

Parmer County Mitigation Action Plan

Parmer County, City of Bovina, Farwell & Friona Bovina ISD, Farwell ISD, Friona ISD & Lazbuddie ISD



**DEVELOPED BY THE PARMER COUNTY
HAZARD MITIGATION ACTION TEAM
MAY 2018**

Table of Contents
Contents

Record of Changes 2
 Table of Contents..... 3
County Overview and Demographics Overview: 6
Document Organization 7
Element A - Planning Process..... 9
 Plan Preparation (A1)..... 9
 Planning Process 10
 Establishing the Mitigation Action Team (A2) 11
 Establishing an Open Public Process (A3) 18
 Existing Document Reviewed for Plan Development (A4) 19
 Continued Public Participation Process (A5) 20
 Monitoring (A6) 20
Element B – Hazard Identification and Risk Assessment 23
 Natural Hazard Profile (B1, B2, B3)..... 25
 Drought 25
 Flooding 28
 Hail..... 31
 Lightning..... 36
 Tornado..... 39
 Wildfire 43
 Windstorms 49
 Winter Storm 56
 NFIP Insured Structures and Severe Repetitive Loss (B4): 61
Element C – Mitigation Strategy 62
 Existing Authorities, Policies, Programs and Resources (C1):..... 62
 National Flood Insurance Program (NFIP) (C2)..... 64
 Parmer County 64
 City of Bovina 64
 City of Farwell 64
 Goals to Reduce/Avoid Long –Term Vulnerabilities (C3)..... 66
 Mitigation Action Items (C4/5) 68
 Integrating Mitigation Plan In To Other Planning Mechanisms (C6)..... 77
Element D – Plan Review, Evaluation and Implementation 79
 Development Trends (D1/3) 79
 2006 Mitigation Actions (D2) 82
Element E – Plan Adoption (E1)..... 87
 Parmer County Commissioners Court Adoption 88
 Bovina City Council Adoption 90
 Farwell City Council Adoption..... 92
 Frona City Council Adoption 94

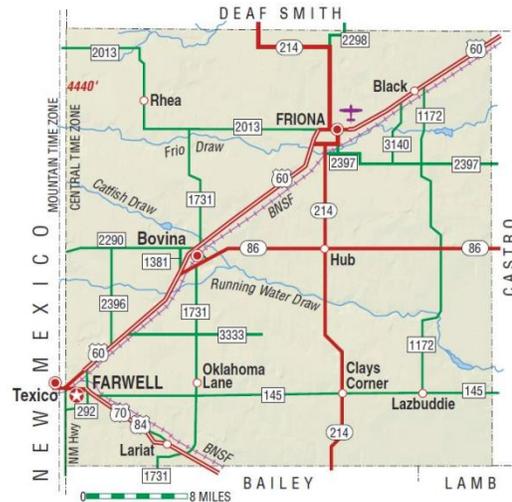
Bovina ISD Board or Trustees Adoption	96
Farwell ISD Board or Trustees Adoption.....	98
Friona ISD Board or Trustees Adoption.....	100

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County Overview and Demographics Overview:

PARMER COUNTY. Parmer County, on the western border of the Panhandle of Texas, is bordered on the west by New Mexico, on the north by Deaf Smith County, on the east by Castro County, and on the south by Bailey and Lamb counties. The county is on the High Plains of Texas, and its center is located at 34°33' north latitude and 102°47' west longitude. Farwell, the county seat, is on the Texas-New Mexico border, fifteen miles southwest of the center of the county and eighty-five miles southwest of Amarillo.

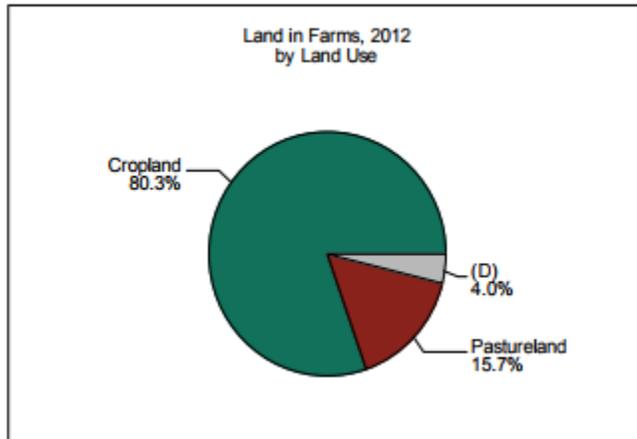
The elevation ranges from 3,800 to 4,202 feet above sea level, and the county is bisected from northwest to southeast by Running Water Draw, an intermittent but flood-prone creek. Lesser dry arroyos, such as Catfish Draw and Frio Draw, also serve to break the level plains in some areas. Rainfall averages 17.50 inches per year. The average annual minimum temperature is 21° F in January, and the average maximum is 92° F in July. The growing season averages 183 days per year.



Parmer County © Texas Almanac

Parmer County Map

Parmer County occupies 859 square miles of level plains surfaced by sandy, clay, and loam soils. These soils support some native grasses, but now the land is largely cultivated and produces abundant corn, sugar beets, and potatoes, as well as sorghums, cotton, wheat, hay, and soybeans.



Highway 60 serves as the primary route through the county from Amarillo and provides a route to the New Mexico border. Other significant roads are Hwy 86 and FM 1731.

The bulk of the county's 10,269 inhabitants resided in Friona (4,123) and is served by Friona ISD (1150). The county seat is located in Farwell with a population of 1,363 and whose students are served by Farwell ISD (552). The City of Bovina lies in between Farwell and Friona and has a population of 1,868 and is served by Bovina ISD (485). The unincorporated area in the southwest corner of the county is serviced by the Lazbuddie ISD (194).

Document Organization

Provided below is brief explanation on the lay-out and content of this document. The sections included in this plan are:

Adoption

This plan was formally adopted by Parmer County, the City of Bovina, Farwell, and Friona, including Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, after the document had been reviewed by both the Texas Division of Emergency Management (TDEM) and the Federal Emergency Management Agency (FEMA) to ensure it met current state and federal guidelines governing local MAPs.

Authorities

This section provides a description of the legal authorities under which this plan was developed.

Purpose

This section explains why the plan was written and identifies the benefits to the participating jurisdictions within the Parmer County area of having a current Hazard Mitigation Plan.

Element A – The Planning Process

This section explains how the plan was organized and the process followed in developing this document, including:

- Establishing the Mitigation Action Team: Identifies the process Parmer County, the City of Bovina, Farwell, and Friona, including Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD followed in establishing their mitigation action team.
- Establishing an Open Public Process: Identifies MAT took to encourage public participation during the development of this plan.

Element B– Hazard Identification and Risk Assessment

This section identifies and analyzes the hazards that affect Parmer County-and their impacts on the County' jurisdictions

Hazards – Describes the hazards that impact Parmer County, the City of Bovina, Farwell, and Friona, including Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD.

History of Local Hazards – Provides historical and statistical data related to the specific hazards that have impacted the jurisdictions within Parmer County.

Risk Summary – Community priorities on specific hazards.

Vulnerability Worksheets – Provides a graphical representation of each jurisdiction's vulnerability to the identified hazards.

Loss Estimates – Provides an estimate of the impact each hazard would have on the critical infrastructure located within the County and its Cities.

Past Mitigation – Provides a summary view of previous mitigation efforts undertaken by the jurisdictions within Parmer County.

Development Trends – Provides an analysis of a growth trends within the County which were considered in developing the mitigation strategies discussed in Element C.

Element C– Mitigation Strategies

- Mitigation Goals and Objectives – Provides the framework for the development of the long-term and short-term strategies identified with the Mitigation Actions.
- Mitigation Actions – Describes the actions that each participating jurisdictions proposes to undertake in order to mitigate the impact of future hazard events.

Element D – Plan Review, Evaluation and Implementation

- Utilizing development patterns and new hazard or risk information; jurisdictions will evaluate progress on the action items and make changes based on new findings.
- Jurisdiction will resubmit plan for approval within 5 years.

Element E– Plan Adoption

- Plans will be adopted by each jurisdiction through their appropriate governing body. This adoption takes place after plan draft has been approved by state and FEMA for applicable content

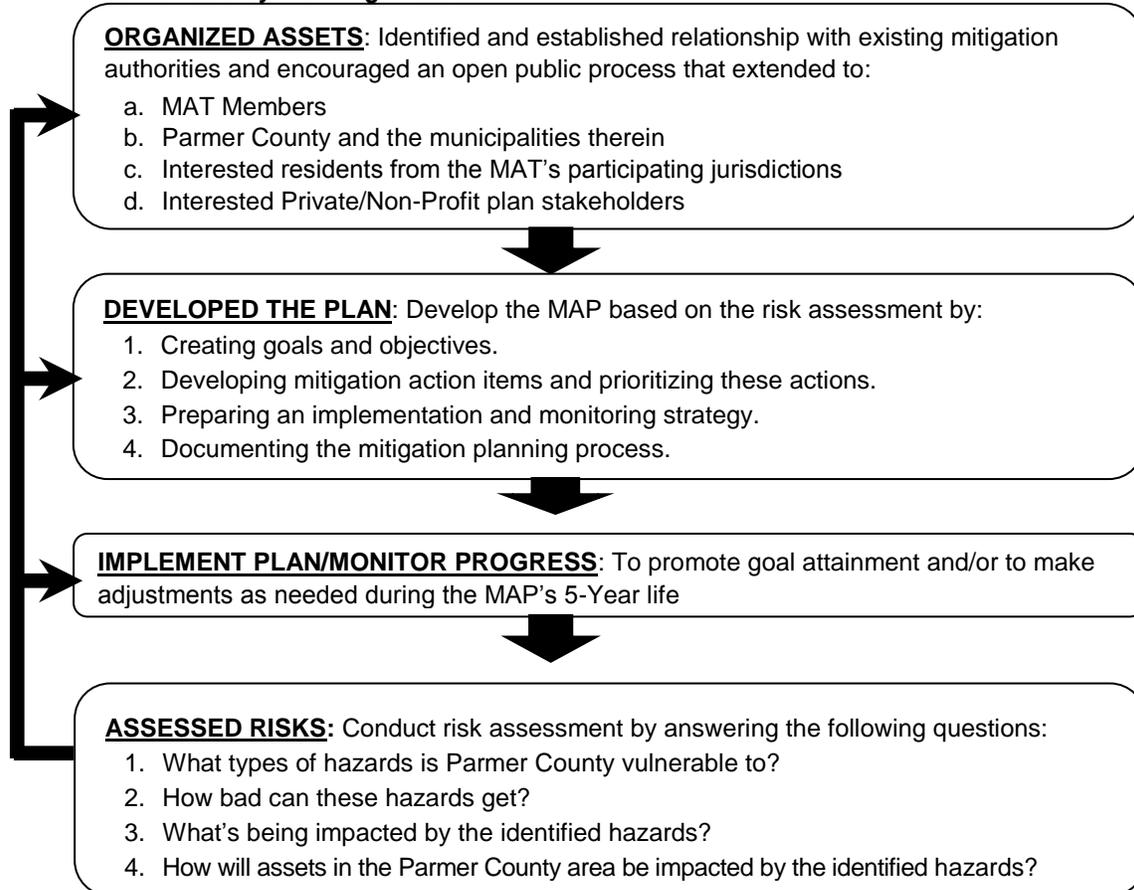
Element A - Planning Process

Plan Preparation (A1)

The Hazard Mitigation Plan was developed through the active participation of representatives of Parmer County, City of Bovina, Farwell, and Friona, including Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD. Through their expertise in emergency management, engineering, administrative, public works, building and road maintenance, their contributions were critical in the plan development. The team also included stakeholders such as: local business owners, industry representatives, neighboring jurisdictions, regional and state partners. The list of mitigation team members is located on page 12.

This graphic below illustrates the steps taken by the Parmer County MAT in developing this document.

Overview of Parmer County Planning Process



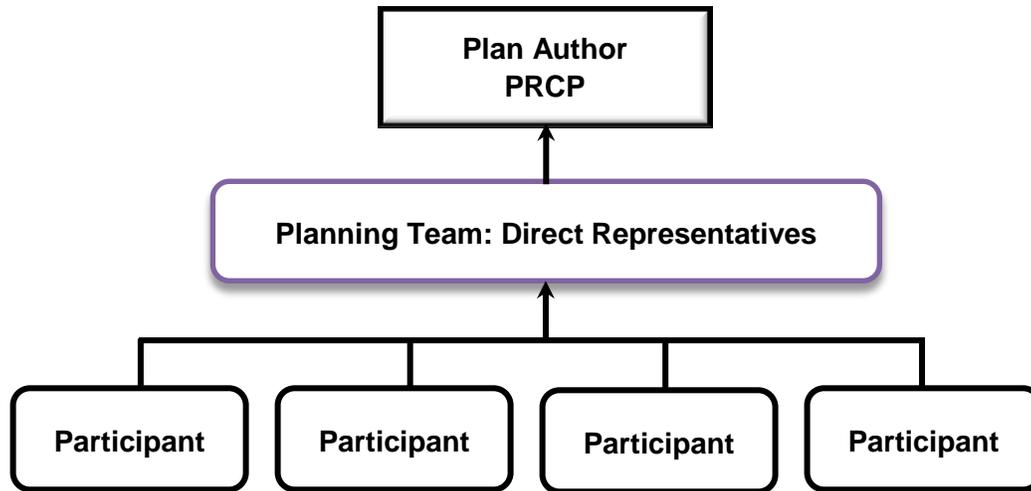
Planning Process

Date	Activity Description	Invitee/Attendees
5/4/2011	Initial invitation for MAT participation	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders, Stake Holders, Regional and State Partners & Neighboring counties
8/26/2011	Online MAT Meeting Overview of the Hazard Mitigation Plan update.	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders,, Stake Holders, Regional and State Partners & Neighboring counties
9/2/2011	Development of new mitigation action strategies	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders,
9/23/2011 9/30/2011	Development of new mitigation action strategies (cont.)	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders,
6/5/2013	Review of 2006 mitigation action items.	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders,
3/7/2018	Open meeting to continue developing Actions and prioritize hazards	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders, Stake Holders, Regional and State Partners, Public & Neighboring counties
March 2018	Survey link made available for residents in the entire planning area	Social Media, Newspaper, Mass Notification System
3/20/2018	Meeting to validate draft to submit to state for review	Local government leaders, Municipal department heads, ISD Superintendents, Responder group leaders,
<p><i>Every meeting was posted 72 hour in advanced at the County Courthouse. Invitations were sent out via email. The public was invited to attend through City websites and County Courthouse/City Hall information board. Sign-in sheets were utilized and agendas were available at each meeting.</i></p>		

Establishing the Mitigation Action Team (A2)

The *first* Parmer County Hazard Mitigation Plan was approved on December 13, 2006. In 2011, the mitigation team chairman began the process of updating the plan. This process included reviewing previous mitigation strategies and determining the status of each action. In addition, due to turnover, the chairman began to actively recruit new members to begin the update process.

Parmer County Mitigation Action Team Hierarchy



At the outset of the planning process, the Parmer County Judge mailed a solicitation to the other jurisdictions and plan stakeholder groups in their County; inviting their participation on the Parmer County Mitigation Action Team (MAT). In addition, the MAT meetings were all well-advertised and the meeting postings encouraged and welcomed the public's participation.

PRPC followed up by sending an email to each of the agencies/ organizations in the planning area that had been contacted by the Judge and thought to have a direct stake or interest in the MAP update process to encourage them to participate or be represented at the initial MAT meeting.

Each of the participating jurisdictions made an effort to elicit involvement on the MAT from the various groups within their jurisdiction and neighboring communities. Particular focus was placed on inviting participation by the local school districts and neighboring counties. Overall, the list of agencies / organizations thought to have a direct stake or interest in this MAP update process or that could somehow inform the planning process included:

Mitigation Action Team Members		
	Agency and Position	Potential Stake, Interest or Contribution
Parmer County	County Judge County Commissioners	County officials would have a stake in any mitigation actions undertaken by the County and would ultimately be responsible for recommending the update's adoption by the Commissioners' Court
	County Administrator's Office County Flood Plain <i>Administrator</i>	The FPA could inform the MAT on matters related to SFHAs in Potter County and have an interest in flood mitigation actions proposed for the County
	County Road & Bridge <i>Superintendent</i>	R&B could inform the MAT on the impacts of natural hazards on the County's road system and have input on the development of proposed mitigation actions
	Sheriff's Office County Sheriff	SO could inform the MAT on public safety issues related to natural hazards and have input on the development of proposed mitigation actions
	County Appraisal District <i>Chief Appraiser</i>	The Appraisal District could inform loss value determinations made by the MAT
	Office of Emergency Mgmt. <i>County EMC</i>	The OEM could provide mitigation ideas and presumably, would be charged with carrying a number of the mitigation actions out
	Hospital District <i>Hospital CEO</i>	The Department could both inform and have a direct interest in the MAP's mitigation measures, particularly those that apply to mass casualties.
City of Bovina, Farwell & Friona	Elected Officials <i>Mayor</i>	City Officials would have a stake in any mitigation actions undertaken by the City and would ultimately be responsible for recommending the update's adoption by the City Council
	City Administration <i>City Secretary/Manager</i>	City Administration would have a stake in any mitigation actions undertaken by the City and would ultimately be responsible for recommending the update's adoption by the City Council
	Building Safety Department <i>Building Safety Dir.</i>	Would have an interest and potential stake in mitigation actions that would affect building codes and code enforcement
	Public Works <i>Public Works Director</i>	Could provide detail on how hazards and proposed mitigation actions could impact the City's utility systems
	Fire Department <i>Fire Chief</i>	The Department could both inform and have a direct interest in the MAP's mitigation measures, particularly those that apply to wildfires
	Office of Emergency Mgmt. <i>EMC</i>	The OEM could provide mitigation ideas and presumably, would be charged with carrying a number of the mitigation actions out
ISD	Bovina, Farwell, Friona & Lazbuddie ISD <i>Superintendent</i>	Being located in the planning area, the IDS campuses would share the area's hazard concerns and could be benefited by the MAT's mitigation actions

Stakeholders		
	Agency and Position	Potential Stake, Interest or Contribution
Local Partners and Industry	Economic Development Corp. <i>EDC Executive Director</i>	The EDC resources could inform future economic development trends in the City
	Texas AgriLife Extension Parmer County Extension Agent	AgriLife could inform some of the decisions that might impact area farmers/ranchers and help in promoting certain mitigation actions.
	Industry	Industry in the planning area would have a direct stake and interest in the outcome of this planning process
	THE PUBLIC	The residents of the planning area would have a direct stake and interest in the outcome of this planning process
	Neighboring Communities: Deaf Smith County EMC Castro County EMC Bailey County EMC	Jurisdictions that border the planning area have an interest in the outcome of this planning process and could contribute to the development of hazard profiling.
	Panhandle Regional Planning Commission (PRPC) <i>Regional Serv. Director</i>	Aside from assisting the MAT in writing this update, PRPC could provide data that would inform the actions/decisions of the MAT
	Amarillo Office of the National Weather Service (NWS) <i>Warning Coordinator</i> <i>Meteorologist</i>	The NWS could provide regionalized data with regard to past/forecasted weather trends that could inform the formation of mitigation actions
Regional, State & Federal Partners	Texas Forest Service (TFS) <i>Regional Fire Coord.</i>	TFS resources could inform the MAT's development of wildfire mitigation actions
	Army Corps of Engineers (ACE) <i>SW Div., Fort Worth, TX</i>	ACE resources could inform local flood control efforts with streambed/wetland data
	Texas State Data Center (TSDC) <i>On-line Resources</i>	TSDC resources could provide data to forecast future population growth in the APR Planning area
	Texas Water Development Board (TWDB) <i>On-line Resources</i>	TWDB resources could provide the City with severe repetitive loss data and inform actions focused on drought contingencies

In some form or fashion, all the participating jurisdictions/stakeholders listed above played a part in the MAP update process. State and federal agency participation was primarily obtained through the use of their websites. Information was gleaned from their sites to develop the hazard profiles found later in this document, to estimate future hazard impacts, for projecting future growth and development and for identifying potential actions that could be employed in mitigating the impacts of future hazard events in the planning area.

The MAT planning process was open throughout and with active participation from the public in all the meetings. Over 61 participated from the planning area in the Household Natural/Hazards Preparedness Survey and the attitudes and opinions reflected by the resident responses were considered as the mitigation actions in this MAP update were being developed. Each participant was able to enter their zip code to separate results by jurisdiction.

In following FEMA's Local Mitigation Planning Handbook suggestions, the individuals invited to participate on the MAT brought certain skill sets or experiences to the process that helped to ensure the overall relevance of the plan. The types of MAT member contributions included:

- Emergency managers/first responders – had direct experience with past hazard events and existing preparedness measures, and/or had a direct line of communication with the State emergency management agency.
- Local community planners – were able to assist the planning team in understanding current, and future community development trends, the policies or activities that affect development, and the relationship between hazards and development.
- Mapping specialists – were able to analyze and interpret map data to support the planning process and communicate complex information, such as the locations of assets at risk in threat- or hazard-prone areas and estimates of damage for a particular disaster scenario.
- Public works/engineering staff – were able to identify current or projected problems for the community's infrastructure that could be addressed through capital improvements supported by the mitigation plan.
- Elected and executive officials – were familiar with the total needs of their jurisdiction and were able to communicate how the mitigation plan could support other social, economic, or environmental goals locally.
- Floodplain administrators – were able to provide information on local flood hazard maps, floodplain ordinance and actions that could be undertaken to support the goals of the National Flood Insurance Program and help reduce flood losses.
- Code Enforcement Officials – were able to help the team understand how local codes can be used in support of the Parmer County plan's mitigation goals.
- State/Federal Partners – were able to serve as a data resource; providing the MAT with relevant statistics, historical account, etc. that could be used to inform the planning process.

The table below lists the current membership of the MAT and describes the contributions each member made with the development of this document.

