom Bean Comprehensive Zoning Ordinance and Zoning Ma	2008

Table 4.9: Local Plans, Manuals, and Ordinances Submitted to the RFPG through the Survey (Continued)

Document	Year
City of Whitesboro Floodplain Ordinance	2005
Denton County Floodplain Regulations	2019
Denton County Subdivision Rules and Regulations	2009
Fannin County Flood Damage Prevention Ordinance	2011
Fannin County Lake Zoning Regulations	2018
Kaufman County Floodplain Management Court Order	2019
Kaufman County Subdivision and Land Development Regulations	2019
Madison County Flood Damage Prevention Order	2011
Polk County Flood Damage Prevention Order	2019
Polk County Subdivision Regulations	2021
Town of Annetta North Floodplain Ordinance	2018
Town of Dish Comprehensive Plan Zoning Map	n/a
Town of Dish Zoning Map	2018
Town of St Paul Flood Damage Prevention	2009
Walker County Regulations for Flood Plain Management	1987

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Table 4.10: FEMA Flood Insurance Studies

Entity Name	Flood Insurance Study Name	Effective Date
Anderson	Anderson County, Texas and Incorporated Areas	2010
Archer	Archer County, Texas and Incorporated Areas	2021
Chambers	Chambers County, Texas and Incorporated Areas	2018
Clay	Clay County, Texas and Incorporated Areas	1991
Collin	Collin County, Texas and Incorporated Areas	2017
Cooke	Cooke County, Texas and Incorporated Areas	2008
Dallas	Dallas County, Texas and Incorporated Areas	2019
Denton	Denton County, Texas and Incorporated Areas	2020
Ellis	Ellis County, Texas and Incorporated Areas	2013
Fannin	Fannin County, Texas and Incorporated Areas	2011
Freestone		n/a
Grayson	Grayson County, Texas and Incorporated Areas	2010
Grimes	Grimes County, Texas and Incorporated Areas	2012
Hardin	Hardin County, Texas and Incorporated Areas	2010
Henderson	Henderson County, Texas and Incorporated Areas	2010
Hill	Hill County, Texas and Incorporated Areas	2019
Hood	Hood County, Texas and Incorporated Areas	2019
Houston	Houston County, Texas and Incorporated Areas	2011
Hunt	Hunt County, Texas and Incorporated Areas	2012
Jack	Jack County, Texas and Incorporated Areas	2021
Johnson	Johnson County, Texas and Incorporated Areas	2019
Kaufman	Kaufman County, Texas and Incorporated Areas	2020
Leon	Leon County, Texas and Incorporated Areas	2013
Liberty	Liberty County, Texas and Incorporated Areas	2018
Limestone	Limestone County, Texas and Incorporated Areas	2019
Madison	Madison County, Texas and Incorporated Areas	1991
Montague	Montague County, Texas and Incorporated Areas	2011
Navarro	Navarro County, Texas and Incorporated Areas	2012
Parker	Parker County, Texas and Incorporated Areas	2020
Polk	Polk County, Texas and Incorporated Areas	2010
Rockwall	Rockwall County, Texas and Incorporated Areas	2020
San Jacinto	San Jacinto County, Texas and Incorporated Areas	2018
Tarrant	Tarrant County, Texas and Incorporated Areas	2020
Trinity		n/a
Van Zandt	Van Zandt County, Texas and Incorporated Areas	2010
Walker	Walker County, Texas and Incorporated Areas	2011
Wise	Wise County, Texas and Incorporated Areas	2020
Young	Young County, Texas and Incorporated Areas	2019

*Data as of March 2022

Table 4.11: Hazard Mitigation Plans

Entity Name	Year of HMAP	Entity Name	Year of HMAP
Anderson County	2018	Hood County	2021
Archer County	2020	Houston County	2020
Chambers	2017	Hunt County	2014
City of Dallas	2018	Jack County	2020
City of Decatur	2016	Johnson County	2019
City of Garland	2017	Kaufman County	2015
City of Grand Prairie	2017	Leon County	2019
City of McKinney	2015	Liberty County	2018
City of Mesquite	2020	Limestone County	2019
City of Plano	2013	Madison County	2013
Clay County	2020	Montague County	2020
Collin County	2016	Navarro County	2015
Cooke County	2018	Parker County	2021
Dallas County	2020	Polk County	2019
Denton County	2016	Rockwall County	2017
Ellis County	2014	San Jacinto County	2018
Fannin County	2015	Tarrant County	2020
Freestone County	2021	Trinity County	2019
Grayson County	2012	Van Zandt County	2020
Grimes County	2013	Walker County	2017
Hardin County	2017	Wise County	2014
Henderson County	2020	Young County	2020
Hill County	2020		

*Data as of March 2022

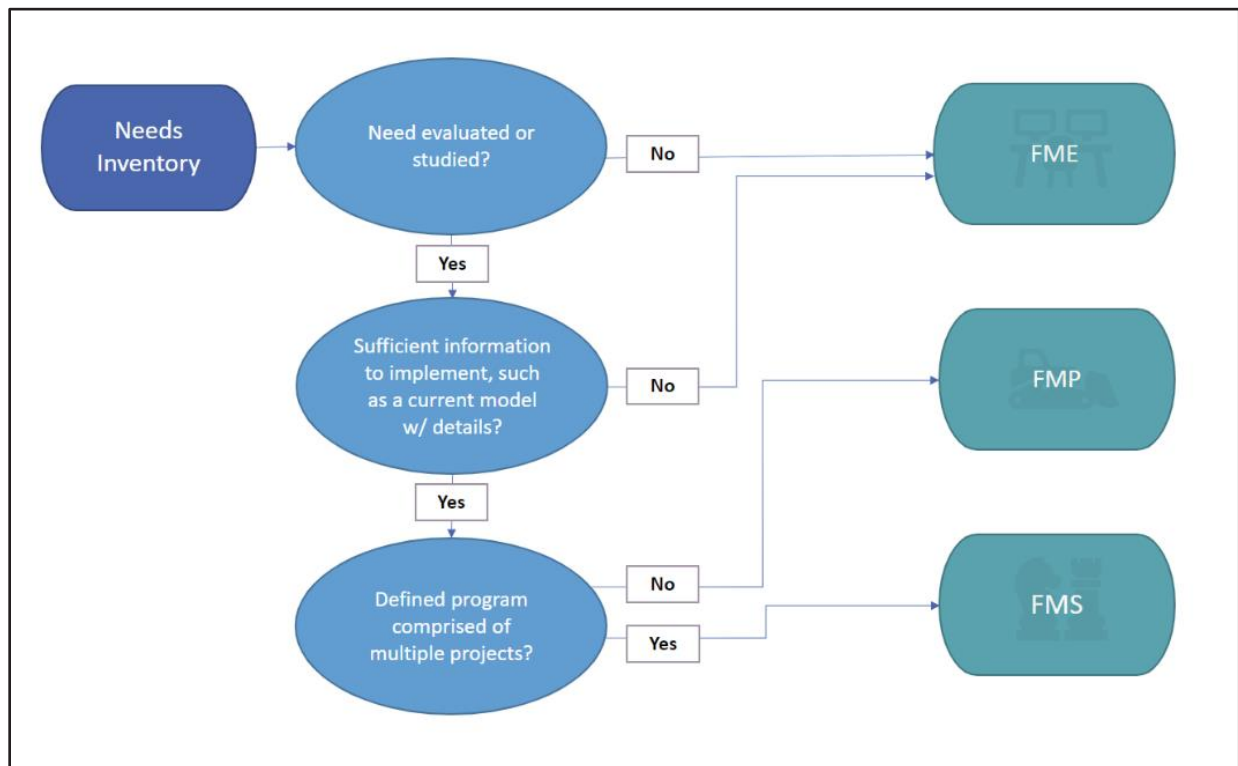
4B.2 Classification of Potential FMEs and Potentially Feasible FMSs and FMPs

The *Technical Guidance* included a summary of different general action types, listed below in **Table 4.12**. Once potential flood risk reduction actions were preliminarily identified using this list, a high-level screening process was used to confirm that potential actions had been sorted into their appropriate categorization. The screening process is shown in **Figure 4.5**.

Table 4.12: General Flood Risk Reduction Action Types

Flood Risk Reduction Action Category	Action Types
FME	<ul style="list-style-type: none"> a. Watershed Planning <ul style="list-style-type: none"> i. H&H Modeling ii. Flood Mapping Updates iii. Regional Watershed Studies b. Engineering Project Planning <ul style="list-style-type: none"> i. Feasibility Assessments c. Preliminary Engineering (alternative analysis and up to 30% design) d. Studies on Flood Preparedness
FMP	<p>Structural</p> <ul style="list-style-type: none"> a. Low Water Crossings or Bridge Improvements b. Infrastructure (channels, ditches, ponds, stormwater pipes, etc.) c. Regional Detention d. Regional Channel Improvements e. Storm Drain Improvements f. Reservoirs g. Dam Improvements, Maintenance, and Repair h. Flood Walls/Levees i. Coastal Protections j. Nature Based Projects – living levees, increasing storage, increasing channel roughness, increasing losses, de-synchronizing peak flows, dune management, river restoration, riparian restoration, run-off pathway management, wetland restoration, low impact development, green infrastructure k. Comprehensive Regional Project <p>Non-Structural</p> <ul style="list-style-type: none"> a. Property or Easement Acquisition b. Elevation of Individual Structures c. Flood Readiness and Resilience d. Flood Early Warning Systems, including stream gauges and monitoring stations e. Floodproofing f. Regulatory Requirements for Reduction of Flood Risk
FMS	None specified; RFPGs were instructed to include at a minimum any proposed action that the group wanted to consider for inclusion in the plan that did not qualify as either an FME or FMP.

Figure 4.5: Potential Flood Risk Reduction Action Screening Process



Generally, an action was considered an FME if it was meant to study and quantify flood risk in an area and to define potential FMPs and FMSs to address the risk. Potential actions that could be considered FMPs were screened to determine if they have been developed in enough detail and include sufficient data to meet the technical requirements for these action types. Actions that were initially considered for FMPs that did not meet these requirements were adapted and repurposed as FMEs. Potential solutions that did not easily meet the criteria of FMEs or FMPs could be included as FMSs. The specific requirements for each action type are described in subsequent sections.

FMSs were also identified for other strategies the RFPG wishes to pursue. One example of a potential FMS is identifying repetitive loss properties and establishing a community-wide program of voluntary acquisitions to be implemented over several years. Another example would be a program to enhance public education and awareness about flooding throughout the region, which does not include a construction cost.

4B.3 Evaluation of Potential FMEs

Several actions were identified as potential FMEs to address gaps in available flood risk data associated with the first planning cycle. The following data sources were used to identify FMEs across the basin:

- Previous Flood Studies
- Capital Improvement Plans
- Drainage Master Plans
- Flood Insurance Studies (FIS)
- Hazard Mitigation Action Plans (HMAP)
- Flood Infrastructure Fund (FIF) applications not chosen for funding

- Direct input from the RFPG

The evaluation of FMEs relied on the compilation of planning level data to gauge alignment with regional strategies and flood planning guidance, the potential flood risk in the area, and the funding need and availability. This data included:

- Type of study and location
- Availability of existing modeling and mapping data
- Regional flood mitigation and floodplain management goals addressed by the FME, and whether the FME meets an emergency need
- Flood risk information, including flood risk type, number and location of structures, population, roadways, and agricultural areas at risk
- Sponsor entity and other entities with oversight
- Cost information, including study cost and potential funding sources

4B.3.a. FME Types

The definition of an FME allows for a variety of study types to help assess flood risk and potentially define future FMPs and FMSs. A general list of study types was previously summarized in **Table 4.12**. The following section describes these project types in more detail and provides a summary of the different potential FMEs identified in Region 3.

Watershed Planning

FMEs classified as Watershed Planning typically involve efforts associated with hydrologic and hydraulic (H&H) modeling to help define flood risk or identify flood prone areas at a regional scale. The goal of Watershed Planning is to distribute resources equitably throughout a watershed to implement plans, programs, and projects that maintain watershed function and prevent adverse flood effects. A wide variety of project types fit under the umbrella of Watershed Planning, and the subcategories defined in Region 3 include:

- **Flood Mapping Updates** - Flood mapping data helps communities quantify and manage their flood risk. It also provides communities a pathway to access flood insurance administered through the National Flood Insurance Program (NFIP) Flood Mapping FMEs were identified for all counties within the Trinity River Basin except for Tarrant and Dallas Counties. The FMEs included both the development of regulatory maps where none exist and updating existing maps to account for revised rainfall data, recent development conditions, and advances in floodplain modeling and mapping methodologies.
- **Drainage Master Plans** - Drainage master plans support the development and analysis of hydrologic and hydraulic (H&H) models to evaluate flood risk within a given jurisdiction, evaluate potential alternatives to mitigate flood risk, and develop capital improvement plans.
- **Hydrologic and Hydraulic (H&H) Modeling** - The objective of H&H Modeling FMEs is to evaluate and define flood risk, identify flood prone areas, and evaluate alternatives for mitigating such risks at a local level.
- **Regional Watershed Studies** - Large-scale H&H studies that are likely to benefit multiple jurisdictions.

- **Flood Mapping for Dam Failure** – Conduct studies to develop dam failure inundation maps and models. Per the Texas Commission on Environmental Quality (TCEQ) regulations, dams are required to be evaluated for hydrologic capacity for minimum design flood based on the Probable Maximum Flood (PMF) event. In addition to evaluating the design flood capacity, the hydrologic models are used to establish peak water surface elevations and reservoir inflow hydrographs, which are in turn utilized for performing the breach analysis and generating breach inundation mapping.
- **Flood Mapping for Levee Failure** – Conduct studies to develop levee failure inundation maps and models. Hydrologic studies to determine threat, risk, and potential impacts of flooding from levee failure.

Engineering Project Planning

FMEs classified as Engineering Project Planning include studies to evaluate potential construction projects. These evaluations include feasibility assessments, preliminary alternatives analysis, and preliminary engineering design. The scope of the flood planning process defines a 30% design level as the cut-off between the study phase associated with an FME and the design and implementation phase associated with an FMP. The following Engineering Project Planning subcategories were identified in Region 3:

- Channelization
- Culvert Improvements
- Erosion Control
- Low Water Crossing Improvements
- Road/Bridge Improvements
- Storm Drain Improvements
- Stream Stabilization
- Other

Flood Preparedness Studies

FMEs classified as Studies on Flood Preparedness includes proactive evaluations of a community's readiness to respond to a flood event. These types of evaluations consider factors such as early warning systems, public awareness about flooding, capabilities of emergency operations personnel, and the development of emergency operations and evacuation plans.

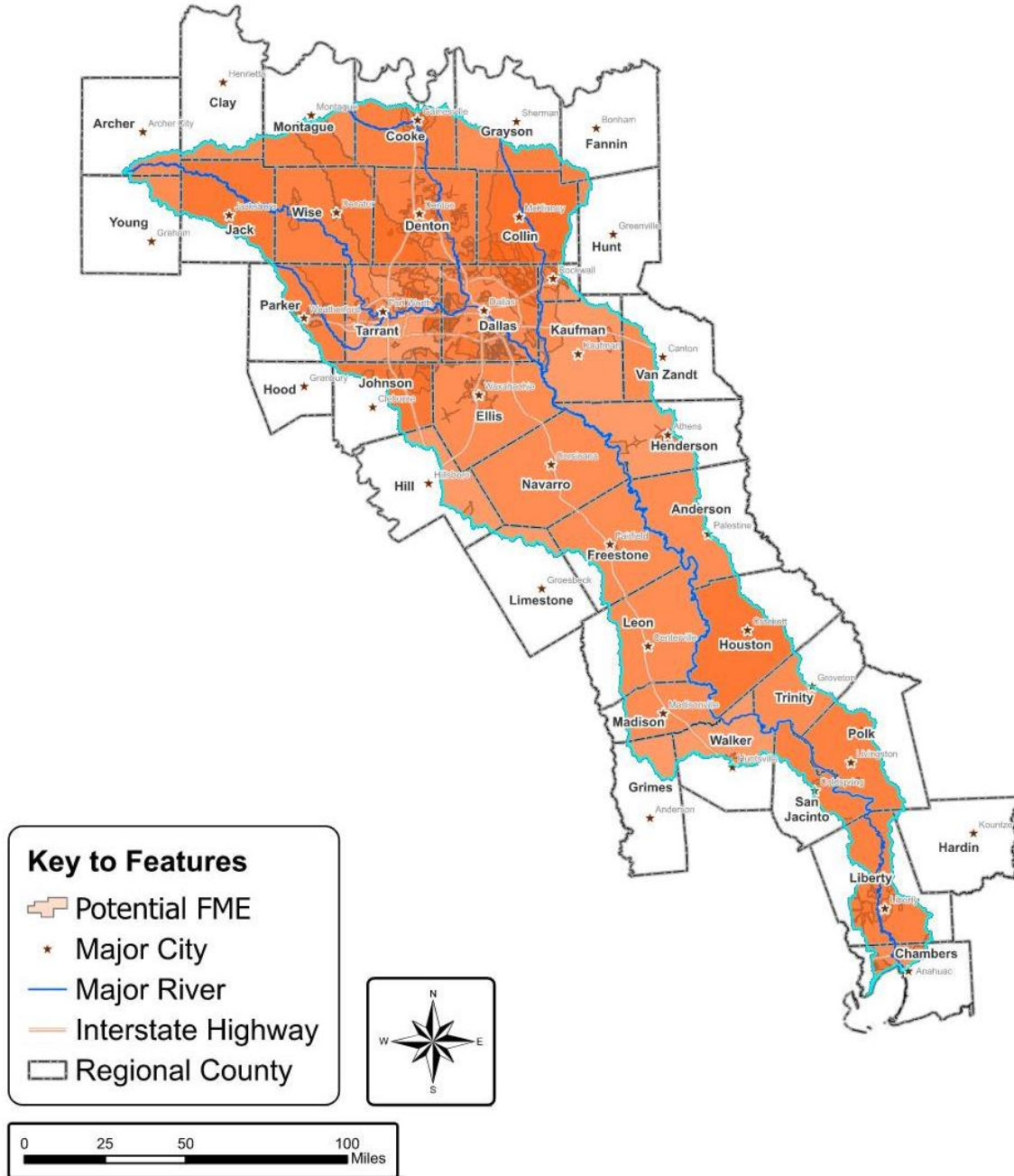
FME Classification Summary

An overall summary of the identified FMEs is provided in **Table 4.13**. All potential FMEs that were identified are listed with their supporting technical information in TWDB-Required **Table 12 (Appendix 4.1)**. In total, 356 potential FMEs were identified and evaluated. The geographical distribution of the identified FMEs is shown in **Figure 4.6**. Color gradations in **Figure 4.6** reflect the number of FMEs that overlap for the same area, the darker the color, the greater the number of FMEs.

Table 4.13: FME Types and General Description

FME Type	FME Sub-Types	General Description	Number of FMEs Identified
Watershed Planning	Watershed Planning – Drainage Master Plans	Supports the development and analysis of hydrologic and hydraulic models to evaluate flood risk within a given jurisdiction, evaluate potential alternatives to mitigate flood risk, and develop capital improvement plans.	51
	Watershed Planning – H&H Modeling, Regional Watershed Studies	Supports the development and analysis of hydrologic and hydraulic models to define flood risk or identify flood prone areas OR Large-scale studies that are likely to benefit multiple jurisdictions.	15
	Watershed Planning – Flood Mapping Updates	Promotes the development and/or refinement of detailed flood risk maps to address data gaps and inadequate mapping. Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	37
	Watershed Planning – Flood Mapping for Dam and Levee Failure	Conduct 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 including conceptual design, alternative analysis, and up to 30 percent engineering design.	236
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.	1

Figure 4.6: Geographical Distribution of Potential FMEs



4B.3.b. Planning Level Cost Estimates

A planning level cost estimate was developed for each FME in accordance with the *Technical Guidelines*. The process to produce these cost estimates for each FME project type is outlined in the following sections. Cost estimates presented in this section are for planning purposes only and are not supported by detailed scopes of work or workhour estimates. The RFPG anticipates that the local sponsor will develop detailed scopes of work and associated cost estimates prior to submitting any future funding application through TWDB or other sources.

Watershed Planning – Flood Mapping Updates

A spreadsheet was generated to produce planning level cost estimates for Flood Insurance Studies (FIS) utilizing relevant line items from the FEMA guidance document *Estimating the Value of Partner Contributions to Flood Mapping Projects* (“Blue Book”) version 4.1. Costs pertaining to management, discovery data capture, alluvial data capture, hydrologic data capture, hydraulic data capture, coastal data capture, floodplain mapping data capture, and final deliverables were included as part of the overall cost. The number of Flood Insurance Rate Map (FIRM) panels that were contained within each project boundary was also accounted for in the cost estimates.

The FME study area was defined as the portion of the county boundary that is within the Trinity River Region. A range of unit costs was developed to generate estimates based on the square mileage of the study areas and the total length of stream miles for which hydraulic modeling would be performed. The RFPG estimated that the stream miles to be included would be 25% of the total stream miles classified as FEMA Zone A, Zone X, or unmapped within a given study area. This estimate was based on the adopted short-term goal of reducing areas identified as having gaps in flood mapping by 25% (see Section 3-X).

Experience with previous mapping projects was used to estimate the level of detail associated with the hydrologic and hydraulic analyses that are required for these studies. The level of detail needed to perform a regulatory study reflects differences in the physical characteristics of the basins and their levels of urban development. In terms of hydrologic analysis, it was estimated that 80% of the total project area could be analyzed using low-detail methods, while 20% would require more in-depth rainfall-runoff analyses. For the hydraulic analysis, it was estimated that 70% of the included streams could be properly modeled with a low-detail hydraulic model, 20% with a medium-detail model, and only 10% would require highly detailed models. Unit costs were applied to reflect these different levels of detail.

Each cost estimate also includes standard budget items based on the total project cost. These include a markup of 2% to account for quality assurance and quality control and 15% for project management, survey data capture, and technical reporting. Finally, a 30% contingency was applied to account for uncertainties associated with planning level estimates.

Watershed Planning – Drainage Master Plans

Separate planning level cost estimates were developed for drainage master plans depending on whether the Sponsor is a county or city. Initially, the cost of each countywide drainage master plan was generated using a cost per square mile methodology, based on experience on previous countywide drainage master plan studies. This quantity included basic services such as: project management, coordination and collaboration work sessions, data collection, screening assessment, targeted H&H

modeling and alternatives analysis, a technical report, and public outreach. A 30% contingency was applied to account for uncertainties associated with planning level estimates. After a comparative analysis of results, it was noted that a uniform cost estimate of \$500,000 would be appropriate to complete each countywide plan. It is anticipated that this placeholder budget will provide sufficient funds for each county to broadly evaluate their jurisdiction and develop potential FMEs and FMPs that could be included in future Regional Flood Plans.

The same scope and basic services were applied for citywide drainage master plans. However, the cost varied based on each city or town’s population size, which was taken from 2020 U.S. Census data. Three categories were identified for the population sizes and a corresponding cost estimate was assigned based on professional engineering experience (**Table 4.14**).

Table 4.14: Citywide Drainage Master Plan Cost Estimate Ranges

Relative City Size	Population (2020 Census)	Cost Estimate
Small	< 25,000	\$250,000
Medium	25,000 - 100,000	\$500,000
Large	> 100,000	\$1,000,000

Watershed Planning – H&H Modeling and Regional Watershed Studies

Planning level cost estimates were developed for these types of FMEs assuming a typical scope of work that includes project management, data collection, topographic survey, hydrologic analysis, hydraulic analysis, alternatives evaluation, and final deliverables. A range of unit costs were developed to generate estimates based on the square mileage of the study areas and the total length of stream miles for which hydraulic modeling would be performed. Experience from previous studies was used to scale the study effort and estimate the level of detail associated with the H&H analyses that are required for these studies. It was estimated that 20% of the total project area could be analyzed with low level of detail, 70% with medium level of detail, and 10% would require highly detailed H&H models. Unit costs were applied to reflect these different levels of detail, which reflect differences in the physical characteristics of the basins and their levels of urban development.

Each cost estimate also includes standard budget items based on the total project cost. These include a markup of 2% to account for quality assurance and quality control and 15% for project management, survey data capture, and technical reporting. Finally, a 30% contingency was applied to account for uncertainties associated with planning level estimates.

Watershed Planning – Flood Mapping for Dam and Levee Failure

Cost estimates for FMEs under this category reflect the following basic services: project management, discovery data capture, screening assessment and detailed dam breach analysis. Each cost estimate also includes standard budget items based on the total project cost and a 30% contingency was applied to account for uncertainties associated with planning level estimates.

The discovery data capture effort involves dam data collection and a built-in cost to account for quality assurance and quality control. The screening assessment identifies all public and private dams in each

county by researching and gathering any historical information about these dams. The detailed dam breach analysis is the bulk of this overall evaluation cost since it requires a complex H&H analysis. It was assumed that a maximum of 10 dams would be analyzed at this level for cost estimating purposes. In instances where there are less than 10 dams in a county, then the actual value would adopt and the cost estimate was adjusted accordingly.

Engineering Project Planning

Engineering project planning considers two important components: (1) the evaluation of a proposed project to determine whether implementation would be feasible, and (2) an initial engineering assessment including conceptual design, alternative analysis, and up to 30 percent engineering design. Each evaluation area is project-specific and varies greatly due to the wide range of improvements in channels, culvert improvements, low water crossings, roads and bridges, storm drain systems, and stream stabilization.

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 5% 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, comprise 81 out of the 236 Engineering Project Planning FMEs.

The City of Garland has 22 FMEs that fall under this category, all of which are updates to previous drainage studies. The year(s) these studies were initially performed range from April 2003 to September 2010. Thus, the project cost was taken for each of these, when available, and scaled accordingly to September 2020 USD.

The Hazard Mitigation Action Plans (HMAPs) were used, when available, for determining planning level cost estimates. It was assumed that the costs provided for the HMAPs are in 2020 USD. In instances where neither HMAPs nor CIPs were available, additional research and outreach was conducted to gather supplemental information from potential FME sponsors and previously conducted studies to develop a general scope of work and associated cost estimate.

Studies on Flood Preparedness

Studies on flood preparedness encourages preemptive evaluations and strategies to better prepare an area in the event of a flood. The identified FMEs in this category include studies to perform vulnerability assessments, develop emergency action plans, and perform dam compliance assessments. Placeholder costs were assigned to these FMEs based on professional engineering experience with similar projects.

Other

The only FME classified as “Other” is a USDA dam study and rehabilitation for Denton County. The scope and scale of this dam study can vary widely, and there is uncertainty in terms of the number of dams that could potentially be rehabilitated and further studied. Using the dam failure analysis as a basis of comparison, it is likely that this effort would cost \$2,000,000.

4B.3.c. Process to Determine Flood Risk Indicators

Flood risk indicators were quantified to define the existing flood hazard, flood risk, and flood vulnerability within each FME project area. An automated tool was developed in GIS to combine and summarize this information by clipping the flood risk information generated for the basin as part of Task 2A to the individual project boundaries associated with each FME. The resulting flood risk indicator information was used to populate the associated fields in the FME feature class. These values are summarized in **Table 12**.

4B.3.d. Comparison and Assessment of FMEs

As previously stated, most of the counties within the Trinity Basin have been submitted as a flood mapping update FME due to a lack of current fully detailed, model backed hydrologic and hydraulic floodplain analyses. Clay County contains no regulatory floodplain information. Apart from Dallas and Tarrant Counties, the exposure analysis resulted in the highest exposed structure counts within Denton and Liberty County, demonstrating the need for accurate floodplain information for future mitigation and resiliency planning. Navarro and Hill County have the Trinity Basin's highest flood exposure SVI, meaning a disproportionate amount of potential loss due to inaccurate floodplain information. Current mapping within the lower portion of the Trinity Basin does not reflect the increase in rainfall resulting from the NOAA Atlas 14 release, prompting a significant need for FME flood mapping updates in counties south of Leon.

Nearly 50, drainage master plan FME projects were collected for inclusion in **Table 12**. Drainage master plan areas were based on either City or County boundaries. Of the counties listed, the Dallas County drainage master plan and vulnerability assessment project area had the highest floodplain exposure and most population at risk. The City of Denton and Haltom City had the highest floodplain exposure out of the cities listed. Drainage master planning FMEs for the City of Madisonville, Everman, Crockett and Athens have the highest city-wide SVI scores of over 0.9.

A majority of the FMEs collected were categorized as engineering project planning. These are either riverine or urban flood prone specific areas that have been identified and collected by a community. These FMEs were identified either by observation and eyewitness flood reports or through a detailed study with conceptual improvement alternatives. The analysis obtained from these proposed projects did not meet the full requirements to be included as an FMP and were relegated to an FME for further refinement. Over 60% of the FME engineering project planning projects collected were located in Dallas and Tarrant County. Four (4) FME projects listed were contained within Hill County which has the second highest flood exposure SVI within the Trinity Region. The total engineering project planning project areas contain a combined 49,000 structures at risk with over 65% of the structures being classified as residential.

4B.3.e Determination of Emergency Need

The term emergency need can be interpreted in multiple ways, and each region has been tasked with defining the term for each individual flood planning region. Region 3 has decided upon the following criteria to determine areas of emergency need:

Removing severe repetitive loss properties through FMSs are deemed emergency needs. Severe repetitive loss (SRL) properties are those that flood repeatedly, causing significant difficulties for

property owners. The National Flood Insurance Reform Act of 2004 defined severe repetitive loss as “a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding \$5,000 and with cumulative amount of such claims payments exceeding \$20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property”. Property acquisition, demolition, or elevation remove such structures from the floodplain through coordinating FMSs.

Other emergency needs FMEs, FMPs, and FMSs would remove critical facilities from the 1% annual chance flood area through various types of FMEs, FMPS, and FMSs including, but not limited to acquisition, demolition, or elevation, floodproofing or retrofitting, and through infrastructure projects that would improve roads or bridges that cause critical facilities to be inaccessible. Designating these critical facility structures as emergency need enables mitigation measures in the form of FMXs to be enacted to reduce future risk.

Loss of life due to a flood event is to be used in determining emergency need when corresponding data is available in determining location of fatality. Ultimately, emergency needs are designated as areas that would sustain negative impacts within the foreseeable future were no measures taken.

DRAFT

4B.4 Evaluation of Potentially Feasible FMPs and FMSs

Potentially feasible FMPs were identified based on responses to survey, reviews of previous studies, FIF applications not selected for funding, and direct coordination with stakeholders. FMSs and FMPs are required to be developed in a sufficient level of detail to be included in the Regional Flood Plan and recommended for state funding. In most cases, this includes having recent H&H modeling data to assess the impacts of the project and an associated project cost to develop the project’s benefit-cost ratio (BCR). The development and use of the technical information to evaluate potentially feasible actions are described in the subsections that follow.

Potentially Feasible FMPs

The RFPG identified 33 potentially feasible FMPs for Region 3. The geographical distribution of each identified FMP is shown in **Figure 4.7** with technical information for each FMP summarized in **Table 13 (Appendix 4.1)**. Color gradations in **Figure 4.7** reflect the number of FMPs that overlap for the same area, the darker the color the greater the number of FMPs.

Each project is unique, and the specific FMPs recommended by the RFPG will be described in detail in Chapter 5. A general description of the potentially feasible FMPs is presented in **Table 4.15**.

Table 4.15: Summary of FMP Types

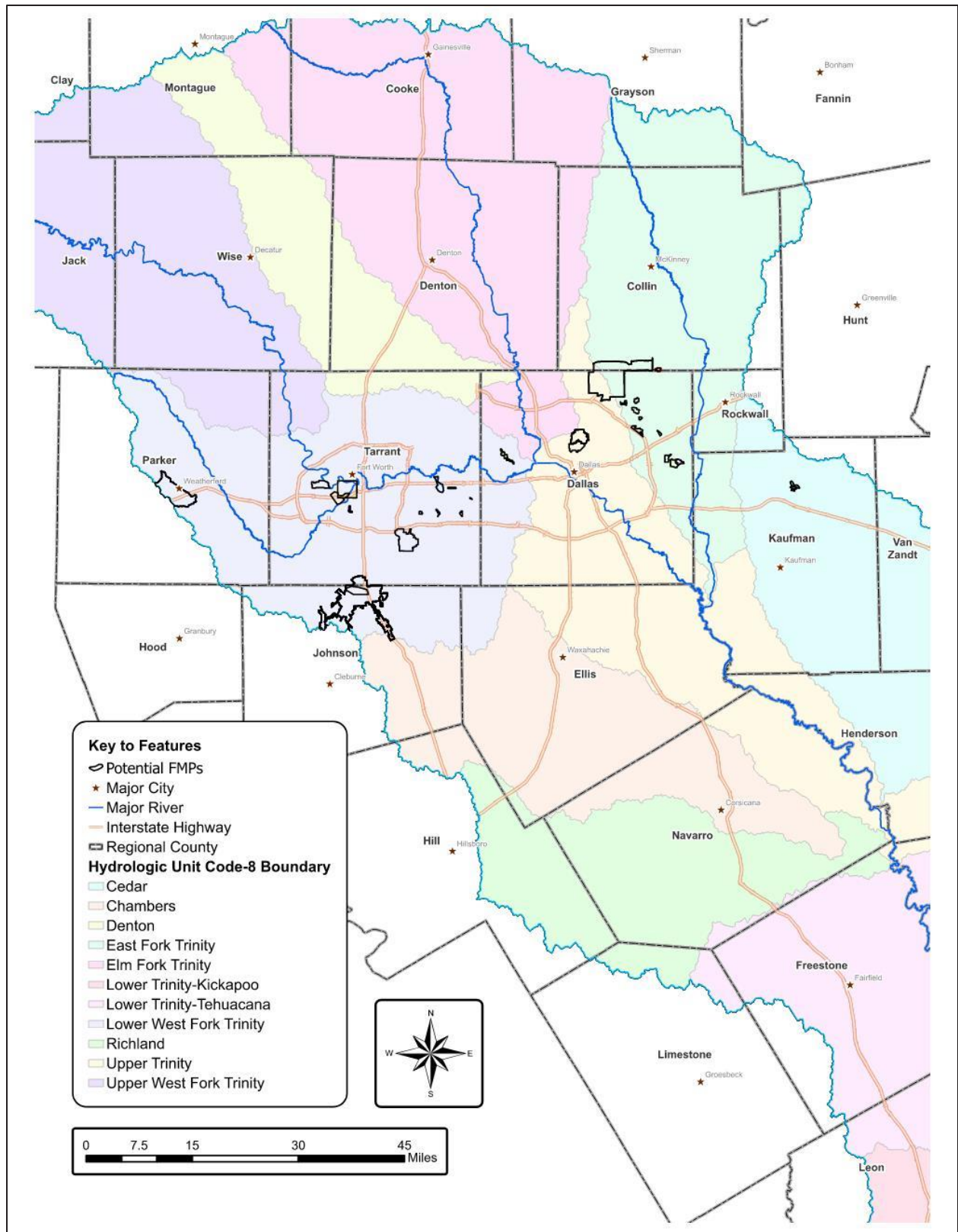
FMP Type	General Description	Number of FMPs Identified
Stormwater Infrastructure Improvements	Improvements to stormwater infrastructure including channels, ditches, ponds, stormwater pipes, etc.	31
Regional Detention Facilities	Runoff control and management via detention facilities.	2

The identified potentially feasible FMPs for this first planning cycle are 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 unfunded FIF application was potentially available. The potential Sponsors and their associated number of FMPs are listed below:

- City of Arlington (1)
- City of Fort Worth (3)
- City of Irving (1)
- City of Richardson (25)
- City of Sachse (1)
- Town of Sunnyvale (2)

Additional potentially feasible FMPs may be identified through continued outreach with regional stakeholders under Task 11 and through the execution of identified FMEs, either as FMEs are approved by the RFPG to be performed under Task 12, or as other funding sources are acquired by individual stakeholders.

Figure 4.7: Geographical Distribution of Potential FMPs



Potentially Feasible FMSs

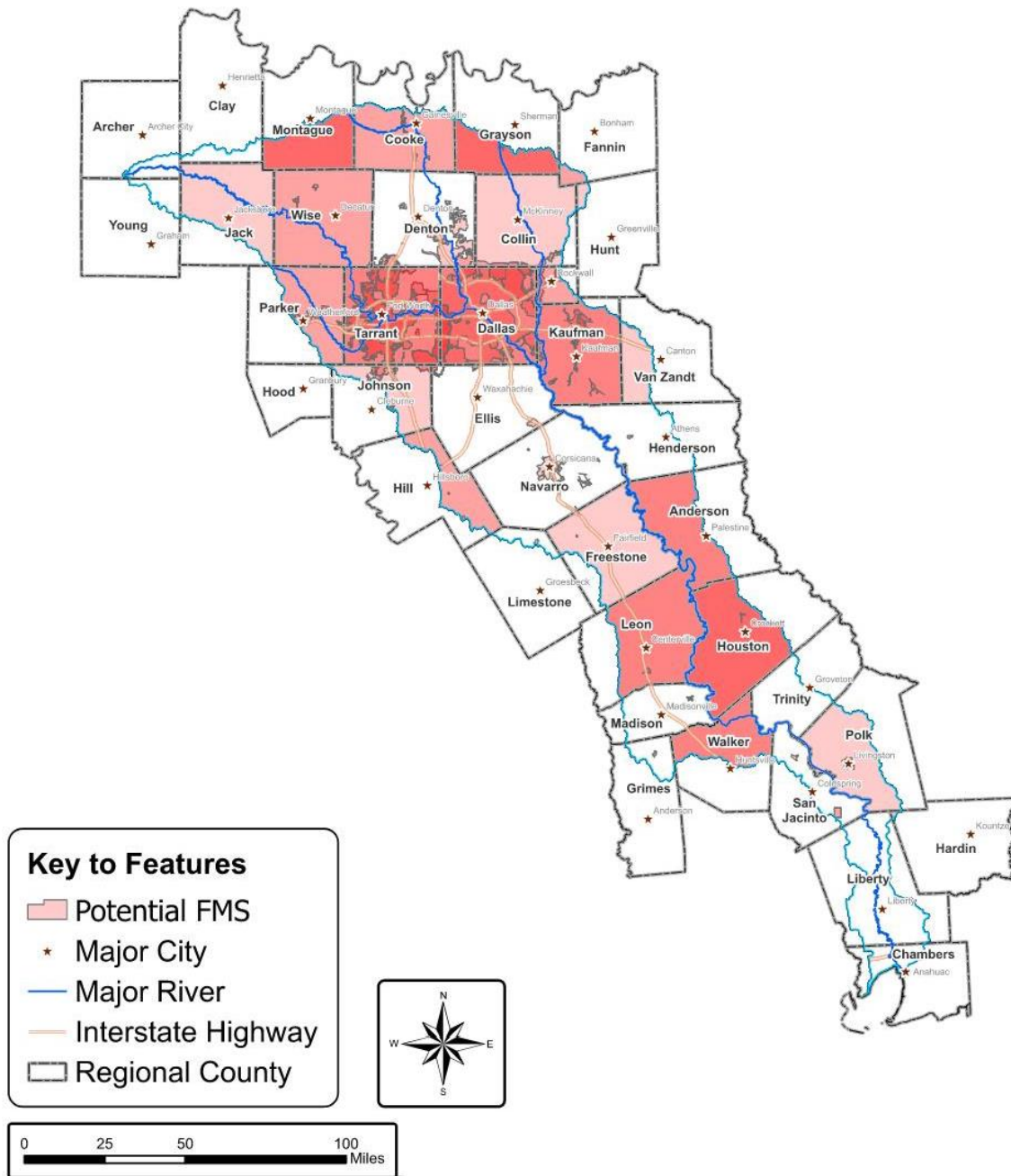
The RFPG identified 143 potentially feasible FMSs for Region 3. The geographical distribution of each identified FMS is shown in **Figure 4.8** with technical information for each FMS summarized in TWDB-required **Table 14 (Appendix 4.1)**. Color gradations in **Figure 4.8** reflect the number of FMSs that overlap for the same area, the darker the color, the greater the number of FMSs.

