SECTION 9. JURISDICTIONAL ANNEXES

9.13 City of Rosenberg

This section presents the jurisdictional annex for the City of Rosenberg that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the municipality, the City of Rosenberg representatives who participated in the planning process, an assessment of the City of Rosenberg's risk and vulnerability, the different capabilities used in the City of Rosenberg, and an action plan that will be implemented to achieve a more resilient community.

9.13.1 Hazard Mitigation Planning Team

The City of Rosenberg identified primary and alternate points of contact and developed this plan over the course of several months with input from many City of Rosenberg departments, including Department of Emergency Services. The Emergency Management Coordinator, Fire Chief, Police Chief, Executive Director of Public Services, City Engineer and Building Official represented the community on the Fort Bend County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Volume 1, Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.13-1. Hazard Mitigation Planning Team

Primary Point of Contact		Alternate Point of Contact	
Name/Title:	Jonathan White, Police Chief/Emergency Management Coordinator	Name/Title:	Rigo Calzoncin, Executive Director of Public Services
Address:	2120 4th Street, Police Department, Rosenberg, TX 77471	Address:	2110 4th Street, Rosenberg City Hall, Rosenberg, TX 77471
Phone Number:	832-595-3713	Phone Number:	832-595-3591
Email:	jowhite@rosenbergtx.gov	Email:	rcalzoncin@rosenbergtx.gov
NFIP Floodplain Administrator			
Name/Title:	Charles A. Kalkomey, PE, City Engineer		
Address:	2110 4th Street, Rosenberg City Hall, Rosenberg, TX 77471		
Phone Number:	832-595-3301		
Email:	ckalkomey@rosenbergtx.gov		
Additional Contributors:			
Name/Title: Method of Participation:	Darrell Himly Fire Chief (Retired) Participated in meetings. Completed Homework Sheets and input Survey 123 data. Planning Committee Member		
Name/Title: Method of Participation:	Kevin Raines, Mayor Steering Committee and Planning Committee Member		
Name/Title:	Brian Swint, Building Official		

Method of Participation:	Participant in completing Hazard Mitigation Plan

9.13.2 Municipal Profile

The City of Rosenberg is located within the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA). While located at the ever-expanding southwestern edge of the Houston metropolitan area, Rosenberg is centrally located within Fort Bend County, with the original portions of the City lying along the Brazos River on an east-west axis. The City's area of greatest building intensity and population density is generally flanked on the south by the U.S. Highway 59/Interstate 69 corridor. Substantial annexation activity has pushed the City's boundaries much further to the south and west in a meandering but linear profile. The City of Rosenberg has a total area of approximately 108 square miles, of which 36.63 square miles are within the Corporate City Limits.

According to the American Community Survey, the 2021 population for the City of Rosenberg was 37,871, a 23.6% percent increase from the 2010 Census population of 30,618. Data from the 2020 U.S. Census indicate that 8.6 percent of the population is 5 years of age or younger, and 11.5 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.13.3 Jurisdictional Capability Assessment and Integration

The City of Rosenberg performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhanced its ability to implement mitigation strategies. Volume 1, Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment includes the following analyses:

- An assessment of legal and regulatory capabilities
- Development and permitting capabilities
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities
- An assessment of education and outreach capabilities
- Classification under various community mitigation programs
- The community's adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of the hazard mitigation analysis, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. The updated mitigation strategy provided an opportunity for the City of Rosenberg to identify opportunities for integration of mitigation concepts that can be incorporated into municipal procedures.

Planning, Legal, and Regulatory Capability and Integration

The table below summarizes the regulatory tools that are available to the City of Rosenberg. The comment field provides information as to how the capability integrates hazard mitigation and risk reduction.

Table 9.13-2. Planning, Legal, and Regulatory Capability and Integration

	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
Codes, Ordinances, & Regulations				
Building Code	Yes	2018 International Code	Local	Building Inspection and Code Enforcement

	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
How does this reduce risk? The City of Rosenberg adopted the 2018 International Codes, the 2015 International Energy Code, and the 2017 National Electric Code, which incorporates the latest safety standards to address known hazards to the community. The City's current building code has not been updated since the 2018 HMP; therefore, it does not integrate the HMP. When the City does update the code, they will review the current HMP and integrate into the code accordingly.				
Zoning/Land Use Code	Yes	Unified Development Code (UDC) – May 2, 2017	Local	Planning Department
How does this reduce risk? No "zoning", but the City has a UDC regulating land uses. The UDC is established to maintain the growth and development within the City. Some sections of the City's UDC have not been updated since the 2018 HMP; therefore, it does not integrate the HMP. When the City does update the code, they will review the current HMP and integrate into the code accordingly. The City indicated the following regarding the zoning/land use code: • 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? No zoning or zoning changes but, prior to development permitting, the City has many codes and ordinances within the UDC that are reviewed and that address hazard mitigation. • Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? No zoning, but yes, the UDC most definitely does this. The UDC contains a Flood Prevention and Protection chapter (Ch. 2) that thoroughly addresses this risk. • Does it contain natural overlay zones that set conditions? There are not necessarily overlay zones, but there are different floodplain designations with different rules that are stricter based on greater risk. • Does the ordinance require developers to take additional actions to mitigate natural hazard risk? Absolutely. See the Flood Prevention and Protection rules in particular. • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? No zoning, but there are other rules for density that could be seen as indirectly addressing hazard mitigation by reducing the intensity of development. • The code is found online: https://rosenbergtx.gov/281/Unified-Development-Code (UDC link)				
Subdivision Ordinance	Yes	Subdivision Regulations (UDC Ch. 4) May 2, 2017	Local	Planning Department
How does this reduce risk? The Ordinance works to ensure the health, safety, and welfare of citizens and property by regulating the development of land within the City limits and in certain cases, within the extraterritorial jurisdiction (ETJ) of the City. The City's UDC relative to Subdivision, has not been updated since the 2018 HMP; therefore, it does not integrate the HMP. When the City does update the code, they will review the current HMP and integrate into the code accordingly. The City indicated the following regarding the subdivision ordinance: *Consider the following:* • Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? Yes. A prime example would be floodplain areas. • Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources? No, the ordinance does not currently do this. However, it does provide for Planned Unit Developments (PUDs) where this could potentially be done. • Do the regulations allow density transfers where hazard areas exist? No, the ordinance does not currently address this. • The code is found online: https://rosenbergtx.gov/281/Unified-Development-Code (UDC, see Ch. 4)				
Site Plan Ordinance	Yes	Article VII. Chapter 7, Uniform Development Code, adopted by Ordinance No. 2017-07 on May 2, 2017	Local	Planning Department
How does this reduce risk? The City does not have a "Site Plan Ordinance", but it does require site plans for commercial developments, which addresses hazard mitigation such as flood prevention. Article VII, Chapter 7, Uniform Development Code addresses the requirement for site development plans for new development. This Article references flood protection facilities, minimum slab elevations (to comply with Flood Prevention and Protection Ordinance) and site drainage.				
Stormwater Management Ordinance	Yes	The City local codes and ordinances sets standards for storm water management in Chapter 6 of the UDC, adopted May 2, 2017	Local	Public Works/Code Enforcement
How does this reduce risk? Ensuring that storm drains are free of debris and are protected during construction from allowing illicit discharges to occur, reduces the impacts of flooding to allow water to flow with minimal restriction through the storm water drainage system. The City's UDC relative to Stormwater Protection has not been updated since the 2018 HMP; therefore, it does not integrate the HMP. When the City does update the code, they will review the current HMP and integrate into the code accordingly				
Post-Disaster Recovery/ Reconstruction Ordinance	Yes	Building Codes	Local	Building Official
How does this reduce risk? Ensuring that after the even, we design and build to current standards reduces the risk from future events.				

	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
Real Estate Disclosure	No	The Private Real Property Rights Preservation Act - Subchapter B: Chapter 2007 of the General Government Code	-	-
How does this reduce risk?				
Growth Management	Yes	Chapter 4 and Chapter 7, Uniform Development Code, adopted by Ordinance No. 2017-07 on May 2, 2017; Flood Prevention and Protection Ordinance amended by Ordinance No. 2020-09 dated February 18, 2020	Local	Planning and Engineering
How does this reduce risk? By ensuring that new development accounts for and mitigates impacts from new development. All increases in peak flow rates are identified and adequately detained or managed to achieve no net increase in stormwater created by the development. The 2020 amendment integrates aspects of the 2018 HMP by establishing standards for increased flood protection measures, which encourages development to occur outside of flood hazard areas.				
Environmental Protection Ordinance	No	-	-	-
How does this reduce risk?				
Flood Damage Prevention Ordinance	Yes	Flood Prevention and Protection Ordinance, Chapter 2, Uniform Development Code adopted by Ordinance No. 2014-10 on February 18, 2014 (Chapter 12, Code of Ordinances); last amended by Ordinance No. 2020-09 dated February 18, 2020,	Local	Planning and Engineering
How does this reduce risk? Establishes requirements for any construction in a flood hazard area including defining minimum finished floor elevations above the base flood elevation.				
Wellhead Protection	Yes	Flood Prevention and Protection Ordinance, Chapter 2, Uniform Development Code adopted by Ordinance No. 2014-10 on February 18, 2014 (Chapter 12, Code of Ordinances); last amended by Ordinance No. 2020-09 dated February 18, 2020,	- Local	- Planning and Engineering
How does this reduce risk? Ensures wellhead is above the base flood elevation.				
Emergency Management Ordinance	Yes	Chapter 10 – Emergency Management - June 21, 2005	Local	Emergency Manager
How does this reduce risk? The Emergency Management Ordinance establishes an emergency management plan and identifies the responsible parties				
Climate Change Ordinance	No	-	-	-
How does this reduce risk?				
Other	-	-	-	-
Planning Documents				