Parmer County Mitigation Action Team and Contributions			
NAME	TITLE	JURISDICTION	CONTRIBUTION
John Gurley	EMC/Team Coordinator	Parmer County.	<i>Emergency Manager</i> ; coordinated the MAT meetings, obtained data to profile hazards, provided background on past mitigation actions in the planning area; identified potential mitigation actions
Trey Ellis	County Judge	Parmer County	<i>Elected official</i> ; assisted with the development of mitigation actions for the County and presented the MAP to the Commissioners' Court for adoption
Randy Geris	County Sheriff	Parmer County	<i>Elected official</i> ; assisted with the development of mitigation actions for the County and presented the MAP to the Commissioners' Court for adoption
Altha Herington	Treasurer's Office Treasurer	Parmer County	The Treasurer could develop loss value determinations made by the MAT
Jill Timms	County Appraisal District Chief Appraiser	Parmer County	The Appraiser could develop loss value determinations made by the MAT
Larry Johnston	County Auditor	Parmer County	<i>Executive official</i> ; helped the MAT in quantifying the "L" (legal) element of the assessments and with the development of mitigation actions
Steve Wolf	Superintendent	Lazbuddie ISD	<i>ISD Representative</i> ; actively participated in the MAT meetings and assisted with the development of mitigation actions for the ISD
Cesar Marquez	City Manager	City of Bovina	<i>Executive official</i> ; helped the MAT in discerning the "P" (political) element in the assessments of potential mitigation actions and with the development of mitigation actions
Frank Gonzalez	Mayor	City of Bovina	<i>Executive official</i> ; helped the MAT in quantifying the "L" (legal) element of the assessments and with the development of mitigation actions
Erick Geske	Police Chief	City of Bovina	<i>First responder</i> ; assisted with gathering wildfire data and identification of potential wildfire mitigation actions
Denise Anderson	Superintendent	Bovina ISD	<i>ISD Representative</i> ; actively participated in the MAT meetings and assisted with the development of mitigation actions for the ISD

Parmer County Mitigation Action Team and Contributions			
NAME	TITLE	JURISDICTION	CONTRIBUTION
Joe Stanton	Mayor	City of Farwell	<i>Executive official</i> ; helped the MAT in discerning the “P” (political) element in the assessments of potential mitigation actions and with the development of mitigation actions
Shelia Jennings	City Secretary	City of Farwell	<i>Executive official</i> ; helped the MAT in quantifying the “L” (legal) element of the assessments and with the development of mitigation actions
Espidio Banelos	Waterworks Superintendent	City of Farwell	<i>Public works/engineering</i> ; assisted the MAT in understanding some of the technical implications of proposed mitigation actions; particularly as they applied to key City infrastructure
Larry Kelsay	Police Chief	City of Farwell	<i>First responder</i> ; assisted with gathering wildfire data and identification of potential wildfire mitigation actions
Daniel Kaltwasser	Fire Chief	City of Farwell	<i>First responder</i> ; assisted with gathering wildfire data and identification of potential wildfire mitigation actions
Colby Waldrop	Superintendent	Farwell ISD	<i>ISD Representative</i> ; actively participated in the MAT meetings and assisted with the development of mitigation actions for the ISD
Leander Davila	City Manager	City of Friona	<i>Executive official</i> ; helped the MAT in quantifying the “L” (legal) element of the assessments and with the development of mitigation actions
Ricky White	Mayor	City of Friona	<i>Executive official</i> ; helped the MAT in discerning the “P” (political) element in the assessments of potential mitigation actions and with the development of mitigation actions
Isidro Jimenez	Police Chief	City of Friona	<i>First responder</i> ; assisted with gathering wildfire data and identification of potential wildfire mitigation actions
Jim Taylor	Fire Chief	City of Friona	<i>First responder</i> ; assisted with gathering wildfire data and identification of potential wildfire mitigation actions
Pamela Nelson-Ray	Superintendent	Friona ISD	<i>ISD Representative</i> ; actively participated in the MAT meetings and assisted with the development of mitigation actions for the ISD

NAME	TITLE	JURISDICTION	CONTRIBUTION
Gayla Quillan	Parmer Medical Center Administrator	Parmer Medical Center Hospital	<i>Healthcare:</i> actively participated in MAT meetings and assisted with the development of mitigation actions for the entire county.
Wendy Case & Sergio Mendez	County Extension Agent	Parmer County	<i>Industry Partner,</i> providing data critical to the identification or hazards and their impacts
Mike Gittinger	Warning Coord. Meteorologist	Amarillo Office of the NWS	<i>State/Federal Partner,</i> providing data critical to the identification or hazards and their impacts
Emily Nolte	Emergency Planner	PRPC	<i>Local community planner,</i> assisted the MAT Team leader with public communications; served as an interface with TDEM/FEMA as the MAP was being reviewed

Establishing an Open Public Process (A3)

As previously noted, the development of this plan followed the requirements set out by FEMA under 44 CFR §201.6. One of the foundational pieces of those requirements calls for the public to be given ample opportunity to observe, if not participate, in the planning process. §201.6(b)(1) required the County to provide, “(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;”.

To that end, whenever a MAT meeting was scheduled, postings to announce public meetings were placed at each city hall county, courthouse and ISD information boards, for each of the participating jurisdiction, at least 72 hours prior to the meeting. The notice included a list of individuals who were suited to mitigation team service for each participating jurisdiction. The following information is an excerpt from the invitation:

NOTICE TO THE PUBLIC

The Parmer County Mitigation Action Team has scheduled a meeting on (date), at (time), in the (meeting room) of the Parmer County Courthouse located at the 401 3rd St., Farwell, TX 79325. The Parmer County Hazard Mitigation Plan is being updated. When completed, it will serve as a guide for implementing mitigation strategies which are intended to help reduce the human, economic, and environmental costs of natural disasters. The public is invited to attend. For more information, please contact (plan scribe), with the PRPC, at (806) 372-3381.

In addition, the MAT took advantage of another regional project funded by FEMA that allowed residents the opportunity to review the draft plan. The Panhandle Area Regional Information System (PARIS) is a virtual communications tool that serves the entire Panhandle region. Over the past four years, public mass notification tools have been added to PARIS courtesy of FEMA. These tools allow residents to subscribe to receive emergency alerts and information from their local jurisdictions.

In this instance, PARIS was used to send out notices to subscribed residents in planning area to inform them of the plan update process. The message contained a link to the draft version of the County’s plan. Residents were then invited to read the plan and provide their comments and suggestions back to the MAT through the Team Coordinator Trey Ellis.

The draft was made available for public comment both electronically, through PARIS and physically at the Courthouse in Farwell, the City Hall’s in Bovina, Farwell & Friona, Bovina, Farwell, Friona and Lazbuddie ISD Admin building, and at PRPC, 72 hours in advance of the governing bodies, meetings. The final draft was discussed in open session during those meetings, with a call for public comment, before the adopting resolutions were considered and passed.

These adoption meetings were preceded with a different Notice to the Public which generally read as follows:

**NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE
PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**

Parmer County Commissioners Court will conduct a public hearing before considering final adoption of the recently completed 2017 Parmer County Hazard Mitigation Plan Update on (date), at (time), in the (meeting room) of the Parmer County Courthouse located at the 401 3rd St. Farwell TX 79325. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the planning area.

A copy of the plan is now available for review in the Parmer County Courthouse, during normal business hours or may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and interested residents are encouraged to attend to offer feedback and comment.

Each jurisdiction posted their own customized notice; giving their residents the date/time on which their governing body would consider the plan adoption along with a location at which the plan could be physically reviewed locally.

In addition, a press release was issued to the Friona Star News, Farwell Stateline Tribune and Amarillo Globe News, the newspaper of regional readership in the Panhandle, to announce the pending jurisdictional adoption meetings. A copy of the release is found under Resources and References in this document.

The Parmer County Hazard Mitigation Plan will remain available to the public on PARIS until it's replaced by the next 5-year update. The public will also be notified of and invited to the meetings when the MAT gathers to conduct its annual review of the MAP.

Existing Document Reviewed for Plan Development (A4)

Documents and Databases	
State of Texas Hazard Mitigation Plan	Texas Water Development Board
Parmer County EOP 2016	Natural Disasters & Weather Extremes
Regional Economic Recovery Plan 2016	FEMA Disaster Declarations
Friona Code of Ordinances	US Census American Fact Finder
Texas A&M Forest Service Fire Reports	Texas Association of Counties Profiles
Panhandle Nation – County Roads	How to Reduce Drought Risk – NDM Center
NOAA Storm Event Database	
FEMA Flood Map Center	

A review of the capabilities was completed by key Childress County and participating jurisdictions' departments and provided information pertaining to existing plans (see above), policies, ordinances, and regulations to be integrated into the goals and objectives of the Plan.

Continued Public Participation Process (A5)

The MAT will conduct annual public mitigation action strategy update presentations during the 5 year period. Each participating jurisdiction will host a local workshop and invite the public residing in their jurisdiction. A press release will be issued to the Friona Star News, Farwell Stateline Tribune and the Amarillo Globe News, in addition to internal newsletters and email lists within the ISD. Annual meetings held locally will ensure public participation with the focus being on their own strategies. County and City residents as well as the student body and staff will be given a forum to submit any additional identified areas of concern to possibly vet out action items in the future. Two years prior to the expiration; the mitigation team will convene to update the existing plan with actions gleaned from the local meetings.

The MAP will be posted on regional shared portal, which will allow the public to access the document at any time. A point of contact is provided for every plan in the portal; the PRPC will be responsible for ensuring the contact list stays current. As an alternate, the PRPC'S contact information will also be provided to ensure that public inquiries and comments are properly channeled for processing to the appropriate County point of contact on a timely basis.

Monitoring (A6)

MAT participants will be responsible for evaluating the plan annually for updates to jurisdictional goals, objectives, and action items. If needed, these participants will coordinate through the MAT Chairperson to integrate these updates into the Plan. A record of those changes will be maintained in the plan. The MAT Chairman will be responsible for monitoring the overall plan for updates on an annual basis.

Monitoring and evaluation involves the ongoing process of compiling information on the outcomes from the implementation of the hazard mitigation objectives. The goal is to determine whether the planning area's vulnerability has decreased as a result of the plan. When vulnerability has decreased as a result of identified mitigation actions, the plan participants will determine why and will implement successful mitigation actions in other locations. Where vulnerability has increased, or remained constant, the plan participants will identify if other potential mitigation strategies may be more successful.

Method and Schedule for Keeping Plan Current

Method and Schedule for Keeping Plan Current			
	How	When	By Whom
Monitoring/Evaluate	<p>The plan and action items will be evaluated on an annual basis to determine effectiveness of the programs.</p> <p>Element A: Continue to recruit members for the mitigation team members. Evaluate public satisfaction with the outreach method and level of input they were allowed to provide through an annual survey.</p> <p>Element B: Participants will provide any new development of hazard history that may impact changes in priorities. Monitor new information from the NWS and TFS Wildfire Risk for new maps and history. Monitor new versions of CHAMPS for new data.</p> <p>Element C: Existing strategies will be evaluated and priorities adjusted based on hazard history. Lead agency/departments will continually monitor action items as they are implemented. Through the Mitigation Action Item Monitoring Form, they will inform the MAT of the status of the action and target completion date.</p> <p>Element D: Monitor the status for existing strategies. Identify how the plan was utilized to recognize new projects or to re-prioritize existing strategies. As development changes occur they will be incorporated in to the plan and strategies can be adjusted according to the increase or decrease in growth. Review of the overall goals and using the scoring criteria – will provide clear measurement of the actions.</p>	Quarterly updates and upon completion	
	<p>Responsible Departments identified for each action for each jurisdiction.</p> <p>Participating Jurisdictions, Responsible Departments, MAT Members</p>		
Update	<p>The MAT will update this plan every 5 years. However, through the annual evaluation, each participating jurisdiction will provide any changes to the existing plan to the MAT Chairmen. Two years prior to the expiration, all participating jurisdictions will begin the formal update process. The Formal process will begin with a county-wide meeting which will include all participating jurisdictions. Tasks will be established for each jurisdiction: 1) to review prior mitigation action items and 2) document hazards that have occurred in the last several years. Each participating jurisdiction will hold “jurisdictional” meetings to solicit feedback from the public during this process. Surveys will be extended to the entire county to determine changes in mitigation planning at the resident level. This process will culminate in the several meetings to review the information gleaned and to formally update plan. Plan will be submitted to the State for review and to FEMA for approval.</p>	Every 5 years	Participating Jurisdictions, Responsible Departments, MAT Members

The MAT will conduct an annual meeting intended for all plan participants for the purpose of monitoring and evaluating the progress being made in fulfilling the MAP's goals, objectives, and Mitigation Actions. The objectives of the annual MAT review will be:

- to identify mitigation activities that are in progress, have been deferred or been completed;
- to assess whether the MAP's current mitigations goals and objectives continue to address existing (at the time of the review) and expected conditions;
- to determine whether or not the nature and/or magnitude of each plan participant's risks have changed; and
- to determine, by plan participant, if resources are available and appropriate for implementing prioritized actions in the coming year.

Any changes made during the annual review process(es) will be noted on the Record of Changes found page 2 of this document. As part of the monitoring of the mitigation actions, responsible parties will be provided the form below to update the MAT on the progress of strategies that have been implemented.

Sample Mitigation Action Item Monitor Form

Mitigation Action Item Monitoring Form (Sample)			
Date Submitted	1.1.2020	Dept. Responsible	OEM
Mitigation Action	Installation of Additional Early Warning Sirens		
Objectives	Provide early warning sirens to warn citizens of approaching weather dangers.		
Target	Erect 2 multidirectional sirens within the city limits		
Progress	1 multidirectional siren has been erected and tested in SW Friona at the corner of 11 th and Bell. The second siren is delayed due to a lack of funding source		

Element B – Hazard Identification and Risk Assessment

The purpose of hazard mitigation is to reduce potential losses from future natural disasters. The intent of mitigation planning, therefore, is to maintain a process that leads to hazard mitigation actions. This mitigation plan will identify only natural hazards that impact our community and identify actions to reduce losses from those hazards and establish a coordinated process to implement the plan.

Hazards Analysis

Early in the update process, the committee completed an analysis of the plan and decided that much of the contents on hazard analysis remained relevant. As with the original plan, the committee for this update found the following natural hazards continue to be present and could have an effect to the planning area.

Natural Hazards			
Drought	Flooding	Hail Storms	Lightning
Tornado	Wildfire	Windstorms	Winter Storms

The mitigation team studied the entire list of possible natural hazards that could affect the jurisdiction and found that while some hazards could be considered, historical data did not support the need to include the following hazards. Data of the following hazards found that the possibility of a future event would have less than a 1.5% chance of occurring in the next 65 years, therefore, the risk is negligible, or that history has never recorded any such event for the jurisdiction and the event is not likely to occur in the next 5 years.

- Earthquake-1.5% chance of occurring in next 65 years.
- Dam/Levee Failure – There are two dams in the planning area. These dams are not considered to be a hazard and will not be profiled. The risk is considered negligible and is not likely to occur in the next 5 years.

Parmer County is located in the Texas Panhandle where the possibility of the following hazards occurring in the county are highly unlikely and were not considered to pose a risk to the jurisdictions.

- Hurricanes/Tropical Storms
- Coastal Erosion
- Expansive Soils
- Land subsidence
- Extreme Heat

Some of these hazards are interconnected (e.g., droughts create more fuel for wildfires) while some hazards could be characterized as elements of a broader hazard agent. For example, hail and severe winds can be produced by thunderstorms and they may all occur during a single thunderstorm event. It should also be noted that some hazards, such as severe winter storms, may impact a large area and cause little damage, while other hazards, such as a tornadoes, may impact a small area but cause extensive damage.

The 2006 Hazard Mitigation Plan included Severe Thunderstorms. It was determined that the product of a severe thunderstorm is what contributes to property damage. Therefore, Hail and Windstorms as bi-products of a Severe Thunderstorm will be profiled separately in the 2018 plan to better represent cause and effect. **Severe Thunderstorms will not be profiled in this plan.**

The Authors of this plan recognize the significance of industrial, technological, and man-made hazards that pose a threat to both residents and property. Specific plans that address the recognition and response procedures of those hazards can be found in the following documents:

- Parmer County 2016 Emergency Operations Plan
- LEPC – Community Emergency Response Plan
- Regional Aviation Disaster Plan/Mass Fatality Plan
- Train: BNSF Railroad Response Plan
- Pipeline Emergency Response Guidelines
- FAD – Regional Foreign Animal Disease Plan

The following man-made hazards can be found in the planning area:

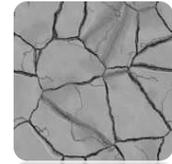
Industrial/Technological/Man-made Hazards				
Hazard	Frequency of Occurrence	Warning Time	Geographic Extent	Potential Impact
Hazardous Materials Release	Likely	None	Localized	Major
Pipeline Explosion	Likely	None	Localized	Major
Railcar Incident	Likely	None	Localized	Major
Potable Water Failure	Likely	None	Localized	Minor
Aircraft Accident	Likely	None	Multi-county	Major
Foreign Animal Disease	Likely	More than 12 hours	Localized to Region	Major

Natural Hazard Profile (B1, B2, B3)

Drought

Description

A **Drought** is, “a period of unusually dry weather that persists long enough to cause environmental or economic problems, such as crop damage and water supply shortages.” Extreme weather such as heat waves, heavy downpours and droughts are expected to accompanying climate change.



Droughts are frequently classified as one of following four types:

Meteorological – Drought defined by the level of “dryness” when compared to an average, or normal amount of precipitation over a given period of time.

Agricultural - Agricultural droughts relate common characteristics of drought to their specific agricultural-related impacts. Emphasis tends to be placed on factors such as soil water deficits, water needs based on differing stages of crop development, and water reservoir levels.

Anticipating the range of future droughts that could impact the entire planning area, the MAT then considered the effects those events might have. The table below describes the impacts the various stages of drought could potentially have on the planning area.

Drought Severity Classification

Category	Description	Possible Impacts	Ranges				
			Palmer Drought Index	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Short & Long-term Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered	-1.0 to -1.9	21-30	21-30	-0.5 to -0.7	21-30
D1	Moderate Drought	Some damage to crops, pastures; streams, reservoirs, or wells low, some water shortages developing or imminent; voluntary water-use restrictions requested	-2.0 to -2.9	11-20	11-20	-0.8 to -1.2	11-20
D2	Severe Drought	Crop or pasture losses likely; water shortages common; water restrictions imposed	-3.0 to -3.9	6-10	6-10	-1.3 to -1.5	6-10
D3	Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions	-4.0 to -4.9	3-5	3-5	-1.6 to -1.9	3-5
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies	-5.0 or less	0-2	0-2	-2.0 or less	0-2

Short-term drought indicator blends focus on 1-3 month precipitation. Long-term blends focus on 6-60 months. Additional indices used, mainly during the growing season, include the USDA/NASS Topsoil Moisture, Keetch-Byram Drought Index (KBDI), and NOAA/NESDIS satellite Vegetation Health Indices. Indices used primarily during the snow season and in the West include snow water content, river basin precipitation, and the Surface Water Supply Index (SWSI). Other indicators include groundwater levels, reservoir storage, and pasture/range conditions.

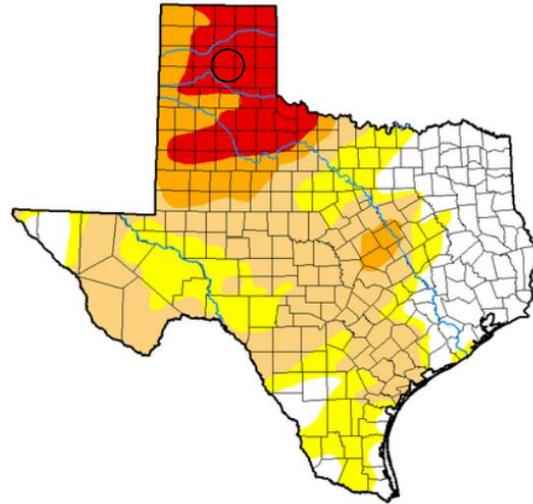
Source: <http://droughtmonitor.unl.edu/classify.htm>

Location

This graphic depicts drought conditions comparison across Texas. The color legend corresponds with the drought severity chart on the previous page,. Most of the Panhandle region, including Parmer County, had shown significant improvement in the last 4 years, but declining conditions have the county returning to moderate drought D2. Drought conditions affect the entire planning area equally.

U.S. Drought Monitor - Texas

As of February 27, 2018



Extent

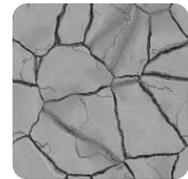
Parmer County experienced exceptional drought conditions (D4) in 2012 & 2013 due to the limited amount of rainfall experienced in 2011 with an average of only 6.44 inches of rain. Therefore, the entire planning area can experience up to a D4.

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none"> All residents/homes/property are vulnerable to the secondary impacts of drought which is wildfire. In extreme drought conditions grass land is more susceptible to catch on fire from sparks from railcars, cigarette butts and transformer malfunctions with little to limited structures to stop the spread. Crops & Agricultural accounts/economy: 96% of the "unincorporated" area is private farmland with a county annual income of over \$131million in agricultural accounts, crop damage is likely to occur in the event of a drought .Decreased cattle profits due to increased supplemental feed due to loss of grasses.
Lazbuddie ISD	<ul style="list-style-type: none"> Lazbuddie ISD – 1 main building, 3 portables, an Agricultural Shop, Robotics shop which has bus barn at the end landscape and trees. Additional damage to the natural grass on the athletic fields. Increased use of water used.
Bovina	<ul style="list-style-type: none"> Vegetation – Landscape/lawn/garden: Around 2 city buildings new community building. Impact would be an increase of water usage, increased cost of maintenance and decrease of available water for other purposes. Damage landscape and lawns to residential homes.
Bovina ISD	<ul style="list-style-type: none"> Landscape – Bovina ISD 6 buildings and 4 athletic fields – does not have drought resistant vegetation and is vulnerable to dry and lack of water conditions. The impact of a drought to the ISD is increased water use to maintain the existing landscape and athletic fields.

