County of Brooks, Texas
Hazard Mitigation Plan

January 13, 2025

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"Under the Federal Disaster Mitigation Act of 2000 (DMA 2000 or "the Act"), County of Brooks (County) is required to have a Federal Emergency Management Agency ("FEMA") - approved Hazard Mitigation Plan ("the Plan") in order to be eligible for certain pre- and post-disaster mitigation funds. Adoption of this Plan by the County and approval by FEMA will serve the dual objectives of providing direction and guidance on implementing hazard mitigation in the County and qualify the County to obtain federal assistance for hazard mitigation. Solely to help achieve these objectives, the Plan attempts to systematically identify and address hazards that can affect the County. Nothing in this Plan is intended to be an admission, either expressed or implied, by or on behalf of the County, of any County obligation, responsibility, duty, fault or liability for any particular hazard or hazardous condition, and no such County obligation, responsibility, duty, fault or liability should be inferred or implied from the Plan, except where expressly stated."

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January 13, 2025

Ms. Yolanda Cardona
Region 3
Texas Division of Emergency Management
2525 N. International Blvd.
Weslaco, Texas 78596

RE: Brooks County Hazard Mitigation Plan

Dear Ms. Cardona:

Brooks County Commissioners' Court with a quorum presented voted unanimously to submit its Final Draft of the County's hazard mitigation plan developed under TDEM Contract #DR-5420-0003.

We are submitting this Plan for TDEM's initial review. We look forward to your comments. Do not hesitate to call me or Mr. Francisco Briones at 956-784-0414 should you have any questions. The County will continue to keep your office abreast of any and all future developments.

Respectfully,

Eric Ramos
County Judge

Cc: Ms. Ruben Ramirez, Brooks County
Mr. Francisco Briones, Project Administrator

Attachments

STATE OF TEXAS §
§ RESOLUTION
COUNTY OF BROOKS §

A RESOLUTION OF THE BROOKS COUNTY COMMISSIONERS' COURT, TEXAS, AUTHORIZING THE SUBMISSION OF THE COUNTY'S 2025 HAZARD MITIGATION PLAN (HMP) TO THE FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION (FEMA) AND THE TEXAS DIVISION OF EMERGENCY MANAGEMENT (TDEM)

WHEREAS, the County Commissioners' Court of County of Brooks, Texas, desires to develop a viable community, including decent housing and a suitable living environment and expanding economic opportunities, principally for persons of low-to-moderate income; and

WHEREAS, certain conditions exist which represent a threat to the public health and safety; and

WHEREAS, it is necessary and in the best interests of the County of Brooks to submit its preliminary draft of the County-wide Hazard Mitigation Plan for review by the Texas Division of Emergency Management (TDEM) and the Texas General Land Office (GLO);

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

1. That the Hazard Mitigation Plan preliminary draft is hereby authorized and be filed on behalf of the County to the Federal Emergency Management Administration (FEMA) and the Texas Division of Emergency Management (TDEM).

Passed and approved this ____ day of _____, 2025.

_____
Eric Ramos, County Judge
Brooks County, Texas

ATTEST:

_____
Elvaray B. Silvas, County Clerk
Brooks County, Texas

STATE OF TEXAS §
§ RESOLUTION
COUNTY OF BROOKS §

A RESOLUTION OF THE CITY OF FALFURRIAS CITY COUNCIL, BROOKS COUNTY, TEXAS, AUTHORIZING ON BEHALF OF THE CITY THE SUBMISSION OF THE COUNTY'S 2025 HAZARD MITIGATION PLAN (HMP) TO THE FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION (FEMA) AND THE TEXAS DIVISION OF EMERGENCY MANAGEMENT (TDEM)

WHEREAS, the City Council of the City of Falfurrias, Texas, desires to develop a viable community, including decent housing and a suitable living environment and expanding economic opportunities, principally for persons of low-to-moderate income; and

WHEREAS, certain conditions exist which represent a threat to the public health and safety; and

WHEREAS, it is necessary and in the best interests of the City to participate with the County of Brooks submittal of its preliminary draft of the County-wide Hazard Mitigation Plan for review by the Texas Division of Emergency Management (TDEM) and the Texas General Land Office (GLO);

NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF FALFURRIAS CITY COUNCIL, BROOKS, TEXAS:

1. That the Hazard Mitigation Plan preliminary draft is hereby authorized and be filed on behalf of the City OF Falfurrias to the Federal Emergency Management Administration (FEMA) and the Texas Division of Emergency Management (TDEM).

Passed and approved this ____ day of _____, 2025.

_____
Justo Ramirez, Mayor
City of Falfurrias, Texas

ATTEST:

_____
Melinda R. Garza, City Secretary
City of Falfurrias, Texas

County of Brooks
2025 HAZARD MITIGATION PLAN
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County of Brooks
2025 HAZARD MITIGATION PLAN

INTRODUCTION

The County of Brooks, in cooperation with funding from the Texas Division of Emergency Management (TDEM) Hazard Mitigation Grant Program (HMGP), has undertaken the development of a local mitigation plan. The County's intention is that the plan will address mitigation of multiple natural hazards, including flood, wind, fire, and geologic hazards. This document incorporates:

Part A. Planning Process focuses on identifying the jurisdiction involved, history of the planning process, the composition of the planning committee, use of data-base references, timelines, plan updating and maintenance, and plan evaluation.

Part B. Risk Assessment offers a overview of determining risk factors, demographic characteristics, and data and likelihood of events such as flooding, hurricanes/tropical storms, wildfires, tornados, droughts, dam failure, earthquakes, expansive soils, extreme heat, and hailstorm.

Part C. Mitigation Strategy describes the action and budgetary plans proposed to be undertaken in connection with the identified hazards that have been prioritized by the local planning committee, stakeholders in joint-LPC sessions, and public hearings conducted by the County Commissioners' Court prior to adopting the plan.

Part D. Plan Maintenance offers the County's plans to maintain the hazard mitigation plan during the five-year approval period and thereafter.

Part E. Plan Update is the County's commitment to budget appropriate funds to update the hazard mitigation plan.

PART A - PLANNING PROCESS

Participating Jurisdiction

The County of Brooks Hazard Mitigation Plan (HMP) includes all areas within its County jurisdiction and the City of Falfurrias.

Hazard Mitigation Plan History

County of Brooks adopted its most recent five-year hazard mitigation plan in February, 2018 and due to expire in 2023. The County elected in late 2021 to seek funding to develop its Plan; this resulted in funding approvals by the Texas Division of Emergency Management (TDEM) after the Texas General Land Office (GLO) ruled that the County as ineligible to participate in its Local Hazard Mitigation Planning Program (LHMPP). The County went through the procurement process and selected Resources Mobility Associates, Inc. to assist with the development of the plan.

The mitigation planning regulation of the Disaster Mitigation Act[1] requires that mitigation plans be reviewed and updated every five years to maintain eligibility for mitigation grant funding. As part of this plan, County of Brooks will develop a schedule to ensure that its hazard mitigation plan isn't allowed to lapse in the future.

The County's HMP preliminary planning efforts has identified fourteen (14) hazards and potential hazards facing the County: preparedness, hurricanes, drought, flooding, hazardous material release, severe winter storms, sewer plant failure, wildland fire, hail, torrential rains, and extreme summer heat. The HMP plan determined that earthquakes, and expansive soils were low risk hazards, and therefore, didn't need to be mitigated.

Of the eleven hazards identified in the HMP, two aren't natural hazards: hazardous material release and sewer plant failure. Although these hazards are typically addressed in an emergency management plan, this plan will address flooding as the principal concern.

This plan recommends the following strategic mitigation actions including 14, including 1) education-related, 2) natural hazards: 3) floods, 4) hurricanes / tropical storms, 5) wildfire, 6) tornados, 7) drought, 8) dam / levee failure, 9) earthquakes, 10) expansive soils, 11) extreme heat, 12) hailstorms, 13) land subsidence, 14) severe winter storms, 15) windstorms, and 16) lightning. The County's plan priorities for further discussion such events as: 1) floods, 2) hurricanes / tropical storms / lightning 3) wildfires, 4) tornados / windstorms, 5) droughts, 6) dam failure, 7) earthquakes, 8) expansive soils, 9) extreme heat, 10) land subsidence, 11) hailstorms / severe winter storms.

Planning Process

The County of Brooks Hazard Mitigation Plan is a single jurisdiction plan. One of the first steps in the planning process was establishing the local planning committee. Representatives to the local planning committee were selected and contacted by the County Judge. Planning committee members represented the following offices, departments, and agencies on behalf of County of Brooks, the sole planning jurisdiction:

Table 1: Local Planning Committee

Title	Jurisdiction	Agency or Department
County Judge	County of Brooks	Administrative
Fire Chief / 911 Coordinator	County of Brooks	Brooks VFD
Emergency Management Coordinator	Brooks County	Brooks County EMS District
County Sheriff	Brooks County	Sheriff's Office
Falfurrias City Manager	City of Falfurrias	City of Falfurrias
Superintendent	Falfurrias ISD	School Administration

Existing Plans, Reports, Ordinances, and Technical Information Sources

The planning committee collected, reviewed, and provide input and information necessary to develop the hazard mitigation strategy. Research was coordinated and conducted by local planning committee members in conjunction with the support of the project consultant. Table 3 provides a list of the data sources that local planning committee members reviewed during the planning process:

Table 2: Plan Data Sources

Data Source	Data Incorporation	Purpose
County of Brooks Flood Damage Prevention Ordinance	Flood damage prevention building requirements	Identifying building requirements and restrictions for structures in the floodplain
County of Brooks 2006 Land Use Plan	Subdivision requirements and restrictions	Identifying development restrictions to limit future hazard exposure
Federal Emergency Management Agency (FEMA) DFIRM Flood Zones	Flood zone maps	GIS mapping of flood zones
National Weather Service (NWS)	Hazard occurrences	Previous event occurrences, damage dollars, and mapping for all hazards
County of Brooks Wastewater System	Sewer System information	High-hazard sewer treatment plant
Region M 2016 Regional Water Plan	Regional drought management policies	Identifying opportunities for local drought regulations to complement regional goals.
State of Texas Hazard Mitigation Plan 2013 Update	Hazard Descriptions	Official descriptions of hazards and their potential impacts
Texas Forest Service-Texas Wildfire Risk Assessment Summary Report	Wildfire Threat and Urban Interface	Mapping and wildfire vulnerability data
Texas State Data Center	Population and demographics	Population counts, parcel data, and land use data

Data was reviewed and discussed at the various planning committee meetings. After establishing the planning committee, the County Judge and planning committee members established a schedule with specific goals and meeting dates over a nine-month planning period. The HMP Project Administrator serves as an ad-hoc member of the planning committee. The following calendar was used as guide:

Table 3: Plan Schedule

Proposed Timeline

	03/24	04/24	05/24	06/24	07/24	08/24	09/24	Dates
Organize Resources and Identify Planning Committee								03/2024
Create Outreach Strategy								03 to 04/24
Review Community Capabilities								03 to 05/24
Conduct Risk Assessment								04 to 05/24
Identify Mitigation Goals and Actions								04 to 05/24
Develop Action Plan for Implementation								04 to 05/24
Identify Plan Maintenance Procedures								04 to 06/24
LPC Review of Final Draft								06/2024

County Commissioners' Court approves submittal of Draft Plan to TDEM and FEMA								08/2024
Submit Draft Plan to TDEM and FEMA								06 to 08/24
LPC and County address Draft Plan deficiencies								09/24
Adopt Plan								09/24

Meetings	03/24	04/24	05/24	06/24	07/24	08/24	09/24
Local Contact							
Local Planning Committee							
Stakeholders/Public Outreach							
County Commissioners' Court Hearings							
HMP Submittal							

Additional information sources included: US Census Bureau, the National Weather Service, the Brooks County Appraisal District, and specific details from planning committee participants. Sources are noted throughout the document. Report titles and links to the most recently accessed websites hosting the related information are also noted, where appropriate.

The County has undertaken outreach and marketing activities during the months of March and April to identify local planning committee members and notify stakeholders of the planned activities.

Area stakeholders contacted to participate in the planning process included the following offices and departments within County of Brooks and neighboring jurisdictions:

Title	Jurisdiction	Agency or Department
Mayor	City of Falfurrias	Administrative
Area Manager	County	Texas Migrant Council
Executive Director	County	Falfurrias Housing Authority
Area Manager	County	Community Action Corporation of South Texas
Director	County	South Texas Human Rights Center
Area Manager	County	United Migrant Opportunities (UMOS)
Physician	County	Falfurrias Family Clinic
Manager	County	Falfurrias Senior Center

Area stakeholders were contacted by phone and email. In an effort to increase participation, each stakeholder was contacted at least twice. Area stakeholders who chose to participate provided important supplemental input and information that helped shape the mitigation strategy.

Project Meetings

The planning committee meeting schedule includes three (3) separate sessions planned to be held at 5:30 pm at the Brooks County Judge's Office Conference Room of which two (2) will be public and shareholders' hearings. Additional communication was regularly carried out via email and over the phone. Copies of emails to LPC members are attached in Part F – Exhibits and Attachments.

The County Commissioners' Court, in its capacity as the first local planning committee (LPC), conducted the first public hearing in connection with its meeting held on June 10, 2024. During this meeting, the Commissioners' Court reviewed that draft of the hazard mitigation plan and voted to submit the draft to for review by TDEM. The Commissioners' Court (LPC) agreed to use the collected data as the foundation for its hazard risk assessment and ongoing research into hazard extent, impact, and vulnerability. The Court tasked project staff with reviewing the prior mitigation information and compilation of additional relevant data in preparation for the second, public hearing involving local stakeholders. The Commissioners' Court authorized, as part of its public participation efforts, the County Judge to release a copy of the full plan to local stakeholders via email and its homepage with the intent of encouraging a response and participation.

The Commissioners' Court established the following public hearings schedule. have scheduled committee meetings on the following dates to coincide with the meetings of the Brooks County Commissioners' Court, as follow:

- June 10, 2024
- August 8, 2024*
- October 10, 2024*

*LPC/Stakeholder public hearing

The second local planning committee (LPC) meeting is scheduled for August 8, 2024 including a shareholders' public hearing will be conducted to accept comments and recommendations on the County's plan and recommended mitigation issues and action plans, The Commissioners' Court (LPC) has established three objectives, including 1) review and tentatively approve the local stakeholder list, 2) review and tentatively approve the critical facilities list, and 3) collect all relevant ordinances.

Public Input

The Brooks County Commissioners' Court has an on-going, open agenda item in its meeting agenda as an opportunity to members of the public provide comments on affairs of the County. Members of the public are invited to attend all LPC meetings to provide input and feedback during the planning process. The LPC is chaired by the County Judge; as such, the County Judge via the project administrator notify on all activities of the LPC. The five-member LPC is comprised by the County Commissioners' Court which meets twice per month; the LPC meetings have been conducted on July 10, 2024, August 8, 2024, and October 12, 2024; meetings may be adjusted by the County Judge as may be needed. The Stakeholders public hearing on the hazard mitigation plan draft is planned for August 8, 2024, and October 12, 2024; stakeholders public hearing notices are published in a local newspaper inviting the public's attendance; the purpose of the joint session to accept comments prior to making a recommendation for the submittal of the draft to TDEM and FEMA. The public hearing notices with Shareholders are published in the Falfurrias Times legal section at least ten (10) days prior to the hearing being held; key community leaders and stakeholders are invited directly via emails and phone calls. In an effort to provide an open process and collect any missing information related to hazard history, vulnerability, and impact, the members of the public were given the opportunity to review an in-progress draft of the plan on the County's social media page

and internet homepage. The public will be afforded opportunities to review and comment on the interim draft and final revised and completed plan prior to formal submittal to TDEM/FEMA.

PART B – RISK ASSESSMENT

The update process will provide continued opportunity for the public and elected officials to determine which actions succeeded, failed, or are no longer relevant. It is also an opportunity to identify recent losses due to natural hazards and to consider whether or not any of those losses could have been avoided.

Determining Risk

Risk is often portrayed as a function of probability/frequency and consequences/impacts.

Risk Assessment

Throughout the plan, each hazard addressed will be considered in light of its history, likelihood of future occurrence, extent, jurisdictional vulnerability, location and impact.

Likelihood of Future Occurrence is measured based on a hazard's expected frequency of occurrence in light of its previous frequency. Each hazard's likelihood of occurrence will be considered using the following standardized parameters:

- **Highly likely** – event probable in the next year
- **Likely** – event probable in the next three years
- **Occasional** – event possible in the next five years
- **Unlikely** – event possible in the next 10 years

Given this plan's five-year duration, hazards likely to occur during that period will be given priority when selecting and prioritizing mitigation actions.