	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
Comprehensive/Master Plan	Yes	2035 Comprehensive Master Plan – November 17, 2015	Local	Planning Department
How does this reduce risk? The City Comprehensive Plan guides future decisions of the City leadership regarding the types, patterns, and direction of growth; the scope and direction of transportation and other infrastructure network expenditure; and the enhancement of the community. The City's Comprehensive Plan has not been updated since the 2018 HMP; therefore, it does not integrate the HMP. When the City does update the Plan, they will review the current HMP and integrate into the Plan accordingly. The City will provide additional information regarding the comprehensive plan: • Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? Yes, particularly flooding. • Does the future land use map clearly identify natural hazard areas? Yes, particularly floodplain areas. • Do the land use policies discourage development or redevelopment with natural hazard areas? Yes. • Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas? Yes, as you would expect, the Plan attempts to deter growth in hazard areas such as floodplains. • The plan is found online: https://rosenbergtx.gov/252/2035-Comprehensive-Plan (Comprehensive Plan link)				
Capital Improvement Plan	Yes	Current 5-year Capital Improvements Plan adopted by Resolution R-3326 on September 6, 2022	Local	Public Works and Engineering
How does this reduce risk? Identifies, prioritizes, and defines funding for floodplain management and drainage projects for a five-year period. Actions from the 2018 HMP have been integrated in the Capital Plans.				
Disaster Debris Management Plan	Yes	County Agreement	County	Public Works
How does this reduce risk? The removal of debris caused by storms reduces the risks for clogging stormwater systems, reduces health risk, reduces fire risk, and allows a community the opportunity to recover.				
Floodplain Management or Watershed Plan	Yes	Flood Prevention and Protection Ordinance, Chapter 2, Uniform Development Code adopted by Ordinance No. 2014-10 on February 18, 2014 (Chapter 12, Code of Ordinances); last amended by Ordinance No. 2020-09 dated February 18, 2020,	Local	Planning and Engineering
How does this reduce risk? Establishes requirements for any construction in a flood hazard area including defining minimum finished floor elevations above the base flood elevation.				
Stormwater Management Plan	Yes	Stormwater Management Plan- June 2014	Local	Public Works
How does this reduce risk? The Stormwater Management Program is established to obtain coverage for stormwater discharges. The program requires five minimum control measures to be addressed in the plan; 1. Public Education, Outreach, and Involvement 2. Illicit Discharge Detection and Elimination 3. Construction Site Storm Water Runoff Control 4. Post-Construction Storm Water Management in New Development & Redevelopment 5. Pollution Prevention / Good Housekeeping for Municipal Operations				
Open Space Plan	Yes	Parks Master Plan/Parkland Dedication Ordinance	- Local	Planning and Parks Department
How does this reduce risk? There is not an "Open Space Plan", but there is (1) a Parks Master Plan and (2) a Parkland Dedication ordinance, both of which indirectly reduce risk by conserving and adding open space areas, in contrast to additional impervious cover. The plan is available online: https://rosenbergtx.gov/229/Parks-Master-Plan (Parks Master Plan link) and the code is online https://rosenbergtx.gov/281/Unified-Development-Code (UDC, see Ch. 4, Art. IV)				
Urban Water Management Plan	Yes	Water Conservation Plan – 2019	Local	Public Services Dept.
How does this reduce risk? The Plan was adopted to identify and establish principles and practices to effectively monitor and conserve the efficient use of available water supplies and distribution system capacity.				

	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
Habitat Conservation Plan	No	-	-	-
How does this reduce risk?				
Economic Development Plan	Yes	Economic Development Strategic Plan-2023	Local	Economic Development
How does this reduce risk? Provides funding in support of infrastructure projects to maintain compliance with adopted codes and regulations				
Shoreline Management Plan	No	-	-	-
How does this reduce risk?				
Community Wildfire Protection Plan	No	-	-	-
How does this reduce risk?				
Community Forest Management Plan	No	-	-	-
How does this reduce risk?				
Transportation Plan	Yes	Master Thoroughfare Plan	Local	Planning Department
How does this reduce risk? The Master Thoroughfare Plan (MTP) defines the network of future roads identified to handle various levels of vehicular traffic and defines a hierarchy for roadways to provide balance between mobility and access. The Plan identifies the general location and scale for thoroughfares within the City. The City provided additional information regarding this plan: • Does the transportation plan limit access to hazard areas? Yes, additional thoroughfares and development are not encouraged in floodplain areas, for example. • Is transportation policy used to guide growth to safe locations? Yes. • Are transportation systems designed to function under disaster conditions (e.g. evacuation)? Yes. • The plan is found online: https://rosenbergtx.gov/274/Master-Thoroughfare-Plan (Master Thoroughfare Plan link)				
Agriculture Plan	No	-	-	-
How does this reduce risk?				
Climate Action/ Resiliency/Sustainability Plan	Yes	Sustainability Project-Generators	- Local	- Emergency Management
How does this reduce risk? By providing emergency generators at all facilities it allows the continuation of government operations during disasters.				
Tourism Plan	No	-	-	-
How does this reduce risk?				
Business/ Downtown Development Plan	No	-	-	-
How does this reduce risk?				
Other	-	-	-	-
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes	Emergency Operations Plan	County	Fort Bend County Homeland Security and Emergency Management
How does this reduce risk? The Emergency Operations Plan (EOP) is an all-hazard plan that guides Fort Bend County's efforts to prepare for, respond to, recover from, and mitigate the effects of a major emergency or disaster.				
Continuity of Operations Plan	No	-	-	-
How does this reduce risk?				
Strategic Recovery Planning Report	Yes	Fort Bend County	County	Fort Bend County Homeland Security & Emergency Management
How does this reduce risk?				
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	Fort Bend County	County	Fort Bend County Homeland Security & Emergency Management

	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
How does this reduce risk?				
Post-Disaster Recovery Plan	Yes	Fort Bend County	County	Fort Bend County Homeland Security & Emergency Management
How does this reduce risk?				
Public Health Plan	Yes	Fort Bend County	County	Fort Bend County Health & Human Services
How does this reduce risk? FBHHS has plans in place to prevent public health issues through regular inspections of regulated facilities, as well as prepare for and respond to public health emergencies.				
Other	Yes	Plans and Reports	City	Planning, Engineering, Public Works and Fire-
How does this reduce risk? As ongoing capabilities listed in the Past Mitigation Initiative Status section of this annex (Table 9.15-16 Previous Mitigation Actions), the City is in the process of preparing and updating many plans and reports that address problems identified in the 2018 HMP. Additionally, the City will review the 2023 HMP and integrate it into the updated plans and reports accordingly.				

Development and Permitting Capability

The table below summarizes the capabilities of the City of Rosenberg to oversee and track development.

Table 9.13-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment:
Do you issue development permits? • If yes, what department is responsible?	No	City does not have a defined Development Permit.
If you do not issue development permits, what is your process for tracking new development?	Yes	Development permits are a part of the Building Permit process for review and approval of new development.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	The City does not currently "track" permits by hazard area, but can identify such permits.
Do you have a buildable land inventory? • If yes, please describe	Yes	The City maintains access to available property.
Describe the level of build-out in your jurisdiction.	Yes	Approximately 50%

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the City of Rosenberg and their current responsibilities that contribute to hazard mitigation.

Table 9.13-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	The Commission is a recommending body to the City Council and considers such items as plat and replat submittals, subdivision regulation amendments to the Code of Ordinances, and variance requests. The Commission makes recommendations to the City Council concerning proposed changes in land use, and reviews developments through the platting process.
Zoning Board of Adjustment	No	-
Planning Department	Yes	The Planning Department is responsible for processing and reviewing applications for subdivision plats, land plans, and variance requests to the regulations of the Subdivision Ordinance, and other related development applications.
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Economic Development Board is responsible for seeking out development partners. They support mitigation by offsetting costs for projects including stormwater flows.
Public Works/Highway Department	Yes	Public Works Department is responsible for street maintenance, drainage, and storm water management. Other responsibilities include: • Maintaining the City's bridges, streets and alleys, drainage ditches and storm sewer inlets • Maintaining street and traffic signage, and street striping in the rights-of-way • Tree trimming on public rights-of-way
Construction/Building/Code Enforcement Department	Yes	The mission of the City of Rosenberg Code Enforcement is to attain compliance with City codes regarding land use regulations and the maintenance of structures and premises through education, cooperation, enforcement, and abatement to achieve a cleaner, healthier and safer City.
Emergency Management/Public Safety Department	Yes	Public Safety Department consists of the Fire Department and Police Department
Warning Systems / Services (mass notification system, outdoor warning signals, etc.)	Yes	Nixle Mass Communication System
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works Department has a seasonal program for trimming vegetation and maintaining stormwater facilities.
Mutual aid agreements	Yes	Fire Dept.
Human Resources Manual	Yes	City of Rosenberg Policy and Procedure Manual
Other	-Yes	City of Rosenberg Safety Manual
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	City Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	City Code Enforcement
Planners or engineers with an understanding of natural hazards	Yes	City Engineer
Staff with expertise or training in benefit/cost analysis	Yes	Building Official
Professionals trained in conducting damage assessments	Yes	Building Official
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	The GIS Division is a member of the Community Development Department. The GIS Department responsibilities include but are not limited to: • Addressing • Digital and Print Cartographic Presentation • Data Analysis, Collection, Creation, Distribution, Maintenance, and Storage • Quality Control
Environmental scientist familiar with natural hazards	No	-
Surveyor(s)	Yes	City Engineer
Emergency Manager	Yes	Police Chief
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	Contracted Stormwater Engineer
How do your administrative/technical capabilities contribute to risk reduction in your community? Through the permitting, plan review, inspection and Certificate of Occupancy process, we follow development from the beginning of the project to the close out of the project. This review process allows us to address and mitigate issues with site drainage, traffic impacts, and construction impacts before development begins.		

Fiscal Capability

The table below summarizes financial resources available to the City of Rosenberg.

Table 9.13-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open space acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Through Parkland dedication funds, we created the Seabourne Nature Creek Park which restored natural habitats in the City.

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the City of Rosenberg.

Table 9.13-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment:
Public information officer or communications office	Yes	Provide timely information to the public through all mediums.
Personnel skilled or trained in website development	Yes	IT and Communications Department
Hazard mitigation information available on your website	Yes	Emergency management
Social media for hazard mitigation education and outreach	Yes	Provide detailed information on emergencies impacting the public on website, social media, and through the mass notification system.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Nixle, Social Media Resident Targeted Alerts
Natural disaster/safety programs in place for schools	Yes	Fire and police provide safety programs in Schools. Rosenberg Police Department has Community Resource Officers to work directly with citizen groups in the City.
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? • If yes, please describe.	Yes	The City hosts a Rosenberg 101 class which teaches Citizens about the City department including safety.

Community Classifications

The table below summarizes classifications for community programs available to the City of Rosenberg.

Table 9.13-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	2	2015
Storm Ready Certification	No	-	-
Firewise Communities classification	No	-	-
Other	-	-	-

Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2014). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each identified hazard of concern and the jurisdiction's capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement.

Table 9.13-8. Adaptive Capacity

Hazard	Adaptive Capacity – Strong/Moderate/Weak
Dam/Levee Failure	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Extreme Temperature	Moderate
Flood	Moderate
Geologic Hazards	Moderate
Hurricane/Tropical Storm	Moderate
Severe Weather (hail-lighting)	Moderate
Tornado	Moderate
Wildfire	Moderate
Winter Storm	Moderate

9.13.4 National Flood Insurance Program (NFIP) Compliance

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP. The Floodplain Administrator is responsible for maintaining this information and is listed in the Hazard Mitigation Planning Team table at the beginning of this annex.

NFIP Summary

The following table summarizes the NFIP statistics for the City of Rosenberg.

Table 9.13-9. NFIP Summary

Municipality	Policies in Force[a]	Number of Paid Claims[a]	Amount of Paid Claims[a]	Number of NFIP RL Properties[b]	Number of NFIP SRL Properties[b]
Rosenberg (C)	946	114	$1,558,635.13	11	N/A

Sources: *a BureauNet 2022 (https://nfipservices.floodsmart.gov/reports-flood-insurance-data)*
b 2018 Fort Bend County HMP

Notes: *Due to a contractual agreement with FEMA, detailed information at the municipal level was not available to incorporate into the 2023 HMP Update. The information presented here was collected from data provided by the State of Texas and from FEMA's HUDEX Report.*

**Number of RL and SRL properties provided by the State of Texas*

***Total policies in force and paid claims collected from FEMA's OpenFEMA Dataset: FIMA NFIP Redacted Claims*

RL Repetitive Loss

SRL Severe Repetitive Loss

Flood Vulnerability Summary

The following table provides a summary of the NFIP program in the City of Rosenberg.