Farwell	<ul style="list-style-type: none"> • Damage to landscape and lawns around 3 city buildings and the Farwell Community Center. Increased water use to compensate. • Damage landscape and lawns to residential homes. • Farwell Hospital District which encompasses a Nursing Home, Senior Living Apartments, Dental Clinic and Medical Clinic would see damage to landscape and lawns and increased water use.
Farwell ISD	<ul style="list-style-type: none"> • 3 Farwell Campuses, damage to landscape and athletic fields. Increased water use to maintain existing landscape.
Friona	<ul style="list-style-type: none"> • Damage to landscape and lawns around the 2 two city buildings, Community Center, Library and Swimming pool. City park lawns and Cemetery demand increased water use to maintain grass areas • Parmer Medical Center common areas with grass and other vegetation is impacted by increased water use to maintain.
Friona ISD	<ul style="list-style-type: none"> • Friona ISD's 3 campuses damage to landscape and athletic fields. Increased water use to maintain existing landscape.

History of Occurrences/Probability of Future Events

Historical patterns are assumed to be a dominant factor in determining future drought events. Based upon the historical instances of drought events which have occurred in the area during the last 12 years, drought conditions occurred in 8 of those years.



Based on this data, the MAT estimates the probability for a drought in the entire planning area in any given year to be over 67.00%.

Years in the Record Span 2006-2018	No. of Years in the Span in which the Event occurred	Computation	Future Probability of 1 or more events per Year
12	8	$(8/12) * 100 =$	67.00%

Flooding

Description

According to the NFIP, a **Flood** is defined as “A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from: 1) Overflow of inland or tidal waters; 2) Unusual and rapid accumulation or runoff of surface waters from any source; or, 3) Mudflow (Mudflow is the collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.)”



Flash Flooding is what typically impacts the planning area.

Flash Floods:

A flash flood generally results from a torrential rain on a relatively small drainage area. Runoff from these intense rainfalls results in high flood waters that can destroy roads, bridges, homes, buildings and other community developments. Discharges quickly reach a maximum and diminish almost as rapidly.

Flash floods are a potential source of destruction and a threat to public safety in areas where the terrain is steep, surface runoff rates are high, streams flow in narrow canyons and gullies, or severe thunderstorms stall over an area. The historical instances of flooding that have occurred within the planning area are all flash flood types of events. Therefore, flash flooding will be addressed within this plan. Flash flooding is typically measured in the depth of flood waters in feet or inches.

Location & Extent

The elevation ranges from 3,800 to 4,202 feet above sea level, and the county is bisected from northwest to southeast by Running Water Draw, an intermittent but flood-prone creek. Lesser dry arroyos, such as Catfish Draw and Frio Draw, also serve to break the level plains in some areas. The County crosses 4 watersheds (see image right)



Following excessive rainfall; the entire planning area can frequently experience flash flooding. Highway 60 which runs the entire width of the county and through all 3 cities and the ISD's is a heavily traveled road to New Mexico. Excessive rainfall can contribute to flash flooding which at times can be 6-12" on the low areas of the highway contributing to dangerous driving conditions. The intersection of FM 1731 and FM 2013 is marked with a flood gauge which has marked the water in that low lying area at up to 3'.

During extreme rains, flash flooding event can impact the entire planning area. Based on previous occurrences, the county can expect to see water levels between 6" – 12" on low lying areas.

Impact

In the planning area, the depth of any flooding event will be dependent upon factors such as the location, intensity and duration of the rainfall event, the steepness/imperviousness of the effected watersheds, the gradients of the jurisdiction’s SFHAs, the condition of the local drainage system, weather events that precede the rainfall event and other such variables.

In 2014 a heavy rain was unable to drain off the courthouse flat roof and flooded the third floor. Damage costs were over \$50,000.

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none"> • Road and Bridge damage • Impassable roads due to high water unable to drain quickly enough • Damage to courthouse and other county buildings with flat roofs and insufficient drainage for excess rainfall.
Lazbuddie ISD	<ul style="list-style-type: none"> • Lazbuddie ISD – 1 main building, 3 portables, an AG, Robotics shop which has bus barn at the end. • The school does have a flat roof that could have slow drainage on a downpour. •
Bovina	<ul style="list-style-type: none"> • City drainage systems & their capabilities are vulnerable to becoming ineffective during flood events because of inadequate funding and poor development to withstand the heavy water flow of a flood event. • Pump house, recreation venues are impacted by flash flooding.
Bovina ISD	<ul style="list-style-type: none"> • Damage to Bovina ISD 6 buildings foundation and possible interior. • Damage to the turf on the 4 athletic fields • Damage to the electrical panels located below grade.
Farwell	<ul style="list-style-type: none"> • City drainage systems & their capabilities are vulnerable to becoming ineffective during flood events because of inadequate funding and poor development to withstand the heavy water flow of a flood event.
Farwell ISD	<ul style="list-style-type: none"> • Damage to the 3 Farwell Campuses foundation and athletic fields, should water not drain out in a timely manner.
Friona	<ul style="list-style-type: none"> • City drainage systems & their capabilities are vulnerable to becoming ineffective during flood events because of inadequate funding and poor development to withstand the heavy water flow of a flood event. • Roof damage to City Hall, Library, Police Department, Museum due to flat roofs and slow drainage during heavy rains. • Damage to responder vehicles in flash flood conditions.
Friona ISD	<ul style="list-style-type: none"> • Friona ISD’s 3 campuses damage to foundation and athletic fields. • Damage to flat roof from slow drainage following heavy downpour.

Probability of Future Events

Historical patterns are assumed to be a dominant factor in determining future flooding events. Based upon the historical instances of flooding events that have occurred in the area during the last 12 years, the entire planning area has experienced at least four flooding events in 4 of those years. Based on this data, the MAT estimates that in any given year, there's a 16% chance that any part of the county will experience one or more flooding events.



Probability of Future Events	Years in Record Span 2006-2018	No. of Events in the Span	Computation	Future Probability of 1 or more events year
Unincorporated Area & Lazbuddie ISD	12	5	$(5/12) * 100 =$	42.00%
Bovina & Bovina ISD	12	2	$(2/12) * 100 =$	17.00%
Farwell & Farwell ISD	12	2	$(2/12) * 100 =$	17.00%
Friona & Friona ISD	12	1	$(1/12) * 100 =$	8.00%

Previous Occurrences

Location	Date	Dt h	Inj	PrD	CrD	Impact Narrative
Farwell, Farwell ISD & Unincorporated	3/23/2007	0	0	0.00K	0.00K	
Bovina, Bovina ISD & Unincorporated	7/2/2014	0	0	0.00K	0.00K	Standing water on Hwy 60 and 86 caused multiple vehicles to hydroplane off the road. One vehicle was stranded in high water as 4-16" of water fell.
Friona, Friona ISD & Unincorporated	9/18/2014	0	0	0.00K	0.00K	FM Rd. 3333 northeast of Farwell was forced to close for short period due to excessive water.
Unincorporated Area	10/7/2015	0	0	0.00K	0.00K	Observed flooding along FM 1731 north of Bovina and FM 2013 west of Friona.
Bovina, Bovina ISD & Unincorporated	11/21/2014	0	0	36K	0.00K	Flooding from 3 rd St in Bovina to the playa lake. Flooded police vehicles. Road and culver repairs required.

Hail

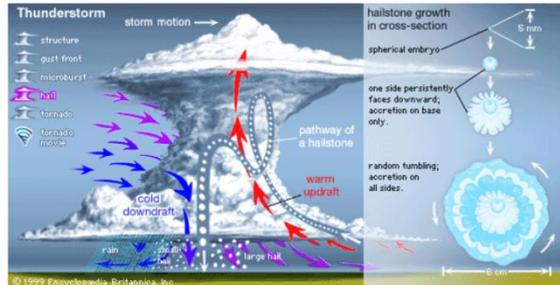
Description/



Hail is a form of solid precipitation. It consists of balls or irregular lumps of ice, each of which is called a hailstone. A **Hailstorm** is, “any storm that produces hailstones that reach the ground.” Hail is produced by ice crystals that form in a low pressure front due to the rapid rising of warm air into the upper atmosphere and subsequent cooling of the air mass. Hail usually falls as shaped masses of ice greater than 0.25 inches in diameter. The size of the hail can be directly correlated with the size of the thunderstorm.

Hailstorms are an outgrowth of severe thunderstorms. People outdoors would be the most likely victims during a hailstorm, but the biggest threat would come from large hailstones and damage they would cause to property.

The table below provides definition to the various sizes or categories of hail and the potential damage that can be caused by hail of that size.



NWS/TORRO Hail Scale

Combined NOAA/TORRO Hailstorm Intensity Scales				
Size Code	Intensity Category	Typical Hail Diameter (inches)	Approximate Size	Typical Damage Impacts
H0	Hard Hail	up to 0.33	Pea	No damage
H1	Potentially Damaging	0.33-0.60	Marble or Mothball	Slight damage to plants, crops
H2	Potentially Damaging	0.60-0.80	Dime or grape	Significant damage to fruit, crops, vegetation
H3	Severe	0.80-1.20	Nickel to Quarter	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	1.2-1.6	Half Dollar to Ping Pong Ball	Widespread glass damage, vehicle bodywork damage
H5	Destructive	1.6-2.0	Silver dollar to Golf Ball	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	2.0-2.4	Lime or Egg	Aircraft bodywork dented, brick walls pitted
H7	Very destructive	2.4-3.0	Tennis ball	Severe roof damage, risk of serious injuries
H8	Very destructive	3.0-3.5	Baseball to Orange	Severe damage to aircraft bodywork
H9	Super Hailstorms	3.5-4.0	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	4+	Softball and up	Extensive structural damage. Risk of severe/fatal injuries to persons in the open

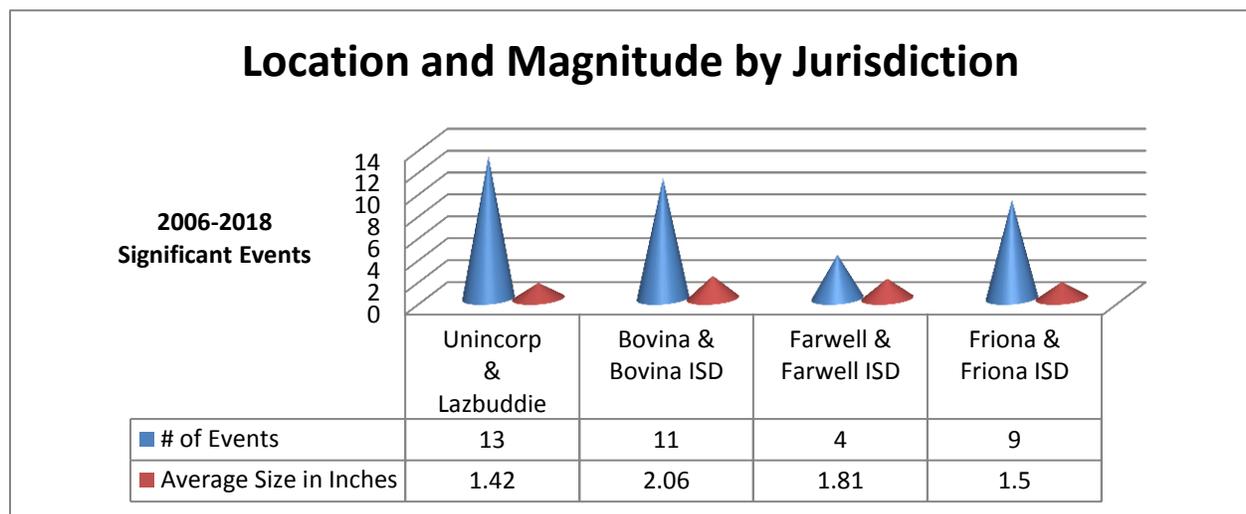
Source: www.noaa.gov and www.torro.org

Location

The entire planning area can anticipate frequent hailstorms that can contribute to property and crop damage.

Extent

While the largest average size of hail encountered within the planning area, measured by the diameter, is 1.70 In., there have been many occurrences when the diameter measured 2.75” and as high as 4.50” a range of H4-H7 on the combined NOAA/TORRO Hailstorm Intensity Scale. Therefore, the entire planning area can experience a H7, with typical hail diameter being 1-2 inches.



The chart above depicts hail occurrences and magnitude by jurisdiction. Hail of this size can decimate crops, roofs, and injure people who are not inside. No matter the size of the hail – the largest losses seen through any size of hail is vehicular damage, amounting to hundreds of thousands of dollars in claims, many times what could be considered repetitive loss depending on the age and repair history.

Impact

Hail can cause considerable damage to crops and property. Injuries and deaths can occur as direct result both to people and to livestock who are not under shelter. Hail damage to both vehicles and buildings (glass) can minimize work for government. Repairs can cause a significant reduction in workforce as employees are without transportation to go to work due to reparation of vehicles or waiting for contractors to conduct home repairs.

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none"> • 1 Radio tower, communications system not covered or shielded, impact could be loss/interruption of communications • Windshield and body damage to Sheriff's vehicles on county roads and highways are vulnerable to hailstorm because they have to travel longer before reaching shelter. Impacts of damaged windshields could cause accidents and put the driver and passenger lives at risk. • County Courthouse and County Jail roof and window damage • Crops & Agricultural accounts/economy: 96% of the "unincorporated" area is private farmland with a county annual income of over \$131 million in agricultural accounts; crop damage is likely to occur in the event of hail.
Lazbuddie ISD	<ul style="list-style-type: none"> • Lazbuddie ISD – 1 main building, 3 portables, an AG, Robotics shop which has bus bar. • 2 HVACS on the roof and the rest of the buildings is serviced with windows. • Flood lights on athletic fields could be damaged. • Damage to roofs, windows and 5 school buses traveling on county roads or parked in uncovered lot.
Bovina	<ul style="list-style-type: none"> • Damage to roof and windows on critical city facilities to include city hall, police & fire department, community building. Impact is potential work stoppage, injury of building staff. • Vehicle service/storage area without roof or cover for vehicles • Damage to body and windows of vehicles to include: responder services and public works. Vulnerable employees that can be struck by hail while responding, possible injuries or loss of life.
Bovina ISD	<ul style="list-style-type: none"> • 3 Bovina ISD Campuses, damage to roofs, windows and 11 school buses and 12 other vehicles • Impact could cause school closures, accidents, staff/student injuries. • Damage to roof, windows and fascia on 6 buildings. • Potential damage to 80 unprotected HVAC units
Farwell	<ul style="list-style-type: none"> • Damage to roof and windows on critical city facilities to include city hall, fire department, Community Center. Impact is potential work stoppage, injury of building staff. • Vehicle service/storage area without roof or cover for vehicles • Damage to body and windows of vehicles to include: responder services and public works. Vulnerable employees that can be struck by hail while responding, possible injuries or loss of life. • Farwell Hospital District loss would include roof damage to the Nursing Home, Senior Living Apartments, Dental Clinic and Medical Clinic. Loss would include over 16 unprotected HVAC units.
Farwell ISD	<ul style="list-style-type: none"> • 3 Farwell Campuses which include 17 buildings damage to roof, windows • Potential damage to 93 unprotected HVAC unites • Damage to buses and other exposed ISD vehicles

Friona	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, Special Events building, Community Center swimming pool, parks playground and attractions. • Control systems damage at water and sewer plant. • Potential damage to the 15 city wells, 3 lift stations, 3 Booster Plants, several elevated & ground towers, and sewer plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Friona emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.
Friona ISD	<ul style="list-style-type: none"> • 3 Friona Campuses which include 5 connected buildings and several out buildings - damage to roof, windows • Potential damage to 82 unprotected HVAC unites • Damage to buses and other exposed ISD vehicles

Probability of Future Events

Specific damage loss numbers as reported by NOAA Storm Events Database were used to produce the data for the estimation of future loss. It is important to understand that the true financial impact due to hailstorms are difficult to state. Property damage information for residents who make insurance claims to home insurance or vehicle insurance are typically not included in the Storm Event data. Therefore, you can make the conclusion that the property damage is probably double the reported range.

Probability of Future Events	Years in Record Span 2006-2018	No. of Events in the Span	Computation	Future Probability of 1 or more events year
Unincorporated Area & Lazbuddie ISD	12	13	$(13/12) * 100=$	92%
Bovina & Bovina ISD	12	11	$(11/12) * 100=$	91%
Farwell & Farwell ISD	12	4	$(4/12) * 100=$	33%
Friona & Friona ISD	12	9	$(9/12) * 100=$	75%

Previous Occurrences

Location	Date	Mag	Dth	Inj	PrD	CrD	Impact Narratives
Unincorporated	3/23/2007	0.75 in.	0	0	0.00K	0.00K	
Unincorporated	3/28/2007	0.88 in.	0	0	0.00K	0.00K	
Farwell	6/2/2007	1.00 in.	0	0	0.00K	0.00K	
Unincorporated	6/19/2007	0.75 in.	0	0	0.00K	25.00K	The wind-blown hail damaged wheat crops.
Friona	6/22/2007	0.75 in.	0	0	0.00K	100.00K	Local newspapers reported that large hail up to the size of pennies resulted in severe damage to cotton, wheat and alfalfa crops just east of Friona.
Unincorporated	8/24/2007	0.75 in.	0	0	0.00K	0.00K	
Bovina	4/23/2008	1.75 in.	0	0	0.00K	0.00K	
Farwell	4/23/2008	1.75 in.	0	0	0.00K	0.00K	
Unincorporated	5/25/2008	1.75 in.	0	0	0.00K	0.00K	
Farwell	6/17/2008	2.75 in.	0	0	0.00K	500.00K	Reports of giant baseball size hail ten miles east of Farwell along Farm to Market Road 145. Agricultural officials reported that cotton, wheat, and corn crops were severely damaged across portions of western and central Parmer County.

Location	Date	Mag	Dth	Inj	PrD	CrD	Impact Narratives
Friona	6/17/2008	2.75 in.	0	0	500.00K	0.00K	Very large hail caused widespread damage across the city, with a number of vehicles and structures sustaining hail damage. The hail punctured a portion of the town's elementary school, and subsequently contributed to flooding several class rooms.
Friona	6/22/2008	1.00 in.	0	0	0.00K	0.00K	
Unincorporated	4/29/2009	0.75 in.	0	0	0.00K	0.00K	
Bovina	6/4/2009	1.00 in.	0	0	0.00K	0.00K	
Unincorporated	7/17/2009	1.75 in.	0	0	0.00K	250.00K	Reported that the hail resulted in significant losses to cotton crops in the immediate Lazbuddie area.
Bovina	5/25/2010	1.75 in.	0	0	0.00K	0.00K	
Unincorporated	5/25/2010	2.00 in.	0	0	1.00K	0.00K	The public reported large hail to the size of 2 inches which destroyed a car windshield.
Friona	6/12/2010	0.88 in.	0	0	0.00K	0.00K	
Bovina	5/31/2011	1.00 in.	0	0	0.00K	0.00K	
Unincorporated	6/27/2011	1.00 in.	0	0	0.00K	10.00K	Fire department official in Rhea reported quarter size hail and damage to corn fields.
Bovina	5/28/2013	1.00 in.	0	0	0.00K	0.00K	
Friona	5/28/2013	1.75 in.	0	0	75.00K	0.00K	Minor damage to vehicles and homes in Friona was common. T
Unincorporated	5/28/2013	2.50 in.	0	0	0.00K	0.00K	
Friona	6/5/2013	2.75 in.	0	0	50.00K	0.00K	Swath of hail ranging in sizes from golf balls to baseballs in the town of Friona. The large, wind-driven hail caused damage to several vehicles including a police cruiser in Friona
Friona	6/29/2013	1.00 in.	0	0	0.00K	0.00K	
Farwell	6/6/2014	1.75 in.	0	0	0.00K	0.00K	
Friona	6/7/2014	0.88 in.	0	0	0.00K	0.00K	
Bovina	6/19/2014	1.20 in.	0	0	0.00K	0.00K	
Unincorporated	9/24/2014	0.75 in.	0	0	0.00K	0.00K	
Friona	6/14/2015	1.75 in.	0	0	25.00K	0.00K	Broadcast media relayed social media photos of golf ball size hail and some minor damage to cars in Friona.
Bovina	10/7/2015	0.88 in.	0	0	0.00K	0.00K	
Bovina	6/13/2016	1.75 in.	0	0	17.5K	0.00K	Vehicle and maintenance barn damage.
Bovina	4/14/2017	1.85 in.	0	0	0.00K	0.00K	
Bovina	4/14/2017	2.75 in.	0	0	3.00K	0.00K	Some storm chasers and a law enforcement vehicle received damage to their windshields.
Unincorporated	4/14/2017	2.80 in.	0	0	0.00K	0.00K	
Unincorporated	5/9/2017	2.00 in.	0	0	0.00K	0.00K	
Bovina	9/22/2017	1.75 in.	0	0	0.00K	2.000M	More than a dozen farmers in Parmer County suffered varying degrees of damage to corn and cotton crops following a slow-moving hailstorm. About 20,000 acres were damaged in total, with about 3,500 acres reported as a complete loss. The hail was estimated to be as large as golf ball size.

