



Fort Bend County, Texas Hazard Mitigation Plan – 2023 Update

Planning Partnership Kick-Off Meeting | November 16, 2022

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Agenda



- Welcome and Introductions
- Hazard Mitigation Planning Overview
- Planning Partnership Responsibilities
- Public and Stakeholder Outreach
- Completing Worksheets
- Schedule
- Questions/Next Steps/Wrap Up



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Hazard Mitigation Planning Overview

- What is hazard mitigation?
- How does this support resiliency and recovery?
- Why update the plan?
- What is the process?

- ✓ Authorized by the Disaster Mitigation Act of 2000
- ✓ Provides an overview of the impacts of natural hazards on communities
- ✓ Provides a roadmap to reducing the impact of these hazards
- ✓ Requires a FEMA-approved natural hazard mitigation plan to be eligible for Pre- and Post-Disaster Mitigation Funding
- ✓ 5-year updates required to maintain eligibility



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Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).



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Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Hazard	Losses (1950 – June 2022)
Dam/Levee Failure	-
Drought	\$1 million (property) \$7.3 million (crop)
Expansive Soils	-
Extreme Cold	-
Extreme Heat	-
Flood (Flash)	\$805 billion (property) \$52,000 (crop)
Hailstorms	\$2.897 million (property)
Hurricanes	\$400 million (property)
Land Subsidence	-
Lightning	\$574,000 (property)
Pandemic/Disease Outbreak	
Tropical Storms	\$12.34 million (property)
Tornadoes	\$16.183 million (property)
Wildfires	-
Windstorms	-
Severe Winter Storms	-
TOTAL	\$805,432,994 billion (property) \$7.404 million (crop)

Source: NOAA-NCEI 2022



Project Organization



Update Risk Assessment

- Update assets
- Examine previous impacts
- Analyze risks
- Review with Steering Committee and Planning Partnership
- Risk assessment meeting – open to the public



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2018 Hazards of Concern

- Dam/Levee Failure
- Drought
- Expansive Soils
- Extreme Heat
- Floods
- Hailstorms
- Hurricanes/Tropical Storms
- Land Subsidence
- Lightning
- Tornadoes
- Wildfires
- Windstorms
- Severe Winter Storms

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2023 Potential Hazards of Concern

- Dam/Levee Failure
- Derechos
- Drought
- Earthquake?
- Expansive Soils
- **Extreme Temperature** (heat/cold)
- Flood (**Riverine/Flash/Stormwater**)
- Hailstorms
- Hurricane/Tropical Storm
- Inland Erosion
- Land Subsidence
- Lightning
- **Pandemic/Health and Safety**
- **Severe Weather** (Lightning/Hail/Wind)
- Tornado
- Wildfire
- Winter Weather



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Worksheet A – Hazard Event History

Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet A – Hazard Events

Please send all electronic Word versions by December 7, 2022:
Heather Aggar, Tetra Tech | heather.aggar@tetratech.com

Municipality: _____

Name and Title of Individual Completing Worksheet: _____

Fort Bend County has frequently experienced natural hazard events. Please complete the table below to summarize specific loss and damages experienced during hazard events since the last hazard mitigation plan update (2016). Information already populated in the table below is based on County-wide events that resulted in significant damages and losses.

Please update the table to provide a summary of local impacts to the listed events AND note other local hazard events that resulted in damages, closures, or other impacts.

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
01/20/2020 – continuing	EM-3458 – Covid-19	Yes	Covid-19	
01/20/2020 – continuing	DR-4485 – Covid-19 Pandemic	Yes	Covid-19 pandemic declared	
07/25/2020 – 07/31/2020	EM-3530 – Hurricane Hanna	Yes	Hurricane force winds resulted in significant number of downed trees and utility lines.	
08/23/2020 – 08/27/2020	EM-3540 – Tropical Storms Marco and Laura	Yes	Hurricane Marco and Laura	
02/11/2021 – 02/21/2021	EM-3554 – Severe Winter Storm	Yes	Severe Winter Storm	
02/11/2021 – 02/21/2021	DR-4586 – Severe Winter Storms	Yes	Winter Storm Uri distributed a record amount of snow throughout Texas. Snow, ice, and ultra-low temperatures caused widespread road closures.	

Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet A – Hazard Events

Please identify other hazard events that have caused damage/losses in your community. Refer to FEMA project worksheets (PWs), overtime records, police/fire reports, repair costs (invoices), etc.