A variety of FMS types were identified. Some establish and implement public awareness and educational programs to better inform communities of the risks associated with flood waters. Other FMSs improve preventative maintenance programs to maximize operational efficiency of existing stormwater management infrastructure, develop stormwater management manuals to encourage best management practices, or establish community-wide flood warning systems. A significant number of property acquisition programs were also identified. These programs include a variety of purposes such as acquiring floodplain and environmentally sensitive areas to convert them into open space land and acquisition of repetitive loss structures. A summary listing of FMS types is provided in **Table 4.16**.

Table 4.16: Summary of FMS 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
Infrastructure Projects	City-wide improvement projects.	5
Property Acquisition and Structural Elevation	Acquire, relocate, and/or elevate flood-prone structures.	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.	55
	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.	
Other	Promote the inclusion of low impact development requirements in local and regional development ordinances.	13
	Preventive Maintenance Programs, Erosion Control Programs, Funding Mechanisms, Nature-Based Solutions - Implement the use of green infrastructure.	

Figure 4.8: Geographical Distribution of Potential FMSs



4B.4.a. Comparison and Assessment of FMSs and FMPs

Potentially Feasible FMP Comparison and Assessment

Over 30 FMPs were collected and met the recommendation requirements to be considered for inclusion. Approximately 90% of the FMPs recorded are categorized as infrastructure or storm drain. These FMPs represent proposed design and construction projects that will improve a sponsor's storm drainage and channel infrastructure to reduce flooding in high flood risk areas. The City of Irving, West Irving Creek project, has the potential to protect the highest population count from flooding compared to the other FMPs listed. This indicates that buildings located within the existing floodplain within the project footprint are high capacity. Drainage improvement projects located in Arlington and Garland are proposed to mitigate flood threat to the highest number of residential properties. FMPs located in Garland, Arlington, Irving, and Kennedale had the highest SVI, ranging from 0.7-0.9.

Potentially Feasible FMS Comparison and Assessment

Approximately 25% 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* (44 CFR). The Texas Floodplain Management Association (TFMA) has developed a *Guide for Higher Standards for Floodplain Management (2018)*, which can serve as an example for higher floodplain development standards for the referenced FMSs.

Twenty-two (22) sponsors requested flood awareness and safety education support. These FMSs range from implementing the National Weather Service's "Turn Around, Don't Drown" campaign to general education in regards the NFIP. Of the sponsors requesting education and outreach support, Houston County demonstrated the highest flood risk to habitable structures, road crossings, and agricultural land.

Nearly twenty (20) sponsors expressed interest in flood measuring, monitoring, and warning systems. These systems include local warning notifications, monitoring/measuring gages, highwater detection systems, sirens, warning lights, signage, and automated gates. Seven (7) of these types of FMSs are in Dallas and Tarrant County, which have the highest flood exposure in the Trinity Basin. The proposed flood warning system in Leon County would service the most socially vulnerable county among the list of flood warning FMSs.

Another FMS that sponsors requested, related to property and land acquisition programs. These "buyout" program FMSs were provided on either a county or city-wide basis. Four of these programs which span multiple jurisdictions are planned to have multiple sponsorship. Of the county-wide buyout FMSs, the Leon County repetitive loss property acquisition had the highest SVI. Of the city-wide buyout FMSs, Chico and Terrell ranked as having the highest SVI, with values ranging from 0.75 – 0.95.

4B.4.b. Effects on Neighboring Areas of FMSs or FMPs

Each potentially feasible FMP and FMS must demonstrate that there would be no negative flood impacts on a neighboring area due to its implementation. No negative impact means that a project will not increase flood risk to surrounding properties. The analysis must be based on best available data and be

sufficiently robust to demonstrate that the post-project flood hazard is no greater than the existing flood hazard.

Several communities in the Trinity Region have established no negative flood impact policies for proposed development. However, communities have different thresholds for defining what level of impact is considered adverse and require the analysis to be performed for different flood event scenarios. The *Technical Guidelines* and *Rules* governing state flood planning require the impacts analysis to be performed for the 1% annual chance event. Additionally, the *Technical Guidelines* require the following criteria to be met, as applicable, to establish no negative flood impact:

1. Stormwater does not increase inundation in areas beyond the public right-of-way, project property, or easement.
2. Stormwater does not increase inundation of storm drainage networks, channels, and roadways beyond design capacity.
3. Maximum increase of 1D Water Surface Elevation must round to 0.0 feet (< 0.05ft) measured along the hydraulic cross-section.
4. Maximum increase of 2D Water Surface Elevations must round to 0.3 feet (< 0.35ft) measured at each computational cell.
5. Maximum increase in hydrologic peak discharge must be < 0.5 percent measured at computational nodes (sub-basins, junctions, reaches, reservoirs, etc.). This discharge restriction does not apply to a 2D overland analysis.

If negative impacts are identified, mitigation measures may be utilized to alleviate such impacts. Projects with design level mitigation measures already identified may be included in the Regional Flood Plan and could be finalized at a later stage to conform to the “No Negative Impact” requirements prior to funding or execution of a project.

Furthermore, the RFPG has flexibility to consider and accept additional “negative impact” for requirements 1 through 5 based on engineer’s professional judgment and analysis given any affected stakeholders are informed and accept the impacts. This should be well-documented and consistent across the entire region. However, flexibility regarding negative impact remains subject to TWDB review.

A comparative assessment of pre- and post-project conditions for the 1% annual chance event (100-yr flood) was performed for each potentially feasible FMP based on their associated hydrologic and hydraulic models. The floodplain boundary extents, resulting water surface elevations, and peak discharge values were compared at pertinent locations to determine if the FMP conforms to the no negative impacts requirements. This comparative assessment was performed for the entire zone of influence of the FMP.

The comparative assessment to determine “no negative flood impact” on upstream or downstream areas or neighboring regions was performed based on currently available regional planning level data. The local sponsor will be ultimately responsible for proving the final project design has no negative flood impact prior to initiating construction.

4B.4.c. Estimated Benefits of FMP or FMS

To be recommended, each FMP or FMS must align with a regional floodplain management goal established under Task 3 and demonstrate a flood risk reduction benefit. To quantify the flood risk

reduction benefit of each FMP or FMS, the anticipated impact after project implementation was evaluated according to the following criteria:

- Reduction in habitable, equivalent living units flood risk
- Reduction in residential population flood risk
- Reduction in critical facilities flood risk
- Reduction in road closure occurrences
- Reduction in acres of active farmland and ranchland flood risk
- Estimated reduction in fatalities, when available
- Estimated reduction in injuries, when available
- Reduction in expected annual damages from residential, commercial, and public property
- Other benefits as deemed relevant by the RFPG including environmental benefits and other public benefits

These estimated benefits were produced from geospatial data by analyzing the existing 1% and 0.2% annual chance floodplain boundaries with the proposed post-project floodplain boundaries. These proposed flood risk conditions were compared to the existing conditions flood risk indicators for a given area to quantify the reduction of flood risk achieved by implementation of an FMP or FMS. The results of the analysis are shown for each FMP or FMS in **Table 13** and **Table 14**, respectively.

4B.4.d. Potential Impacts and Benefits from the FMS or FMP to other resources

Potential impacts and benefits from FMS or FMP are explored for the Trinity River basin from the standpoint of environment, agriculture, recreation, navigation, water quality, erosion and sedimentation. Factors unique to the Trinity River basin were reviewed and an assessment of how these factors might interact with a potential FMS or FMP are discussed below.

Environmental

Senate Bill 3 (SB3) was designed to establish environmental flow standards for all major river basins and bay systems in Texas through a scientific, stakeholder-driven and consensus-based process. The key questions addressed by the SB3 process as defined by TWDB are -

1. What is the quantity of water required by the state's rivers/estuaries to sustain a sound ecological environment?
2. How can this water be protected?
3. What is the appropriate balance between water needed to sustain a sound ecological environment and water needed for human or other uses?

FMS or FMP in the Trinity River basin should consider potential impacts as it relates to the ecological flows established under the directive of SB3. Several studies have been completed for the Trinity River basin with the purpose of studying environmental flow needs as part of the objectives of SB3 (Quigg and Steichen, 2015; Mangham et al., 2015; TRA et al., 2018; Quigg and Steichen, 2018).

FMS or FMP should be able to maintain the established SB3 environmental flows in the Trinity River at the Grand Prairie, Dallas, Oakwood and Romayor gauge locations. TRA (2018) identified anthropogenic factors affecting this study site and the stream segment. The study identifies floodplain management as more impactful on riparian areas than high pulse flow management and return flows at the base flow

level as the main factor to satisfy subsistence and base flows. FMS or FMP at or upstream of this location should focus on floodplain management and maintaining return flows. Similarly, at the Dallas location, FMS or FMP should be able to maintain return flows to satisfy SB3 subsistence and base flows. Study conducted under SB2 by Texas Instream Flow Program (TIFP) suggests that base flows between 75 and 450 cfs at Oakwood could exhibit temperatures above the TIFP goals in select shallow areas. FMS or FMP that increase the base flows could ensure that the TIFP temperature goals are met at this location. Dissolved oxygen (DO) could also improve if FMS or FMP increase base flows. FMS or FMP should maintain return flows to satisfy SB3 subsistence and base flows. FMS or FMP in all likelihood will increase base flows at Romayor above 575 cfs, required for continuous sand transport.

The high pulse flow SB3 values at the above locations primarily provide sediment, water table and in-channel habitat functions. FMS or FMP is expected to reduce the extreme peak flows yet maintain the periodic high pulse flows required at these locations to sustain ecological and habitat functions.

Agricultural

According to the Texas A&M AgriLife Extension Service economists, Hurricane Harvey caused more than \$200 million in crop and livestock losses in Texas. Flood waters have the potential to destroy standing crops, create water-logged conditions that delay planting or harvesting, wash away productive topsoil, and damage farm equipment and infrastructure. FMS or FMP potentially reduce extremely high flows in rivers and streams thereby preventing flood waters from inundating areas outside of the floodway including agricultural areas. Structural FMS or FMP like small flood control ponds also have the potential to assist in agricultural production by serving dual purpose of flood mitigation and water supply. Non-structural FMS or FMP have similar impacts on flood peak flow reduction and flooding including agricultural conservation practices such as such as conservation tillage, residue management, cover crops and furrow dikes. These practices not only reduce downstream flooding by reducing surface runoff and increasing infiltration on agricultural lands but also sediment and nutrient losses thereby improving downstream water quality.

Recreational Resources

There are 34 major lakes and reservoirs in the Trinity Basin. Recreational opportunities associated with these lakes and reservoirs have the potential to be impacted when they are being operated to mitigate flood risk. Flood control reservoirs hold water in their flood pools during peak runoff periods until the impounded water can be safely released downstream. During these periods, recreation use potential of adjacent parks and playgrounds may be vastly reduced. Flood risk management through FMS or FMP may consist of creating additional such flood control reservoirs with the intent of impounding water to mitigate flood risk. The impoundment of water at flood pools (which are considerably higher than the normal pool) can potentially impact recreational functions of parks, campgrounds, boat ramps, etc.

Recreational use in flood control reservoirs may also be impacted by the water quality in the waterbodies. Texas Commission on Environmental Quality (TCEQ) assesses waterbodies in Texas every two years for five designated use categories including recreation use. The biennial recreation use assessment by TCEQ consists of evaluating waterbodies for E. coli (fresh water) or Enterococcus (tidal waters) from a standpoint of human health protection from recreational contact in the waterbodies. The 2020 Texas Integrated Report classifies a significant number of segments in the Trinity River Basin as “Not Supporting” for recreation use (TRA, 2020). FMS or FMP that focus on reducing runoff and

therefore reducing export of bacteria to waterbodies have the potential to improve the recreation use condition of segments currently assessed as “Not Supporting”.

Navigation

The Trinity River is not used for commercial navigation. In 1963, the USACE approved making the Trinity River navigable by barges and in 1965 Congress and then President Lyndon B. Johnson approved the project as a package of flood control and navigation projects including a barge canal connecting the Dallas-Fort Worth metroplex with the Gulf of Mexico. The barge canal was estimated to cost approximately \$1 billion. In 1973 voters rejected to finance the barge canal and USACE subsequently abandoned the project. Navigation on the Trinity River basin is generally limited to recreational canoeing and kayaking in the rivers and creeks, and boating in the lakes and reservoirs. These activities are currently impacted when flows in the Trinity River and water levels in the reservoirs are being actively managed for flood control. These impacts include limited or restricted access to navigation when the rivers and reservoirs are at or above flood stage. FME or FMP are expected to have similar impacts on recreational navigation in the Trinity River basin.

Water Quality

Many of the reservoirs in the Trinity River basin are saturated with nutrients, and stormwater runoff is identified as the primary source of nutrient loading. Despite the high levels of nutrients, reservoirs in the Trinity River basin are classified as mesotrophic or eutrophic. TRA hypothesizes that light penetration in the turbid waters rather than nutrient availability is the limiting factor for algal growth in these reservoirs (TRA, 2020). The TRA 2020 basin summary report identifies zebra mussel infestation in the reservoirs as a threat to potentially increase water clarity thereby allowing more light penetration and increased algal growth in the presence of abundant nutrients. TRA therefore recommends proactive watershed protection programs and extensive use of best management practices to reduce nutrient loading and risk of harmful algal blooms. Structural FME or FMP such as small flood control ponds are designed to capture stormwater runoff and pollutants thereby improving the water quality reaching the water supply reservoirs. However, the algal blooms might occur in these small reservoirs due to excessive availability of nutrients. Non-structural FME or FMP that reduce stormwater runoff production have the potential to reduce nutrient loading to water supply reservoirs and other structural FME or FMP.

Based on sampling for bacteria throughout the Trinity River basin, TCEQ found that 69 of the 162 assessment units have concerns or do not support contact recreation use. Many these findings are intermittent urban streams in the Dallas-Fort Worth metroplex. Intermittent streams can have high bacteria levels because they are not washed out frequently or assimilated. A TMDL Implementation Plan covering much of the metroplex outlines activities to potentially reduce bacteria loading to these streams. Non-structural FME or FMP that focus on runoff reduction from sources are expected to reduce bacteria loads. Structural FME or FMP such as small flood control ponds depending on their location and operation may maintain small levels of flows in downstream intermittent streams, enough to flush out the streams and improve assimilation.

Erosion

The Trinity River Environmental Restoration Initiative 2010 funded by the TWDB studied the rates and sources of sediment (and nutrient) loading to 12 major water supply reservoirs in 10 watersheds of the

Upper Trinity River basin. The study reported a wide range of annual overland erosion rates, varying from 0.07 tons/ac/yr in the Bridgeport basin to 0.7 tons/ac/yr in the Lewisville basin. The study found that in most watersheds the total sediment loading to the reservoirs was larger than the overland erosion amounts, suggesting bank and bed erosion as important sources.

The study also concluded that small flood control reservoirs (PL-556 structures) generally had a positive impact on reduction of total sediment load delivered to the flood control reservoirs. The efficiency of these small flood control structures in trapping sediment varied greatly from approximately 4% in the Ray Hubbard watershed to 48% in the Lewisville watershed. The effectiveness of these flood control structures in reducing delivery of sediment loads to water supply reservoirs are directly influenced by the percentage of watershed area draining to the ponds, their locations and the watershed's erosion characteristics. Structural FMS or FMP is expected to have similar impacts as the small flood control reservoirs identified in the TWDB study. Sediment attenuation will be largely influenced by the location and drainage area of the structural FMS or FMP, and watershed characteristics.

Non-structural FMS or FMP that limit sediment production and transport may be viable options for reducing erosion and transport of sediment in the Trinity Basin. The TWDB study found that conservation practices such as no rangeland grazing resulted in reduced source sediment loads and delivered loads. Non-structural and structural FMS or FMP have the potential to reduce sediment production in the watersheds and delivery to the waterbodies in the Trinity River basin.

Sedimentation

Sedimentation is a natural process by which runoff water, often rivers, transport small particles from upstream to downstream. As the water slows down, the particles settle to the bottom of the river or lake. A volumetric and sedimentation survey of Lake Livingston by the TWDB (Leber et al., 2020) measured 129,149 acre-feet of sedimentation. The survey concluded that the Lake has lost capacity at an average of 2,583 acre-feet per year due to sedimentation since impoundment in 19___. Sedimentation has been reported for most major reservoirs in the Trinity River basin based on periodic volumetric and sedimentation surveys conducted by the TWDB.

Structural FMS or FMP such as a small flood control reservoir receives and impounds water (and sediment) from its respective drainage area. Long residence time in a flood control pond results in settling of large proportions of the incoming sediment. Periodic discharges from small flood control projects are generally expected to carry smaller sediment loads than the influent runoff. Structural FMS or FMP is therefore expected to reduce sedimentation in downstream water supply reservoirs by trapping sediment in their pools. While sedimentation in the large downstream reservoirs potentially reduce, sedimentation is expected to occur in the individual flood control projects.

Non-structural FMS or FMP such as conservation practices that potentially reduce sediment production at the source are expected to reduce sedimentation in both structural FMS or FMP and large downstream reservoirs.

4B.4.e. Estimated Capital Cost of FMPs and FMSs

Cost estimates for each FMP were acquired from the engineering report that was used to generate the FMP. Cost estimates were adjusted as needed to account for inflation and other changes in price of labor and commodities that had taken place since the publication date of the original reports. In addition, cost estimates were adjusted as needed to include any applicable non-recurring and recurring project costs as listed on Table 22 of the *Technical Guidance*. The cost estimates listed in **Table 13** and **Table 14** are expressed in September 2020 dollars (see **Appendix 4.1**).

Cost estimates for each FMS were acquired from the HMAPs that were used to generate the FMS. Cost assumptions from **Table 4.17** were used if the HMAPs did not have associated costs or if the reported costs were lower than the cost assumptions. The cost assumptions are expressed in 2020 dollars and were developed based on engineering experience and other similar projects.

FMS cost estimates presented in this section are for planning purposes only and are not supported by detailed scopes of work or workhour estimates. The RFPG anticipates that the local sponsor will develop detailed scopes of work and associated cost estimates prior to submitting any future funding application through TWDB or other sources.

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Table 4.17: FMS Cost Estimates Assumptions

FMS Type	Cost Estimate Range	Scope and Assumptions
Education and Outreach	\$50,000	“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	\$250,000 to \$500,000	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.
		Low Water Crossing Warning Devices: Assume \$250,000 based on similar projects that have received TWDB FIF grants.
Infrastructure Projects	\$500,000 to \$35,000,000	HROM Program: Assume \$35,000,000 based on high level engineering consultant estimate.
Other	\$50,000 to \$5,000,000	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	\$5,000,000 to \$50,000,000	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	\$100,000 to \$1,000,000	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.

4B.4.f. Benefit-Cost Ratio for FMPs

Benefit-Cost Analysis (BCA) is the method by which the future benefits of a hazard mitigation project are determined and compared to its costs. The end result is a Benefit-Cost Ratio (BCR), which is calculated by dividing the project's total benefits, quantified as a dollar amount, by its total costs. The BCR is a numerical expression of the relative "cost-effectiveness" of a project. A project is generally considered to be cost effective when the BCR is 1.0 or greater, indicating the benefits of a prospective hazard mitigation project are sufficient to justify the costs (Federal Emergency Management Agency, 2009). However, a BCR greater than 1.0 is not a requirement for inclusion in the Regional Flood Plan. The RFPG can recommend a project with a lower BCR with appropriate justification.

When a BCR had been previously calculated in an engineering report or study that was used to create an FMP, the previously calculated BCR value was utilized for the FMP analysis. For any FMP that did not already have a calculated BCR value, the TWDB BCA Input Spreadsheet was utilized in conjunction with the FEMA BCA Toolkit 6.0 to generate BCR values.

4B.4.g. Residual, Post-Project, and Future-Risks of FMPs

While it is not possible to protect against all potential flood risks, the evaluation of FMPs should consider their associated residual, post-project and future risks including the risk of potential catastrophic failure and the potential for future increases to these risks due to lack of maintenance. For more details of the approach and TWDB's proposed scoring guidelines, please see TWDB's Exhibit C: Technical Guidelines for Regional Flood Planning (TWDB, 2021).

Residual Risk

Residual risk describes the risks after structural or non-structural FMPs have been implemented (UNDRR, 2020). Even after meeting the FMP goals, residual flood risk will remain (TWDB, 2021). The flood planning group must consider and identify residual risk for each goal identified. As an example, if the goal is to protect all life and property from the 1 percent flood (100-year flood) events, the residual risk to life and property remains for flood events that exceed a 1 percent likelihood.

The group's overarching goals should be determined first with a clear summary of the residual risk, including 'transformed' risk, that would remain in the region even after the stated goals are met. Transformed risk is defined by U.S. Army Corps of Engineers (USACE) as the change in the nature of flood risk for some area associated with the presence of flood hazard reduction infrastructure. Flood risk is often reduced by the construction of flood mitigation structures but, as a result, may also be 'transformed' into a different type of risk, for example, in the form of risk from structural failure of that mitigation infrastructure (e.g., a dam or levee).

Residual risks by nature have a low probability of occurrence. However, keeping it low requires continuing maintenance of FMPs and effective emergency services for preparedness, response, and recovery as a holistic approach.

Post-Project Risk

Post-project risk analysis is typically utilized to gather information for evaluating the final risk impacts at the completion of a project. The project manager uses a report of the post-project risk analysis to inform stakeholders and decision-makers with a general idea of what worked well and what did not in the PMP,

so future projects can benefit from the lessons learned. The post-project information can be used to prioritize a list of recommended FMPs with a set of criteria, including:

1. post-project 100-year flood risk reduction,
2. post-project 100-year critical facilities damage reduction,
3. post-project 100-year flood damage reduction, and
4. post-project improvement of mobility.

Post-Project 100-year Flood Risk Reduction

After a project is constructed, this analysis indicates the reduced flood risk by percentage of structures removed from a 100-year floodplain in the post-project condition, using the data of:

1. 100-year floodplain shapefiles with elevations in the pre- and post-project conditions,
2. structures within the 100-year floodplains in the pre- and post-project conditions,
3. land elevations, structure shapefiles, and
4. others.

Post-Project 100-year Flood Damage Reduction

After construction, this analysis indicates flood damage reduction (property protection) by a percentage of 100-year damage reduction calculation, using the data of:

1. average depth of a 100-year flood in the pre-project condition,
2. shapefiles, elevations, or average depth/reduction of the 100-year flood in the post-project condition,
3. shapefiles, land elevations, structure shapefiles, and
4. others.

Post-project 100-year Critical Facilities Damage Reduction

Following construction, this analysis indicates reduced flood risk by percentage of critical facilities removed from a 100-year floodplain in the post-project condition, using the data of:

1. average depth of the 100-year flood in the pre-project condition,
2. floodplain shapefile, elevations, or average depth/reduction of the 100-year flood in the post-project condition, and
3. critical facilities in the 100-year floodplains in the pre- and post-project conditions.

Mobility

This criterion indicates project improvement and protection of mobility during flood events, with particular emphasis on emergency service access and other major access routes, using the data of:

1. 100-year floodplain shapefile with elevations in the pre- and post-project conditions,
2. TxDOT Functional Classification Shapefile,
3. project shapefile and others.

Future Risks

Future flood risks shall be determined with considering three components:

1. flood hazards in future condition;
2. additional exposure and vulnerability; and
3. operations and maintenance (O&M) and design standards

Flood Hazards in Future Condition

Future risk analysis of FMPs should consider the changes of flood risks in future conditions. The factors that may result in such altered flood hazards, include: increase of impervious surface cover, change in sea level and/or land subsidence, anticipated erosion, and sedimentation in flood control structures. In particular, any future flood risk analysis should take into account potential effects of climate change on future rainfall patterns, flood frequency, and magnitude, which will possibly lead to substantial increases in future flood risks over areas with greater population.

Information from any existing resources like hydrologic and hydraulic model results and maps should be summarized with details in terms of the source of flood hazard data, associated dates, timeframe of future conditions (fully developed land use conditions, 30-year., 50-year., etc.), and a brief description of each existing dataset compiled for flood hazard analysis. If the flood hazard data for the future condition is not available in the region of FMPs, TWDB suggested to perform one of the following methods (TWDB, 2021):

Method 1: Increase water surface elevation based on projected percent population increase (as proxy for development of land areas);

Method 2: Utilize the existing condition 0.2 percent annual chance floodplain as a proxy for the future 1 percent level;

Method 3: Combination of methods 1 and 2 or an RFPG-proposed method;

Method 4: Request TWDB for a Desktop Analysis.

Additional Exposure and Vulnerability

Exposure and vulnerability analysis identifies the existing and future flood hazard areas if the current development practices continue in the region of FMPs. According to Sections 2B.3 and 2B.4 of this plan, a rapid increase of structures and population is projected in the Trinity Region over the next 30 years. This implies that potential exposure and vulnerabilities of the population, structures, critical facilities, and public infrastructure to the flood hazards may increase. For communities interested knowing future exposure and vulnerability, they may contact FEMA for Flood Insurance Rate Maps (FIRMs) for future condition in 1 percent annual chance floodplains (FEMA, 2001). While the future condition floodplain maps cannot be used for emergency operation and insurance rating purposes, they can be used to enhance public awareness of future flood risks, exposure, and vulnerability. The detailed information of flood exposure and vulnerability analyses for the future conditions are included in Sections 2B.2 and 2B.3 of this plan.

Operations and Maintenance and Design Standards

Operations and maintenance (O&M), as well as the standards of public infrastructure design can greatly distress future flood risks. FMPs can fail to function as designed due to improper operations and poor maintenance. Examples of the catastrophic dam failures of Oroville Dam in California in 2017 and Edenville Dam in Michigan in 2020 resulted in massive floods from the combination of intense rainfall events and lack of maintenance.

Future risks of structural failures can increase if the FMPs are not properly managed and maintained. Thus, re-evaluation of the design standards and requirements of operations and maintenance of FMPs should be considered to reduce future risks. Minimum and most stringent specifications of the design standards of FMPs should be followed to prepare for flood hazard in the future.

4B.4.h. Implementation Issues of FMPs

Project implementation issues include conflicts pertaining to rights-of-way, permitting, acquisitions, utility, or transportation relocations, amongst other issues that might be encountered before an FMP is able to be fully implemented. Such issues are an inherent part of flood mitigation projects.

Because a right-of-way is a public path across private land, it can create issues when securing access to projects for construction and maintenance. The acquisition of right-of-way or other property and utility relocation located near or on property impacted by a project requires close coordination between the state, cities, counties and other forms of local government, as well as private entities and land owners. Coordination with the appropriate entities is key to facilitating projects. The Right-of-Way Division of TXDOT coordinates the acquisition of land to build, widen or enhance highways, and provides relocation assistance when needed.

Most FMPs will require a variety of permits to ensure that they are following best practices, meeting code requirements, following regulations, and adhering to the laws and regulations. During the implementation of any project, the goal is to obtain and acquire all necessary and required permits and approvals as efficiently as possible. Acquiring permits can also be a lengthy process but is an essential step in any flood mitigation project.

The terms “buyout” and “acquisition” are often utilized interchangeably, but in the context of flood protection, both refer generally to the purchase of private property by the government for public use. After properties are purchased through a buyout program, the land is converted to open space. In the case of flood acquisitions, the process involves the purchase of a property in a floodplain in order to reduce the damage of future flooding on the site and/or for properties adjacent to the one being acquired.

Voluntary property acquisition is not a simple process and requires agreement by the property owner and local jurisdiction. If state or federal funding is involved, then the property acquisition could also include other governmental officials, the state and the federal agencies. Voluntary buyout programs are a specific subset of property acquisitions in which private lands are purchased, existing structures are demolished, and the land is returned to its natural undeveloped state for public use in perpetuity. Buyouts are voluntary and no one is required to sell their property which provides no guarantee of acquisition. The process can also be financially burdensome as well as lengthy.

Additional issues can arise with utility relocation. Utilities may include water lines, wastewater lines, stormdrain systems, telecommunication, power lines, and other similar infrastructure. Utilities may be buried below the surface, attached to the side of bridges or aerial. Utilities located in a road or highway right of way may need to be relocated to allow for construction of a mitigation project. The local government is usually responsible for utility relocations; however, TxDOT may assume responsibility, particularly for projects along the state highway system. Developers may also assume responsibility for utility relocations depending on the project. Utility relocation means the adjustment of a utility facility required for the construction of a project. It includes removing and reinstalling the facility, including necessary temporary facilities; acquiring necessary right-of-way on new location; moving, rearranging, or changing the type of existing facilities; and taking any necessary safety and protective measures. Such measures can be time consuming as well as costly.

4B.5 Potential Funding Sources

A wide variety of funding opportunities could be utilized to fund the identified actions. Traditionally, stormwater and flood mitigation project funding sources have either been locally sourced user fees or general taxes, or externally by state and federal grants. While low-interest loan programs do provide for additional funding, few local entities chose this option due to the lack of a dedicated funding source sufficient to cover debt service. Therefore, many communities adopted a “pay-as-you-go” method of funding stormwater projects or in the event of a disaster, applying for state and federal disaster recovery grants. Today, communities have a broader range of funding sources and programs that include the above plus recently created mitigation grant and loan programs, such as the FEMA Building Resilient Infrastructure and Communities (BRIC) and the TWDB Flood Infrastructure Fund (FIF). The potential funding sources for the identified FME, FMP and FMS are listed in **Tables 12, 13 and 14**, respectively (see **Appendix 4.1**). Further details on funding opportunities and the anticipated funding sources for the recommended actions are included in **Chapter 9**.