Lightning

Description

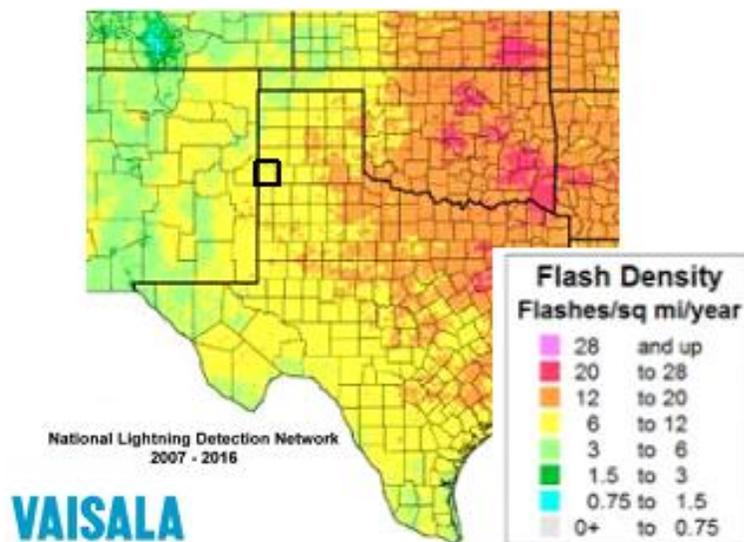


Lightning events are generated by atmospheric imbalance and turbulence due to the combination of the following conditions: unstable warm air rising rapidly into the atmosphere; sufficient moisture to form clouds and rain; and upward lift of air currents caused by colliding cold and warm weather fronts, sea breezes or mountains. Lightning is generated by the buildup of charged ions in a thundercloud, and the discharge of a lightning bolt interacts with the best conducting object or surface on the ground. The air channel of a lightning strike reaches temperatures higher than 50,000 degrees Fahrenheit.

Dry lightning is lightning that occurs without rain nearby. The NOAA Storm Prediction Center routinely forecasts dry lightning because this kind is more likely to cause wildfires.

Location & Extent

The entire planning area is uniformly exposed to lightning which strikes in very small, specific geographic areas.



Lightning Activity Level (LAL)	
Is a scale which describes lightning activity. Values are labeled 1-6:	
LAL 1	No thunderstorms
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a five minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period.
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11 to 15 cloud to ground strikes in a 5 minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5 minute period.
LAL 6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

Lightning affects the entire county and can occur anywhere. Based on the frequency of lightning in the planning area, it falls under a scale of LAL43 in the Lightning Activity Level scale, meaning it is anticipated to experience 6-10 cloud to ground strikes in a 5 minute period.

Impact

A lightning strike impacted the phone system, internet switches and lights in the Farwell ISD Campus causing \$25,000 in damage.

Bovina ISD has had 3 lightning events in the past 6 years causing damage to computers/network, intercom system, appliances and IP telephone system totaling approximately \$180,000.

In 2015 lightning knocked out radio communication and most of the security system in the jail. Repair costs were over \$150,000.

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none"> • Power lines, transformers, transformer banks and power stations, to include power surges generated by a lightning strike, resulting in loss of electricity for critical systems such as the County 911 system, County Jail • County Radio tower, County communications system to include the disruption of emergency 911 systems •
Lazbuddie ISD	<ul style="list-style-type: none"> • Lazbuddie ISD damage to phone system, electronic control systems and sensitive electronic computer equipment housed on the campus. • School has 3 wells that serve the school (including one less than 5 years old). Wells do not have generator and could stop working due to an electrical •
Bovina	<ul style="list-style-type: none"> • Electrical surges for computer and other sensitive office equipment within City Hall, Police Department, Community building, Fire Department. Damage to city water and sewer control systems from lightning strikes on pumps and other electrical equipment causing malfunction/ work stoppage. • Radio tower, communications system, radar equipment located at the Police Department, Fire Department and EMS Barn causing disruption of service, possibly spark fires, and increase emergency response needs •
Bovina ISD	<ul style="list-style-type: none"> • Damage to electrical infrastructure in the 6 buildings to include networks, computers & peripherals, phone system and electrical appliances.
Farwell	<ul style="list-style-type: none"> • Electrical surges for computer and other sensitive office equipment within City Hall, and Fire Department. Damage to city water and sewer control systems from lightning strikes on pumps and other electrical equipment causing malfunction/ work stoppage. • Farwell Hospital District could suffer moderate risk to communications and electrical systems to include oxygen concentrators.
Farwell ISD	<ul style="list-style-type: none"> • Farwell Campuses, damage to electronic control systems and sensitive electronic computer equipment housed in the 3 campuses.
Friona	<ul style="list-style-type: none"> • Electrical surges for computer and other sensitive office equipment within City Hall, and Fire Department. Damage to city water and sewer control systems from lightning strikes on pumps and other electrical equipment causing malfunction/ work stoppage.
Friona ISD	<ul style="list-style-type: none"> • Friona ISD's Damage to electrical infrastructure in the 3 campuses to include networks, computers & peripherals, phone system and electrical appliances.

Previous Occurrences

A lightning strike impacting one of the participants has occurred in every jurisdiction at least each year to date. As stated in the vulnerability chart, the municipal well systems are to be most affected.

Probability of Future Events

Statewide Texas has a significant exposure to thunderstorms and lightning. Overall, lightning is the most constant and widespread threat to people and property during the thunderstorm season. The recurrence of lightning is high. Dry lightning has the likelihood of being the spark for large fires in the county. Reporting of lightning strikes to the weather service is very limited. A history based on repairs to government systems was used to develop the probability of future events and to also populate the previous occurrences.

Probability of a lightning event occurring anywhere in the planning area is 100% probable in the next 5 years.

Tornado Description



A **tornado** appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.

Each year, an average of over 1,000 tornadoes are reported nationwide, resulting in an average of 80 deaths and 1,500 injuries. They are more likely to occur during the spring and early summer months of March through June and can occur at any time of day, but are likely to form in the late afternoon and early evening.

Quick Tornado Facts

Signs of Danger

- Dark, often greenish sky
- Large hail
- A large, dark, low-lying cloud (particularly if rotating)
- Loud roar, similar to a freight train

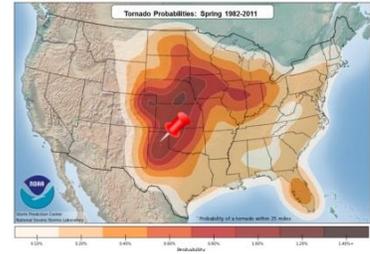
The Enhanced Fujita (EF) Scale for tornadoes was developed to measure tornado strength and associated damages; it is divided into six categories from zero to five representing increasing degrees of damage. Overall, most tornadoes (around 77 percent) in the U.S. are considered weak (EF0 or EF1) and about 95 percent of all U.S. tornadoes are below EF3 intensity. The remaining small percentage of tornadoes are categorized as violent (EF3 and above).

Enhanced Fujita (EF) Scale

Enhanced Fujita (EF) Scale		
Enhanced Fujita Category	Wind Speed (mph)	Potential Damage
EF0	65-85	Light damage Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	86-110	Moderate damage Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	Considerable damage Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165	Severe damage Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200	Devastating damage Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200	Incredible damage Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd.); high-rise buildings have significant structural deformation; incredible phenomena will occur.

Location

The **entire** planning area is located in the middle of “Tornado Alley” making it highly susceptible to tornados. Since 1990 the planning area has experiences nearly one F0-F1 tornado every 10 years.



Extent

Although we have only experience F0-F1 tornados in the unincorporated area the entire planning area may experience up to an EF5.

Impact

Recorded EF1 tornados have destroyed mobile homes, heavily damaged vehicles, fences and power poles; while the EF2 tornados have snapped power poles, lifted vehicles, moved large fuel tanks and stripped trees.

Tornado impacts on basic services can be devastating. Damage to businesses and residents can be immense, but a significant vulnerability can be the loss of basic services and a safe environment following a tornado.

Examples of potential losses are:

- Damage to infrastructure (e.g., storage tanks, hydrants, residential plumbing fixtures, distribution system) from a tornadic event can result in loss of service and/or reduced pressure throughout the system
- Restricted access to the facility due to debris and damaged roads
- Loss of power and communication lines
- Potential contamination due to chemical leaks from ruptured containers
- Severe water and pressure loss due to ruptured service lines in damaged buildings and broken fire hydrants from airborne debris

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none">• 1 Radio tower, communications system not covered or shielded, impact could be loss/interruption of communications• Windshield and body damage to vehicles on county roads and highways are vulnerable to hailstorm because they have to travel longer before reaching shelter. Impacts of damaged windshields could cause accidents and put the driver and passenger at risk.• Vehicle body and glass Windows: Specifically damage to 6 Sheriff’s Office patrol cars and 24 road and bridge vehicles required to still be out on the roads responding to calls during hailstorm events.• Damage to 6 County buildings to include roof, windows and HVAC systems.• Crop damage. Impact would be economic loss to farmers.

Lazbuddie ISD	<ul style="list-style-type: none"> • Lazbuddie ISD – 1 main building, 3 portable buildings, an AG, Robotics shop which has bus barn. • 2 HVACS on the roof and the rest of the buildings is serviced with windows. • Flood lights on athletic fields could be damaged. • Damage to roofs, windows and 5 school buses traveling on county roads or parked in uncovered lot. • Impact could cause school closures, accidents, staff/student injuries.
Bovina	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, community center, parks playground and attractions. • Control systems and building damage at water and sewer plant. • Potential damage to the 2 lift stations, 7 city wells, elevated & ground towers, pump station and wastewater treatment plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Bovina emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.
Bovina ISD	<ul style="list-style-type: none"> • Damage, slight - totally destroyed to any of the 6 buildings, 12 vehicles or 11 buses. Impact could cause school closures, accidents, staff/student injuries. • Loss of funding (state and federal) for 500 students.
Farwell	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, Community Center, parks playground and attractions. • Control systems damage at water and sewer plant. • Potential damage to the 9 city wells, elevated & ground towers, and sewer plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Farwell emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.. • Farwell Hospital District could suffer minor to destroyed damage to the Nursing Facility, Senior Living Apartments, Dental or Medical Clinic.
Farwell ISD	<ul style="list-style-type: none"> • Farwell Campuses, Campuses (3 campuses totaling 7 buildings) – damage to roofs, windows, any of the 56 HVAC units, and school buses (7). • Impact could cause school closures, accidents, staff/student injuries.
Friona	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, Special Events building, Community Center swimming pool, parks playground and attractions. • Control systems damage at water and sewer plant. • Potential damage to the 15 city wells, 3 lift stations, 3 Booster Plants, several elevated & ground towers, and sewer plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Friona emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.

Friona ISD	<ul style="list-style-type: none"> • 3 Friona Campuses which include 5 connected buildings and several out buildings - damage to roof, windows • Potential damage to 82 unprotected HVAC unites • Damage to (11) buses and other exposed ISD vehicles
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Probability of Future Events

Historical patterns are assumed to be a dominate factor in determining future tornado events. Based upon the historical instances of tornado events that have occurred with the planning area during the last 12 years, the annual probability of occurrence for these events and vulnerability are depicted below. The entire planning area lies in a high risk zone for tornados. By adding tornados that have occurred within a 25 mi radius to the county the probability increases to over 100%.

Probability of Future Events	Years in Record Span 2006-2018	No. of Events in the Span	Computation	Future Probability of 1 or more events year
Unincorporated Area & Lazbuddie ISD	12	1	$(1/12) * 100 =$	8%
Bovina & Bovina ISD	12	1	$(1/12) * 100 =$	8%
Farwell & Farwell ISD	12	1	$(1/12) * 100 =$	8%
Friona & Friona ISD	12	1	$(1/12) * 100 =$	8%

Previous Occurrences

Location	Date	Mag	D th	Inj	PrD	CrD	Impact Narrative
Farwell	3/23/2007	EF0	0	0	0.00K	0.00K	
Bovina	3/23/2007	EF0	0	0	75.00K	0.00K	Large tree limbs up to five inches in diameter were blown down, storage sheds were destroyed, and several homes sustained roof and window damage. On the north edge of the city, a carport was destroyed with debris wrapped around a large tree. Additionally, windows were blown out of an adjacent mobile home. Power outages were widespread across the city.
Friona	4/17/2007	EF0	0	0	0.00K	0.00K	
Unincorporated	4/14/2017	EFU	0	0	0.00K	0.00K	

Wildfire

Description



A **Wildfire** is “An uncontrolled fire burning in an area of vegetative fuels such as grasslands, brush, or woodlands. Heavy fuels with high continuity, steep slopes, high temperatures, low humidity, low rainfall, and high winds all work together to increase risk of loss.”

Wildfires are part of the natural management of the Earth’s ecosystems, but may also be caused by human factors. Wildfires may be described as follows:

- Wildfire - A fire occurring in a wildland area (e.g., grasslands, forests, brush lands). An exception to this definition is a prescribed burn.
- Prescription Burning (“Controlled Burning”) – The process of igniting fires under selected conditions, in accordance with strict parameters. For example, this fire may be undertaken by land management agencies is.

Fire probability depends on local weather conditions, outdoor activities such as camping, debris burning, and construction, and the degree of public cooperation with fire prevention measures. Drought conditions and other natural disasters (e.g., tornadoes, hurricanes, etc.) increase the probability of wildfires by producing fuel in both urban and rural settings. Fire probability may be determined by using the Keetch-Byram Drought Index (KBDI)

The result of this system is a drought index number ranging from 0 to 800 that accurately describes the amount of moisture that is missing. A rating of zero defines the point where there is no moisture deficiency and 800 is the maximum drought possible.

Keetch-Byram Drought Index

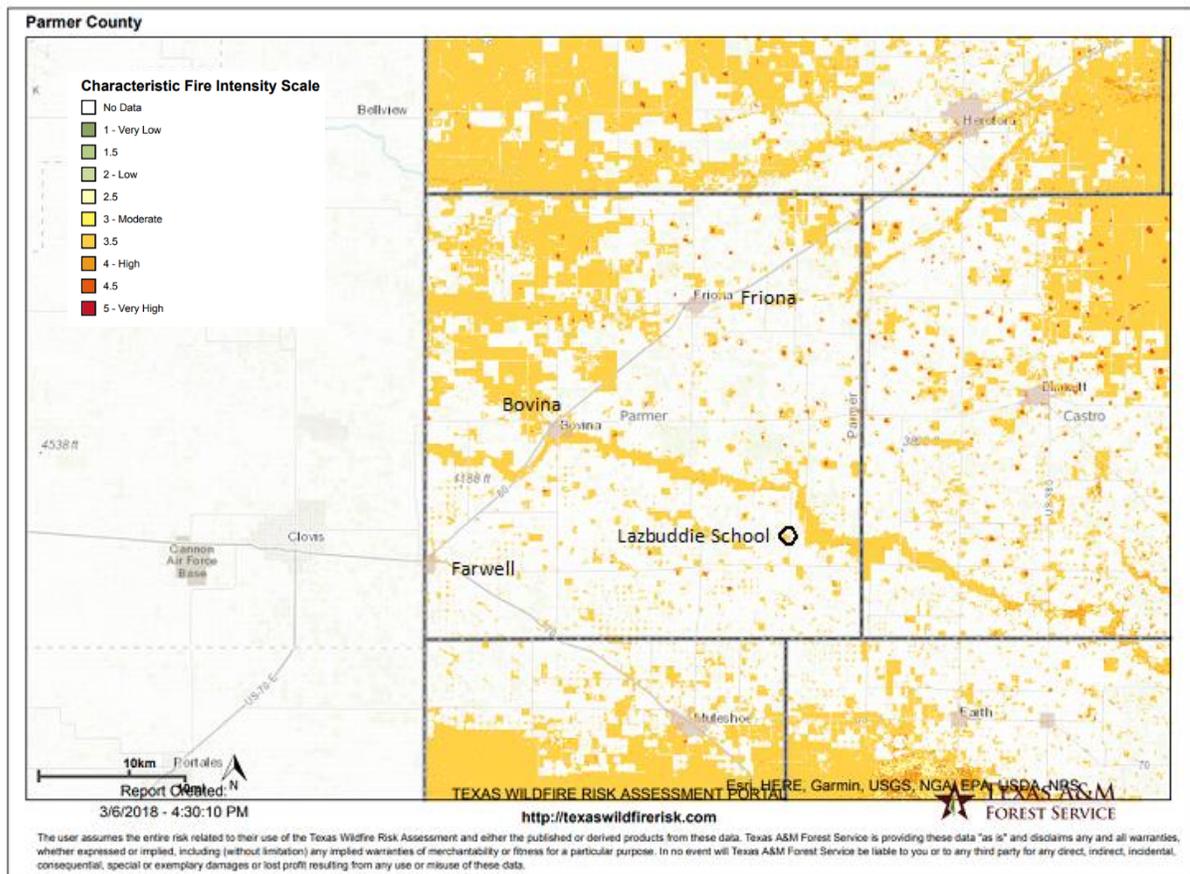
Keetch-Byram Drought Index	
Drought Index #	Potential Fire Behavior
0 - 200	Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.
200 - 400	Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.
400 - 600	Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems.
600 - 800	Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn thorough the night and heavier fuels will actively burn and contribute to fire intensity.

Source: <http://www.wfas.us/content/view/32/49/>

Location

The Fire Intensity Scale Maps provided for each jurisdiction identifies the potential fire intensity. The maps on the next page identify areas of significant fire behavior potential influenced by fuel hazards, high to extreme weather conditions, and topography. Fire Intensity Scale does not incorporate historical occurrence data; it only evaluates the fire risk for an area.

The City of Bovina, City of Farwell, City of Friona and Parmer County (unincorporated) all have a Moderate to High Risk for wildfire as demonstrated by the yellow and orange colors on the maps. No data is available for the much of the county to include the ISD's (white color) however; their close proximity to the identified risk areas, as well as terrain which limit the ability to stop forward movement of wildfires will continue to place them at a moderate risk to wildfires.

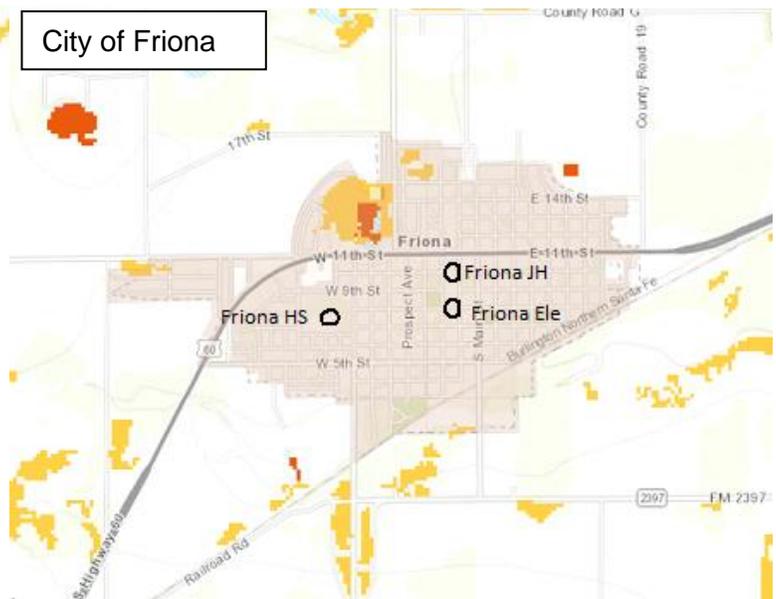


Extent (magnitude/intensity)

FIS quantifies potential fire intensity based on high to extreme weather conditions, fuels, and topography. It is similar to the Richter scale for earthquakes, providing a standard scale to measure potential wildfire intensity by magnitude. FIS consist of 5 classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents very low wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. Parmer County and all participants are shown to have a potential fire intensity of Moderate (Class 3) to High (Class 4).

Characteristic Fire Intensity Scale

- No Data
- 1 - Very Low
- 1.5
- 2 - Low
- 2.5
- 3 - Moderate
- 3.5
- 4 - High
- 4.5
- 5 - Very High



Vulnerability and Impact

The impact of a wildfire is typically in direct relationship to weather conditions. Extreme winds that tend to be prevalent in the planning area plus dry fire fuels can escalate the size of a wildfire in minutes. Even with well-trained firefighters and mutual aid – winds can move the fire at over 30 MPH. The damage caused by these fires is typically in open range lands, but can easily consume cattle, fencing and rural homesteads.

The cotton industry experienced several module fires during the winter of 2017 and spring of 2018. Due to dry conditions, static electricity easily started fires with in the cotton bales. These modules can burn for hours and with high winds can easily spread and develop into fast moving wildfires.

Due to the similar characteristics of each participating jurisdiction, the entire planning area can be impacted in the following ways:

- Loss of power and communication lines
- Severe water and pressure loss due to high use of water resources.
- Loss of cattle and miles of fencing.
- Highway dangers due to blowing smoke
- Death and injuries to responder due to fast moving fire or changing winds.

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none"> • Power lines, transformers, transformer banks and power stations have the ability to spark with high winds – thus being the igniter of grass fires. • Livestock and housing/fencing for ranchers • Cotton industry fires that impact the cotton gin.
Lazbuddie ISD	<ul style="list-style-type: none"> • Lazbuddie ISD – 1 main building, 3 portable buildings, an AG, Robotics shop which has bus barn. • Impact due to wildfire could cause school closures, accidents, staff/student injuries. Pasture land south of campus could pose a risk when not mowed.
Bovina	<ul style="list-style-type: none"> • Critical city facilities to include city hall, police & fire department, other city facilities (8 buildings). • Potential damage to the 2 lift stations, 7 city well pumps, and 3 water tower/tank. • Power lines, transformers & transformer banks and several power stations creating possible loss of power. •
Bovina ISD	<ul style="list-style-type: none"> • Damage or total loss to Bovina ISD 6 buildings, 12 vehicles and 11 buses. • Damage to the turf on the 4 athletic fields • Smoke damage that could impact staff and student health. • Possible closures resulting in lost instructional time and state/federal funding.
Farwell	<ul style="list-style-type: none"> • City drainage systems & their capabilities are vulnerable to becoming ineffective during flood events because of inadequate funding and poor development to withstand the heavy water flow of a flood event. • Farwell Hospital District Wildfire could cause significant damage to any of the 4 facilities. Smoke damage could impact high risk residents in the Senior Apartments and Nursing facility.