Distribution of Property Type and Market Value

Table 4: County of Brooks Building Inventory

County of Brooks[2]		
Property Type	**Number of Structures / Facilities**	**Estimated Potential Damage Value**
Agricultural	X	84,193,634.00
Commercial	X	60,523,981.00
Educational	X	87,682,964.00
Industrial	X	34,524,608.00
Public	X	21,388,107.00
Residential	X	56,193,644.00

Source: Brooks County Appraisal District (7/2024)

Distribution of Vulnerable Populations

The LPC identified a set of indicators it could use to identify the County's vulnerable population. The indicators include demographic data like age and income, as well as geographic data including the location of low income or subsidized housing units, concentrations of manufactured and mobile homes, and concentrations of homes in substandard condition.

Age and Income

County of Brooks's most vulnerable population sectors is identified in three categories: 1) young residents, 2) elderly residents, and 3) low-income residents. The Census Bureau reports that the State' median household income is $63,826.00 compared to the County's median household income of $38,438.00 representing only 60.2% below the State average. The U.S. Census further reports that the per capita income is $20,308.00. The County's Low-Moderate Income State Data (LMISD) estimates are described below indicating 66.67% are low-income. 44.2% of all families are noted by the Census Bureau with related children of the householder under 18 years live in poverty. Residents falling into these categories were deemed most likely to suffer disproportionate losses due to natural hazards because of their potentially limited means to prepare for and recover from a hazard event.

Most Vulnerable Population Sectors		
Total population	7,059	100.0%
Male	3,385	48.0%
Female	3,674	52.0%
60 to 64 years	502	7.1%
65 to 74 years	779	11.0%
75 to 84 years	476	6.7%
85 years and over	140	2.0%
Subtotal, 60 years and over	1897	26.9%
5 to 9 years	547	7.7%
Under 18 years	1,660	23.5%
Hispanic or Latino	6,314	89.4%

Table 5: County of Brooks LMISD Populations

	Estimated Vulnerable Populations		
Jurisdiction	**LMI Universe[3]**	**LMI Population[4]**	**Extremely Low-Income Households (≤ $25,000 Annually)[5]**
County of Brooks	6,885	4.590	66.67%
City of Falfurrias	4,495	3,270	71.4%

Table 6: County of Brooks Vulnerable Populations

Estimated Vulnerable Populations

Jurisdiction	Young[5]	Elderly[6]	Extremely Low-Income Households (≤ $25,000 Annually)[7]
County of Brooks	1,660	1,897	537
City of Falfurrias	1,034	1,099	793

Source: Texas Department of Agriculture, 2023 LMISD
U.S. Census Bureau, DPO2-2022 ACS 5-Yr. Estimate

In addition to identifying vulnerable population categories, the LPC worked to identify specific locations that are likely home to high concentrations of vulnerable residents.

Low Income and Subsidized Housing

There is no low income or subsidized housing within County of Brooks. The Falfurrias Housing Authority primarily operates with HUD vouchers. The County, working with the City and its Housing Authority anticipate submitting a grant application to HUD seeking funding under its Section 202 program to increase housing units for the elderly. The City recently initiated a HOME single-family repair and/or reconstruction housing program.

Housing

The planning committee used housing type and housing conditions to identify additional vulnerable areas and concentrations of vulnerable residents.

Manufactured / Mobile Homes

County of Brooks has identified areas with concentrations of mobile/manufactured housing as being disproportionately vulnerable to certain hazards including but not limited to: hurricanes and tropical storms, floods, tornados, droughts, and windstorms. A County drive-by survey estimated 62 mobile homes within the County limits in various levels of living conditions with the majority being substandard and from dilapidated and uninhabitable to standard.

Homes in Substandard Condition

The planning committee determined that a total of 161 occupied homes; the census data indicated that 79 units lack electricity implying sub-standard condition; consistent with LMISD data, this may indicate that residents are low-income or otherwise means-limited and thus more vulnerable to certain hazards.

To be considered standard condition, a home must meet minimum building code standards and show few or no minor visible exterior defects such as:

- cracked, peeling, or missing paint
- cracked, sagging, rotting, or missing siding, steps, porch planks, or other wooden surfaces
- cracked or broken window panes
- cracked masonry, brick, or mortar surfaces
- missing or damaged roof shingles
- small rust spots on mobile homes

The home must generally meet building codes, and there can't be any detriment to health and safety present.

Structures in sub-standard condition may provide less protection to residents during certain hazard events like tropical storms, tornados, or hurricanes. Furthermore, because they're already in a state of disrepair, additional damage due to hazard events may compound existing ones and potentially make these homes uninhabitable.

The County has noted that there are no unique hazards isolated to the City of Falfurrias. The City is exposed to the same events as the County; similarly, county-wide disaster event declarations include the City.

1) Floods

Floods are defined as the accumulation of water within a water body and the overflow of excess water into adjacent floodplain lands. Floods are capable of causing severe damage in a short period of time and can ultimately lead to evacuation and loss. Depending on weather conditions, floods can be classified as the following:

- *Flash Flooding*

  Flash flooding is caused by slow-moving thunderstorms, thunderstorms repeatedly moving over the same area, or by heavy rains from hurricanes or tropical storms. Flash floods often come with minimal warning and are generally the result of a combination of these weather conditions and can occur within a few minutes or hours of torrential rainfall.

- *Flood History*

  According to data from NOAA's National Weather Service Weather Forecast Office in Corpus Christi, data from the National Centers for Environmental Information, formerly the National Climatic Data Center, and the County of Brooks 2020 Report, the following flood events affected County of Brooks. The data gathered reflects the most up-to-date flood data available for County of Brooks at the time of writing.

Table 7: County of Brooks Flood History (date unavailable)

Total Flood Events	Date Range	Flood Type	Local Fatalities	Local Injuries	Local Property Damage	Local Crop Damage	Local Property Damage 2017-23	Local Crop Damage 2017-23
4	07/20/2017 to 07/25/2024	Flood, Hurricane, Heavy Rain	0	0	0	0	0	0

- *National Flood Insurance Program*

  The National Flood Insurance Program (NFIP) is administered by FEMA to provide flood insurance coverage to the nation. County of Brooks adopted and enforces a flood hazard ordinance and a flood damage prevention ordinance. The flood damage prevention ordinance requires the lowest level of new structures in the floodplain to meet or exceed the base flood elevation. At this time, the County is considering updating its ordinance to require 18" of freeboard; the County issues the building permits for the County, developers are required an 18" minimum elevation and evidenced by a flood insurance policy.

  County of Brooks is responsible for the enforcement of floodplain management regulations and how these

regulations will meet or exceed the minimum NFIP requirements. The existing ordinances and any future updates will guide the County as it continues to comply with NFIP requirements through local permitting, inspection, and recordkeeping, especially for new and substantially redeveloped construction. The County requires and encourage residents to purchase flood insurance to reduce their flood risk**.** The County, working in conjunction with the Office of the County Judge and City/County Building Inspector, will require all new construction permits to be issued requiring flood insurance coverage by the homeowner.

Although the County participates in the NFIP, the County has yet to file a claim on its policy. There are no repetitive loss or severe repetitive loss properties in County of Brooks. Although the County is not a participating jurisdiction in Brooks County's hazard mitigation plan; the Brooks County Commissioners' Court elected to develop its own hazard mitigation plan.

- *Likelihood of Future Occurrence*

  In the case of the FEMA 100-year floodplain, there's a 1% annual chance, and in the 500-year floodplain it's a 0.02% annual chance. The probability of a 100-year flood event is therefore occasional. The probability of a 500-year flood event is therefore unlikely. However, based on the frequency of flood events (6) reported between 2015 and 2021, it is probable that County of Brooks will see some type of flooding in the next three years, meaning a flood event that may or may not meet the definition of a 100-year or 500-year event is likely.

- *Extent*

  Extent is the strength or magnitude of a hazard. The magnitude of a flood event is typically designated by its return period. For this analysis, the primary focus is the FEMA 100-year floodplain because it's the standard used by the NFIP.

  The FEMA 100-year floodplain designates areas within County of Brooks that have a 1% chance of a flood event with a magnitude expected to be equaled or exceeded once on average during any 100-year period. However, despite the name and its significance, areas within the FEMA 100-year floodplain may flood more or less frequently over any given time period.

  The FEMA 500-year floodplain designates areas within County of Brooks that have a 0.02% chance of a flood event with a magnitude expected to be equaled or exceeded once on average during any 500-year period. Like the FEMA 100-year floodplain, areas within the FEMA 500-year floodplain may flood more or less frequently over any given time period.

  The worst flooding events in County of Brooks have inundated the County with up to 5' of water and inflicted up to $1.2 million in damages. No floods are known to have caused any injuries or fatalities. Future flood events in County of Brooks may meet or even exceed previous worst-case events where flooding depths reached 5' in terms of flood depths, damages, and injuries or fatalities.

- *Location and Impact*

  FEMA Special Flood Hazard Areas cover 1.3 acres in County of Brooks County limits.

- *Location*

  According to FEMA, Zone A covers areas that are subject to inundation by the 1-percent- annual-chance (100-year) flood event generally determined using approximate methodologies. Mandatory flood insurance purchase requirements and floodplain management standards apply in Zone A[6]. Within County of Brooks, it is estimated that 1.3 acres are classified as Zone A and AH.

  Zone A and AH covers areas subject to inundation by the 1-percent-annual-chance (100-year) flood event determined by detailed methods. Mandatory flood insurance purchase requirements and floodplain management standards apply[7]. Within County of Brooks, 1.3 floodplain acres are zone A and AH.

  There are 1.3 acres in the FEMA 500-year floodplain. Every acre within the 500-year floodplain in County of Brooks is designated Zone X. However, Zone X is divided into two categories, and the only way to distinguish the two is by their visual representation on a Flood Insurance Rate Map (FIRM). When Zone X represents areas within the 500-year floodplain on a FIRM, it has a dot matrix fill. When Zone X represents areas determined to be outside the 0.2% annual chance floodplain on a FIRM, there is no fill.

- *Impact*

  Although the probability of a FEMA 100-year flood event remains occasional, 1% in any given year, the floodplain crosses all of County of Brooks's major thoroughfares, potentially limiting travel across, within, and around the County. The impact of a FEMA 100-year flood event will vary depending on the specific location, size of the affected area, and number of structures affected. Parts of the community may temporarily lose power due to downed power lines.

  Motorists and residents may be left stranded and needing rescue. Affected structures may be flooded, damaged by floodborne contaminants, damaged by debris flow, or even completely washed away. Estimated damage totals to vulnerable structures and total structures affected during a 100-year flood event may meet or exceed the totals outlined above.

  Despite the unlikely probability of a so-called 500-year flood, 0.02% in any given year, the danger isn't negligible. Moreover, the relatively limited information on the 500-year flood zone should not be interpreted to mean that a 500-year flood will only occur in the areas depicted in the 500-year flood zone. Parts of the community may temporarily lose power due to downed power lines. Motorists and residents may be left stranded and needing rescue. Affected structures may be flooded, damaged by floodborne contaminants, damaged by debris flow, or even completely washed away. A 500-year flood event is expected to affect a larger area and more structures than a 100-year flood. Estimated damage totals to vulnerable structures and total structures affected during a 500-year flood event may meet or exceed the totals outlined above.

Vulnerability

Critical Facilities

Damage to critical facilities brings increased negative impact to the community beyond the importance of the critical facility itself. The LPC identified 6 critical facilities spread across County of Brooks. Five (5) were located in

a known FEMA Flood Hazard Area.

Table 10: County of Brooks Critical Facilities Vulnerable to Flooding

County of Brooks	Potential Flood Impacts						
	Flooding	Damage Due to Debris Flow	Damage Due to Flood-borne Contaminants	Total Destruction	Loss of Power	Injuries	Death
Community Health Center	x	x	x		x		
Falfurrias Housing Authority	x	x	x		x	x	x
WIC Clinic	x	x	x	x	x	x	x
Family Medical Center	x	x	x		x	x	x
Women's Shelter	x	x	x		x	x	x
Public Library	x	x	x		x		
Public Schools	x	x	x		x	x	x

Vulnerable Infrastructure

FM 205 (Rice Street) - US 281:

Farm-to-Market Road 205 connects with United States Highway 281 which is a TxDOT-designated major hurricane evacuation route for the region. FM 205 and US 281 form a crossroads; FM 205 becomes impassable in the event of flooding allowing US 281 as the evacuation routes to be north to San Antonio or south to the Rio Grande Valley. Most of the population is located in the City of Falfurrias. Rural, farm areas to east and west may have difficulties in accessing US 281. The Falfurrias city hall in located in northwest quadrant of the city which has historically flooded. The County, in cooperation with the City, has submitted a request for funding a drainage project to alleviate the flooding in this quadrant.

Vulnerable Structures:

The LPC developed a parcel inventory to identify estimated damage values during a flood event. Parcels vulnerable to flooding have been identified by their complete or partial location within the FEMA 100-year floodplain and the FEMA 500-year floodplain.

Actual damages will vary based on the location and extent of flooding.

Table 11: Vulnerable Parcels within the Floodplain by Land Use Type

Jurisdiction	Vulnerable Parcels by Land Use [9]						Total Parcels	Estimated Potential Damage Value
	Agricultural	Commercial	Industrial	Educational	Public	Single Family		
Countywide								
Estimated Value								

[9] Property value estimates based on the Brooks County Appraisal District data. Land use type identified via satellite imagery and planning committee expertise.

2) Hurricanes / Tropical Storms / Lightning

Once a tropical depression has intensified to the point where its maximum sustained winds are between 35-64 knots (39 – 73 mph), it becomes a tropical storm. At these wind speeds the storm becomes more organized and begins to become more circular in shape – resembling a hurricane. The rotation of a tropical storm is more recognizable than for a tropical depression. Tropical storms can cause many problems without becoming a hurricane. However, most of the problems a tropical storm causes stem from heavy rainfall and high winds.

According to National Oceanic and Atmospheric Administration (NOAA), a hurricane is an intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph or higher. Hurricanes are categorized according to the strength of their winds using the Saffir-Simpson Hurricane Scale. A Category 1 storm has the lowest wind speeds, while a Category 5 hurricane has the highest. These are relative terms, because lower category storms can sometimes inflict greater damage than higher category storms, depending on where they strike and the particular hazards they bring. In fact, tropical storms can also produce significant damage and loss of life, mainly due to flooding.

The ingredients for a hurricane include a pre-existing weather disturbance, warm tropical oceans, moisture, and relatively light winds aloft. If the right conditions persist long enough, they can combine to produce the violent winds, incredible waves, torrential rains, and floods associated with this phenomenon.

Hurricanes / Tropical Storms History

Hurricane and tropical storm data is generally recorded at the County level. In certain instances, the planning committee was able to rely on local knowledge and contemporary newspaper accounts to identify damages specific to County of Brooks. According to data from NOAA's National Weather Service Weather Forecast Office in Brownsville and data from the National Centers for Environmental Information, formerly the National Climatic Data Center, County of Brooks has experienced six (6) hurricanes or tropical storms since 2015. The following hurricanes and tropical storms affected County of Brooks. The data gathered reflects the most historical and up-to-date hurricane data available for County of Brooks at the time of writing.

County of Brooks **History of Hurricane and Flooding Events**		
Event	Date	Impact
Hurricane Emily	July 20, 2005	Hurricane Emily produced 5.2 inches of rainfall in Mercedes and 1 to 3 inches in other RGV areas.
Hurricane Dolly	July 23, 2008	Hurricane Dolly produced wind gusts as high as 100 mph. A storm surge of 4 feet inundated County of Brooks causing damage to residences, utility poles, power outages.
Hurricane Alex	June 30, 2010	Records as a Category 2 bringing heavy rains, winds, and tornados leading to heavy flooding.
Tropical Depression	July 8, 2010	Dropped 1 to 3 inches of rain causing minor damage.

Storm Hermine	Sept. 7, 2010	The hurricane produced wind gusts as high as 65 mph. A storm surge of 3.4 feet that inundated County of Brooks causing damage to residences, utility poles, power outages.
Hurricane Ingrid	Sept. 2013	Dropped 3 inches of rainfall causing flooding
Storm Dolly	Sept. 3, 2014	Dropped 2.9 inches of rainfall causing flooding.
Hurricane Hanna	July 25, 2020	The hurricane produced wind gusts as high as 90 mph. A storm surge of 6 to 12 inches peaking at 15.49 inches causing major flooding that inundated County of Brooks causing damage to residences, utility poles, power outages.

[8] National Weather Service, Great Flood, the Sequel (June 24, 2019).

County of Brooks experienced the worst flood in its history. Some residents had to evacuate their homes during the events due to flooding resulting from poor drainage. During these events, the County was almost completely inundated by the combined overflow of Raymondville North Drain and flood waters in town. Some residents reported that the northeast part of town received floodwaters from the overflow of North Drain.