Date of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses

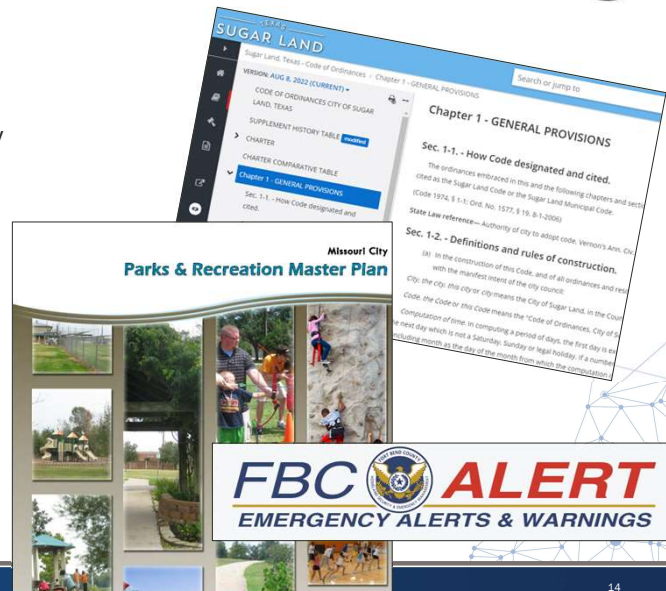


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Update the Capability Assessment

• Capabilities

- Planning and Regulatory Capability
- Administrative and Technical Capability
- Financial Capability
- Education and Outreach



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Worksheet B – Capability Assessment

Fort Bend County, TX | Hazard Mitigation Plan 2023 Update
Worksheet B – Capability Assessment

Please send all electronic Word versions by December 7, 2022:
Heather Aggar, Tetra Tech | heather.agg@tetratech.com

Municipality:
Name and Title of Individual Completing Worksheet:

Who can assist with completing these tables: Municipal Planner, Clerk, Code Official, Admin Officer.

Planning and Regulatory Capability

Please complete the following table to summarize the regulatory tools that are available to you in the jurisdiction, and code citation and date. For existing regulatory tools, note hazards or how it could be updated to better integrate hazard mitigation concepts to reduce risk.

Codes, Ordinances, & Regulations	Jurisdiction has this? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Building Code How does this reduce risk? The building code requires design standards for new construction or the substantial improvement of existing structures to be more resistant to hazards, including hurricane winds and tornadoes.	Yes	Chapter 103 – Buildings and Building Regulations	Local	Code Enforcement
Zoning/Land Use Code How does this reduce risk? The land use code promotes development and redevelopment patterns that are at less risk from known hazards. The code also reduces potential for damages caused by negligent or imprudent permitting or land use decisions.	Yes	Chapter 101 – General and Administrative Provisions	Local	Code Enforcement

Consider the following:

- Prior to zoning changes, or development permitting, does your jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use?
- Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains?
- Does it contain natural overlay zones that set conditions?
- Does the ordinance require developers to take additional actions to mitigate natural hazard risk?

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Worksheet C – NFIP FPA Questionnaire



Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet C – NFIP Floodplain Administrator Questionnaire

Please send all electronic Word versions by December 7, 2022:
Heather Apgar, Tetra Tech | heather.apgar@tetratech.com

Municipality: _____

Name and Title of Individual Completing Worksheet: _____

Who can assist with completing this table: NFIP Floodplain Administrator – as identified by role/title in your Flood Damage Prevention Ordinance.

NFIP Topic	Comments
Flood Vulnerability Summary Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding? • Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway. • How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction? How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigated properties, how were the projects funded? Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	
NFIP Compliance What local department is responsible for floodplain management? Are any certified floodplain managers on staff in your jurisdiction?	

NFIP Topic	Comments
Flood Vulnerability Summary Describe areas prone to flooding in your jurisdiction. • Do you maintain a list of properties that have been damaged by flooding? Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway. How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction? How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigated properties, how were the projects funded? Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	<p>The intersection of Main Street and Maple Road routinely flood during heavy rain events. This leads to road closures and impacts emergency response time and access. The City does not maintain a list of flood-damaged properties.</p> <p>At this time, there has been no interest in residential flood mitigation.</p> <p>No</p> <p>The Building Inspector conducts substantial damage determinations after a flood event. During the last flood event, two determinations were made.</p> <p>To date, no properties have been mitigated in the City.</p> <p>Yes</p>

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Worksheet E – Building Permits



Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet E – Building Permits Review

Please send all electronic Word versions by December 7, 2022:
Heather Apgar, Tetra Tech | heather.apgar@tetratech.com

Municipality: _____

Name and Title of Individual Completing Worksheet: _____

Who can assist with completing these tables: The Building Department, Planning Department, and NFIP Floodplain Administrator

Type of Development	2016		2017		2018		2019		2020		2021		2022	
Number of Building Permits for New Construction Issued Since the previous HMP* (total/within regulatory floodplain)	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
	Single Family													
Multi-Family														
Other (commercial, mixed-use, etc.)														
Total Permits Issued														

SFHA = Special Flood Hazard Area (1% annual chance flood event)
* Only location-specific hazard zones or vulnerabilities identified.