Table 9.13-10. NFIP Summary

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?	There are four (4) major watershed areas prone to flooding. The first is the area along the Brazos River. The second is the area along Dry Creek. The third is the area along Seaborne Creek. There are also areas along Avenue N and Mons Avenue that are prone to street flooding. The fourth area is Rabbs Bayou The City of Rosenberg has a list of properties that were damaged by Hurricane Harvey in 2017.
• 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)?	The City of Rosenberg does not maintain a list of property owners interested in flood mitigation.
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
• How do you make Substantial Damage determinations? • How many were declared for recent flood events in your jurisdiction?	Substantial Damage (Substantial Improvement) determinations are made based on the market value of the structure (primarily based on Appraisal District records) as compared to the cost of the repairs (improvements). The City of Rosenberg has not declared any Substantial Damage (Substantial Improvement) determinations after 2017.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigated properties, how were the projects funded?	Since 2017, the City has permitted 27 properties that have been elevated. There have been no property mitigations through acquisition. All such mitigations were funded through a combination of flood insurance policies and private funds.
Do your Flood Hazard Maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes, the Flood Hazard Maps for the area adequately address the flood risk.
NFIP Compliance	
What local department is responsible for floodplain management?	Floodplain management is the responsibility of the City of Rosenberg Planning Department and Engineering Department.
Are any certified floodplain managers on staff in your jurisdiction?	Yes, the City of Rosenberg has one (1) certified floodplain manager on staff (City Engineer).
Do you have access to resources to determine possible future flooding conditions from climate change?	No.
Does your floodplain management staff need any assistance or training to support its floodplain management program?	No.

• If so, what type of assistance/training is needed?	
Provide an explanation of NFIP administration services you provide (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	The City of Rosenberg reviews permit applications for the construction of new structures and for modifications/upgrades to existing structures. Through the permitting process, floodplain mitigation requirements are identified and incorporated in the issuance of the permit. The City conducts inspections of construction to confirm adherence to permit requirements. The City has engineering capability to adequately determine the floodplain status of property and provide requirements for construction to meet NFIP requirements.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Substantial Improvement determinations are based on the value of the improvements versus market value of the existing structure. The value of the improvements is derived from a detailed cost proposal for both labor and materials. The market value of the structure is taken from the Central Appraisal District value or a current market value appraisal of the structure. If the cost improvements exceed 50% of the market value of construction, and the proposed work constitutes Substantial Improvement and the structure must be brought into full compliance with the City's current Flood Prevention and Protection Ordinance and current City building codes.
What are the barriers to running an effective NFIP program in the community, if any?	The biggest problem in running an effective NFIP program is obtaining accurate construction cost estimates and current market values for making Substantial Improvement determinations.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	Not that we are aware of.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
• What is the local law number or municipal code of your flood damage prevention ordinance? • What is the date that your flood damage prevention ordinance was last amended?	The current Flood Prevention and Protection Ordinance is identified as Chapter 2, Uniform Development Code. The last major adoption of the ordinance was by Ordinance No. 2014-10 adopted on February 18, 2014 (Chapter 12, Code of Ordinances). The ordinance was amended by Ordinance No. 2017-22 on August 1, 2017, for the purpose of adopting a new Flood Insurance Study and Flood Insurance Rate Maps. The document was again amended by Ordinance No. 2020-09 dated February 18, 2020, for the purpose of raising the minimum finished floor elevation.
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	The current Flood Prevention and Protection Ordinance exceeds the minimum requirements with respect to the lowest finished floor elevation. The ordinance requires between 24 inches and 48 inches above the base flood elevation depending on property location.
Are there other local ordinances, plans or programs (e.g. site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	All proposed permits for development involving structures require a site plan review which must show adherence to the Flood Prevention and Protection Ordinance.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The City is interested in improving its CRS classification. However, there are no definite plans to join the CRS program.

9.13.5 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The table below summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.

Table 9.13-11. Number of Building Permits for New Construction

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	**	**	**	**	222	8	498	8	771	8	1058	4	841	10
Multi-Family	**	**	**	**	0	0	0	0	0	0	0	0	0	0
Other (commercial, mixed-use, etc.)	**	**	**	**	106	0	178	0	166	0	189	0	196	2
Total Permits Issued	**	**	**	**	328	8	676	8	937	8	1247	4	1037	12

SFHA Special Flood Hazard Area (1% annual chance flood event)

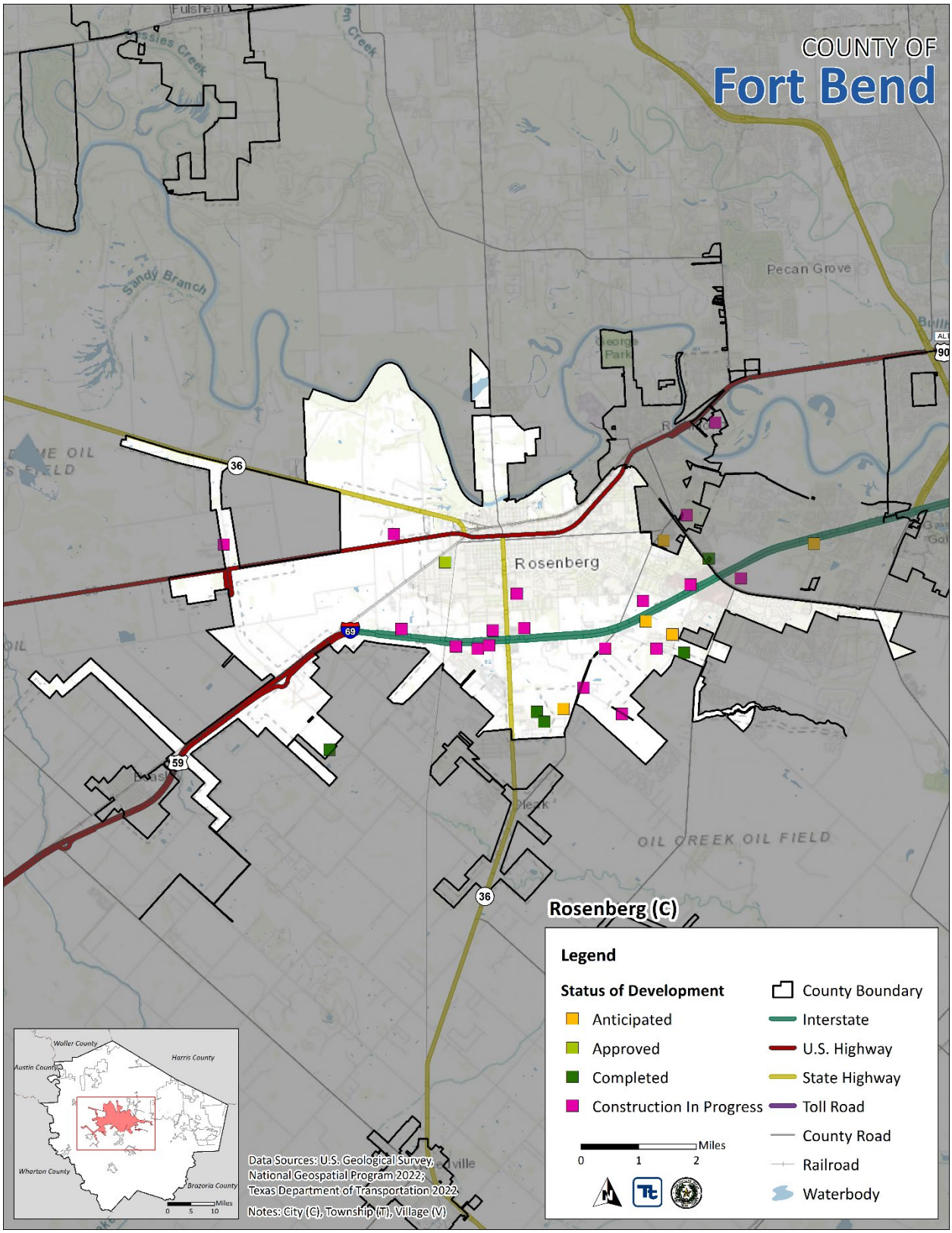
** Only location-specific hazard zones or vulnerabilities identified. ** Change in computer permitting software.*

Table 9.13-12. Recent and Expected Future Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address and Parcel ID	Known Hazard Zone(s)	Description/Status of Development
Recent Major Development from 2018 to Present					
Sendero	residential	640	Koeblen Road	Inland erosion, Wildfire	Construction in progress
Brazos Crossing	residential	218	Bryan Road	Expansive soils	completed
Bryan Grove	residential	254	Bryan Rd	Inland erosion, Wildfire	Construction in progress
Evergreen	residential	757	Koeblen Road	Expansive soils, Wildfire	Construction in progress
Seabourne Landing	residential	232	J. Meyer Rd	Expansive soils, Wildfire	completed
Brazos Town Center	mixed-use	n/a	Town Center Blvd	Inland Erosion	Construction in progress
Rosenberg Business Park	industrial	n/a	Business Park Drive	Inland erosion, Wildfire	Construction in progress
Epicenter	commercial	n/a	N Fairgrounds Road	Expansive soils	Construction in progress
Walsh Road Business Park	industrial	n/a	Walsh Road	Expansive soils, Wildfire	Construction in progress
CenterPoint Area Service Center	industrial	n/a	US90A	Expansive soils	Construction in progress
Village Crossing	commercial	n/a	Airport Avenue	Expansive soils, Wildfire	Construction in progress
Rosenberg Warehouse Complex	commercial	n/a	Randon Dyer Road	Wildfire	Construction in progress
Brazos Point	residential	118	Blume Road	Expansive soils, Wildfire	Approved by Board/Committee
Spacek Road Duplexes	residential	72	Spacek Road	Expansive soils, Wildfire	Anticipated, no approval to date

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address and Parcel ID	Known Hazard Zone(s)	Description/Status of Development
SS Moreno (Kubota)	commercial	n/a	IH69	Expansive soils, Wildfire	Anticipated, no approval to date
Storage Buildings	commercial	n/a	2331 4th	Inland erosion	Construction in progress
Callender Townhomes	residential	18	1415 Callender Street	Inland erosion	Construction in progress
Dollar Tree Warehouse	industrial	n/a	1210 Hartledge	Expansive soils, Wildfire	completed
Rosenberg 36/59 Replat	commercial	n/a	IH 69	Inland erosion	Construction in progress
Hallimore Farms	residential	n/a	Cottonwood School Road	Inland erosion	Construction in progress
Rosenberg DPS Office	commercial	n/a	Deedco Center Drive	Inland erosion, Wildfire	Construction in progress
Trails at Seabourne Parke	residential	457	J Meyer Road	Expansive soils, Wildfire	Completed
Known or Anticipated Major Development in the Next Five (5) Years					
The Preserve	residential	564	J. Meyer Road	2% annual chance of flood	Anticipated, no approval date