Likelihood of Future Occurrence

Hurricanes occur in seasonal patterns between June 1 and November 30. Based on historical frequency of significant hurricane events in County of Brooks, the Likelihood of Future Occurrence of a future event is very likely that is a hurricane is possible in the next two years. Lightning is subject to weather conditions and, to some extent, unpredictable.

Extent

The Saffir-Simpson Scale categorizes hurricane intensity linearly based upon maximum sustained winds, barometric pressure, and storm surge potential. Wind, pressure, and surge are combined to estimate potential damage. Categories 3, 4 and 5 are classified as “major” hurricanes. Major hurricanes comprise only 20 percent of total tropical cyclone landfalls but they account for over 70 percent of the damage in the United States. Damage from hurricanes can result from spawned tornadoes, coastal flooding from storm surge, and inland flooding from heavy rainfall.

Table 12: Saffir-Simpson Scale

Category	Maximum Sustained Wind Speed (MPH)	Minimum Surface Pressure (Millibars)	Storm Surge (Feet)
1	74-95	Greater than 980	3-5
2	96-110	979-965	6-8
3	111-130	964-945	9-12
4	131-155	944-920	13-18
5	155+	Less than 920	19+

Table 13 below profiles the potential wind speeds in miles per hour (mph) that County of Brooks might expect during a hurricane event for various return periods. In the case of a 10-year event, the wind speeds are projected

to fall below the minimum sustained winds necessary to be classified as a Category 1 hurricane. Instead these wind speeds fall at the middle end of the tropical storm wind range, 39 – 73 mph.

[9] http://southeastfarmpress.com/hurricane-dolly-destroys-lrgv-cotton-crop

Table 13: Average Hurricane Wind Speed

Jurisdiction	Wind Speed (MPH) Per Return Period						
	10-year	20-year	50-year	100-year	200-year	500-year	1,000-year
County of Brooks	56	75	96	109	121	132	141

The worst hurricanes known to have affected County of Brooks have been as intense as Category 3 with wind gusts up to 90 mph. They have caused flooding as deep as 4' in certain areas.

Data from County of Brooks Report shows that there have been no hurricane-related injuries.

Future tropical storm and hurricane events may bring storms that are stronger than previous worst-case Category 3 storms, cause deeper flooding, and inflict as much or more damage as previous events.

Location and Impact

Location

Location is often referred to in terms of Tier I and II counties, designated by the Texas Department of Insurance (TDI) for windstorm insurance purposes, to represent differing levels of loss exposure to coastal counties and adjacent counties. Tier I are those counties, including Brooks County, adjacent to the Gulf of Mexico and Tier II are those counties adjacent to Tier I counties. County of Brooks is a Tier I County.

Although County of Brooks is located approximately 14 miles inland from the coast, it is susceptible to the direct threats of tropical storms and hurricanes as historically noted, including high winds and flooding. The effects of tropical storms and hurricanes begin to diminish as they move inland. However, the winds alone from Hurricane Ike covered 120 miles. Tropical storms and hurricanes vary tremendously in terms of size, location, intensity and duration.

Impact

County of Brooks is uniformly exposed to hurricanes and tropical storms. Impacts from a Hurricane or Tropical Storm may include but are not limited to loss of power due to downed lines caused by flying debris or fallen trees, flooding, flooding due to damaged or destroyed roofs, damaged or broken windows, damage due to flying debris, wind damage, crop damage or destruction, and even death.

Vulnerability

Population

County of Brooks is home to many vulnerable residents. Increased vulnerability may be due to many factors including but not limited to: age, physical ability, financial means, housing type, and housing condition. Many of these vulnerabilities often overlap. County of Brooks recognizes that vulnerable populations may need additional help preparing for and recovering from a hurricane or tropical storm.

Residents of mobile / manufactured housing are of particular concern. These structures are never considered safe during a hurricane, and depending on tie-down methods, may also be unsafe during strong tropical storms.

Residents of sub-standard structures are also of particular concern. Structures in sub-standard condition ahead of a tropical storm or hurricane, whether due to structural damages, missing windows or doors, holes in exterior walls or the roof, may be less safe during a hurricane or tropical storm than structures in standard condition. Existing structural weaknesses may mean increased damages, injuries, or loss of life.

Critical Facilities

The planning committee identified 8 critical facilities in the County of Brooks. Because of the County's Tier I status, all critical facilities, identified in Table 14 below, are equally vulnerable to a tropical storm / hurricane event. In the event of a major storm, medical facilities, water infrastructure, and wastewater infrastructure are likely to experience a larger impact due to increased service demand and / or damages sustained. These facilities' ability to maintain or resume normal operations during and after a hurricane or tropical storm will directly affect the jurisdiction's ability to recover quickly. The following critical facilities are expected to play particularly important roles in a hurricane or tropical storm recovery process.

Table 14: Critical Facilities Vulnerable to Tropical Storms and Hurricanes and Potential Impacts

.County of Brooks	Potential Hurricane / Tropical Storm Impacts									
	Loss of Power	Flying Debris	Uprooted Trees	Flooding	Flooding Due to Physical Damages	Damaged or Destroyed Roofs	Damaged or Broken Windows	Wind Damage	Injuries	Death
Community Health Center	x	x		x	x			x		
Falfurrias Housing Authority	x	x	x		x	x	x	x	x	x
WIC Clinic	x	x	x		x	x	x	x	x	x
Family Medical Center	x	x			x	x	x	x	x	x
Women's Shelter	x	x		x	x	x	x	x	x	x
Public Library	x	x	x	x	x	x	x	x	x	x
Public Schools	x	x	x	x	x	x	x	x	x	x

Vulnerable Structures

All structures in the County are equally vulnerable to hurricanes and tropical storms.

Table 15: Estimated Potential Damage Values

County of Brooks[2]		
Property Type	**Number of Structures / Facilities**	**Estimated Potential Damage Value**
Agricultural	x	84,193,634.00
Commercial	x	60,523,981.00
Educational	x	87,682,964.00

Industrial	x	34,524,608.00
Public	x	21,388,107.00
Residential	x	56,193,644.00

Source: Brooks County Appraisal District (9/27/2022)

3) Wildfire

Wildfire is defined as a sweeping and .destructive conflagration and can be further categorized as wildland, interface, or intermix fires. Wildland fires are fueled almost exclusively by natural vegetation wildland/urban interface (WUI) fires include both vegetation and the built-environment. The wildfire disaster cycle begins when homes are built adjacent to wildland areas. When what would have been rural wildfires occur, they advance through all available fuels, which can include homes and structures.

Wildfire History

According to data from the National Centers for Environmental Information, formerly National Climatic Data Center, wildfires in County of Brooks resulted in over $1.45 Million in damages, adjusted for inflation.

The Texas A&M Forest Service Wildfire Risk Assessment Portal provides wildfire data on fires that occurred between 2006 – 2015. Additional data came from the County of Brooks 2013 CHAMPS Report and local reports. The data gathered reflects the most up-to-date wildfire data available for County of Brooks at the time of writing.

Table 16: County of Brooks Wildfire History

Total Wildfire Events	Date Range	Fatalities	Injuries	Acres Burned	Property Damage	Crop Damage	Property Damage	Crop Damage
14	1/15/2006 - 1/22/2017	0	1	89,806	$1,305,000	$5,000	$1,450,182	$5,365

[10] Data from County of Brooks Report 2013

County records indicate no fires within its County limits and wildfire events have been outside the County limits of Brooks.

Likelihood of Future Occurrence

According to the data, County of Brooks experiences nearly 3 wildfires per year. Given prior frequency of wildfire events, a wildfire in County of Brooks is highly likely, meaning an event is probable within the next year.

Extent

The Texas A&M Forest Service's Characteristic Fire Intensity Scale (FIS) specifically identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist. The FIS is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. According to Texas A&M Forest Service data, County of Brooks is rated Class 1 to Class 4.

Table 17: Characteristic Fire Intensity Scale

Class 1 Very Low	Very small, discontinuous flames, usually less than one foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
Class 2 Low	Small flames, usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
Class 3 Moderate	Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
Class 4 High	Large flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.
Class 5 Very High	Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire-induced winds. Indirect attack marginally effective at the head of the fire. Great potential for harm or damage to life and property.

The National Wildfire Coordinating Group (NWCG) provides an additional way to measure extent by accounting for fire size. Based on NWCG numbers, the Hopper Fire was a Class G event. The June 2011 fire was also a Class G event. Based on the data collected, the average fire in County of Brooks is a Class E event.

Table 18: National Wildfire Coordinating Group Size Class of Fire

Class A	¼ acre or less
Class B	More than ¼ acre, but less than 10 acres
Class C	10 acres or more, but less than 100 acres
Class D	100 acres or more, but less than 300 acres
Class E	300 acres or more, but less than 1,000 acres
Class F	1,000 acres or more, but less than 5,000 acres
Class G	5,000 acres or more

Previous wildfires have ranged between Class A to Class C on the Characteristic Fire Intensity Scale, with flames up to eight feet in length, and between Class A and Class G on the National Wildfire Coordinating Group Size Class of Fire scale (NWCGSCF). The County has adopted weedy lot ordinances, however, there is a large swath of private lots with absent owners who have permitted these areas to be overrun by brush, weeds, and grass. These conditions create a propensity or likelihood of wildfires within the County limits.

Location and Impact

Location

Due to wildfire's ability to inflict damages to both structures and landscapes, wildfire location has been assessed

by parcel, rather than by structure. Parcels have been identified by land use type and have been determined to be either partially or completely vulnerable to wildfire based on TxWRAP's Wildland Urban Interface boundaries. Certain parcels may contain various land uses. However, parcels have been identified based on the primary land use type.

Because wildfires are dynamically unpredictable, the following maps and tables may not be representative of every location and parcel at risk of wildfire.

[11] https://www.texaswildfirerisk.com
[12] http://www.nwcg.gov/term/glossary/size-class-of-fire

Impact

Impacts from a wildfire in County of Brooks may include but are not limited to: crop damage or destruction, damaged or destroyed agricultural, residential, commercial, and industrial buildings, escaped, lost, injured or killed livestock and pets. In the worst cases, residents may be injured or killed.

Vulnerability

Population

County of Brooks is home to many vulnerable residents. Increased vulnerability may be due to many factors including but not limited to: age, physical ability, financial means, housing type, and housing condition. Many of these vulnerabilities often overlap. The County recognizes that vulnerable populations may need additional help preparing for and recovering from a wildfire.

Residents of mobile homes, specifically those built before HUD's Manufactured Housing and Standards requirements were introduced in 1976, are of particular concern[19]. These structures are more prone to fire and have a higher incidence of occupant death than modern manufactured homes.

Residents of sub-standard structures are also of particular concern. Structures in sub-standard condition ahead of a wildfire, whether due to structural damages, missing windows or doors, holes in exterior walls or the roof, may be less safe during a wildfire than structures in standard condition. Exterior damages may make the homes more prone to fire by more readily exposing flammable materials to flame. Missing windows and other exterior gaps may leave residents and structures prone to smoke inhalation and smoke damage. All of these issues may increase damages and lead to injuries or loss of life.

Critical Facilities

The planning committee identified 8 critical facilities in the County of Brooks. Based on their locations in the Wildland Urban Interface, the following 5 have been determined to be at risk of wildfire.

Table 19: Critical Facilities Vulnerable to Wildfire and Potential Impacts

County of Brooks	Potential Wildfire Impacts				
	Destruction	Partial Destruction	Heat Damage	Smoke Damage	Water Damage
Community Health Center	x	x	x	x	x
Falfurrias Housing Authority	x	x	x	x	x

WIC Clinic	x	x	x	x	x
Family Medical Center	x	x	x	x	x
Women's Shelter	x	x	x	x	x
Public Library	x	x	x	x	x
Public Schools	x	x	x	x	x

19 https://www.usfa.fema.gov/downloads/pdf/statistics/rural.pdf

Vulnerable Structures

The planning committee developed a parcel inventory to identify estimated damage values during a wildfire. Parcels vulnerable to wildfire have been identified by their complete or partial location within the Wildland Urban Interface. Actual damages will vary by wildfire size and location.

Table 20: Vulnerable Parcels within the Wildland Urban Interface by Land Use Type

Jurisdiction	Vulnerable Parcels by Land Use Type						Total Parcels	Estimated Potential Damage Value
	Agricultural	Commercial	Industrial	Institutional	Public	Single Family		
Countywide	1,119	18	4	4	12	524	1,681	
Estimated Value	$262,087,585	$1,140,749	$2,131,270	$865,871	$12,097,173	$82,438,971		$360,761,619

4) Tornado / Windstorms

A tornado is defined as a rapidly rotating vortex or funnel of air extending ground-ward from a cumulonimbus cloud. Most of the time, vortices remain suspended in the atmosphere and are visible as a funnel cloud. However, when the lower tip of a vortex touches the ground, the tornado becomes a force of destruction. Tornado strength is currently measured using the Enhanced Fujita (EF) Scale. Like the previously used Fujita scale, the EF Scale uses damage to estimate tornado wind speeds and assign a number between 0 and 5. A rating of EF0 represents estimated wind speeds of between 65-85 MPH resulting in minor to no damage whereas a rating of EF5 represents estimated wind speeds of over 200 MPH resulting in total destruction of buildings.

Tornado History

County of Brooks's tornado history is based on data gathered from the National Centers for Environmental Information, formerly the National Climatic Data Center, as well as the County of Brooks 2013 CHAMPS Report. The data gathered reflects the most up-to-date tornado data available for County of Brooks at the time of writing.

Table 21: County of Brooks Tornado History

Number of Tornados	Date Range	F / EF Magnitude	Fatalities	Injuries	Property Damage	Crop Damage	Property Damage $2016	Crop Damage $2016
4	1/26/1950 - 7/8/1976	F0 - F2	0	6	$498,295	$493,295	$4,012,330	$3,981,881

Likelihood of Future Occurrence

Based on the frequency of previous tornados in County of Brooks, a future event that may impact the County is

unlikely, meaning one is possible in the next 10 years.

Extent

The Enhanced Fujita Scale, or EF Scale, is the scale for rating the strength of tornados via the damage they cause. Six categories from zero to five represent increasing degrees of damage. The scale takes into account how most structures are designed and is thought to be an accurate representation of the surface wind speeds in the most violent tornadoes.

Table 22: Enhanced Fujita Scale[20]

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.

Previous tornados ranged in strength from F0 to F2 on the Fujita Scale. Since the switch to the updated scale, no tornados have been recorded. The worst reported tornado in County of Brooks inflicted nearly $8 million in damages after adjusting for inflation, and it injured four people. Future tornados may meet or exceed previous worst-case F2 (now EF2) tornados in terms of total damage dollars inflicted and the number residents injured or worse.

Location and Impact

Location

Tornados have no distinct geographic boundary. Tornados can occur in the entire planning area. Windstorms are also subject to unpredictable meteorological conditions. Advances are been made to project patterns of windstorms and where they may impact.

Impact

Impacts from a tornado may include but are not limited to damaged or destroyed personal property including vehicles, damaged or destroyed agricultural, residential, commercial, and industrial buildings. Crops may be

damaged or destroyed. Pets and livestock may be injured or killed by tornados or flying debris. Pets and livestock may escape due to damaged or destroyed structures and fences. In the worst cases, tornados may cause injuries and/or be deadly.

Vulnerability

Tornadoes have the potential to impact the entire planning area. All existing and future buildings, critical facilities, critical infrastructure, improved property, and the population of the participating jurisdictions are considered vulnerable to this hazard.

Population

The County of Brooks is home to many vulnerable residents. Increased vulnerability may be due to many factors including but not limited to: age, physical ability, financial means, housing type, and housing condition. Many of these vulnerabilities often overlap.

The County recognizes that vulnerable populations may need additional help preparing for and recovering from a tornado.

[20] Texas State Hazard Mitigation Plan, 2013 Update.

Residents of mobile / manufactured homes are of particular concern. These structures are never considered safe during a tornado.

Residents of sub-standard structures are also of particular concern. Structures in sub-standard condition ahead of a tornado, whether due to structural damages, missing windows or doors, holes in exterior walls or the roof, may be less safe during a tornado than structures in standard condition.

Existing structural weaknesses, due to housing type or existing damages, may lead to compounded damages, injuries, or loss of life.