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Update the Mitigation Strategy

- Determine the status of mitigation actions
- Identify new mitigation actions/projects
 - Focus on specific, implementable, and achievable actions!
 - Look at your list of critical facilities and lifelines – what do they need to be operational during a disaster?
 - Two mitigation actions for every hazard of concern!
- Conduct Mitigation Strategy Workshop – date TBD

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Worksheet D – Action Review

Fort Bend County | Hazard Mitigation Plan 2023 Update
Worksheet D – Mitigation Action Review

Please send all electronic Word versions by December 7, 2022:
Heather Appar, Tetra Tech | heather.appar@tetratech.com

Municipality: Fort Bend County

Name and Title of Individual Completing Worksheet: _____

Who should provide you information about past mitigation actions: We suggest that your Engineer and Public Works Superintendent take the first pass at updating this table after which you coordinate with other officials/responsible parties as noted (e.g., Code Official, Planner, OEM Coordinator) to determine the status of each action. This project status update is a FEMA requirement. It will also help in identifying ongoing actions for our current plan.

Use the following table to indicate progress and next steps on your community's mitigation actions. Detail as much as possible.

Project #	Project	Responsible Party	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed) If in progress or completed, please describe the funding source, cost and who is implementing.	If you did not complete the action, should the action be included in the 2023 HMP (i.e., there is still a need, this is still a priority)?	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
1	Conduct Traffic Study	FBC OEM	No Progress	Yes	Need to determine whether current transportation infrastructure can support additional vehicles in the County.	Community Development and Engineering
2	Expansion of Big Creek Channel	FBC Drainage District	In Progress	Yes	The design of the expansion is underway; however, additional funding is needed to implement the project.	County Drainage District and Engineering
3	Ensure the County has Adequate Plans and Resources	FBC OEM, FBC Road and Bridge	Ongoing	No	--	--
4	Improve the County's Fuel Load Reduction Campaign	Fire Marshal, FBC Public Works				
5	Improvements to Stafford Run Creek	FBC Drainage District				
6	Develop Feasibility Study	FBC OEM				
7	Construction of a Regional Detention Facility	Missouri City FBC Drainage District				
8	Excavation of Bull Head Slough and Upper Oyster Creek	FBC Drainage District				

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Update Other Sections of Plan

- County Profile
 - Taking the previous profile from the last plan and updating it accordingly
- Planning Process
 - Documentation of the update process
- Plan Maintenance
 - Incorporation into other plans as well as identifying way to incorporate other plans into the updated HMP
 - Identify a game plan for annually reviewing and updating the HMP



Submit HMP for Review

- Review Draft with Planning Team
- 14-day Public Comment Period
- Conduct Public Meeting to Review the Draft
- Submit for Texas Division of Emergency Management (TDEM) Review
 - 30 days
- Submit for Federal Emergency Management Agency (FEMA) Review
 - 45 days
- “Approvable Pending Adoption” Status

Adopt the HMP

- Fort Bend County and at least one participating municipality need to adopt the HMP in order for it be considered 'approved'
- Once FEMA approves the plan, adoption can begin
- Adoption deadline – TBD

Implement the HMP

- Regular Planning Team meetings
- Stakeholder meetings
- Implement mitigation actions and projects
 - Integrate actions where appropriate

Public and Stakeholder Outreach

- Social Media Posts
- Press Release
- HMP website – will work with the County to set this up
- Planning Partnership meetings open to the public
- Stakeholder Survey
- Public Survey
- Neighboring County Outreach
 - Notified of planning process
 - Survey






Next Steps / Upcoming Schedule

- Complete worksheets – to be distributed via email – due December 7th
- Mitigation Strategy Workshop – early February (tentatively)
- Risk Assessment Meeting – late March (tentatively)
- Public Review Period – April 2023 (tentatively)
- Draft Plan to TDEM – April 2023 (tentatively)
- Final Draft to FEMA – May 2023 (tentatively)
- APA – June 2023 (tentatively)


Questions?





Fort Bend County Project Contacts	
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Tetra Tech Project Contacts	
Brian Rutherford, Project Manager (281) 414-6741 brian.rutherford@tetrattech.com	Heather Apgar, Lead Planner (973) 630-8046 heather.apgar@tetrattech.com



Thank You!