Figure 9.13-1. City of Rosenberg Extent and Location Map-New Development

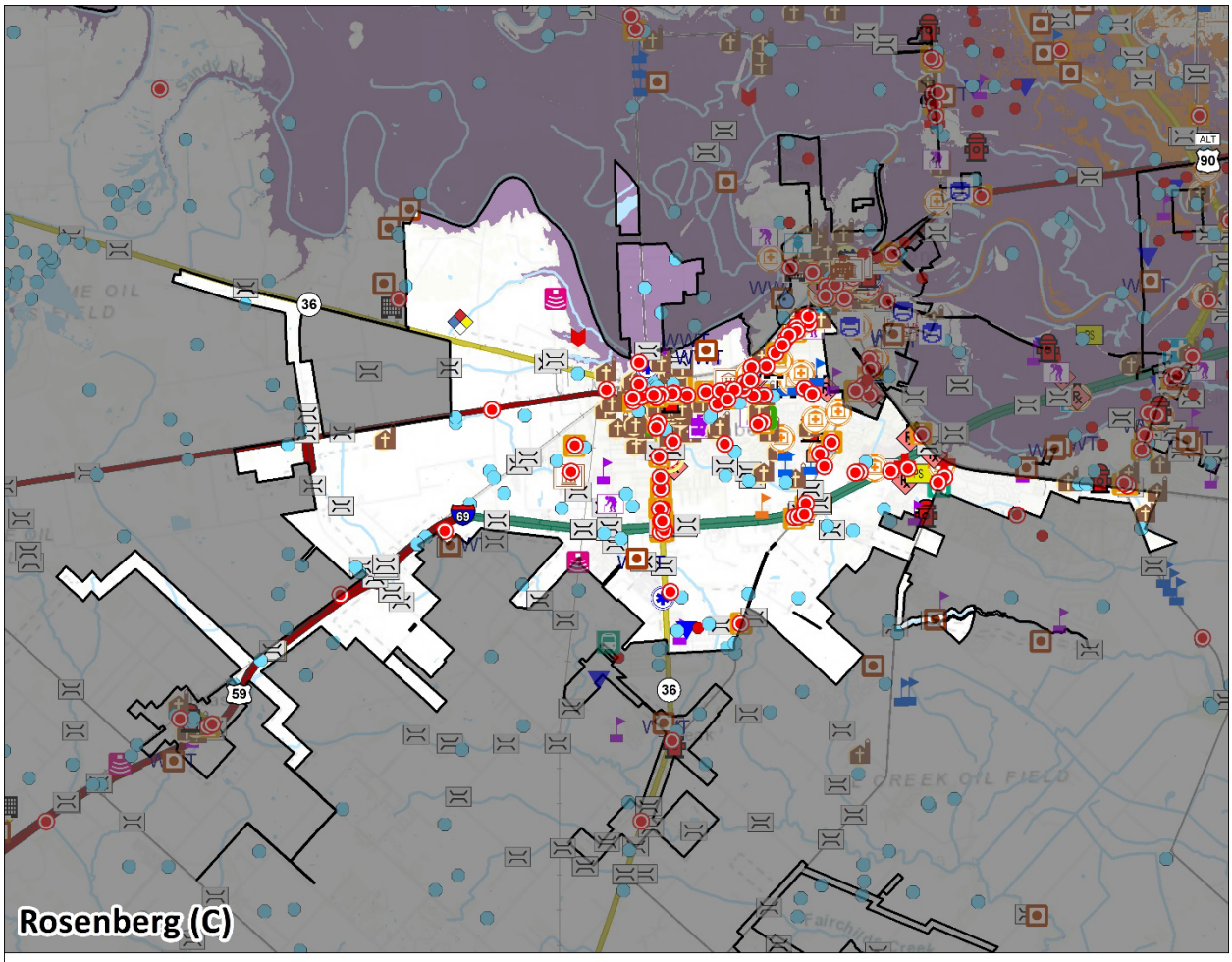


9.13.6 Jurisdictional Risk Assessment

The hazard profiles in Volume 1, Section 4 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Section 4.1 (Methodology and Tools) and Section 4.4 (Hazard Ranking) provide detailed summaries for the City of Rosenberg's risk assessment results and data used to determine the hazard ranking discussed later in this section.

Hazard area extent and location maps provided below illustrate the probable areas impacted within the jurisdiction based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps were generated only for those hazards that can be identified clearly using mapping techniques and technologies and for which the City of Rosenberg has significant exposure. The maps also show the location of potential new development, where available.

Figure 9.13-2. City of Rosenberg Hazard Area Extent and Location Map-Dam Inundation



- Airport
- Alternative/Specialized Education
- Bridge
- Bus Station
- Cellular Transmission
- Church
- Community Center
- Correctional Facility
- Dam
- EMS Station
- EOC
- Electric Power
- Fire Station
- Gas Station
- Government Office
- Hazardous Materials
- Hospital
- Library
- Major Employer
- Medical Clinic
- Municipal Hall
- Museum
- Outfall
- Petroleum Storage Tank
- Pharmacy
- Police Station
- Post-Secondary Education
- Potable Water Facility
- Potable Water Pump Station
- Potable Water Tank
- Potable Water Tower
- Potable Water Well
- Primary Education
- Private Water Well
- Public Water Well
- Public Works
- Radio Broadcast
- Secondary Education
- Senior Care
- Stormwater Pump Station
- TV Broadcast
- Urgent Care
- Wastewater Lift Station
- WWT Wastewater Treatment Plant
- Water Treatment Facility
- County Boundary
- Interstate
- U.S. Highway
- State Highway
- Toll Road
- County Road
- Railroad
- Waterbody
- Barker Reservoir
- Kitty Hollow Dam
- Lake Sommerville

Miles
0 1 2

Data Sources: U.S. Geological Survey, National Geospatial Program 2022; Texas Department of Transportation 2022; U.S. Army Corp of Engineers 2023

Notes: City (C), Township (T), Village (V)

Figure 9.13-3. City of Rosenberg Hazard Area Extent and Location Map- Expansive Soils