Farwell ISD	<ul style="list-style-type: none"> • Damage or total loss to Farwell ISD 17 buildings on 3 campuses, vehicles and buses. • Damage to the turf on the athletic fields • Smoke damage that could impact staff and student health. • Possible closures resulting in lost instructional time and state/federal funding.
Friona	<ul style="list-style-type: none"> • Critical city facilities to include city hall, police & fire department, other city facilities (8 buildings). • Potential damage to the 3 lift stations, 16 city well pumps, 3 booster pumps • Power lines, transformers & transformer banks and several power stations creating possible loss of power.
Friona ISD	<ul style="list-style-type: none"> • 3 Friona Campuses which include 5 connected buildings and several out buildings . • Damage to 11 buses and other exposed ISD vehicles • Fire could cause school closures, accidents, staff/student injuries, smoke damage.

Probability of Future Events

Wildfires occur with high frequency in the planning area. This vulnerability and the annual probability of occurrence for these events are estimated over 100%.

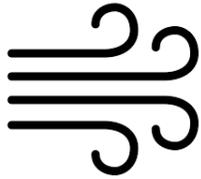
Probability of Future Events	Years in Record Span 2006-2018	No. of Significant Events in the Span Reported	Computation	Future Probability of 1 or more events year
Unincorporated Area	12	28	$(28/12) * 100 =$	233.00%
A wildfire event threatening any of the incorporated cities and ISD is probable to occur once on any given year. Lazbuddie ISD Campus is located in the unincorporated area and are more susceptible to an uncontrolled fire.				

Wildfire Significant Event History Acres > 1 (2006-2018)

Date	Fire Department	# of Acres	Department Costs
4/29/2018	Bovina VFD	100	\$432.60
4/4/2018	Bovina VFD	100	\$1,796.60
1/21/2018	Bovina VFD	2000	\$624.75
3/1/2017	Bovina VFD	5	\$264.45
2/10/2017	Bovina VFD	10	\$698.90
1/13/2017	Bovina VFD	2	\$264.45
11/23/2016	Bovina VFD	4	\$528.90
1/21/2016	Bovina VFD	2	\$330.00
4/17/2013	Bovina VFD	5	\$328.00
3/8/2013	Bovina VFD	10	\$328.00
3/6/2013	Bovina VFD	3	\$140.00
9/25/2011	Bovina VFD	250	\$0.00
9/23/2011	Bovina VFD	5	\$0.00
7/7/2011	Bovina VFD	100	\$440.00
5/30/2011	Bovina VFD	129	\$748.00
5/28/2011	Bovina VFD	60	\$614.00
5/28/2011	Bovina VFD	20	\$164.00
4/17/2011	Bovina VFD	10000	\$1,320.00
5/27/2006	Bovina VFD	20	\$106.00
5/26/2006	Friona VFD	400	\$2,253.50
5/26/2006	Bovina VFD	1500	\$358.05
5/21/2006	Friona VFD	200	\$364.93
5/12/2006	Friona VFD	30	\$172.35
4/19/2006	Bovina VFD	5	\$106.00
4/17/2006	Bootleg VFD	100	\$113.95
4/15/2006	Bovina VFD	60	\$676.05
4/15/2006	Bovina VFD	3	\$563.38
4/12/2006	Bovina VFD	5	\$53.00
		15,128	\$13,789.86

Windstorms

Description

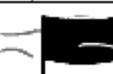
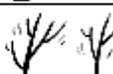


Winds begin with differences in air pressures. Pressure that is higher at one place than another sets up a force pushing from high pressure towards low pressure. The greater the difference in pressures the stronger the force. Wind is used to describe the prevailing direction from which the wind is blowing with the speed given usually in miles per hour or knots. A Wind Advisory is issued when winds are forecast to be sustained at 25 to 39 mph and/or gusts to 57 mph.

Windstorms may present themselves in many forms such as high winds or downbursts. A major concern of a wind storm is wind speed and duration. It may be a 2 minute average speed or an instantaneous speed. The problems that windstorms create can be damaged roof top equipment, broken windows, and down powerlines.

The **Beaufort Scale** is a system for estimating wind strengths based on the effects wind has on the physical environment. This scale is provided below.

Beaufort Scale

Beaufort number	Wind Speed (mph)	Seaman's term		Effects on Land
0	Under 1	Calm		Calm; smoke rises vertically.
1	1-3	Light Air		Smoke drift indicates wind direction; vanes do not move.
2	4-7	Light Breeze		Wind felt on face; leaves rustle; vanes begin to move.
3	8-12	Gentle Breeze		Leaves, small twigs in constant motion; light flags extended.
4	13-18	Moderate Breeze		Dust, leaves and loose paper raised up; small branches move.
5	19-24	Fresh Breeze		Small trees begin to sway.
6	25-31	Strong Breeze		Large branches of trees in motion; whistling heard in wires.
7	32-38	Moderate Gale		Whole trees in motion; resistance felt in walking against the wind.
8	39-46	Fresh Gale		Twigs and small branches broken off trees.
9	47-54	Strong Gale		Slight structural damage occurs; slate blown from roofs.
10	55-63	Whole Gale		Seldom experienced on land; trees broken; structural damage occurs.
11	64-72	Storm		Very rarely experienced on land; usually with widespread damage.
12	73 or higher	Hurricane Force		Violence and destruction.

In addition to the windstorms derived from thunderstorms or sustained high winds due to other conditions, the following specific wind activities could also occur.

Macroburst is a convection downdraft with an affected outflow area of at least 2.5 miles wide and peak winds lasting between 5 to 20 minutes. Macro burst may cause tornado-force damage of up to EF3 intensity.

Microburst is a convective downdraft with an affected outflow area of less than 2.5 miles wide and peak winds lasting less than 5 minutes. Microbursts may induce dangerous horizontal/vertical wind shears, which can adversely affect aircraft performance and cause property damage.

Burst Swaths can range from about 50 to 150 years in length. The damage they produce may resemble that caused by a tornado.

Red Flag Warnings are frequently issued in the planning area when the conditions are ideal for wildland fire combustion, and rapid spread. These warnings are typically sent out when the conditions stated are coupled with high or erratic winds. The Red Flag Warning becomes a critical statement for firefighting agencies.



Location

It cannot be predicted when or where a windstorm will occur, but the entire planning area can be impacted.

Extent

All participating jurisdictions in the planning area can anticipate winds up to 50 mph several times during the year which is a nine or higher on the Beaufort scale.

Impact

Wind can cause considerable damage to property. Injuries and deaths can occur as direct result both to people due to flying debris. High Winds can cause severe visibility issues on highways, contributing to deadly vehicle accidents. Damage to roof mounted equipment including communications equipment can put the jurisdiction at risk due to inability to reach public services.

With the type of force that can be applied, as described from the Beaufort Scale, homes and the mobile homes will always be the first to sustain damage, and possible injury from loose debris such as sheet metal or fallen trees. Since critical facilities are constructed to withstand at least medium forces, damage would be to roof mounted equipment, roof and landscaping to some degree.

Since the intensity of the various types of windstorms can generate the damage force of a F3 tornado, this would cause considerable damage. Roofs would be torn off well-constructed houses; older foundations of frame homes would shift; mobile homes would be completely destroyed; large trees would be snapped or uprooted; light object missiles would be generated; and cars lifted off the ground.

Vulnerabilities & Impact	
Parmer County	<ul style="list-style-type: none"> • 1 Radio tower, communications system not covered or shielded, impact could be loss/interruption of communications • Windshield and body damage to vehicles on county roads and highways are vulnerable to hailstorm because they have to travel longer before reaching shelter. Impacts of damaged windshields could cause accidents and put the driver and passenger at risk. • Vehicle body and glass Windows: Specifically damage to 6 Sheriff's Office patrol cars and 27 road and bridge vehicles required to still be out on the roads responding to calls during hailstorm events. • Damage to 4 critical County buildings to include roof, windows and HVAC systems. • Crop damage. Impact would be economic loss to farmers. • Contribute to wildfire hazard by shorting out the transformers due to crossing wires.
Lazbuddie ISD	<ul style="list-style-type: none"> • Lazbuddie ISD – 1 main building, 3 portable buildings, an AG, Robotics shop which has bus barn. • 2 HVACS on the roof and the rest of the buildings is serviced with windows units. • Flood lights on athletic fields could be damaged. • Damage to roofs, windows and 5 school buses traveling on county roads or parked in uncovered lot. • Wind could cause damage due blowing debris and staff/student injuries.
Bovina	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, community center, parks playground and attractions. • Control systems and building damage at water and sewer plant. • Potential damage to the 2 lift stations, 7 city wells, elevated & ground towers, pump station and wastewater treatment plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Bovina emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.
Bovina ISD	<ul style="list-style-type: none"> • Damage, slight - totally destroyed to any of the 6 buildings, 12 vehicles or 11 buses. Impact could cause school closures, accidents, staff/student injuries. • Loss of funding (state and federal) for 500 students.

Farwell	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, Community Center, parks playground and attractions. • Control systems damage at water and sewer plant. • Potential damage to the 9 city wells, elevated & ground towers, and sewer plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Farwell emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.. • Farwell Hospital District could suffer minor to destroyed damage to the Nursing Facility, Senior Living Apartments, Dental or Medical Clinic.
Farwell ISD	<ul style="list-style-type: none"> • Farwell Campuses, Campuses (3 campuses totaling 17 buildings) – damage to roofs, windows, any of the 93 HVAC units, and school buses (7). • Impact could cause school closures, accidents, staff/student injuries.
Friona	<ul style="list-style-type: none"> • Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, Special Events building, Community Center swimming pool, parks playground and attractions. • Control systems damage at water and sewer plant. • Potential damage to the 15 city wells, 3 lift stations, 3 Booster Plants, several elevated & ground towers, and sewer plant. • Vehicle service/storage area, and several other city owned properties • Vehicle body and glass Windows: Specifically damage to Friona emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during hailstorm events.. •
Friona ISD	<ul style="list-style-type: none"> • Friona Campuses, Campuses (3 campuses totaling 17 buildings) – damage to roofs, windows, any of the 93 HVAC units, and school buses (21). Impact could cause school closures, accidents, staff/student injuries.

Probability of Future Events

Since 2006, the planning area has experienced at least one significant wind event per year. As significant winds impact the entire county the probability is 100% that the entire planning area will experience a wind event exceeding 40 MPH. Although the table below shows a disparate number of wind events in Bovina and Farwell, it is to be expected that the same wind events impacted these jurisdictions but was only reported at the county level.

Probability of Future Events	Years in Record Span 2006-2018	No. of Events in the Span	Computation	Future Probability of 1 or more events year
Unincorporated Area & Lazbuddie ISD	12	41	$(41/12) * 100 =$	342.00%
Bovina & Bovina ISD	12	4	$(4/12) * 100 =$	33.00%
Farwell & Farwell ISD	12	3	$(3/12) * 100 =$	25.00%
Friona & Friona ISD	12	33	$(33/12) * 100 =$	275.00%

Previous Occurrences

In the past 12 years the planning area has had 80 significant high wind events. Although there have been only one reported injury, property and crop damage has totaled over \$830,000.

Location	Date	Mag	Dth	Inj	PrD	CrD	Impact Narrative
Unincorporated	7/12/2006	56	0	0	0.00K	0.00K	
Friona	8/27/2006	56	0	0	30.00K	0.00K	These winds damaged multiple light weight structures and downed utility lines across the city. At least two large carports were destroyed by the winds. Three additional structures suffered moderate roof damage, including a large grain elevator. Electrical services were finally restored to the city around 03:00 CST on the 28th.
Unincorporated	3/23/2007	61	0	0	20.00K	0.00K	Severe thunderstorm winds resulted in damage to at least three trailer homes and other lightweight structures in Black. This consisted of minor roof damage and the removal of siding. A horse trailer was also destroyed.
Unincorporated	4/10/2007	55	0	0	0.00K	0.00K	
Unincorporated	6/6/2007	51	0	0	0.00K	0.00K	
Unincorporated	6/19/2007	52	0	0	0.00K	25.00K	The wind-blown hail reportedly damaged wheat crops.
Unincorporated	8/24/2007	52	0	0	0.00K	0.00K	
Unincorporated	1/29/2008	51	0	0	0.00K	0.00K	
Unincorporated	4/1/2008	63	0	1	20.00K	0.00K	A truck was blown over on Texas Highway 214 just south of Friona (Parmer County).
Unincorporated	5/25/2008	56	0	0	0.00K	0.00K	
Bovina	6/23/2008	56	0	0	5.00K	0.00K	Reports from the Bovina Police Department described a blinding wall of dust that accompanied approaching outflow winds as severe storms moved out of New Mexico and impacted Bovina shortly after 18:00 CST on the 23rd.
Bovina	6/23/2008	56	0	0	5.00K	0.00K	Reports from the Bovina Police Department described a blinding wall of dust that accompanied approaching outflow winds as severe storms moved out of New Mexico and impacted Bovina shortly after 18:00 CST on the 23rd.
Bovina	6/24/2008	52	0	0	0.00K	0.00K	
Unincorporated	12/14/2008	58	0	0	0.00K	0.00K	
Unincorporated	12/18/2008	54	0	0	0.00K	0.00K	
Friona	2/8/2009	61	0	0	0.00K	0.00K	
Unincorporated	2/27/2009	59	0	0	0.00K	0.00K	
Unincorporated	4/4/2009	57	0	0	15.00K	0.00K	
Friona	7/17/2009	69	0	0	100.00K	0.00K	A number of utility poles were downed and power outages were reported. Damages also were reported to several center pivot irrigation systems.
Bovina	7/29/2009	61	0	0	0.00K	0.00K	
Unincorporated	9/21/2009	53	0	0	0.00K	0.00K	
Friona	9/21/2009	58	0	0	0.00K	0.00K	
Unincorporated	12/8/2009	63	0	0	0.00K	0.00K	
Unincorporated	4/1/2010	52	0	0	0.00K	0.00K	
Unincorporated	5/10/2010	56	0	0	0.00K	0.00K	
Unincorporated	6/8/2010	53	0	0	10.00K	0.00K	Winds may have contributed to downed utility lines and tree limbs and prolonged power outages in Farwell
Unincorporated	6/10/2010	55	0	0	0.00K	0.00K	
Friona	6/17/2010	54	0	0	0.00K	0.00K	
Friona	6/23/2010	55	0	0	0.00K	0.00K	

Location	Date	Mag	Dth	Inj	PrD	CrD	Impact Narrative
Farwell	7/14/2010	52	0	0	0.00K	0.00K	
Friona	7/14/2010	52	0	0	0.00K	0.00K	
Friona	8/5/2010	52	0	0	0.00K	0.00K	
Unincorporated	2/8/2011	43	0	0	10.00K	0.00K	These winds destroyed a carport at the Hamlin Memorial Methodist Church in Farwell
Unincorporated	2/27/2011	56	0	0	0.00K	0.00K	
Unincorporated	4/6/2011	52	0	0	0.00K	0.00K	
Unincorporated	4/26/2011	51	0	0	0.00K	0.00K	
Friona	5/11/2011	51	0	0	0.00K	0.00K	
Farwell	6/27/2011	52	0	0	0.00K	0.00K	
Unincorporated	6/27/2011	61	0	0	0.00K	0.00K	
Unincorporated	10/17/2011	52	0	0	20.00K	0.00K	Parmer County saw some trees and tree limbs down in the city of Friona.
Unincorporated	1/22/2012	52	0	0	0.00K	0.00K	
Friona	6/12/2012	53	0	0	0.00K	0.00K	
Friona	8/18/2012	54	0	0	0.00K	0.00K	
Friona	8/20/2012	76	0	0	20.00K	0.00K	A collapsing thunderstorm produced destructive downburst winds measured up to 88 mph by a Texas Tech University West Texas mesonet station northeast of Friona. Two quarter-mile long irrigation pivots located just east of the mesonet were flipped over. In Friona, similar winds caused widespread light to moderate structural damage mostly to fences, roofs and trees. A hangar door at the airport also sustained damage.
Friona	9/30/2012	50	0	0	0.00K	0.00K	
Friona	12/14/2012	56	0	0	0.00K	0.00K	
Unincorporated	12/14/2012	57	0	0	0.00K	0.00K	
Unincorporated	12/19/2012	51	0	0	0.00K	0.00K	
Unincorporated	2/9/2013	50	0	0	0.00K	0.00K	
Unincorporated	3/8/2013	53	0	0	0.00K	0.00K	
Unincorporated	3/23/2013	56	0	0	0.00K	0.00K	
Friona	5/9/2013	52	0	0	0.00K	0.00K	
Friona	5/28/2013	52	0	0	0.00K	0.00K	
Unincorporated	6/3/2013	51	0	0	0.00K	0.00K	
Friona	6/5/2013	55	0	0	0.00K	0.00K	
Farwell	6/5/2013	61	0	0	0.00K	0.00K	
Bovina	6/17/2013	52	0	0	0.00K	0.00K	
Unincorporated	6/17/2013	87	0	0	5.00K	0.00K	The local Emergency Manager relayed a report from a train crew in Summerfield - 47 train cars derailed with 42 being blown over by severe thunderstorm outflow winds
Friona	6/20/2013	51	0	0	0.00K	0.00K	
Unincorporated	6/20/2013	55	0	0	0.00K	0.00K	
Friona	6/21/2013	55	0	0	0.00K	0.00K	
Friona	6/29/2013	53	0	0	0.00K	0.00K	
Friona	7/4/2013	51	0	0	0.00K	0.00K	
Unincorporated	4/27/2014	51	0	0	0.00K	0.00K	
Friona	6/7/2014	50	0	0	0.00K	0.00K	
Friona	6/13/2014	50	0	0	0.00K	0.00K	
Friona	6/23/2014	56	0	0	0.00K	0.00K	

Location	Date	Mag	Dth	Inj	PrD	CrD	Impact Narrative
Unincorporated	6/29/2015	57	0	0	0.00K	0.00K	
Unincorporated	7/9/2015	51	0	0	0.00K	0.00K	
Friona	7/20/2015	50	0	0	0.00K	0.00K	
Friona	8/8/2015	53	0	0	0.00K	0.00K	
Friona	10/7/2015	50	0	0	0.00K	0.00K	
Unincorporated	3/12/2016	52	0	0	0.00K	0.00K	
Unincorporated	3/23/2016	53	0	0	0.00K	0.00K	
Unincorporated	3/26/2016	59	0	0	0.00K	0.00K	
Friona	7/3/2016	78	0	0	350.00K	200.00K	This storm produced a series of intense downbursts with winds determined as high as 90 mph about four miles northeast of Friona. These winds damaged grain silos and a barn, destroyed center pivot irrigation units, and damaged nearly 1000 acres of corn and sorghum crops in the area. Combined losses were estimated in excess of \$500,000 USD.
Friona	7/29/2016	51	0	0	0.00K	0.00K	
Friona	8/2/2016	58	0	0	0.00K	0.00K	
Friona	6/20/2017	51	0	0	0.00K	0.00K	
Friona	6/21/2017	56	0	0	0.00K	0.00K	
Friona	7/4/2017	54	0	0	0.00K	0.00K	

Winter Storm

Description

A **Winter Storm** is, "...an event in which the varieties of precipitation are formed that only occur at low temperatures, such as snow or sleet, or a rainstorm where ground temperatures are low enough to allow ice to form (i.e. freezing rain). In temperate continental climates, these storms are not necessarily restricted to the winter season, but may occur in the late autumn and early spring as well." The difference between a blizzard and winter storms lies in the presence and strength of winds. Blizzards are massive snow storms with strong winds.



The chart below distinguishes a number of the chief characteristics of both types of storms.

Comparison of Blizzard to a Winter Storm

	BLIZZARD	WINTER STORM
Occurrence:	Winter	Winter, spring, autumn
Characteristics:	Severe storm with strong winds, severe temperatures and heavy snow.	Cold storm with low temperature, sleet, snow, rain and ice formations can be seen throughout the planning area
Economic impact:	Blizzards harm local economies and cause paralysis of normal life for days.	Infections due to frostbites, death from hypothermia, power outage, car accidents on slippery roads, fires, carbon monoxide poisoning etc. lead to disruption of life until conditions improve.
Effect:	Blizzard gives rise to a white out with minimum visibility.	Avalanches, cornices and spring flooding are common in winter storms.
Types:	Traditional and ground blizzards	Snow storm, Freezing rain storm or wintry mixes.
Forms of precipitation:	Snow	Snow, rime, ice pellets, rain, graupel (snow pellets)

Source: <http://www.diffen.com/difference/Blizzard vs Winter Storm>

Winter storms that impact the planning area can include:

Freezing Rain - Rain that falls on a surface with a temperature below freezing, forming a glaze of ice. Even small accumulations of ice can cause a significant hazard, especially on power lines and trees.

Heavy Snow Snowfall accumulating to 4" or more in depth in 12 hours or less; or snowfall accumulating to 6" or more in depth in 24 hours or less

Blizzard Conditions- Considerable falling or blowing snow with winds in excess of 25 mph and visibilities of less than ¼ for at least 3 hours.

The SPIA index chart allow for a community to prepare for a winter or an ice storm event. These events are infrequent but can cause damage. The primary areas of concern are on bridges, roadways and utility infrastructure including electric and natural gas supply lines.

Sperry-Piltz Ice Accumulation Index

The Sperry-Piltz Ice Accumulation Index, or “SPIA Index” – Copyright, February, 2009

ICE DAMAGE INDEX	DAMAGE AND IMPACT DESCRIPTIONS
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

Location

Winter storms can affect the entire planning area often and with enough severity to be a threat to people and property. Generally, the winter storm season runs from late November to mid-March, although severe winter weather has occurred as early as October and as late as May in some locations.

Extent

The entire planning area can be impacted by extreme icing, heavy snow and white out conditions due to high winds. Ice accumulations on power lines and trees can exceed 2” and result in millions of dollars to the electrical coops and cattle losses due to suffocation when piling up. Snow accumulations can reach 3 feet overall with 10-12 foot drifts resulting from extreme wind conditions. High winds up to 53 MPH during snow events have contributed to road closures on Hwy 60.