Critical Facilities and Infrastructure

Certain critical facilities and infrastructure in each jurisdiction may be particularly vulnerable to tornados. These facilities have been identified for reasons including: the number of people who use the facility or infrastructure, the facility's role in providing basic services to begin the cleanup process and get the jurisdictions running again, and the facility's ability to offer goods and materials residents will need to resume normalcy as quickly as possible. The selected critical facilities are built from a variety of materials with varying levels of resistance to tornadic damages. Additionally, their varying ages mean they weren't constructed to uniform building standards. Given tornados' violent n.ature, these facilities may experience increased levels of vulnerability to the hazards. Damage to any of these facilities may have a disproportionately negative impact on each jurisdiction's recovery from a tornado if that damage affects the facility's ability to reopen and resume normal business right away.

Table 23: Critical Facilities Vulnerable to Tornados

County of Brooks	Potential Tornado Impacts								
	Loss of Power	Flying Debris	Uprooted Trees	Flooding Due to Physical Damages	Damaged or Destroyed Roofs	Damaged or Broken Windows	Wind Damage	Injuries	Death
Community Health Center	x	x	x	x			x		

Falfurrias Housing Authority	x	x	x	x	x	x	x	X	x
WIC Clinic	x	x	x	x	x	x	x	X	x
Family Medical Center	x	X		x	x	x	x	X	x
Women's Shelter	x	X		x	x	x	x	X	x
Public Library	x	X		x	x	x	x	X	x
Public Schools	x	X		x	x	x	x	X	x

Vulnerable Structures

Given tornados' unpredictable nature, all structures in County of Brooks are equally vulnerable to the hazard.

Table 24: Structures Vulnerable to Tornados - County of Brooks[2]

Property Type	Number of Structures / Fa.....cilities	Estimated Potential Damage Value
Agricultural	x	84,193,634.00
Commercial	x	60,523,981.00
Educational	x	87,682,964.00
Industrial	x	34,524,608.00
Public	x	21,388,107.00
Residential	x	56,193,644.00

Source: Brooks County Appraisal District (9/27/2022)

5) Drought

Drought is defined as the consequence of a natural reduction in the amount of precipitation expected over an extended period of time, usually a season or more in length. The County is located either in an arid or semi-arid climate and the County is almost always in varying stages of drought. The County is normally watered by infrequent, large tropical systems that move westward from a southeastern direction out of the Gulf of Mexico in late summer and early fall or by strong springtime Pacific systems that move easterly over these counties.

Droughts are one of the most complex of all natural hazards as it is difficult to determine their precise beginning or end. In addition, droughts can lead to other hazards such as extreme heat and wildfires. Their impact on wildlife and area farming is enormous, often killing crops, grazing land, edible plants and even in severe cases, trees. A secondary .hazard to drought is wildfire because dying vegetation serves as a prime ignition source. Therefore, a heat wave combined with a drought is a very dangerous situation.

Table 25: Drought Classifications

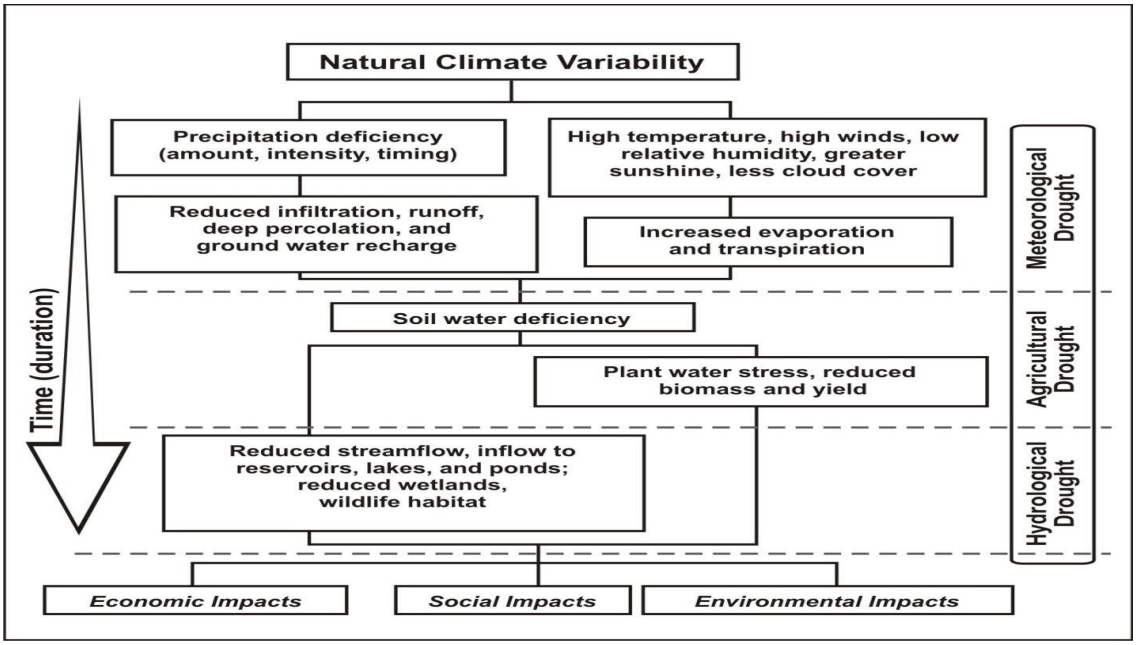
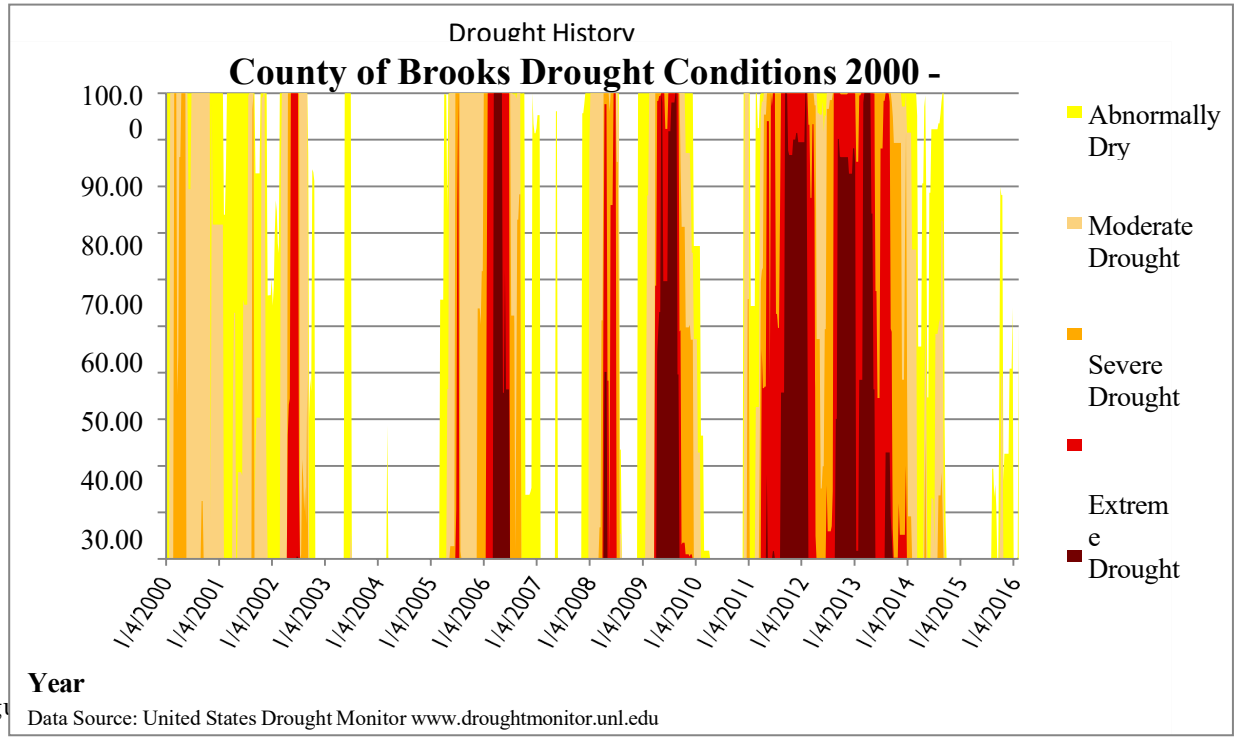


Figure 14: Sequence of Drought Occurrence and Impacts for Commonly Accepted Drought Types [22]

[22] Source: National Drought Mitigation Center, University of Nebraska-Lincoln, http://drought.unl.edu/DroughtBasics/TypesofDrought.aspx



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Figu

Drought history is recorded at the County level. According to the data, County of Brooks has experienced some level of drought conditions on a nearly annual basis since 2010. The data gathered reflects the most up-to-date tornado data available for County of Brooks at the time of writing.

Likelihood of Future Occurrence

Based on historical drought in Texas and County of Brooks, the Likelihood of Future Occurrence of future drought affecting County of Brooks is likely, with an event probable in the next three years, and a major drought every 20 years.

Extent

County of Brooks has experienced drought over the last 15 years. At multiple times, the majority of the County has been in exceptional drought, the most severe drought category.

The Palmer Drought Index is used to measure the extent of drought by measuring the duration and intensity of long-term drought-inducing circulation patterns. Long-term drought is cumulative, with the intensity of drought during the current month dependent upon the current weather patterns plus the cumulative patterns of previous months. The hydrological impacts of drought (e.g., reservoir levels, groundwater levels, etc.) take longer to develop.

Table 26: Palmer Drought Index

Drought Index	Drought Conditions Classifications						
	Extreme	Severe	Moderate	Normal	Mostly Moist	Very Moist	Extremely Moist
Z Index	-2.75 and below	-2.00 to -2.74	-1.25 to -1.99	-1.24 to +.99	+1.00 to +2.49	+2.50 to +3.49	n/a
Meteorological	-4.00 and below	-3.00 to -3.99	-2.00 to -2.99	-1.99 to +1.99	+2.00 to +2.00	+3.00 to +3.00	+4.00 and above
Hydrological	-4.00 and below	-3.00 to -3.99	-2.00 to -2.99	-1.99 to +1.99	+2.00 to +2.00	+3.00 to +3.00	+4.00 and above

Table 27: Palmer Drought Category Descriptions[23]

Category	Description	Possible Impacts	Palmer Drought Index
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.	-1.0 to -1.9
D1	Moderate Drought	Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.	-2.0 to -2.9
D2	Severe Drought	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	-3.0 to -3.9

D3	Extreme Drought	Major crop/pasture losses; extreme fire danger; widespread water shortages or restrictions.	-4.0 to -4.9
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies.	-5.0 or less

Drought is monitored nationwide by the National Drought Mitigation Center (NDMC). Indicators are used to describe broad scale drought conditions across the U.S. Indicators correspond to the intensity of drought.

Based on the historical occurrences for drought and County of Brooks's location, the planning area can anticipate a range of drought from abnormally dry to exceptional drought or D0 to D4 based on the Palmer Drought Category. Given varying conditions, droughts may start on the low end of the Palmer Drought Category, but will intensify with duration and an ongoing lack of precipitation.

County of Brooks recorded its worst stretch of ongoing drought conditions in recent history between 2011 and 2014. During that time, up to 100% of the County was in extreme drought, D3, and at certain points, 100% of the County was in exceptional drought, D4. Additionally, up to 100% of the County was in exceptional drought between 2006-2007 and 2009-2010.

According to County of Brooks CHAMPS Report, the worst drought in County of Brooks occurred in 1989. Adjusted for inflation, that drought inflicted over $33 million in crop damages.

Adjusted for inflation, droughts in 2001 and 1977 inflicted $4.2 million and $276,000 in crop damages. Adjusted for inflation, the 1977 drought also inflicted roughly $28,000 in property damages.

Future drought events may meet or exceed previous worst-case D4 droughts in terms of intensity, duration, and total damage dollars inflicted.

Location and Impact

Location

Drought has no distinct geographic boundary. Drought can occur across the entire planning area.

Impact

Infrastructural impacts may include damage to the foundations of agricultural, residential, commercial, and industrial buildings. Road networks that pass through the County may be damaged to the point of failure as the ground shifts and shrinks. Water and wastewater systems may fail due to cracks and breaks in underground tanks and pipe networks.

Economic impacts may include: increased prices for food, unemployment for farm workers and ranch hands, and reduced tax revenues because of reduced supplies of agriculture products and livestock that are dependent on rainfall.

Vulnerability

Because drought has the potential to impact County of Brooks equally, all improved property and the entire

population is exposed to this hazard. Foundations of all buildings are vulnerable; however, older structures or those built under less stringent foundation code requirements are most vulnerable. Critical infrastructure like water and wastewater lines, roads, and railroads are also vulnerable. Lower income populations who may not have the resources to buy large quantities of bottled water in the event of a shortage may be more vulnerable than other populations.

Population

County of Brooks is home to many vulnerable residents. Increased vulnerability may be due to many factors including but not limited to: age, physical ability, financial means, housing type, and housing condition. Many of these vulnerabilities often overlap.

The jurisdictions recognize that vulnerable populations may need additional help preparing for and recovering from a drought.

Lower income populations who may not have the resources to buy large quantities of bottled water in the event of a shortage may be more vulnerable than other populations.

Residents of sub-standard structures are also of particular concern. Structures in sub-standard condition ahead of a drought may be more likely to suffer additional damages, including irreparable damage to building foundations as soils shift and shrink. Depending on their financial means, these residents may require additional assistance recovering from drought-caused damages.

Critical Facilities

In addition to triggering various components of County of Brooks's Drought Contingency plan, drought conditions may affect local critical facilities. The fire department may see increased demand for controlling wildland fire due to dry conditions. Drought is likely to require increased output from the local power company, Magic Valley Electric Cooperative (MVEC), in order to keep up with electrical demand. Depending on factors like time of year, temperature, and duration, increased electrical demand may cause brownouts that would impact critical facilities like the following: Brooks County Hall, the Brooks Volunteer Fire Station, Oscar d Luna Community Center (serving as an improvised emergency shelter). Structural damage to all critical facilities, based on the rarity of previous instances of structural damage, is expected to be limited. However, in the worst cases such damage is possible, and may include cracked building foundations, damages to water and wastewater lines that serve the facilities, and in certain cases, these physical damages may create economic damages for the broader community.

Table 28: Critical Facilities Vulnerable to Tornados and Potential Impacts

	Potential Drought Impacts			
County of Brooks	Structural Damage	Water / Wastewater Line Damages	Increased Demand for Services	Economic Damages
MVEC Power Lines	x		x	x
County of Brooks County Hall	x	x	x	x
County of Brooks Volunteer Fire Station	x	x	x	x

Oscar de Luna Community Center	x	x	x	x
Brooks High School	x	x		x
Brooks Middle School;	x	x	x	
Brooks Elementary School	x	x	x	
County of Brooks Utilities (Wastewater Plant)	x	x		x

Vulnerable Structures and Infrastructure

Given drought's geographic reach, all structures within County of Brooks are equally vulnerable to the hazard. However, given the limited structural damage inflicted by previous droughts, future structural damages are expected to be similarly limited.

Table 29: Structures Vulnerable to Drought

County of Brooks[2]			
Property Type	**Number of Structures / Facilities**	**Estimated Damage Value**	**Potential**
Agricultural	x	84,193,634.00	
Commercial	x	60,523,981.00	
Educational	x	87,682,964.00	
Industrial	x	34,524,608.00	
Public	x	21,388,107.00	
Residential	x	56,193,644.00	

Source: Brooks County Appraisal District (9/27/2022)

Water, Wastewater, and Natural Gas Systems

Water, wastewater, and natural gas systems rely on underground pipe networks to function properly. During extreme droughts, as the ground shifts and shrinks, these pipes become vulnerable to cracks and breaks.

Damage to water and wastewater systems, especially during a drought, may be severe enough exceed County of Brooks' ability to immediately fund repairs without outside assistance. Delays to returning these systems to normal functionality will require emergency alternatives.

Road Networks

Drought conditions may damage road networks in various ways. Depending on usage and temperature, as soil shifts and shrinks, roadbeds may subside. A combination of shifting ground, high temperatures, and heavy usage may cause asphalt roads to become rutted. In County of Brooks, the principal ingress and egress road is FM 2209; when this road is rendered unusable, then this becomes especially disruptive to residents, the economy, and in the event of a hurricane, could delay or otherwise negatively affect evacuation. Residents must access FM 186 to be able to connect with US 77, thus become an evacuation route; when these roads become unusable or damaged

then these would be disruptive to residents and the economy.

Agricultural Production

According to the USDA 2012 Census of Agriculture[25], the total market value of agricultural products sold, including direct sales, in County of Brooks was $50,768,000. Between 1995 and 2014[26], $7,157,190 in indemnities was paid to farmers in County of Brooks. That is roughly $357,860 per year.

Although the proportion of indemnities paid to cover losses due to drought isn't identifiable, given County of Brooks's recent drought history, it is likely that at least some of the dollars paid were related to drought-caused damages.

Given agriculture's role in the County, drought-caused losses will have impacts beyond any individual and may lead to contraction in the wider economy.