Appendix 4-1

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
03100001	Archer County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Archer	12060201, 12030101, 11130209, 11130206, 12060101	120402030105, 120302030307, 120402030106, 120402030200, 120302030306, 120302030304	South Fork Trinity River-West Fork Trinity River, Prickly Pear Branch-West Fork Trinity River, Dead Horse Creek-Brushy Creek, Flat Creek-West Fork Trinity River	Watershed Planning	922.67	Riverine	Archer County	Archer County	N	\$1,254,000	
03100002	Anderson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Anderson	12030201, 12030105, 12020001			Watershed Planning	1,073.46	Riverine	Anderson County	Anderson County	N	\$1,500,000	
03100003	Chambers County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Chambers	12030203, 12040203, 12040204, 12040201, 12040202		Cow Island Bayou, Turtle Bayou, Lynchburg Canal-Old River, Lost River-Old River	Watershed Planning	629.71	Riverine	Chambers County	Chambers County	N	\$874,000	
03100004	Clay County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Clay	12030101, 11130209, 11130102, 11130206, 11130201		Crooked Creek, Flat Creek-West Fork Trinity River, Lodge Creek, Turkey Creek, Jones Creek, Prairie Branch, South Creek-Big Sandy Creek	Watershed Planning	1,107.64	Riverine	Clay County	Clay County	N	\$1,470,000	
03100005	Collin County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Collin	12030106, 12030103, 12030105, 12010001		Crooked Creek, Flat Creek-West Fork Trinity River, Lodge Creek, Turkey Creek, Jones Creek, Prairie Branch, South Creek-Big Sandy Creek	Watershed Planning	883.19	Riverine	Collin County	Collin County	N	\$1,041,000	
03100006	Cooke County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Cooke	12030103, 12030104, 11130210, 11130201		Crooked Creek, Flat Creek-West Fork Trinity River, Lodge Creek, Turkey Creek, Jones Creek, Prairie Branch, South Creek-Big Sandy Creek	Watershed Planning	893.01	Riverine	Cooke County	Cooke County	N	\$1,133,000	
03100007	Denton County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Denton	12030103, 12030104, 12030105		Crooked Creek, Flat Creek-West Fork Trinity River, Lodge Creek, Turkey Creek, Jones Creek, Prairie Branch, South Creek-Big Sandy Creek	Watershed Planning	948.44	Riverine	Denton County	Denton County	N	\$1,140,000	
03100008	Ellis County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Ellis	12030109, 12030102, 12030105, 12030108		Crooked Creek, Flat Creek-West Fork Trinity River, Lodge Creek, Turkey Creek, Jones Creek, Prairie Branch, South Creek-Big Sandy Creek	Watershed Planning	947.79	Riverine	Ellis County	Ellis County	N	\$1,182,000	
03100009	Fannin County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Fannin	12030106, 11140101, 11140301, 11140102		Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	896.79	Riverine	Fannin County	Fannin County	N	\$1,183,000	
03100010	Freestone County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Freestone	12030201, 12070103, 12030105, 12030108		Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	888.14	Riverine	Freestone County	Freestone County	N	\$1,201,000	
03100011	Grayson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Grayson	12030106, 11140101, 12030103, 11130210		Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	976.48	Riverine	Grayson County	Grayson County	N	\$1,228,000	
03100012	Grimes County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Grimes	12070103, 12040101, 12070101, 12040102, 12030202		Simes Creek-Bedias Creek, North Bedias Creek-Bedias Creek, Rocky Creek-Bedias Creek, Pine Creek-South Bedias Creek, Sulphur Creek-South Bedias Creek	Watershed Planning	798.66	Riverine	Grimes County	Grimes County	N	\$1,334,000	
03100013	Henderson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Henderson	12030201, 12030107, 12030105, 12020001		Simes Creek-Bedias Creek, North Bedias Creek-Bedias Creek, Rocky Creek-Bedias Creek, Pine Creek-South Bedias Creek, Sulphur Creek-South Bedias Creek	Watershed Planning	944.75	Riverine	Henderson County	Henderson County	N	\$1,295,000	
03100014	Hill County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Hill	12030109, 12070103, 12030108, 12060202		Simes Creek-Bedias Creek, North Bedias Creek-Bedias Creek, Rocky Creek-Bedias Creek, Pine Creek-South Bedias Creek, Sulphur Creek-South Bedias Creek	Watershed Planning	981.71	Riverine	Hill County	Hill County	N	\$1,272,000	
03100015	Hood County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Hood	12060201, 12030102, 12060202		South Bear Creek	Watershed Planning	438.61	Riverine	Hood County	Hood County	N	\$539,000	
03100016	Houston County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Houston	12020002, 12030201, 12020001, 12030202		South Bear Creek	Watershed Planning	1,231.75	Riverine	Houston County	Houston County	N	\$1,809,000	
03100017	Hunt County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Hunt	12030106, 11140301, 12030107, 12010003, 12010001		Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Watershed Planning	879.19	Riverine	Hunt County	Hunt County	N	\$1,064,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000001	Archer County FEMA Mapping	1	0	5	0	0		7.90	4,393.65		
031000002	Anderson County FEMA Mapping	667	416	1,408	11	32		73.34	36,103.84		
031000003	Chambers County FEMA Mapping	2,225	1,698	7,117	24	5		53.15	4,747.46		
031000004	Clay County FEMA Mapping	28	27	16	0	0		17.72	4,620.75		
031000005	Collin County FEMA Mapping	2,842	2,401	17,576	28	86		145.78	34,153.61		
031000006	Cooke County FEMA Mapping	1,328	964	2,077	10	74		81.36	40,870.18		
031000007	Denton County FEMA Mapping	4,675	3,634	18,656	89	177		245.07	53,344.36		
031000008	Ellis County FEMA Mapping	2,712	2,240	8,472	36	163		214.41	90,231.04		
031000009	Fannin County FEMA Mapping	139	119	93	2	6		4.40	1,782.81		
031000010	Freestone County FEMA Mapping	557	237	389	13	31		90.63	48,504.25		
031000011	Grayson County FEMA Mapping	436	376	541	12	50		42.70	21,311.84		
031000012	Grimes County FEMA Mapping	109	69	49	1	9		13.04	9,748.66		
031000013	Henderson County FEMA Mapping	2,066	1,602	5,064	22	23		74.63	40,351.02		
031000014	Hill County FEMA Mapping	127	83	109	4	26		24.10	24,894.73		
031000015	Hood County FEMA Mapping	0	0	0	0	0		0.00	136.89		
031000016	Houston County FEMA Mapping	290	192	321	10	45		110.11	12,612.35		
031000017	Hunt County FEMA Mapping	27	16	7	0	1		3.92	2,148.95		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
03100018	Jack County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Jack	12060201, 12030101	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Watershed Planning	917.33	Riverine	Jack County	Jack County	N	\$1,122,000	
03100019	Johnson County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Johnson	12030109, 12060201, 12030102, 12060202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Watershed Planning	730.85	Riverine	Johnson County	Johnson County	N	\$977,000	
03100020	Kaufman County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Kaufman	12030106, 12030107, 12030105, 12010001	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Watershed Planning	804.43	Riverine	Kaufman County	Kaufman County	N	\$985,000	
03100021	Leon County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Leon	12030201, 12070103, 12030202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Watershed Planning	1,075.85	Riverine	Leon County	Leon County	N	\$1,503,000	
03100022	Liberty County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Liberty	12040103, 12030203, 12040203, 12040201, 12040202, 12020007, 12030202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Watershed Planning	1,169.45	Riverine	Liberty County	Liberty County	N	\$1,214,000	
03100023	Limestone County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Limestone	12030201, 12070103, 12070101, 12030108, 12060202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	North Fork Pin Oak Creek, Munger Branch, Elm Creek, Alligator Creek-Pin Oak Creek, Elm Creek-Tehuacana Creek, Cedar Creek	Watershed Planning	928.88	Riverine	Limestone County	Limestone County	N	\$1,272,000	
03100024	Madison County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Madison	12070103, 12030202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	North Fork Pin Oak Creek, Munger Branch, Elm Creek, Alligator Creek-Pin Oak Creek, Elm Creek-Tehuacana Creek, Cedar Creek	Watershed Planning	469.95	Riverine	Madison County	Madison County	N	\$724,000	
03100025	Montague County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Montague	12030103, 12030104, 12030101, 11130209, 11130201	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	North Fork Pin Oak Creek, Munger Branch, Elm Creek, Alligator Creek-Pin Oak Creek, Elm Creek-Tehuacana Creek, Cedar Creek	Watershed Planning	933.20	Riverine	Montague County	Montague County	N	\$1,203,000	
03100026	Navarro County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Navarro	12030109, 12030201, 12030107, 12030105, 12030108	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	North Fork Pin Oak Creek, Munger Branch, Elm Creek, Alligator Creek-Pin Oak Creek, Elm Creek-Tehuacana Creek, Cedar Creek	Watershed Planning	1,081.28	Riverine	Navarro County	Navarro County	N	\$1,482,000	
03100027	Parker County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Parker	12060201, 12030101, 12030102	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	North Fork Pin Oak Creek, Munger Branch, Elm Creek, Alligator Creek-Pin Oak Creek, Elm Creek-Tehuacana Creek, Cedar Creek	Watershed Planning	902.80	Riverine	Parker County	Parker County	N	\$1,144,000	
03100028	Polk County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Polk	12020002, 12020006, 12020007, 12030202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	North Fork Pin Oak Creek, Munger Branch, Elm Creek, Alligator Creek-Pin Oak Creek, Elm Creek-Tehuacana Creek, Cedar Creek	Watershed Planning	1,105.57	Riverine	Polk County	Polk County	N	\$1,560,000	
03100029	Rockwall County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Rockwall	12030106, 12030107, 12010001	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Camp Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Long Branch-Buffalo Creek, Upper Big Brushy Creek, High Point Creek	Watershed Planning	148.04	Riverine	Rockwall County	Rockwall County	N	\$252,000	
03100030	San Jacinto County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	San Jacinto	12040103, 12030203, 12030202	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	625.52	Riverine	San Jacinto County	San Jacinto County	N	\$907,000	
03100031	Trinity County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Trinity	12020002, 12030202	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	709.83	Riverine	Trinity County	Trinity County	N	\$989,000	
03100032	Van Zandt County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Van Zandt	12030107, 12020001, 12010001	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	856.15	Riverine	Van Zandt County	Van Zandt County	N	\$1,272,000	
03100033	Walker County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Walker	12040103, 12040101, 12030202	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	797.63	Riverine	Walker County	Walker County	N	\$1,276,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000018	Jack County FEMA Mapping	268	105	231	0	6		54.58	33,805.24		
031000019	Johnson County FEMA Mapping	1,839	1,544	4,877	21	418		61.68	13,054.41		
031000020	Kaufman County FEMA Mapping	2,086	1,672	4,193	26	38		148.13	88,118.05		
031000021	Leon County FEMA Mapping	50	43	40	11	31		99.56	2,040.32		
031000022	Liberty County FEMA Mapping	8,682	8,049	12,221	72	21		256.55	48,897.01		
031000023	Limestone County FEMA Mapping	62	33	53	2	13		12.88	10,683.74		
031000024	Madison County FEMA Mapping	409	345	327	4	19		58.40	45,093.89		
031000025	Montague County FEMA Mapping	37	12	19	4	20		56.77	3,015.10		
031000026	Navarro County FEMA Mapping	1,759	995	2,576	19	139		211.14	106,570.30		
031000027	Parker County FEMA Mapping	1,953	1,485	6,748	37	49		60.73	25,497.34		
031000028	Polk County FEMA Mapping	3,485	3,119	5,167	38	18		92.37	15,993.65		
031000029	Rockwall County FEMA Mapping	411	371	1,553	10	19		33.76	4,484.99		
031000030	San Jacinto County FEMA Mapping	2,637	2,505	3,161	19	1		82.53	11,298.66		
031000031	Trinity County FEMA Mapping	1,312	1,128	1,895	38	4		53.77	9,960.17		
031000032	Van Zandt County FEMA Mapping	118	50	151	3	24		37.47	1,378.73		
031000033	Walker County FEMA Mapping	1,654	1,480	4,303	13	15		58.59	28,691.27		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
03100034	Wise County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000005, 03000006	Wise	12030103, 12030104, 12030101, 12030102	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	919.53	Riverine	Wise County	Wise County	N	\$1,317,000	
03100035	Young County FEMA Mapping	Create FEMA mapping in previously unmapped areas and update existing FEMA mapping as needed.	03000005, 03000006	Young	12060201, 12030101, 11130209, 12060101, 12060104	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	South Fork Trinity River-West Fork Trinity River, Prickly Pear Branch-West Fork Trinity River, Dead Horse Creek-Brushy Creek, Plum Creek, Upper Cameron Creek	Watershed Planning	927.47	Riverine	Young County	Young County	N	\$1,407,000	
03100036	East Fork Trinity HUC-8 - East Fork Trinity and Tributaries Flood Risk Identification	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000001, 03000002, 03000005, 03000006, 03000025, 03000026	Grayson, Fannin, Hunt, Collin, Rockwall, Dallas, Kaufman	12030106, 11140101, 12030103, 11140301, 12030107, 12030105, 12010001	120301020401	Quil Miller Creek-Village Creek	Watershed Planning	1,298.72	Riverine	NCTCOG	NCTCOG	N	\$4,582,000	
03100037	Denton HUC-8 - Hog Branch Flood Risk Identification	Create FEMA mapping in previously unmapped areas and update existing FEMA maps as needed.	03000001, 03000002, 03000005, 03000006, 03000025, 03000026	Denton	12030103, 12030104, 12030101, 12030102, 11130201	120301020401	Quil Miller Creek-Village Creek	Watershed Planning	717.03	Riverine	NCTCOG	NCTCOG	N	\$1,115,000	
03100038	Collin County Dam Inundation Study	Inundation studies of all high and moderate hazard dams	03000009, 03000010, 03000029, 03000030	Collin	12030106, 12030103, 12030105, 12010001	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101, 120301060403, 120301070102, 120100010302	South Fork Trinity River-West Fork Trinity River, Prickly Pear Branch-West Fork Trinity River, Dead Horse Creek-Brushy Creek, Plum Creek, Upper Cameron Creek	Watershed Planning	883.19	Riverine	Collin County	Collin County	N	\$855,000	
03100039	Chambers County Dam/Levee Failure Inundation Map Updates	Update dam and levee failure inundation maps.	03000009, 03000010, 03000029, 03000030	Chambers	12030203, 12040203, 12040204, 12040201, 12040202	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Cow Island Bayou, Turtle Bayou, Lynchburg Canal-Old River, Lost River-Old River	Watershed Planning	629.71	Riverine	Chambers County, Anahuac, Beach City, Mount Belvieu, Cove, Chambers-Liberty Counties Navigation District, and Old-River-Winfree	Chambers County, Anahuac, Beach City, Mount Belvieu, Cove, Chambers-Liberty Counties Navigation District, and Old-River-Winfree	N	\$462,000	
03100040	Dallas County Dam Inundation Study	Conduct studies to develop dam inundation maps and models	03000009, 03000010, 03000029, 03000030	Dallas	12030106, 12030103, 12030109, 12030104, 12030102, 12030105	120302030202, 120402030105, 120302030203, 120402040100, 120402020300, 120302030307, 120402010100, 120402020400, 120402040200, 120402020200, 120302030204, 120402030106, 120402030200, 120402020100, 120302030306, 120302030304, 120402030104	Cow Island Bayou, Turtle Bayou, Lynchburg Canal-Old River, Lost River-Old River	Watershed Planning	904.92	Riverine	Dallas County	Dallas County	N	\$587,000	
03100041	Lake Ray Hubbard and Duck Creek Tributary Inundation Study	Conduct studies to develop inundation maps for Lake Ray Hubbard and Duck Creek Tributary and how it affects the Town of Sunnyvale.	03000005, 03000006, 03000007, 03000008	Dallas	12030106, 12030105	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Preparedness	42.32	Riverine	Sunnyvale	Sunnyvale	N	\$500,000	
03100042	Denton County Dam Inundation Study	Inundation studies of all high and moderate hazard dams	03000009, 03000010, 03000029, 03000030	Denton	12030103, 12030104, 12030105	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	948.44	Riverine	Denton County	Denton County	N	\$613,000	
03100043	Ellis County Dam Inundation Study	Inundation studies of all high and moderate hazard dams	03000009, 03000010, 03000029, 03000030	Ellis	12030109, 12030102, 12030105, 12030108	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	947.79	Riverine	Ellis County, Alma, Bardwell, Ennis, Ferris, Garrett, Italy, Maypearl, Midlothian, Milford, Oak Leaf, Ovilla, Palmer, Red Oak, Waxahachie	Ellis County, Alma, Bardwell, Ennis, Ferris, Garrett, Italy, Maypearl, Midlothian, Milford, Oak Leaf, Ovilla, Palmer, Red Oak, Waxahachie	N	\$758,000	
03100044	Madison County Dam Inundation Study	Create dam failure inundation maps	03000009, 03000010, 03000029, 03000030	Madison	12070103, 12030202	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	469.95	Riverine	Madison County	Madison County	N	\$478,000	
03100045	Navarro County Dam Inundation Study	Conduct inundation studies of all high and moderate hazard dams.	03000009, 03000010, 03000029, 03000030	Navarro	12030109, 12030201, 12030107, 12030105, 12030108	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	1,081.28	Riverine	Navarro County, Corsicana, Kerens	Navarro County, Corsicana, Kerens	N	\$744,000	
03100046	Parker County Dam Inundation Study	Conduct a dam inundation study	03000009, 03000010, 03000029, 03000030	Parker	12060201, 12030101, 12030102	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	902.80	Riverine	Parker County, Willow Park	Parker County, Willow Park	N	\$569,000	
03100047	Tarrant County Dam Inundation Study	Identify and evaluate high hazard dams.	03000009, 03000010, 03000029, 03000030	Tarrant	12030103, 12030104, 12030101, 12030102	120301060409, 120301050106, 120301060504, 120301060407, 120301050105, 120301060408, 120301050104, 120301060501, 120301060503	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	900.37	Riverine	Fort Worth, Tarrant County	Fort Worth, Tarrant County	N	\$604,000	
03100048	Irving Levee District Flood Risk Assessment	Conduct review of the area in the four levee districts that would be inundated by a levee failure. Analyze all available routes out of the Levee Districts and any new streets that would not be flooded.	03000009, 03000010, 03000031, 03000032	Dallas	12030103, 12030102, 12030105	120301031006, 120301020706, 120301031005, 120301031004, 120301031007, 120301020701, 120301020705, 120301050101	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	67.80	Riverine	Irving	Irving	N	\$250,000	
03100049	West Fork of the Trinity River Levee Failure Hydrologic Study	Hydrologic study to determine threat, risk, and potential impacts of flooding from levee failure along the West Fork of the Trinity River.	03000009, 03000010, 03000031, 03000032	Tarrant	12030104, 12060201, 12030101, 11130209, 12030102, 11130201	120301031006, 120301020706, 120301031005, 120301031004, 120301031007, 120301020701, 120301020705, 120301050101	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, City of Dallas-White Rock Creek, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River, South Mesquite Creek	Watershed Planning	2,103.70	Riverine	River Oaks	River Oaks	N	\$2,000,000	
03100050	City of Lavon DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Collin	12030106	120301060401, 120301060307	Price Creek-Lavon Lake, Camp Creek-Lake Ray Hubbard	Watershed Planning	3.03	Riverine	Lavon	Lavon	N	\$250,000	
03100051	University Park DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030103, 12030105	120301031007, 120301050105, 120301050101	Bachman Branch-Elm Fork Trinity River, Turtle Creek, White Rock Creek-White Rock Lake	Watershed Planning	3.69	Riverine	University Park	University Park	N	\$500,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000034	Wise County FEMA Mapping	601	476	1,545	25	53		99.85	29,584.51		
031000035	Young County FEMA Mapping	25	11	4	0	3		6.81	5,757.37		
031000036	East Fork Trinity HUC-8 - East Fork Trinity and Tributaries Flood Risk Identification	5,222	4,603	24,778	66	234		273.17	60,443.34		
031000037	Denton HUC-8 - Hog Branch Flood Risk Identification	1,002	752	4,043	27	71		107.25	30,212.21		
031000038	Collin County Dam Inundation Study	2,842	2,401	17,576	28	86		145.78	34,153.61		
031000039	Chambers County Dam/Levee Failure Inundation Map Updates	2,452	1,807	7,348	24	5		53.15	9,200.48		
031000040	Dallas County Dam Inundation Study	22,226	20,522	181,701	216	499		790.82	31,559.98		
031000041	Lake Ray Hubbard and Duck Creek Tributary Inundation Study	821	780	7,134	5	46		18.63	519.92		
031000042	Denton County Dam Inundation Study	4,675	3,634	18,656	89	177		245.07	53,344.36		
031000043	Ellis County Dam Inundation Study	2,712	2,240	8,472	36	163		214.41	90,231.04		
031000044	Madison County Dam Inundation Study	338	297	241	4	19		58.40	43,020.88		
031000045	Navarro County Dam Inundation Study	1,805	1,017	2,606	19	139		211.14	109,464.70		
031000046	Parker County Dam Inundation Study	1,953	1,485	6,748	37	49		60.73	25,497.34		
031000047	Tarrant County Dam Inundation Study	14,855	12,826	78,228	109	709		467.79	20,102.00		
031000048	Irving Levee District Flood Risk Assessment	4,589	4,495	40,893	26	38		85.33	1,397.40		
031000049	West Fork of the Trinity River Levee Failure Hydrologic Study	7,235	5,762	21,593	54	210		308.16	114,016.70		
031000050	City of Lavon DMP	4	4	4	2	1		0.66	31.52		
031000051	University Park DMP	22	19	76	0	3		0.31	0.44		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
03100052	City of Rowlett DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030106	120301060409, 120301060402, 120301060408, 120301060403	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard	Watershed Planning	20.51	Riverine	Rowlett	Rowlett	N	\$500,000	
03100053	City of Richardson DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030106, 12030105	120301060406, 120301060407, 120301050105, 120301050104, 120301060501, 120301060403	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Duck Creek	Watershed Planning	28.54	Riverine	Richardson	Richardson	N	\$1,000,000	
03100054	City of Cockrell Hill DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030105	120301050102	Coombs Creek-Trinity River	Watershed Planning	0.58	Riverine	Cockrell Hill	Cockrell Hill	N	\$250,000	
03100055	City of Aubrey DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Denton	12030103	120301030705, 120301030406, 120301030703, 120301030704, 120301030903	Culp Branch-Elm Fork Trinity River, Little Elm Creek, Pecan Creek, Running Branch-Little Elm Creek, Doe Branch-Lewisville Lake	Watershed Planning	2.93	Riverine	Aubrey	Aubrey	N	\$250,000	
03100056	City of Argyle DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Denton	12030103, 12030104	120301040304, 120301030804	Middle Hickory Creek, Denton Creek-Grapevine Lake	Watershed Planning	11.52	Riverine	Argyle	Argyle	N	\$250,000	
03100057	City of Maypearl DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Ellis	12030109	120301090201, 120301090104, 120301090108, 120301090105	Lower South Fork Chambers Creek, Greathouse Branch-Chambers Creek, Middle North Fork Chambers Creek, Lower North Fork Chambers Creek	Watershed Planning	0.83	Riverine	Maypearl	Maypearl	N	\$250,000	
03100058	City of Dayton DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Liberty	12030203, 12040203	120302030301, 120302030302, 120402030103, 120302030108, 120402030101, 120302030304, 120402030104	Gillen Bayou, Linney Creek-Trinity River, West Prong Old River, Lynchburg Canal-Old River	Watershed Planning	20.95	Riverine	Dayton	Dayton	N	\$250,000	
03100059	City of Denton DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Denton	12030103, 12030104	120301030803, 120301030604, 120301030801, 120301030406, 120301030605, 120301040304, 120301030802, 120301030901, 120301030602, 120301030902, 120301040205, 120301030804, 120301030805	Gillen Bayou, Linney Creek-Trinity River, West Prong Old River, Lynchburg Canal-Old River	Watershed Planning	96.98	Riverine	Denton	Denton	N	\$1,000,000	
03100060	City of Madisonville DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Madison	12030202	120302020506, 120302020408	Ferry Branch-Caney Creek, Pooles Creek-Bedias Creek	Watershed Planning	4.88	Riverine	Madisonville	Madisonville	N	\$250,000	
03100061	City of Rockwall DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Rockwall	12030106, 12030107, 12010001	120301060409, 120301060402, 120301060502, 120301060401, 120100010301, 120301070101	Cottonwood Creek-East Fork Trinity River, Camp Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Long Branch-Buffalo Creek, Upper Big Brushy Creek	Watershed Planning	29.88	Riverine	Rockwall	Rockwall	N	\$500,000	
03100062	City of Everman DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030102	120301020403	Village Creek-Lake Arlington	Watershed Planning	1.75	Riverine	Everman	Everman	N	\$250,000	
03100063	City of Colleyville DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030102	120301020704, 120301020505, 120301020703	Big Bear Creek, Little Bear Creek, Headwaters Walker Branch	Watershed Planning	13.18	Riverine	Colleyville	Colleyville	N	\$500,000	
03100064	Haltom City DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030102	120301020504, 120301020503	Whites Branch-Big Fossil Creek, Sycamore Creek-West Fork Trinity River	Watershed Planning	12.37	Riverine	Haltom City	Haltom City	N	\$500,000	
03100065	City of Southlake DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030104, 12030102	120301040306, 120301040305, 120301020703	Big Bear Creek, Marshall Branch-Grapevine Lake, Dove Creek-Grapevine Lake	Watershed Planning	22.33	Riverine	Southlake	Southlake	N	\$500,000	
03100066	City of North Richland Hills DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030102	120301020504, 120301020704, 120301020505, 120301020703, 120301020503	Big Bear Creek, Little Bear Creek, Whites Branch-Big Fossil Creek, Sycamore Creek-West Fork Trinity River, Headwaters Walker Branch	Watershed Planning	18.20	Riverine	North Richland Hills	North Richland Hills	N	\$500,000	
03100067	City of Mansfield DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030102	120301020603, 120301020601, 120301020604, 120301020605, 120301020405	Rush Creek-Village Creek, Headwaters Mountain Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Watershed Planning	36.49	Riverine	Mansfield	Mansfield	N	\$500,000	
03100068	City of Trinidad DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Henderson	12030107, 12030105	120301050504, 120301070310, 120301070311	Trinidad Lake-Trinity River, Caney Creek-Cedar Creek, McAllister Slough-Cedar Creek	Watershed Planning	14.80	Riverine	Trinidad	Trinidad	N	\$250,000	
03100069	Cedar Hill-DeSoto-Duncanville DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030109, 12030102, 12030105	120301020603, 120301050107, 120301050301, 120301020606, 120301050201, 120301020607, 120301090301, 120301050305	Low Branch-Mountain Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Headwaters Fivemile Creek, Headwaters Tenmile Creek, Headwaters Red Oak Creek, Middle Red Oak Creek, Headwaters Waxahachie Creek	Watershed Planning	68.36	Riverine	Cedar Hill, DeSoto, Duncanville	Cedar Hill, DeSoto, Duncanville	N	\$1,000,000	
03100070	City of Athens DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Henderson	12030201, 12030107, 12020001	120302010202, 120301070308, 120200010303, 120302010201, 120301070312	Headwaters Caney Creek, Walnut Creek-Cedar Creek, Shelton Mill Branch, Upper Coon Creek	Watershed Planning	13.48	Riverine	Athens	Athens	N	\$250,000	
03100071	Sansom Park DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030102	120301020105, 120301020501, 120301020104, 120301020101	West Fork Trinity River-Lake Worth, Live Oak Creek West Fork Trinity River, Farmers Branch-West Fork Trinity River, Marine Creek-West Fork Trinity River	Watershed Planning	1.20	Riverine	Sansom Park	Sansom Park	N	\$250,000	
03100072	City of Decatur DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Wise	12030104, 12030101	120301010604, 120301010601, 120301040203, 120301010511, 120301040206	Walnut Creek-West Fork Trinity River, Waggoner Branch-Big Sandy Creek, Martin Branch-West Fork Trinity Branch, Catlett Creek-Sweetwater Creek, Oliver Creek	Watershed Planning	8.77	Riverine	Decatur	Decatur	N	\$250,000	
03100073	City of Waxahachie DMP (Phase 2 Continuation)	Evaluate City and identify future projects. Continue efforts of current DMP Phase 2 efforts.	03000007, 03000008, 03000009, 03000010	Ellis	12030109, 12030105	120301090302, 120301090307, 120301050302, 120301090305, 120301090303, 120301090301, 120301090304, 120301050303, 120301090105	Upper Red Oak Creek, Upper Grove Creek, Headwaters Waxahachie Creek, Upper Waxahachie Creek, South Prong Creek-Lake Waxahachie, Lower North Fork Chambers Creek, Middle Waxahachie Creek, Mustang Creek, Upper Big Onion Creek	Watershed Planning	49.15	Riverine	Waxahachie	Waxahachie	N	\$752,000	
03100074	City of Crockett DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Houston	12030201, 12030202	120302010705, 120302020702	Upper Hurricane Bayou, Spring Creek-Gail Creek	Watershed Planning	9.24	Riverine	Crockett	Crockett	N	\$250,000	
03100075	Town of Dish DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Denton	12030104	120301040205	Hog Branch-Denton Creek	Watershed Planning	1.51	Riverine	Dish	Dish	N	\$250,000	
03100076	City of Corinth DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Denton	12030103	120301030902, 120301030805	Lower Hickory Creek, Pecan Creek-Lewisville Lake	Watershed Planning	7.80	Riverine	Corinth	Corinth	N	\$250,000	
03100077	City of Keller DMP	Evaluate City and identify future projects.	03000007, 03000008, 03000009, 03000010	Tarrant	12030104, 12030102	120301020704, 120301040305, 120301020703, 120301020503	Big Bear Creek, Little Bear Creek, Whites Branch-Big Fossil Creek, Marshall Branch-Grapevine Lake	Watershed Planning	18.41	Riverine	Keller	Keller	N	\$500,000	
03100078	Anderson County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Anderson	12030201, 12030105, 12020001	120301020704, 120301040305, 120301020703, 120301020503	Big Bear Creek, Little Bear Creek, Whites Branch-Big Fossil Creek, Marshall Branch-Grapevine Lake	Watershed Planning	1,073.46	Riverine	Anderson County	Anderson County	N	\$500,000	
03100079	Cooke County DMP	Evaluate County to identify future projects.	03000007, 03000008, 03000009, 03000010	Cooke	12030103, 12030104, 11130210, 11130201	120301020704, 120301040305, 120301020703, 120301020503	Big Bear Creek, Little Bear Creek, Whites Branch-Big Fossil Creek, Marshall Branch-Grapevine Lake	Watershed Planning	893.01	Riverine	Cooke County	Cooke County	N	\$500,000	
03100080	Fannin County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Fannin	12030106, 11140101, 11140301, 11140102	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	896.79	Riverine	Fannin County	Fannin County	N	\$500,000	
03100081	Freestone County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Freestone	12030201, 12070103, 12030105, 12030108	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	888.14	Riverine	Freestone County, Fairfield, Streetman, Teague, Wortham	Freestone County, Fairfield, Streetman, Teague, Wortham	N	\$500,000	
03100082	Houston County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Houston	12020002, 12030201, 12020001, 12030202	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	1,231.75	Riverine	Houston County	Houston County	N	\$500,000	
03100083	Jack County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Jack	12060201, 12030101	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	917.33	Riverine	Jack County	Jack County	N	\$500,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000052	City of Rowlett DMP	142	134	432	0	8		5.24	293.27		
031000053	City of Richardson DMP	132	118	596	1	29		7.12	80.45		
031000054	City of Cockrell Hill DMP	3	3	12	0	0		0.00	0.00		
031000055	City of Aubrey DMP	54	52	127	0	0		2.08	189.16		
031000056	City of Argyle DMP	57	38	1,309	3	3		1.97	457.34		
031000057	City of Maypearl DMP	41	39	51	3	0		2.22	67.01		
031000058	City of Dayton DMP	727	687	2,181	18	1		17.87	1,731.98		
031000059	City of Denton DMP	935	740	2,088	8	68		33.97	3,799.85		
031000060	City of Madisonville DMP	14	13	24	1	3		1.89	108.06		
031000061	City of Rockwall DMP	209	200	1,012	3	5		10.47	693.15		
031000062	City of Everman DMP	272	225	1,006	2	10		5.69	86.03		
031000063	City of Colleyville DMP	156	148	735	4	6		5.00	131.83		
031000064	Haltom City DMP	1,049	854	6,002	8	13		22.52	71.51		
031000065	City of Southlake DMP	88	82	359	0	11		3.42	121.24		
031000066	City of North Richland Hills DMP	314	301	1,194	0	14		9.41	44.36		
031000067	City of Mansfield DMP	422	385	2,492	4	15		30.21	778.52		
031000068	City of Trinidad DMP	0	0	0	0	0		3.31	0.00		
031000069	Cedar Hill-DeSoto-Duncanville DMP	1,289	1,241	9,333	5	19		42.40	455.45		
031000070	City of Athens DMP	125	84	964	4	6		7.15	138.98		
031000071	Sansom Park DMP	0	0	0	1	0		0.00	0.00		
031000072	City of Decatur DMP	34	25	298	2	0		2.60	114.80		
031000073	City of Waxahachie DMP (Phase 2 Continuation)	490	424	2,389	5	8		31.53	2,152.15		
031000074	City of Crockett DMP	136	106	241	4	0		6.08	148.74		
031000075	Town of Dish DMP	8	2	13	0	0		0.14	180.86		
031000076	City of Corinth DMP	110	108	361	1	1		3.74	47.92		
031000077	City of Keller DMP	166	149	4,380	4	14		3.98	199.92		
031000078	Anderson County DMP	667	416	1,408	11	32		73.34	36,103.84		
031000079	Cooke County DMP	1,328	964	2,077	10	74		81.36	40,870.18		
031000080	Fannin County DMP	139	119	93	2	6		4.40	1,782.81		
031000081	Freestone County DMP	557	237	389	13	31		90.63	48,504.25		
031000082	Houston County DMP	454	250	391	10	45		110.11	28,799.85		
031000083	Jack County DMP	268	105	231	0	6		54.58	33,805.24		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
03100084	Johnson County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Johnson	12030109, 12060201, 12030102, 12060202	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	730.85	Riverine	Johnson County	Johnson County	N	\$500,000	
03100085	Leon County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Leon	12030201, 12070103, 12030202	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	1,075.85	Riverine	Leon County	Leon County	N	\$500,000	
03100086	Liberty County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Liberty	12040103, 12030203, 12040203, 12040201, 12040202, 12020007, 12030202	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	1,169.45	Riverine	Liberty County	Liberty County	N	\$500,000	
03100087	Montague County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Montague	12030103, 12030104, 12030101, 11130209, 11130201	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	933.20	Riverine	Montague County	Montague County	N	\$500,000	
03100088	Parker County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Parker	12060201, 12030101, 12030102	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	902.80	Riverine	Parker County, Willow Park	Parker County, Willow Park	N	\$500,000	
03100089	Polk County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Polk	12020002, 12020006, 12020007, 12030202	120301020704, 120301040305, 120301020703, 120301020503	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Watershed Planning	1,105.57	Riverine	Polk County, Livingston, Goodrich, Onalaska, Seven Oaks, Corrigan	Polk County, Livingston, Goodrich, Onalaska, Seven Oaks, Corrigan	N	\$500,000	
03100090	San Jacinto DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	San Jacinto	12040103, 12030203, 12030202	120301020704, 120301040305, 120301020703, 120301020503	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	625.52	Riverine	San Jacinto County, Coldspring, Point Blank, Shepherd	San Jacinto County, Coldspring, Point Blank, Shepherd	N	\$500,000	
03100091	Trinity County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Trinity	12020002, 12030202	120301020704, 120301040305, 120301020703, 120301020503	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	709.83	Riverine	Trinity	Trinity	N	\$500,000	
03100092	Van Zandt County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Van Zandt	12030107, 12020001, 12010001	120301020704, 120301040305, 120301020703, 120301020503	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	856.15	Riverine	Van Zandt County	Van Zandt County	N	\$500,000	
03100093	Wise County DMP	Evaluate County and identify future projects.	03000007, 03000008, 03000009, 03000010	Wise	12030103, 12030104, 12030101, 12030102	120301020704, 120301040305, 120301020703, 120301020503	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	919.53	Riverine	Wise County	Wise County	N	\$500,000	
03100094	Dallas County DMP and Vulnerability Assessment	Evaluate County to identify future projects. Risk and vulnerability assessment to determine the number of people, property and infrastructure exposed to flooding.	03000007, 03000008, 03000009, 03000010	Dallas	12030106, 12030103, 12030109, 12030104, 12030102, 12030105	120301020704, 120301040305, 120301020703, 120301020503	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Watershed Planning	904.92	Riverine	Dallas County	Dallas County	N	\$500,000	
03100095	Merritt Road, Sachse Road, and Willow Lake Improvements	Hydrologic and Hydraulic Study of Stream 2E3, 2E4 and Willow Lake to determine causes of flooding along Merritt Rd and identify necessary drainage improvements.	03000005, 03000006, 03000007, 03000008	Collin, Dallas	12030106	120301060208, 120301060402, 120301060406, 120301060408, 120301060403, 120301060405	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, East Fork Trinity River-Lavon Lake, Town of Allen-Cottonwood Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Watershed Planning	41.97	Riverine	Sachse	Sachse	N	\$144,000	
03100096	Richardson West Fork Cottonwood Creek Watershed Study	Richardson West Fork Cottonwood Creek Watershed Study	03000005, 03000006	Dallas, Collin	12030106, 12030103, 12030105	120301031005, 120301060407, 120301031007, 120301050105, 120301050104, 120301060501, 120301050103	Bachman Branch-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River, Headwaters White Rock Creek, Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, Pittman Creek-Spring Creek, Duck Creek	Watershed Planning	32.87	Riverine	Richardson	Richardson	N	\$381,000	
03100097	Copper Canyon Poindexter Branch Flood Mitigation Plan	Copper Canyon Poindexter Branch Flood Mitigation Plan	03000005, 03000006, 03000007, 03000008	Denton	12030103	120301031002, 120301030804, 120301030805	Middle Hickory Creek, Lower Hickory Creek, Timber Creek	Preparedness	6.52	Riverine	Copper Canyon	Copper Canyon	N	\$150,000	
03100098	Holiday Park North Drainage Study Update	Area 2	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060406, 120301060407, 120301060408, 120301060501	Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	13.81	Riverine	Garland	Garland	N	\$90,000	
03100099	Buhler, Cresthaven, Madewell & Maryland Drainage Study Update	Area 4	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$132,000	
03100100	Bellaire Heights Drainage Study Update	Area 5	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$50,000	
03100101	Country Club Add., Club Hill Est., & Eastern Hills Est. Drainage Study Update	Area 6	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060409, 120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Project Planning	5.98	Riverine	Garland	Garland	N	\$127,000	
03100102	Shorehaven-Garvon-Rosewood Terrace-Garland Heights-Freeman Heights-Range-Cooper-Barger Drainage Study Update	Area 7	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$150,000	
03100103	Brentwood Place-Two Worlds-Apollo East Park Village Drainage Study Update	Area 8	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060406, 120301060407, 120301060408, 120301060501	Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	13.81	Riverine	Garland	Garland	N	\$50,000	
03100104	Ridgewood Park-Regal Estates-Meadowcreek Square Drainage Study Update	Area 9	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$134,000	
03100105	Eastern Meadows-Southlake Estates-Greenbrook-Green Acres-Rosehill Acreage Drainage Study Update	Area 10	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060409, 120301060408, 120301060501, 120301060503	Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River	Project Planning	12.73	Riverine	Garland	Garland	N	\$81,000	
03100106	La Prada 7 & 8 Drainage Study Update	Area 11	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$50,000	
03100107	Gatewood Drainage Study Update	Area 12	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$50,000	
03100108	Curtis Drive Drainage Study Update	Area 13	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$50,000	
03100109	Center Creek Plaza & Southgate Estates Drainage Study Update	Area 14	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$50,000	
03100110	Bluffview Drainage Study Update	Area 15	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060409, 120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Project Planning	5.98	Riverine	Garland	Garland	N	\$150,000	
03100111	Camelot Drainage Study Update	Area 16	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060406, 120301060407, 120301060408, 120301060501	Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	13.81	Riverine	Garland	Garland	N	\$50,000	
03100112	Downtown Drainage Study Update	Area 17	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$150,000	
03100113	Main & Wilson Streets Drainage Study Update	Area 18	03000005, 03000006, 03000009, 03000010	Dallas	12030106, 12030105	120301060407, 120301050105, 120301060408, 120301060501	White Rock Creek-White Rock Lake, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	13.48	Riverine	Garland	Garland	N	\$50,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000084	Johnson County DMP	1,851	1,555	4,897	21	418		61.68	18,202.78		
031000085	Leon County DMP	730	491	816	11	31		99.56	64,155.32		
031000086	Liberty County DMP	7,897	7,347	11,279	72	21		256.55	69,006.02		
031000087	Montague County DMP	38	11	13	4	20		56.77	1,770.86		
031000088	Parker County DMP	1,953	1,485	6,748	37	49		60.73	25,497.34		
031000089	Polk County DMP	3,485	3,119	5,167	38	18		92.37	15,993.65		
031000090	San Jacinto DMP	2,637	2,505	3,161	19	1		82.53	11,298.66		
031000091	Trinity County DMP	1,200	1,035	1,768	38	4		53.77	9,902.66		
031000092	Van Zandt County DMP	231	142	179	3	24		37.47	12,720.19		
031000093	Wise County DMP	492	363	1,338	25	53		99.85	30,832.77		
031000094	Dallas County DMP and Vulnerability Assessment	22,226	20,522	181,701	216	499		790.82	31,559.98		
031000095	Merritt Road, Sachse Road, and Willow Lake Improvements	343	316	991	2	12		11.93	1,090.11		
031000096	Richardson West Fork Cottonwood Creek Watershed Study	593	549	8,944	3	31		16.54	47.93		
031000097	Copper Canyon Poindexter Branch Flood Mitigation Plan	55	40	173	1	0		2.30	58.54		
031000098	Holiday Park North Drainage Study Update	117	112	471	1	6		3.02	65.05		
031000099	Buhler, Cresthaven, Madewell & Maryland Drainage Study Update	40	28	298	0	8		1.87	7.36		
031000100	Bellaire Heights Drainage Study Update	40	28	298	0	8		1.87	7.36		
031000101	Country Club Add., Club Hill Est., & Eastern Hills Est. Drainage Study Update	10	10	26	0	1		0.36	83.12		
031000102	Shorehaven-Garvon-Rosewood Terrace-Garland Heights-Freeman Heights-Range-Cooper-Barger Drainage Study Update	40	28	298	0	8		1.87	7.36		
031000103	Brentwood Place-Two Worlds-Apollo East Park Village Drainage Study Update	117	112	471	1	6		3.02	65.05		
031000104	Ridgewood Park-Regal Estates-Meadowcreek Square Drainage Study Update	232	227	863	1	5		3.98	44.78		
031000105	Eastern Meadows-Southlake Estates-Greenbrook-Green Acres-Rosehill Acreage Drainage Study Update	13	8	24	3	3		2.19	628.71		
031000106	La Prada 7 & 8 Drainage Study Update	232	227	863	1	5		3.98	44.78		
031000107	Gatewood Drainage Study Update	232	227	863	1	5		3.98	44.78		
031000108	Curtis Drive Drainage Study Update	40	28	298	0	8		1.87	7.36		
031000109	Center Creek Plaza 8 Southgate Estates Drainage Study Update	232	227	863	1	5		3.98	44.78		
031000110	Bluffview Drainage Study Update	10	10	26	0	2		0.54	84.70		
031000111	Camelot Drainage Study Update	117	112	471	1	6		3.02	65.05		
031000112	Downtown Drainage Study Update	40	28	298	0	8		1.87	7.36		