Impact

Due to high winds that frequently blow up to 30 MPH with gusts up to 65 MPH, residents are a risk for frequent electrical outages due to lines down or transformer damage – roads are greatly impacted with freezing ice and blowing snow. On December 26, 2015 the county was hit by blizzard conditions with snow 20”, snow drifts up to 15’ with 60-70 MPH winds. This blizzard contributed to the loss of over 15,000 dairy cows. Death was due to suffocation from heavy snowfall, but cattle also froze while standing up. Many were able to walk over fences due to high drifts and got into drainage ponds, broke through the ice and drowned.

	Vulnerabilities & Impact
Parmer County	<ul style="list-style-type: none"> Loss of electricity due to power lines, transformers, transformer banks and power stations being damaged due to accumulating ice. 1 Radio tower, communications system damage due to ice. Impassable county roads due to snow or ice Loss of cattle both feedlot and dairy
Lazbuddie ISD	<ul style="list-style-type: none"> Lazbuddie ISD – 1 main building, 3 portable buildings, an AG, Robotics shop which has bus barn. Damage to parking lots. Blowing snow in minor building cracks can build up moisture and lead to infrastructure damage. Damage to roofs, windows and 5 school buses traveling on county roads or parked in uncovered lot. Impact could cause school closures, accidents, staff/student injuries.
Bovina	<ul style="list-style-type: none"> Roof, HVAC and window damage to critical city facilities to include city hall, police & fire department, community center, parks playground and attractions. Control systems and building damage at water and sewer plant. Potential damage to the 2 lift stations, 7 city wells, elevated & ground towers, pump station and wastewater treatment plant due to heavy snow and/or loss of electricity. Long term use of generators. Vehicle service/storage area, and several other city owned properties due to snow drifts and heavy snow on roofs Vehicle body and glass Windows: Specifically damage due to vehicle accidents to Bovina emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during blizzard conditions.
Bovina ISD	<ul style="list-style-type: none"> Damage, slight - totally destroyed to any of the 6 buildings, 12 vehicles or 11 buses. Impact could cause school closures, accidents, staff/student injuries. Loss of funding (state and federal) for 500 students.
Farwell	<ul style="list-style-type: none"> Roof and parking lot damage to critical city facilities to include city hall, police & fire department, Community Center, parks playground and attractions. Potential damage and loss of electricity to the 9 city wells, ground towers, and sewer plant. Long term use of generators. Vehicle service/storage area, and several other city owned properties Vehicle body and glass Windows: Specifically damage due to vehicle accidents to Farwell emergency response vehicles and public works vehicles which are required to be out on the roads responding to calls during blizzard conditions. Farwell Hospital District could suffer roof and parking lot damage to the Nursing Facility, Senior Living Apartments, Dental or Medical Clinic.
Farwell ISD	<ul style="list-style-type: none"> Farwell Campuses, Campuses (3 campuses totaling 7 buildings) – damage to roofs, windows, any of the 56 HVAC units, and school buses (7). Impact could cause school closures, accidents, staff/student injuries.

Friona	<ul style="list-style-type: none"> • Critical city facilities to include city hall, police & fire department, community building, Vehicle service/storage area. Roof loss due to heavy snow, electrical outage. • Wastewater plants, 3 lift stations and booster pumps, 15 water wells electrical outage – long term use of generators. • Radio towers, communications system, due to ice damage. • Power lines, transformers & transformer banks and several power stations damage due to ice.
Friona ISD	<ul style="list-style-type: none"> • Friona Campuses, Campuses (3 campuses totaling 17 buildings) – damage to roofs and parking lot due to heavy snow. • Impact could cause school closures, bus accidents, staff/student injuries.

Probability of Future Events

Historical patterns are assumed to be a dominant factor in determining future winter storm events. Based upon the historical instances of winter storm events that have occurred in the area during the last 12 years, the annual probability of occurrence for these events was estimated as follows.

Since 2006 at least one winter storm occurred in the planning area within at least 9 of the 12 years. Based on this data, the MAT estimates the probability for a winter storm in any given year to be over 100%.

Probability of Future Events	Years in Record Span 2006-2018	No. of Events in the Span	Computation	Future Probability of 1 or more events year
Unincorporated Area	12	46	$(46/12) * 100 =$	383.00%
City of Bovina, Farwell & Friona and Bovina, Farwell, Friona & Lazbuddie ISD can be equally affected. The probability of future occurrence can be anticipated to impact all jurisdictions significantly at once every year.				

Previous Occurrences

The table below summarizes the winter storm events recorded for the planning area between the years 2006 and 2018. During that 18-year span, the planning area witnessed 46 separate severe winter storm events.

Severe Winter Storm Highlights for the Planning Area: 2006 - 2018

Report Year	No. of Events	Prevalent Impact
2006	3	4" – 7" of heavy snow
2007	7	4-11" of heavy snow
2008	3	1-3" of snow
2009	8	2-5" of snow. Excessive winds up to 73 MPH
2010	5	4-9: of snow
2011	7	6" of snow; Sustained winds of 35 MPH with visibility less than 1/4 mi
2012	2	2-5" of snow.
2013	3	2-8" of snow with blizzard conditions.
2014	3	1-2" of snow and ¼" ice accumulations
2015	4	2-20" of snow, ice accumulation on county roads. Blizzard conditions on 12/26 with 10' snow drifts.
2016	0	Minimal winter weather impact
2017	1	1". Minimal winter weather impact
2018	0	Minimal winter weather impact

NFIP Insured Structures and Severe Repetitive Loss (B4):

Through the Severe Repetitive Loss (SRL) Grant Program FEMA provides federal funding to assist to states and communities in implementing mitigation measures to reduce or eliminate the long-term risk of flood damage to severe repetitive loss residential structures insured under the National Flood Insurance Program (NFIP). The TWDB administers the SRL grant program for the State of Texas.

Severe Repetitive Loss properties are defined as residential properties that are:

- a) covered under the NFIP and have at least four (4) flood related damage claim payments (building and contents) over \$5,000.00 each, and the cumulative amount of such claims payments exceed \$20,000; or
- b) for which at least two (2) separate claim payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

According to the NFIP, between 1978 and 2018, there have been a total of 0 flood damage claims made in the planning area.

Vulnerable Assets and Potential Losses:

The table displays total population, building counts, and building values, summarized for Parmer County. Building counts and values are also presented by their occupancy type.

List of Critical Infrastructure/Key Resources (CI/KR)

Facilities	Parmer County		City of Bovina		City of Farwell		City of Friona	
	No.	PV	No.	PV	No.	PV	No.	PV
Government	11	\$8,358,000	5	\$325,000	6	\$2,900,000	10	\$3,572,907
Law Enforcement	3	\$4,447,000	1	\$100,000	2	\$3,200,000	1	\$270,000
Fire Stations	2	\$120,000	2	\$220,000	1	\$57,300	1	\$530,000
Hospitals/Medical			1	\$175,000	1	\$450,000	2	\$51,000,000
Schools	1	\$5,188,224	1	\$14,488,337	4	\$20,020,052	8	\$28,235,000
Assisted Living & Senior			1	\$750,000	1	\$5,630,000	3	\$4,490,000

Note: Critical Facilities estimates includes building value only

The table above provides estimates of the current Present Values (PV) of some of the more critical infrastructure in the planning area. It should be noted that based on current construction costs, it could easily cost 2 – 3 times the present value to replace structures identified on this list.

Element C – Mitigation Strategy

Existing Authorities, Policies, Programs and Resources (C1):

Existing Plans and Ordinances

Jurisdiction	Building Code	Zoning Ordinance	Subdivision Ordinance or regulation	Special purpose ordinances (floodplain management, storm water management, drainage, wildfire)	Growth management ordinances (also called "smart Growth" or anti-sprawl programs)	Site Plan review requirements	A capital improvements plan	An economic development plan	An emergency response plan	A post-disaster recovery plan	A post-disaster recovery ordinance	Real estate disclosure requirements	Other: Annual Budget Review
Parmer County	N	N	N	N	N	N	Y	N	Y	Y	N	N	Y
City of Bovina	Y	N	N	N	N	Y	Y	N	Y	Y	N	N	Y
City of Farwell	Y	N	N	N	N	Y	Y	N	Y	Y	N	N	Y
City of Friona	Y	N	N	N	N	Y	Y	N	Y	Y	N	N	Y
ISD's	NA	NA	NA	NA	NA	NA	Y	NA	Y	NA	NA	NA	Y

This table summarizes the current authorities and capabilities that could support each jurisdiction's efforts to implement the mitigation actions they've identified in this document. The matrix lists common planning tools/mechanisms which FEMA suggests as being contributive to local mitigation activities.

The most powerful mechanism available to them is motivating the public by improving their understanding of the natural hazards they face and by providing them with practical, cost-effective, actions that can be self-implemented to reduce their risks to those hazards should be one of the most effective tools each can use in achieving their mitigation goals in their jurisdiction.

Although funding to create or expand code and zoning enforcement positions may be limited, each jurisdiction can still utilize the table above to discuss methods on implementing no or low cost strategies for planning mechanisms such as formal capital improvement or comprehensive plans.

The ability for each jurisdiction to expand on the capabilities they currently have will be addressed in the council and commissioners court.

The **unincorporated area (County)** As a County in the State of Texas, Parmer County has no authority to establish Building or Fire, Codes or Regulations of any kind. Counties cannot establish ordinances in the State of Texas. However, Parmer County does issue burn bans on an as needed basis during drought conditions. No code numbers or equivalent is issued with these burn bans. There are no dates, inspectors, inspections numbers or inspection processes regarding the unincorporated areas within Parmer County.

The **City of Bovina** has adopted the 2012 International Residential Code (IRC) which is applicable to all one and two family residential facilities. A City Public Works employee is designated an additional duty as Building/Code Enforcement Officer and the Bovina Volunteer Fire Department Fire Chief is responsible to conduct applicable fire inspections as deemed appropriate. Code of the City of Bovina beginning in Chapter 4 outlines the City's building inspection requirements, permit process, and fire inspection process. The City's Board of Adjustment hears appeals for setback requirements or other zoning requirements.

The **City of Farwell** has adopted the Universal Building Code; the Code was passed by the City Council with ordinance No. The Department Head of the City Public Works and the Chief of Police is designated an additional duty as Building/Code Enforcement Officer. The City's building permit process requires applicants to submit Permit applications which are then reviewed by the Head of the City Public Works and then presented to the City Council for final approval, pursuant to City Ordinance No. 147. The City Council reviews appeals that are made to all allow or not to allow a construction method that may not be specifically addressed in the code. The City does not have a board of adjustment or a comparable committee which hears appeals for setback requirements or other zoning requirements.

The **City of Friona** has adopted the 2012 International Residential Code (IRC) which is applicable to all one and two family residential facilities. These codes were passed by the City Council in 2003 with ordinance number 01-03. The City employs one fire inspector and conducts an average of 200 inspections per year. The fire inspector routinely inspects residential, governmental, and industrial facilities. Building permits are issued and inspections are conducted according to building code requirements. Fire Inspections are conducted each time the inspector enters a commercial building or retail store. The City Council reviews appeals that are made to all allow or not to allow a construction method that may not be specifically addressed in the code. The City Council also reviews appeals for setback requirements or other zoning requirements.

ISD's As the ISD reviews capital improvement plans, the mitigation strategies that were developed in this plan will be referred to and prioritized based on the needs of all the campuses. The ISD's will continue to seek available grants to help in fund mitigation projects based on this prioritization.

National Flood Insurance Program (NFIP) (C2)

As described later in this document, flooding occurs occasionally within the County with most of these events being flash floods. Two of the jurisdictions covered by this plan are currently participating in the NFIP. The Texas Water Development Board (TWDB) maintains a current list of County Flood Plain Administrators (FPA). The FPA list below is current as of August of 2016

County Flood Plan Administrators

CID	Community	Status	Firm Status	Map Date	Flood Plain Adminr. (FPA) & Title
480970	Parmer County	Participating Under the Emergency Program	Never Mapped		CEO Trey Ellis FPA Michelle Agee
480971	City of Bovina	Not Participating	Never Mapped		
480972	City of Farwell	Participating Under the Emergency Program	Never Mapped		CEO Jimmie Mace FPA Tammy Mitchell
480523	City of Friona	Participating	Mapped	6/5/85	CEO Savador Garcia POC Clarence Monroe

Parmer County

Parmer County participates in the NFIP program under the Emergency Program, however, FEMA has not completed a study to determine flood hazard for the County; therefore a flood map (flood plain) has not been published.

Since the County is not mapped but is a participant, it will assume the whole county is equally at risk to flooding and therefore will continue to regulate all development as such. Parmer County will continue to follow current ordinances and seek to adopt more stringent floodplain ordinances for future development. The County will also work towards being officially mapped by FEMA to identify flood plains.

City of Bovina

This city does not participate in the NFIP program. Over the life of this plan they will review participation and determine if this would be appropriate for their community.

City of Farwell

The City of Farwell participates in the NFIP program under the Emergency Program. FEMA has not mapped the city to determine any flood hazard; therefore a flood map (flood plain) has not been published.

Since the City of Farwell is not mapped but is a participant, it will assume the whole city is equally at risk to flooding and therefore will continue to regulate all development as such. Farwell will continue to follow current ordinances and seek to adopt more stringent floodplain ordinances for future development.

Goals to Reduce/Avoid Long –Term Vulnerabilities (C3)

The goals and objectives of this MAP reflect goals similar to those found in the State of Texas Mitigation Plan and the National Flood Insurance Program.

The MAT began the development of the updated MAP by agreeing to a common set of goals and objectives, flexible enough they could be used to formulate customized mitigation actions for local implementation. The goals and objectives of the planning area are provided below.

Goal 1: Protect public health and safety

Objective 1.1: Advise the public about health and safety precautions to guard against injury and loss of life from hazards.

Objective 1.2: Maximize the use of modern technology to provide adequate warning, communication, and mitigation of hazards events.

Objective 1.3: Reduce the danger to, and enhance protection of, dangerous areas during hazard events.

Objective 1.4: Protect critical infrastructure facilities and critical services.

Goal 2: Protect existing and new properties

Objective 2.1: Use the most cost-effective approaches to protect existing and new building and public infrastructure from hazards.

Objective 2.2: Work to develop local guidance to ensure that development will not inadvertently endanger the public or increase threats to existing and new properties.

Goal 3: Increase public understanding, support, and demand for hazard mitigation

Objective 3.1: Increase public awareness of the full range of natural and man-made hazards they face.

Objective 3.2: Educate the public on actions they can take to prevent or reduce the loss of life or property from all hazards.

Objective 3.3: Publicize and encourage the adoption of appropriate hazard mitigation measures.

Objective 3.4: Encourage public policy to promote mitigation activities among the local jurisdictions.

Goal 4: Promote growth in a sustainable manner.

Objective 4.1: Incorporate hazard mitigation into the long-range planning and development activities

Objective 4.2: Encourage developers to voluntarily use codes and standards that will help to prevent the creation of future hazards to life and property

Goal 5: Maximize the use of outside sources of funding

Objective 5.1: Maximize the use of outside sources of funding

Objective 5.2: Maximize participation of residents in protecting their welfare and their properties

Objective 5.3: Maximize insurance coverage to provide financial protection against hazard events

Criteria for Prioritizing Actions

Considering detailed benefit/cost or cost-effectiveness analysis for every possible mitigation activity can be time consuming and may not always be practical. In using the criteria and scoring below, the MAT was able to consistently score each action as High, Medium or Low.

Evaluation Worksheet		
Rank each of the criteria with a -1, 0, or 1 using the following scale:		
<ul style="list-style-type: none"> • 1 = Highly effective or feasible • 0 = Neutral • -1 = Ineffective or not feasible 		
Score	Criteria	Description
	Life Safety	How effective will the action be at protecting lives and preventing injuries?
	Property Protection	How significant will the action be at eliminating or reducing damage to structures and infrastructure?
	Technical	Is the mitigation action technically feasible? Is it a long-term solution?
	Political	Is there overall public support for the mitigation action? Is there the political will to support it?
	Legal	Does the community have the authority to implement the action?
	Environmental	What are the potential environmental impacts of the action? Will it comply with environmental regulations
	Social	Will the proposed action adversely affect one segment of the population?
	Administrative	Does the community have the personnel and administrative capabilities to implement the action and maintain it?
	Local Champion	Is there a strong advocate for the action or project among local departments and agencies that will support the action's implementation?
	Other Community Objectives	Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation?
	Total Score	
Score Key High = 6-10 Medium = 3-5 Low = <3		

Comparison of the 2006 & 2018 Criteria for prioritizing actions										
2018	<i>Life Safety</i>	<i>Property Protection</i>	<i>Technical</i>	<i>Political</i>	<i>Legal</i>	<i>Environmental</i>	<i>Social</i>	<i>Administrative</i>	<i>Local Champion</i>	<i>Other</i>
2006			<i>Technical</i>	<i>Political</i>	<i>Legal</i>	<i>Environmental</i>	<i>Social</i>	<i>Administrative</i>	<i>Social Political</i>	<i>Economic</i>

The planning area agreed to use the new criteria as it added the life safety and property protection. For deferred actions – using the 2018 scoring criteria did not change the outcome of the actions priority.

Mitigation Action Items (C4/5)

Hazards Addressed	Drought, Hailstorm, Flooding, Lightning, Severe Winter Storm, Tornado, Wildfire, Windstorms
<i>Educate the public on mitigation strategies for the above referenced hazards.</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.1, 1.2, 3.1, 3.2, 3.3, 3.4, 5.2
Priority (High, Medium, Low):	High
Estimated Cost:	\$1,000
Potential Funding Source(s):	Local budget, Grant funds, Volunteer Hours, Business Donations
Lead Agency/Department Responsible:	County EMC, City Fire Department, ISD Superintendent
Implementation Schedule:	Throughout the 5-year update period
<p>Cost Effectiveness: Outreach activities are very cost effective; they can be used to engage the public at-large in their own protection by educating them on the risks associated with the hazards and the actions they can take to avoid those risks.</p>	
<p>Discussion: Safety brochures, warning signs at parks, and educating school children can all help increase public awareness of hail dangers. The objective of this action is to make residents aware that hail is a hazard that should be taken seriously; failure to do so can result in serious injury or death.</p>	

Hazards Addressed	Hailstorm, Flooding, Severe Winter Storm, Tornado, Wildfire, Windstorms
<i>Purchase public alert/warning systems for locations throughout the entire planning area. Work with NOAA to add a transponder for the NOAA weather radios.</i>	
Participating Jurisdiction	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.1, 1.2, 1.3, 2.1, 3.1, 5.1
Priority (High, Medium, Low):	Medium
Estimated Cost:	\$10,000
Potential Funding Source(s):	Grant fund, Local budget, Volunteer Hours, Business Donations
Lead Agency/Department Responsible:	County EMC, City Fire Department, ISD Superintendent
Implementation Schedule:	Within 12 months of securing the necessary funding
<p>Cost Effectiveness: The use of NOAA All-Hazards Weather Radios provides a cost-effective method for alerting the public to specific issues with multiple hazards. Enhancement of the PARIS Mass Notification/ISD Notification and integration of IPAWS will continue to expand the planning area notification platforms.</p>	
<p>Discussion: Purchase public warning systems to alert residents to a potential emergencies or directions for all hazards. Systems would include: NOAA Weather Radios, Mass Notification Systems, Social Media and IPAWS.</p>	

Hazards Addressed	Flooding,
<i>Work with FEMA to conduct a flood analysis and to create a floodplain map for the County and unmapped cities.</i>	
<i>Participating Jurisdiction</i>	<i>Parmer County, City of Bovina, & City of Farwell</i>
<i>Objective(s) Addressed:</i>	<i>1.1, 1.3, 2.1, 2.2, 3.1, 3.3, 4.1, 4.2, 5.1, 5.2</i>
<i>Priority (High, Medium, Low):</i>	<i>Medium</i>
<i>Estimated Cost:</i>	<i>TBD</i>
<i>Potential Funding Source(s):</i>	<i>Grant fund,</i>
<i>Lead Agency/Department Responsible:</i>	<i>County EMC, City Manager</i>
<i>Implementation Schedule:</i>	<i>Within 12 months of securing the necessary funding</i>
Cost Effectiveness: <i>Having a current floodplain map will allow county/city officials, land owners and those looking to purchase property the chance to identify areas at risk to flooding.</i>	
Discussion: <i>Information would be critical in future development that could occur within the county. This action would likely reduce risk to life and property.</i>	

Hazards Addressed	Flooding
<i>Work with TxDOT to install flood signage on Hwy 60 and Hwy 84 in low lying areas.</i>	
<i>Participating Jurisdiction</i>	<i>Parmer County</i>
<i>Objective(s) Addressed:</i>	<i>1.1, 1.2, 1.3, 3.1, 5.1</i>
<i>Priority (High, Medium, Low):</i>	<i>Medium</i>
<i>Estimated Cost:</i>	<i>\$10,000</i>
<i>Potential Funding Source(s):</i>	<i>Grant fund, State Partnership, Local budget</i>
<i>Lead Agency/Department Responsible:</i>	<i>County EMC</i>
<i>Implementation Schedule:</i>	<i>Within 6-12 months of securing the necessary funding</i>
Cost Effectiveness: <i>The use of flood signage will warn approaching vehicles of low areas that are susceptible to flash flooding.</i>	
Discussion: <i>Warning will aid in reducing risk to life and property during flash flooding events.</i>	

Hazard/s Addressed	Hailstorm, Windstorm, Tornadoes
<i>Install hail resistant vehicle covering at their facilities.</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.4, 2.1, 4.1
Priority (High, Medium, Low):	High
Estimated Cost:	TBD
Potential Funding Source(s):	Grant funds, Local budget
Lead Agency/Department Responsible:	County Commissioners, City Council, ISD Board
Implementation Schedule:	Implementation based on need and availability of funding
Cost Effectiveness: Installation of covered parking would minimize damage not only to County or City vehicles but also to the vehicles of the employees that work at the facilities to be equipped.	
Discussion: Installation of covered parking in strategic areas would save the jurisdiction and its employees the expense of having to repair hail damage to vehicles. The covering will also provide temporary shelter to individuals who were caught in the storm before making it indoors.	