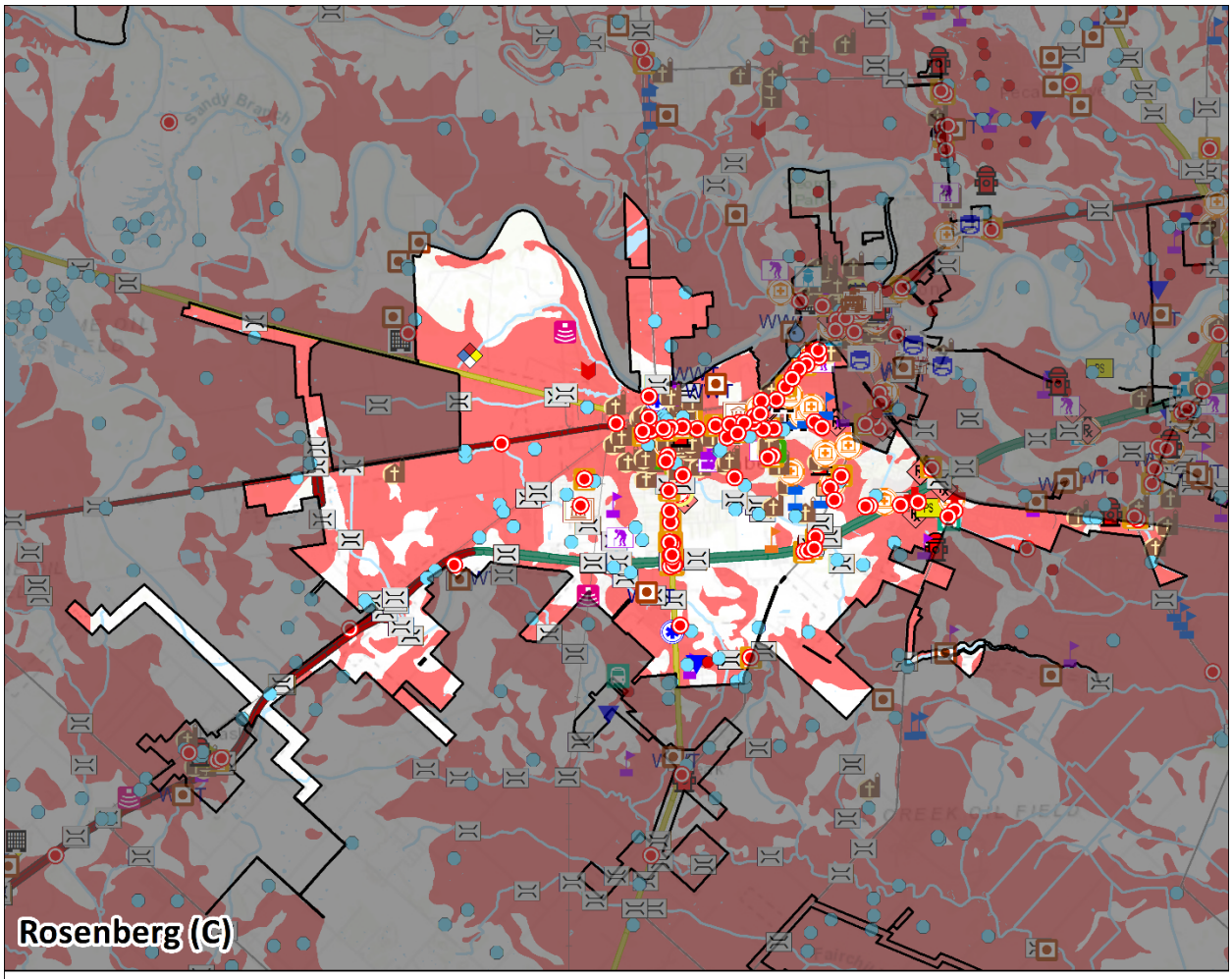


Figure 9.13-4. City of Rosenberg Hazard Area Extent and Location Map-Flood

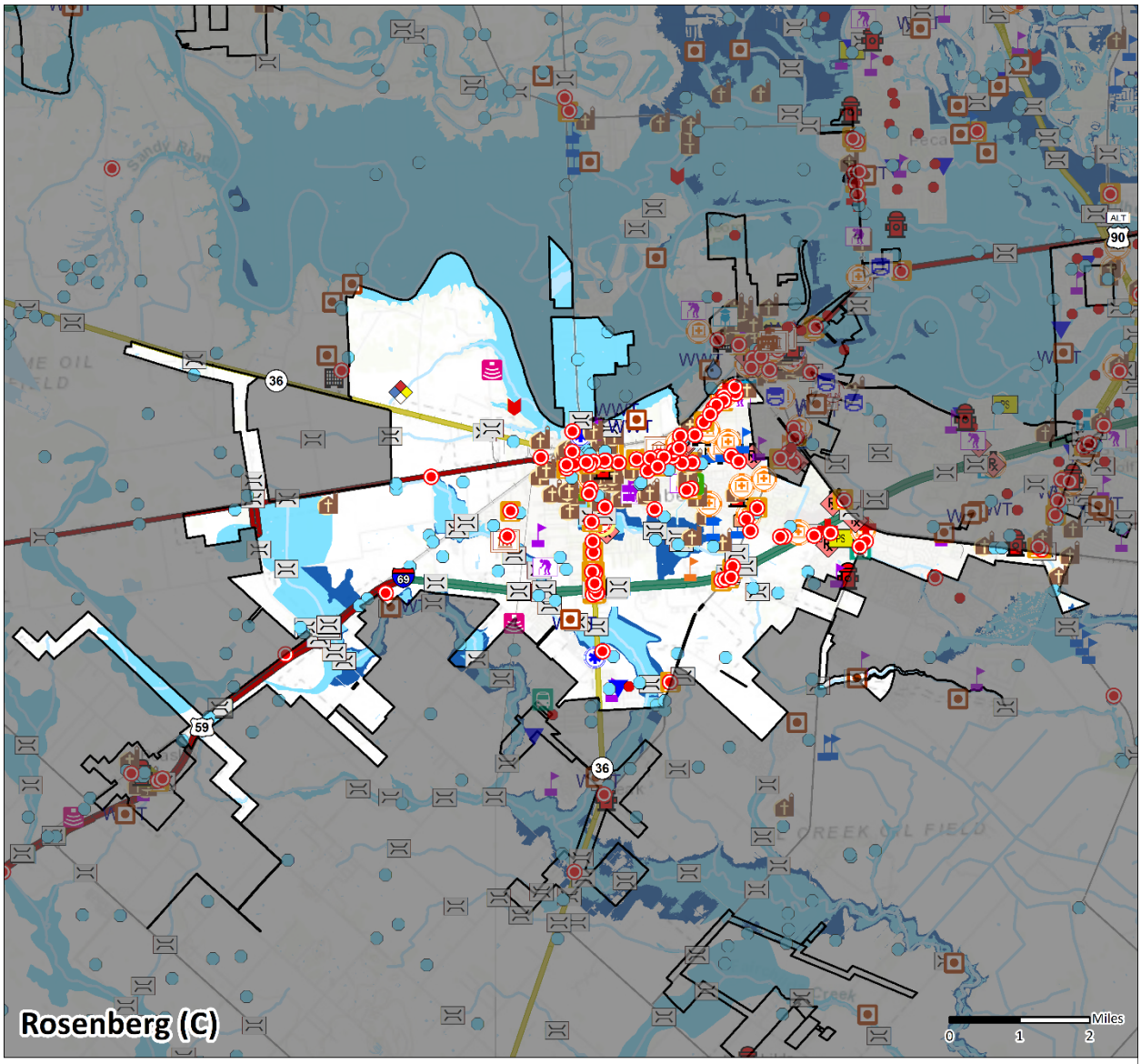
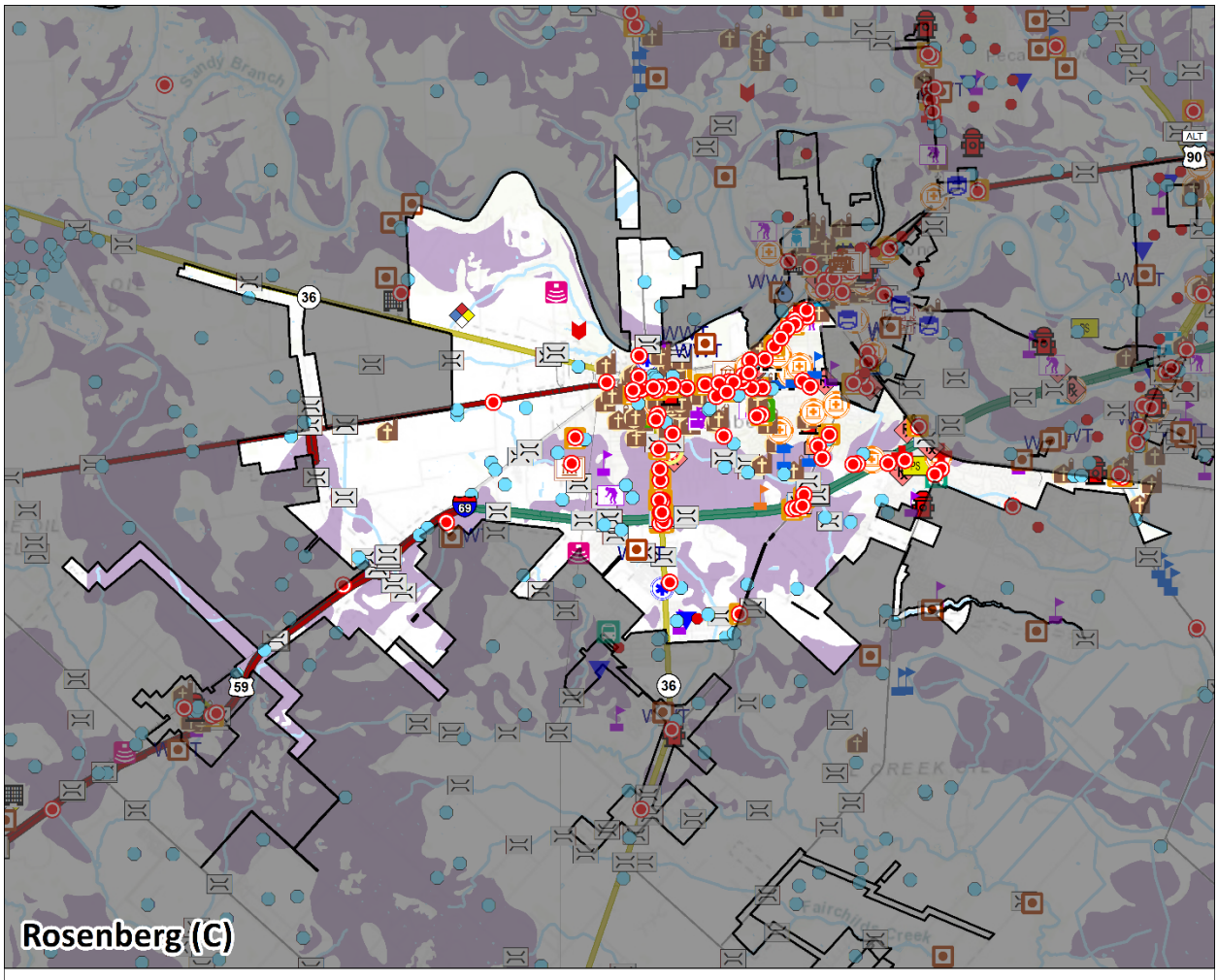


Figure 9.13-5. City of Rosenberg Hazard Area Extent and Location Map-Inland Erosion



- Airport
- Alternative/Specialized Education
- Bridge
- Bus Station
- Cellular Transmission
- Church
- Community Center
- Correctional Facility
- Dam
- EMS Station
- EOC
- Electric Power
- Fire Station
- Gas Station
- Government Office
- Hazardous Materials
- Hospital
- Library
- Major Employer
- Medical Clinic
- Municipal Hall
- Museum
- Outfall
- Petroleum Storage Tank
- Pharmacy
- Police Station
- Post-Secondary Education
- Potable Water Facility
- Potable Water Pump Station
- Potable Water Tank
- Potable Water Tower
- Potable Water Well
- Primary Education
- Private Water Well
- Public Water Well
- Public Works
- Radio Broadcast
- Secondary Education
- Senior Care
- Stormwater Pump Station
- TV Broadcast
- Urgent Care
- Wastewater Lift Station
- WWT Wastewater Treatment Plant
- Water Treatment Facility
- County Boundary
- Interstate
- U.S. Highway
- State Highway
- Toll Road
- County Road
- Railroad
- Waterbody

Inland Erosion Hazard Area

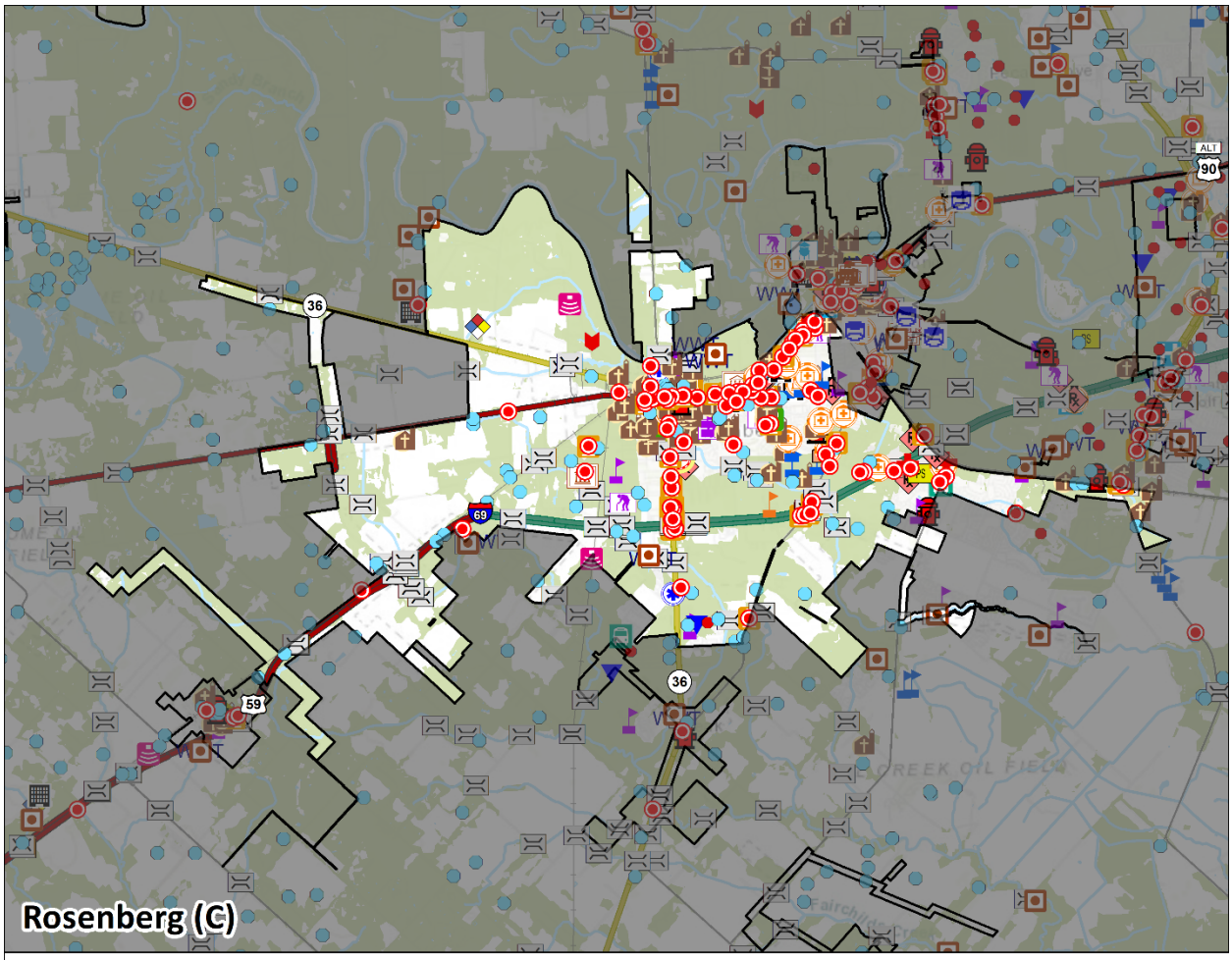
- K-Factor: >=0.49

Miles
0 1.25 2.5

Data Sources: U.S. Geological Survey, National Geospatial Program 2022; Texas Department of Transportation 2022; U.S. Department of Agriculture, Natural Resources Conservation Service 2022

Notes: City (C), Township (T), Village (V)

Figure 9.13-6. City of Rosenberg Hazard Area Extent and Location Map-Wildfire



- Airport
- Alternative/Specialized Education
- Bridge
- Bus Station
- Cellular Transmission
- Church
- Community Center
- Correctional Facility
- Dam
- EMS Station
- EOC
- Electric Power
- Fire Station
- Gas Station
- Government Office
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- Post-Secondary Education
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- Potable Water Pump Station
- Potable Water Tank
- Potable Water Tower
- Potable Water Well
- Primary Education
- Private Water Well
- Public Water Well
- Public Works
- Radio Broadcast
- Secondary Education
- Senior Care
- Stormwater Pump Station
- TV Broadcast
- Urgent Care
- Wastewater Lift Station
- WWT Wastewater Treatment Plant
- Water Treatment Facility
- County Boundary
- Interstate
- U.S. Highway
- State Highway
- Toll Road
- County Road
- Railroad
- Waterbody

Wildfire Hazard Area

- Low Threat
- Moderate Threat

Miles
0 1 2

Data Sources: U.S. Geological Survey, National Geospatial Program 2022; Texas Department of Transportation 2022; Texas A&M Forest Service 2022

Notes: City (C), Township (T), Village (V)

Hazard Event History

Fort Bend County has a history of natural and non-natural hazard events, as detailed in Volume I, Section 4 (Risk Assessment). A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities.