[25]https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Texas/st48_2_002_002.pdf
[26] https://farm.ewg.org/cropinsurance.php?fips=48047&summpage=SUMMARY

6) Dam Failure

Dam failure is defined as a systematic failure of the dam structure resulting in the uncontrolled release of water, often resulting in floods that could exceed the 100-year flood plain boundaries. Dam failure may cause deaths, mass structural damage and/or a cascading potential if a populated area is located below the dam structure; there are no dams in the proximity of the County.

Dam Failure History

According to the best information available, there is no history of dam failure in County of Brooks. The nearest dam is Anzalduas Dam about 76 miles from the County. The County has elected to address this hazard because of the possibility that dam failure may become a local issue within the current planning period.

Likelihood of Future Occurrence

Given the lack of a prior dam failure in County of Brooks, dam failure at Anzalduas Dam is considered unlikely, meaning that one is possible in the next 50 years.

Extent

A way to consider the hazard extent is to use the storage capacity behind the dam to estimate the ground surface that would be covered with a foot of water.

An acre-foot is 325,851 gallons and would cover one acre of land with a foot of water. A 1,000 acre-foot body of water could cover 40 acres with an average depth of 25 feet, and the volume of 1,000 acre-feet is approximately 326 million gallons of water.

There are two dams in County of Brooks, Hauser Dam and West Dam. According to the National Inventory of Dams, Hauser Dam has a storage capacity of 84 acre-feet, and West Dam has a storage capacity of 342 acre-feet.

Dam hazard potential is also measured by the likelihood of dam failure or negligent management to cause loss

of human life. There are three levels of classification: High Hazard, Significant Hazard, and Low Hazard.

Table 30: Dam Failure Extent Classification

Hazard Potential Classification	Loss of Human Life	Dam Storage CapaCounty
Low	None Expected	Less than 10,000 acre-feet
Significant	Probable (1-6)	Between 10,000 – 100,000 acre- feet
High	Loss of Life Expected (7 or more)	100,000 acre-feet or more

Anzalduas Dam is considered low hazard. Both hold less than 10,000 acre-feet of water, and no loss of life is expected should either dam fail. However, given the right set of circumstances, dam failure in County of Brooks has the potential to be lethal.

Location and Impact

Location

Table 31: Dam Location by Latitude and Longitude

Dam	Latitude	Longitude
Anzalduas Dam	26.1376439	-98.3350683

Given the low hazard status of both dams, to determine potential downstream flooding, all census blocks within one mile of each dam were considered to be at risk of inundation during a dam failure.

Impact

Structures at risk of dam failure may be flooded, damaged by floodborne contaminants, damaged by debris flow, or even completely washed away. Although no loss of life to dam failure is expected in County of Brooks, under the right conditions injury or loss of life are possible.

Vulnerability

Population

Given the location of Anzalduas Dam lack of permanent downstream residential structures within 1 mile of either dam, County of Brooks's population is not considered vulnerable to dam failure.

However, in the worst cases, if people happen to be downstream of the dam during a failure injury or loss of life is possible.

Critical Facilities

There are no critical facilities located downstream of Anzalduas Dam.

Vulnerable Structures and Infrastructure

Anzalduas Dam

The County is located approximately 74 miles from Anzalduas Dam. It is unlikely, due to th distance, that the County may be flooded. Future structural damage is expected to be limited. However, in the worst cases such damage is possible.

7) Earthquake

Earthquakes are defined as a shaking or trembling of the earth that is volcanic or tectonic in origin.

A quake with magnitude 3 may do no more than startle people and rattle dishes within a one- square mile region. However, a magnitude 7 would be felt by people over the entire State of Texas, and could do significant damage to buildings, bridges, and dams over a considerable region.

Earthquake History

According to the best information available, there has never been an earthquake in County of Brooks. The County has elected to address this hazard because of the possibility that earthquakes may become a local issue within the current planning period.

Likelihood of Future Occurrence

Given the proximity but infrequency of earthquakes in the surrounding area, an earthquake in County of Brooks is unlikely, meaning that one is possible in the next 50 years.

Extent

Earthquake strength is generally measured on the Richter Magnitude Scale. The Modified Mercalli Intensity Scale for Earthquakes provides an additional means of describing an earthquake's effects.

Table 32: Richter Magnitude Scale

Magnitude	Earthquake Effects	Estimated number each year
2.5 or less	Usually not felt, but can be recorded by seismograph.	900,000
2.5 to 5.4	Often felt, but only causes minor damage.	30,000
5.5 to 6.0	Slight damage to buildings and other structures.	500
6.1 to 6.9	May cause a lot of damage in very populated areas.	100
7.0 to 7.9	Major earthquake. Serious damage.	20

8.0 or greater	Great earthquake. Can totally destroy communities near the epicenter.	One every 5 to 10 years.

Table 33: Modified Mercalli Intensity Scale for Earthquakes

Scale	Intensity	Description of Effects	Corresponding Richter Scale Magnitude
I	Instrumental	Detected only by seismographs	
II	Feeble	Some people feel it	<4.2
III	Slight	Felt by people resting, like a truck rumbling by	
IV	Moderate	Felt by people walking	
V	Slightly Strong	Sleepers awake; church bells ring	<4.8
VI	Strong	Trees sway; suspended objects swing, objects fall off shelves	<5.4
VII	Very Strong	Mild alarm; walls crack; plaster falls	<6.1
VIII	Destructive	Moving cars uncontrollable; masonry fractures, poorly constructed buildings damaged	
IX	Ruinous	Some houses collapse; ground cracks; pipes break open	<6.9
X	Disastrous	Ground cracks profusely; many buildings destroyed; liquefaction and landslides widespread	<7.3
XI	Very Disastrous	Most buildings and bridges collapse; roads, railways, pipes, and cables destroyed; general triggering of other hazards	<8.1
XII	Catastrophic	Total destruction; trees fall; ground rises and falls in waves	>8.1

Although Brooks County has no earthquake history. A future earthquake affecting County of Brooks is expected to be similar in strength to those that have occurred near Alice and Driscoll, the nearest communities to Brooks, somewhere up to 4.0 on the Richter Magnitude Scale or less than a II-feeble on the Modified Mercalli Intensity Scale. However, future earthquakes may exceed previous ones in terms of strength and damages.

Location and Impact

Location

Earthquakes have no distinct geographic boundary in County of Brooks. Earthquakes are unlikely to occur across the entire planning area.

Impact

Earthquake impacts may include damage to the foundations of agricultural, residential, commercial, and industrial buildings, especially those already in sub-standard condition. Road networks that pass through the County may be damaged to the point of failure as the ground shifts and shakes. The County's water, wastewater, and natural gas systems may fail due to cracks and breaks in the underground pipe network.

Vulnerability

Population

County of Brooks is home to many vulnerable residents. Increased vulnerability may be due to many factors including but not limited to: age, physical ability, financial means, housing type, and housing condition. Many of these vulnerabilities often overlap.

The jurisdictions recognize that vulnerable populations may need additional help preparing for and recovering from an earthquake.

Structures in substandard condition ahead of an earthquake may be more likely to suffer additional damages, including irreparable foundation or structural damages as the ground shifts. Depending on their means, these residents may require additional assistance recovering from earthquake-caused damages.

Critical Facilities

The planning committee identified 18 critical facilities spread across County of Brooks. Because earthquakes don't recognize geographic boundaries, all critical facilities, identified in are equally vulnerable to earthquakes. The County of Brooks has no buildings that are taller than two stories; only structure is the cotton mill/gin.

Vulnerable Structures and Infrastructure

All structures within County of Brooks are equally vulnerable to earthquakes. However, given the lack of structural damage inflicted by previous nearby events, future structural damages are expected to be similarly limited.

Table 34: Structures Vulnerable to Earthquakes

County of Brooks[2]		
Property Type	**Number of Structures / Facilities**	**Estimated Potential Damage Value**
Agricultural	x	84,193,634.00
Commercial	x	60,523,981.00
Educational	x	87,682,964.00
Industrial	x	34,524,608.00
Public	x	21,388,107.00
Residential	x	56,193,644.00

Source: Brooks County Appraisal District (9/27/2022)

Water, Wastewater, and Natural Gas Systems

Water, wastewater, and natural gas systems rely on underground pipe networks to function properly. During strong earthquakes these pipes may be vulnerable to cracks and breaks.

Damage to water and wastewater systems may be severe enough exceed County of Brooks's ability to immediately fund repairs without outside assistance. Delays to returning these systems to normal functionality will require emergency alternatives.

Bottled, tank, or LP gas are the principal sources of residential gas with 78 of the 161 housing units, or 48.4%. Damage to the gas systems used may cause gas leaks that can lead to explosions and fires. These damages may exceed the County's ability to fund repairs without outside assistance. Depending on the time of year, delays in returning the natural gas system to normal functionality may require emergency alternatives.

Road Networks

Earthquakes, hurricanes, or flooding may damage road networks in various ways. Depending on the strength of these events, roadbeds may subside, crack, or become disjointed. Damages may be severe enough to exceed County of Brooks' ability to immediately fund repairs without outside assistance.

Damages to FM 2209 connecting to FM 186 would be especially disruptive to residents, the economy, and in the event of a hurricane, could delay or otherwise negatively affect evacuation. Although not an evacuation route, damages to these roads to greatly impair access to US 77 Expressway / Interstate 69E that would also be particularly disruptive to residents and the economy.

8) Expansive Soils

Expansive soils are defined as soils and soft rock that tend to swell or shrink due to changes in moisture content. Changes in soil volume present a hazard primarily to structures built on top of expansive soils.

Expansive soils (bentonite, smectite, or other reactive clays) expand when the soil particles attract water, and can shrink when the clay dries. Expansive soil can grow to as much as 15 times its original size, thus causing severe damage. Sidewalks, roads, and residential and commercial buildings may be lifted causing cracks and distortion.

It is differential expansion that causes damage. If the entire area under a foundation or road maintained the same moisture content, the entire structure would rise uniformly, and there would be no damage. Residential construction generally has more problems than commercial, but both experience significant losses. The foundation type most prevalent in Texas, slab on grade, is also the most susceptible to damage from expansive clays.

Expansive Soils History

County of Brooks hasn't documented a history of damages caused by expansive soils. However, the planning committee has determined that the hazard is known to affect structures and infrastructure in the jurisdictions. Moving forward, the jurisdictions will make an effort to track instances of damages due to expansive soils to begin developing a comprehensive history of the hazard and its effects.

Likelihood of Future Occurrence

Given the lack of an officially recorded hazard history in County of Brooks, it's difficult to attempt to estimate the likelihood of future expansive soils hazards events.

However, in light of the jurisdictions' histories of heavy rainfalls and periods of drought, conditions that lead clay-filled soils to expand and contract respectively, it may be fair to say that a future expansive soils event is unlikely,

meaning one is possible in the next 50 years.

As information on the hazard is gathered more closely moving forward, its likelihood will be revised accordingly.

Extent

According to the State of Texas Mitigation Plan Update 2013, determining the extent of the expansive soils hazard requires measuring a soil's swelling potential or volumetric swell. To test the soil for these properties, the State outlined the following procedure:

Soil material is disaggregated and passed through the #4 sieve and then brought to approximately the optimum moisture content (as determined by American Society for Testing and Materials [ASTM-D-1557]). The optimum moisture content equates to

approximately 80 to 85% of saturation. After setting for 6 to 30 hours, the moisture- conditioned soil is compacted into a 4-in diameter mold. The moisture content is then adjusted, if necessary, to bring the sample to 50% saturation. A 144 psf surcharge is applied and the sample is wetted and monitored for 24 hours, measuring the volumetric swell. The Expansion Index is calculated as follows:

$EI = 100 \times \Delta h \times F$

Where Δh = percent swell and F = fraction passing No. 4 sieve

The following "ratings" can be accepted examples expected for "extent" when a risk is identified as Expansive Soils:

Table 35: ASTM D4729-11 Expansive Soils Index (in %)

0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
>130	Very High

Due to the lack of recorded instances of expansive soil events, County of Brooks estimates the hazard's extent to be medium on the Expansive Soils Index as shown in Table 35 above.

To help inform its hazard extent estimate, County of Brooks relied on the County-wide soil studies produced by the United States Department of Agriculture (USDA), Soil Conservation Service as well as the USDA's Web Soil Survey[28] data. The Web Soil Survey in particular offers both soil maps and USDA guidance on soil suitability for various types of development.

For the purposes of this plan, the jurisdictions have decided to consider the ratings of County of Brooks soils for the construction of both residential dwellings on concrete slab and small commercial buildings.

As shown in Figure 16 below, soils that are "Somewhat Limited" for the construction of dwellings on concrete slab, the State's most prevalent dwelling foundation, are primarily concentrated in northeastern County of Brooks, but are also present in the County's northwestern corner and in south-central County of Brooks.

Additionally, areas along the County's eastern border are considered "Very Limited" for the construction of dwellings on concrete slab.

[28] http://websoilsurvey.nrcs.usda.gov/app/

As shown in Figure 18 below, soils that are "Somewhat Limited" for the construction of small commercial buildings are primarily concentrated in northeastern County of Brooks, but are also present in the County's northwestern corner and in south-central County of Brooks. Additionally, areas along the County's eastern border are considered "Very Limited" for the construction of small commercial buildings.

Location and Impact

Location

As shown in the maps above, expansive soils exist across the County, but are primarily concentrated on its eastern boundary. Areas depicted in yellow and red on the maps above may be more affected by expansive soils depending on both building location and building type.

Impact

The potential impact of expansive soils in County of Brooks is unknown at this time. Future hazard events are expected to result in few, if any, injuries.

However, as outlined in the State of Texas Mitigation Plan Update 2013, the combination of expansive soils and Texas homebuilders' propensity for installing concrete slab foundations, often results in cracked foundations that can literally halve a home's value. In such cases, economic losses are not limited to those borne by the homeowner. Instead, halved property values result in lower property values, and therefore, lower property tax revenues.

Potential ripple effects make it difficult to estimate how wide-reaching expansive soils' impact could be. Under the right circumstances, expansive soils may wreak havoc on local economies by depleting homeowners' bank accounts and decimating municipal budgets. In the worst cases, building owners may choose to walk away, rather than make costly repairs, thus saddling local governments with abandoned properties and the incumbent challenges they pose.

Vulnerability

County of Brooks is exposed to expansive soils to varying degrees based on both soil type and building type, as shown in Figures 16-19 above. At this time, given the combination of the hazard's ability to inflict unpredictable damages, the lack of officially reported data, and the diversity of building ages, types, and foundations found throughout County of Brooks, it's unfeasible to identify which buildings, infrastructure, and critical facilities are vulnerable to damages significant enough to interrupt or stop normal operations. Therefore, all are considered equally vulnerable to the hazard.

Critical Facilities

Table 36: County of Brooks Critical Facilities Vulnerable to Expansive Soils

	Potential Drought Impacts

County of Brooks				
	Structural Damage	Water / Wastewater Line Damages	Increased Demand for Services	Economic Damages
Community Health Center	x		x	x
Falfurrias Housing Authority	x	x	x	x
WIC Clinic	x	x	x	x
Family Medical Center	x	x	x	x
Women's Shelter	x	x		x
Public Library	x	x	x	
Public Schools	x	x	x	

Vulnerable Structures

Table 37: Structures Vulnerable to Expansive Soils

County of Brooks[2]		
Property Type	**Number of Structures / Facilities**	**Estimated Potential Damage Value**
Agricultural	x	84,193,634.00
Commercial	x	60,523,981.00
Educational	x	87,682,964.00
Industrial	x	34,524,608.00
Public	x	21,388,107.00
Residential	x	56,193,644.00

Source: Brooks County Appraisal District (9/27/2022)

9) Extreme Heat

Extreme heat is defined as summertime temperatures that are substantially hotter and/or more humid than average for a given location at that time of year. Humid conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground.

Although heat can damage buildings and facilities, it presents a more significant threat to the safety and welfare of citizens. The major human risks associated with severe summer heat include: heat cramps; sunburn; dehydration; fatigue; heat exhaustion; and heat stroke. The most vulnerable population to heat casualties are children and the elderly or infirm, who frequently live on low fixed incomes and cannot afford to run air-conditioning on a regular basis. This population is sometimes isolated, with no immediate family or friends to look out for their wellbeing.

Severe summer heat is an invisible killer. Although a heat wave does not happen with the spectacle of other hazards such as tornados and floods, the National Center for Environmental Health reports that extreme heat caused 7,415 heat-related deaths in the United States from 1999 to 2010[30]. Extreme heat kills more people than

hurricanes, floods, tornados and lightning combined, according to the National Weather Service. In 2001, 300 deaths were caused by excessive heat exposure.