Hazard/s Addressed	Hailstorm, Windstorm, Tornadoes
<i>Install hail resistant roofing and window coverings on critical facilities/structures</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.4, 2.1, 5.3, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	Annual review cost: \$0.00. Replacement cost for county buildings: \$10 million
Potential Funding Source(s):	Grant fund, Local budget
Lead Agency/Department Responsible:	County Commissioners, City Council, City Management, ISD Board
Implementation Schedule:	Throughout the 5-year update period
Cost Effectiveness The entire planning area is in a high-frequency zone for hailstorms that can cause substantial damage. Protecting critical facilities not only helps to reduce the potential for insurance claims but helps to ensure those facilities remain operable after they're endured a major hail event.	
Discussion: The planning area is frequently pounded by hailstorms. As documented earlier in this update, very often the hailstones are large and capable of producing considerable damage. Protecting the outer envelope of critical facilities will help to mitigate these damages but more importantly, help to ensure they remain functional after the storms pass.	

Hazard/s Addressed	Hailstorms, Tornadoes
<i>Follow building codes that require construction of safe rooms in new school campuses; and assist where possible, with retrofitting new/existing school campuses with shelters</i>	
Participating Jurisdiction/s	<i>Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.2, 1.4, 2.2
Priority (High, Medium, Low):	Medium
Estimated Cost:	\$750,000 per campus for existing campuses; \$300,000 per campus for new campuses
Potential Funding Source(s):	Grant funds / District funds
Lead Agency/Department Responsible:	Local Independent School District
Implementation Schedule:	Upon approval of funds
Cost Effectiveness: ISD can incorporate multi-purpose safe rooms into new/retrofit projects so that they can be used to provide shelter as needed but also support everyday scholastic activities; in effect, the investment will return daily benefits.	
Discussion: The 2015 IBC will require that educational institutions with an aggregate occupancy of 50 or more that are located in tornado zones where the design wind speed is 250 mph must incorporate shelters into newly constructed facilities, built to hold the occupancy of the institution in accordance with ICC 500. The purpose of this action is to support the local ISDs in their efforts to meet this requirement.	

Hazard/s Addressed	Hailstorm, Lightning, Tornadoes, Windstorms, Wildfire, Severe Winter Storm
<i>Install emergency generators at water wells, water distribution facility or city well fields</i>	
Participating Jurisdiction	<i>City of Bovina, City of Farwell, City of Friona, Lazbuddie ISD</i>
Objective(s) Addressed:	1.2, 1.4, 2.1, 4.1, 5.1
Priority (High, Medium, Low):	High
Estimated Cost:	\$45,000~\$250,000
Potential Funding Source(s):	Grant funds, Local budget
Lead Agency/Department Responsible:	City Utilities
Implementation Schedule:	Within 6 months of securing the necessary funding
Cost Effectiveness: Ensuring that water is available to the city and its citizens makes the cost irrelevant.	
Discussion: Installation of emergency generators at the city's water distribution facility and two well fields will ensure that water can still be treated and delivered without power.	

Hazard/s Addressed	Hailstorm, Windstorm, Wildfire, Tornado
<i>Expand the outdoor warning system for new development and unincorporated areas.</i>	
Participating Jurisdiction	<i>Unincorporated area of Lazbuddie, City of Bovina, City of Farwell, City of Friona</i>
Objective(s) Addressed:	1.1, 1.2, 1.3, 1.4
Priority (High, Medium, Low):	High
Estimated Cost:	\$30,000 per siren
Potential Funding Source(s):	Grant funds, Local budget
Lead Agency/Department Responsible:	City Manager, City Secretary, County EMC
Implementation Schedule:	Within 6-12 months of securing the necessary funding
<p>Cost Effectiveness: Although costly, outdoor warning systems are an essential part of the City or unincorporated area public alerting/warning system and are effective in warning the public. For the most part, residents in this part of the State associate a siren tone with a tornado so sirens are particularly effective with tornado events.</p> <p>Discussion: Adding more sirens in areas where coverage is currently lean and improving and updating aging warning sirens would save lives/reduce injuries in a hazard event by providing proper and easily recognizable warning to residents.</p>	

Hazard/s Addressed	Severe Winter Weather, Tornadoes
<i>Develop/maintain a list of Functional Needs residents for the conduct welfare checks during prolonged winter storm events and identify locations of personal underground shelters for welfare checks following a tornado.</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona</i>
Objective(s) Addressed:	1.3, 1.4, 5.1
Priority (High, Medium, Low):	Medium
Estimated Cost:	\$200 for volunteer recruitment; \$2,400 for portable generators
Potential Funding Source(s):	Grant funds, Local budget
Lead Agency/Department Responsible:	County EMC, City Secretary/Manager, City Volunteers
Implementation Schedule:	Within 6 months of securing the necessary funding
<p>Cost Effectiveness This is a low-cost option that could be used to identify local volunteers that could be used for a variety of purposes</p> <p>Discussion: There are a number of aging, vulnerable residents residing within the jurisdiction. The purpose of this action is to develop a mechanism to check on their wellbeing during winter events that may keep them housebound for several days or longer. Some of those residents may rely on electricity for medical devices so the jurisdiction will maintain a small cache of portable generators that can be used to provide temporary power when winter storms result in power outages that may place these residents at risk.</p>	

Hazard/s Addressed	Hail Storms, Lightning, Tornados, Windstorms, Severe Winter Storms
<i>Supply critical facilities with back-up power supply</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.4, 2.1, 5.1
Priority (High, Medium, Low):	High
Estimated Cost:	\$45,000
Potential Funding Source(s):	Grant funds / Local Budget
Lead Agency/Department Responsible:	County Commissioners' Court, City Council, ISD Boards
Implementation Schedule:	Within 6 months of securing the necessary funding
Cost Effectiveness: Action is projected to have a benefit greater than the cost of the equipment; from avoided damages to internal systems/equipment that could otherwise result from a power loss.	
Discussion: The participant must maintain electrical power at its critical facilities (e.g., fires stations, county barns, safe rooms etc.) at all times in order to run its emergency operations or to protect students; particularly during winter weather events.	

Hazard/s Addressed	Wildfire, Windstorms
<i>Establish & maintain a fire-safe defensible space around critical facilities in sectors in or bordering WUI areas</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.3, 2.2, 4.1
Priority (High, Medium, Low):	Medium
Estimated Cost:	\$5,000 in annual costs
Potential Funding Source(s):	Local budget
Lead Agency/Department Responsible:	County Facilities Maintenance /County EMC, VFD, FD, ISD Maintenance Dept.
Implementation Schedule:	Within 3 months
Cost Effectiveness: Establishing and maintaining a fire-safe defensible space around critical facilities is an easy, low-cost way to create a buffer zone and limit the potential for wildfire damages.	
Discussion: Establishing and maintaining fire-safe defensible space will reduce the likelihood that a critical facility, such as a fire station, will be affected by this type of hazard event. This will also reduce the potential threat of this type of hazard on people inside the facility and increase the jurisdiction's ability to adequately respond event during this type of hazard. The defensible space would also lend to reduce broken limbs and yard junk that could picked up by high winds.	

Hazard Addressed	Drought
<i>Integrate the use of water efficient fixtures, appliances and systems (e.g., low-flow toilets, faucet aerators, on-demand recirculation system) into new/existing construction projects to reduce water consumption</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.2, 4.1
Priority (High, Medium, Low):	Medium
Estimated Cost:	TBD
Potential Funding Source(s):	Grant Funds, Local budget, Volunteer Hours, Business Donations
Lead Agency/Department Responsible:	County Commissioners Court, City Management, ISD Superintendent
Implementation Schedule:	5-year
<p>Cost Effectiveness: Using water-efficient equipment and smart conservation techniques will reduce the amount of water being used at jurisdiction facilities. In time, the reduction in the jurisdiction's monthly water bills will more than offset the costs of the equipment.</p> <p>Discussion: The use of LEED-like construction practices is becoming more prevalent nationwide. The evidence is clear that water conservation is practical and cost-effective. The jurisdiction should be a leader in this regard; demonstrating that these practices will not only work at government facilities but also residential homes.</p>	

Hazard/s	Drought
<i>Update the City's Drought Contingency Plan; integrating strategies to further reduce water consumption cost-effectively</i>	
Participating Jurisdiction/s	City of Friona
Objective(s) Addressed:	3.2, 3.3, 3.4, 4.1, 5.2
Priority (High, Medium, Low):	Medium
Estimated Cost:	Dependent upon restrictions and severity of drought
Potential Funding Source(s):	Grant fund, Local budget
Lead Agency/Department Responsible:	City Utilities & City Council
Implementation Schedule:	Plan reviewed annually with an eye toward improving water conservation measures
<p>Cost Effectiveness: The key to this action is to update the plan with conservation measures that are practically implemented, productive and cost-effective. By virtue of their implementation, these actions will be of value to the public and will support the Plan's water-savings goals.</p> <p>Discussion: Continuously draw on guidance from local water districts and planning groups to implement proactive water conservation measures into the Drought Contingency Plan based on Ogallala aquifer projections and on U.S. Drought Monitor drought intensity levels.</p>	

Hazard/s Addressed	Severe Winter Storms
<i>Use weather-resistant paving materials on resurfacing/road construction projects to minimize surface damage due to winter storms</i>	
Participating Jurisdiction/s	<i>Parmer County</i>
Objective(s) Addressed:	1.2, 1.3, 5.1
Priority (High, Medium, Low):	Medium
Estimated Cost:	TBD; based on the length/width of the roadway project
Potential Funding Source(s):	Grant funds/ Local budget
Lead Agency/Department Responsible:	County Commissioners' Court , County Road & Bridge
Implementation Schedule:	Within 12 months of securing the necessary funding
Cost Effectiveness: There are a number paving products available that are designed to withstand the harshest of weather and yet are economical and durable. Their cost is offset by reduced maintenance and replacement costs.	
Discussion: Recent advancements in asphalt pavement technology can be applied when resurfacing local roads helping them to stand up better to freeze/thaw cycles and safer to drive in winter weather. This technology could greatly reduce the frequency and cost of maintenance. Keeping the roads in better repair will make them safer to travel under any weather condition	

Hazards Addressed	Lightning
<i>Purchase and install lightning protection equipment in critical facilities and infrastructure to prevent lighting damage</i>	
<i>Participating Jurisdiction</i>	<i>Parmer County, City of Bovina, City of Farwell, City of Friona and Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
<i>Objective(s) Addressed:</i>	1.1, 1.2, 1.3, 2.1, 3.1, 5.1
<i>Priority (High, Medium, Low):</i>	Medium
<i>Estimated Cost:</i>	\$35,000
<i>Potential Funding Source(s):</i>	Grant fund, Local budget, Volunteer Hours, Business Donations
<i>Lead Agency/Department Responsible:</i>	County EMC, City Managers, ISD Facilities Directors
<i>Implementation Schedule:</i>	Within 24months of securing the necessary funding
Cost Effectiveness: <i>Cost is low compared to the purchase of equipment</i>	
Discussion: <i>Installing lightning protection devices such as lightning rods and grounding as well as surge protection on all city/county/isd equipment and infrastructure is one of the best ways to protect against lightning</i>	

Hazard/s Addressed	Hailstorms, Tornados
<i>Follow building codes that require construction of safe rooms in new school campuses; and assist where possible, with retrofitting new/existing school campuses with shelters.</i>	
Participating Jurisdiction/s	<i>Bovina ISD, Farwell ISD, Friona ISD, Lazbuddie ISD</i>
Objective(s) Addressed:	1.2, 1.4, 2.2
Priority (High, Medium, Low):	Medium
Estimated Cost:	\$750,000 per campus for existing campuses; \$300,000 per campus for new campuses
Potential Funding Source(s):	Grant funds / District funds
Lead Agency/Department Responsible:	Local Independent School District
Implementation Schedule:	Upon approval of funds
Cost Effectiveness: ISD can incorporate multi-purpose safe rooms into new/retrofit projects so that they can be used to provide shelter as needed but also support everyday scholastic activities; in effect, the investment will return daily benefits.	
Discussion: The 2015 IBC will require that educational institutions with an aggregate occupancy of 50 or more that are located in tornado zones where the design wind speed is 250 mph must incorporate shelters into newly constructed facilities, built to hold the occupancy of the institution in accordance with ICC 500. The purpose of this action is to support the local ISDs in their efforts to meet this requirement.	

Hazard/s Addressed	Hailstorm, Windstorm, Tornado
<i>New construction to build a storm shelter that would serve the cities and unincorporated areas.</i>	
Participating Jurisdiction/s	<i>Parmer County, City of Bovina, City of Farwell, City of Friona</i>
Objective(s) Addressed:	1.3, 1.4, 2.1, 5.1, 5.2
Priority (High, Medium, Low):	High
Estimated Cost:	Dependent on the maximum number of occupants the safe room is designed to hold. Est. \$750K each.
Potential Funding Source(s):	Grant funds, Local budget
Lead Agency/Department Responsible:	County Commissioners, City Council, City Management, EMC
Implementation Schedule:	Within 6 months of securing the necessary funding
Cost Effectiveness: It is critical that the safety of community at large and visitors attending county events or school sporting events have opportunity to shelter.	
Discussion: the location of this shelter would provide a tornado shelter to the nearby football stadium and for other events that are conducted in that area.	

Integrating Mitigation Plan In To Other Planning Mechanisms (C6)

Similar to the methods that the jurisdictions utilized when creating the original Plan – the County, City/s and ISD/s will do the following to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms.

1. Change is proposed by an elected official or other interested party.
2. Proposal is placed on the local agenda of the governing body.
3. Agenda is published at least 10 days in advance of the meeting at which it will be discussed, so members of the public have an opportunity to attend the discussion meeting. Publication is made by posting the agenda on a public bulletin board in the City Hall (Bovina, Farwell & Friona) or County Courthouse (Parmer) and ISD/s Board. Change will also be posted on the agency's that have website. Notice may also be printed in the local newspaper.
4. Proposal is discussed at the public meeting, including any comments by members of the public in attendance.
5. Proposal is voted on by the governing body.
6. If the proposal is passed, the change is implemented by the appropriate local authority.

Parmer County (Unincorporated Area)

Four of the 2006 mitigation action items that were included in the 2006 Hazard Mitigation Plan were completed and only one has been incorporated as ongoing projects. By utilizing the risk assessment in the previous plans, the jurisdiction was able to prioritize actions and complete them as local funding came available. County Judge, EMC and Commissioners, placed a high priority on establishing an ongoing all-hazard education program and updating their mutual aid documents. These actions were assigned to the EMC to coordinate. The EMC reached out to local responder chief to assist in providing educational materials and to hold health fairs to the public. The Sheriff and EMC reached out to neighboring communities and updated the mutual aid agreements with fire departments outside of the county. This progress was evaluated in Commissioners Court and voted on to continue this strategy on an annual basis.

The updated Hazard Mitigation plan and its actions will be reviewed by the County EMC. Useful information will be included in the update of the Parmer County Interjurisdictional EOP's Hazard Mitigation section. The County EMC will maintain the Interjurisdictional Emergency Operation Plan and implement some of the mitigation strategies that have already been identified and seek out new strategies as they present themselves. The new risk assessment and additional mitigation actions will be referenced and prioritized as funding becomes available, both local and grant.

City of Bovina

The City of Bovina identified 13 projects in 2006 and completed eight. Only two actions will be deferred to the 2018 plan and 3 were deleted. By utilizing the risk assessment in the previous plans, the jurisdiction was able to prioritize actions and complete them as local funding came available.

The Hazard Mitigation Plan will be cited as a technical reference and data source for any updates or future planning processes. The city council can use the planning mechanism table to discuss capital improvements or regulations to mitigate damage from natural disasters. Implementing additional zoning requirements due to changing conditions.

City of Friona

The City of Friona partially completed 1 identified strategy from 2006 and fully completed 7. Five have been incorporated as ongoing projects. By utilizing the risk assessment in the previous plans, the jurisdiction was able to prioritize actions and complete them as local funding came available.. Due to the cost of the other projects, the city was unable to complete them, but did attempt to find funding sources and continued to have them on their capital improvement list.

The City currently maintains a code enforcement department employee. By using the mitigation strategies found in this plan, the Friona code enforcement department can establish appropriate development review procedures and zoning codes to be mitigate the identified hazards. The mitigation actions identified in this plan will be added to their project list and the city manager will pursue grants to aid in the implementation of these actions. Also to ensure that the goals and objectives of this plan along with the new mitigation action items are visible, a Mitigation Team Member will be included in any plan development or capital improvement planning. In addition, the Hazard Mitigation Plan will be cited as a technical reference and data source for any updates or future planning processes.

City of Farwell

The City of Farwell identified 14 projects in 2006 and completed nine. Only two actions will be deferred to the 2018 plan and three were deleted.. By utilizing the risk assessment in the previous plans, the jurisdiction was able to prioritize actions and complete them as local funding came available.

The Hazard Mitigation Plan will be cited as a technical reference and data source for any updates or future planning processes. The city council can use the planning mechanism table to discuss capital improvements or regulations to mitigate damage from natural disasters. Implementing additional zoning requirements due to changing conditions.

Bovina, Farwell, Friona and Lazbuddie ISD

The ISD's all employ a maintenance department for their campus/s. To ensure that the goals and objectives of this plan along with the new mitigation action items are visible, a Mitigation Team Member will be included in any plan development or capital improvement planning. In addition, the Hazard Mitigation Plan will be cited as a technical reference and data source for any updates or future planning processes. Integration of actions will be presented to the School Board for prioritization. The ISD Superintendent will implement actions as funding becomes available via the budget, bond or pursuit of grants. Student and parent education and grounds maintenance will act on actions that can be implemented in their day-to-day activities to mitigate against many of the hazards.

Element D – Plan Review, Evaluation and Implementation

Development Trends (D1/3)

Parmer County

Parmer County and the unincorporated communities is experiencing new commercial growth in wind farms. Cargill meat packing plant is anticipating adding a large addition to the existing plant. This will greatly increase the tax received by the county in addition to adding new jobs.

For the past decade, the unincorporated areas of incorporated areas of Parmer County have shown a slight decrease in population over this planning period. The county is more vulnerable to natural hazards due to addition of new industry. Drought conditions have greatly affected the agriculture and beef/dairy cattle production.

City of Bovina

The City of Bovina has seen growth in the last 10 years. Over the last year the city has added 7 residential units and is now limited on any new construction due to the lack of infrastructure to support additional homes. While the population appears to be growing the city has not seen any new businesses coming to town. 2 large businesses have left the city recently. Sales tax has not suffered from this loss due to the fact that the city is the only wet town in Parmer County.

Due to the growth of housing on the north side of Hwy 60 the city is more vulnerable to hazards because of the lack of fire hydrants and only one 8 inch water main to service over 80 customers.

Bovina has an active EDC, but with Bovina being so close to other larger towns in both Texas and New Mexico – most people choose to go out of town to go shopping.

Bovina is a growing city, however, no new water wells have been added in the past 15 years and the town is very vulnerable to droughts and wildfires.

In 2012 the city built a F4 rated community center for the residents of Bovina which does attract a lot of people from out of town and has been invaluable as a shelter when major weather events happen in the area.

City of Farwell

There has been minimal growth in Farwell over the last 10 years. Recently a new BBQ Shop in town is now that is only open on Thursday afternoons and Friday nights. The city is in the process of putting in a new water system that is not to exceed \$2.5 million.

The Farwell ISD just had two bonds to pass. Both bonds add up to a little over \$9 million and will be paid off over 20 years. One is to replace the roofs that are over 20 years old and it will replace 73 of the 90 HVAC air conditioning units that are at least 20 years old. It will also be able to pay to have security systems installed in all the educational buildings. The renovations also includes removing asbestos , repainting and making bathrooms ADA compliant. New windows and lights will also be replaced. The second bond will be to build a new ag building

that will include two classrooms, a shop with restrooms and a large multi-purpose room that will be able to handle the local stock show, FFA events and banquets with a kitchen area. The football field house will be expanded to include a weight room.

Recent upgrades to both the city and school infrastructure will help reduce our vulnerability to natural hazards.

City of Friona

The City of Friona has experience limited growth in the last 15 years. However, day traffic between Amarillo and Clovis continues to provide commuter dollars via fuel stops. The city will be introducing a new Family Dollar in August of 2018. This new business will provide employment opportunities for 10-15 people.

Due to the closure of the Cargil Plant in Plainview – many employees transferred to the Friona Cargil plant. Due to limited housing opportunities, they have not permanently relocated and continue to commute from the Plainview area. With the anticipation of adding another plant in Parmer County, the city of Friona is exploring new housing to accommodate this anticipated growth.

The city is currently reviewing new construction for duplexes for rental properties and possibly continuing with the development of 51 homes in a subdivision that was never completed. .

Although the city does not have a formal capital improvement plan – they will be implementing an asset management program to aid in the development of future projects as the existing infrastructure ages. A water line expansion project is the next to the last phase of a continuous water improvement. Through a CDBG grant, the city is increasing their water line to better existing flow.

Due to aging tornado sirens that are not reliable, Friona feels that they are more vulnerable to natural disasters due to the limitation of resident notifications.

Bovina, Farwell, Friona or Lazbuddie ISD

The ISD's did not participate in the first plan.

Participating Jurisdictions

During the life of this MAP update, the participating jurisdictions will work to ensure that as new developments occur, it meets the appropriate standards in existence at the time of construction, that the development will not aggravate or contribute to hazard conditions in the area and that to extent possible, the new development will support the goals and objectives of this update.

Mitigation Strategy Implementation

Through the involvement of this planning process, each jurisdiction was able to review existing mechanisms for identifying their existing status and hopes for the future. Although each jurisdiction has an informal process that can be related to a comprehensive plan or a capital improvement plan – through this planning process, they have become more focused on developing more formal plans. This document and the mitigation strategies that were conceived in this plan will be a guiding factor for the jurisdiction's improvement.