The City of Rosenberg's history of federally declared (as presented by FEMA) and significant hazard events [as presented in NOAA-National Centers for Environmental Information (NCEI)] is consistent with that of the County. The table below provides details regarding municipal-specific loss and damages the City of Rosenberg experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources.

Table 9.13-13. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
January 20, 2020 – continuing	EM-3458 – Covid-19; DR-4485 – Covid-19 Pandemic	Yes	Covid-19 pandemic	Damages included impact to closed businesses, PPE requirements, sanitation measures, loss of staff time.
July 25-31, 2020	EM-3530 – Hurricane Hanna	Yes	Hurricane-force winds resulted in a significant number of downed trees and utility lines.	Monitored storm; no major impacts.
August 23-27, 2020	EM-3540 – Tropical Storms Marco and Laura	Yes	Fort Bend County activated their emergency operations center as fringe impacts of Tropical Storms Marco and Laura impacted the County.	Monitored storm; increased staffing to be prepared to respond to any damages.
September 12-18, 2021	EM-3572 Hurricane Nicholas	No	Hurricane Nicholas produced several hours of tropical storm force sustained winds and gusts. There were numerous power outages and minor to moderate damage to some structures and roofs. Trees down in areas.	Monitored storm; no major impacts.
February 11-21, 2021	DR-4586; EM 3554 – 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.	Impassable roadways, major loss of power, broken water pipes.
May 7, 2019	n/a	No	Local flooding event closing roadways.	Local roadways closed impacting mobility throughout the City. Roadways closed included Ave N, SH 36, Bernard, Ave P, Ave R, Oaks of Rosenberg Subdivision
October 1, 2021	N/A	No	Local flooding event closing roadways.	Local Roadways impacted, Austin St, Ave K, Lawrence, Allen, Texas, Dallas, West, Ave K, Sh36 @ Ave H, Mons @ Sequoia, Mahlmann, George, Ave M Ave N, Miles, Rice, Callendar
August 18, 2022	n/a	No	Local flooding event closing roadways.	Mustang, @ Lane, Ave N, Damon, Tobola, Mons, George, SH 36 @ Ave M and Dyer, Ave I @ Lane
August 31, 2022	N/A	No	Local flooding event closing roadways.	Local Roadways Impacted- Ave N, 3500 Block of Ave O and P, 100-1200 block of Tobola, 1600 Junker

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
November 24, 2022	N/A	No	Local flooding event closing roadways.	Ave N was flooded and the Roadway was closed.

Source: FEMA 2023; NOAA 2023

Hazard Ranking and Vulnerabilities

The hazard profiles in Volume 1, Section 4 (Risk Assessment) have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the City of Rosenberg's risk assessment results and data used to determine the hazard ranking.

Hazard Ranking

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Volume 1, Section 4 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; and community capabilities to address the hazard and changing future climate conditions. Mitigation action development uses the inputs from the evaluation to target those hazards with highest level of concern.

As discussed in Volume 1, Section 4.4 (Hazard Ranking), each participating jurisdiction has differing degrees of risk exposure and vulnerability compared with the County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the City of Rosenberg. The City of Rosenberg reviewed the County hazard risk/vulnerability risk ranking table and individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the City of Rosenberg indicated the following:

- The City of Rosenberg had three flooding events in 2015, 2016, and 2017
- Experienced erosion along the Brazos River banks

Table 9.13-14. Hazard Ranking Input

Hazard	Hazard Ranking
Dam/Levee Failure	**Medium**
Disease Outbreak	**Low**
Drought	**Medium**
Extreme Temperature	**Medium**
Flood	**Medium**
Geologic Hazards	**High**
Hurricane/ Tropical Storm	**Medium**
Severe Weather	**High**
Tornado	**Medium**
Wildfire	**Low**
Winter Storm	**Low**

Critical Facilities

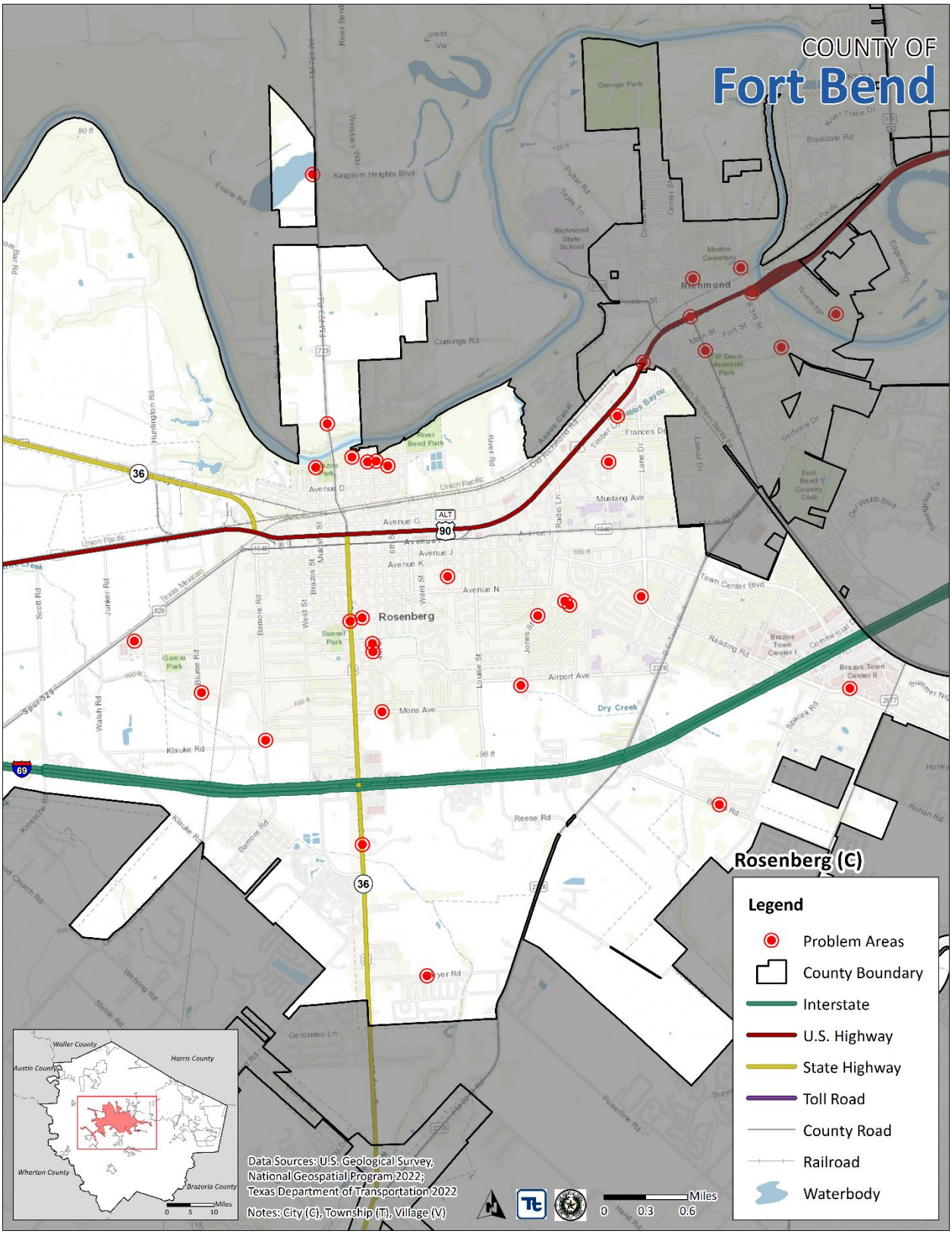
The table below identifies the number of critical facilities and community lifelines in the community located in hazard areas. The community reviewed the list of facilities and lifelines to determine appropriate mitigation measures for the facilities, where appropriate. Refer to Section 4.3 (Hazard Profiles) for details on the risk assessment and the facilities and lifelines exposed to each hazard of concern.

Table 9.13-15. Potential Flood Losses to Critical Facilities

Jurisdiction	1-Percent Annual Chance Flood Event Hazard Area		Wildfire Hazard Area – Moderate Risk		Inland Erosion (K-Factor: >= 0.49) Hazard Area		Expansive Soils (Linear Extensibility >6%) Hazard Area		Dam Inundation Hazard Area - Barker Reservoir Dam Inundation Area		Dam Inundation Hazard Area - Lake Sommerville Dam Inundation Area		Dam Inundation Hazard Area - Kitty Hollow Dam Inundation Area	
	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines	Critical Facilities	Lifelines
Rosenberg (C)	53	52	0	0	94	91	225	186	0	0	12	9	0	0

Source: Fort Bend County; Hazus v5.1; FEMA 2022; Fort Bend Drainage District 2023

Figure 9.13-7. City of Rosenberg Area Extent and Location Map-Problem Areas



Identified Issues

After review of the City of Rosenberg's hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the City of Rosenberg identified the following vulnerabilities within their community:

- The City struggles to notify as many residents as possible about hazard information and emergency notifications.
- Citizens in the City have a lack of knowledge of hazards of concern and threats.
- During winter weather events roads become impassible due to icy road conditions.
- Areas within the City that are along Dry Creek are vulnerable to flood damage and experience inundation along roadways that inhibit access of emergency responders.
- The City needs a comprehensive drainage plan that will provide future protection for areas in the City that experience flooding and drainage problems.
- The Brazos River floodway is where the majority of flood losses occur within the City of Rosenberg.
- The City does not participate in the FEMA CRS.
- Public Awareness of hazard mitigation needs to be more accessible to vulnerable populations.
- The City lacks sufficient plans to address Winter Storm hazards.
- The City's at-risk facilities, need hazard fortifications to prevent damages and ensure continuity of operations can be met during hazard events.
- Many of the City's buildings may be at risk of structural failure due to wind and winter storm events.
- Several critical facilities within the City need protection from flood hazards.
- Areas within the City that are along Rabbs Bayou are vulnerable to flood damage.
- The City has numerous critical facilities that do not have backup power and cannot perform continuity of operations during power outages.
- There are numerous areas in the City that experience inundation and ponding that inhibit emergency responders from accessing roads and properties.