Extreme Heat History

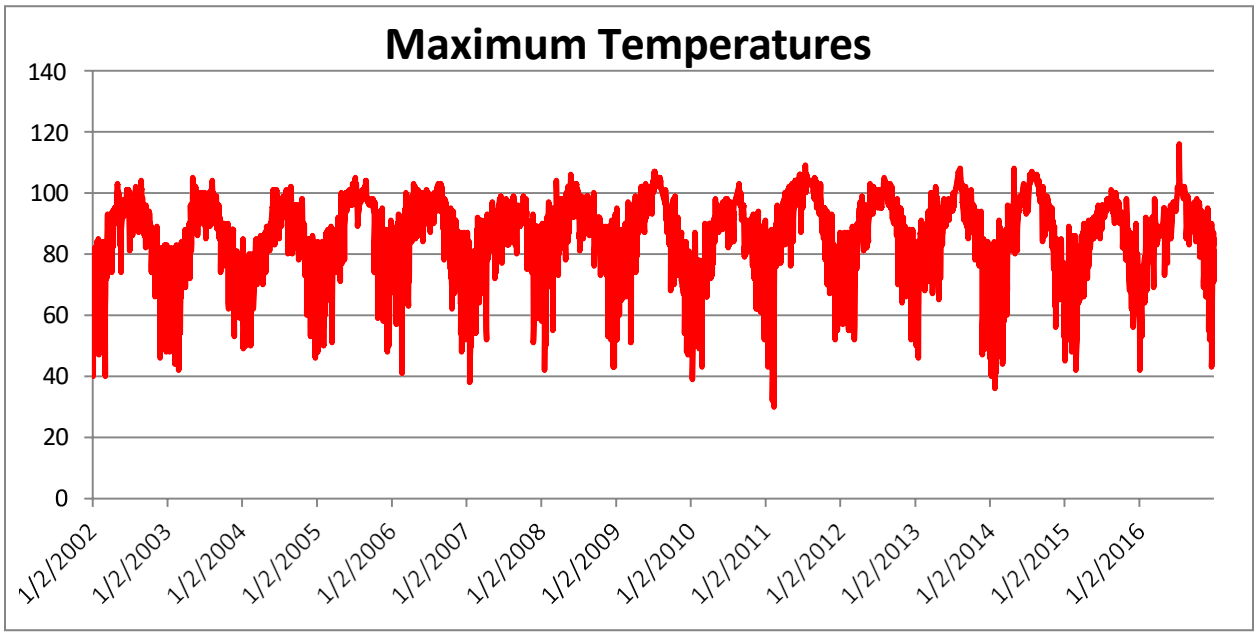

Figure 20: Maximum Recorded Daily Temperature 2000-2016[31]

[30] http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp
[31] *Source: National Centers for Environmental Information, https://www.ncdc.noaa.gov/cdo-web/datasets*

Between January, 2000 and December, 2020, the most up-to-date extreme heat data available for County of Brooks at the time of writing, County of Brooks experienced 411 days with a maximum temperature of 100˚F or hotter and 615 days where the combination of humidity and moderate-to-high temperatures warranted a heat advisory, if not an extreme heat warning.

Extreme heat events occur multiple times annually.

Likelihood of Future Occurrence

Based on historic weather data, extreme heat in County of Brooks is highly likely, meaning an event is probable in the next year.

Extent

The magnitude or intensity of an extreme heat event is measured according to temperature in relation to the percentage of humidity. According to the National Oceanic Atmospheric Administration (NOAA), this relationship is referred to as the “Heat Index,” and is depicted in Figure 21. This index measures how hot it feels outside when humidity is combined with high temperatures.

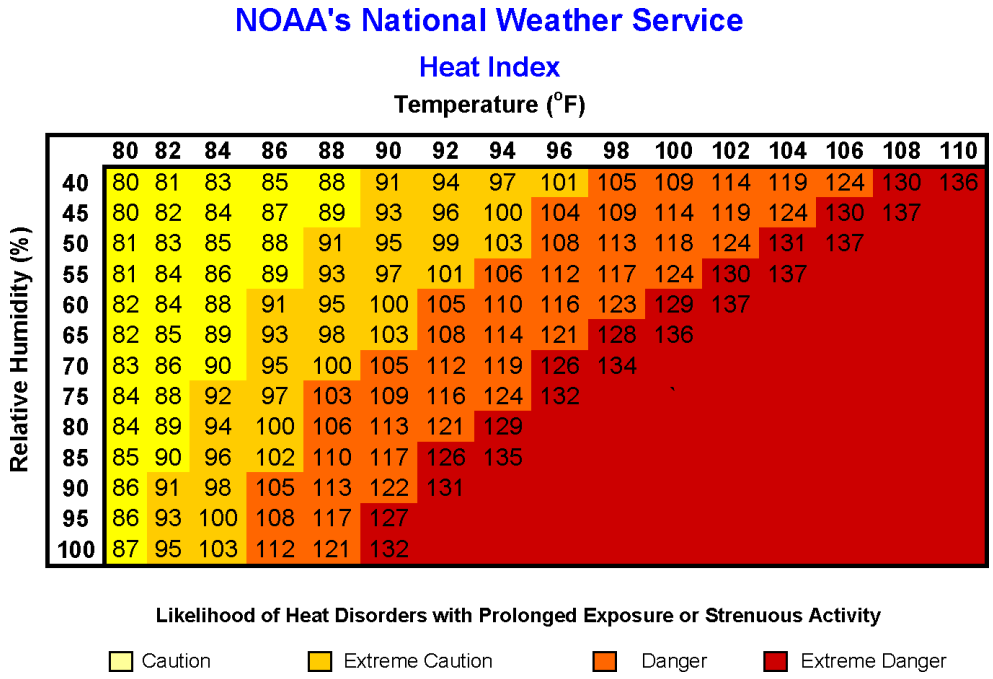

Figure 21: NOAA's NWS Heat Index Chart[32]

The extent scale in Figure 21 displays varying degrees of caution depending on the relative humidity combined with the temperature. For example, when the temperature is below 90˚F, caution should be exercised if the humidity level is at or above 40 percent.

[32] http://www.nws.noaa.gov/om/heat/ht-images/heatindexchart.png

The shaded zones on the chart indicate varying symptoms or disorders that could occur depending on the magnitude or intensity of the event. “Caution” is the first level of intensity where fatigue due to heat exposure is possible. “Extreme Caution” indicates that sunstroke, muscle cramps or heat exhaustion are possible, whereas a “Danger” level means that these symptoms are likely. “Extreme Danger” indicates that heat stroke is likely.

The National Weather Service (NWS) initiates alerts based on the Heat Index as shown Table 38.

Table 38: Heat Intensity

Intensity	Description
Heat Advisory	Extreme heat index making it feel hot, typically between 105˚F to 110˚F for 3 hours or more during the day and at or above 75˚F at night.
Excessive Heat Warning	Extreme heat index making it feel very hot, typically above 105˚F for 3 hours or more during the day and at or above 80˚F at night.

Given an estimated daily average relative humidity level of 75%[33], highs as low as 89˚F can produce a heat index temperature of 106˚F. The combination of high humidity and moderate temperatures creates an environment that reaches the Danger Zone on NOAA's Heat Index Chart, and may trigger a NWS Heat Advisory.

Between 2000 and 2016, County of Brooks experienced 546 days with highs of 89˚F or hotter and overnight lows of 75˚F or hotter. Based on the NWS descriptions in Table 38 above, and the average daily humidity level, these days likely warranted a heat advisory.

The hottest temperature recorded in County of Brooks in the recent past, 116˚F, was reached on July 13, 2016. Based on the NWS descriptions in Table 38 above, at least 69 of the 615 heat advisory days warranted an excessive heat warning based on daytime highs, the average daily humidity level, and overnight lows not falling below 80˚F.

According to the County of Brooks 2013 CHAMPS Report, the worst extreme heat events occurred in 1980. The 1980 event resulted in one injury and $15,451 in property damages and $1,545,041 in crop damages adjusted to $2016.

[33] https://www.currentresults.com/Weather/Texas/humidity-annual.php

Future extreme heat events may meet or exceed the heat index requirements for issuing an Excessive Heat Warning as described in the Heat Intensity scale in Table 38 above. The hottest temperatures in County of Brooks may meet or exceed the current record temperature of 116˚F. Future extreme heat events may be more intense, last longer, and cause more casualties and fatalities than previous ones.

Location and Impact

Location

There is no defined geographic boundary for extreme heat events. Extreme heat can occur across the entire planning area.

Impact

The potential impact of excessive summer heat is normally minor, resulting in few, if any, injuries. No property or crop damage specifically tied to extreme heat events has been recorded in County of Brooks in over 15 years. Although no deaths related to extreme heat have been reported in the County, in the worst cases, the hazard has the potential to be deadly.

.Based on the hazard's potential, in the worst cases, especially if combined with drought conditions, the hazard may inflict property or crop damages, and it can even be deadly. Any shutdown of facilities due to extreme heat is expected to be temporary.

Vulnerability

Population

County of Brooks's vulnerable populations, may feel greater impacts from extreme heat than the rest of the population. These populations' ability to properly address the hazard is limited due to deficiencies including but

not limited to: lack of air conditioning in their homes or vehicles, lack of access to air conditioned public spaces during the hottest part of the day, insufficient numbers of box or ceiling fans, or lack of access to other means of cooling. The consequences for these populations' exposure to extreme heat can include but are not limited to: heat cramps, sunburn, dehydration, fatigue, heat exhaustion, heat stroke, or death.

Critical Facilities

While all of the jurisdictions are exposed to extreme temperatures, existing buildings, infrastructure, and critical facilities are not considered vulnerable to damages significant enough to interrupt or stop normal operations. Therefore, any estimated property losses associated with the hazard are anticipated to be minimal across the area.

10) Land Subsidence

Land subsidence is defined as the loss of surface elevation due to the removal of subsurface support. It can range from broad, regional lowering of the land surface to localized, full-blown collapses. Land subsidence occurs in different areas with different soil types for different reasons.

Land Subsidence History

County of Brooks doesn't have a documented history of damages caused by land subsidence. However, the planning committee has determined that the hazard is known to affect structures and infrastructure in the jurisdiction, primarily in the form of sinkholes. Moving forward, the County will make an effort to track instances of damages due to land subsidence to begin developing a comprehensive history of the hazard and its effects.

Likelihood of Future Occurrence

Given the lack of an officially recorded hazard history in County of Brooks, it's difficult to attempt to estimate the likelihood of future land subsidence events.

However, based on the planning committee's assessment, it may be fair to say that a future land subsidence event is unlikely, meaning one is possible in the next 10 years.

As information on the hazard is gathered more closely moving forward, its likelihood will be revised accordingly.

Extent

The magnitude or intensity of a land subsidence event is measured by the depth of land loss. Land subsidence can range from as little as 1' to well over 100'. In the case of sinkholes, width is also a consideration. The sinkholes in Wink, Texas, two of the worst in the State, have diameters of 300' and 900'.

According to information the planning committee put together, land subsidence events near County of Brooks and the participating jurisdictions have been as deep as 20' and as wide as 40'.

In addition to considering their depth and width, sinkholes may expand over time. The sinkhole near County of Brooks is on private property, and its status remains unresolved at this time.

However during the final inspection the property owner allowed, it didn't seem to be expanding. In contrast, the

sinkholes in Wink expand [34]at the rate of nearly 2" per year.

Generally, land subsidence will likely cause only minor property damage and minimal disruption to the quality of life in the participating jurisdictions.

[34] http://blog.smu.edu/research/2016/06/13/geohazard-giant-sinkholes-near-west-texas-oil-patch-towns-are- growing-as-new-ones-lurk/

However, future worst-case sinkhole depths may exceed 20', widths may exceed 40', and if a future sinkhole can't be filled in, its expansion rates could meet or exceed 2" per year. Regardless of future sinkhole depth, width, and expansion rates, land loss, total destruction, injuries, and death may result from future sinkhole and land subsidence events.

Location and Impact

Location

Land subsidence has no distinct geographic boundary. Land subsidence may occur across the entire planning area.

Impact

The impact of land subsidence is normally minor, resulting in few, if any, injuries. Although no deaths related to land subsidence have been reported in County of Brooks, in the worst cases, the hazard has the potential to be deadly.

Land subsidence may occur slowly over long periods of time, or it can occur rapidly in the form of a sinkhole. Therefore, estimated property losses associated with the hazard are generally anticipated to be minimal, but they have the potential to be total.

Land subsidence may result in damaged building foundations as well as damaged infrastructure including: pipelines, roadways, and sidewalks. These damages may require extensive repair work. In the case of local infrastructure, damages may impede normal business operations and incur repair costs beyond any participating jurisdiction's immediate ability to fund them quickly.

If a sinkhole opens, the damage can be immediate and devastating. Sinkholes may lead to the collapse and complete destruction of nearby structures and infrastructure. Sinkholes can be deadly, especially if they occur along roadways or in commercial centers. In the case of sinkholes, repairing damaged structures and infrastructure may be cost prohibitive. Associated demolition and reconstruction costs may exceed any property owner's or participating jurisdiction's financial capacity and may result in the structure or infrastructure being abandoned, saddling the County with any associated costs and challenges.

Vulnerability

Given the lack of officially reported historical damage data, it's not possible to specifically identify which buildings, infrastructure, and critical facilities are vulnerable to damages significant enough to interrupt or stop normal operations. The unpredictable nature of the hazard adds an additional layer of complication, and it makes identifying differences in vulnerability impossible at this time. Therefore, all are considered equally vulnerable to

land subsidence.

As information on the hazard is gathered more closely moving forward, local vulnerability will be revised accordingly.

Critical Facilities

Table 39: County of Brooks Critical Facilities Vulnerable to Land Subsidence

County of Brooks	Potential Drought Impacts			
	Structural Damage	Water / Wastewater Line Damages	Increased Demand for Services	Economic Damages
Community Health Center	x		x	x
Falfurrias Housing Authority	x	x	x	x
WIC Clinic	x	x	x	x
Family Medical Center	x	x	x	x
Women's Shelter	x	x		x
Public Library	x	x	x	
Public Schools	x	x	x	

Vulnerable Structures

Table 40: Land Subsidence Vulnerability

County of Brooks[2]		
Property Type	**Number of Structures / Facilities**	**Estimated Potential Damage Value**
Agricultural	x	84,193,634.00
Commercial	x	60,523,981.00
Educational	x	87,682,964.00
Industrial	x	34,524,608.00
Public	x	21,388,107.00
Residential	x	56,193,644.00

Source: Brooks County Appraisal District (9/27/2022)

11) Hailstorm / Severe Winter Storms

Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to the rapid rising of warm air into the upper atmosphere and subsequent cooling of the air mass. Frozen droplets gradually accumulate into ice crystals until they fall as precipitation that is round or irregularly shaped masses of ice. The size[36] of hailstones is a direct result of the size and severity of the storm.

High velocity updraft winds are required to keep hail in suspension in thunderclouds. The strength of the updraft is a byproduct of heating on the Earth's surface. Higher temperature gradients above Earth's surface result in increased suspension time and hailstone size.

Texas officials estimate that up to 40 percent of all homeowners' insurance claims in the state result from hail damage.

Hailstorm History

Table 41: County of Brooks Hailstorm History

Number of Hailstorms	Date Range	Hail Diameter Range in inches	Fatalities	Injuries	Property Damage	Crop Damage	Property Damage $2016	Crop Damage $2016
23	2/21/1998 - 4/10/2020	0.75 - 1.75	0	0	$2,000,000	$0	$2,555,352	$0

The data gathered reflects the most up-to-date hailstorm data available for County of Brooks at the time of writing. County of Brooks hasn't recorded a hailstorm since 2015.

Historically, the Texas Railroad Commission recorded for Brooks County the lowest of 9 degrees in 1962 and 12 degrees in 2016. The Texas Winter Storm of February 2021 was one for the history books—and not in a good way. As temperatures dropped to record lows, the state's power grid failed catastrophically, leaving millions without heat, light, or water. Texans faced life-threatening conditions, huddling in freezing homes and relying on blankets and makeshift heaters for warmth. The storm's aftermath sparked widespread outrage and led to significant policy reforms aimed at improving the grid's reliability. With an estimated $195 billion in damages, it's a stark reminder of Texas's vulnerability to extreme winter weather.

Likelihood of Future Occurrence

Given the lack of an officially recorded hazard history in County of Brooks, it's difficult to attempt to estimate the likelihood of future land subsidence events.