The following pages show the mitigation actions that were generated in 2006. This was the planning area's first hazard mitigation plan. The jurisdictions were able to identify which strategies were actually implemented over the last 10 years.

Through the plan review and a better understanding of this plans goals – jurisdictions were able to prioritize incomplete actions and move them in to the 2017 plan and eliminated those that did not have high value for mitigation. A new prioritization evaluation worksheet was used, which clearly defined the criteria's, thus allowing each jurisdiction to determine the effectiveness of the strategy.

2006 Mitigation Actions (D2)

Parmer County

Hazard	Action	Has this Action been Implemented?	Comments
Wildfires	To purchase a four wheel drive, 3 ton brush truck for Rhea.	Action Deleted	This action has been deleted as it is considered a response action.
Wildfires	To purchase communication equipment for the communities of Lazbuddie and Rhea.	Action Deleted	This action has been deleted as it is considered a response action.
Drought	To partner with the High Plains Water District to control wasting water, and to work on conservation methods.	Completed and Ongoing	Partnering with High Plains Water District is ongoing and continues to research methods of water conservation.
Severe Winter Weather	To create a database for elderly and disabled individuals and to create a volunteer contact system through the Red Cross.	Deferred	Lack of volunteers
Tornado	Continue to take part in the Regional Storm Watch Program.	Completed and Ongoing	Training Done Annually; generally in the spring. Done by personnel from NWS
Severe Thunderstorms	To set up an information transformer to pass on information from the Sheriff's office to first responders for stand-by services.	Completed and Ongoing	Dispatchers utilize I-INFO Mass Communication to dispatch first responders via text.
Earthquakes	To set up a Regional Monitoring Station that will monitor ongoing seismic activity, and will be operated by students. This Station will be centrally located to serve all of the Texas Panhandle.	Hazard Deleted	<1.5% chance of occurring in next 65 years.
Multi-hazard	To supply public education of each of the following hazards: tornados, severe winter weather, severe thunderstorms, hazardous materials incidents, wildfires, drought, terrorism, and earthquakes.	Completed and Ongoing	Information supplied to the Area Television and Radio Stations, seasonally

City of Bovina

Hazard	Action	Has this Action been Implemented?	Comments
Severe Winter Weather	To purchase supplies such as blankets, water, and rations for those who are forced to stay in Bovina due to closed roads.	Completed	Blankets and cots were supplied by the American Red Cross on 04/29/10 – receipt of equipment in file
Tornado	To install 1 tornado siren on the east side of town.	Deferred	Lack of funding
Flooding	Buy out 5 properties, pending owner’s voluntary agreement, along East St., that are directly across from the playa lake and to make the area into open green space	Deferred	Lack of funding and political support
Flooding	Dredge the playa lake located east of town, E. of East St.	Deleted	No longer a collection pond
Earthquake	To replace and upgrade all sewer and water lines, thus decreasing the chances for future damage by using more flexible, earthquake prone materials.	Hazard Deleted	<1.5% chance of occurring in next 65 years.
Wildfire	To purchase 4 extinguishing paddles.	Partially Completed– 2 purchased	Kerby Welding receipt #3345
Drought	To improve existing water conservation strategies by review, update, and enforcement of the City’s Drought Contingency Plan.	Completed and Ongoing	Adopted into code # 180.00
Tornado	To continue to conduct local tornado drills with the residents and local schools.	Completed and Ongoing	Done Monthly
Tornado	To continue to complete monthly testing and maintenance on the current sirens.	Completed and Ongoing	Tested during bi-weekly meetings
Tornado	To create a list or map of facilities which have storm cellars or a basement.	Completed and Ongoing	Placed in the EOC Book on 07/2010
Severe Thunderstorm	To develop a Storm Watchers Program with volunteer firemen and law enforcement observing severe thunderstorm conditions and warning the local residents.	Completed and Ongoing	National Weather Station comes annually in the spring and training.
Earthquake	To set up a Regional Monitoring Station that will monitor ongoing seismic activity, and will be operated by students.	Hazard Deleted	<1.5% chance of occurring in next 65 years.
Multi-hazard	To supply public education for each of the following hazards: tornados, severe winter weather, severe thunderstorms, wildfires, droughts, and flooding.	Completed and Ongoing	Information supplied to the Area Television and Radio Stations, seasonally

City of Farwell

Hazard	Action	Has this Action been Implemented?	Comments
Wildfire	To purchase a new foam truck for use during wildfire events.	Action Deleted	Action considered response – not eligible.
Drought	To drill an additional water well to ensure supply demands are met.	Completed	Drilled 2 extra well in 2010
Severe Winter Weather	To purchase a dump truck with a blade in front and a salt spreader in the back.	Action Deleted	Action considered response – not eligible.
Severe Winter Weather	To purchase 30 handheld radios to increase the quality of communications for first responders.	Completed	Check # 1830
Tornado	To install 1 tornado siren in the northwest corner of town and to upgrade the 3 current sirens.	Deferred	No Funding
Multi-hazard	To purchase 5 back-up generators (3 for the water wells, 1 for the community center, and 1 for the school).	Deferred	No Funding
Wildfire	To work with TxDOT to continue to cut grass and weeds in the right-of-ways along state owned streets and highways.	Completed and Ongoing	On a call basis as needed
Drought	To improve existing water conservation strategies by review, update, and enforcement of the City's Drought Contingency Plan.	Completed and Ongoing	Reviewed annually
Severe Winter Weather	Develop a database for elderly and disabled individuals and volunteer contact system through the Red Cross.	Completed and Ongoing	In Progress by the Farwell Police Department
Tornado	To continue to partner with and work with local media outlets to provide local tornado warnings.	Completed and Ongoing	EMC, Sheriff's Department, Surrounding Communities, NWS, Cannon Air Force Base
Tornado	To continue to complete monthly testing and maintenance on the current sirens.	Completed and Ongoing	Conduct tests 1 Thursday of every month
Severe Thunderstorm	To develop a Storm Watchers Program with volunteer firemen and law enforcement observing severe thunderstorm conditions and warning the local residents.	Completed and Ongoing	Trained Annually
Earthquakes	To work with an area college or research group to set up a Regional Monitoring Station that will monitor ongoing seismic activity, and will be operated by students.	Hazard Deleted	<1.5% chance of occurring in next 65 years.
Multi-hazard	To supply public education for natural and manmade hazards.	Completed and Ongoing	Supply education provided by Parmer County EMC Department

City of Friona

Hazard	Action	Has this Action been Implemented?	Comments
Severe Winter Weather	To purchase a dump truck with a blade in front and a salt spreader in the back.	Action Deleted	Action considered response – not eligible.
Severe Winter Weather	To construct a living snow fence north of 14 th St. on private property.	Deferred	No funds
Tornado	To install 1 tornado siren (at 16 th St. & Main St.) and to upgrade the current sirens.	1 Installed Upgrade Deferred	Invoice # 2521 from Daco Fire Equipment in Lubbock, TX
Earthquakes	To replace and upgrade all sewer and water lines, thus decreasing the chances for future damage by using more flexible, earthquake prone materials.	Hazard Deleted	<1.5% chance of occurring in next 65 years.
Multi-hazard	To purchase backup generators for the City community center.	Deferred	No Funds
Wildfire	To continue to provide mutual aid with Parmer County and Deaf Smith County.	Completed and Ongoing	Copy of Mutual Aid resolution 04-05-10A
Wildfire	To continue to conduct fire training for volunteer personnel.	Completed and Ongoing	Done at the meetings, during wildfire season
Wildfire	To continue to enforce the City's Burn Ban Policy.	Completed and Ongoing	Going on the County Ordinance #4-95 Sec. 5.302
Drought	To improve existing water conservation strategies by review, update, and enforcement of the City's Drought Contingency Plan.	Completed and Ongoing	City Ordinance # 2001.07.11B
Severe Winter Weather	To create a database for elderly and disabled individuals and volunteer contact system through the Red Cross.	Deferred	No Personnel
Tornado	To continue to partner with and work with local media outlets to provide local tornado warnings.	Completed and Ongoing	Contact is made as soon as weather deems it necessary.
Tornado	To continue to complete monthly testing and maintenance on the current sirens.	Completed and Ongoing	Done at the weekly fire department meetings.
Severe Thunderstorms	To develop a Storm Watchers Program with volunteer firemen and law enforcement observing severe thunderstorm conditions and warning the local residents.	Completed and Ongoing	News weathermen come annually in the spring.
Flooding	To partner with TXDOT to create a better storm drainage system on U.S. Highway 60.	Deferred	No Funding

Friona Hazard	Action	Has this Action been Implemented?	Comments
Flooding	To continue to maintain the streets and ditches to allow for maximum drainage, and minimal flooding.	Deferred	No Funds
Earthquakes	To set up a Regional Monitoring Station that will monitor ongoing seismic activity, and will be operated by students. This Station will be centrally located to serve all of the Texas Panhandle.	Hazard Deleted	<1.5% chance of occurring in next 65 years.
Multi-hazard	To supply public education of each of the following hazards: tornados, severe winter weather, severe thunderstorms, wildfires, droughts, and terrorism. This information will provide a solid knowledge base for all residents that will at some time be affected by these hazards.	Completed and Ongoing	Information supplied to the Area Television and Radio Stations, seasonally

Mitigation Action Plan (MAP) Action Assessment –

Element E – Plan Adoption (E1)

Plan Adoption Summary

Plan Adoption

This plan was formally adopted by Parmer County, the City of Bovina, Farwell, Friona and Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, after the document had been reviewed by both the Texas Division of Emergency Management (TDEM) and the Federal Emergency Management Agency (FEMA) to ensure it met current state and federal guidelines governing local MAPs.

The evidence of local adoption was sent to both agencies; essentially marking the conclusion of the planning process and the start of the plan's implementation phase. The plan was finally adopted as of the dates shown below.

Jurisdiction/Agency	Resolution Number	Adoption Date
FEMA Approval		
Parmer County		
City of Bovina		
City of Farwell		
City of Friona		
Bovina ISD		
Farwell ISD		
Friona ISD		
Lazbuddie ISD		

Parmer County Commissioners Court Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Parmer County Commissioners Court will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Commissioners' Court Chambers of the Parmer County Courthouse located at 401 3rd St. Farwell, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the County.

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team ("MAT") comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge's office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

RESOLUTION NO: _____

**A RESOLUTION BY THE COMMISSIONERS' COURT OF PARMER COUNTY, TEXAS,
ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN**

WHEREAS, certain areas of Parmer County, Texas, are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the County's residents; and,

WHEREAS, to the extent practical, Parmer County intends to prepare for and mitigate against such hazards; and,

WHEREAS, under the Disaster Mitigation Act of 2000 (P.L. 106-390), as of November 1, 2004, the Federal Emergency Management Agency (FEMA) now requires that local jurisdictions maintain a FEMA-approved Hazard Mitigation Plan as a condition of receiving certain Federal mitigation grant funding; and,

WHEREAS, Parmer County participated in the updating of the Parmer County Hazard Mitigation Plan which includes the unincorporated areas of the County.

NOW, THEREFORE, BE IT RESOLVED BY THE COMMISSIONERS' COURT OF THE PARMER COUNTY, TEXAS, THAT:

1. The County hereby adopts the 2018 updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.
2. The County's Emergency Management Coordinator is instructed to ensure the updated Plan is reviewed at least annually and that any proposed revisions to the County's portion of the Parmer County Mitigation Action Plan are presented to the Commissioner's Court for consideration of approval.
3. The County agrees to take such other official action as may be deemed reasonably necessary to carry out the goals, objectives and mitigation actions of the updated Parmer County Hazard Mitigation Plan.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018.

Trey Ellis, County Judge
Parmer County

ATTEST:

Gerri Bowers, County Clerk
Parmer County

Bovina City Council Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The City of Bovina City Council will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Council Chambers of the Bovina City Hall located at 205 North St. Bovina, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City.

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

RESOLUTION NO: _____

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF BOVINA, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

WHEREAS, certain areas of City of Bovina, Texas, are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the City's residents; and,

WHEREAS, to the extent practical, the City of Bovina intends to prepare for and mitigate against such hazards; and,

WHEREAS, under the Disaster Mitigation Act of 2000 (P.L. 106-390), as of November 1, 2004, the Federal Emergency Management Agency (FEMA) now requires that local jurisdictions maintain a FEMA-approved Hazard Mitigation Plan as a condition of receiving certain Federal mitigation grant funding; and,

WHEREAS, The City of Bovina participated in the updating of the Parmer County Hazard Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BOVINA, TEXAS, THAT:

4. The City hereby adopts the 2018 updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.
5. The County Emergency Management Coordinator is instructed to ensure the updated Plan is reviewed at least annually and that any proposed revisions to the City's portion of the Parmer County Mitigation Action Plan are presented to the City Council for consideration of approval.
6. The City agrees to take such other official action as may be deemed reasonably necessary to carry out the goals, objectives and mitigation actions of the updated Parmer County Hazard Mitigation Plan.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018.

Frank Gonzalez, Mayor
City of Bovina

ATTEST:

Lesley Gama, City Secretary
City of Bovina

Farwell City Council Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The City of Farwell City Council will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Council Chambers of the City of Farwell City Hall located at 100 9th St, Farwell, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City.

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

RESOLUTION NO: _____

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF FARWELL, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

WHEREAS, certain areas of City of Farwell, Texas, are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the City's residents; and,

WHEREAS, to the extent practical, the City of Farwell intends to prepare for and mitigate against such hazards; and,

WHEREAS, under the Disaster Mitigation Act of 2000 (P.L. 106-390), as of November 1, 2004, the Federal Emergency Management Agency (FEMA) now requires that local jurisdictions maintain a FEMA-approved Hazard Mitigation Plan as a condition of receiving certain Federal mitigation grant funding; and,

WHEREAS, The City of Farwell participated in the updating of the Parmer County Hazard Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FARWELL, TEXAS, THAT:

7. The City hereby adopts the 2018 updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.
8. The County Emergency Management Coordinator is instructed to ensure the updated Plan is reviewed at least annually and that any proposed revisions to the City's portion of the Parmer County Mitigation Action Plan are presented to the City Council for consideration of approval.
9. The City agrees to take such other official action as may be deemed reasonably necessary to carry out the goals, objectives and mitigation actions of the updated Parmer County Hazard Mitigation Plan.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018.

Joe Stanton, Mayor
City of Farwell

ATTEST:

Sheila Jennings, City Secretary
City of Farwell

Friona City Council Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The City of Friona City Council will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Council Chambers of the City of Farwell City Hall located at 623 Main St, Friona, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City.

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

RESOLUTION NO: _____

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF FRIONA, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

WHEREAS, certain areas of City of Friona, Texas, are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the City's residents; and,

WHEREAS, to the extent practical, the City of Friona intends to prepare for and mitigate against such hazards; and,

WHEREAS, under the Disaster Mitigation Act of 2000 (P.L. 106-390), as of November 1, 2004, the Federal Emergency Management Agency (FEMA) now requires that local jurisdictions maintain a FEMA-approved Hazard Mitigation Plan as a condition of receiving certain Federal mitigation grant funding; and,

WHEREAS, The City of Friona participated in the updating of the Parmer County Hazard Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FRIONA, TEXAS, THAT:

10. The City hereby adopts the 2018 updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.
11. The County Emergency Management Coordinator is instructed to ensure the updated Plan is reviewed at least annually and that any proposed revisions to the City's portion of the Parmer County Mitigation Action Plan are presented to the City Council for consideration of approval.
12. The City agrees to take such other official action as may be deemed reasonably necessary to carry out the goals, objectives and mitigation actions of the updated Parmer County Hazard Mitigation Plan.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018.

Ricky White, Mayor
City of Friona

ATTEST:

, City Secretary
City of Friona

Bovina ISD Board or Trustees Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Bovina ISD Board of Trustees will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Bovina ISD Administration Building located at 500 Halsell St, Bovina, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City and our school district

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

Resolution Number: _____

A RESOLUTION BY THE BOVINA INDEPENDENT SCHOOL DISTRICT BOARD OF TRUSTEES, BOVINA, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

The **Bovina Independent School District** resolves as follows:

Whereas, certain areas of City of Bovina are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the City's residents; and our school district,

Whereas, the Bovina Independent School District has determined that it is in the best interest of the District to have an active hazard mitigation planning effort to reduce the long term risks from natural hazards to school facilities, and

Whereas, the Bovina Independent School District recognizes that the Federal Emergency Management Agency (FEMA) requires the district to have an approved hazard mitigation plan as a condition of applying for and receiving FEMA mitigation project grant funding.

NOW, THEREFORE, BE IT RESOLVED BY BOARD OF TRUSTEES OF THE BOVINA INDEPENDENT SCHOOL DISTRICT THAT:

The Bovina Independent School District hereby adopts the 2018 Updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018

Insert signature(s) and title(s) below.

Farwell ISD Board or Trustees Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Farwell ISD Board of Trustees will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Farwell ISD Administration Building located at 705 6th St, Farwell, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City and our school district

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

Resolution Number: _____

A RESOLUTION BY THE FARWELL INDEPENDENT SCHOOL DISTRICT BOARD OF TRUSTEES, FARWELL, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

The **Farwell Independent School District** resolves as follows:

Whereas, certain areas of City of Farwell are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the City's residents; and our school district,

Whereas, the Farwell Independent School District has determined that it is in the best interest of the District to have an active hazard mitigation planning effort to reduce the long term risks from natural hazards to school facilities, and

Whereas, the Farwell Independent School District recognizes that the Federal Emergency Management Agency (FEMA) requires the district to have an approved hazard mitigation plan as a condition of applying for and receiving FEMA mitigation project grant funding.

NOW, THEREFORE, BE IT RESOLVED BY BOARD OF TRUSTEES OF THE FARWELL INDEPENDENT SCHOOL DISTRICT THAT:

The Farwell Independent School District hereby adopts the 2018 Updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018

Insert signature(s) and title(s) below.

Friona ISD Board or Trustees Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Friona ISD Board of Trustees will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Friona ISD Administration Building located at 909 E. 11th St., Friona, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City and our school district

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

Resolution Number: _____

A RESOLUTION BY THE FRIONA INDEPENDENT SCHOOL DISTRICT BOARD OF TRUSTEES, FRIONA, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

The **Friona Independent School District** resolves as follows:

Whereas, certain areas of City of Friona are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the City's residents; and our school district,

Whereas, the Friona Independent School District has determined that it is in the best interest of the District to have an active hazard mitigation planning effort to reduce the long term risks from natural hazards to school facilities, and

Whereas, the Friona Independent School District recognizes that the Federal Emergency Management Agency (FEMA) requires the district to have an approved hazard mitigation plan as a condition of applying for and receiving FEMA mitigation project grant funding.

NOW, THEREFORE, BE IT RESOLVED BY BOARD OF TRUSTEES OF THE FRIONA INDEPENDENT SCHOOL DISTRICT THAT:

The Friona Independent School District hereby adopts the 2018 Updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018

Insert signature(s) and title(s) below.

Lazbuddie ISD Board or Trustees Adoption

NOTICE OF A PUBLIC HEARING ON THE ADOPTION OF THE PARMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Lazbuddie ISD Board of Trustees will conduct a public hearing before considering final adoption of the recently completed 2018 Parmer County Hazard Mitigation Plan Update on _____ at _____ p.m. in the Lazbuddie ISD Administration Building located at 675 FM-1172, Lazbuddie, Texas. This plan incorporates mitigation actions intended to minimize the impacts of certain natural hazards on the residents of the City and our school district

The Disaster Mitigation Act of 2000, as amended, requires that local governments, develop, adopt, and update natural hazard mitigation plans in order to receive certain federal assistance. A Mitigation Action Team (“MAT”) comprised of representatives from Parmer County, the City of Bovina, City of Farwell, City of Friona, Bovina ISD, Farwell ISD, Friona ISD and Lazbuddie ISD, was convened to assess the risks from and vulnerabilities to natural hazards that are endemic to the Parmer County area, and to make recommendations on mitigating the effects of such hazards. The original Hazard Mitigation plan was adopted in 2006 and in order to maintain its approved status by the Federal Emergency Management Agency (FEMA), it has to be updated every five (5) years.

A copy of the Parmer County plan update is now available for review in the Parmer County Judge’s office, each City Hall, ISD Superintendent Office or it may be reviewed online at:

<https://prod.i-info.com/document/Home.aspx?pid=002Y>

The meeting is open to the public and members of the community are encouraged to attend to offer feedback and comment.

Resolution Number: _____

A RESOLUTION BY THE LAZBUDDIE INDEPENDENT SCHOOL DISTRICT BOARD OF TRUSTEES, LAZBUDDIE, TEXAS, ADOPTING THE 2018 UPDATED PARMER COUNTY HAZARD MITIGATION PLAN

The **Lazbuddie Independent School District** resolves as follows:

Whereas, certain areas of Parmer County are vulnerable and subject to a variety of natural hazards which pose a potential threat to the welfare, safety and property of the County's residents; and our school district,

Whereas, the Lazbuddie Independent School District has determined that it is in the best interest of the District to have an active hazard mitigation planning effort to reduce the long term risks from natural hazards to school facilities, and

Whereas, the Lazbuddie Independent School District recognizes that the Federal Emergency Management Agency (FEMA) requires the district to have an approved hazard mitigation plan as a condition of applying for and receiving FEMA mitigation project grant funding.

NOW, THEREFORE, BE IT RESOLVED BY BOARD OF TRUSTEES OF THE LAZBUDDIE INDEPENDENT SCHOOL DISTRICT THAT:

The Lazbuddie Independent School District hereby adopts the 2018 Updated Parmer County Hazard Mitigation Plan which will have a five-year lifespan from the date upon which the update is finally approved by FEMA.

CONSIDERED AND APPROVED THIS _____ DAY OF _____, 2018

Insert signature(s) and title(s) below.