9.13.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritizes actions to address over the next five years.

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2018 HMP. Actions that are in progress are carried forward and combined with new actions as part of this plan update and are included in the tables with prioritization. Previous actions that are now ongoing programs and capabilities are indicated as such and previously presented in the Capability Assessment earlier in this annex.

Table 9.13-16. Status of Previous Mitigation Actions

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)? Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
Dry Creek Drainage Improvements	City of Rosenberg/ Fort Bend County	In Progress	Yes	Mitigate flooding within the City Limits of Rosenberg associated with Dry Creek	Capital Projects Department managing engineering design
Compile Development Regulations	City of Rosenberg Planning Administrator	Ongoing	Yes	The Unified Development Code, or UDC, is a compilation of all the City's development-related rules and regulations. This came out of the Comprehensive Plan that was done in 2015, and the UDC itself was completed in 2017. However, there have been and continue to be many amendments including as recently as the last few weeks. It is a work in progress as we maintain and update development-related rules and regulations. Here is an overview of the chapters: Chapter 1: Buildings and Building Regulations Chapter 2: Flood Prevention and Protection Chapter 3: Manufactured Housing, Mobile Homes and Travel Trailers and Parks Chapter 4: Subdivisions Chapter 5: Extension of Systems and Creation of Certain Special Districts Chapter 6: Storm Water Protection Chapter 7: Design Standards Chapter 8: Definitions Here is a link to the website for it. The original ordinance was No. 2017-07, adopted May 2, 2017. Unlike other codes we adopt in Municode, we update these rules in-house online: https://rosenbergtx.gov/281/Unified-Development-Code	Planning
Storm Drainage System Mapping	City of Rosenberg Planning and Engineering	Ongoing	Yes	Locate, identify, and map drainage features; additional features being added as development occurs.	City of Rosenberg Planning Department (GIS)
Implement Stormwater Management Technical Manual	City of Rosenberg Planning and Engineering	Ongoing – the City currently reviews and updates the stormwater management technical manual for new development redevelopment	No	-	-

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)? Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
Develop a comprehensive drainage plan that will provide future protection for areas in the City that experience flooding and drainage problems.	City of Rosenberg Planning and Engineering	Ongoing	Yes	Update comprehensive drainage plan for Dry Creek and Seabourne Creek Watersheds, including tributaries. Computer models have been updated to Atlas-14 rainfall amounts.	City of Rosenberg Engineering Department
Pursue acquisition, elevation or floodproofing projects and structural solutions to flooding for the two repetitive loss structures.	City of Rosenberg Planning and Engineering	In Progress	Yes	Applicable primarily within Brazos River floodway where the majority of flood losses occur within the City of Rosenberg	City of Rosenberg Planning Department and Engineering Department
Promote Flood Insurance	City of Rosenberg Planning and Engineering	Ongoing	Yes	Encourage and promote the purchase of Flood Insurance through the National Flood Insurance Program	City of Rosenberg Planning Department and Engineering Department
Join the NFIP's CRS	City of Rosenberg Planning and Engineering	Ongoing	Yes	Continue to review floodplain ordinance and evaluate ways to improve the City's CRS rating to reduce flood insurance premiums.	City of Rosenberg Planning Department and Engineering Department
Installation of emergency power generators at two water plants. Water Plant No. 3 and Water Plant No. 5 have no functional capacity during periods of power loss to maintain TCEQ required minimum water pressure and firefighting capabilities. This will allow the water plants to continue to function during	City of Rosenberg Utilities	Complete	No	-	-

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)? Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
periods of power loss.					
Plan for Routine Maintenance of Ditches	City of Rosenberg Utilities	Ongoing	Yes	Routine maintenance of ditches must be on a regular basis to reduce flooding risks	City of Rosenberg Department of Public works and Fort Bend County Drainage District
Purchase two portable sewage pumps to bypass sanitary sewer lift stations during power failures.	City of Rosenberg Utilities	Complete	No	-	-
Purchase Trailer Mounted Generator	City of Rosenberg Utilities	Complete	No	-	-
Installation of emergency power generators at Wastewater Treatment Plant No. 1-A.	City of Rosenberg Utilities	Complete	No	-	-
Increase Public Awareness of Hazard Mitigation	City of Rosenberg Communications	Ongoing	Yes	increasing public awareness of natural hazards and hazardous areas; distributing public awareness information regarding hazards and potential mitigation measures. Promotional sources include City website, social media, and public education programs.	City of Rosenberg Communications
Evacuation Plans	City of Rosenberg Police Department	Ongoing	Yes	Evacuation plans and notification procedures to be reviewed and updated as dictated by new development.	City of Rosenberg Police Department
Wildfire Hazard Areas Study	City of Rosenberg Fire Department	Ongoing	Yes	Continue to determine and map potential wildfire hazard areas as development continues	City of Rosenberg Fire Department
Monitor Drought Conditions	City of Rosenberg Utilities	Ongoing	Yes	Continue to monitor traffic conditions through contact with State Agencies	City of Rosenberg Utility Department
Public Information Campaigns	City of Rosenberg Fire Marshall	Ongoing	Yes	Continue to cooperate and coordinate with County and State agencies in developing public information campaigns and/or water use restrictions to ensure sufficient water availability and pressure during periods of drought.	City of Rosenberg Fire Marshall
Evaluate Excess Heat Risks	City of Rosenberg Fire Department	Ongoing	Yes	Continue to evaluate risks from excessive heat and humidity, especially in terms of high-risk populations	City of Rosenberg Fire Department

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)? Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
Address High-Risk Populations (Excessive Heat)	City of Rosenberg Fire Department	Ongoing	Yes	continue to cooperate with County and State officials to ensure high-risk populations are adequately addressed in response plans.	City of Rosenberg Fire Department
Review Plans and Resources to Address Risk Posed by Snow and Ice Hazards During Winter Storms	City of Rosenberg Utilities	Ongoing	Yes	Update and review current plans and resources necessary to address the risks created by ice and snow hazards during winter storms. Focus on City's ability to address the needs of at-risk populations.	City of Rosenberg Public Works Department
Various Mitigation Actions to Reduce Wildfire Risk	City of Rosenberg Fire Department	Ongoing	Yes	On case-by case basis, initiate mitigation actions to reduce wildfire and brushfire risks by creating fire breaks. Inform property owners appropriate actions, clear vegetation and wildfire fuels, monitor antecedent conditions, etc.	City of Rosenberg Fire Department
Initiate Upgrades to at-risk Structures and Higher Standards for New Structures	City of Rosenberg Planning and Engineering	Ongoing	Yes	Initiate upgrades to at-risk structures and\or infrastructure to include structurally fortifying at-risk infrastructure, integrating increased thermal insulation, impact resistant film or glass, surge protection systems, and wind resistant windows and doors. Integrate higher numbers of soil compaction standards, foundation supports, xeriscaping, and freeboard requirements for new development.	City of Rosenberg Planning Department and Engineering Department
Structural/Engineering Study of Rosenberg Public Facilities	City of Rosenberg Public Works and Engineering	Ongoing	Yes	Conduct and update a detailed structural/engineering survey of Rosenberg public facilities to ensure their soundness with respect to resisting the effects of high winds, extreme roof loading from snow or ice, and hail.	City of Rosenberg Public Works Department and Engineering Department

Additional Mitigation Efforts

In addition to the mitigation initiatives completed in the table above, the City of Rosenberg identified the following mitigation efforts completed since the last HMP:

- Generators for all major City facilities- After being affected by loss of power during the severe weather events, the City submitted a grant request for replacement or new generators to become a more resilient community.
- Rabbs Bayou drainage improvements- The City has begun drainage improvements on the Rabbs Bayou Watershed to improve drainage in the City flowing into this watershed. Improvements include widening of the watershed and increased detention of water to mitigate a flooding problem caused by the narrow channel and insufficient detention. Project is being funded with funds from the General Land Office.
- The City utilizes Mass Communication, Education, De-Icing Equipment and Material Distribution as mitigation measures to address its hazards of concern.

Since the adoption of the County's first HMP, the City of Rosenberg has made significant mitigation progress in the following areas:

- Installation of emergency generators at two water plants
- Purchase of two portable sewage pumps
- Purchase trailer mounted generator
- Installation of emergency generators at WWTP 1A
- Completed drainage study for Rabbs Bayou

Proposed Hazard Mitigation Initiatives for the HMP Update

The City of Rosenberg participated in a mitigation action workshop in March 2023 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards (January 2013) and FEMA Mitigation Assistance Resource Guide for Texas (2020).

The table below indicates the range of proposed mitigation action categories. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Table 9.13-17. Analysis of Mitigation Actions by Hazard and Category

	FEMA				CRS					
Hazard	**LPR**	**SIP**	**NSP**	**EAP**	**PR**	**PP**	**PI**	**NR**	**SP**	**ES**
Dam/Levee Failure		X		X			X		X	
Disease Outbreak		X		X			X		X	
Drought		X		X			X		X	
Extreme Temperature		X		X			X		X	
Flood		X		X			X		X	
Geologic Hazards		X		X			X		X	
Hurricane/Tropical Storm	X	X		X	X		X		X	
Severe Weather		X		X			X		X	
Tornado	X	X		X	X		X		X	
Wildfire				X			X			
Winter Storm	X	X		X	X		X		X	

Note: Mitigation categories are described below the Mitigation Initiatives.

The table below summarizes the specific mitigation initiatives the City of Rosenberg would like to pursue in the future to reduce the effects of hazards. The initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities.