031000113	Main & Wilson Streets Drainage Study Update	348	319	4,557	3	23		9.19	8.29		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000114	Royal Crest-Meadowview Drainage Study Update	Area 19	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060409, 120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Project Planning	5.98	Riverine	Garland	Garland	N	\$50,000	
031000115	Garvon West, Innovation & Kingsley Ind. Park Drainage Study Update	Area 20	03000005, 03000006, 03000009, 03000010	Dallas	12030106, 12030105	120301050105, 120301060501	White Rock Creek-White Rock Lake, Duck Creek	Project Planning	4.73	Riverine	Garland	Garland	N	\$150,000	
031000116	Northlake & Castlewood Drainage Study Update	Area 21	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060407, 120301060408	Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard	Project Planning	4.46	Riverine	Garland	Garland	N	\$56,000	
031000117	Legend Drive Drainage Study Update	Area 22	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$50,000	
031000118	Brazos Drive Drainage Study Update	Area 23	03000005, 03000006, 03000009, 03000010	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$50,000	
031000119	Sweetbriar-Glenrose Alley Drainage Study Update	Area 26	03000005, 03000006, 03000009, 03000010	Dallas	12030106, 12030105	120301060407, 120301050105, 120301060408, 120301060501	White Rock Creek-White Rock Lake, Pittman Creek-Spring Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	8.80	Riverine	Garland	Garland	N	\$50,000	
031000120	Mc Adams Ditch Feasibility Study	Evaluate alternatives for improvements to Mc Adams Ditch (crosses FM 3180 South).	03000029, 03000030	Chambers	12030203, 12040203	120302030307, 120402030106, 120402030200		Project Planning	3.38	Riverine	Chambers County	Chambers County	N	\$500,000	
031000121	Rhonda Rosa Lane Bridge	Construct bridge on Rhonda Rosa Lane in Ranches on Turtle Bayou to replace box culverts.	03000003, 03000004, 03000029, 03000030	Chambers	12030203	120302030203, 120302030204	Cow Island Bayou, Turtle Bayou	Project Planning	0.04	Riverine	Chambers County	Chambers County	N	\$500,000	
031000122	Hackberry Gully and Cotton Bayou Shelving Study	Evaluate shelving the entire length of Hackberry Gully and Cotton Bayou from South of I-10 to Cotton Lake; thereby increasing their flow capacity.	03000027, 03000028, 03000029, 03000030	Chambers	12030203, 12040203	120402030105, 120302030307, 120402030106, 120402030200, 120302030306, 120302030304	Lynchburg Canal-Old River, Lost River-Old River	Project Planning	24.54	Riverine	Chambers County	Chambers County	N	\$1,250,000	
031000123	Collin County Retention Structures Rehabilitation Project	Conduct hazard/vulnerability assessment and inundation study on NRCS flood retention structures and rehabilitate structures found to be a high hazard.	03000009, 03000010, 03000013, 03000014, 03000033, 03000034	Collin	12030106, 12030103, 12030105, 12010001	120402030105, 120302030307, 120402030106, 120402030200, 120302030306, 120302030304	Lynchburg Canal-Old River, Lost River-Old River	Project Planning	883.19	Riverine	Collin County	Collin County	N	\$500,000	
031000124	McMillen Rd Bridge Lift Project (Maxwell Creek)	Flood study to determine parameters to raise bridge at McMillen Rd to reduce flooding.	03000003, 03000004	Collin	12030106	120301060406, 120301060403, 120301060405	Muddy Creek-Lake Ray Hubbard, Town of Allen-Cottonwood Creek, Brown Branch-Rowlett Creek	Project Planning	10.29	Riverine	Wylie	Wylie	N	\$495,000	
031000125	Cooke County Low-Water Crossing Barriers Evaluation	Evaluate installation of automatic flood crossing barriers at low water crossing to prevent automobiles from driving through high water.	03000003, 03000004	Cooke	12030103, 12030104, 11130210, 11130201	120301060406, 120301060403, 120301060405	Muddy Creek-Lake Ray Hubbard, Town of Allen-Cottonwood Creek, Brown Branch-Rowlett Creek	Project Planning	893.01	Riverine	Cooke County	Cooke County	N	\$500,000	
031000126	Wheeler Creek Channelization Study	Evaluate channelization of Wheeler Creek to reduce flooding in the west side of town.	03000031, 03000032	Cooke	12030103, 11130210, 11130201	111302100202, 120301030105, 120301030301, 111302100201, 120301030403, 120301030106, 111302010708, 120301030201	Wheeler Creek-Pecan Creek, Montague Creek-Elm Fork Trinity River, Buck Creek-Timber Creek, Upper Indian Creek, Scott Creek-Elm Fork Trinity River	Project Planning	39.49	Riverine	Gainesville	Gainesville	N	\$125,000	
031000127	Pecan Creek Channelization Study	Evaluate channelization project for Pecan Creek to reduce flooding.	03000031, 03000032	Cooke	12030103	120301030402, 120301030404, 120301030403, 120301030405	Lower Spring Creek, Scott Creek-Elm Fork Trinity River, Pecan Creek-Elm Fork Trinity River, Pond Creek-Elm Fork Trinity River	Project Planning	12.54	Riverine	Valley View	Valley View	N	\$100,000	
031000128	Lindsay Waterways Improvements Study	Identify alternatives to reshape waterways to allow quicker flow in areas that have regular flooding. Study potential construction of gabion retaining walls, and widening and/or deepening of the waterway.	03000031, 03000032	Cooke	12030103, 11130201	120301030401, 120301030403, 120301030106, 111302010707	Montague Creek-Elm Fork Trinity River, Upper Spring Creek, Scott Creek-Elm Fork Trinity River	Project Planning	15.14	Riverine	Lindsay	Lindsay	N	\$100,000	
031000129	O'Neal St Low-Water Crossing Automatic Barrier Study	Evaluate installation of an automatic barricade for low-water crossing on O'Neal St.	03000003, 03000004	Cooke	12030103	120301030105, 120301030106	Wheeler Creek-Pecan Creek, Montague Creek-Elm Fork Trinity River	Project Planning	10.33	Riverine	Gainesville	Gainesville	N	\$125,000	
031000130	Elm Fork Bridge Improvements Assessment	Assessment to alleviate flooding issues with the Elm Fork bridge on I-35.	03000003, 03000004, 03000031, 03000032	Cooke	12030103	120301030105, 120301030403, 120301030106	Wheeler Creek-Pecan Creek, Montague Creek-Elm Fork Trinity River, Scott Creek-Elm Fork Trinity River	Project Planning	7.23	Riverine	Gainesville	Gainesville	N	\$100,000	
031000131	Brockbank and Embassy Channel Basin Improvements Assessment	Evaluate channel improvements on Brockbank Channel Basin north of SH 183; and Embassy Channel Basin north of SH 183	03000031, 03000032	Dallas	12030103, 12030102	120301031006, 120301020706, 120301031007, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Branch-Hackberry Creek, Bachman Branch-Elm Fork Trinity River	Project Planning	9.20	Riverine	Irving	Irving	N	\$500,000	
031000132	University Park Storm Water Infrastructure Improvements Study	Evaluation of storm drain system improvements including new storm sewer inlets, mains, and underground detention system to reduce flooding in Northeast portion of the City.	03000031, 03000032	Dallas	12030103, 12030105	120301031007, 120301050105, 120301050101	Bachman Branch-Elm Fork Trinity River, Turtle Creek, White Rock Creek-White Rock Lake	Project Planning	3.69	Riverine	University Park	University Park	N	\$660,000	
031000133	Exall and Wycliffe Dam Maintenance Protocol for Drainage Systems and Flood Control Structures	Analyze maintenance protocol for Drainage Systems/Flood Control Structures in and around the Exall and Wycliffe Dams. Conduct study to determine roadway reconstruction, culvert/bridge construction and associated bank protection and improvements	03000033, 03000034	Dallas	12030105	120301050101	Turtle Creek	Project Planning	2.23	Riverine	Highland Park	Highland Park	N	\$175,000	
031000134	Farmers Branch Retention Pond Dredging	Dredge the retention ponds along the creeks within the City.	03000013, 03000014, 03000031, 03000032	Dallas	12030103	120301031005, 120301031004, 120301031007	Bachman Branch-Elm Fork Trinity River, Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River	Project Planning	12.02	Riverine	Farmers Branch	Farmers Branch	N	\$125,000	
031000135	Ten Mile Creek Channel Expansion Study	Study to improve and increase the capacity of storm water system by expanding the Ten Mile Creek downstream channel to prevent flooding in flood prone areas to include structural stormwater management projects	03000031, 03000032	Dallas	12030102, 12030105	120301020603, 120301050107, 120301050301, 120301020606, 120301050201, 120301020607, 120301050306, 120301050202, 120301050108, 120301050305, 120301050203	Bachman Branch-Elm Fork Trinity River, Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River	Project Planning	76.98	Riverine	Lancaster	Lancaster	N	\$500,000	
031000136	Hunterwood Stream Stabilization Project	Installation and maintenance of gabion walls to mitigate stream bank erosion during extreme flood events	03000031, 03000032, 03000033, 03000034	Dallas	12030103, 12030104, 12030102	120301040307, 120301031006, 120301031004, 120301020703	Big Bear Creek, Cottonwood Branch-Hackberry Creek, Grapevine Creek-Elm Fork Trinity River, Cottonwood Branch-Denton Creek	Project Planning	9.51	Riverine	Coppell	Coppell	N	\$100,000	
031000137	Carrollton Flood Warning Barrier System Study	Procure and install flood warning barrier system to prevent motorists from driving into flooded areas.	03000003, 03000004	Dallas, Denton	12030103, 12030104, 12030105	120301040307, 120301031002, 120301031005, 120301031004, 120301031003, 120301031001, 120301050103	Prairie Creek-Elm Fork Trinity River, Timber Creek, Indian Creek-Elm Fork Trinity River, Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River, Cottonwood Branch-Denton Creek, Headwaters White Rock Creek	Project Planning	37.26	Riverine	Carrollton	Carrollton	N	\$300,000	
031000138	Westside Drive Drainage System and Street Reconstruct Study	Study to reconstruct Drainage System and Street in the 4500-4700 blocks of Westside Drive	03000031, 03000032	Dallas	12030103, 12030105	120301031007, 120301050101	Bachman Branch-Elm Fork Trinity River, Turtle Creek	Project Planning	2.05	Riverine	Highland Park	Highland Park	N	\$700,000	
031000139	Garner Rd, Chiesa Rd, and Wayne Way Storm Drain System Improvements	Evaluation of storm drain system redirection and improvements at Garner Rd, Chiesa Rd, and Wayne Way	03000031, 03000032	Dallas	12030106	120301060409, 120301060402, 120301060408, 120301060501, 120301060403	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Project Planning	10.02	Riverine	Rowlett	Rowlett	N	\$1,100,000	
031000140	Cooks Creek Drainage Infrastructure Improvements	Evaluation of improvements to drainage infrastructure along Cooks Creek between Bee St and Spring Valley.	03000031, 03000032	Dallas	12030103	120301031005, 120301031004	Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River	Project Planning	6.25	Riverine	Farmers Branch	Farmers Branch	N	\$2,000,000	
031000141	Carrollton Drainage Upgrades	Evaluate upgrades to drainage and targeted regrading of streets and properties. Add additional drains and supporting infrastructure in older neighborhoods to increase offloading of flash flood waters.	03000031, 03000032	Dallas, Denton	12030103, 12030104, 12030105	120301040307, 120301031002, 120301031005, 120301031004, 120301031003, 120301031001, 120301050103	Prairie Creek-Elm Fork Trinity River, Timber Creek, Indian Creek-Elm Fork Trinity River, Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River, Cottonwood Branch-Denton Creek, Headwaters White Rock Creek	Project Planning	37.26	Riverine	Carrollton	Carrollton	N	\$1,000,000	
031000142	Little Elm Drainage Improvements	Evaluate drainage improvements to mitigate future flash and lake flooding problems.	03000031, 03000032	Denton	12030103	120301030905, 120301030705, 120301030904, 120301030906, 120301030902, 120301030703, 120301030903	Little Elm Creek, Running Branch-Little Elm Creek, Pecan Creek-Lewisville Lake, Doe Branch-Lewisville Lake, Panther Creek-Lewisville Lake, Cottonwood Branch-Lewisville Lake, Stewart Creek-Lewisville Lake	Project Planning	22.29	Riverine	Little Elm	Little Elm	N	\$1,000,000	
031000143	Shady Shores Rd Elevation Study	Evaluate alternatives to elevate Shady Shores Rd to reduce future loss due to flooding	03000003, 03000004, 03000031, 03000032	Denton	12030103	120301030906, 120301030902, 120301030804, 120301030805	Middle Hickory Creek, Lower Hickory Creek, Pecan Creek-Lewisville Lake, Stewart Creek-Lewisville Lake	Project Planning	16.72	Riverine	Shady Shores	Shady Shores	N	\$250,000	
031000144	Sanger Creek Waterways Reconstruction Study	Evaluate alternatives to reconstruct creek waterways to correct drainage issues	03000031, 03000032	Denton	12030103	120301030604, 120301030602, 120301030603, 120301030405	Pond Creek-Elm Fork Trinity River, Buck Creek-Clear Creek, Little Duck Creek-Duck Creek, Moores Branch-Clear Creek	Project Planning	11.72	Riverine	Sanger	Sanger	N	\$600,000	
031000145	CR 1400 drainage study	Evaluate widening road and installing box drains where necessary.	03000003, 03000004, 03000031, 03000032	Henderson	12030107	120301070311, 120301070312, 120301070309	Caney Creek-Cedar Creek Reservoir, McAllister Slough-Cedar Creek, Walnut Creek-Cedar Creek	Project Planning	2.46	Riverine	Malakoff	Malakoff	N	\$500,000	
031000146	Malone Bridge Improvements	Evaluate alternatives to elevate roadways in flood-prone areas through bridge improvements	03000003, 03000004, 03000031, 03000032	Hill	12030108	120301080108, 120301080106	Headwaters Ash Creek, Bynum Creek	Project Planning	0.39	Riverine	Malone	Malone	N	\$275,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000114	Royal Crest-Meadowview Drainage Study Update	10	10	26	0	2		0.54	84.70		
031000115	Garvon West, Innovation & Kingsley Ind. Park Drainage Study Update	219	207	1,298	0	11		3.68	0.11		
031000116	Northlake & Castlewood Drainage Study Update	69	67	305	1	4		2.34	95.84		
031000117	Legend Drive Drainage Study Update	40	28	298	0	8		1.87	7.36		
031000118	Brazos Drive Drainage Study Update	232	227	863	1	5		3.98	44.78		
031000119	Sweetbriar-Glenrose Alley Drainage Study Update	308	291	4,259	3	15		7.33	0.92		
031000120	Mc Adams Ditch Feasibility Study	106	95	241	3	0		1.54	551.30		
031000121	Rhonda Rosa Lane Bridge	1	0	0	0	0		0.08	0.53		
031000122	Hackberry Gully and Cotton Bayou Shelving Study	1,037	897	5,159	13	2		14.45	1,544.70		
031000123	Collin County Retention Structures Rehabilitation Project	2,842	2,401	17,576	28	86		145.78	34,153.61		
031000124	McMillen Rd Bridge Lift Project (Maxwell Creek)	165	152	391	0	0		5.37	305.89		
031000125	Cooke County Low-Water Crossing Barriers Evaluation	1,328	964	2,077	10	74		81.36	40,870.18		
031000126	Wheeler Creek Channelization Study	347	269	665	0	6		13.17	2,058.05		
031000127	Pecan Creek Channelization Study	5	1	2	0	5		2.09	306.13		
031000128	Lindsay Waterways Improvements Study	46	27	61	1	0		2.29	1,251.37		
031000129	O'Neal St Low-Water Crossing Automatic Barrier Study	244	210	556	0	5		7.59	485.56		
031000130	Elm Fork Bridge Improvements Assessment	105	47	348	1	0		4.29	1,027.23		
031000131	Brockbank and Embassy Channel Basin Improvements Assessment	212	199	4,060	1	9		5.91	143.81		
031000132	University Park Storm Water Infrastructure Improvements Study	22	19	76	0	3		0.31	0.44		
031000133	Exall and Wycliffe Dam Maintenance Protocol for Drainage Systems and Flood Control Structures	17	15	250	0	4		1.53	0.00		
031000134	Farmers Branch Retention Pond Dredging	510	456	9,710	1	20		23.72	316.38		
031000135	Ten Mile Creek Channel Expansion Study	1,268	1,197	9,136	8	35		39.53	2,245.94		
031000136	Hunterwood Stream Stabilization Project	20	19	67	0	0		1.23	26.16		
031000137	Carrollton Flood Warning Barrier System Study	1,068	930	15,723	15	23		48.36	617.10		
031000138	Westside Drive Drainage System and Street Reconstruct Study	4	4	5	0	0		0.19	0.00		
031000139	Garner Rd, Chiesa Rd, and Wayne Way Storm Drain System Improvements	13	6	20	2	0		4.04	19.61		
031000140	Cooks Creek Drainage Infrastructure Improvements	216	121	13,436	6	6		21.51	129.37		
031000141	Carrollton Drainage Upgrades	1,068	930	15,723	15	23		48.36	617.10		
031000142	Little Elm Drainage Improvements	71	69	282	4	0		5.89	788.03		
031000143	Shady Shores Rd Elevation Study	206	170	583	5	4		12.44	218.44		
031000144	Sanger Creek Waterways Reconstruction Study	41	37	153	2	0		4.01	921.33		
031000145	CR 1400 drainage study	30	19	284	0	1		1.57	42.99		
031000146	Malone Bridge Improvements	0	0	0	0	0		0.00	0.00		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000147	FM 2114 Automated Flood Gate Feasibility Assessment	Evaluate installation of an automated flood gate that prevents traffic flow on FM 2114 within the flood-prone area during flooding events.	03000003, 03000004	Hill	12030108, 12060202	120301080106, 120602020701, 120301080107	Headwaters Ash Creek, Cottonwood Creek-Ash Creek	Project Planning	8.82	Riverine	Penelope	Penelope	N	\$30,000	
031000148	Houston County dike for critical facilities	Evaluate alternatives to build earthen dike to elevate emergency vehicle access road to critical facilities to provide protection to 500-year flood level	03000003, 03000004, 03000011, 03000012, 03000019, 03000020	Houston	12020002, 12030201, 12020001, 12030202	120301080106, 120602020701, 120301080107	Headwaters Ash Creek, Cottonwood Creek-Ash Creek	Project Planning	1,231.75	Riverine	Houston County	Houston County	N	\$500,000	
031000149	Grapeland Critical Facilities Floodproofing Assessment	Assess flood proofing critical facilities to the 500-year flood that are located in flood-prone areas of the city in Region 3	03000011, 03000012, 03000019, 03000020	Houston	12030201, 12020001	120200010701, 120302010702, 120302010703	Upper Big Elkhart Creek, Little Elkhart Creek	Project Planning	0.53	Riverine	Grapeland	Grapeland	N	\$150,000	
031000150	Jack County WWTP and Lift Station Flood-Proofing	Evaluate alternatives to flood-proof sewage treatment plans in flood hazard / low-lying areas. Raise electrical components of sewage lift stations above the BFE.	03000019, 03000020	Jack	12060201, 12030101	120200010701, 120302010702, 120302010703	Upper Big Elkhart Creek, Little Elkhart Creek	Project Planning	917.33	Riverine	Jack County	Jack County	N	\$250,000	
031000151	County Rd 125 Automatic Warning Barricade Installation	Evaluate alternatives to install automatic warning barricades at County Rd 125 low-water crossing	03000003, 03000004	Kaufman	12030107	120301070205, 120301070202, 120301070201, 120301070106, 120301070203, 120301070109	Eagans Branch-Kings Creek, Headwaters Big Cottonwood Creek, Muddy Cedar Creek, Rocky Cedar Creek, Allen Creek-Cedar Creek, Williams Creek-Cedar Creek	Project Planning	23.09	Riverine	Kaufman County	Kaufman County	N	\$50,000	
031000152	City of Liberty WWTP Levee Study	Study to evaluate constructing levee floodwall around waste water treatment plant	03000019, 03000020	Liberty	12030203	120302030203, 120302030301, 120302030305, 120302030302, 120302030204, 120302030109, 120302030201, 120302030303	Lake Bayou-Trinity River, Long Island Creek-Whites Bayou, Cow Island Bayou, Turtle Bayou, Linney Creek-Trinity River, West Prong Old River, Redmond Creek, West Branch Devers Canal-Trinity River	Project Planning	42.25	Riverine	Liberty	Liberty	N	\$80,000	
031000153	Liberty County Re-canalization	Evaluate alternatives to dechannelize existing feeder creeks that flow from north to south and improve drainage for storm water runoff	03000029, 03000030	Liberty	12040103, 12030203, 12040203, 12040201, 12040202, 12020007, 12030202	120301020606, 120301020607, 120301020702	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	1,169.45	Riverine	Liberty County	Liberty County	N	\$500,000	
031000154	Liberty County Culverts Upgrades	Evaluate alternatives to reduce flooding by increasing size of culverts to 24 inches on County Rd 2361, 2362, 2363, and 2364 and CR 2358	03000003, 03000004, 03000029, 03000030	Liberty	12030203	120302030109	Lake Bayou-Trinity River	Project Planning	3.57	Riverine	Liberty County	Liberty County	N	\$100,000	
031000155	County Rd 2331 Re-Routing	Evaluate alternatives to re-route County Rd 2331 to area not prone to flooding	03000013, 03000014, 03000031, 03000032	Liberty	12030203	120302030301, 120302030109, 120302030108	Gillen Bayou, Lake Bayou-Trinity River, Linney Creek-Trinity River	Project Planning	6.43	Riverine	Dayton Lake Estates	Dayton Lake Estates	N	\$100,000	
031000156	"Aqueduct" Drainage System Replacement	Replace current drainage system known as the "Aqueduct" in the city. Includes creating underground drainage along North Main St	03000031, 03000032	Parker	12030102	120301020205, 120301020203, 120301020207, 120301020204	Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, Underwood Branch-Willow Creek, South Fork	Project Planning	3.08	Riverine	Hudson Oaks	Hudson Oaks	N	\$100,000	
031000157	Polk County Road and Drainage Improvements	Evaluate road elevation and drainage improvements.	03000003, 03000004, 03000029, 03000030	Polk	12020002, 12020006, 12020007, 12030202	120301030604, 120301030602, 120301030603, 120301030405	Pond Creek-Elm Fork Trinity River, Buck Creek-Clear Creek, Little Duck Creek-Duck Creek, Moores Branch-Clear Creek	Project Planning	1,105.57	Riverine	Polk County	Polk County	N	\$500,000	
031000158	Seven Oaks Drainage Ditches	Evaluate drainage ditch along city streets Camp Rd, Pickens Loop, Franklin Rd, Austin Street, and Hunt Street	03000031, 03000032	Polk	12020006, 12030202	120302021003, 120200060101, 120302021001	Barnett Creek-Long King Creek, Alexander Creek-Long King Creek	Project Planning	7.89	Riverine	Seven Oaks	Seven Oaks	N	\$100,000	
031000159	Old 35 Sover Sampson Creek Bridge Elevation	Evaluate alternatives to elevate bridge on Old 35 Sover Sampson Creek	03000003, 03000004	Polk	12030202	120302021006, 120302021202	Sanson Creek-Long King Creek, Copeland Creek	Project Planning	4.85	Riverine	Goodrich	Goodrich	N	\$100,000	
031000160	Pennington Rd Culverts	Evaluate alternatives to install multiple culverts under Pennington Rd	03000003, 03000004, 03000031, 03000032	Polk	12030202	120302021006, 120302021202	Sanson Creek-Long King Creek, Copeland Creek	Project Planning	4.85	Riverine	Goodrich	Goodrich	N	\$100,000	
031000161	Seven Oaks Culvert Installation	Evaluate alternatives to install multiple new culverts under Camp Rd, Pickens Loop, and Franklin Rd	03000003, 03000004, 03000031, 03000032	Polk	12020006, 12030202	120302021003, 120200060101, 120302021001	Barnett Creek-Long King Creek, Alexander Creek-Long King Creek	Project Planning	7.89	Riverine	Seven Oaks	Seven Oaks	N	\$100,000	
031000162	San Jacinto County Drainage and Conveyance Capacity Improvements	Evaluate alternatives to improve drainage and conveyance capacity for Big Creek.	03000029, 03000030	San Jacinto	12040103, 12030203, 12030202	120301020607, 120301020706, 120301020705	West Carolina Creek-Lake Livingston, Palmetto Creek, Pools Creek-Lake Livingston, McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Huffman Creek-Trinity River, Little Creek-Big Creek, Big Creek-Trinity River, Nevill Bayou	Project Planning	625.52	Riverine	Shepherd, San Jacinto County	Shepherd, San Jacinto County	N	\$250,000	
031000163	Rock Creek Road Improvements	Evaluate alternatives to mitigate repetitive damages to Rocky Creek Rd sustained between 2015 - Present	03000003, 03000004, 03000029, 03000030	San Jacinto	12040103, 12030202	120302021105, 120401030307	Wolf Creek-Lake Livingston	Project Planning	3.99	Riverine	San Jacinto County, Shepherd	San Jacinto County, Shepherd	N	\$100,000	
031000164	Chipmunk Rd Culverts Replacement	Evaluate alternatives to replace Chipmunk Rd culverts with a bridge	03000003, 03000004, 03000029, 03000030	San Jacinto	12030203, 12030202	120302030101, 120302021207	Big Creek-Trinity River, Nevill Bayou	Project Planning	3.72	Riverine	San Jacinto County, Shepherd	San Jacinto County, Shepherd	N	\$500,000	
031000165	Comanche Drive Culvert and Retention Wall Construction Feasibility Assessment	Evaluate feasibility for building a larger culvert and retention wall for watershed over low crossing on Comanche Drive	03000003, 03000004	Tarrant	12030102	120301020105, 120301020501, 120301020104, 120301020101	West Fork Trinity River-Lake Worth, Live Oak Creek West Fork Trinity River, Farmers Branch-West Fork Trinity River, Marine Creek-West Fork Trinity River	Project Planning	9.85	Riverine	Lake Worth	Lake Worth	N	\$60,000	
031000166	Aton Storm Drain System Updates	Improve drainage capabilities on the Aton Storm drain system.	03000031, 03000032	Tarrant	12030102	120301020105, 120301020307	Farmers Branch-West Fork Trinity River, Lake Como-Clear Fork Trinity River	Project Planning	4.84	Riverine	Westworth Village	Westworth Village	N	\$200,000	
031000167	Lower Hardisty Storm Drain Improvements	Evaluate alternatives for storm drain improvements	03000031, 03000032	Tarrant	12030102	120301020504, 120301020506, 120301020704, 120301020505, 120301020503	Little Bear Creek, Whites Branch-Big Fossil Creek, Sycamore Creek-West Fork Trinity River, Headwaters Walker Branch, Walker Branch-West Fork Trinity River	Project Planning	14.76	Riverine	Richland Hills	Richland Hills	N	\$125,000	
031000168	Big Bear Creek, Little Bear Creek, and Marshall Branch Stream Bank Erosion Study	Study to reduce stream bank erosion impacts along Big Bear Creek, Little Bear Creek, and Marshall Branch to improve drainage within the City of Keller	03000031, 03000032	Denton, Montague, Tarrant, Wise	12030103, 12030104, 12030101, 12030102, 11130201	120301020504, 120301020506, 120301020704, 120301020505, 120301020503	Little Bear Creek, Whites Branch-Big Fossil Creek, Sycamore Creek-West Fork Trinity River, Headwaters Walker Branch, Walker Branch-West Fork Trinity River	Project Planning	734.68	Riverine	Keller	Keller	N	\$50,000	
031000169	Calloway Branch Erosion Control Study	Evaluate erosion control measures in Calloway Branch to eliminate erosion of stream bank.	03000031, 03000032	Tarrant	12030102	120301020506, 120301020704, 120301020505, 120301020701, 120301020503	Little Bear Creek, Whites Branch-Big Fossil Creek, Headwaters Walker Branch, Walker Branch-West Fork Trinity River, Hurricane Creek-West Fork Trinity River	Project Planning	27.51	Riverine	Hurst	Hurst	N	\$50,000	
031000170	Mansfield Stream Stabilization Study	Evaluate alternatives to protect public infrastructure and private property from damages due to streambank erosion. Alternatives could include Saddlehorn/Walnut Creek sewer interceptor aerial crossing and Brookfield Hogpen sewer interceptor	03000031, 03000032	Tarrant	12030102	120301020603, 120301020601, 120301020604, 120301020605, 120301020405	Rush Creek-Village Creek, Headwaters Mountain Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Project Planning	36.49	Riverine	Mansfield	Mansfield	N	\$182,000	
031000171	Turkey Creek Trail Bridge	Evaluate alternatives to construct Bridge at Low-Water Crossing on Turkey Creek Trail.	03000003, 03000004	Wise	12030101	120301010410, 120301010411	Village Creek-West Fork Trinity River, Dry Creek-West Fork Trinity River	Project Planning	4.94	Riverine	Bridgeport	Bridgeport	N	\$250,000	
031000172	Turkey Creek Trail Rebuild	Evaluate alternatives to rebuild Turkey Creek Trail from 9th Street to State Highway 114.	03000031, 03000032	Wise	12030101	120301010410, 120301010411	Village Creek-West Fork Trinity River, Dry Creek-West Fork Trinity River	Project Planning	4.94	Riverine	Bridgeport	Bridgeport	N	\$63,000	
031000173	West Bridgeport Creek Channelization and Drainage Project	West Bridgeport Creek Channelization and Drainage Project Feasibility Assessment.	03000031, 03000032	Wise	12030101	120301010404, 120301010405, 120301010410, 120301010411, 120301010602, 120301010408, 120301010409	Vencheron Creek, Big Creek-Lake Bridgeport, Willow Creek, Lake Bridgeport, Village Creek-West Fork Trinity River, Dry Creek-West Fork Trinity River, Garrett Creek	Project Planning	27.78	Riverine	Bridgeport	Bridgeport	N	\$150,000	
031000174	North Weatherford St and Oakwood St Structure Improvements	Structure improvements assessment - North Weatherford St in front of fire station and Oakwood St between Granada and El Camino.	03000031, 03000032	Wise	12030101	120301010404, 120301010410, 120301010411, 120301010508	Vencheron Creek, Village Creek-West Fork Trinity River, Dry Creek-West Fork Trinity River, Pringle Creek-Big Sandy Creek	Project Planning	5.84	Riverine	Chico	Chico	N	\$200,000	
031000175	Hurstview Drive Bridge Improvement	Lorean watershed; \$ Estimated construction cost of \$90,000 cost estimate; from 2013 study	03000003, 03000004, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505	Little Bear Creek, Headwaters Walker Branch	Project Planning	4.27	Riverine	Hurst	Hurst	N	\$250,000	
031000176	Regional Detention at Mayfair Park	Valley View watershed; \$ Estimated construction cost of \$1,900,000 cost estimate; from 2017 study	03000013, 03000014, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505	Little Bear Creek, Headwaters Walker Branch	Project Planning	3.30	Riverine	Hurst	Hurst	N	\$250,000	
031000177	TRE & SH-10 Culvert Improvements	Valley View watershed; \$ Estimated construction cost of \$750,000 cost estimate; from 2017 study	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020506, 120301020704, 120301020505, 120301020701, 120301020503	Little Bear Creek, Whites Branch-Big Fossil Creek, Headwaters Walker Branch, Walker Branch-West Fork Trinity River, Hurricane Creek-West Fork Trinity River	Project Planning	27.51	Riverine	Hurst	Hurst	N	\$250,000	
031000178	Pipeline Road Bridge Improvement	Walker watershed; \$ Estimated construction cost of \$1,700,000 cost estimate; from 2020 study	03000031, 03000032	Tarrant	12030102	120301020506, 120301020704, 120301020505, 120301020701, 120301020503	Little Bear Creek, Whites Branch-Big Fossil Creek, Headwaters Walker Branch, Walker Branch-West Fork Trinity River, Hurricane Creek-West Fork Trinity River	Project Planning	27.51	Riverine	Hurst	Hurst	N	\$250,000	
031000179	Redbud Drive Bridge Improvement	Walker watershed; \$ Estimated construction cost of \$1,200,000 cost estimate; from 2020 study	03000031, 03000032	Tarrant	12030102	120301020704, 120301020505	Little Bear Creek, Headwaters Walker Branch	Project Planning	4.27	Riverine	Hurst	Hurst	N	\$250,000	
031000180	Northeast Mall Culvert Improvement	Walker watershed; \$ Estimated construction cost of \$1,600,000 cost estimate; from 2020 study	03000031, 03000032	Tarrant	12030102	120301020704, 120301020505	Little Bear Creek, Headwaters Walker Branch	Project Planning	5.17	Riverine	Hurst	Hurst	N	\$582,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000147	FM 2114 Automated Flood Gate Feasibility Assessment	3	2	0	0	0		1.06	938.85		
031000148	Houston County dike for critical facilities	21	8	36	10	45		110.11	46,988.31		
031000149	Grapeland Critical Facilities Floodproofing Assessment	14	13	8	0	0		0.03	3.15		
031000150	Jack County WWTP and Lift Station Flood-Proofing	265	105	230	0	6		54.58	32,105.58		
031000151	County Rd 125 Automatic Warning Barricade Installation	76	58	56	0	1		0.95	1,408.57		
031000152	City of Liberty WWTP Levee Study	493	457	1,105	4	5		33.57	3,323.37		
031000153	Liberty County Re-canalization	8,682	8,049	12,221	72	21		256.55	71,161.52		
031000154	Liberty County Culverts Upgrades	0	0	0	0	0		0.47	286.84		
031000155	County Rd 2331 Re-Routing	15	9	4	0	0		3.58	176.21		
031000156	"Aqueduct" Drainage System Replacement	11	10	30	2	0		1.76	13.20		
031000157	Polk County Road and Drainage Improvements	3,485	3,119	5,167	38	18		92.37	15,993.65		
031000158	Seven Oaks Drainage Ditches	6	4	10	0	0		0.63	551.82		
031000159	Old 35 Sover Sampson Creek Bridge Elevation	46	37	27	1	1		0.27	28.68		
031000160	Pennington Rd Culverts	46	37	27	1	1		0.27	28.68		
031000161	Seven Oaks Culvert Installation	6	4	10	0	0		0.63	551.82		
031000162	San Jacinto County Drainage and Conveyance Capacity Improvements	2,637	2,505	3,161	19	1		82.53	11,298.66		
031000163	Rock Creek Road Improvements	32	31	39	0	0		0.55	17.13		
031000164	Chipmunk Rd Culverts Replacement	8	8	7	0	0		0.35	150.49		
031000165	Comanche Drive Culvert and Retention Wall Construction Feasibility Assessment	294	221	416	0	0		4.31	63.09		
031000166	Aton Storm Drain System Updates	643	630	1,707	2	1		7.57	192.30		
031000167	Lower Hardisty Storm Drain Improvements	933	825	4,781	7	30		20.73	36.86		
031000168	Big Bear Creek, Little Bear Creek, and Marshall Branch Stream Bank Erosion Study	1,369	1,133	8,089	31	98		91.37	28,753.88		
031000169	Calloway Branch Erosion Control Study	584	531	3,457	3	32		21.56	335.16		
031000170	Mansfield Stream Stabilization Study	422	385	2,492	4	15		30.21	778.52		
031000171	Turkey Creek Trail Bridge	0	0	0	1	1		4.49	0.00		
031000172	Turkey Creek Trail Rebuild	91	59	275	1	1		4.49	167.78		
031000173	West Bridgeport Creek Channelization and Drainage Project	121	79	308	2	2		6.75	2,778.06		
031000174	North Weatherford St and Oakwood St Structure Improvements	30	23	35	2	0		1.81	303.36		
031000175	Hurstview Drive Bridge Improvement	68	61	189	1	1		2.84	15.72		
031000176	Regional Detention at Mayfair Park	189	187	1,199	1	13		5.23	9.02		
031000177	TRE & SH-10 Culvert Improvements	584	531	3,457	3	32		21.56	335.16		
031000178	Pipeline Road Bridge Improvement	584	531	3,457	3	32		21.56	335.16		
031000179	Redbud Drive Bridge Improvement	68	61	189	1	1		2.84	15.72		
031000180	Northeast Mall Culvert Improvement	91	85	380	0	2		2.37	7.66		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000181	Grand Parkway Culvert Crossing	Evaluate alternatives to upsize cross-culverts to allow for developed flow	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Chambers	12030203, 12040203	120402030105, 120302030307, 120402030106, 120402030200, 120302030306, 120302030304	Lynchburg Canal-Old River, Lost River-Old River	Project Planning	8.60	Riverine	Mont Belvieu	Mont Belvieu	N	\$100,000	
031000182	Cherry Point Gully PER	Evaluate alternatives to construct a diversion channel; channel improvements upstream of diversion; construction of regional detention basins as alternative to diversion channel construction	03000031, 03000032	Chambers	12030203, 12040203	120402030105, 120302030304, 120402030104	Lynchburg Canal-Old River	Project Planning	5.64	Riverine	Mont Belvieu	Mont Belvieu	N	\$100,000	
031000183	Cotton Bayou PER	Evaluate alternatives to construct a diversion channel within irrigation canal ROW to drain to Old River; construction of detention basins to serve new development; linear detention through channel improvements; expansion of existing detention basins	03000031, 03000032	Chambers	12030203, 12040203	120402030105, 120302030307, 120402030106, 120402030200, 120302030306, 120302030304	Lynchburg Canal-Old River, Lost River-Old River	Project Planning	24.54	Riverine	Mont Belvieu	Mont Belvieu	N	\$250,000	
031000184	Belt Line Rd (FM1382) at Cottonwood Creek	Study update - Channel Improvements; Estimated construction cost of \$4,502,500	03000031, 03000032	Dallas, Tarrant	12030102	120301020606, 120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	12.51	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000185	North Grand Prairie High School Pond Crossing	Study update - Gopher Creek 430 feet north of Small Hill St; channel improvements; Estimated construction cost of \$159,500	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000186	Belt Line Rd at Plattner Creek	Study update - Channel Improvements; Estimated construction cost of \$435,500	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.62	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000187	Small Hill St at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$307,700	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000188	Carrier Parkway at Dalworth Creek	Study update - 190 feet southeast of Capetown; Channel Improvements; Estimated construction cost of \$1,092,000	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	2.19	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000189	East Tarrant Rd at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$381,300	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000190	NE 5th St at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$390,200	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000191	Grass-covered Culvert at Dalworth Creek	Study update - 520 feet west of Carrier Parkway; Channel Improvements; Estimated construction cost of \$1,048,700	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	2.19	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000192	High School Drive at Gopher Creek	Study update - Channel Improvements; Estimated construction cost of \$402,400	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000193	Duncan Perry Rd at Johnson Creek	Study update - Channel Improvements; Estimated construction cost of \$5,374,200	03000031, 03000032	Dallas, Tarrant	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	20.95	Riverine	Grand Prairie	Grand Prairie	N	\$269,000	
031000194	Great Southwest Parkway at Cottonwood Creek Bridge and Roadway Raising Improvements (Stream Station 104+64)	Study update - Channel Improvements; Estimated construction cost of \$9,538,300	03000031, 03000032	Dallas, Tarrant	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.59	Riverine	Grand Prairie	Grand Prairie	N	\$477,000	
031000195	West Park Square Rd at Turner Branch	Study update - Channel Improvements; Estimated construction cost of \$445,200	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000196	Carrier Parkway at Cottonwood Creek and South Fork Cottonwood Creek - Bridges	Study update - Channel Improvements; Estimated construction cost of \$18,164,400	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.59	Riverine	Grand Prairie	Grand Prairie	N	\$908,000	
031000197	3rd St at Cottonwood Creek and Cottonwood Creek from SW 3rd to FM 1382	Study update - Channel Improvements; Estimated construction cost of \$12,733,000	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	12.51	Riverine	Grand Prairie	Grand Prairie	N	\$637,000	
031000198	FM 661 at Mountain Creek (Future with Development)	Study update - Channel Improvements; Estimated construction cost of \$7,750,000	03000031, 03000032	Dallas	12030109, 12030102	120301020603, 120301090103, 120301090101, 120301020601, 120301020604, 120301090102, 120301020605, 120301020602	Headwaters Mountain Creek, Soap Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Headwaters North Fork Chambers Creek, Upper North Fork Chambers Creek, Armstrong Creek-Cottonwood Creek	Project Planning	49.59	Riverine	Grand Prairie	Grand Prairie	N	\$388,000	
031000199	Green Hollow Drive North and South of Thornbush Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$247,000	03000031, 03000032	Dallas	12030102	120301020606	Fish Creek-Mountain Creek Lake	Project Planning	1.58	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000200	Carrier Parkway & Egyptian Way	Study update - Storm Drain Improvements; Estimated construction cost of \$3,165,300	03000031, 03000032	Dallas, Tarrant	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	20.95	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000201	East Pioneer Parkway & SE 14th St	Study update - Storm Drain Improvements; Estimated construction cost of \$3,742,700	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	5.20	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000202	Great Southwest Parkway & Pinewood Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$3,998,200	03000031, 03000032	Dallas, Tarrant	12030102	120301020606, 120301020607, 120301020702	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	4.59	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000203	Lake Park Drive and Victoria Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$1,094,100	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.62	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000204	Regional Detention at Bowie Elementary School	Study update - Storm Drain Improvements; Estimated construction cost of \$3,433,500	03000031, 03000032	Dallas	12030102	120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.34	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000205	Shady Grove Rd - Jones St Storm Drainage Improvements	Study update - Storm Drain Improvements; Estimated construction cost of \$1,679,200	03000007, 036000008, 03000009, 03000010, 03000031, 03000032	Dallas	12030102	120301020701, 120301020705	Estelle Creek-Bear Creek, Hurricane Creek-West Fork Trinity River	Project Planning	3.14	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000206	Duncan Perry Rd, Heritage Court and Goodwin Branch	Study update - Storm Drain Improvements; Estimated construction cost of \$1,175,300	03000007, 036000008, 03000009, 03000010, 03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	20.95	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000207	Thousand Oaks Court	Study update - Storm Drain Improvements; Estimated construction cost of \$742,700	03000031, 03000032	Dallas	12030103, 12030102	120301031006, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Branch-Hackberry Creek	Project Planning	3.21	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000208	East Marshall Drive, Santa Cruz Circle & Belt Line Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$1,753,800	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.62	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000209	East Main St & NE 14th St	Study update - Storm Drain Improvements; Estimated construction cost of \$5,879,400	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$294,000	
031000210	Marshall Drive from Emerald to SW 3rd	Study update - Storm Drain Improvements; Estimated construction cost of \$3,603,100	03000031, 03000032	Dallas	12030102	120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.34	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000211	Varsity Drive and Christy St from Varsity to Mountain Creek Lake	Study update - Storm Drain Improvements; Estimated construction cost of \$4,768,500	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	7.82	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000212	SE 10th Street and Avion Parkway from Perman South to Culvert Crossing	Study update - Storm Drain Improvements; Estimated construction cost of \$1,158,400	03000031, 03000032	Dallas	12030102	120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.34	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000213	SW 3rd Street from Dorris North to Concrete Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$4,024,800	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.62	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000181	Grand Parkway Culvert Crossing	209	191	358	3	0		4.00	741.75		
031000182	Cherry Point Gully PER	252	227	557	1	0		4.01	755.35		
031000183	Cotton Bayou PER	645	566	3,070	13	2		14.45	749.46		
031000184	Belt Line Rd (FM1382) at Cottonwood Creek	122	113	890	1	12		5.98	32.32		
031000185	North Grand Prairie High School Pond Crossing	18	7	1,107	0	0		3.37	160.73		
031000186	Belt Line Rd at Plattner Creek	4	4	23	0	1		0.11	3.17		
031000187	Small Hill St at Gopher Creek	18	7	1,107	0	0		3.37	160.73		
031000188	Carrier Parkway at Dalworth Creek	30	29	112	0	5		0.96	10.40		
031000189	East Tarrant Rd at Gopher Creek	18	7	1,107	0	0		3.37	160.73		
031000190	NE 5th St at Gopher Creek	18	7	1,107	0	0		3.37	160.73		
031000191	Grass-covered Culvert at Dalworth Creek	30	29	112	0	5		0.96	10.40		
031000192	High School Drive at Gopher Creek	18	7	1,107	0	0		3.37	160.73		
031000193	Duncan Perry Rd at Johnson Creek	405	360	4,090	7	24		12.71	50.49		
031000194	Great Southwest Parkway at Cottonwood Creek Bridge and Roadway Raising Improvements (Stream Station 104+64)	61	60	350	1	5		2.73	16.43		
031000195	West Park Square Rd at Turner Branch	18	7	1,107	0	0		3.37	160.73		
031000196	Carrier Parkway at Cottonwood Creek and South Fork Cottonwood Creek - Bridges	61	60	350	1	5		2.73	16.43		
031000197	3rd St at Cottonwood Creek and Cottonwood Creek from SW 3rd to FM 1382	122	113	890	1	12		5.98	32.32		
031000198	FM 661 at Mountain Creek (Future with Development)	224	185	451	3	54		7.16	3,239.75		
031000199	Green Hollow Drive North and South of Thornbush Drive	19	18	302	0	1		0.78	19.68		
031000200	Carrier Parkway & Egyptian Way	405	360	4,090	7	24		12.71	50.49		
031000201	East Pioneer Parkway & SE 14th St	3	3	0	0	1		0.54	27.62		
031000202	Great Southwest Parkway & Pinewood Drive	19	17	107	0	5		2.11	7.95		
031000203	Lake Park Drive and Victoria Drive	4	4	23	0	1		0.11	3.17		
031000204	Regional Detention at Bowie Elementary School	42	36	433	0	2		1.14	7.94		
031000205	Shady Grove Rd - Jones St Storm Drainage Improvements	140	133	1,761	0	0		4.85	168.96		
031000206	Duncan Perry Rd, Heritage Court and Goodwin Branch	405	360	4,090	7	24		12.71	50.49		
031000207	Thousand Oaks Court	75	73	1,003	2	4		1.25	1.24		
031000208	East Marshall Drive, Santa Cruz Circle & Belt Line Rd	4	4	23	0	1		0.11	3.17		
031000209	East Main St & NE 14th St	18	7	1,107	0	0		3.37	160.73		
031000210	Marshall Drive from Emerald to SW 3rd	42	36	433	0	2		1.14	7.94		