A multitude of factors contributed to the brutal and enduring cold that enveloped the entire state of Texas. One notable factor was the strongly negative Arctic Oscillation (AO), a back-and-forth shifting of atmospheric pressure between the Arctic and the mid-latitudes of the north Pacific and north Atlantic. The AO influences weather and climate in North America, Europe, and Asia, making the most impact during the winter season. A strongly positive AO can influence the powerful mid-latitude jet stream to move storms northward, reducing cold air blasts in the mid-latitude regions. With a negative AO, a weaker jet can dip further south, enabling outbreaks of Arctic air into the mid-latitude regions.

Another element at play in the cold air outbreak was the polar vortex. A polar vortex is an extensive coverage of low pressure and cold air surrounding Earth's poles. When the polar vortex is strong and stable, the polar jet stream shifts northward, causing the cold air to remain in the Arctic. When the vortex weakens or is disrupted, the jet stream often becomes extremely wavy, allowing warm air to flood into the Arctic and polar air to sink down into the mid-latitudes.

Severe winter storms may result in damage to residential, commercial, vehicular and governmental property; such damage may require extensive repair work and is reported on a case-by-case basis, and at times, unreported.

Extent

The magnitude or intensity of a hailstorm event is measured by the depth of land loss. Hailstorms can range from as small as ¼ " to well over 1' pellets. In the case of severe hailstorms, length of storm is also a consideration; such events may last from one minute to five minutes.

Location and Impact

Location

Hailstorms have no distinct geographic boundary. Hailstorms may occur across the entire planning area.

Impact

The impact of hailstorms is normally minor, resulting in few, if any, injuries or damage reports. Although no deaths related to hailstorms have been reported in County of Brooks, in the worst cases, the hazard has the potential to be deadly.

Hailstorms may occur sporadically. Local weather forecast alert reporting allow for residents to prepare for potential damage. Therefore, estimated property losses associated with the hazard are generally anticipated to be minimal, but they have the potential to be total.

Hailstorms may result in damage to vehicular and residential property; such damage may require extensive repair work and is reported on a case-by-case basis, and at times, unreported.

Vulnerabilities

Critical Facilities

Table 40: County of Brooks Critical Facilities Vulnerable to Hailstorms / Severe Winter Storms

County of Brooks	Potential Drought Impacts

	Structural Damage	Water / Wastewater Line Damages	Increased Demand for Services	Economic Damages
Community Health Center	x		x	x
Falfurrias Housing Authority	x	x	x	x
WIC Clinic	x	x	x	x
Family Medical Center	x	x	x	x
Women's Shelter	x	x		x
Public Library	x	x	x	
Public Schools	x	x	x	

Vulnerable Structures

Table 40: Land Subsidence Vulnerability

County of Brooks[2]		
Property Type	**Number of Structures / Facilities**	**Estimated Potential Damage Value**
Agricultural	x	84,193,634.00
Commercial	x	60,523,981.00
Educational	x	87,682,964.00
Industrial	x	34,524,608.00
Public	x	21,388,107.00
Residential	x	56,193,644.00

Source: Brooks County Appraisal District (9/27/2022)

However, based on the planning committee's assessment, it may be fair to say that a future hailstorm event is unlikely, meaning one is possible in the next 10 years.

As information on the hazard is gathered more closely moving forward, its likelihood will be revised accordingly.

PART C – MITIGATION STRATEGY

Capability Assessment

County of Brooks has shown itself to be highly capable, especially in terms of implementing hazard mitigation actions. The County completed or is working to complete the mitigation actions outlined in its previous plan.

In addition to reviewing previous actions and the steps taken to implement them, the planning committee reviewed existing regulatory capabilities and opportunities for establishing new capabilities and enhancing existing ones.

Opportunities for the County to improve its capabilities include: creating and adopting a comprehensive

plan, budgeting for mitigation actions and support, passing policies and procedures to implement mitigation actions, adopting and implementing stricter mitigation regulations, approving the hiring and training of staff for mitigation activities, and approving mitigation updates and additions to existing plans as new needs are recognized.

County of Brooks Administrative, Financial, Regulatory, and Technical Abilities
Floodplain management
Emergency Management
Subdivision
Building Code Enforcement
Mobile Homes Regulation
Tax Collection
Grant Writing
General Budgeting
CDBG Funding
State and Federal Grant Funding

Goals and Objectives Overview

The hazard analysis has shown that County of Brooks is at risk of future hazard events. The following goals and objectives take a broad approach to improving outcomes before, during, and after hazard events. The mitigation actions the County has selected are designed to address specific hazard-related issues in support of achieving the desired goals and objectives.

Long-term Vision

The hazard mitigation plan must strike a balance between identifying long-term goals and objectives and prioritized mitigation actions that may be addressed sooner, depending on funding availability and local priorities. The result is that certain goals and objectives don't have a corresponding mitigation action. Instead, by taking the long view, the local planning committee has created a framework that can be developed as the plan is updated over time.

Goals and Mitigation Action Prioritization

The planning committee members have identified at least two mitigation actions per natural hazard. Action items were identified and prioritized in consideration of the following criteria:

1) Life safety and property protection improvements
2) Cost effectiveness – do the action's future benefits exceed its implementation costs
3) Technical feasibility – is the action reasonable given its technical requirements
4) Political acceptability
5) Administrative capabilities and legal authorities for implementation
6) Funding availability

7) The action's environmental impacts
8) The action's social acceptability
9) The action's ability to reduce risk to more than one hazard
10) The ease of implementation
11) The availability of a local champion
12) The action's relationship to other community objectives

In addition to considering an action's cost effectiveness as described above, the planning committee considered TDEM's Cost-Effectiveness, Environmental Soundness and Technical Feasibility requirements as they relate to construction projects. Mitigation actions relating to physical infrastructure will meet the State's standards as outlined below:

A) Any state government construction project, regardless of potential funding source, has to be cost effective, technically feasible and meet all of the appropriate federal, state, and local environmental laws and regulations before it is started.
B) State government projects funded by Federal Mitigation Grant Programs administered by TDEM have to meet specific criteria related to cost effectiveness, environmental soundness and technical feasibility. These are outlined in the applicable FEMA grant program guidance for that particular funding program.

Incorporation and Integration of Existing Capabilities and Hazard Mitigation As previously outlined, the planning committee reviewed a range of codes, ordinances, and planning studies that have been adopted by County of Brooks. The planning committee's goal was to understand how these existing capabilities might affect mitigation actions in terms of implementation and enforcement.

Table 53: Plan Integration

Department	All Departments	County Judge, Commissioners Public Works	County Judge, Commissioners, Public Works	County Judge, Commissioners, Public Works	County Judge, Commissioners, Public Works	County Judge, Commissioners, Public Works Emergency Management Coordinator	County Judge, Commissioners Public Works, Emergency Management Coordinator
Activity	Annual Budget	Capital Improvement Projects	Comprehensive aster Plan (If Adopted)	Public Involvement	Emergency Operations	Grant Application	Floodplain Management
Time Frame	Quarterly/ Annual workshops	Bi-annually	Every 10 Years	As Needed	Annually	Annual Funding Cycles	Annually
Integration Process	Discuss integration of medium and high priority actions with County Commissioners concerning feasibility, potential funding sources, and a	Discuss inclusion of mitigation actions with CIPs. Ensure CIPs are consistent with mitigation actions, NFIP compliance,	Review existing floodplain and land use controls to insure that long term goals are consistent with actions in the HMAP.	Utilize jurisdictional web sites, social media, and other forms of advertising to make announcements of any periodic review activities	Review prevention and protection projects for continued relevance. Ensure appropriate actions and	Review and update mitigation actions as necessary based on funding opportunities available through	Update and maintain floodplain information including but not limited to: maps, construction practices, permitting, and

	preliminary cost benefit review.	and any new land use development.		concerning potential amendments or updating of the HMAP	information are included in the Emergency Operation Plan.	FEMA PDM, FEMA HMGP, and other grant funding sources.	NFIP compliance.

Each mitigation action below outlines the following requirements: the identified responsible department head or delegate will research all relevant information to confirm the action's feasibility and prioritization, will formulate a plan of action, and will confirm funding sources and identify any fiscal liabilities associated with the mitigation action.

As part of each jurisdiction's commitment to transparency, all relevant information, including but not limited to that described above and in each action's description, will be presented to the public before the action is formally adopted for implementation. After public notification, the integration process will resemble the one outlined in Table 54 below.

Table 54: Integration Process

Jurisdiction	Integration Process
County of Brooks	After considering integrating mitigation actions with the activities outlined in Table 53 above, mitigation actions will be presented, considered, and formally adopted by the County Commissioners and County Judge. County of Brooks will also use the County of Brooks Hazard Mitigation Plan as a technical reference and data source for identified and future mitigation actions, as well as future planning processes.

Each new mitigation action below outlines the following requirements: the identified responsible department head or delegate will research all relevant information to confirm the action's feasibility and prioritization, will formulate a plan of action, and will confirm funding sources and identify any fiscal liabilities associated with the mitigation action.

Consistent with the Goals noted above, the County is adopting the following Mitigation Actions

Mitigation Action #1	Educational Outreach
Objective 1.1	This action proposes create a program to educate the County residents about specific mitigation actions for multiple hazards, including but not limited to wildfire fuels reduction, tornado safe rooms, improving thermal insulation, structural hardening, etc.
Mitigation Action #2	Harden Facilities
Objective 1,2	This action proposes hardening facilities. Hardening will include but is not limited to reinforcing building foundations, upgrading and/or adding shatter-resistant films to all glazing, implementing window shutter program for

	properties in the 25 coastal mile zone, building protective walls around exposed gas tanks, and cylinders, shielding roof-mounted equipment, and adding bracing and tie-down clips to building roofs.
Mitigation Action #3	Construct Drainage Control Structures and Flood Control Gates
Objective 1.3	This action proposes construct new, County-wide drainage control structures and flood control gates to reduce the potential impacts of future flood events.
Mitigation Action #4	Install Warning Systems
Objective 1.4	This action proposes installing warning systems to help local vulnerability to natural hazards by giving residents an opportunity to take shelter ahead of the hazard event.
Mitigation Action #5	Develop and Implement a New Tie-Down Ordinance for Manufactured / Mobile Homes, Temporary Buildings, and Unrestricted Messy / Grassy Yards
Objective 1.5	The County will re-evaluate all existing tie-down measures to identify strengths and weaknesses in order to develop and enforce a new tie-down and yard maintenance ordinance. Assist households with dilapidated MFCs with replacements or relocate to single-family units.
Mitigation Action #6	Utilize Existing Shelters to Limit Vulnerability During Tornados, Severe Weather, and Windstorms
Objective 1.6	This action proposes to increase tornado, severe weather, and windstorm resilience by limited vulnerable population's exposures, including housing weatherization, cooling center, and storm shelters.
Mitigation Action #7	Construct New Drainage Pump Stations
Objective 1.7	This action proposes constructing new, County-wide drainage pump stations to reduce the potential impacts of future flood events. Areas most prone to flooding are prioritized.
Mitigation Action #8	Construct Retention and Detention Ponds
Objective 1.8	This action proposes construction of water retention and detention facilities to reduce the potential impacts of future flood events.
Mitigation Action #9	Upgrade Outdated Sewer Treatment Plan and Service Lines
Objective 1.9	This action proposes upgrade existing sewer treatment plan and County-wide service lines.
Mitigation Action #10	Upgrade Outdated Sewer Treatment Plan and Service Lines
Objective 1.10	This action proposes upgrade existing sewer treatment plan and County-wide service lines and manholes.
Mitigation Action #11	Develop Ordinance to Restrict and/or Enforce Development in High Hazard Areas
Objective 1.11	The County will re-evaluate all existing flood-plain construction restrictions to identify strengths and weaknesses in order to produce a new ordinance that will reduce potential flood impacts due to flooding and hurricanes by restricting or

	controlling development in areas that may be subject to inundation due to natural hazards.
Mitigation Action #12	Develop and Implement Ordinance to Conduct Residential and Mobile Home Buyouts in High Hazard Areas
Objective 1.12	The County will re-evaluate existing rules or restrictions to identify strengths and weaknesses in order to produce a new ordinance that will permit the County to conduct property buyouts of residential and mobile homes to reduce potential flood impacts due to flooding and hurricanes in areas that may be subject to inundation due to natural hazards.
Mitigation Action #13	Undertake Construction or Rehabilitation of Owner-Occupied and Renter-Occupied Housing Units that Fail to Meet Minimum Housing Building Standards Situated in High Hazard Areas
Objective 1.13	The County will assess all existing owner-occupied and renter-occupied housing units to compliance with minimum building standards due to deterioration caused by natural hazards events. Non-compliant housing units will be subject to buyouts, occupants' relocation, and new construction of transitional housing and alternate new or existing subdivision sites. County may purchase property and contract with housing non-profit to implement actions.
Mitigation Action #14	Undertake Construction and/or Resurfacing of County Streets to Permit Greater Evacuation Accessibility prior to natural hazard event.
Objective 1.14	The County will assess all existing streets and roads within the County limits and its Extra-Territorial Jurisdiction (ETJ) to undertake construction and/or resurfacing of streets to allow for greater and safer evacuation of residents prior to the natural hazard event.
Mitigation Action #15	Undertake Actions to prevent and address grass/wildfires.
Objective 1.15	The County will construct throughout the county a system of water tanks to support firefighters combatting grass/wildfires, including but not limited to property sites and equipment (i.e. brush trucks, etc.).
Mitigation Action #16	Establish or construct severe weather facilities/shelter
Objective 1.16	The County will construct a severe weather center to serve as a cooling center during heat waves, shelter in times of severe storms (i.e. rain, flooding), and de-contamination centers to respond to chemical exposure.

Secondary objectives the County is proposing to undertake include:

Objective 1.1
Improve the delivery and effectiveness of warning messages

Objective 1.2
Preserve public and private emergency response capability (9-1-1, law enforcement, fire services, emergency medical services, hospitals).

Objective 1.3
Utilize available mitigation measures to prevent or reduce life-threatening impacts of natural hazards.

Objective 1.4
Reduce obstacles to timely and safe evacuation of flood hazard areas.

Objective 1.5
Reduce vulnerability of individuals living in mobile homes / manufactured housing.

Objective 1.6
Reduce life or health threatening impacts on individuals with special physical care requirements.

Objective 1.7
Reduce secondary impacts to health and safety from cascading effects.

Goal: To reduce disruptions to essential public services and infrastructure

Objective 2.1
Minimize disruption to and enhance rapid restoration of utilities.

Objective 2.2
Minimize disruption to and enhance rapid restoration of essential transportation infrastructure.

Objective 2.3
Minimize disruption to governmental, educational, and other institutions providing services to the public.

Goal: To reduce economic impacts to individuals, businesses, and area institutions

Objective 3.1
Increase home and business owner investment in available mitigation measures for private property.

Objective 3.2
Increase home and business owner participation in NFIP program.

Objective 3.3
Increase public and private sector development and use of operations continuity strategies.

Objective 3.4
Utilize available mitigation measures to prevent or reduce economic losses from flooding.

Objective 3.5
Reduce vulnerability of existing development by encouraging property owners to participate in buy-out, weatherization, or flood-proofing opportunities.

Objective 3.6
Reduce vulnerability of future development by utilizing available planning and structural standards.

Goal: To reduce losses to civic, cultural, and environmental resources

Objective 4.1
Protect public investment in community-owned facilities and infrastructure through appropriate structural, non-structural, and financial methods.

Objective 4.2
Reduce future losses to the non-profit sector through participation in available mitigation opportunities.

Objective 4.3
Reduce vulnerability of historically or culturally significant structures.

Objective 4.4
Minimize environmental impacts from cascading effects.

As part of the County's commitment to transparency, all relevant information, including but not limited to that described above and in each action's description, will be presented to the public before the action is formally adopted for implementation. After public notification, the adoption process will resemble the following:

Mitigation actions will be presented, considered, and formally adopted by the County Commissioners' Court and County Judge.

Mitigation Actions by Hazard

County of Brooks has selected actions that were identified as high or medium priority and that are in line with TDEM's recommended mitigation actions. However, many of the mitigation actions below are dependent upon outside grant funding for implementation. For all actions likely to require grant funding, potential sources have been identified. However, grant funding is awarded on a competitive basis, so applying for funding doesn't guarantee that funds will be received. County of Brooks has a history of applying for and receiving grant funding to implement physical infrastructure actions. Budget constraints will remain the determining factor for how and when each action is implemented.

Multi-Hazard Actions

PRELIMINARY ASSESSMENT: The County has conducted a survey to identify hazards and risks; as such, the County has identified the following mitigation actions to address its natural hazard vulnerabilities. The County plans to implement the actions as funding become available.