Table 9.13-18. Proposed Hazard Mitigation Initiatives

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2023-Rosenberg-001	Mass Communication	**Problem:** The City struggles to notify as many residents as possible about hazard information and emergency notifications. **Solution:** The City will use social media, press releases, and Ever Bridge (Nixel) to communicate with the Public to educate them on hazard information and warn them of incoming hazards..	Dam and Levee Failure; Drought; Extreme Temperature; Flood; Geologic; Hurricane/Tropical Storm; Disease Outbreak; Severe Weather; Tornado; Wildfire; Winter Weather	1, 2, 3, 4, and 5	Annually	City Communications	General Fund	Rapid sharing of information.	$11,000 per year for Ever Bridge (Nixel) subscription.	High	EAP	PI
2023-Rosenberg-002	Education Programs	**Problem:** Citizens in the City have a lack of knowledge of hazards of concern and threats. **Solution:** The City will develop educational programs and materials for specific hazards.	Dam and Levee Failure; Drought; Extreme Temperature; Flood; Geologic; Hurricane/Tropical Storm; Disease Outbreak; Severe Weather; Tornado; Wildfire; Winter Weather	1,2,3,4 & 5 and	By 2028	City Communications	FEMA (HMGP or BRIC), NFPA	Risk reduction through education. (CF)	$20,000	Medium	EAP	PI
2023-Rosenberg-003	De Icing Equipment/Material Spreading	**Problem:** During winter weather events roads become impassible due to icy road conditions.	Extreme Temperature; Winter Weather	2,3 & 5	By 2028	City Public Works	H-GAC	Keep roads open for emergency responders (CF).	$250,000	Low	SIP	SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: Obtain de-icing equipment/material spreaders										
2023-Rosenberg-004	Dry Creek Drainage Improvements	**Problem:** Areas within the City that are along Dry Creek are vulnerable to flood damage and experience inundation along roadways that inhibit access of emergency responders. **Solution:** Mitigate flooding within the City Limits of Rosenberg associated with Dry Creek by improving channels and adding detention.	Flood, Severe Weather	2 and 3	5 years	Capital Projects Department managing engineering design	BRIC, FMA, HMGP, GLO	Reduce flooding risk and associated problems in vulnerable areas along creek	$31,000,000	High	SIP	SP
2023-Rosenberg-005	Comprehensive Drainage Plan.	**Problem:** The City needs a comprehensive drainage plan that will provide future protection for areas in the City that experience flooding and drainage problems. **Solution:** The City will update the comprehensive drainage plan for Dry Creek and Seabourne Creek Watersheds, including tributaries to evaluate drainage problem areas.	Flood, Severe Weather	2 and 3	2 years	City of Rosenberg Engineering Department	In-Kind and City Budget	Completion of the Plan will allow for targeted improvements within the enhancing efficiency and effectiveness	$50,000	Medium	EAP	PI
2023-Rosenberg-006	NFIP Repetitive Loss Structures	**Problem:** The Brazos River floodway is where the majority of flood losses	Flood	2 and 3	5 years	City of Rosenberg Planning Department and	HMGP, FMA	Protect life and property by elevating or flood proofing properties	$33,000,000	High	SIP	SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		occur within the City of Rosenberg. **Solution:** The City will pursue acquisition, elevation or flood proofing projects and structural solutions to flooding for the two repetitive loss structures at the Public Works Fleet Department and will implement the best and most cost-effective solution.				Engineering Department		that are repetitively flooded				
2023-Rosenberg-007	Join the NFIP's CRS	**Problem:** The City does not participate in the FEMA Community Rating System Program (CRS). **Solution**: Continue to review floodplain ordinance and evaluate ways to improve the City's CRS rating to reduce flood insurance premiums in pursuit of participation of the CRS Program.	Flood	1,2,4 & 5	18 months	City of Rosenberg Planning and Engineering	In-Kind	Protect life and property; reduce flood insurance premiums.	$15,000	Medium	EAP	PI
2023-Rosenberg-008	Increase Public Awareness of Hazard Mitigation	**Problem:** Public Awareness of hazard mitigation needs to be more accessible to vulnerable populations.	Dam and Levee Failure; Drought; Extreme Temperature; Flood; Geologic; Hurricane/Tropical Storm; Disease	1 & 2	3 years	City of Rosenberg Communications	In-kind services, City Budget	Informing and educating the public of natural disasters will save lives and	$20,000	High	EAP	PI

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		Solution: The City will take place in distributing public awareness information regarding hazards and potential mitigation measures. Promotional sources include City website, social media, public education programs and brochures to those that may not have internet access.	Outbreak; Severe Weather; Tornado; Wildfire; Winter Weather					protect property				
2023-Rosenberg-009	Review Plans and Resources to Address Risk Posed by Snow and Ice Hazards During Winter Storms	**Problem:** The City lacks sufficient plans to address Winter Storm hazards. **Solution**: The City will update and review current plans and resources necessary to address the risks created by ice and snow hazards during winter storms. Focus on City's ability to address the needs of at-risk populations.	Extreme Temperature; Winter Storm	2 & 4	1 year	City of Rosenberg Utilities	In-kind eservices & City Budget	Contributes to maintaining public services; protects at-risk populations.	$5,000	High	LPR	PR
2023-Rosenberg-010	Initiate Upgrades to at-risk Structures and Higher Standards for New Structures	**Problem:** The City's at-risk facilities, need hazard fortifications to prevent damages and ensure continuity of operations can be met during hazard events. **Solution:** The City will initiate upgrades to at-risk structures and/ or infrastructure to include structurally	Dam and Levee Failure; Drought; Extreme Temperature; Flood; Geologic; Hurricane/Tropical Storm; Disease Outbreak; Severe Weather; Tornado; Wildfire; Winter Weather	2 & 3	3 years	City of Rosenberg Planning and Engineering	BRIC, HMGP, FMA	Instituting the proposed improvements mitigates specific risks to structures, people, and operations	$250,000	Medium	SIP	SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		fortifying at-risk infrastructure, integrating increased thermal insulation, impact resistant film or glass, surge protection systems and wind resistant windows and doors. Integrate higher levels of soil compaction standards, foundation supports, xeriscaping and mandate freeboard for new development.										
2023-Rosenberg-011	Structural/Engineering Study of Rosenberg Public Facilities	**Problem:** Many of the City's buildings may be at risk of structural failure due to wind and winter storm events **Solution:** The City will conduct and update a detailed structural/engineering survey of Rosenberg public facilities to ensure their soundness with respect to resisting the effects of high winds, extreme roof loading from snow or ice, and hail	Tropical Storm/Hurricane; Tornado; Winter Weather	2 & 4	2 year	City of Rosenberg Public Works and Engineering	In-kind services, City Budget	This the initial step in identifying appropriate structural problems at public facilities forms basis of decisions about any additional actions to mitigate risk.	$30,000	Medium	LPR	PR
2023-Rosenberg-012	Critical Facility Mitigation Plan	**Problem:** Several critical facilities within the City need protection from flood hazards. **Solution:** The City will improve water shed drainage to lower floodplain levels, elevate	Flood	2 & 3	5 years	City of Rosenberg Public Works and Engineering	BRIC, FMA, HMGP, GLO	Protect life and property and restore evacuation routes	$50,000,000	Medium	SIP	SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
		bridges, and improve conveyance capacity, and elevate facilities where possible. The City will also relocate facilities outside of existing flood plains as needed.										
2023 – Rosenberg – 013	Rabbs Bayou Drainage Improvements	**Problem:** Areas within the City that are along Rabbs Bayou are vulnerable to flood damage. **Solution:** Mitigate flooding within the City Limits of Rosenberg associated with Rabbs Bayou by improving channels and adding detention.	Flood, Severe Weather	2 and 3	5 years	Capital Projects Department managing engineering design	BRIC, FMA, HMGP, GLO	Reduce flooding risk and associated problems in vulnerable areas along Bayou	$7,000,000	High	SIP	SP
2023 – Rosenberg – 014	Generator Study	**Problem:** The City has numerous critical facilities that do not have backup power and cannot perform continuity of operations during power outages. **Solution:** The City will develop a generator list of facilities that need backup power to perform continuity of operations. Once a list is developed an engineering study will be performed and the City will acquire funding for the implementation of generators.	Dam and Levee Failure; Drought; Extreme Temperature; Flood; Geologic; Hurricane/Tropical Storm; Disease Outbreak; Severe Weather; Tornado; Wildfire; Winter Weather	2, 3	4 Years	City Administration, Public Works, Engineering	BRIC, FMA, HMGP, Generator Grant Program	Critical facilities can perform continuity of operations.	$100,000/ generator	High	SIP	SP

Project Number	Mitigation Initiative Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Estimated Timeline	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Priority	Mitigation Category	CRS Category
2023 – Rosenberg – 015	Flood Study	**Problem:** There are numerous areas in the City that experience inundation and ponding that inhibit emergency responders from accessing roads and properties. **Solution:** The City will conduct a flood study to determine flood problem areas and will conduct engineering studies to determine the best and most cost effective method to fix each flooding problem area.	Flood, Severe Weather, Winter Weather	2, 3	Less than 5 years	City Administration, Public Works, Engineering	BRIC, FMA, HMGP	Emergency responders will be able to access the entirety of the City.	TBD	High	SIP	SP

**Mitigation initiative is related to a critical facility and/or community lifeline*

Notes: Not all acronyms and abbreviations defined below are included in the table.

Acronyms and Abbreviations:

CRS	*Community Rating System*
FEMA	*Federal Emergency Management Agency*
HMA	*Hazard Mitigation Assistance*
N/A	*Not applicable*
NFIP	*National Flood Insurance Program*

Potential FEMA HMA Funding Sources:

FMA	*Flood Mitigation Assistance Grant Program*
HMGP	*Hazard Mitigation Grant Program*
BRIC	*Building Resilient Infrastructure and Communities Program*

Timeline:

The time required for completion of the project upon implementation.

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Mitigation Category:

- *Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures, as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP)—These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.*

CRS Category:

- *Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*

- *Natural Resource Protection (NR)—Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.*

The prioritization criteria provided in Volume 1, Section 6 (Mitigation Strategy) identify 14 evaluation/prioritization criteria to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing actions as 'High', 'Medium', or 'Low.' The table below provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.

Table 9.13-19. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2023-Rosenberg-001	Mass Communication	1	0	1	1	1	1	1	-1	-1	1	1	1	1	1	9	High
2023-Rosenberg-002	Education Programs	1	1	1	1	1	1	0	0	-1	0	1	1	0	-1	6	Medium
2023-Rosenberg-003	De Icing Equipment/Material Spreading	1	1	1	0	1	1	-1	0	-1	1	1	1	0	0	6	Medium
2023-Rosenberg-004	Dry Creek Drainage Improvements	1	1	1	0	1	0	1	1	1	1	1	1	1	0	11	High
2023-Rosenberg-005	Comprehensive Drainage Plan	1	1	1	1	1	0	1	0	1	0	1	1	0	0	9	High
2023-Rosenberg-006	NFIP Repetitive Loss Structures	1	1	1	1	1	1	1	1	1	1	0	1	0	1	12	High
2023-Rosenberg-007	Join the NFIP's CRS	1	1	1	0	1	1	0	0	1	1	1	0	0	1	9	High
2023-Rosenberg-008	Increase Public Awareness of Hazard Mitigation	1	1	1	0	1	0	0	0	1	0	1	1	0	1	8	Medium
2023-Rosenberg-009	Review Plans and Resources to Address Risk Posed by Snow and	1	1	1	1	0	0	1	0	0	1	0	1	1	0	8	Medium

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
	Ice Hazards During Winter Storms																
2023-Rosenberg-010	Initiate Upgrades to at-risk Structures and Higher Standards for New Structures	1	1	1	0	0	0		1	1	1	1	0	1	1	9	High
2023-Rosenberg-011	Structural/Engineering Study of Rosenberg Public Facilities	1	1	0	1	1	1	1	0	0	0	1	1	0	0	8	Medium
2023-Rosenberg-012	Critical Facility Mitigation Plan	1	1	0	0	1	0	0	1	1	0	0	0	0	1	6	Medium
2023 – Rosenberg – 013	Rabbs Bayou Drainage Improvements	1	1	1	0	1	0	1	1	1	1	1	1	1	0	11	High
2023 – Rosenberg – 014	Generator Study	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2023 – Rosenberg – 015	Flood Study	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High

Note: Volume 1, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).