031000211	Varsity Drive and Christy St from Varsity to Mountain Creek Lake	7	7	23	0	2		0.65	30.79		
031000212	SE 10th Street and Avion Parkway from Perman South to Culvert Crossing	42	36	433	0	2		1.14	7.94		
031000213	SW 3rd Street from Dorris North to Concrete Channel	4	4	23	0	1		0.11	3.17		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000214	Bowles St & Hensley Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$1,295,700	03000031, 03000032	Dallas	12030102	120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.77	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000215	Manana Channel Improvements	Study update - Storm Drain Improvements; Estimated construction cost of \$967,600	03000031, 03000032	Dallas	12030103, 12030102	120301031006, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Branch-Hackberry Creek	Project Planning	3.21	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000216	South of Bardin Rd and North of Newberry St	Study update - Storm Drain Improvements; Estimated construction cost of \$2,007,600	03000031, 03000032	Dallas	12030102	120301020606	Fish Creek-Mountain Creek Lake	Project Planning	4.81	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000217	Cherokee Trace and Choctaw Trace to Clarice	Study update - Storm Drain Improvements; Estimated construction cost of \$2,715,600	03000031, 03000032	Dallas	12030102	120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.34	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000218	Gilbert Rd Drainage Improvements	Study update - Storm Drain Improvements; Estimated construction cost of \$5,825,500	03000031, 03000032	Dallas	12030103, 12030102	120301031006, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Branch-Hackberry Creek	Project Planning	3.21	Riverine	Grand Prairie	Grand Prairie	N	\$291,000	
031000219	27th Street and Graham Street from Rinehart to Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$1,419,800	03000031, 03000032	Dallas	12030102, 12030105	120301050102, 120301020706	Delaware Creek-West Fork Trinity River, Coombs Creek-Trinity River	Project Planning	1.61	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000220	East Marshall Drive & Avenue C, East Coral & SE 14th Street and in SE 14th Street & Bogarte Drive	Study update - Storm Drain Improvements; Estimated construction cost of \$6,399,100	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	5.20	Riverine	Grand Prairie	Grand Prairie	N	\$320,000	
031000221	Lakeview Drive & SE 14th Street	Study update - Storm Drain Improvements; Estimated construction cost of \$3,570,700	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	5.20	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000222	WE Roberts St & SW 16th St	Study update - Storm Drain Improvements; Estimated construction cost of \$1,625,900	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.59	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000223	Jelmak Rd - Hardrock Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$5,095,800	03000031, 03000032	Dallas	12030102	120301020701, 120301020705	Estelle Creek-Bear Creek, Hurricane Creek-West Fork Trinity River	Project Planning	3.14	Riverine	Grand Prairie	Grand Prairie	N	\$255,000	
031000224	Shady Grove Rd, Gilbert Rd, Wright Blvd	Study update - Storm Drain Improvements; Estimated construction cost of \$2,860,900	03000031, 03000032	Dallas	12030103, 12030102	120301031006, 120301020706, 120301020701, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Hurricane Creek-West Fork Trinity River, Cottonwood Branch-Hackberry Creek	Project Planning	6.35	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000225	Parker Rd - Hardrock Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$5,760,800	03000031, 03000032	Dallas	12030102	120301020706, 120301020701, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Hurricane Creek-West Fork Trinity River	Project Planning	5.23	Riverine	Grand Prairie	Grand Prairie	N	\$288,000	
031000226	North Carrier Parkway & Main St to Dalworth Creek Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$8,803,700	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	2.19	Riverine	Grand Prairie	Grand Prairie	N	\$440,000	
031000227	Pioneer Parkway from Brady to Plattner Creek (TXDOT)	Study update - Storm Drain Improvements; Estimated construction cost of \$9,511,900	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.62	Riverine	Grand Prairie	Grand Prairie	N	\$476,000	
031000228	NW 24th St & NW 23rd St from West Main to Ditch Near Dalworth St and Doreen St	Study update - Storm Drain Improvements; Estimated construction cost of \$5,982,600	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	2.19	Riverine	Grand Prairie	Grand Prairie	N	\$299,000	
031000229	Detention Basin at St. Michael's Church Vacant Property and Relief Storm Drains in Corn Valley Rd and Neighboring Streets from Santa Anna to Kirby Creek Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$18,766,400	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	11.65	Riverine	Grand Prairie	Grand Prairie	N	\$938,000	
031000230	River Ridge Boulevard	Study update - Storm Drain Improvements; Estimated construction cost of \$6,148,800	03000031, 03000032	Dallas	12030102	120301020706, 120301020701, 120301020702, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	7.92	Riverine	Grand Prairie	Grand Prairie	N	\$307,000	
031000231	East Grand Prairie Rd & 14th Street from Austin to Ditch South of Skyline	Study update - Storm Drain Improvements; Estimated construction cost of \$8,549,300	03000009, 03000010, 03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	5.20	Riverine	Grand Prairie	Grand Prairie	N	\$427,000	
031000232	Shady Grove Rd	Study update - Storm Drain Improvements; Estimated construction cost of \$6,737,200	03000009, 03000010, 03000031, 03000032	Dallas	12030102	120301020706, 120301020701, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Hurricane Creek-West Fork Trinity River	Project Planning	5.23	Riverine	Grand Prairie	Grand Prairie	N	\$337,000	
031000233	Various Streets and Alleys from Dallas Street West of NW 20th Street to Ditch Just South of WE Roberts Street	Study update - Storm Drain Improvements; Estimated construction cost of \$10,656,800	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.59	Riverine	Grand Prairie	Grand Prairie	N	\$533,000	
031000234	South Great Southwest Parkway from Warrior to Kirby Creek Concrete Channel North of Mayfield	Study update - Storm Drain Improvements; Estimated construction cost of \$1,411,100	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000235	South Great Southwest Parkway from North of Forum Drive to Prairie Creek Channel	Study update - Storm Drain Improvements; Estimated construction cost of \$2,127,800	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020702	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.76	Riverine	Grand Prairie	Grand Prairie	N	\$344,000	
031000236	South Great Southwest Parkway from Sherman to Cottonwood Creek	Study update - Storm Drain Improvements; Estimated construction cost of \$6,881,500	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.59	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000237	Arbor Creek Pedestrian Bridge Repair and Channel Bottom Stabilization	270 feet south of Johnson Creek and 290 feet east of SH 161; Estimated construction cost of \$270,900	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	21.14	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000238	Gopher Creek Stream Bottom Stabilization	downstream of NE 5th Street; between High School Drive and NE 5th Street; downstream of Belt Line Road; Estimated construction cost of \$65,600 (?) + Estimated construction cost of \$127,300; downstream of High School Drive; Estimated construction cost of \$70,500	03000027, 03000028, 03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000239	Turner Branch Stream Bottom Stabilization	380 feet south of Small Hill Street to 450 feet north of East Tarrant Road; Estimated construction cost of \$187,200 (?)	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	3.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000240	Arbor Creek Channel Bottom Stabilization	Channelization, Stabilization, and Bank Armoring from SH 161 East to Johnson Creek Confluence; Estimated construction cost of \$2,096,900; from Duncan Perry to SH 161; Estimated construction cost of \$991,600	03000027, 03000028, 03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	20.95	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000241	North Fork of Cottonwood Creek Stabilization	from Great Southwest to Carrier; Estimated construction cost of \$214,900	03000027, 03000028, 03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.59	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000242	Kirby Creek Channel Lining Replacements	from 800 feet east of Great Southwest to West of Waterwood; just north of Kildeer cul-de-sac and from Waterwood East to End of Channel Lining just east of Greenvista; Estimated construction cost of \$1,267,200	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.84	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000243	Dry Branch Stream Bottom Stabilization	300 feet south of Rock Island (2 locations); Estimated construction cost of \$91,300	03000027, 03000028, 03000031, 03000032	Dallas	12030103, 12030102	120301031006, 120301020706, 120301020705	Estelle Creek-Bear Creek, Delaware Creek-West Fork Trinity River, Cottonwood Branch-Hackberry Creek	Project Planning	3.21	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000244	Johnson Creek Avenue J Stabilization	Bridge abutment repair and channel bank stabilization; Estimated construction cost of \$168,500	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	20.95	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000245	Garden Branch Stabilization	Channel bottom stabilization from Camp Wisdom to Great Southwest; Estimated construction cost of \$176,100	03000027, 03000028, 03000031, 03000032	Dallas	12030102	120301020606, 120301020605	Lynn Creek-Walnut Creek, Fish Creek-Mountain Creek Lake	Project Planning	7.29	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000246	Warrior Creek Stabilization	From Great Southwest to South Fork Cottonwood Creek; Estimated construction cost of \$518,500	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	10.18	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000214	Bowles St & Hensley Drive	5	5	0	0	0		0.99	9.62		
031000215	Manana Channel Improvements	75	73	1,003	2	4		1.25	1.24		
031000216	South of Bardin Rd and North of Newberry St	22	21	314	0	1		1.32	26.93		
031000217	Cherokee Trace and Choctaw Trace to Clarice	42	36	433	0	2		1.14	7.94		
031000218	Gilbert Rd Drainage Improvements	75	73	1,003	2	4		1.25	1.24		
031000219	27th Street and Graham Street from Rinehart to Channel	37	2	102	5	0		0.62	144.29		
031000220	East Marshall Drive & Avenue C, East Coral & SE 14th Street and in SE 14th Street & Bogarte Drive	3	3	0	0	1		0.54	27.62		
031000221	Lakeview Drive & SE 14th Street	3	3	0	0	1		0.54	27.62		
031000222	WE Roberts St & SW 16th St	61	60	350	1	5		2.73	16.43		
031000223	Jelmak Rd - Hardrock Rd	140	133	1,761	0	0		4.85	168.96		
031000224	Shady Grove Rd, Gilbert Rd, Wright Blvd	215	206	2,764	2	4		6.09	170.20		
031000225	Parker Rd - Hardrock Rd	165	156	2,782	0	0		5.65	265.26		
031000226	North Carrier Parkway & Main St to Dalworth Creek Channel	30	29	112	0	5		0.96	10.40		
031000227	Pioneer Parkway from Brady to Plattner Creek (TXDOT)	4	4	23	0	1		0.11	3.17		
031000228	NW 24th St & NW 23rd St from West Main to Ditch Near Dalworth St and Doreen St	30	29	112	0	5		0.96	10.40		
031000229	Detention Basin at St. Michael's Church Vacant Property and Relief Storm Drains in Corn Valley Rd and Neighboring Streets from Santa Anna to Kirby Creek Channel	10	8	27	0	4		1.21	61.32		
031000230	River Ridge Boulevard	32	19	599	0	4		6.28	197.25		
031000231	East Grand Prairie Rd & 14th Street from Austin to Ditch South of Skyline	3	3	0	0	1		0.54	27.62		
031000232	Shady Grove Rd	165	156	2,782	0	0		5.65	265.26		
031000233	Various Streets and Alleys from Dallas Street West of NW 20th Street to Ditch Just South of WE Roberts Street	61	60	350	1	5		2.73	16.43		
031000234	South Great Southwest Parkway from Warrior to Kirby Creek Concrete Channel North of Mayfield	1	0	0	0	2		0.19	7.38		
031000235	South Great Southwest Parkway from North of Forum Drive to Prairie Creek Channel	25	22	421	0	1		3.89	7.83		
031000236	South Great Southwest Parkway from Sherman to Cottonwood Creek	61	60	350	1	5		2.73	16.43		
031000237	Arbor Creek Pedestrian Bridge Repair and Channel Bottom Stabilization	405	360	4,090	7	24		12.72	56.07		
031000238	Gopher Creek Stream Bottom Stabilization	18	7	1,107	0	0		3.37	160.73		
031000239	Turner Branch Stream Bottom Stabilization	18	7	1,107	0	0		3.37	160.73		
031000240	Arbor Creek Channel Bottom Stabilization	405	360	4,090	7	24		12.71	50.49		
031000241	North Fork of Cottonwood Creek Stabilization	61	60	350	1	5		2.73	16.43		
031000242	Kirby Creek Channel Lining Replacements	1	0	0	0	2		0.19	7.38		
031000243	Dry Branch Stream Bottom Stabilization	75	73	1,003	2	4		1.25	1.24		
031000244	Johnson Creek Avenue J Stabilization	405	360	4,090	7	24		12.71	50.49		
031000245	Garden Branch Stabilization	42	39	332	0	2		2.26	48.45		
031000246	Warrior Creek Stabilization	80	77	457	1	10		4.84	24.38		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000247	Dalworth Creek Stabilization	Repair of gabions and protection of wastewater crossing downstream of I-30; Estimated construction cost of \$402,000; from Dalworth Street to Roman; Estimated construction cost of \$278,900	03000031, 03000032	Dallas	12030102	120301020607, 120301020706, 120301020702	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	2.19	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000248	South Fork Cottonwood Creek	from Great Southwest to Carrier; Estimated construction cost of \$781,200	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020702	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	4.59	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000249	Willis Branch Stabilization	Dam removal and south channel bank stabilization just west of Devon cul-de-sac; Estimated construction cost of \$48,600; from Great Southwest to Sheffield; Estimated construction cost of \$200,700	03000031, 03000032	Dallas	12030102	120301020606, 120301020605	Lynn Creek-Walnut Creek, Fish Creek-Mountain Creek Lake	Project Planning	7.29	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000250	Johnson Creek Stabilization	Replacement of failed inline channel structure 500 feet east of SH 161 and channel sediment removal; Estimated construction cost of \$1,979,000; south channel bank stabilization north of Babbling Brook from Quest to Shadow Pass; Estimated construction cost of \$831,700; north channel bank stabilization north of North	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020706, 120301020701, 120301020702, 120301020405	Delaware Creek-West Fork Trinity River, Rush Creek-Village Creek, Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Hurricane Creek-West Fork Trinity River, Johnson Creek	Project Planning	20.95	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000251	Henry Branch Stream Stabilization	from apartments at 1000 South Belt Line to Grand Prairie Road; Estimated construction cost of \$127,900	03000031, 03000032	Dallas	12030102	120301020607, 120301020706	Delaware Creek-West Fork Trinity River, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.34	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000252	Plattner Creek Stabilization	from FM 1382 to City Limits of Dallas, west of SE 14th; Estimated construction cost of \$252,900	03000031, 03000032	Dallas	12030102	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Project Planning	2.62	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000253	Prairie Creek Stabilization	from upstream of Great Southwest Pkwy to upstream of Robinson Road; Estimated construction cost of \$605,900	03000031, 03000032	Dallas	12030102	120301020606, 120301020607, 120301020702	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake, Johnson Creek	Project Planning	5.76	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000254	Stuart Branch Stabilization	from 460 feet north of Sanctuary Drive and 350 feet northeast of Nature Court cul-de-sac to Joe Pool Lake (future with development); Estimated construction cost of \$349,700	03000031, 03000032	Dallas	12030109, 12030102, 12030105	120301020603, 120301050301, 120301090301	Low Branch-Mountain Creek, Headwaters Red Oak Creek, Headwaters Waxahachie Creek	Project Planning	6.21	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000255	Swadley Branch Stabilization	from 2200 feet south of Koscher Drive to Joe Pool Lake (future with development); Estimated construction cost of \$285,800	03000031, 03000032	Dallas	12030102	120301020603, 120301020605	Low Branch-Mountain Creek, Lynn Creek-Walnut Creek	Project Planning	3.60	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000256	Mills Branch Stabilization	from 880 feet south of South Periwinkle Court cul-de-sac to Joe Pool Lake (future with development); Estimated construction cost of \$599,300	03000031, 03000032	Dallas	12030102	120301020603, 120301020605	Low Branch-Mountain Creek, Lynn Creek-Walnut Creek	Project Planning	3.60	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000257	Tarrell Creek Stabilization	from a Stream Point 2420 feet south of South Periwinkle Court cul-de-sac and 800 feet east of South Periwinkle Court cul-de-sac to Joe Pool Lake (future with development); Estimated construction cost of \$747,200	03000031, 03000032	Dallas	12030102	120301020603, 120301020605	Low Branch-Mountain Creek, Lynn Creek-Walnut Creek	Project Planning	3.60	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
031000258	Jackson Meadows Pond Erosion Control	Erosion control measures around three pond headwalls to decrease flow velocity.	03000031, 03000032	Collin, Dallas	12030106	120301060408, 120301060403	Muddy Creek-Lake Ray Hubbard, Rowlett Creek-Lake Ray Hubbard	Project Planning	6.05	Riverine	Sachse	Sachse	N	\$100,000	
031000259	Long Branch Channel Improvements (Dewitt to Ingram)	Channel improvements to replace a failed headwall and reduce erosive velocities. Sewer line relocation to protect against potential failure due to erosion.	03000031, 03000032	Collin, Dallas	12030106	120301060408, 120301060403	Muddy Creek-Lake Ray Hubbard, Rowlett Creek-Lake Ray Hubbard	Project Planning	6.05	Riverine	Sachse	Sachse	N	\$100,000	
031000260	North Colony Blvd. at Powers Street	Streams SC-1A Drainage Study and storm drain upgrades to deal with flooding	03000005, 03000006, 03000007, 03000008, 03000009, 03000010	Denton	12030103	120301030906, 120301031003	Stewart Creek-Lewisville Lake, Indian Creek-Elm Fork Trinity River	Project Planning	2.95	Riverine	The Colony	The Colony	N	\$100,000	
031000261	Office Creek Drainage Study	Update Drainage Study and Improvements at Five Star Park	03000005, 03000006, 03000007, 03000008, 03000009, 03000010	Denton	12030103	120301030906, 120301031003, 120301031001	Stewart Creek-Lewisville Lake, Prairie Creek-Elm Fork Trinity River, Indian Creek-Elm Fork Trinity River	Project Planning	2.48	Riverine	The Colony	The Colony	N	\$100,000	
031000262	Bill Allen Park Erosion Study	Evaluate erosion control measures at Blair Oaks Drive to Good Shepherd Lutheran Church.	03000031, 03000032	Denton	12030103	120301030906, 120301031003, 120301031001	Stewart Creek-Lewisville Lake, Prairie Creek-Elm Fork Trinity River, Indian Creek-Elm Fork Trinity River	Project Planning	5.29	Riverine	The Colony	The Colony	N	\$100,000	
031000263	Johnson County Low Water Crossings - East Side	Hydraulic evaluation to determine how to reduce flooding risk at multiple low water crossings.	03000003, 03000004, 03000009, 03000010	Johnson	12030109, 12060201, 12030102, 12060202	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	730.85	Riverine	Johnson County	Johnson County	N	\$250,000	
031000264	Johnson County Low Water Crossings - West Side	Hydraulic evaluation to determine how to reduce flooding risk at multiple low water crossings.	03000003, 03000004, 03000009, 03000010	Johnson	12030109, 12060201, 12030102, 12060202	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	730.85	Riverine	Johnson County	Johnson County	N	\$250,000	
031000265	Tributary SB-1: Circle Lane Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	4.51	Riverine	Bedford	Bedford	N	\$150,000	
031000266	Tributary SB-1: Shirley Way Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	4.51	Riverine	Bedford	Bedford	N	\$150,000	
031000267	Tributary SB-1: Briar Drive Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	4.51	Riverine	Bedford	Bedford	N	\$150,000	
031000268	Tributary SB-1: Schumac Lane Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	10.58	Riverine	Bedford	Bedford	N	\$150,000	
031000269	Tributary SB-1: Donna Lane Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	4.51	Riverine	Bedford	Bedford	N	\$150,000	
031000270	Sulphur Branch: Circle Lane Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	4.51	Riverine	Bedford	Bedford	N	\$150,000	
031000271	Sulphur Branch: Bedford Road Culvert Improvements	Evaluate and define necessary culvert improvements.	03000003, 03000004, 03000009, 03000010, 03000031, 03000032	Tarrant	12030102	120301020704, 120301020505, 120301020701	Little Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Project Planning	4.51	Riverine	Bedford	Bedford	N	\$150,000	
031000272	Fairfield South Bateman Drainage Study	Fairfield South Bateman Drainage Study	03000005, 03000006	Freestone	12030201	120302010109, 120302010107, 120302010601	Pin Oak Creek-Cottonwood Creek, Big Brown Creek, Mims Creek-Upper Keechi Creek	Project Planning	8.85	Riverine	Fairfield	Fairfield	N	\$200,000	
031000273	City of Plano DMP	Evaluate alternatives for citywide drainage improvements for areas with history of flooding.	03000031, 03000032	Collin	12030106, 12030103, 12030105	120301060404, 120301060406, 120301030906, 120301060407, 120301031003, 120301050104, 120301060403, 120301060405, 120301050103	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Watershed Planning	71.84	Riverine	Plano	Plano	N	\$250,000	
031000274	Collin County flooding hazard/vulnerability assessment	Conduct a hazard/vulnerability assessment for personal properties and structures located in the floodplain.	03000013, 03000014	Collin	12030106, 12030103, 12030105, 12010001	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Preparedness	883.19	Riverine	Collin County	Collin County	N	\$500,000	
031000275	Houston County Lake Dam Emergency Action Plan	Develop Emergency Action Plan for Houston County Lake Dam	03000001, 03000002	Houston	12020002, 12030201, 12020001, 12030202	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Preparedness	1,231.75	Riverine	Houston County	Houston County	N	\$1,000,000	
031000276	Grayson County Dams Compliance Assessment	Determine owners of all high and significant hazard dams and obtain copies of all EAPs. Obtain available dam failure impact data necessary for determining most appropriate mitigation approach that would achieve compliance with the State's TCEQ regulations	03000001, 03000002, 03000029, 03000030, 03000039, 03000040	Grayson	12030106, 11140101, 12030103, 11130210	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Preparedness	976.48	Riverine	Grayson County	Grayson County	N	\$1,000,000	
031000277	Denton County USDA (NRCS) Dam Studies and Rehabilitation	USDA (NRCS) Dam Studies and Rehabilitation	03000009, 03000010, 03000029, 03000030	Denton	12030103, 12030104, 12030105	120301020606, 120301020607	Fish Creek-Mountain Creek Lake, Cottonwood Creek-Mountain Creek Lake	Other	948.44	Riverine	Denton County	Denton County	N	\$2,000,000	
031000278	Spring Creek Retaining Walls	Implement results from the 2021 Spring Creek Erosion and Retaining Wall Assessment project. This project identified 19 locations with recommended repairs/maintenance to erosion structures.	03000009, 03000010, 03000031, 03000032	Dallas	12030106, 12030105	120301060404, 120301060406, 120301060407, 120301060408, 120301050104, 120301060501, 120301050103	Headwaters White Rock Creek, Floyd Branch-White Rock Creek, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	36.42	Riverine	Garland	Garland	N	\$250,000	
031000279	Colonel Palm Valley Drainage Improvements	Implement results from the Colonel Drive Drainage Study. This study identified mitigation options in Coloneal Drive and Palm Valley Drive.	03000013, 03000014, 03000031, 03000032	Dallas	12030106	120301060409, 120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Project Planning	5.98	Riverine	Garland	Garland	N	\$150,000	
031000280	Ashville Drive Drainage Improvements	Implement results from the Ashville Drainage Study. This study identified recommended mitigation options that can provide 100-year protection and minimal improvements for greater frequency storm events.	03000013, 03000014, 03000031, 03000032	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$150,000	
031000281	Freeman Heights Drainage Improvements	Implement results from the Garland-Freeman Height Drainage Study. This study identified improvement projects for the storm sewer.	03000013, 03000014, 03000031, 03000032	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	4.68	Riverine	Garland	Garland	N	\$150,000	
031000282	Tobin trail Drainage Analysis	Implement results from the Tobin Trail Drainage Study. This study identified mitigation options to determine what solutions can be provided to eliminate or reduce flooding that occurs in Tobin Trail.	03000013, 03000014, 03000031, 03000032	Dallas	12030106	120301060408, 120301060501	Rowlett Creek-Lake Ray Hubbard, Duck Creek	Project Planning	6.47	Riverine	Garland	Garland	N	\$150,000	
031000283	Whites Bayou/Spring Branch Flood Study	Flood study north of I-10 through Hankamer	03000007, 03000008, 03000009, 03000010	Chambers	12030203, 12040202	120302030202, 120302030204, 120402020100	Turtle Bayou	Watershed Planning	14.78	Riverine	Chambers County	Chambers County	N	\$458,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000247	Dalworth Creek Stabilization	30	29	112	0	5		0.96	10.40		
031000248	South Fork Cottonwood Creek	19	17	107	0	5		2.11	7.95		
031000249	Willis Branch Stabilization	42	39	332	0	2		2.26	48.45		
031000250	Johnson Creek Stabilization	405	360	4,090	7	24		12.71	50.49		
031000251	Henry Branch Stream Stabilization	42	36	433	0	2		1.14	7.94		
031000252	Plattner Creek Stabilization	4	4	23	0	1		0.11	3.17		
031000253	Prairie Creek Stabilization	25	22	421	0	1		3.89	7.83		
031000254	Stuart Branch Stabilization	9	7	27	0	0		0.57	20.52		
031000255	Swadley Branch Stabilization	3	2	4	1	0		0.03	123.61		
031000256	Mills Branch Stabilization	3	2	4	1	0		0.03	123.61		
031000257	Tarrell Creek Stabilization	3	2	4	1	0		0.03	123.61		
031000258	Jackson Meadows Pond Erosion Control	59	51	171	0	7		1.69	211.24		
031000259	Long Branch Channel Improvements (Dewitt to Ingram)	59	51	171	0	7		1.69	211.24		
031000260	North Colony Blvd. at Powers Street	7	7	26	1	0		0.45	10.24		
031000261	Office Creek Drainage Study	1	0	4	1	0		0.47	23.48		
031000262	Bill Allen Park Erosion Study	3	1	12	1	0		1.08	167.40		
031000263	Johnson County Low Water Crossings - East Side	1,851	1,555	4,897	21	418		61.68	18,202.78		
031000264	Johnson County Low Water Crossings - West Side	1,851	1,555	4,897	21	418		61.68	18,202.78		
031000265	Tributary SB-1: Circle Lane Culvert Improvements	148	120	1,152	0	1		3.48	3.48		
031000266	Tributary SB-1: Shirley Way Culvert Improvements	148	120	1,152	0	1		3.48	3.48		
031000267	Tributary SB-1: Briar Drive Culvert Improvements	148	120	1,152	0	1		3.48	3.48		
031000268	Tributary SB-1: Schumac Lane Culvert Improvements	239	204	3,688	0	8		5.29	140.33		
031000269	Tributary SB-1: Donna Lane Culvert Improvements	148	120	1,152	0	1		3.48	3.48		
031000270	Sulphur Branch: Circle Lane Culvert Improvements	148	120	1,152	0	1		3.48	3.48		
031000271	Sulphur Branch: Bedford Road Culvert Improvements	148	120	1,152	0	1		3.48	3.48		
031000272	Fairfield South Bateman Drainage Study	41	36	64	2	1		2.42	411.50		
031000273	City of Plano DMP	381	326	5,528	1	33		18.44	695.40		
031000274	Collin County flooding hazard/vulnerability assessment	2,842	2,401	17,576	28	86		145.78	34,153.61		
031000275	Houston County Lake Dam Emergency Action Plan	737	440	711	10	45		110.11	79,761.34		
031000276	Grayson County Dams Compliance Assessment	436	376	541	12	50		42.70	21,311.84		
031000277	Denton County USDA (NRCS) Dam Studies and Rehabilitation	4,675	3,634	18,656	89	177		245.07	53,344.36		
031000278	Spring Creek Retaining Walls	274	255	2,604	1	28		13.17	83.02		
031000279	Colonel Palm Valley Drainage Improvements	10	10	26	0	2		0.54	84.70		
031000280	Ashville Drive Drainage Improvements	232	227	863	1	5		3.98	44.78		
031000281	Freeman Heights Drainage Improvements	40	28	298	0	8		1.87	7.36		
031000282	Tobin trail Drainage Analysis	232	227	863	1	5		3.98	44.78		
031000283	Whites Bayou/Spring Branch Flood Study	205	102	259	0	1		5.30	3,806.31		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000284	Predicted Maximum Probable Inundation Map	Use NWS gage height forecasts from the River Forecast Center to generate a potential floodplain along the main stem of the Trinity River.	03000005,03000005,03000039,03000040	All			Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, Underwood Branch-Willow Creek, Brogden Branch-Town Creek, South Fork	Watershed Planning	17,848.51	Riverine,Urban	Trinity River Authority	Trinity River Authority	N	\$2,000,000	
031000285	Headwaters of South Fork Trinity River Tributaries Through Hudson Oaks	Study to determine flooding issues and potential future projects.	03000007,03000008,03000009,03000010	Parker	12030102	120301020205, 120301020203, 120301020206, 120301020207, 120301020204	Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, Underwood Branch-Willow Creek, Brogden Branch-Town Creek, South Fork	Watershed Planning	6.46	Riverine	Hudson Oaks	Hudson Oaks	N	\$164,000	
031000286	Headwaters of Clear Fork Trinity River Tributaries Through Hudson Oaks	Study to determine flooding issues and potential future projects.	03000007,03000008,03000009,03000010	Parker	12030102	120301020203, 120301020207, 120301020204	Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, South Fork	Watershed Planning	4.95	Riverine	Hudson Oaks	Hudson Oaks	N	\$106,000	
031000287	Headwaters of Willow Creek Regulatory Floodplain Determination Study	Mapping study for Headwaters of Willow Creek through Mansfield ETJ.	03000001,03000002,03000005,03000006,03000025,03000026	Tarrant	12030102	120301020403, 120301020604, 120301020402, 120301020405	Deer Creek-Village Creek, Village Creek-Lake Arlington, Rush Creek-Village Creek, King Branch-Walnut Creek	Watershed Planning	6.00	Riverine	Mansfield	Mansfield	N	\$137,000	
031000288	Mountain Creek and Tribs Regulatory Floodplain Determination Study	Mapping study for Mountain Creek and Tribs through Mansfield ETJ.	03000001,03000002,03000005,03000006,03000025,03000026	Johnson, Ellis	12030102	120301020603, 120301020601, 120301020604, 120301020605, 120301020602	Headwaters Mountain Creek, Soap Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Watershed Planning	18.26	Riverine	Mansfield	Mansfield	N	\$396,000	
031000289	Hogpen Creek and Detention Facilities H&H Modeling Update	Detailed headwaters study completed with detention. Needs a connectivity H&H modeling with identified detention.	03000005,03000006,03000009,03000010,03000021,03000022	Tarrant	12030102	120301020604, 120301020605, 120301020405	Rush Creek-Village Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Watershed Planning	5.61	Riverine	Mansfield	Mansfield	N	\$115,000	
031000290	Rock Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	03000005,03000006,03000023,03000024	Johnson	12030102, 12060202	120301020401, 120602020202, 120602020201, 120301020304	Rock Creek, Quil Miller Creek-Village Creek	Watershed Planning	11.21	Riverine	Burleson	Burleson	N	\$100,000	
031000291	Walnut Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	03000005,03000006,03000023,03000024	Johnson	12030102	120301020401, 120301020604	Quil Miller Creek-Village Creek, King Branch-Walnut Creek	Watershed Planning	3.43	Riverine	Burleson	Burleson	N	\$150,000	
031000292	North Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	03000005,03000006,03000023,03000024,03000039,03000040	Johnson, Tarrant	12030102	120301020401, 120301020402	Quil Miller Creek-Village Creek, Deer Creek-Village Creek	Watershed Planning	3.00	Riverine	Burleson	Burleson	N	\$50,000	
031000293	Quil Miller Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	03000005,03000006,03000023,03000024	Johnson	12030109, 12030102, 12060202	120301020401, 120602020202, 120301090101, 120301020604, 120301020402	Quil Miller Creek-Village Creek, Deer Creek-Village Creek, King Branch-Walnut Creek, Headwaters North Fork Chambers Creek	Watershed Planning	22.97	Riverine	Burleson	Burleson	N	\$265,000	
031000294	Hurst Creek Watershed Study	Study to improve knowledge of flood risks and facilitate the analysis of proposed developments within or adjacent to the floodplain.	03000005,03000006,03000023,03000024	Johnson	12030102	120301020401	Quil Miller Creek-Village Creek	Watershed Planning	1.06	Riverine	Burleson	Burleson	N	\$50,000	
031000295	City of Wilmer DMP	Evaluate City and identify future projects.	03000007,03000008,03000009,03000010	Dallas	12030105	120301050202, 120301050203	Deep Branch-Tenmile Creek, Prairie Creek-Trinity River	Watershed Planning	8.10	Riverine	Wilmer	Wilmer	N	\$250,000	
031000296	Alta Mesa Branch at Persimmon Road	Evaluate bridge improvements for Persimmon Road over Alta Mesa Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050107, 120301050108	Headwaters Fivemile Creek, Fivemile Creek-Trinity River	Project Planning	7.06	Riverine	Dallas	Dallas	N	\$250,000	
031000297	Alta Mesa Branch at Simpson Stuart Road	Evaluate culvert improvements for Simpson Stuart Road over Alta Mesa Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050107, 120301050108	Headwaters Fivemile Creek, Fivemile Creek-Trinity River	Project Planning	7.06	Riverine	Dallas	Dallas	N	\$250,000	
031000298	Alta Mesa Branch at Tracy Road	Evaluate bridge improvements: Tracy Road over Alta Mesa Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050107, 120301050108	Headwaters Fivemile Creek, Fivemile Creek-Trinity River	Project Planning	7.06	Riverine	Dallas	Dallas	N	\$250,000	
031000299	Ricketts Branch at Camp Wisdom Road	Evaluate bridge improvements for Camp Wisdom Road over Ricketts Branch (2 structures)	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050107, 120301050201	Headwaters Fivemile Creek, Headwaters Tenmile Creek	Project Planning	4.30	Riverine	Dallas	Dallas	N	\$250,000	
031000300	Ricketts Branch at IH 35E Service	Evaluate bridge improvements for IH 35E over Ricketts Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050107, 120301050201	Headwaters Fivemile Creek, Headwaters Tenmile Creek	Project Planning	4.30	Riverine	Dallas	Dallas	N	\$250,000	
031000301	Runyon Springs Branch at Crouch Road	Evaluate bridge improvements for Crouch Road over Runyon Springs Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050107, 120301050201, 120301050202, 120301050108	Deep Branch-Tenmile Creek, Headwaters Fivemile Creek, Fivemile Creek-Trinity River, Headwaters Tenmile Creek	Project Planning	3.86	Riverine	Dallas	Dallas	N	\$250,000	
031000302	Whites Branch at Langdon Road	Evaluate bridge improvements for Langdon Road over Whites Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050202, 120301050108, 120301050203	Deep Branch-Tenmile Creek, Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	2.55	Riverine	Dallas	Dallas	N	\$250,000	
031000303	Wilson Branch at Bonnie View Road	Evaluate bridge improvements for Bonnie View Road over Wilson Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108	Fivemile Creek-Trinity River	Project Planning	3.75	Riverine	Dallas	Dallas	N	\$250,000	
031000304	Wilson Branch at J J Lemmon Road	Evaluate bridge improvements for J J Lemmon Road over Wilson Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108	Fivemile Creek-Trinity River	Project Planning	3.75	Riverine	Dallas	Dallas	N	\$250,000	
031000305	Wilson Branch at Tioga Street	Evaluate bridge improvements for Tioga Street over Wilson Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108	Fivemile Creek-Trinity River	Project Planning	3.75	Riverine	Dallas	Dallas	N	\$250,000	
031000306	Woody Branch at Loop 12	Evaluate bridge improvements for Loop 12 over Woody Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030102, 12030105	120301050107, 120301050201, 120301020607	Cottonwood Creek-Mountain Creek Lake, Headwaters Fivemile Creek, Headwaters Tenmile Creek	Project Planning	10.56	Riverine	Dallas	Dallas	N	\$250,000	
031000307	Hutchins Creek at Denton Street	Evaluate culvert improvements for Denton Street over Hutchins Creek	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	2.30	Riverine	Hutchins	Hutchins	N	\$250,000	
031000308	Hutchins Creek at J J Lemmon Street	Evaluate bridge improvements for J J Lemmon Street over Hutchins Creek	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	2.30	Riverine	Hutchins	Hutchins	N	\$250,000	
031000309	Hutchins Creek at Main Street	Evaluate bridge improvements for Main Street over Hutchins Creek	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	2.30	Riverine	Hutchins	Hutchins	N	\$250,000	
031000310	Rawlins Creek at Dowdy Ferry Road	Evaluate bridge improvements for Dowdy Ferry Road over Rawlins Creek	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	3.55	Riverine	Hutchins	Hutchins	N	\$250,000	
031000311	Rawlins Creek at IH 45	Evaluate bridge improvements for IH 45 over Rawlins Creek	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	3.55	Riverine	Hutchins	Hutchins	N	\$250,000	
031000312	Rawlins Creek at Main Street	Evaluate bridge improvements for Main Street over Rawlins Creek	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	3.55	Riverine	Hutchins	Hutchins	N	\$250,000	
031000313	Stream 4A4 at Goode Road	Evaluate bridge improvements for Goode Road over Stream 4A4	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050203	Prairie Creek-Trinity River	Project Planning	2.96	Riverine	Hutchins	Hutchins	N	\$250,000	
031000314	Stream 4A4 at IH 45	Evaluate bridge improvements for IH 45 over Stream 4A4	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050203	Prairie Creek-Trinity River	Project Planning	2.96	Riverine	Hutchins	Hutchins	N	\$250,000	
031000315	Stream 4B4 at Austin Street	Evaluate culvert improvements for Austin Street over Stream 4B4	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	3.55	Riverine	Hutchins	Hutchins	N	\$250,000	
031000316	Stream 4B4 at Crestridge Drive	Evaluate culvert improvements for Crestridge Drive over Stream 4B4	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	3.55	Riverine	Hutchins	Hutchins	N	\$250,000	
031000317	Stream 4B4 at Denton Street	Evaluate culvert improvements for Denton Street over Stream 4B4	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050108, 120301050203	Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	3.55	Riverine	Hutchins	Hutchins	N	\$250,000	
031000318	Halls Branch at 1st Street	Evaluate bridge improvements for 1st Street over Halls Branch	03000007,03000008,03000009,03000010,03000031,03000032	Dallas	12030105	120301050202, 120301050108, 120301050305	Deep Branch-Tenmile Creek, Fivemile Creek-Trinity River, Middle Red Oak Creek	Project Planning	3.03	Riverine	Lancaster	Lancaster	N	\$250,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000284	Predicted Maximum Probable Inundation Map	186,744	141,182	882,992	1,795	2,828		7,605.60	3,629.90		
031000285	Headwaters of South Fork Trinity River Tributaries Through Hudson Oaks	33	20	51	4	0		0.62	714.98		
031000286	Headwaters of Clear Fork Trinity River Tributaries Through Hudson Oaks	32	26	689	5	3		2.82	179.35		
031000287	Headwaters of Willow Creek Regulatory Floodplain Determination Study	43	36	105	1	2		0.53	188.25		
031000288	Mountain Creek and Tribes Regulatory Floodplain Determination Study	61	45	118	0	15		4.26	1,346.77		
031000289	Hogpen Creek and Detention Facilities H&H Modeling Update	43	41	143	1	1		1.45	34.12		
031000290	Rock Creek Watershed Study	88	73	226	0	15		3.17	636.59		
031000291	Walnut Creek Watershed Study	34	33	56	0	7		0.72	95.48		
031000292	North Creek Watershed Study	3	0	91	0	2		1.17	20.00		
031000293	Quil Miller Creek Watershed Study	234	215	596	2	21		6.33	1,015.49		
031000294	Hurst Creek Watershed Study	14	14	57	0	0		0.28	5.62		
031000295	City of Wilmer DMP	71	69	573	0	11		4.00	195.08		
031000296	Alta Mesa Branch at Persimmon Road	179	147	561	3	3		9.52	160.75		
031000297	Alta Mesa Branch at Simpson Stuart Road	179	147	561	3	3		9.52	160.75		
031000298	Alta Mesa Branch at Tracy Road	179	147	561	3	3		9.52	160.75		
031000299	Ricketts Branch at Camp Wisdom Road	5	5	19	0	1		0.54	2.25		
031000300	Ricketts Branch at IH 35E Service	5	5	19	0	1		0.54	2.25		
031000301	Runyon Springs Branch at Crouch Road	9	1	129	2	1		1.98	23.40		
031000302	Whites Branch at Langdon Road	0	0	0	0	0		0.27	19.33		
031000303	Wilson Branch at Bonnie View Road	27	25	25	0	1		5.44	64.39		
031000304	Wilson Branch at J J Lemmon Road	27	25	25	0	1		5.44	64.39		
031000305	Wilson Branch at Tioga Street	27	25	25	0	1		5.44	64.39		
031000306	Woody Branch at Loop 12	106	106	405	1	2		6.03	2.61		
031000307	Hutchins Creek at Denton Street	7	1	38	0	2		0.87	29.77		
031000308	Hutchins Creek at J J Lemmon Street	7	1	38	0	2		0.87	29.77		
031000309	Hutchins Creek at Main Street	7	1	38	0	2		0.87	29.77		
031000310	Rawlins Creek at Dowdy Ferry Road	29	27	61	1	5		1.15	81.64		
031000311	Rawlins Creek at IH 45	29	27	61	1	5		1.15	81.64		
031000312	Rawlins Creek at Main Street	29	27	61	1	5		1.15	81.64		
031000313	Stream 4A4 at Goode Road	2	0	405	0	7		1.01	56.79		
031000314	Stream 4A4 at IH 45	2	0	405	0	7		1.01	56.79		
031000315	Stream 4B4 at Austin Street	29	27	61	1	5		1.15	81.64		
031000316	Stream 4B4 at Crestridge Drive	29	27	61	1	5		1.15	81.64		
031000317	Stream 4B4 at Denton Street	29	27	61	1	5		1.15	81.64		
031000318	Halls Branch at 1st Street	67	57	333	1	9		2.03	32.62		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
03100319	Halls Branch at 4th Street	67	57	333	1	9		2.03	32.62		
03100320	Halls Branch at 6th Street	67	57	333	1	9		2.03	32.62		
03100321	Halls Branch at Cedar Street	67	57	333	1	9		2.03	32.62		
03100322	Halls Branch at Main Street	67	57	333	1	9		2.03	32.62		
03100323	Halls Branch at Redbud Lane	67	57	333	1	9		2.03	32.62		
03100324	Keller Branch at Jefferson Street	25	17	2,137	0	1		0.76	47.79		
03100325	Keller Branch at Main Street	25	17	2,137	0	1		0.76	47.79		
03100326	Keller Branch at Pleasant Run Road	25	17	2,137	0	1		0.76	47.79		
03100327	Mill Branch at Houston School Road	54	50	580	0	1		2.14	10.68		
03100328	Mill Branch at Wintergreen Road	54	50	580	0	1		2.14	10.68		
03100329	Stream 3A1 at Ten Mile Road	12	11	26	0	2		0.62	69.59		
03100330	Stream 3A6 at Belt Line Road	25	17	2,137	0	1		0.76	47.79		
03100331	Ten Mile Creek at Bluegrove Road	12	11	26	0	2		0.62	69.59		
03100332	Ten Mile Creek at Houston School Road	193	173	1,166	2	5		7.36	81.92		
03100333	Ten Mile Creek at IH 35E Service	193	173	1,166	2	5		7.36	81.92		
03100334	Ten Mile Creek at IH 35E Service (County Highway 1382)	193	173	1,166	2	5		7.36	81.92		
03100335	Ten Mile Creek at Nokomis Road	67	57	333	1	9		2.03	32.62		
03100336	Ten Mile Creek at Old Red Oak Road	67	57	333	1	9		2.03	32.62		
03100337	Ten Mile Creek at SH 342	67	57	333	1	9		2.03	32.62		
03100338	Cottonwood Creek of Ten Mile Creek at Goode Road	2	0	405	0	7		1.01	56.79		
03100339	Cottonwood Creek of Ten Mile Creek at IH 45	2	0	405	0	7		1.01	56.79		
03100340	Cottonwood Creek of Ten Mile Creek at IH 45 Northbound Service Road	2	0	405	0	7		1.01	56.79		
03100341	Cottonwood Creek of Ten Mile Creek at IH 45 Southbound Service Road	2	0	405	0	7		1.01	56.79		
03100342	Cottonwood Creek of Ten Mile Creek at Kissell (College) Road	47	47	106	0	4		1.86	74.19		
03100343	Cottonwood Creek of Ten Mile Creek at Millers Ferry Road	2	0	405	0	7		1.01	56.79		
03100344	Cottonwood Creek of Ten Mile Creek at Pleasant Run Road	2	0	405	0	7		1.01	56.79		
03100345	Stream 4A1 at Goode Road	29	29	90	0	2		0.57	137.57		
03100346	Stream 4A5 at Goode Road	47	47	106	0	4		1.86	74.19		
03100347	Stream 4A5 at IH 45	47	47	106	0	4		1.86	74.19		
03100348	Ten Mile Creek at Ferris Road	28	22	41	3	0		4.07	1,892.14		
03100349	Stream 4A4 at Fulghum Road	2	0	405	0	7		1.01	56.79		
03100350	Stream 4A1 at Geller Road	29	29	90	0	2		0.57	137.57		
03100351	Ten Mile Creek at Parkinson Road	28	22	41	3	0		4.07	1,892.14		

