



**Community Rating System – Activity 510  
Annual Progress Report**

To: The Mayor and City Council  
From: Juan Macias, P.E., CFM, Assistant Director / Floodplain Administrator  
Subject: Flood Mitigation Plan Annual Progress Report  
Date: October 2, 2023  
Report Period: January 1, 2023 – December 31, 2023

This report has been developed for two reasons. The first is to provide you with our annual update on the implementation of floodplain mitigation initiatives identified in the Harris County All Hazard Mitigation Plan (**the Plan**). The second is to satisfy our Community Rating System (CRS) requirements in which the City is currently at a Class 5. This report will also be posted on our <https://baytown.org/1321/Floodplain-Protection> page.

This annual update was collaboratively prepared with help from our Community Development group, Public Works & Engineering Department, and Emergency Management Coordinator.

If you are interested in reading **the Plan**, it can be accessed on the Harris County Office of Emergency Management website (<https://www.readyharris.org/Contact/After-Action-Reports-And-Other-Resources/Mitigation-Planning>).

The remainder of the report lists each of **the Plan** initiatives and explains what progress has been made in the previous year as it pertains to flooding and floodplain protection. There are several action items that are beyond the scope of this report and, therefore, no comments will be provided. The descriptions of the action items listed below are excerpted verbatim from **the Plan**, including the action item names.

***Action BAY1** – Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.*

Although the City withdrew from the FEMA Repetitive Flood Property Buyout Program in 2009, we continue to purchase properties in the flood-zone. The City of Baytown will, through our Community Development group, demolished and reconstruct house as continuing efforts with help of CDBG assistance. Although last year no new house application was processed, we are still finishing last year's house projects.

**Action BAY2** – *Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Capital Improvement Programs, Master Plans, and Strategic Plans.*

The City of Baytown has recently updated our Code of Ordinances to reflect the Harris County minimum standards for drainage and detention, including our floodplain ordinances. We have also been applying for local, state and federal grant programs to help fund Capital Improvement Projects that increase our disaster resiliency.

**Action BAY3** – *Actively participate in the plan maintenance protocols outlines in Volume 1 of this hazard mitigation plan.*

This action item is not within the scope of this report.

**Action BAY4** – *Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:*

- *Enforce the flood damage prevention ordinance.*
- *Participate in floodplain identification and mapping updates.*
- *Provide public assistance/information on floodplain requirements and impacts.*

The City of Baytown is using our permitting software platform, Tyler Energov, to facilitate the enforcement of the flood damage prevention sections of our floodplain ordinances.

The City of Baytown Floodplain Administrator is a member of the Community Advisory Group for Harris County’s Modeling, Assessment and Awareness Project (MAAPNext) and has been actively advocating for Baytown’s interests. MAAPNext’s purpose is to use the latest technologies and methodologies to analyze current land use and storm data to develop updated floodplain maps for Harris County.

The Public Works & Engineering Department has been actively working to communicate to the public our floodplain regulations by hosting public meetings and creating a page on the Baytown Engage website (<https://www.baytownengage.com/floodplain>).

**Action BAY5** – *Create 75 Stormwater Retention Ponds to increase storage capacity as identified in Master Drainage Plan.*

City staff has identified several locations for potential detention ponds that would increase the storage capacity in our watersheds. We have also began acquiring the land needed for these ponds. Some of the projects that the City is working on to mention a few are the Rollingbrook project (partnership with Harris County), South Main Drainage Phase 2, and the Danubina Project.

***Action BAY6*** – Upgrade City Code Chapter 110 to require increased freeboard (500-year + 2 feet) for construction in floodplain.

Chapter 110 was updated to require that structures constructed within the 100-year and 500-year floodplains have their finished floor elevations set to the higher of 24 inches above the 100-year or at the 500-year floodplain elevations. This change met the requirements of Harris County and became effective on January 1, 2021. No changes have been made since that update to the Floodplain Ordinance.

***Action BAY7*** – Elevate electronic controls for sewer lift stations 24” above the 500-year NFIP floodplain.

The Public Works & Engineering Department has been systematically elevating the control equipment for our lift stations utilizing a FEMA grant. The control equipment has been elevated to the FEMA mandated elevations.

***Action BAY8*** – Install early warning lighting detection system for critical infrastructure (EOC, 911 Communications, and Pirates Bay Water Park).

This action item is not within the scope of this report.

***Action BAY9*** – Amend City Policy to require city carports and city vehicle shelters to be construction of material and processes to mitigate against hail damages to equipment currently parks in the open.

This action item is not within the scope of this report.

***Action BAY10*** – Develop a Community Urban Wildfire Prevention Program to educate citizens on how to reduce damages to residential property from wildfires.

This action item is not within the scope of this report.

***Action BAY11*** – Develop public education program for home owners on flood hazards and flood mitigation techniques to reduce flood damages to property.