Mitigation Action #1	Educational Outreach
Objective 1.1	This action proposes create a program to educate the County residents about specific mitigation actions for multiple hazards, including but not limited to wildfire fuels reduction, tornado safe rooms, improving thermal insulation, structural hardening, etc.
Hazard	Wildfire, Tornado, Drought, Extreme Heat, Hailstorm
Priority	High
Estimated Cost	Less than $10,000

Potential Funding Source(s)	County, County, TDEM, GLO, USDA, TWDB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	1 - 5 Years
Target	Existing and future population

Mitigation Action #2	Harden Facilities
Objective 1,2	This action proposes hardening facilities. Hardening will include but is not limited to reinforcing building foundations, upgrading and/or adding shatter-resistant films to all glazing, implementing window shutter program for properties in the 25 coastal mile zone, building protective walls around exposed gas tanks, and cylinders, shielding roof-mounted equipment, and adding bracing and tie-down clips to building roofs.
Hazard	Hurricane/Tropical Storm, Hailstorm, Windstorm
Priority	High
Estimated Cost	Greater than $100,000
Potential Funding Source(s)	County, City, TDEM, GLO, USDA, TWDB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	5 Years
Target	Existing Infrastructure

Mitigation A..ction #3	Construct Drainage Control Structures and Flood Control Gates
Objective 1.3	This action proposes construct new, County-wide drainage control structures and flood control gates to reduce the potential impacts of future flood events.
Hazard	Flooding, Hurricane
Priority	High
Estimated Cost	Greater than $500,000
Potential Funding Source(s)	County, County, FEMA, TDEM, GLO, USDA, TWDB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	3 Years
Target	Existing Infrastructure

Mitigation Action #4	Install Warning Systems
Objective 1.4	This action proposes installing warning systems to help local vulnerability to natural hazards by giving residents an opportunity to take shelter ahead of the hazard event.
Hazard	Flooding, Hurricane, Tornado, Hailstorm
Priority	High

Estimated Cost	Less than $15,000 per device
Potential Funding Source(s)	County, County, FEMA, TDEM, GLO
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	1 - 5 Years
Target	Existing and future population

Mitigation Action #5	Develop and Implement a New Tie-Down Ordinance for Manufactured / Mobile Homes, Temporary Buildings, and Unrestricted Messy / Grassy Yards
Objective 1.5	The County will re-evaluate all existing tie-down measures to identify strengths and weaknesses in order to develop and enforce a new tie-down and yard maintenance ordinance.
Hazard	Flooding, Hurricane / Tropical Storm, Windstorm
Priority	Medium
Estimated Cost	Less than $10,000
Potential Funding Source(s)	County, County, FEMA, TDEM
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	5 Years
Target	Existing and future population and infrastructure

Mitigation Action #6	Utilize Existing Shelters to Limit Vulnerability During Tornados and Windstorms
Objective 1.6	This action proposes to increase tornado and windstorm resilience by limited vulnerable population's exposure to both.
Hazard	Tornado, Windstorm
Priority	Medium
Estimated Cost	Less than $100,000
Potential Funding Source(s)	County, City, FEMA, TDEM, GLO
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	1 - 5 Years
Target	Existing and future population

Mitigation Action #7	Construct New Drainage Pump Stations
Objective 1.7	This action proposes constructing new, County-wide drainage pump stations to reduce the potential impacts of future flood events. Areas most prone to flooding are prioritized.
Hazard	Flooding, Hurricane

Priority	High
Estimated Cost	Greater than $100,000
Potential Funding Source(s)	County, City, FEMA, TDEM, GLO, USDA, TWDB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	3 Years
Target	Existing Infrastructure

Mitigation Action #8	Construct Retention and Detention Ponds
Objective 1.8	This action proposes construction of water retention and detention facilities to reduce the potential impacts of future flood events.
Hazard	Flooding
Priority	High
Estimated Cost	Greater than $250,000
Potential Funding Source(s)	County, City, FEMA, TDEM, GLO, USDA, TWDB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	5 Years
Target	Existing Infrastructure

Mitigation Action #9	Upgrade Outdated Sewer Treatment Plan and Service Lines
Objective 1.9	This action proposes upgrade existing sewer treatment plan and County-wide service lines.
Hazard	Flooding, Health and Safety
Priority	High
Estimated Cost	Greater than $2,500,000
Potential Funding Source(s)	County, County, TDEM, GLO, USDA, TWDB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	2 Years
Target	Existing Infrastructure

Mitigation Action #10	Upgrade Outdated Sewer Treatment Plan and Service Lines
Objective 1.10	This action proposes upgrade existing sewer treatment plan and County-wide service lines and manholes.
Hazard	Flooding, Health and Safety
Priority	High
Estimated Cost	Greater than $2,500,000
Potential Funding Source(s)	County, City, TDEM, GLO, USDA, TWDB

Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	2 Years
Target	Existing Infrastructure

Mitigation Action #11	Develop Ordinance to Restrict and/or Enforce Development in High Hazard Areas
Objective 1.11	The County will re-evaluate all existing flood-plain construction restrictions to identify strengths and weaknesses in order to produce a new ordinance that will reduce potential flood impacts due to flooding and hurricanes by restricting or controlling development in areas that may be subject to inundation due to natural hazards.
Hazard	Flooding, Hurricane
Priority	Medium
Estimated Cost	Less than $10,000
Potential Funding Source(s)	County, City
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	3 Years
Target	Existing Infrastructure

Mitigation Action #12	Develop and Implement Ordinance to Conduct Residential and Mobile Home Buyouts in High Hazard Areas
Objective 1.12	The County will re-evaluate existing rules or restrictions to identify strengths and weaknesses in order to produce a new ordinance that will permit the County to conduct property buyouts of residential and mobile homes to reduce potential flood impacts due to flooding and hurricanes in areas that may be subject to inundation due to natural hazards.
Hazard	Flooding, Hurricane, Health and Safety
Priority	Medium
Estimated Cost	Greater than $2,000,000
Potential Funding Source(s)	County, City, GLO, USDA, TDWB
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	3 Years
Target	Existing Infrastructure

Mitigation Action #13	Undertake Construction or Rehabilitation of Owner-Occupied and Renter-Occupied Housing Units that Fail to Meet Minimum Housing Building Standards Situated in High Hazard Areas
Objective 1.13	The County will assess all existing owner-occupied and renter-occupied housing units to compliance with minimum building standards due to deterioration caused by natural hazards events. Non-compliant housing units

	will be subject to buyouts, occupants' relocation, and new construction of transitional housing and alternate new or existing subdivision sites. County may purchase property and contract with housing non-profit to implement actions.
Hazard	Flooding, Hurricane, Health and Safety
Priority	High
Estimated Cost	Higher than $2,000,000
Potential Funding Source(s)	County, City, GLO, TWDB, USDA
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	3 – 5 Years
Target	Existing population and Infrastructure

Mitigation Action #14	Undertake Construction and/or Resurfacing of County Streets to Permit Greater Evacuation Accessibility prior to natural hazard event.
Objective 1.14	The County will assess all existing streets and roads within the County limits and its Extra-Territorial Jurisdiction (ETJ) to undertake construction and/or resurfacing of streets to allow for greater and safer evacuation of residents prior to the natural hazard event.
Hazard	Flooding, Hurricane, Health and Safety
Priority	High
Estimated Cost	Higher than $2,000,000
Potential Funding Source(s)	County, City, GLO, TWDB, USDA
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	3 – 5 Years
Target	Existing population and Infrastructure

Mitigation Action #15	Undertake Actions to prevent and address grass/wildfires.
Objective 1.15	The County will construct throughout the county a system of water tanks to support firefighters combatting grass/wildfires, including but not limited to property sites and equipment (i.e. brush trucks, etc.).
Hazard	Wildfires
Priority	High
Estimated Cost	Higher than $1,000,000
Potential Funding Source(s)	County, City, GLO, TDEM, TWDB, USDA
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	2-3 Years
Target	Existing population, properties, and Infrastructure

Mitigation Action #15	Establish or construct severe weather facilities/shelter

Objective 1.15	The County will construct a severe weather center to serve as a cooling center during heat waves, shelter in times of severe storms (i.e. rain, flooding), and de-contamination centers to respond to chemical exposure.
Hazard	Severe Weather (i.e. heat or freezes), Flooding, Tornados
Priority	High
Estimated Cost	Higher than $2,500,000
Potential Funding Source(s)	County, City, GLO, TDEM, TWDB, USDA
Responsible Department	County Judge and County Commissioners' Court
Implementation Schedule	2-3 Years
Target	Existing vulnerable populations

PART D – PLAN MAINTENANCE

The LPC and the County recognize that the hazard mitigation plan is not a static document. It is a living document subject to changes in conditions and as mitigation actions are implemented, the plan will need to be updated to reflect new conditions. The LPC and the County Commissioners' Court have identified specific plans to oversee implementation of recommended actions, and it has also identified potential funding sources for each mitigation action. As such, the County Commissioners' Court will procure and contract with consulting and/or engineering firm(s) to seek funding to implement the identified actions, while also maintaining vigilance of the HMP's updating to avoid lapsing and expiration.

Within one year of adoption of this plan, the Brooks County Commissioners' Court will review and, as appropriate, integrate implementation of their respective mitigation actions with their existing internal plans and policies relating to capital improvements, land use, design and construction, and emergency management.

On a biannual basis, LPC members and County Commissioners' Court will evaluate the County's progress on implementing the plan's mitigation actions. The planning committee will review consultants' findings, public input, and future development plans to evaluate the effectiveness and appropriateness of the plan.

In light of changing funding sources, hazard vulnerability, and local mitigation priorities, the planning committee will identify changes to plan goals and priorities, and they will report their findings to the County Commissioners' Court. It will be the consultants' and/or LPC's responsibility to identify relevant reasons for delay or obstacles to completing the plan's mitigation actions, along with recommended strategies to overcome any deficiencies.

Any significant change to the plan, including but not limited to changing mitigation actions, abandoning mitigation actions, or pursuing new mitigation actions, will require the County Commissioners' Court to provide opportunities for the public to make its views and concerns known via public hearings and County Commissioners' Court agenda public comment items. The County will provide notice to the public through announcements in the local paper, fliers posted at the County Hall, and on the County's Facebook page.

Plan Monitoring

The County Judge, acting as the Brooks Volunteer Fire Department Chief and the County's Emergency Management

Coordinator (EMC), will be responsible for the overall continued coordination and monitoring of the mitigation plan and the actions assigned for each hazard. The plan monitoring worksheet outlined below will serve as the basis for revision of the plan.

At a minimum, the mitigation plan will be reviewed by the County's County Judge and LPC representatives quarterly, during County's budget workshops, and as other plans are being developed or revised including: comprehensive plans, capital improvement project plans, and emergency plans.

To execute the monitoring requirement, the County Judge (or consultant) will produce a plan monitoring worksheet. The worksheet will identify and track the following for each mitigation action: the expected implementation schedule, setbacks or delays, changes to the local risk assessment, changes in jurisdictional capabilities, and current and future opportunities for integration with other local plans.

After adoption of this plan, it will remain on the County of Brooks Facebook page ad/or website. The goal is to create the opportunity for constant and continued feedback from local officials, stakeholders, and the general public.

Plan Evaluation

Proper evaluation will measure the progress and effectiveness of the mitigation actions identified in the plan. On a bi-annual basis the County Judge (or County's consultant) will use the following criteria, along with additional metrics as necessary, to assess the effectiveness of the plan:

- Do the specified goals and objectives still address current and expected conditions?
- Has the nature, magnitude, and/or risk of any hazard changed?
- Have there been changes in land development that the plan needs to address?
- Are available resources suitable for implementing the plan?
- Is funding budgeted or available to successfully implement prioritized mitigation actions?
- Are there opportunities in the local budgeting process or local, state, and national grant funding cycles to increase funding to implement mitigation actions?

Other steps will include site visits to completed mitigation projects to measure and ensure their success; of particular interest is the availability of funds to the County for updating the HMP, as well as, implementing specific actions and projects. In the event that a mitigation project fails to meet its goal, the planning committee will evaluate the causes of the shortcoming. The planning committee will use their assessment to amend the project, allocate additional resources to achieve the desired outcome, or replace the project with a more appropriate project. The County Judge will also work the County Commissioners' Court, the LPC, and consultants to implement any additional revisions required to ensure that the plan is in full compliance with federal regulations and state statutes.

PART E – PLAN UPDATE

Plan Adoption

The County Commissioners' Court will adopt the 2024 Brooks Hazard Mitigation Plan following the recommendation of the Local Planning Committee (LPC) and two (2) published public hearings and a final, third public hearing have been conducted on October 10, 2024 immediately prior to the County Commissioners' Court to convene and act on a resolution to submit the final draft, as amended, to TDEM and FEMA.

Plan Update

The plan is designed to address a five-year period. In accordance with 44CFR Section 201.6, it will be updated every five years to maintain compliance with state and federal regulations. However, at least every two years from the date of approval, and quarterly on the fifth and final year of the plan, the County Commissioners' Court and the LPC, with support consultants, will thoroughly review any significant changes in the County that might impact the plan. During the update process, the LPC will do the following: collect data on recent occurrences of each natural hazard identified in the plan, record how each natural hazard impacted the County during the preceding years, determine whether or not implemented mitigation actions produced the desired outcomes, and determine whether or not to modify the list of hazards to be addressed in the update. Additional considerations will include but are not limited to: changes is local development, changes in exposure to natural hazards, the development of new mitigation capabilities or techniques, and revisions to state or federal legislation.

The County will continue to work with the City of Falfurrias and its leadership to promote public participation as the approved plan moves toward implementation. Specifically, the County, as it, undertakes mechanisms to finance the implementation of the mitigation programs will publish public hearing notices, conduct town hall meetings, and specific-issue community meetings. The County envisions that the proposed public activities will provide a forum for the exchange of ideas, meaningful dialogue, and community input into the planning process to implement the specific program activity as presented herein.

The County, lacking in-house resources, has consistently turned to existing State and Federal agencies (i.e. TDEM, FEMA, NOAA, NWS, etc.) to annotate the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved. As revisions due to changes in community priorities occur in the plan, the County, through the office of the County Judge and the Emergency Management Coordinator, will coordinate TDEM and FEMA such revisions. The County anticipates minimal, if any, changes over the next five years. In the event that changes are made to the hazard mitigation plan, such changes will be presented to the Brooks County Commissioners Court for consideration. All actions that may be taken by the County Commissioners' Court will be archived in the county minutes by the County Clerk. Similarly, the County will assist the sole participating jurisdiction, the City of Falfurrias, to integrate the mitigation plan into other planning mechanisms

Part F – Exhibits and Attachments

1) Local Planning Committee (LPC) Meeting Minutes
2) LPC and Stakeholders Prioritization Tabulation Summary and Survey Form
3) Public Participation Notices and Publications

COUNTY OF BROOKS Local Hazard Mitigation Plan – Prioritization Tabulation Sheet				
Objectives	**Activity Description**	**Prioritization** (circle preference)		
Mitigation Action #1	Educational Outreach	(#1)	#2	#3
Mitigation Action #2	Harden Facilities	(#1)	#2	#3
Mitigation Action #3	Construct Drainage Control Structures and Flood Control Gates	(#1)	#2	#3
Mitigation Action #4	Install Warning Systems	(#1)	#2	#3
Mitigation Action #5	Develop and Implement a New Tie-Down Ordinance for Manufactured / Mobile Homes, Temporary Buildings, and Unrestricted Messy / Grassy Yards	(#1)	#2	#3
Mitigation Action #6	Utilize and Convert Existing Shelters and Facilities into Safe Rooms to allow Limit Vulnerability During Extreme Climatic Events	(#1)	#2	#3
Mitigation Action #7	Construct New Drainage Pump Stations	(#1)	#2	#3
Mitigation Action #8	Construct Retention and Detention Ponds	(#1)	#2	#3
Mitigation Action #9	Upgrade Outdated Sewer Treatment Plan and Service Lines	(#1)	#2	#3
Mitigation Action #10	Upgrade Outdated Sewer Treatment Plan and Service Lines	(#1)	#2	#3
Mitigation Action #11	Develop Ordinance to Restrict and/or Enforce Development in High Hazard Areas	(#1)	#2	#3
Mitigation Action #12	Develop and Implement Ordinance to Conduct Residential and Mobile Home Buyouts in High Hazard Areas	(#1)	#2	#3
Mitigation Action #13	Undertake Construction or Rehabilitation of Owner-Occupied and Renter-Occupied Housing Units that Fail to Meet Minimum Housing Building Standards Situated in High Hazard Areas	(#1)	#2	#3
Mitigation Action #14	Undertake Construction and/or Resurfacing of County Streets to Permit Greater Evacuation Accessibility prior to natural hazard event.	(#1)	#2	#3
Mitigation Action #15	Undertake County-wide assessment and surveys of potential climatic events hazards.	(#1)	#2	#3
Mitigation Action #16	Establish or construct severe weather facilities/shelter	(#1)	#2	#3