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG

FME ID	FME Name	Description	Associated Goal No.	Counties	HUC8s	HUC12s	Watersheds	Study Type	FME Area (sqmi)	Flood Risk Type	Sponsor	Entities with Oversight	Emergency Need	Estimated Study Cost (2020 \$)	Potential Funding Sources and Amount
031000352	City of Hutchins DMP	Evaluate city and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030105	120301050202, 120301050108, 120301050203	Deep Branch-Tenmile Creek, Prairie Creek-Trinity River, Fivemile Creek-Trinity River	Project Planning	9.36	Riverine	Hutchins	Hutchins	N	\$250,000	
031000353	City of Seagoville DMP	Evaluate city and identify future projects.	03000007, 03000008, 03000009, 03000010	Dallas	12030106, 12030105	120301050204, 120301060505, 120301060507, 120301050205, 120301050203	Prairie Creek-Trinity River, Hickory Creek-Parsons Slough, Parsons Slough-Trinity River, Mustang Creek-East Fork Trinity River, White House Ridge-East Fork Trinity River	Project Planning	18.94	Riverine	Seagoville	Seagoville	N	\$250,000	
031000354	City of Huntsville DMP	Evaluate city and identify future projects	03000007, 03000008, 03000009, 03000010	Walker	12040103, 12040101, 12030202	120302020805, 120401010202, 120302020802, 120302020801, 120401010102, 120401030302, 120401010104	Crabb Creek-Nelson Creek, Little School Branch-Nelson Creek, Harmon Creek	Watershed Planning	13.56	Riverine	Hunstville	Hunstville	N	\$500,000	
031000355	City of Weatherford DMP	Evaluate city and identify future projects	03000007, 03000008, 03000009, 03000010	Parker	12060201, 12030102	120301020205, 120602011201, 120301020103, 120301020203, 120301020206, 120301020207, 120301020204	Silver Creek-Lake Worth, Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, Underwood Branch-Willow Creek, Brogden Branch-Town Creek, South Fork	Watershed Planning	26.15	Riverine	Weatherford	Weatherford	N	\$500,000	
031000358	City of Irving DMP	Evaluate city and identify future projects	03000007, 03000008, 03000009, 03000010	Dallas	12030103, 12030102, 12030105	120301031006, 120301020706, 120301031005, 120301031004, 120301031007, 120301020701, 120301020705, 120301050101	Silver Creek-Lake Worth, Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, Underwood Branch-Willow Creek, Brogden Branch-Town Creek, South Fork	Watershed Planning	67.82	Riverine	Irving	Irving	N	\$1,000,000	

Region 3 - Table 12: Potential Flood Management Evaluations Identified by RFPG (cont.)

FME ID (cont.)	FME Name (cont.)	Estimated number of structures at flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road segment closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Existing or Anticipated Models (year)	Existing or Anticipated Maps (year)
031000352	City of Hutchins DMP	45	32	369	2	8		2.23	140.39		
031000353	City of Seagoville DMP	180	170	627	0	7		10.39	1,728.29		
031000354	City of Huntsville DMP	238	211	2,819	3	2		6.21	107.40		
031000355	City of Weatherford DMP	520	468	2,170	9	10		17.59	759.01		
031000358	City of Irving DMP	4,589	4,495	40,893	26	38		85.33	1,397.40		

Region 3 - Table 13: Potentially Feasible Flood Mitigation Projects Identified by RFPG

FMP ID	FMP Name	Description	Associated Goals (ID)	Counties	HUC12s	Watersheds	Project Type	Project Area (sqmi)	Flood Risk Type (Riverine, Coastal, Urban, Playa, Other)	Sponsor	Entities with Oversight	Emergency Need (Y/N)	Estimated Project Cost (\$)	Potential Funding Sources and Amount	Flood Risk									
															Area in 100yr (1% annual chance) Floodplain	Area in 500yr (0.2% annual chance) Floodplain	Estimated number of structures at 100yr flood risk	Residential structures at 100yr flood risk	Estimated Population at 100yr flood risk	Critical facilities at 100yr flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road closures (#)	Estimated length of roads at 100yr flood risk (Miles)	Estimated farm & ranch land at 100yr flood risk (acres)
03300007	Spring Meadows Estates Detention Pond Design	Pond redesign and reconstruction to lower normal pool elevation to be below inlets upstream. Increase storage capacity and design outlet works to increase level of service to 100-yr storm event.	03000013, 03000014, 03000031, 03000032, 03000037, 03000008, 03000021, 03000022, 03000027, 03000028, 03000031, 03000032	Dallas	120301060405, 120301060408, 120301060403	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Regional Detention	0.650	Riverine	Sachse	Sachse	N	\$1,868,000	State, Local	0.01	N/A	9	9	18	0	0	N/A	0.34	0.00
03300008	West Irving Creek Phases 2, 3, and 4	FIF - 13792; The West Irving Creek channel improvements project consists of reconstruction of over 2.5 miles of shallow trapezoidal concrete channel as deeper vertical walled channel to increase capacity and relieve historical flooding issues. The vertical walled channels allow the project to remain within a similar footprint as the existing channel to minimize easement needs and impacts to private properties while meeting the flood carrying capacity goals of the project. The channel improvements will also require the reconstruction of 15 road crossings and several miles of wastewater main. In conjunction with the channel improvements upstream detention improvements will be made as well as the implementation of water quality ponds to reduce pollutant load in the channel and to provide amenity to the adjoining neighborhoods.	03000013, 03000014, 03000031, 03000032, 03000037, 03000008, 03000021, 03000022, 03000027, 03000028, 03000031, 03000032	Dallas	120301020706	Delaware Creek-West Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	67.589	Riverine	Irving	Irving	N	\$98,746,000	State, Local	0.22	N/A	247	222	1,102	7	4	61	5.21	0.00
03300016	Arlington VC(A)-1 Drainage and Erosion Improvements	Arlington VC(A)-1 Drainage and Erosion Improvements; unfunded FIF #13646 This project includes improving the drainage in a residential area with an undersized bridge and severe erosion issues.	03000007, 03000008, 03000009, 03000010, 03000031, 03000032	Tarrant	120301020506, 120301020405	Rush Creek-Village Creek, Walker Branch-West Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	1.274	Riverine	Arlington	Arlington	N	\$2,601,000	State, Local	0.17	N/A	115	110	472	4	3	37	2.24	0.00
03300030	Lancaster/Foch Area Mitigation	To decrease the flooding depths near the Norwood/Bledsoe/Crockett intersections, a storm drain alternative was developed. The storm drain system would run along Foch Street and then through Trinity Park to the river.	03000013, 03000014, 03000031, 03000032	Tarrant	120301020105, 120301020307	Farmers Branch-West Fork Trinity River, Lake Como-Clear Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	6.466	Riverine	Fort Worth	Fort Worth	N	\$11,771,000	State, Local	0.36	N/A	400	250	14,214	3	1	59	6.60	0.00
03300031	Linwood Park Flood Mitigation (University Drive)	To mitigate the flooding depths in the Linwood Park area, a storm drain would outfall to the West Fork Trinity River.	03000013, 03000014, 03000017, 03000018, 03000031, 03000032	Tarrant	120301020105, 120301020307	Farmers Branch-West Fork Trinity River, Lake Como-Clear Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	2.244	Riverine	Fort Worth	Fort Worth	N	\$50,523,000	State, Local	0.46	N/A	669	346	20,830	7	1	81	15.15	0.00
03300032	Zoo Creek Storm Drain Flood Mitigation (Sandage)	A 10'x10' RCB section of the storm drain line reduces the 5-yr max depth at Berry St from 3.6 ft to 0.8 ft and the 100-yr max depth from 5.5 ft to 3.1 ft.	03000013, 03000014, 03000031, 03000032	Tarrant	120301020307	Lake Como - Clear Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	1.270	Riverine, Urban	Fort Worth	Fort Worth	N	\$19,021,000	State, Local	0.28	N/A	306	218	4,324	0	0	41	6.29	0.00
03300033	Sunnyvale Urban Flooding Reduction Improvements - Area 1	Proposed alternatives to reduce roadway overtopping's during the 100-year ultimate storm such as culvert and ditch improvements.	03000013, 03000014, 03000031, 03000032	Dallas	120301060501, 120301060503	Duck Creek, North Mesquite Creek-East Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.526	Riverine	Sunnyvale	Sunnyvale	N	\$4,560,000	State, Local	0.03	N/A	25	15	844	1	0	7	0.33	0.00
03300036	Sunnyvale Urban Flooding Reduction Improvements - Area 2	Proposed alternatives to reduce roadway overtopping's during the 100-year ultimate storm such as culvert, ditch and storm drain improvements.	03000013, 03000014, 03000031, 03000032	Dallas	120301060503	North Mesquite Creek-East Fork Trinity River	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.537	Riverine	Sunnyvale	Sunnyvale	N	\$5,701,000	State, Local	0.02	N/A	35	32	113	1	0	8	0.80	0.00
03300037	Project 1 - Point North Parkway System	Prairie Creek; Approximately 450 feet of channel improvements to lower the HGL; proposed RCB storm sewer main crossing Point North Parkway; new wingwalls; and additional 100 LF inlet capacity. The existing storm sewer system will remain except for the inlet laterals which will be abandoned and diverted to the proposed storm sewer main. The proposed improvements will minimize sedimentation at the Synergy Park Boulevard culverts and will reduce the flood depths at Point North Parkway.	03000017, 03000028, 03000031, 03000032	Collin	120601060407	Prairie Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.030	Riverine, Urban	Richardson	Richardson	N	\$870,000	State, Local	0.02	N/A	4	1	19	0	0	2	0.96	0.00
03300038	Project 4 - Big Horn Lane/Canyon Creek Drive System	Prairie Creek; Replaces the existing storm sewer main between Big Horn Lane and Canyon Creek Drive with larger 36" and 48" storm sewer; additional 70 LF inlet capacity to reduce the flooding along Big Horn Lane, Canyon Creek Drive and Canyon Creek Country Club property	03000013, 03000032	Collin	120601060407	Prairie Creek	Storm Drain Infrastructure	0.020	Urban	Richardson	Richardson	N	\$560,000	State, Local	0.01	N/A	10	10	37	0	0	3	0.16	0.00
03300039	Project 6 - Valley Forge Street System	Prairie Creek; Parallel culvert crossing the KCS Railroad; concrete flume from the cul-de-sac to the alley parallel to the KCS Railroad; replaces the existing storm sewer main with larger 36" and 60" storm sewer; new wingwalls; and additional 50 LF inlet capacity to keep floodwaters within the road ROW	03000027, 03000028, 03000031, 03000032	Collin, Dallas	120601060407	Prairie Creek	Storm Drain Infrastructure	0.020	Urban	Richardson	Richardson	N	\$680,000	State, Local	0.01	N/A	11	9	29	0	0	3	0.43	0.00
03300040	Project 8 - Lower Canyon Creek Drive System	Prairie Creek; Replaces the existing storm sewer with larger 24", 36" and 42" storm sewer along Lower Canyon Creek Drive; new 42" storm sewer; and additional 70 LF inlet capacity to keep floodwaters within the road ROW	03000027, 03000028, 03000031, 03000032	Dallas	120601060407	Prairie Creek	Storm Drain Infrastructure	0.020	Urban	Richardson	Richardson	N	\$1,330,000	State, Local	0.01	N/A	14	14	40	0	0	1	0.59	0.00
03300041	Project 9 - Grandview Drive System	Prairie Creek; Replaces the existing storm sewer with larger storm sewer along Grandview Drive; new wingwalls; and additional 100 LF inlet capacity to keep floodwaters within the road ROW	03000027, 03000028, 03000031, 03000032	Dallas	120601060407	Prairie Creek	Storm Drain Infrastructure	0.010	Urban	Richardson	Richardson	N	\$690,000	State, Local	0.01	N/A	10	9	34	0	0	2	0.23	0.00
03300042	Project 16 - Valley Glen Drive System	Prairie Creek; Parallel storm sewer along the existing storm sewer alignment and extends the existing system further downstream; new storm sewer; and additional 230 LF inlet capacity to reduce the flooding along Valley Glen Drive and Pleasant Valley Lane	03000031, 03000032	Collin	120601060407	Prairie Creek	Storm Drain Infrastructure	0.010	Urban	Richardson	Richardson	N	\$1,340,000	State, Local	0.01	N/A	9	9	29	0	0	2	0.33	0.00
03300043	Project 19 - Pebblebrook Circle System	Prairie Creek; Replaces the existing storm sewer with larger 36" storm sewer near Pebblebrook Circle; new 30" storm sewer; and additional 30 LF inlet capacity to keep floodwaters within the road ROW	03000027, 03000028, 03000031, 03000032	Dallas	120601060407	Prairie Creek	Storm Drain Infrastructure	0.010	Urban	Richardson	Richardson	N	\$460,000	State, Local	0.00	N/A	3	3	3	0	0	2	0.15	0.00
03300044	Project 2 - Campbell Road System	Cottonwood Creek; Replaces the existing storm sewer main with a larger 30" storm sewer; includes the addition of a 36" and 42" parallel storm sewer; and additional 50 LF inlet capacity near Campbell Road to keep floodwaters within the road ROW	03000027, 03000028, 03000031, 03000032	Dallas	120601050104	Cottonwood Creek	Storm Drain Infrastructure	0.020	Urban	Richardson	Richardson	N	\$1,195,000	State, Local	0.01	N/A	10	4	85	0	0	1	0.24	0.00
03300045	Project 6 - Wisteria Way Circle at Timberlake Circle	Cottonwood Creek; Replaces a portion of the existing storm sewer system with larger 30" RCP storm sewer and proposes an extensive RCB underground system connecting to the existing stub out adjacent to the Pinehurst Drive and Wisteria Way; and additional 120 LF inlet capacity to keep floodwaters within the road ROW	03000027, 03000028, 03000031, 03000032	Dallas	120601050104	Cottonwood Creek	Storm Drain Infrastructure	0.020	Urban	Richardson	Richardson	N	\$1,785,000	State, Local	0.01	N/A	30	22	66	0	0	1	0.51	0.00
03300046	Project 14 - Ridgeway Circle and Ridgeway Drive System	Cottonwood Creek; 42" RCP storm sewer system addition extending to Dover Drive; 42" and 54" replacement of the existing storm sewer in Ridgeway Circle; and additional 70 LF inlet capacity to reduce flood depths at Dover Drive	03000031, 03000032	Dallas	120601050104	Cottonwood Creek	Storm Drain Infrastructure	0.030	Urban	Richardson	Richardson	N	\$940,000	State, Local	0.01	N/A	34	27	150	0	0	3	0.67	0.00
03300047	Project 15 - James Drive and Weathered Drive System	Cottonwood Creek; 48" RCP diversion along Weathered Drive; replaces the existing storm sewer system with larger RCB storm sewer near James Drive; and additional 65 LF inlet capacity to reduce the flood depths along James Drive and Bristol Court	03000031, 03000032	Dallas	120601050104	Cottonwood Creek	Storm Drain Infrastructure	0.030	Urban	Richardson	Richardson	N	\$1,660,000	State, Local	0.02	N/A	32	22	130	0	0	4	0.76	0.00
03300048	Project 25 - Improvements Within Lindale Branch Basin	Lindale Branch within Cottonwood Creek; Five (5) sub-projects: A1, A2, A3, A4, and A5; Phasing of these sub-projects should be a function of need and cost but are recommended to be implemented in this order: A3, A4, A5, A2, A1; Sub-Project A1 proposes a new storm sewer system on the west side of Custer Road to provide relief to the existing system from upstream of Salem Drive to Vernet Street followed by a replacement of the existing system from Vernet Street to Jolie Street. This project also proposes a parallel system from Hixie Street to Jolie Street; Sub-Project A2 proposes adding a parallel system to the existing system that extends through the commercial area between Custer Road and Arapaho Road to allow the system to convey the 100-year flows from the upgraded upstream systems along Custer Road from Sub-Project A1; Sub-Project A3 proposes storm sewer diversion from Arapaho Road to Lindale Branch to alleviate the existing system that extends through the commercial areas. Again, this is required to convey all the flow from the upgraded upstream systems (Sub-Project A1 and A2) and to reduce the flood depth within the commercial areas; Sub-Project A4 proposes a replacement of the existing storm sewer system and add a new storm sewer system diversion to relieve the existing system North of Arapaho Road and provide more capacity to convey the 100-year storm event. This system conveys the flow resulting from the improvements of Sub-Project A5; Sub-Project A5 proposes a replacement of the storm sewer system with box culverts between Lowell Lane and Rockingham Lane to convey the 100-year storm event.	03000031, 03000032	Dallas	120601050104	Lindale Branch	Storm Drain Infrastructure	0.300	Urban	Richardson	Richardson	N	\$9,162,000	State, Local	0.09	N/A	169	96	1,728	1	0	7	5.20	0.00
03300049	10' X 4.5' Culvert at Glenville Drive	Huffines Creek; Adding one 10-ft by 4.5-ft RCB to the existing four 10-ft by 4.5-ft RCB for a total of five culverts will allow for the 10-year and 50-year storm events to pass through the culverts without overtopping the roadway. A viable solution for the 100-year storm was not determined.	03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.005	Riverine	Richardson	Richardson	N	\$730,000	State, Local	0.00	N/A	1	1	2	0	0	3	0.28	0.00
03300050	2'-9" X 7' Culverts Plano Road	Huffines Creek; Adding two 9-ft by 7-ft RCB on both overbanks of the existing five 9-ft by 7-ft RCB for a total of seven culverts allows the 100-year storm event to pass through the culverts without overtopping the roadway.	03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.002	Riverine	Richardson	Richardson	N	\$1,280,000	State, Local	0.00	N/A	0	0	0	0	0	2	0.13	0.00
03300051	10' X 8' Culvert at St Johns Drive	Huffines Creek; Adding one 10-ft by 8-ft RCB to the existing six 10-ft by 8-ft RCB for a total of seven culverts will allow for the 10-year and 50-year storm events to pass through the culverts without overtopping the roadway. An additional box culvert can be added to allow the 50-year to pass. Additional culverts are not advised due to tailwater constraints.	03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.006	Riverine	Richardson	Richardson	N	\$1,430,000	State, Local	0.00	N/A	0	0	0	0	0	1	0.06	0.00
03300052	3'-10" X 8' Culverts at Yale Blvd.	Huffines Creek; Adding three 10-ft by 8-ft RCB to the existing six 10-ft by 8-ft RCB for a total of nine culverts will allow the 100-year storm event to pass through the culverts without overtopping the roadway.	03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.001	Riverine	Richardson	Richardson	N	\$840,000	State, Local	0.00	N/A	0	0	0	0	0	2	0.12	0.00
03300053	Sub-project A1 - Glenville Drive/College Park Area Improvements	Huffines Creek; A 20-acre-ft (35,100 cubic yards of cut) detention pond is proposed at the intersection of Windsong Trail and Glenville Drive at the existing open channel to mitigate peak discharges downstream.	03000031, 03000032	Dallas	120301060501	Huffines Creek	Regional Detention	0.994	Urban	Richardson	Richardson	N	\$970,000	State, Local	0.27	N/A	186	157	2,966	0	0	260	22.74	4.81
03300054	Sub-project A2 - Improvements along Glenville Drive	Huffines Creek; Proposes a bypass storm sewer line along Glenville Drive from Windsong Trail to Huffines Creek to alleviate undersized existing system. Approximately 1,860 LF of proposed 12-ft by 6-ft RCB will tie into the proposed detention pond (Sub-project A1). Approximately 160 LF of existing 27" RCP will be replaced with 60" RCP to reduce ponding near Shadyglen Circle. Lastly, 130 LF of new inlet is proposed.	03000027, 03000028, 03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.209	Urban	Richardson	Richardson	N	\$2,960,000	State, Local	0.09	N/A	28	16	639	0	0	58	5.30	2.83
03300055	Sub-project A3 - College Park Bypass	Huffines Creek; Proposes a relief system to accommodate increase discharges from upstream improvements. Approximately 1,290 LF of 5-ft by 10-ft RCB and 1,200 LF of 5-ft by 8-ft RCB is proposed along the median of Glenville Drive to the outfall of the proposed detention pond from Sub-project A1.	03000027, 03000028, 03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.465	Urban	Richardson	Richardson	N	\$3,440,000	State, Local	0.16	N/A	86	71	702	0	0	147	13.12	2.83
03300056	Sub-project A4 - College Park Improvements	Huffines Creek; Replaces undersized existing 24" RCP with 450 LF of 42" RCP, replaces existing 39" RCP with 130 LF of 4-ft by 4-ft RCB, replaces existing 42" RCP with 180 LF of 6-ft by 4-ft RCB, and replaces existing 48" RCP with 310 LF of 8-ft by 5-ft RCB, 330 LF of 9-ft by 5-ft RCB, and 470 LF of 10-ft by 5-ft RCB. Lastly, 40 LF of new inlet will be included. The proposed improvements will tie into existing 60" RCP at Spring Valley Road and the proposed Glenville Drive Bypass (Sub-project A2) via a large junction box.	03000013, 03000014, 03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.085	Urban	Richardson	Richardson	N	\$2,160,000	State, Local	0.02	N/A	23	22	86	0	0	38	3.37	0.00
03300057	Sub-project A5 - Annapolis Drive Improvements	Huffines Creek; Replaces the undersized existing 36" RCP system with 5-ft by 4-ft RCB and 4-ft by 3-ft RCB. 60 LF of new inlet will be added. The improved system will outfall into the proposed Glenville Drive Bypass (Sub-project A2) on Spring Valley Road.	03000013, 03000014, 03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.060	Urban	Richardson	Richardson	N	\$1,190,000	State, Local	0.02	N/A	10	10	38	0	0	29	3.12	0.00
03300058	Sub-project A7 - Improvements along Windsong Trail	Huffines Creek; Replaces existing 42", 48", and 54" RCP with 42 LF of 4-ft by 8-ft RCB, 820 LF of 5-ft by 7-ft RCB, 710 LF of 5-ft by 9-ft RCB, and 90 LF of 6-ft by 10-ft RCB. 40 LF of new inlet will be added.	03000013, 03000014, 03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.178	Urban	Richardson	Richardson	N	\$2,150,000	State, Local	0.05	N/A	43	42	528	0	0	83	7.55	3.13
03300059	Sub-project B3 - Midway, Coral, Surf, and Pacific Cul-de-Sac Improvements	Huffines Creek; Replaces the existing storm sewer at Midway, Coral, Surf, and Pacific Cul-de-Sacs with larger culverts and constructs 30 LF of inlets. 15" RCPs will be replaced by 170 LF of 36" RCP and 310 LF of 3-ft by 2-ft RCB; 33", 36", and 42" RCP will be replaced by 475 LF of 6-ft by 4-ft RCB.	03000013, 03000014, 03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.156	Urban	Richardson	Richardson	N	\$500,000	State, Local	0.04	N/A	22	19	70	0	0	67	5.31	0.40
03300060	Sub-project C3 - Spring Valley at Towne House Lane	Huffines Creek; replaces the existing 18" RCP with 60 LF of 4-ft by 3-ft RCB and 290 LF of 6-ft by 3-ft RCB. 30 LF of new inlet will be added.	03000031, 03000032	Dallas	120301060501	Huffines Creek	Infrastructure (channels, ditches, ponds, pipes, etc.)	0.092	Urban	Richardson	Richardson	N	\$200,000	State, Local	0.02	N/A	38	38	154	0	0	20	2.73	0.07
03300061	Sub-project D1 - Glenville Drive Improvements at Pacific Drive	Huffines Creek; This proposal replaces undersized existing storm sewer, constructs an extension, and includes 60 LF of inlet to alleviate flooding along Pacific Drive and Glenville Drive. This alternatives includes 310 LF of new 8-ft by 4-ft RCB, 300 LF of new 8-ft by 5-ft RCB, replaces existing 30" RCP with 270 LF of 8-ft by 5-ft RCB, and replaces 36" RCP with 240 LF of 9-ft by																						

Reduction in Flood Risk																							
FMP ID (cont.)	FMP Name (cont.)	Number of structures with reduced 100yr (1% annual chance) Flood risk	Number of structures removed from 100yr (1% annual chance) Flood risk	Number of structures removed from 500yr (0.2% annual chance) Flood risk	Residential structures removed from 100yr (1% annual chance) Flood risk	Estimated Population removed from 100yr (1% annual chance) Flood risk	Critical facilities removed from 100yr (1% annual chance) Flood risk (#)	Number of low water crossings removed from 100yr (1% annual chance) Flood risk (#)	Estimated reduction in road closure occurrences	Estimated length of roads removed from 100yr flood risk (Miles)	Estimated farm & ranch land removed from 100yr flood risk (acres)	Estimated reduction in fatalities (if available)	Estimated reduction in injuries (if available)	Pre-Project Level-of-Service	Post-Project Level-of-Service	Cost/ Structure removed	Percent Nature-based Solution (by cost)	Negative Impact (Y/N)	Negative Impact Mitigation (Y/N)	Social Vulnerability Index (SVI)	Water Supply Benefit (Y/N)	Traffic Count for Low Water Crossings	BCR
03300007	Spring Meadows Estates Detention Pond Design	9	9	N/A	9	18	0	0	N/A	0.34	0.00			<2-yr	100-yr	\$208,000	0%	N	N	0.15	N		
03300008	West Irving Creek Phases 2, 3, and 4	6	240	N/A	217	1,073	-2	-3	44	5.01	0.00			2-yr	100-yr	\$455,000	0%	N	N	0.78	N		
03300016	Arlington VC(A)-1 Drainage and Erosion Improvements	21	72	N/A	65	290	0	0	3	0.86	0.00			<2-yr	100-yr	\$40,000	15%	N	N	0.65	N		
03300030	Lancaster/Foch Area Mitigation	15	19		2	808	0	0	1	0.74	0.00			< 1-yr	100-yr	\$5,885,000	0%	N	N	0.06	N		
03300031	Linwood Park Flood Mitigation (Western Arlington Heights)	72	6		3	1,026	0	0	0	0.14	0.00			< 1-yr	100-yr	\$16,841,000	0%	N	N	0.17	N		
03300032	Zoo Creek Storm Drain Flood Mitigation (Sandage)	257	49	N/A	43	121	0	0	8	0.42	0.00	0	0	1-yr	5-yr	\$442,000	0%	N	N	0.57	N		
03300033	Sunnyvale Urban Flooding Reduction Improvements - Area 1	0	14	N/A	15	844	1	0	6	0.32	0.00			<100-yr	100-yr	\$304,000	0%	N	N	0.24	N		
03300036	Sunnyvale Urban Flooding Reduction Improvements - Area 2	0	32	N/A	32	113	1	0	7	0.80	0.00			<100-yr	100-yr	\$178,000	0%	N	N	0.24	N		
03300037	Project 1 - Point North Parkway System	4	0	N/A	0	17	0	0	2	0.96	0.00			10-yr	100-yr	\$218,000	0%	N	N	0.39	N		
03300038	Project 4 - Big Horn Lane/Canyon Creek Drive system	10	3	N/A	3	8	0	0	3	0.16	0.00			5-yr	100-yr	\$56,000	0%	N	N	0.39	N		
03300039	Project 6 - Valley Forge Street System	11	5	N/A	4	18	0	0	3	0.43	0.00			10-yr	100-yr	\$62,000	0%	N	N	0.13	N		
03300040	Project 8 - Lower Canyon Creek Drive System	14	9	N/A	9	30	0	0	1	0.59	0.00			25-yr	100-yr	\$95,000	0%	N	N	0.04	N		
03300041	Project 9 - Grandview Drive System	10	5	N/A	4	12	0	0	2	0.23	0.00			5-yr	100-yr	\$69,000	0%	N	N	0.04	N		
03300042	Project 16 - Valley Glen drive System	9	2	N/A	2	14	0	0	2	0.33	0.00			10-yr	100-yr	\$149,000	0%	N	N	0.03	N		
03300043	Project 19 - Pebblebrook Circle System	3	1	N/A	1	3	0	0	2	0.15	0.00			25-yr	100-yr	\$153,000	0%	N	N	0.04	N		
03300044	Project 2 - Campbell Road System	10	6	N/A	1	60	0	0	1	0.24	0.00			10-yr	100-yr	\$120,000	0%	N	N	0.34	N		
03300045	Project 6 - Wisteria Way Circle at Timberlake Circle	30	10	N/A	5	16	0	0	1	0.51	0.00			2-yr	100-yr	\$60,000	0%	N	N	0.57	N		
03300046	Project 14 - Ridgeway Circle and Ridgeway Drive System	34	2	N/A	2	16	0	0	3	0.67	0.00			50-yr	100-yr	\$28,000	0%	N	N	0.63	N		
03300047	Project 15 - James Drive and Weathered Drive System	32	17	N/A	11	35	0	0	4	0.76	0.00			5-yr	100-yr	\$52,000	0%	Y	N	0.57	N		
03300048	Project 25 - Improvements Within Lindale Branch Basin	169	121	N/A	48	1,504	1	0	7	5.20	0.00			2-yr	100-yr	\$54,000	0%	N	N	0.55	N		
03300049	10' X 4.5' Culvert at Glenville Drive	1	0	N/A	0	0	0	0	0	0.00	0.00			5-yr	50-yr	N/A	0%	N	N	0.35	N		
03300050	2-9' X 7' Culverts Plano Road	0	0	N/A	0	0	0	0	2	0.13	0.00			10-yr	100-yr	N/A	0%	N	N	0.35	N		
03300051	10' X 8' Culvert at St Johns Drive	0	0	N/A	0	0	0	0	0	0.00	0.00			5-yr	50-yr	N/A	0%	N	N	0.10	N		
03300052	3-10' X 8' Culverts at Yale Blvd.	0	0	N/A	0	0	0	0	2	0.12	0.00			50-yr	100-yr	N/A	0%	Y	N	0.10	N		
03300053	Sub-project A1 - Glenville Drive/College Park Area Improvements	186	100	N/A	95	624	0	0	4	0.60	0.28			N/A	100-yr	\$10,000	0%	Y	N	0.32	N		
03300054	Sub-project A2 - Improvements along Glenville Drive	28	15	N/A	13	405	0	0	3	0.09	0.97			2-yr	100-yr	\$197,000	0%	Y	N	0.32	N		
03300055	Sub-project A3 - College Park Bypass	71	38	N/A	35	492	0	0	4	0.09	0.97			2-yr	100-yr	\$91,000	0%	Y	N	0.31	N		
03300056	Sub-project A4 - College Park Improvements	23	16	N/A	15	56	0	0	1	0.01	0.00			< 2-yr	100-yr	\$135,000	0%	Y	N	0.35	N		
03300057	Sub-project A5 - Annapolis Drive Improvements	10	2	N/A	2	7	0	0	0	0.00	0.00			2-yr	100-yr	\$595,000	0%	Y	N	0.35	N		
03300058	Sub-project A7 - Improvements along Windsong Trail	43	42	N/A	41	520	0	0	26	1.90	0.00			2-yr	100-yr	\$51,000	0%	Y	N	0.35	N		
03300059	Sub-project B3 - Midway, Coral, Surf, and Pacific Cul-de-Sac Improvements	22	17	N/A	16	40	0	0	14	1.26	0.00			5-yr	100-yr	\$29,000	0%	Y	N	0.35	N		
03300060	Sub-project C3 - Spring Valley at Towne House Lane	38	27	N/A	27	108	0	0	3	0.24	0.01			5-yr	100-yr	\$7,000	0%	Y	N	0.32	N		
03300061	Sub-project D1 - Glenville Drive Improvements at Pacific Drive	42	7	N/A	5	367	0	0	1	0.01	0.46			2-yr	100-yr	\$310,000	0%	N	N	0.27	N		

