

# CITY OF JERSEY VILLAGE

## Repetitive Loss Area Analysis

December 2023



In association with

**CAHOON CONSULTING**



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## 1.0 INTRODUCTION

The city of Jersey Village is a suburb located in southeast Texas just northwest of Houston. With an approximate population of 7,602, Jersey Village enjoys a strategic location near major highways and urban centers, offering both convenience and connectivity. However, flat topography and the city's proximity to water bodies expose the city to flood risks, a concern intensified by its subtropical climate characterized by heavy rainfall and occasional hurricanes. This Repetitive Loss Area Analysis aims to comprehensively examine Jersey Village's flood vulnerability, evaluating its geographical susceptibility, population exposure, and existing floodplain management strategies. Implementing a robust flood management strategy involves several crucial steps. First, a comprehensive assessment of current and potential flood-related hazards is essential. This entails analyzing historical data, geographical factors, infrastructure vulnerabilities, and human activities contributing to flooding. Once identified, a thorough review of mitigation measures must be conducted, encompassing engineering solutions, land use planning, ecosystem restoration, early warning systems, and community preparedness programs. It is crucial to align these measures with community goals and land use plans, ensuring they do not conflict with other activities while reducing implementation costs. Through an exploration of its proactive measures, regulatory frameworks, and historical flood patterns, this report seeks to assess the city's preparedness and resilience against the impacts of flooding.

### 1.1 The Flood Hazard

FEMA issued a Flood Hazard Boundary Map for the City of Jersey Village (City) in November of 1974 and the first FEMA Flood Insurance Rate Map (FIRM) followed in March of 1982. Subsequent maps were issued in 1985, 2000, and 2007. Currently, the City regulates under the effective FIRM dated June 9, 2014. These FIRMs show some corrections to the last effective map dated June 18, 2007, but do not reflect changes that the Harris County Flood Control District has made in the area.

The Harris County Flood Control District maintains most of the channels within the 22 watersheds in Harris County. The entirety of Jersey Village is contained in the White Oak Bayou Watershed (see sidebar). Flooding in the city of Jersey Village occurs primarily along White Oak Bayou, as well as a smaller tributary of the bayou.