The public education program development is ongoing, and includes public outreach, such as the <https://baytown.org/1321/Floodplain-Protection> webpage and annual mailers.

***Action BAY12 – Improve underperforming Stormwater System Collection/Conveyance Components to ensure system functions in accordance with design to mitigate flooding; including installation of submersible pumps.***

The Public Works & Engineering Department has stormwater crews that routinely inspect and maintain our stormwater collection systems and conveyance components. Some of the maintenance includes mowing and dredging our conveyance ditches, flushing of storm sewer lines, spot repairs, and, sometimes, complete replacement. In addition to the maintenance work, we have several capital projects in design or construction.

***Action BAY13 – Acquisition of repetitive flood loss property identified in the Regional Stormwater Master Plan.***

The changes to our floodplain ordinances address the improvement of repetitive loss properties by not allowing improvement to repetitive loss structures unless the improvements will bring the structure into full compliance with our floodplain ordinances.

***Action BAY14 – Improve City of Baytown CRS classification from Class 6 to Class 5.***

The City of Baytown completed this action and as per FEMA record we are Class 5 in CRS Classification.

***Action BAY15 – Develop a hardened potable water treatment plant to provide an alternative water source during drought conditions.***

This action item is not within the scope of this report.

***Action BAY16 – Convert water treatment plant from surface water to desalination source.***

This action item is not within the scope of this report.

***Action BAY17 – Expand community warning system (sirens, reverse 911, Mass Notification, EAS, iPAWS, radio) to increase coverage to residents in hazard-prone areas of the community.***

This action item is not within the scope of this report.

***Action BAY18 – Installation of generators/power back-up systems on critical public infrastructure.***

This action item is not within the scope of this report.

***Action BAY19 – Install lightning and surge protection measures for critical infrastructure.***

This action item is not within the scope of this report.

**Action BAY20** – *Implement hazard fuel reduction and fire prevention measures such as clean-up and debris removal of abandoned buildings, abandoned lands, etc.*

This action item is not within the scope of this report.

**Action BAY21** – *Develop/implement home heating safety public education/outreach program to inform residents on how to reduce damages from winter storms to residential property.*

This action item is not within the scope of this report.

**Action BAY22** – *Create and establish a hazard risk profile database and GIS mapping of pipeline risk areas.*

This action item is not within the scope of this report.

**Action BAY23** – *Enhance air monitoring capabilities to mitigate chemical releases and exposures.*

This action item is not within the scope of this report.

**Action BAY24** – *Develop an update commodity flow study and inventory of chemical facilities within the community to understand risk profile and implement appropriate mitigation measures.*

This action item is not within the scope of this report.

**Action BAY25** – *Implement appropriate water conservation and drought contingency measures to mitigate drought and subsidence.*

This action item is not within the scope of this report.

**Action BAY26** – *Implement drainage and infrastructure improvement projects to mitigate flooding and protect residential property through the CDBG-DR program. (Old Baytown, Danubina, Julia Ann Villa, Lincoln Cedars, East WWTP, South Main Street, W. Texas Ave, etc.)*

The City of Baytown has developed five Capital Improvement drainage projects that are to be either in design, or construction or will be by 2024. In aggregate, we have programmed \$83,427,784 in near-term drainage projects which include Baytown Central Stormwater Detention Basin Improvement, Danubina, San Jacinto Regional Detention, South Main Street and West Texas Avenue.

***Action BAY27** – Implement flood mitigation of wastewater and water treatment plants: elevation of structures and equipment, conversion to submersible pumps, sealing of electrical components and wiring.*

The City of Baytown has programmed \$48,212,826 in Capital Improvement Projects for our East District, Central District and West District wastewater treatment plants through 2024. These projects include equipment upgrades, the construction of floodproofed structures, and increasing electrical asset integrity. All new construction will meet our current floodplain ordinances.

***Action BAY28** – Implement supervisory control and data acquisition (SCADA) to all wastewater treatment plans and lift stations to enables remote control and continuous operation of facilities.*

The City of Baytown has programmed \$15 M for the design and installation of new and updated SCADA systems at our wastewater treatment plants. The design phase for this project started in 2022 and the installation is expected to begin in 2024. We are installing SCADA at all new lift stations and systematically adding it to our existing lift stations.

As can be seen from the above action item updates, the City of Baytown is diligently working towards completing the goals and meeting the priorities of **the Plan**. Some of the action items have been completed, some are oversight items and require perpetual action, and the remaining action items require multiple years for planning and implementation; however, no action items are behind schedule.

The City of Baytown believes in continuous improvement and is always looking for ways to improve the quality of life for our residents. Each year Public Works & Engineering will update the CIP Budget and include new projects, revisions to old projects, and, possibly, the removal of projects that are no longer necessary.

Sincerely,



Juan Macias, P.E., CFM  
City Engineer / Floodplain Administrator / Assistant Director PWE