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type (Riverine, Coastal, Urban, Playa Other)	Sponsor	Entities with Oversight	Emergency Need (Y/N)	Estimated Strategy Cost (\$)	Potential Funding Sources and Amount
03200001	Lavon Warning System	Expand the Early Warning Sirens and Local Warning System to notify new populations of impending severe weather or imminent hazards to reduce the loss of life and mitigate the effects of the hazards	03000001, 03000002	Collin	1203010603, 1203010604	Price Creek-Lavon Lake, Camp Creek-Lake Ray Hubbard	Flood Measurement and Warning	3.03	Riverine	Lavon	Lavon	N	\$250,000	
03200002	Lindsay Flood Warning and Public Safety Improvements	Citywide "reverse 911" to enable local emergency officials to notify emergency information pertaining to flood advisories, flood warnings, and flood evacuations.	03000001, 03000002	Cooke	1113020107, 1203010304, 1203010301	Montague Creek-Elm Fork Trinity River, Scott Creek-Elm Fork Trinity River	Flood Measurement and Warning	2.20	Riverine	Lindsay	Lindsay	N	\$250,000	
03200003	Addition of Low Water Crossing Signs and Gates - City of Irving	Identify and add low water crossing signs and gates to low water crossing areas as described in The Road to The Future Report.	03000001, 03000002, 03000003, 03000004	Dallas	1203010501, 1203010207, 1203010310	Big Bear Creek, Little Bear Creek, Estelle Creek-Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Flood Measurement and Warning	67.72	Riverine	Irving	Irving	N	\$250,000	
03200004	Richardson Flood Warning and Public Safety Improvements	Monitor streams and waterways for potential flooding problems including installation of gauges, sensors, and precipitation measuring sites.	03000001, 03000002	Dallas	1203010501, 1203010605, 1203010604	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Duck Creek	Flood Measurement and Warning	28.57	Riverine	Richardson	Richardson	N	\$250,000	
03200005	Timber Creek Flood Warning System Installation	Purchase and Install Flood Warning Systems in Key Areas Along Timber Creek	03000001, 03000002	Denton	1203010310	Timber Creek	Flood Measurement and Warning	3.23	Riverine	Lewisville	Lewisville	N	\$250,000	
03200006	Houston County Stream and Rain Gauge Installation	Install stream and rain gauges in flood prone areas and waterways as part of new alert notification system	03000001, 03000002	Houston	1203020207, 1202000105, 1202000201, 1203020208, 1202000204, 1203020203, 1203020104, 1203020206, 1202000202, 1203020107, 1202000107	Montague Creek-Elm Fork Trinity River, Scott Creek-Elm Fork Trinity River	Flood Measurement and Warning	1,231.69	Riverine	Houston County	Houston County	N	\$250,000	
03200007	Hunt County Flood Warning and Public Safety	Adopt and Promote the program of "Turn Around Don't Drown Campaign." Implement early warning program.	03000001, 03000002, 03000003, 03000004	Hunt	1201000103, 1201000104, 1114030101, 1201000101, 1201000102, 1203010701, 1114030102, 1201000301, 1203010601	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Flood Measurement and Warning	879.30	Riverine	Hunt County	Hunt County	N	\$250,000	
03200008	City of Kemp Siren Notification System	Install siren notification system for disasters, including dam failure of Kemp Lake Dam	03000001, 03000002	Kaufman	1203010702, 1203010703, 1203010701	Lacy Fork-Cedar Creek Reservoir, Little Cottonwood Creeks-Kings Creek, Town of Kemp-Cedar Creek Reservoir, Kemp Lake-Cedar Creek, Persimmon Branch-Cedar Creek Reservoir	Flood Measurement and Warning	2.51	Riverine	Kemp	Kemp	N	\$250,000	
03200009	Leon County Local Flood Warning System	This action proposes a local flood warning system to reduce the potential impacts of future flood events	03000001, 03000002	Leon	1207010304, 1203020204, 1203020106, 1203020202, 1207010305, 1203020203, 1203020104, 1203020107, 1203020201, 1203020105, 1207010303	Bear Creek-Indian Creek, Arnold Creek, High Point Creek	Flood Measurement and Warning	1,076.20	Riverine	Leon County	Leon County	N	\$250,000	
03200010	Rockwall County Warning Signs and Flood Control Gates	Install automatic flood warning gates to prevent access into flooded areas. Install warning signs and flood control	03000001, 03000002, 03000003, 03000004	Rockwall	1201000103, 1203010605, 1203010701, 1203010604	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Camp Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Long Branch-Buffalo Creek, Upper Big Brushy Creek, High Point Creek	Flood Measurement and Warning	148.04	Riverine	Rockwall County	Rockwall County	N	\$250,000	
03200011	Chambers Creek Stream Flow Monitoring System	Implement a Stream Flow Monitoring system that will allow for historical tracking and constant monitoring of water levels to assist with early warnings to residents	03000001, 03000002	Tarrant	1203010204	Village Creek-Lake Arlington	Flood Measurement and Warning	1.75	Riverine	Everman	Everman	N	\$250,000	
03200012	Creek Level Monitoring Systems and Weather Stations Installation	Install creek level monitoring systems and weather stations	03000001, 03000002	Tarrant	1203010204, 1203010206	Rush Creek-Village Creek, Headwaters Mountain Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Flood Measurement and Warning	36.49	Riverine	Mansfield	Mansfield	N	\$250,000	
03200013	Dalworthington Flood Warning System	Purchase and install a technological based high water detection system for low water crossings to mitigate the hazards when the location floods	03000001, 03000002, 03000003, 03000004	Tarrant	1203010204	Rush Creek-Village Creek	Flood Measurement and Warning	1.83	Riverine	Dalworthington	Dalworthington	N	\$300,000	
03200014	Colleyville Flood Warning System	Enhance high water warning system by adding automatic gates on the streets that normally flood	03000001, 03000002, 03000003, 03000004	Tarrant	1203010207, 1203010205	Big Bear Creek, Little Bear Creek, Headwaters Walker Branch	Flood Measurement and Warning	13.17	Riverine	Colleyville	Colleyville	N	\$250,000	
03200015	Haslet Flood Warning System	Install flood warning devices to low water crossing.	03000001, 03000002, 03000003, 03000004	Tarrant	1203010207, 1203010205, 1203010403	Big Bear Creek, Whites Branch-Big Fossil Creek, Headwaters Elizabeth Creek, Henrietta Creek	Flood Measurement and Warning	10.49	Riverine	Haslet	Haslet	N	\$250,000	
03200016	Additional Rain/Stream Gauges for 13 locations	West Fork Trinity River at MacArthur Blvd, Bowman Creek at Mirabella Blvd, Cottonwood Creek at Robinson Road, Johnson Creek at Duncan Perry Road, Foster Branch at Seeton Road, Mountain Creek at county road FM 661, Carrier Parkway underneath I-20, Robinson	03000001, 03000002	Dallas	1203010207, 1203010206	Big Bear Creek, Whites Branch-Big Fossil Creek, Headwaters Elizabeth Creek, Henrietta Creek	Flood Measurement and Warning	80.96	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
03200017	Additional Low Water Crossing Flashing Lights and Automated Gates	Duncan Perry Road between Ave K and Sherwood Drive, Riverside Pkwy LWC (lights already in place need gates added), SW 3rd from Phillips Ct to Dickey Road (gates being added in September 2021)	03000003, 03000004	Dallas	1203010207, 1203010206	Big Bear Creek, Whites Branch-Big Fossil Creek, Headwaters Elizabeth Creek, Henrietta Creek	Flood Measurement and Warning	80.96	Riverine	Grand Prairie	Grand Prairie	N	\$250,000	
03200018	Grayson County Flood Warning and Public Safety Improvements	Create improved gauge notification system. Increased Public Awareness prior to occurrences and during flooding.	03000001, 03000002	Grayson	1114010101, 1203010602, 1203010303, 1113021004, 1113021002, 1113021003, 1114010102, 1114010105, 1203010307, 1203010603, 1203010302, 1114010104, 1113021005, 1203010601	Rush Creek-Village Creek, Headwaters Mountain Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Flood Measurement and Warning	976.48	Riverine	Grayson County	Grayson County	N	\$250,000	
03200019	Dallas County Floodplain Management	Manage the Floodplain beyond the minimum requirements. This action will include developing an incentive program for building above the required freeboard minimum	03000005, 03000006	Dallas	1203010501, 1203010605, 1203010207, 1203010502, 1203010903, 1203010604, 1203010310, 1203010503, 1203010206, 1203010403	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Regulatory and Guidance	904.72	Riverine	Dallas County	Dallas County	N	\$1,000,000	
03200020	Anderson County Structure Permitting Requirement Update	Increase freeboard requirements for permitting structures in the SFHA; Adopt a "no-rise" in BFE in the 100-year floodplain; Update local flood ordinance to prohibit granting of variance in SFHA	03000011, 03000012, 03000025, 03000026	Anderson	1203020103, 1202000105, 1203020104, 1203010505, 1203020107, 1202000103, 1202000104, 1202000107, 1203020102		Regulatory and Guidance	1,073.46	Riverine	Anderson County	Anderson County	N	\$100,000	
03200021	Bynum Stormwater Management Policy Updates	Update storm water management policies. Require approved site control plans and storm water runoff plans before long-duration construction projects are permitted to begin.	03000025, 03000026	Hill	1203010801	Headwaters Ash Creek, Bynum Creek	Regulatory and Guidance	0.14	Riverine	Bynum	Bynum	N	\$100,000	
03200022	Flood Protection Ordinance Updates	Develop and implement a City and Town flood protection ordinance	03000005, 03000006	Denton	1203010308, 1203010309, 1203010307, 1203010310	Rush Creek-Village Creek, Headwaters Mountain Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek-Walnut Creek	Regulatory and Guidance	56.44	Riverine	Corinth, Hickory Creek, Lake Dallas, Little Elm, Shady Shores, The Colony	Corinth, Hickory Creek, Lake Dallas, Little Elm, Shady Shores, The Colony	N	\$100,000	
03200023	Hill County Flooding Regulations Update	Catalog, evaluate, and update any floodplain regulations within the City to comply with the latest FEMA regulations.	03000011, 03000012, 03000025, 03000026	Hill	1203010901, 1206020206, 1206020203, 1203010802, 1207010301, 1203010803, 1203010902, 1203010801, 1206020204, 1206020207, 1206020202, 1206020205	Headwaters Ash Creek, Bynum Creek	Regulatory and Guidance	981.88	Riverine	Hill County	Hill County	N	\$100,000	
03200024	Freestone County Flood Damage Prevention Ordinance	Develop and Implement a Flood Damage Prevention Ordinance	03000011, 03000012, 03000025, 03000026	Freestone	1203020103, 1203020106, 1203020101, 1203020104, 1203010505, 1203020107, 1203010804, 1203020105, 1207010303	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Regulatory and Guidance	888.16	Riverine	Freestone County	Freestone County	N	\$100,000	
03200025	Caney City Floodproofing Ordinances	Implement ordinances to ensure new housing developments meet current floodproofing, as well as ensure that critical facilities owned by jurisdiction are protected from flood.	03000025, 03000026	Henderson	1203010703	Clear Creek-Cedar Creek Reservoir, Caney Creek-Cedar Creek Reservoir	Regulatory and Guidance	1.12	Riverine	Caney City	Caney City	N	\$100,000	
03200026	Leon County Floodplain Construction Restrictions Re-Evaluation	This action proposes a re-evaluation of all existing floodplain construction restrictions to identify strengths and weaknesses in order to reduce future damages during flood events	03000025, 03000026	Leon	1207010304, 1203020204, 1203020106, 1203020202, 1207010305, 1203020203, 1203020104, 1203020107, 1203020201, 1203020105, 1207010303	Clear Creek-Cedar Creek Reservoir, Caney Creek-Cedar Creek Reservoir	Regulatory and Guidance	1,075.85	Riverine	Leon County	Leon County	N	\$100,000	
03200027	Rockwall County Flood Prevention Ordinance	Update Flood Prevention ordinance, adopting a "no-rise" in Base Flood Elevation in the 100-year floodplain	03000011, 03000012, 03000025, 03000026	Rockwall	1201000103, 1203010605, 1203010701, 1203010604	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Camp Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Long Branch-Buffalo Creek, Upper Big Brushy Creek, High Point Creek	Regulatory and Guidance	148.04	Riverine	Rockwall County	Rockwall County	N	\$100,000	
03200028	San Jacinto County Ordinance to Control Location of Development	Strengthen ordinance(s)/code(s) to control location of development, especially in low lying flood hazard areas	03000021, 03000022, 03000025, 03000026	San Jacinto	1203020211, 1204010303, 1203020212	McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Little Creek-Big Creek, Big Creek-Trinity River	Regulatory and Guidance	9.54	Riverine	San Jacinto County, Shepherd, Coldspring, Point Blank	San Jacinto County, Shepherd, Coldspring, Point Blank	N	\$100,000	
03200029	Montague County Floodplain Policy Update	Increase freeboard requirements for permitting structures in the SFHA; Update local flood ordinance to prohibit granting of variance in SFHA	03000011, 03000012, 03000021, 03000022, 03000025, 03000026	Montague	1113020905, 1203010305, 1203010401, 1203010105, 1113020107, 1203010104, 1203010301, 1113020102, 1113020105	McGee Creek-Lake Livingston, Wolf Creek-Lake Livingston, Little Creek-Big Creek, Big Creek-Trinity River	Regulatory and Guidance	933.20	Riverine	Montague County	Montague County	N	\$100,000	
03200030	Town of Westlake's Floodplain Mitigation Ordinances Review	Review and enhance the Town of Westlake's floodplain mitigation ordinances and policies as needed	03000025, 03000026	Tarrant	1203010403	Marshall Branch-Grapevine Lake	Regulatory and Guidance	7.06	Riverine	Westlake	Westlake	N	\$100,000	
03200031	Wills Point Structure Permitting Requirement Update	Increase freeboard requirements for permitting structures in the SFHA; Adopt a "no-rise" in BFE in the 100-year floodplain; Update local flood ordinance	03000011, 03000012, 03000025, 03000026	Van Zandt	1203010702, 1201000105	Allen Creek-Cedar Creek	Regulatory and Guidance	1.66	Riverine	Wills Point	Wills Point	N	\$100,000	
03200032	Wise County Storm Water Management Plan	Create a Storm water Management Plan	03000025, 03000026	Wise	1203010308, 1203010305, 1203010401, 1203010105, 1203010402, 1203010104, 1203010202, 1203010106, 1203010403	Marshall Branch-Grapevine Lake	Regulatory and Guidance	919.27	Riverine	Wise County, Alvord	Wise County, Alvord	N	\$300,000	
03200033	Valley View Floodplain Regulation Updates	Update local ordinances to include regulation of floodplain so that the community may participate in NFIP program.	03000011, 03000012, 03000025, 03000026	Cooke	1203010304	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Regulatory and Guidance	2.09	Riverine	Valley View	Valley View	N	\$100,000	
03200034	City of Sachse Parks Construction Along Low Lying Areas	Establish city parks along low-lying areas	03000021, 03000022, 03000027, 03000028	Dallas	1203010604	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Other	9.88	Riverine	Sachse	Sachse	N	\$1,000,000	
03200035	Carrollton Targeted Flood Remediation	Plan for and establish City-owned stand-by contracts for targeted flood remediation of private homes if authorized by City Administration.	03000013, 03000014, 03000025, 03000026	Dallas	1203010501, 1203010310, 1203010403	Prairie Creek-Elm Fork Trinity River, Timber Creek, Indian Creek-Elm Fork Trinity River, Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River, Cottonwood Branch-Denton Creek, Headwaters White Rock Creek	Property Acquisition and Structural Elevation	37.26	Riverine	Carrollton	Carrollton	N	\$5,000,000	
03200036	Sunnyvale Floodplain Preservation Program	Restrict future development in high risk areas.	03000025, 03000026	Dallas	1203010605, 1203010604	Rush Creek-Lake Ray Hubbard, Duck Creek, North Mesquite Creek-East Fork Trinity River	Regulatory and Guidance	16.72	Riverine	Sunnyvale	Sunnyvale	N	\$100,000	

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG (cont.)

FMS ID (cont.)	FMS Name (cont.)	Area In 100yr (1% annual chance) Floodplain	Area In 500yr (0.2% annual chance) Floodplain	Estimated number of structures at 100yr flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Number of structures with reduced 100yr (1% annual chance) Flood risk	Number of structures removed from 100yr (1% annual chance) Flood risk	Number of structures removed from 500yr (0.2% annual chance) Flood risk	Habitable structures removed from 100yr (1% annual chance) Flood risk	Estimated Population removed from 100yr (1% annual chance) Flood risk	Critical facilities removed from 100yr (1% annual chance) Flood risk (#)	Number of low water crossings removed from 100yr (1% annual chance) Flood risk	Estimated reduction in road closure occurrences	Estimated length of roads removed from 100yr flood risk (Miles)	Estimated active farm & ranch land removed from 100yr flood risk (acres)	Estimated reduction in fatalities (if available)	Estimated reduction in injuries (if available)	Cost/ Structure removed	Consideration of Nature-based Solution (Y/N)	Negative Impact (Y/N)	Negative Impact Mitigation (Y/N)	Water Supply Benefit (Y/N)	
032000001	Lavon Warning System	0.16	0.08	4	4	4	2	1		1	31.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
032000002	Lindsay Flood Warning and Public Safety Improvements	0.36	0.05	36	24	39	0	0		2	135.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000003	Addition of Low Water Crossing Signs and Gates - City of Irving	12.90	2.30	4,589	4,495	40,893	26	37		84	1,387.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000004	Richardson Flood Warning and Public Safety Improvements	1.51	0.36	139	125	613	1	29		7	81.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000005	Timber Creek Flood Warning System Installation	0.67	0.12	140	136	475	1	0		3	38.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000006	Houston County Stream and Rain Gauge Installation	245.75	18.12	142	82	113	10	45		110	4,592.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000007	Hunt County Flood Warning and Public Safety	6.29	0.18	27	16	7	0	1		4	2,159.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000008	City of Kemp Siren Notification System	0.44	0.06	6	6	11	2	0		5	92.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000009	Leon County Local Flood Warning System	239.24	18.94	77	69	50	11	31		100	5,218.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000010	Rockwall County Warning Signs and Flood Control Gates	34.49	1.59	411	371	1,553	10	19		34	4,484.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000011	Chambers Creek Stream Flow Monitoring System	0.45	0.05	272	225	1,006	2	10		6	86.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000012	Creek Level Monitoring Systems and Weather Stations Installation	4.62	1.38	422	385	2,492	4	15		30	778.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000013	Dalworthington Flood Warning System	0.23	0.01	12	11	25	0	3		1	16.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000014	Colleyville Flood Warning System	1.38	0.18	156	148	735	4	6		5	131.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000015	Haslet Flood Warning System	1.17	0.22	39	31	103	1	6		2	527.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000016	Additional Rain/Stream Gauges for 13 locations	26.69	3.30	442	338	3,471	8	25		40	1,927.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000017	Additional Low Water Crossing Flashing Lights and Automated Gates	26.69	3.30	442	338	3,471	8	25		40	1,927.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000018	Grayson County Flood Warning and Public Safety Improvements	68.03	7.23	436	376	541	12	50		43	21,311.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000019	Dallas County Floodplain Management	211.70	24.78	22,225	20,521	181,697	216	499		791	31,557.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000020	Anderson County Structure Permitting Requirement Update	184.20	11.63	667	416	1,408	11	32		73	36,103.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000021	Bynum Stormwater Management Policy Updates	0.00	0.00	0	0	0	0	0		0	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000022	Flood Protection Ordinance Updates	19.53	2.30	381	289	1,062	12	2		31	1,613.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000023	Hill County Flooding Regulations Update	59.02	8.37	127	83	109	4	26		24	24,901.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000024	Freestone County Flood Damage Prevention Ordinance	233.17	15.29	557	237	389	13	31		91	21,752.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000025	Caney City Floodproofing Ordinances	0.09	0.00	8	5	4	0	0		1	4.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000026	Leon County Floodplain Construction Restrictions Re-Evaluation	239.10	18.93	0	0	0	11	31		100	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000027	Rockwall County Flood Prevention Ordinance	34.49	1.59	411	371	1,553	10	19		34	4,484.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000028	San Jacinto County Ordinance to Control Location of Development	1.88	0.27	270	257	875	3	0		7	74.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000029	Montague County Floodplain Policy Update	68.97	7.81	0	0	0	4	20		57	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000030	Town of Westlake's Floodplain Mitigation Ordinances Review	0.77	0.01	17	11	114	0	3		2	235.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000031	Wills Point Structure Permitting Requirement Update	0.12	0.03	25	12	91	1	0		1	24.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000032	Wise County Storm Water Management Plan	184.67	21.58	488	391	1,674	25	54		100	20,539.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000033	Valley View Floodplain Regulation Updates	0.20	0.03	7	4	5	0	2		1	91.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000034	City of Sachse Parks Construction Along Low Lying Areas	1.19	0.47	71	61	240	0	9		4	253.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
032000035	Carrollton Targeted Flood Remediation	9.55	1.02	1,068	930	15,723	15	23		48	617.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000036	Sunnyvale Floodplain Preservation Program	3.39	0.53	54	48	164	1	4		6	1,002.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type (Riverine, Coastal, Urban, Playa Other)	Sponsor	Entities with Oversight	Emergency Need (Y/N)	Estimated Strategy Cost (\$)	Potential Funding Sources and Amount
03200037	Itasca Zoning Regulations and Land Use Planning Mechanisms	Establish zoning regulations to prohibit residential construction in flood prone areas. Implement strategic land-use planning mechanisms to ensure flood-resistant development occurs in flood-prone areas	03000025, 03000026	Hill	1203010901, 1206020205	Island Creek	Regulatory and Guidance	0.69	Riverine	Itasca	Itasca	N	\$100,000	
03200038	Kaufman County Regulation Standards to Protect Open Space Flood-Prone Areas	Conduct program in conjunction with local communities to incorporate regulatory standards to protect open space flood-prone areas	03000021, 03000022, 03000025, 03000026, 03000027, 03000028	Kaufman	1203010702, 1201000103, 1203010504, 1203010605, 1201000104, 1203010703, 1203010505, 1203010701, 1201000105, 1203010502, 1203010604	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Regulatory and Guidance	804.40	Riverine	Kaufman County	Kaufman County	N	\$100,000	
03200039	Tarrant County Promotion of Open Space and LID	Promote the inclusion of low impact development requirements in local and regional ordinances	03000027, 03000028	Tarrant	1203010201, 1203010204, 1203010207, 1203010205, 1203010202, 1203010203, 1203010310, 1203010206, 1203010106, 1203010403	Village Creek-Lake Arlington	Regulatory and Guidance	899.55	Riverine	North Central Texas Council of Govt	North Central Texas Council of Govt	N	\$500,000	
03200040	Itasca Land Use Planning Mechanisms	Implement strategic land-use planning mechanisms to ensure flood-resistant development occurs in flood-prone areas	03000021, 03000022, 03000025, 03000026, 03000027, 03000028	Hill	1203010901, 1206020205	Island Creek	Regulatory and Guidance	0.69	Riverine	Itasca	Itasca	N	\$100,000	
03200041	Dallas County Land Use Program	Continue to develop and maintain special use parks and green belt areas as flooding mitigation strategies & further prohibiting development in the floodplain.	03000021, 03000022, 03000025, 03000026, 03000027, 03000028	Dallas	1203010501, 1203010605, 1203010604	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Duck Creek	Regulatory and Guidance	28.57	Riverine	Richardson	Richardson	N	\$100,000	
03200042	Houston County Maintenance Program	Develop a maintenance program to clear debris from bridges, box culverts, and drainage systems throughout. Implement program to clear debris from flood-prone areas, bridges, drains and culverts to prevent overtopping and backup during flash floods	03000029, 03000030	Houston	1203020207, 1202000105, 1202000201, 1203020208, 1202000204, 1203020203, 1203020104, 1203020206, 1202000202, 1203020107, 1202000107	Island Creek	Other	1,231.76	Riverine	Houston County	Houston County	N	\$100,000	
03200043	Kaufman County Agreement to Monitor High Hazard Dams	Develop a mutual aid agreement with the City of Terrell, City of Kemp, City of Kaufman to monitor High hazard dams with automated monitor to minimize potential dam failure of the structure	03000001, 03000002, 03000025, 03000026	Kaufman	1203010702, 1201000103, 1203010504, 1203010605, 1201000104, 1203010703, 1203010505, 1203010701, 1201000105, 1203010502, 1203010604	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Other	804.43	Riverine	Kaufman County, Terrell, Kemp, Kaufman	Kaufman County, Terrell, Kemp, Kaufman	N	\$300,000	
03200044	Rowlett Creek Tributary Maintenance Program	Develop a maintenance program including routine channel maintenance and erosion control for Rowlett Creek Tributary (Stream 2D13). Keep creek and inlets clear of debris and overgrown vegetation.	03000031, 03000032	Dallas	1203010501, 1203010605, 1203010604	White Rock Creek-White Rock Lake, Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Other	56.69	Riverine	Sachse	Sachse	N	\$250,000	
03200045	Addison-Carrollton Debris Cleaning Program	Develop and implement a program for clearing debris from bridges, drains and culverts.	03000031, 03000032	Dallas	1203010501, 1203010310, 1203010403	Prairie Creek-Elm Fork Trinity River, Timber Creek, Indian Creek Elm Fork Trinity River, Grapevine Creek-Elm Fork Trinity River, Farmers Branch-Elm Fork Trinity River, Cottonwood Branch-Denton Creek, Headwaters White Rock Creek, Floyd Branch-White Rock Creek	Other	41.60	Riverine	Addison, Carrollton	Addison, Carrollton	N	\$100,000	
03200046	Navarro County Waterways Clearing	Develop a maintenance program to clear waterways of debris and prevent further collection of debris in waterways	03000031, 03000032	Navarro	1203010802, 1203010904, 1203010804	Cedar Creek-Richland Creek, Grape Creek-Richland Creek, Crab Creek, Briar Creek, Elm Creek-Post Oak Creek, Cedar Creek-Chambers Creek	Other	23.90	Riverine	Corsicana	Corsicana	N	\$75,000	
03200047	Weatherford Biannual Dam Inspection Program	Create and implement a biannual inspection program to inspect the city-owned dams to help prevent dam failure	03000033, 03000034	Parker	1203010201, 1206020112, 1203010202	Silver Creek-Lake Worth, Clear Fork Trinity River-Lake Weatherford, Squaw Creek-Clear Fork Trinity River, Underwood Branch-Willow Creek, Brogden Branch-Town Creek, South Fork	Other	26.14	Riverine	Weatherford	Weatherford	N	\$50,000	
03200048	Richland Hills Semi-Annual Levee Inspections	Prepare an inspection program of the levee to look for any maintenance problems or levee failure issues	03000033, 03000034	Tarrant	1203010205	Whites Branch-Big Fossil Creek, Headwaters Walker Branch, Walker Branch-West Fork Trinity River	Other	3.09	Riverine	Richland Hills	Richland Hills	N	\$50,000	
03200049	Rowlett Creek Tributary Maintenance Program	Routine channel maintenance and erosion control for Rowlett Creek Tributary (Stream 2D13). Keep creek and inlets clear of debris and overgrown vegetation.	03000031, 03000032	Collin, Dallas	1203010604	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Other	9.88	Riverine	Sachse	Sachse	N	\$250,000	
03200050	Hazard Hardening Retrofit for Polk County Facilities	Flood-proofing, impact resistant windows, storm shutters, roof straps, structural bracing, low-flow plumbing fixtures, roll-up door reinforcement, grounding systems, surge-protection, data back-up systems, plumbing reinforcement and insulation, heat resistant	03000019, 03000020	Polk	1203020210, 1202000701, 1203020211, 1202000601, 1202000204, 1202000205, 1202000602, 1203020209, 1202000203, 1202000604, 1203020212, 1202000702	Pine Branch-Larrison Creek, Youngs Creek	Property Acquisition and Structural Elevation	1,112.16	Riverine	Polk County, Corrigan, Goodrich, Livingston, Onalaska, Seven Oaks	Polk County, Corrigan, Goodrich, Livingston, Onalaska, Seven Oaks	N	\$30,000,000	
03200051	Acquire and Protect Red Oak Creek, Bente Branch Creek, and Balcones Escarpment	Acquire areas in the floodplain and protect environmentally sensitive areas and convert them into open space land	03000021, 03000022, 03000025, 03000026, 03000027, 03000028	Dallas	1203010502, 1203010903, 1203010503, 1203010206	Low Branch-Mountain Creek, Fish Creek-Mountain Creek Lake, Headwaters Tenmile Creek, Headwaters Red Oak Creek, Headwaters Waxahachie Creek	Property Acquisition and Structural Elevation	32.42	Riverine	Cedar Hill	Cedar Hill	N	\$5,000,000	
03200052	Ten Mile Creek Comprehensive Loss Reduction Program	Develop a comprehensive loss reduction program, involving buy outs and relocation in areas along Ten Mile Creek to reduce losses and repetitive damages. Buyout structures that are in the floodplain. Land Acquisition for repetitive loss structures	03000013, 03000014, 03000021, 03000022	Dallas	1203010501, 1203010502, 1203010503	Deep Branch-Tenmile Creek, Prairie Creek-Trinity River, Headwaters Fivemile Creek, Fivemile Creek-Trinity River, Headwaters Tenmile Creek, Middle Red Oak Creek	Property Acquisition and Structural Elevation	32.96	Riverine	Lancaster	Lancaster	N	\$5,000,000	
03200053	Midway Property Acquisition and Elevation Program	Acquire existing homes located in the identified special flood hazard area (the 100-year floodplain).	03000013, 03000014	Madison	1203020205, 1203020206	Pine Branch-Larrison Creek, Youngs Creek	Property Acquisition and Structural Elevation	1.24	Riverine	Midway	Midway	N	\$5,000,000	
03200054	Montague County Property Acquisition and Land Preservation Program	Acquire and preserve open space adjacent to floodplain areas.	03000013, 03000014, 03000021, 03000022, 03000027, 03000028	Montague	1113020905, 1203010305, 1203010401, 1203010105, 1113020107, 1203010104, 1203010301, 1113020102, 1113020105	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Property Acquisition and Structural Elevation	933.20	Riverine	Montague County	Montague County	N	\$5,000,000	
03200055	Montague County Sewage Treatment Plants and Sewage Lift Stations Flood-Proofing Program	Flood-proof sewage treatment plants in flood hazard / low-lying areas within Region 3. Raise electrical components of sewage lift stations above the Base Flood Elevation (BFE)	03000019, 03000020	Montague	1113020905, 1203010305, 1203010401, 1203010105, 1113020107, 1203010104, 1203010301, 1113020102, 1113020105	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Property Acquisition and Structural Elevation	933.20	Riverine	Montague County	Montague County	N	\$500,000	
03200056	San Jacinto County Voluntary Property Acquisition & Elevation Program	Pursue voluntary acquisition projects for flood prone properties. Elevate homes in low lying or flood prone areas.	03000013, 03000014	San Jacinto	1203020212	Little Creek-Big Creek, Big Creek-Trinity River	Property Acquisition and Structural Elevation	6.11	Riverine	Shepherd, San Jacinto County	Shepherd, San Jacinto County	N	\$5,000,000	
03200057	Johnson County Acquisition of Flood Prone Structures	Acquire, relocate, and/or elevate flood prone structures	03000013, 03000014	Johnson	1203010901, 1206020203, 1203010204, 1206020202, 1206020113, 1203010203, 1203010206, 1206020205	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Property Acquisition and Structural Elevation	730.85	Riverine	Johnson County	Johnson County	N	\$5,000,000	
03200058	Acquisition of Repetitive Loss Properties in the Deep River Plantation Subdivision	Acquire repetitive flood loss properties and properties prone to flooding in the Deep River Plantation Subdivision	03000013, 03000014	Walker	1203020207, 1204010101, 1203020204, 1203020205, 1203020208, 1204010303, 1203020206, 1204010102, 1204010301	Little Creek-Big Creek, Big Creek-Trinity River	Property Acquisition and Structural Elevation	797.70	Riverine	Walker County	Walker County	N	\$5,000,000	
03200059	Anderson County Floodplain Acquisition and Preservation Program	Acquire and preserve open spaces adjacent to floodplain areas.	03000013, 03000014, 03000021, 03000022, 03000027, 03000028	Anderson	1203020103, 1202000105, 1203020104, 1203010505, 1203020107, 1202000103, 1202000104, 1202000107, 1203020102	Property Acquisition and Structural Elevation	1,073.46	Riverine	Anderson County	Anderson County	N	\$5,000,000		
03200060	Collin County Property and Structures Buyout Program	Develop and implement a buyout program for personal properties and structures located in the floodplain	03000013, 03000014	Collin	1203010501, 1201000103, 1203010602, 1203010309, 1201000102, 1203010307, 1203010603, 1203010604, 1203010310, 1203010601	Property Acquisition and Structural Elevation	883.17	Riverine	Collin County	Collin County	N	\$5,000,000		
03200061	Cooke County Acquisition of Repetitive Loss and Damaged Properties	Purchase and removal of damaged homes that are located in the floodplain. Buyout of repetitive flood loss properties in the Wilson Court area.	03000013, 03000014	Cooke	1203010305, 1203010401, 1203010306, 1113020107, 1203010303, 1113021004, 1113021002, 1113021003, 1203010304, 1203010301, 1203010307, 1203010302, 1113020105	Property Acquisition and Structural Elevation	893.17	Riverine	Cooke County	Cooke County	N	\$5,000,000		
03200062	Dallas County Acquisition of Flood-Prone and Repetitive Loss Properties	Acquisition / demolition of 46 flood-prone and repetitive loss properties.	03000013, 03000014	Dallas	1203010501, 1203010605, 1203010207, 1203010502, 1203010903, 1203010604, 1203010310, 1203010503, 1203010206, 1203010403	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Property Acquisition and Structural Elevation	904.72	Riverine	Dallas County	Dallas County	N	\$50,000,000	
03200063	Grayson County Buyout of Repetitive Flood Properties	Buyout of repetitive flood properties, which includes any structures found to be located in flood areas that aren't incorporated in NFIP areas.	03000013, 03000014	Grayson	1114010101, 1203010602, 1203010303, 1113021004, 1113021002, 1113021003, 1114010102, 1114010105, 1203010307, 1203010603, 1203010302, 1114010104, 1113021005, 1203010601	Muddy Creek-Lake Ray Hubbard, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard	Property Acquisition and Structural Elevation	976.48	Riverine	Grayson County	Grayson County	N	\$5,000,000	
03200064	Terrell Property Acquisition Program	Acquire high risk and repetitive flood-prone structures	03000013, 03000014	Kaufman	1203010701	Upper Big Brushy Creek, High Point Creek, Middle Big Brushy Creek, Headwaters Kings Creek, Eagans Branch-Kings Creek, Little Brushy Creek-Kings Creek	Property Acquisition and Structural Elevation	25.11	Riverine	Terrell	Terrell	N	\$5,000,000	
03200065	Leon County Property Acquisition Program	Acquire any repetitive loss structures located below the high hazard dams and homes located in the floodplain.	03000013, 03000014	Leon	1207010304, 1203020204, 1203020106, 1203020202, 1207010305, 1203020203, 1203020104, 1203020107, 1203020201, 1203020105, 1207010303	Upper Big Brushy Creek, High Point Creek, Middle Big Brushy Creek, Headwaters Kings Creek, Eagans Branch-Kings Creek, Little Brushy Creek-Kings Creek	Property Acquisition and Structural Elevation	1,075.85	Riverine	Leon County	Leon County	N	\$5,000,000	
03200066	City of Fate Floodplain Acquisition and Preservation Program	Acquire, reuse, and preserve open spaces adjacent to floodplain areas to reduce the impacts of flooding	03000013, 03000014, 03000021, 03000022, 03000027, 03000028	Rockwall	1201000103, 1203010605, 1203010701, 1203010604	Cottonwood Creek-East Fork Trinity River, Camp Creek-Lake Ray Hubbard, Long Branch-Buffalo Creek, Upper Big Brushy Creek	Property Acquisition and Structural Elevation	6.03	Riverine	Fate	Fate	N	\$5,000,000	
03200067	City of Kennedale Property Acquisition Program - Village Creek	Acquire all private property located within the Village Creek 100-year floodplain in the City of Kennedale	03000013, 03000014	Tarrant	1203010204	Village Creek-Lake Arlington, Willcat Branch-Lake Arlington, Rush Creek-Village Creek	Property Acquisition and Structural Elevation	6.65	Riverine	Kennedale	Kennedale	N	\$5,000,000	
03200068	City of Mansfield Property Acquisition Program	Acquire properties at risk of flooding and permanently remove them from special flood hazard areas.	03000013, 03000014	Tarrant	1203010204, 1203010206	Rush Creek-Village Creek, Headwaters Mountain Creek, Low Branch-Mountain Creek, King Branch-Walnut Creek, Lynn Creek Walnut Creek	Property Acquisition and Structural Elevation	36.47	Riverine	Mansfield	Mansfield	N	\$5,000,000	
03200069	Tarrant County Property Acquisition Program	Create a Buyout Program for Repetitive Loss Properties	03000013, 03000014	Tarrant	1203010201, 1203010204, 1203010207, 1203010205, 1203010202, 1203010203, 1203010310, 1203010206, 1203010106, 1203010403	Pine Branch-Larrison Creek, Youngs Creek	Property Acquisition and Structural Elevation	899.55	Riverine	Tarrant	Tarrant	N	\$5,000,000	

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG (cont.)

FMS ID (cont.)	FMS Name (cont.)	Area In 100yr (1% annual chance) Floodplain	Area In 500yr (0.2% annual chance) Floodplain	Estimated number of structures at 100yr flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Number of structures with reduced 100yr (1% annual chance) Flood risk	Number of structures removed from 100yr (1% annual chance) Flood risk	Number of structures removed from 500yr (0.2% annual chance) Flood risk	Habitable structures removed from 100yr (1% annual chance) Flood risk	Estimated Population removed from 100yr (1% annual chance) Flood risk	Critical facilities removed from 100yr (1% annual chance) Flood risk (#)	Number of low water crossings removed from 100yr (1% annual chance) Flood risk	Estimated reduction in road closures	Estimated length of roads removed from 100yr flood risk (Miles)	Estimated active farm & ranch land removed from 100yr flood risk (acres)	Estimated reduction in fatalities (if available)	Estimated reduction in injuries (if available)	Cost/ Structure removed	Consideration of Nature-based Solution (Y/N)	Negative Impact (Y/N)	Negative Impact Mitigation (Y/N)	Water Supply Benefit (Y/N)	
03200037	Itasca Zoning Regulations and Land Use Planning Mechanisms	0.06	0.02	4	0	2	0	0		0	25.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
03200038	Kaufman County Regulation Standards to Protect Open Space Flood-Prone Areas	254.64	17.06	2,086	1,672	4,193	26	38		148	88,117.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N	
03200039	Tarrant County Promotion of Open Space and LID	145.92	23.08	14,853	12,825	78,224	109	708		468	20,062.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N	
03200040	Itasca Land Use Planning Mechanisms	0.06	0.02	4	0	2	0	0		0	25.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
03200041	Dallas County Land Use Program	1.51	0.36	139	125	613	1	29		7	81.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N	
03200042	Houston County Maintenance Program	245.76	18.12	0	0	0	10	45		110	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
03200043	Kaufman County Agreement to Monitor High Hazard Dams	254.64	17.06	2,086	1,672	4,193	26	38		148	88,117.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200044	Rowlett Creek Tributary Maintenance Program	6.51	0.83	1,005	944	7,586	6	56		30	627.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
03200045	Addison-Carrollton Debris Cleaning Program	9.62	1.09	1,081	943	16,581	15	23		49	617.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200046	Navarro County Waterways Clearing	4.45	0.75	487	471	1,647	5	48		27	797.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200047	Weatherford Biannual Dam Inspection Program	5.63	0.51	520	468	2,170	9	10		18	759.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200048	Richland Hills Semi-Annual Levee Inspections	0.51	0.03	404	397	1,882	4	16		7	3.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200049	Rowlett Creek Tributary Maintenance Program	1.19	0.47	71	61	240	0	9		4	253.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200050	Hazard Hardening Retrofit for Polk County Facilities	189.78	15.10	1,797	1,654	2,681	38	18		95	13,977.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200051	Acquire and Protect Red Oak Creek, Bentle Branch Creek, and Balcones Escarpment	3.10	0.67	315	298	3,969	2	1		17	215.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N	
03200052	Ten Mile Creek Comprehensive Loss Reduction Program	3.81	0.56	316	266	3,800	2	15		13	561.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200053	Midway Property Acquisition and Elevation Program	0.12	0.01	2	2	6	1	0		0	41.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200054	Montague County Property Acquisition and Land Preservation Program	68.97	7.81	0	0	0	4	20		57	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
03200055	Montague County Sewage Treatment Plants and Sewage Lift Stations Flood-Proofing Program	68.97	7.81	0	0	0	4	20		57	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200056	San Jacinto County Voluntary Property Acquisition & Elevation Program	1.45	0.21	139	129	702	3	0		6	54.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200057	Johnson County Acquisition of Flood Prone Structures	55.60	7.73	1,851	1,555	4,897	21	418		62	18,202.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200058	Acquisition of Repetitive Loss Properties in the Deep River Plantation Subdivision	128.82	8.93	1,654	1,480	4,303	13	15		59	28,691.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200059	Anderson County Floodplain Acquisition and Preservation Program	184.20	11.63	667	416	1,408	11	32		73	36,103.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N	
03200060	Collin County Property and Structures Buyout Program	170.87	11.47	2,842	2,401	17,576	28	86		146	34,153.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200061	Cooke County Acquisition of Repetitive Loss and Damaged Properties	122.38	11.45	1,328	964	2,077	10	74		81	40,878.87	N/A	30	N/A	30	90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$167,000	N	N	N	N
03200062	Dallas County Acquisition of Flood-Prone and Repetitive Loss Properties	211.70	24.78	22,225	20,521	181,697	216	499		791	31,557.68	N/A	46	N/A	39	117	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$1,087,000	N	N	N	N
03200063	Grayson County Buyout of Repetitive Flood Properties	68.03	7.23	436	376	541	12	50		43	21,311.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200064	Terrell Property Acquisition Program	5.94	0.48	156	131	836	4	8		23	1,654.74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200065	Leon County Property Acquisition Program	239.10	18.93	428	292	636	11	31		100	54,925.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200066	City of Fate Floodplain Acquisition and Preservation Program	0.63	0.16	13	11	51	0	0		2	230.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
03200067	City of Kennedale Property Acquisition Program - Village Creek	1.09	0.12	167	101	2,438	2	2		4	146.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200068	City of Mansfield Property Acquisition Program	4.62	1.39	422	385	2,492	4	15		30	778.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200069	Tarrant County Property Acquisition Program	145.92	23.08	14,853	12,825	78,224	109	708		468	20,062.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type (Riverine, Coastal, Urban, Playa Other)	Sponsor	Entities with Oversight	Emergency Need (Y/N)	Estimated Strategy Cost (\$)	Potential Funding Sources and Amount
03200070	Walker County Voluntary Buyout Program	The county and partnering jurisdictions will begin a voluntary buyout program for insured severe repetitive loss properties that are in the floodplain	03000013, 03000014	Walker	1203020207, 1204010101, 1203020204, 1203020205, 1203020208, 1204010303, 1203020206, 1204010102, 1204010301	Pine Branch-Larrison Creek, Youngs Creek	Property Acquisition and Structural Elevation	797.70	Riverine	Walker County, New Waverly, Riverside	Walker County, New Waverly, Riverside	N	\$5,000,000	
03200071	Wise County Repetitive Flood Loss Buyout Program	Develop a buyout program for repetitive flood loss areas within the county	03000013, 03000014, 03000021, 03000022	Wise	1203010308, 1203010305, 1203010401, 1203010105, 1203010402, 1203010104, 1203010202, 1203010106, 1203010403	Pine Branch-Larrison Creek, Youngs Creek	Property Acquisition and Structural Elevation	919.27	Riverine	Wise County	Wise County	N	\$5,000,000	
03200072	City of Chico Property Acquisition Program	City will acquire property and structures in the flood zone along Dry Creek and its tributaries and remove structures to prevent loss of life and property during flooding events.	03000013, 03000014	Wise	1203010104	Village Creek-West Fork Trinity River, Dry Creek-West Fork Trinity River	Property Acquisition and Structural Elevation	1.52	Riverine	Chico	Chico	N	\$5,000,000	
03200073	Town Creek Warren Park Extension (Property Acquisition Program)	Create a buyout program	03000013, 03000014, 03000021, 03000022	Tarrant	1203010901, 1203010204, 1206020202, 1203010203, 1203010206	Rock Creek, Quil Miller Creek-Village Creek, Deer Creek-Village Creek, King Branch-Walnut Creek, Headwaters North Fork Chambers Creek	Property Acquisition and Structural Elevation	28.00	Riverine	Burleson	Burleson	N	\$5,000,000	
03200074	City of Hurst Buyout Program	107 total structures across the Lorean, Valley View, and Walker watersheds	03000013, 03000014	Tarrant	1203010207, 1203010205	Little Bear Creek, Headwaters Walker Branch, Walker Branch-West Fork Trinity River	Property Acquisition and Structural Elevation	9.93	Riverine	Hurst	Hurst	N	\$25,000,000	
03200075	Anderson County Flood Education Program	Coordinate and implement a natural hazards public awareness campaign. Educate community on the dangers of low water crossings through the installation of warning signs and promotion of "Turn Around, Don't Drown" Program.	03000003, 03000004, 03000037, 03000038	Anderson	1203020103, 1202000105, 1203020104, 1203010505, 1203020107, 1202000103, 1202000104, 1202000107, 1203020102		Education and Outreach	1,073.39	Riverine	Anderson County	Anderson County	N	\$50,000	
03200076	Cooke County Public Information and Education	"Turn Around Don't Drown" campaign.	03000003, 03000004	Cooke	1113020107, 1203010304, 1203010301	Montague Creek-Elm Fork Trinity River, Scott Creek-Elm Fork Trinity River	Education and Outreach	2.20	Riverine	Lindsay	Lindsay	N	\$50,000	
03200077	Cooke County Flood Education and Flood Insurance Public Awareness Program	Education of the public on the importance of Flood Insurance. "Turn Around Don't Drown" campaign.	03000037, 03000038, 03000039, 03000040	Cooke	1203010305, 1203010401, 1203010306, 1113020107, 1203010303, 1113021004, 1113021002, 1113021003, 1203010304, 1203010301, 1203010307, 1203010302, 1113020105		Education and Outreach	893.17	Riverine	Cooke County	Cooke County	N	\$50,000	
03200078	Glenn Heights-Seagoville-Wilmer Flood Safety Improvements and Education	Educate community on the dangers of low water crossings through the installation of warning signs and promotion of "Turn Around, Don't Drown" Program	03000003, 03000004, 03000037, 03000038	Dallas	1203010605, 1203010502, 1203010503	Deep Branch-Tenmile Creek, Prairie Creek-Trinity River, Hickory Creek-Parsons Slough, Parsons Slough-Trinity River, Headwaters Red Oak Creek, Middle Red Oak Creek, Mustang Creek-East Fork Trinity River, White House Ridge-East Fork Trinity River	Education and Outreach	34.36	Riverine	Glenn Heights, Seagoville, Wilmer	Glenn Heights, Seagoville, Wilmer	N	\$50,000	
03200079	Krum "Turn Around, Don't Drown" Campaign	Implement "Turn Around, Don't Drown" campaign.	03000003, 03000004, 03000037, 03000038	Denton	1203010308	North Hickory Creek, Upper Hickory Creek	Education and Outreach	2.45	Riverine	Krum	Krum	N	\$50,000	
03200080	Fannin County Flood Safety Education	Education programs such as "Turn around Don't Drown." Work with local newspaper to run flood safety information. Public education via water bills, social media, and webpage to promote flood safety.	03000003, 03000004, 03000037, 03000038	Fannin	1114010108, 1114030103, 1114010101, 1114030101, 1114010106, 1114010103, 1114010102, 1114010105, 1114010202, 1114030102, 1114010104, 1203010601	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	896.79	Riverine	Fannin County	Fannin County	N	\$50,000	
03200081	Fannin County Flood Insurance Education	Develop and distribute information about the availability and need for flood insurance. Public awareness of NFIP.	03000037, 03000038, 03000039, 03000040	Fannin	1114010108, 1114030103, 1114010101, 1114030101, 1114010106, 1114010103, 1114010102, 1114010105, 1114010202, 1114030102, 1114010104, 1203010601	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	896.79	Riverine	Fannin County	Fannin County	N	\$50,000	
03200082	Grayson County Flood Insurance and Flood Safety Education Program	Educate residents on NFIP program and importance of purchasing flood insurance. Turn Around Don't Drown Campaign. Educate property owners near high hazard dams of potential dam failure. Better inform residents of mitigation activities to implement in h	03000037, 03000038, 03000039, 03000040	Grayson	1114010101, 1203010602, 1203010303, 1113021004, 1113021002, 1113021003, 1114010102, 1114010105, 1203010307, 1203010603, 1203010302, 1114010104, 1113021005, 1203010601	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	976.48	Riverine	Grayson County	Grayson County	N	\$50,000	
03200083	Grayson County Flood Safety Education	Turn Around Don't Drown Campaign. Educate property owners near high hazard dams of the potential of a dam failure. Better inform residents of mitigation activities that they can implement in their homes.	03000003, 03000004, 03000037, 03000038	Grayson	1114010101, 1203010602, 1203010303, 1113021004, 1113021002, 1113021003, 1114010102, 1114010105, 1203010307, 1203010603, 1203010302, 1114010104, 1113021005, 1203010601	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	976.48	Riverine	Grayson County	Grayson County	N	\$50,000	
03200084	Hill County Flooding Education and Outreach Program	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.	03000037, 03000038	Hill	1203010901, 1206020206, 1206020203, 1203010802, 1207010301, 1203010803, 1203010902, 1203010801, 1206020204, 1206020207, 1206020202, 1206020205	Farmers Branch-West Fork Trinity River	Education and Outreach	981.88	Riverine	Hill County	Hill County	N	\$50,000	
03200085	Houston County Flood Insurance and Dam Education Program	Develop and implement NFIP public education program for residents affected by high flood risk areas. Educate the public on mitigation activities that can help protect their properties in the event of structural failures and extreme flooding.	03000037, 03000038, 03000039, 03000040	Houston	1203020207, 1202000105, 1202000201, 1203020208, 1202000204, 1203020203, 1203020104, 1203020206, 1202000202, 1203020107, 1202000107	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	1,231.76	Riverine	Houston County	Houston County	N	\$50,000	
03200086	Houston County Public Education on Dam Education	Educate the Public on mitigation activities that can help protect their properties in the event of structural failures and extreme flooding	03000037, 03000038	Houston	1203020207, 1202000105, 1202000201, 1203020208, 1202000204, 1203020203, 1203020104, 1203020206, 1202000202, 1203020107, 1202000107	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	1,231.76	Riverine	Houston County	Houston County	N	\$50,000	
03200087	Jack County Flood Education	Implement a flood awareness program by providing FEMA / NFIP materials to mortgage lenders, real estate agents and insurance agents	03000037, 03000038, 03000039, 03000040	Jack	1206020111, 1206020102, 1203010103, 1203010105, 1206020106, 1203010101, 1203010104, 1203010102	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Education and Outreach	917.06	Riverine	Jack County	Jack County	N	\$50,000	
03200088	Kaufman County Flood Education Program	Conduct countywide outreach to educate residents on flood hazards, mitigation techniques and promote availability of NFIP flood insurance.	03000037, 03000038, 03000039, 03000040	Kaufman	1203010702, 1201000103, 1203010504, 1203010605, 1201000104, 1203010703, 1203010505, 1203010701, 1201000105, 1203010502, 1203010604	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Education and Outreach	804.43	Riverine	Kaufman County	Kaufman County	N	\$50,000	
03200089	Montague County Flood Education	Implement a flood awareness program by providing FEMA / NFIP materials to mortgage lenders, real estate agents and insurance agents and place them in local libraries.	03000037, 03000038, 03000039, 03000040	Montague	1113020905, 1203010305, 1203010401, 1203010105, 1113020107, 1203010104, 1203010301, 1113020102, 1113020105	Bear Creek-Indian Creek, Arnold Creek, Pot Rack Creek-Indian Creek, Desert Creek-Pilot Grove Creek	Education and Outreach	933.20	Riverine	Montague County	Montague County	N	\$50,000	
03200090	Parker County Flood and Dam Education	Create and implement a community-wide educational campaign to educate residents about the NFIP and dam safety	03000037, 03000038, 03000039, 03000040	Parker	1206020111, 1203010201, 1206020106, 1203010104, 1206020112, 1203010202, 1206020113, 1203010203, 1206020110, 1203010106	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Duck Creek	Education and Outreach	902.95	Riverine	Weatherford, Hudson Oaks, Aledo, Parker County	Weatherford, Hudson Oaks, Aledo, Parker County	N	\$50,000	
03200091	Livingston Flood Damage Mitigation Educational Program	Establish an educational program to teach citizens how to mitigate flood damage to their property	03000037, 03000038	Polk	1203020210	Choates Creek-Long King Creek	Education and Outreach	8.75	Riverine	Livingston	Livingston	N	\$60,000	
03200092	Tarrant County Flood Education	Provide flood risk and mitigation risk mapping materials for property owners in floodplains. Include mitigation techniques	03000037, 03000038	Tarrant	1203010201	Farmers Branch-West Fork Trinity River	Education and Outreach	2.02	Riverine	River Oaks	River Oaks	N	\$65,000	
03200093	Tarrant County Flood Education Program	Conduct NFIP community workshops to provide information and incentives for property owners to acquire flood insurance.	03000037, 03000038, 03000039, 03000040	Tarrant	1203010201, 1203010204, 1203010207, 1203010205, 1203010202, 1203010203, 1203010310, 1203010206, 1203010106, 1203010403	Marshall Branch-Grapevine Lake	Education and Outreach	899.55	Riverine	Tarrant	Tarrant	N	\$50,000	
03200094	Van Zandt County Flood Safety Improvements and Education	Educate community on the dangers of low water crossings	03000003, 03000004, 03000037, 03000038	Van Zandt	1203010702, 1201000106, 1202000102, 1201000104, 1203010703, 1201000105, 1202000103, 1202000101	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Camp Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Long Branch-Buttalo Creek, Upper Big Brushy Creek, High Point Creek	Education and Outreach	856.15	Riverine	Van Zandt	Van Zandt	N	\$50,000	
03200095	Walker County Floodplain Regulatory Awareness Public Information Campaign	Rewrite, improve, and implement new local floodplain regulations, to include a public information campaign on regulatory awareness	03000025, 03000026, 03000037, 03000038	Walker	1203020207, 1204010101, 1203020204, 1203020205, 1203020208, 1204010303, 1203020206, 1204010102, 1204010301	Marshall Branch-Grapevine Lake	Education and Outreach	797.70	Riverine	Walker	Walker	N	\$50,000	
03200096	City of Chico NFIP Education Program	Distribute information to downstream property owners educating homeowners about the National Flood Insurance Program.	03000037, 03000038, 03000039, 03000040	Wise	1203010104	Village Creek-West Fork Trinity River, Dry Creek-West Fork Trinity River	Education and Outreach	1.52	Riverine	Chico	Chico	N	\$50,000	
03200097	Dallas County Open Space System Program and Dallas Trails Program	Adopt and implement Dallas County Open Space System Program and Dallas Trails Program.	03000021, 03000022, 03000027, 03000028	Dallas	1203010501, 1203010605, 1203010207, 1203010502, 1203010903, 1203010604, 1203010310, 1203010503, 1203010206, 1203010403	Lower Spring Creek, Pecan Creek-Elm Fork Trinity River	Other	904.72	Riverine	Dallas County	Dallas County	N	\$5,000,000	
03200098	Parker County Nature-Based Practices for Flood Control	Implement the use of green infrastructure	03000027, 03000028	Parker	1206020111, 1203010201, 1206020106, 1203010104, 1206020112, 1203010202, 1206020113, 1203010203, 1206020110, 1203010106	Floyd Branch-White Rock Creek, White Rock Creek-White Rock Lake, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Duck Creek	Other	902.95	Riverine	Parker County, Hudson Oaks	Parker County, Hudson Oaks	N	\$500,000	
03200099	Krugerville waterways stabilization program	Develop waterways stabilization program	03000031, 03000032	Denton	1203010309, 1203010304, 1203010307	Culp Branch-Elm Fork Trinity River, Pecan Creek, Running Branch-Little Elm Creek, Timber Branch-Lewisville Lake, Pecan Creek-Lewisville Lake	Other	1.33	Riverine	Krugerville	Krugerville	N	\$850,000	
03200100	City of Euless Stream Bank Protection Program	Develop a plan to reduce stream bank erosion impacts due to flooding along specific creeks	03000031, 03000032	Tarrant	1203010207, 1203010205	Big Bear Creek, Little Bear Creek, Estelle Creek-Bear Creek, Headwaters Walker Branch, Hurricane Creek-West Fork Trinity River	Other	16.14	Riverine	Euless	Euless	N	\$250,000	
03200101	Lewisville Storm Water Utility Fee	Conduct a study to evaluate the implementation of levying a storm water fee for developers to fund developments to the storm water drainage systems	03000041, 03000042	Denton	1203010308, 1203010309, 1203010310, 1203010403	Lower Hickory Creek, Stewart Creek-Lewisville Lake, Prairie Creek-Elm Fork Trinity River, Timber Creek, Indian Creek-Elm Fork Trinity River, Cottonwood Branch-Denton Creek	Regulatory and Guidance	42.66	Riverine	Lewisville	Lewisville	N	\$200,000	
03200102	City of Retreat NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010802, 1203010904, 1203010804	Cedar Creek-Richland Creek, Little Pin Oak Creek-Richland Creek, Grape Creek-Richland Creek, Elm Creek-Post Oak Creek	Regulatory and Guidance	4.98	Riverine	Retreat	Retreat	N	\$100,000	
03200103	City of Streetman NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Freestone, Navarro	1203020101, 1203010804	Mesquite Creek-Little Pin Oak Creek, Grape Creek-Richland Creek, Sloan Creek-Tehuacana Creek	Regulatory and Guidance	1.58	Riverine	Streetman	Streetman	N	\$100,000	
03200104	City of Alma NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Ellis	1203010904, 1203010504	Walker Creek-Village Creek, Cummins Creek	Regulatory and Guidance	5.15	Riverine	Alma	Alma	N	\$100,000	

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG (cont.)

FMS ID (cont.)	FMS Name (cont.)	Area In 100yr (1% annual chance) Floodplain	Area In 500yr (0.2% annual chance) Floodplain	Estimated number of structures at 100yr flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Number of structures with reduced 100yr (1% annual chance) Flood risk	Number of structures removed from 100yr (1% annual chance) Flood risk	Number of structures removed from 500yr (0.2% annual chance) Flood risk	Habitable structures removed from 100yr (1% annual chance) Flood risk	Estimated Population removed from 100yr (1% annual chance) Flood risk	Critical facilities removed from 100yr (1% annual chance) Flood risk (#)	Number of low water crossings removed from 100yr (1% annual chance) Flood risk	Estimated reduction in road closures	Estimated length of roads removed from 100yr flood risk (Miles)	Estimated active farm & ranch land removed from 100yr flood risk (acres)	Estimated reduction in fatalities (if available)	Estimated reduction in injuries (if available)	Cost/Structure removed	Consideration of Nature-based Solution (Y/N)	Negative Impact (Y/N)	Negative Impact Mitigation (Y/N)	Water Supply Benefit (Y/N)	
03200070	Walker County Voluntary Buyout Program	128.82	8.93	100	65	70	13	15		59	24,889.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
03200071	Wise County Repetitive Flood Loss Buyout Program	184.67	21.58	1,118	888	1,558	25	54		100	35,896.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200072	City of Chico Property Acquisition Program	0.23	0.04	0	0	0	2	0		2	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200073	Town Creek Warren Park Extension (Property Acquisition Program)	4.70	0.62	269	224	1,305	2	19		18	1,045.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200074	City of Hurst Buyout Program	0.68	0.20	287	278	1,276	1	10		9	17.99	N/A	107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$234,000	N	N	N	N
03200075	Anderson County Flood Education Program	184.20	11.63	667	416	1,408	11	32		73	36,103.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200076	Cooke County Public Information and Education	0.36	0.05	36	24	39	0	0		2	135.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200077	Cooke County Flood Education and Flood Insurance Public Awareness Program	122.38	11.45	1,328	964	2,077	10	74		81	40,878.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200078	Glenn Heights-Seagoville-Wilmer Flood Safety Improvements and Education	7.82	0.79	440	427	1,610	2	20		18	2,059.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200079	Krum "Turn Around, Don't Drown" Campaign	0.27	0.03	31	28	72	1	0		2	126.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200080	Fannin County Flood Safety Education	5.70	0.55	139	119	93	2	6		4	1,782.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200081	Fannin County Flood Insurance Education	5.70	0.55	139	119	93	2	6		4	1,782.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200082	Grayson County Flood Insurance and Flood Safety Education Program	68.03	7.23	436	376	541	12	50		43	21,311.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200083	Grayson County Flood Safety Education	68.03	7.23	436	376	541	12	50		43	21,311.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200084	Hill County Flooding Education and Outreach Program	59.02	8.37	127	83	109	4	26		24	24,901.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200085	Houston County Flood Insurance and Dam Education Program	245.76	18.12	0	0	0	10	45		110	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200086	Houston County Public Education on Dam Education	245.76	18.12	0	0	0	10	45		110	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200087	Jack County Flood Education	125.29	13.88	116	60	117	0	6		55	5,105.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200088	Kaufman County Flood Education Program	254.64	17.06	2,086	1,672	4,193	26	38		148	88,117.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200089	Montague County Flood Education	68.97	7.81	0	0	0	4	20		57	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200090	Parker County Flood and Dam Education	71.41	8.82	1,953	1,485	6,748	37	49		61	25,501.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200091	Livingston Flood Damage Mitigation Educational Program	2.35	0.26	140	128	233	7	1		12	132.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200092	Tarrant County Flood Education	0.06	0.01	8	4	10	0	0		0	0.48	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200093	Tarrant County Flood Education Program	145.92	23.08	14,853	12,825	78,224	109	708		468	20,062.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200094	Van Zandt County Flood Safety Improvements and Education	49.18	4.70	506	261	461	3	24		37	18,020.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200095	Walker County Floodplain Regulatory Awareness Public Information Campaign	128.82	8.93	19	18	23	13	15		59	24,327.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200096	City of Chico NFIP Education Program	0.23	0.04	0	0	0	2	0		2	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200097	Dallas County Open Space System Program and Dallas Trails Program	211.70	24.78	22,225	20,521	181,697	216	499		791	31,557.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
03200098	Parker County Nature-Based Practices for Flood Control	71.41	8.82	1,953	1,485	6,748	37	49		61	25,501.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
03200099	Krugerville waterways stabilization program	0.11	0.03	28	27	89	0	1		2	28.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200100	City of Euless Stream Bank Protection Program	1.62	0.25	191	181	3,321	4	13		7	70.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200101	Lewisville Storm Water Utility Fee	14.46	1.95	314	301	3,793	9	17		32	868.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200102	City of Retreat NFIP Floodplain Ordinance	0.46	0.11	10	2	11	0	0		0	208.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200103	City of Streetman NFIP Floodplain Ordinance	0.24	0.03	4	3	3	1	1		3	50.74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
03200104	City of Alma NFIP Floodplain Ordinance	0.82	0.09	6	4	14	0	1		2	363.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG

FMS ID	FMS Name	Description	Associated Goals (ID)	Counties	HUC10s	Watersheds	Strategy Type	Strategy Area (sqmi)	Flood Risk Type (Riverine, Coastal, Urban, Playa Other)	Sponsor	Entities with Oversight	Emergency Need (Y/N)	Estimated Strategy Cost (\$)	Potential Funding Sources and Amount
032000105	City of Alvord NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Wise	1203010105	Lower Brushy Creek, Chicken Creek-Big Sandy Creek	Regulatory and Guidance	1.53	Riverine	Alvord	Alvord	N	\$100,000	
032000106	City of Angus NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010804	Little Pin Oak Creek-Richland Creek, Grape Creek-Richland Creek	Regulatory and Guidance	3.12	Riverine	Angus	Angus	N	\$100,000	
032000107	City of Bedias NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Grimes	1203020204, 1203020205	Simes Creek-Bedias Creek, Pine Creek-South Bedias Creek	Regulatory and Guidance	1.14	Riverine	Bedias	Bedias	N	\$100,000	
032000108	City of Bynum NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Hill	1203010801	Headwaters Ash Creek, Bynum Creek	Regulatory and Guidance	0.14	Riverine	Bynum	Bynum	N	\$100,000	
032000109	Carl's Corner NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Hill	1203010801, 1206020205	Cottonwood Creek-White Rock Creek, Grove Creek-Pecan Creek	Regulatory and Guidance	1.61	Riverine	Carl's Corner	Carl's Corner	N	\$100,000	
032000110	City of Combine NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Dallas, Kaufman	1203010605, 1203010502	Parsons Slough-Trinity River, White House Ridge-East Fork Trinity River	Regulatory and Guidance	7.58	Riverine	Combine	Combine	N	\$100,000	
032000111	Coyote Flats NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Johnson	1203010901, 1206020202	Headwaters North Fork Chambers Creek, Upper South Fork Chambers Creek	Regulatory and Guidance	1.67	Riverine	Coyote Flats	Coyote Flats	N	\$100,000	
032000112	City of Dorchester NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Grayson	1114010101, 1203010602, 1203010302	Upper Range Creek, Squirrel Creek-East Fork Trinity River	Regulatory and Guidance	1.40	Riverine	Dorchester	Dorchester	N	\$100,000	
032000113	Draper NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Denton	1203010403	Denton Creek-Grapevine Lake	Regulatory and Guidance	0.16	Riverine	Draper	Draper	N	\$100,000	
032000114	City of Emhouse NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010904	Briar Creek, Oak Branch-Chambers Creek	Regulatory and Guidance	0.27	Riverine	Emhouse	Emhouse	N	\$100,000	
032000115	City of Eureka NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010904, 1203010804	Crab Creek, Jones Branch-Richland Creek, Cedar Creek-Chambers Creek, Long Arm Branch-Chambers Creek	Regulatory and Guidance	2.36	Riverine	Eureka	Eureka	N	\$100,000	
032000116	City of Goodlow NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010505	Lower Rush Creek	Regulatory and Guidance	1.03	Riverine	Goodlow	Goodlow	N	\$100,000	
032000117	Grays Prairie NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Kaufman	1203010504, 1203010701	Coal Iron Creek-Cottonwood Creek, Headwaters Bois d'Arc Creek, Big Cottonwood Creek-Kings Creek, Little Cottonwood Creek-Kings Creek	Regulatory and Guidance	1.22	Riverine	Grays Prairie	Grays Prairie	N	\$100,000	
032000118	City of Hebron NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Denton	1203010310	Indian Creek-Elm Fork Trinity River	Regulatory and Guidance	0.44	Riverine	Hebron	Hebron	N	\$100,000	
032000119	City of Iola NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Grimes	1203020204, 1207010306	North Bedias Creek-Bedias Creek	Regulatory and Guidance	0.33	Riverine	Iola	Iola	N	\$100,000	
032000120	City of Kirvin NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Freestone	1203020101	Little Tehuacana Creek-Tehuacana Creek, Lower Caney Creek	Regulatory and Guidance	0.24	Riverine	Kirvin	Kirvin	N	\$100,000	
032000121	City of Latexo NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Houston	1203020107	Upper Hurricane Bayou	Regulatory and Guidance	0.96	Riverine	Latexo	Latexo	N	\$100,000	
032000122	City of Leona NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Leon	1203020202	Cedar Creek-Boggy Creek	Regulatory and Guidance	1.89	Riverine	Leona	Leona	N	\$100,000	
032000123	City of Midway NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Madison	1203020205, 1203020206	Pine Creek-Larrison Creek, Youngs Creek	Regulatory and Guidance	1.24	Riverine	Midway	Midway	N	\$100,000	
032000124	City of Mustang NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010804	Grape Creek-Richland Creek	Regulatory and Guidance	0.13	Riverine	Mustang	Mustang	N	\$100,000	
032000125	City of Nevada NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Collin	1201000103, 1203010603, 1203010604	Price Creek-Lavon Lake, Camp Creek-Lake Ray Hubbard	Regulatory and Guidance	1.66	Riverine	Nevada	Nevada	N	\$100,000	
032000126	Oak Grove NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Kaufman	1203010701	Big Cottonwood Creek-Kings Creek, Headwaters Big Cottonwood Creek	Regulatory and Guidance	1.94	Riverine	Oak Grove	Oak Grove	N	\$100,000	
032000127	Oak Valley NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Navarro	1203010802	Cedar Creek-Richland Creek	Regulatory and Guidance	1.96	Riverine	Oak Valley	Oak Valley	N	\$100,000	
032000128	City of Penelope NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Hill	1203010801	Headwaters Ash Creek	Regulatory and Guidance	1.00	Riverine	Penelope	Penelope	N	\$100,000	
032000129	Post Oak Bend NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Kaufman	1203010701	Eagans Branch-Kings Creek, Little Brushy Creek-Kings Creek	Regulatory and Guidance	2.02	Riverine	Post Oak Bend	Post Oak Bend	N	\$100,000	
032000130	Providence Village NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Denton	1203010309, 1203010307	Pecan Creek, Running Branch-Little Elm Creek, Pecan Creek-Lewisville Lake	Regulatory and Guidance	1.96	Riverine	Providence Village	Providence Village	N	\$100,000	
032000131	Town of Road Runner NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Cooke	1203010304	Pecan Creek-Elm Fork Trinity River	Regulatory and Guidance	0.64	Riverine	Road Runner	Road Runner	N	\$100,000	
032000132	City of Rosser NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Kaufman	1203010504	Old Channel East Fork Trinity River-Trinity River, Smith Creek-Trinity River, Coal Iron Creek-Cottonwood Creek	Regulatory and Guidance	1.93	Riverine	Rosser	Rosser	N	\$100,000	
032000133	City of Tehuacana NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Limestone	1207010301, 1203010803, 1203020101	Elm Creek, Elm Creek-Tehuacana Creek	Regulatory and Guidance	1.52	Riverine	Tehuacana	Tehuacana	N	\$100,000	
032000134	City of Dallas Buyout of Repetitive Loss Properties	Develop a buyout program for repetitive loss properties within the city.	03000013, 03000014, 03000021, 03000022, 03000027, 03000028	Dallas	1203010501, 1203010605, 1203010207, 1203010502, 1203010604, 1203010310, 1203010206	Denton Creek-Grapevine Lake	Property Acquisition and Structural Elevation	383.32	Riverine	Dallas	Dallas	N	\$50,000,000	
032000135	City of Fort Worth HROM Program	Implement a Hazardous Roadway Overtopping Mitigation (HROM) Program to prioritize hazardous roadway overtopping and identify acceptable, affordable, and effective solutions for construction to maximize impact of available funding and reduce risks.	03000013, 03000014, 03000031, 03000032	Tarrant	1203010201, 1203010204, 1203010207, 1203010205, 1203010202, 1203010203, 1203010206, 1203010106, 1203010403	Denton Creek-Grapevine Lake	Infrastructure Projects	343.87	Riverine	Fort Worth	Fort Worth	N	\$35,000,000	
032000136	City of Lindsay Flood Monitoring System	Install flood monitoring equipment throughout the City of Lindsay.	03000001, 03000002	Cooke	1113020107, 1203010304, 1203010301	Montague Creek-Elm Fork Trinity River, Scott Creek-Elm Fork Trinity River	Flood Measurement and Warning	2.20	Riverine	Lindsay	Lindsay	N	\$250,000	
032000137	Mobile City NFIP Floodplain Ordinance	Develop a floodplain ordinance that meets or exceeds FEMA's minimum standards	03000011, 03000012, 03000025, 03000026	Rockwall	1203010604	Camp Creek-Lake Ray Hubbard	Regulatory and Guidance	0.01	Riverine	Mobile City	Mobile City	N	\$100,000	
032000138	City of Fort Worth Open Space Conservation	Acquire open space to preserve floodplains and upland watershed areas.	03000021, 03000022, 03000025, 03000026, 03000027, 03000028	Tarrant	1203010201, 1203010204, 1203010207, 1203010205, 1203010202, 1203010203, 1203010206, 1203010106, 1203010403	Pecan Creek-Elm Fork Trinity River	Property Acquisition and Structural Elevation	343.87	Riverine	Fort Worth	Fort Worth	N	\$30,000,000	
032000139	City of Burleson Flood Warning and Safety Improvements	Safety improvements at SE Tarrant Ave, N Warren St, SW Johnson Ave, and SE Newton Dr. Safety improvements may include, but are not limited to, high-water warning flashers, staff gauges, flood hazard signs, and additional light fixtures.	03000001, 03000002, 03000003, 03000004	Johnson	1203010204, 1203010203	Rock Creek, Quil Miller Creek-Village Creek, Deer Creek-Village Creek	Flood Measurement and Warning	10.54	Riverine	Burleson	Burleson	N	\$500,000	
032000140	City of Grand Prairie CIP Program	Improvement projects throughout the City of Grand Prairie	03000007, 03000008, 03000031, 03000032, 03000035, 03000036	Dallas	1203010207, 1203010206	Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Camp Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Long Branch-Buffero Creek, Upper Big Brushy Creek, High Point Creek	Infrastructure Projects	80.98	Riverine	Grand Prairie	Grand Prairie	N	\$243,000,000	
032000141	Drainage improvement projects throughout the City of Hurst.	Drainage improvement projects throughout the City of Hurst. One improvement includes a detention pond.	03000007, 03000008, 03000031, 03000032, 03000035, 03000036	Tarrant	1203010207, 1203010205	Little Bear Creek, Headwaters Walker Branch, Walker Branch-West Fork Trinity River	Infrastructure Projects	9.96	Riverine	Hurst	Hurst	N	\$18,000,000	
032000142	Drainage improvement projects throughout the City of Garland.	Drainage improvement projects throughout the City of Garland. Some alternatives include detention ponds.	03000007, 03000008, 03000031, 03000032, 03000035, 03000036	Dallas	1203010501, 1203010605, 1203010604	White Rock Creek-White Rock Lake, Cottonwood Creek-East Fork Trinity River, Muddy Creek-Lake Ray Hubbard, Pittman Creek-Spring Creek, Brown Branch-Rowlett Creek, Rowlett Creek-Lake Ray Hubbard, Rush Creek-Lake Ray Hubbard, Duck Creek	Infrastructure Projects	56.70	Riverine	Garland	Garland	N	\$105,000,000	
032000143	Infrastructure improvements throughout the City of Terrell.	Infrastructure improvements throughout the City of Terrell such as storm drain updates, channel improvements, culvert improvements, railroad crossing upsizing, and street improvements. One improvement includes enhancing a channel with natural grass.	03000007, 03000008, 03000031, 03000032, 03000035, 03000036	Kaufman	1203010701	Headwaters Kings Creek	Infrastructure Projects	5.16	Riverine	Terrell	Terrell	N	\$29,000,000	

Region 3 - Table 14: Potentially Feasible Flood Management Strategies Identified by RFPG (cont.)

FMS ID (cont.)	FMS Name (cont.)	Area In 100yr (1% annual chance) Floodplain	Area In 500yr (0.2% annual chance) Floodplain	Estimated number of structures at 100yr flood risk	Residential structures at flood risk	Estimated Population at flood risk	Critical facilities at flood risk (#)	Number of low water crossings at flood risk (#)	Estimated number of road closures (#)	Estimated length of roads at flood risk (Miles)	Estimated farm & ranch land at flood risk (acres)	Number of structures with reduced 100yr (1% annual chance) Flood risk	Number of structures removed from 100yr (1% annual chance) Flood risk	Number of structures removed from 500yr (0.2% annual chance) Flood risk	Habitable structures removed from 100yr (1% annual chance) Flood risk	Estimated Population removed from 100yr (1% annual chance) Flood risk	Critical facilities removed from 100yr (1% annual chance) Flood risk (#)	Number of low water crossings removed from 100yr (1% annual chance) Flood risk	Estimated reduction in road closures	Estimated length of roads removed from 100yr flood risk (Miles)	Estimated active farm & ranch land removed from 100yr flood risk (acres)	Estimated reduction in fatalities (if available)	Estimated reduction in injuries (if available)	Cost/ Structure removed	Consideration of Nature-based Solution (Y/N)	Negative Impact (Y/N)	Negative Impact Mitigation (Y/N)	Water Supply Benefit (Y/N)	
032000105	City of Alvord NFIP Floodplain Ordinance	0.12	0.03	0	0	0	0	0		2	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N	
032000106	City of Angus NFIP Floodplain Ordinance	0.37	0.07	13	8	15	0	0		2	94.39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000107	City of Bedias NFIP Floodplain Ordinance	0.12	0.03	5	4	3	1	0		0	19.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000108	City of Bynum NFIP Floodplain Ordinance	0.00	0.00	0	0	0	0	0		0	0.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000109	Carl's Corner NFIP Floodplain Ordinance	0.19	0.02	7	6	17	1	0		0	28.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000110	City of Combine NFIP Floodplain Ordinance	2.03	0.37	202	196	514	0	0		3	701.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000111	Cayote Flats NFIP Floodplain Ordinance	0.14	0.02	7	5	16	0	2		0	15.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000112	City of Dorchester NFIP Floodplain Ordinance	0.15	0.04	0	0	0	0	0		0	31.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000113	Draper NFIP Floodplain Ordinance	0.00	0.00	0	0	0	0	0		0	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000114	City of Emhouse NFIP Floodplain Ordinance	0.02	0.01	3	3	2	0	0		0	10.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000115	City of Eureka NFIP Floodplain Ordinance	0.26	0.07	2	2	3	0	1		2	90.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000116	City of Goodlow NFIP Floodplain Ordinance	0.42	0.08	12	12	11	1	4		0	91.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000117	Grays Prairie NFIP Floodplain Ordinance	0.15	0.02	18	11	18	0	0		0	75.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000118	City of Hebron NFIP Floodplain Ordinance	0.02	0.00	0	0	0	0	0		0	0.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000119	City of Iola NFIP Floodplain Ordinance	0.04	0.01	6	4	2	0	0		0	21.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000120	City of Kirvin NFIP Floodplain Ordinance	0.01	0.00	0	0	0	0	0		0	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000121	City of Latexo NFIP Floodplain Ordinance	0.11	0.04	0	0	0	0	0		0	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000122	City of Leona NFIP Floodplain Ordinance	0.29	0.07	9	8	3	0	0		0	100.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000123	City of Midway NFIP Floodplain Ordinance	0.12	0.01	2	2	6	1	0		0	41.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000124	City of Mustang NFIP Floodplain Ordinance	0.04	0.01	0	0	0	0	1		0	5.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000125	City of Nevada NFIP Floodplain Ordinance	0.09	0.02	4	4	7	0	0		0	32.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000126	Oak Grove NFIP Floodplain Ordinance	0.14	0.01	3	1	1	0	0		0	66.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000127	Oak Valley NFIP Floodplain Ordinance	0.29	0.04	11	9	25	0	0		1	71.42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000128	City of Penelope NFIP Floodplain Ordinance	0.20	0.02	0	0	0	0	0		0	105.47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000129	Post Oak Bend NFIP Floodplain Ordinance	0.15	0.03	6	5	4	0	0		1	58.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000130	Providence Village NFIP Floodplain Ordinance	0.20	0.04	35	35	184	1	0		1	30.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000131	Town of Road Runner NFIP Floodplain Ordinance	0.26	0.01	87	87	52	0	3		0	17.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000132	City of Rosser NFIP Floodplain Ordinance	0.45	0.10	35	31	46	0	0		1	169.55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000133	City of Tehuacana NFIP Floodplain Ordinance	0.07	0.01	3	1	2	0	0		0	30.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000134	City of Dallas Buyout of Repetitive Loss Properties	111.18	10.96	11,792	10,753	89,527	148	193		444	7,391.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000135	City of Fort Worth HROM Program	49.22	6.69	5,921	5,086	27,286	36	423		185	7,266.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	198	N/A	N	N	N	N
032000136	City of Lindsay Flood Monitoring System	0.36	0.05	36	24	39	0	0		2	135.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000137	Mobile City NFIP Floodplain Ordinance	0.00	0.00	0	0	0	0	0		0	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000138	City of Fort Worth Open Space Conservation	49.22	6.69	5,921	5,086	27,286	36	423		185	7,266.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
032000139	City of Burleson Flood Warning and Safety Improvements	1.29	0.17	113	97	462	1	15		4	372.21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000140	City of Grand Prairie CIP Program	26.69	3.30	442	338	3,471	8	25		40	1,927.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N	N
032000141	Drainage improvement projects throughout the City of Hurst.	0.69	0.20	289	280	1,281	2	10		9	18.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
032000142	Drainage improvement projects throughout the City of Garland.	6.51	0.83	1,005	944	7,586	6	56		30	627.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N
032000143	Infrastructure improvements throughout the City of Terrell.	0.55	0.12	27	20	262	3	0		5	118.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y	N	N	N