### 1.2 Flood History

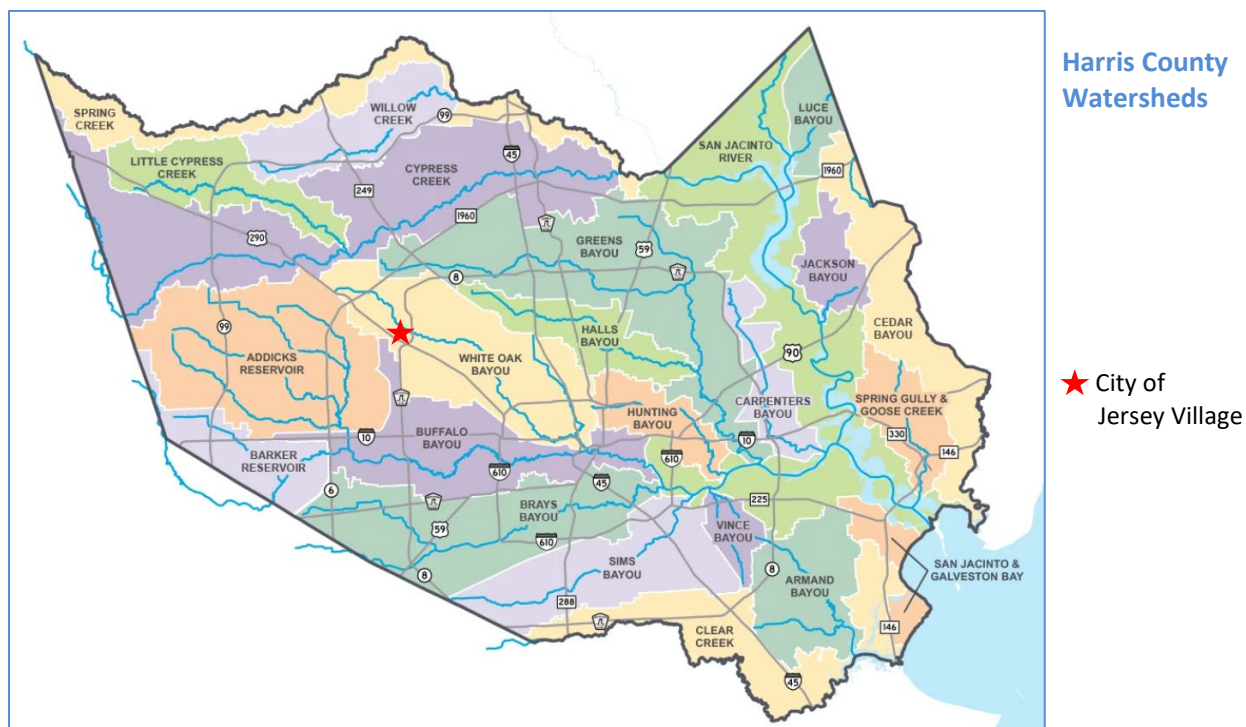
Harris County has seen its fair share of flooding; however, in most cases of flooding from tropical events, the city of Jersey Village has been spared except for two major tropical events and two rain events that occurred within the last 25 years. In September of 1998, Tropical Storm Frances flooded 1,400 structures in and around Houston including approximately 200 homes in Jersey Village. In June of 2001, Tropical Storm Allison came through the Gulf of Mexico and stalled over the greater Houston area for three days, bringing torrential rainfall (80% of the flooding occurred *outside* of the effective FEMA floodplain at that time) that caused more than \$5,000,000 in damages countywide. Tropical Storm Allison flooded roughly 500 homes in Jersey Village,

#### WHITE OAK BAYOU WATERSHED

- 111 square miles of drainage area
- 146 miles of open stream
- Primary streams:
  - White Oak Bayou
  - Little White Oak Bayou
  - Brickhouse Gully
  - Cole Creek
  - Vogel Creek
- Flows southeast into confluence with Buffalo Bayou in downtown Houston

accounting for 37% of the claims to date. The following year, in October 2002, widespread flooding occurred that damaged 200 homes in Jersey Village. The next flood to affect the city did not happen again until the Tax Day flood in April of 2016 that dumped 10-15 inches of rain in less than 12 hours to the western portion of Harris County and damaged more than 230 homes in Jersey Village. Countywide, the Tax Day flood damages amounted to \$35,000,000, and accounted for 25% of the total claims paid by the National Flood Insurance Program (NFIP) towards the city of Jersey Village.

Although the Harris County Flood Control District has done significant work to help alleviate the flood risk throughout the White Oak Bayou Watershed, to the tune of over \$117 million over the past 25 years on capital projects, there is still a risk of flooding in the city. With significant rainfall, the city's drainage system could reach capacity, causing flooded streets, local ponding, and overflowing bayous and ditches.



## 1.2 Flood Insurance Coverage

City staff work hard to educate the public on the importance of flood insurance, and to ensure that citizens understand that flood damage is not covered by regular homeowner's insurance. Given the varying topography of the area, the purchase and maintenance of a flood insurance policy is strongly encouraged for every resident and business owner in the city, regardless of location in or near a FEMA designated floodplain. The table below is a breakdown of flood insurance data in Jersey Village based on the effective FIRM flood zones (*data current as of November 21, 2023*).

	Number of Policies	Total Premium	Insurance-in-Force
All A Zone	440	\$378,410	\$132,083,000
X/Shaded X Zone	643	\$420,473	\$217,491,000
<b>TOTAL</b>	<b>1,083</b>	<b>\$798,883</b>	<b>\$349,574,000</b>

The City of Jersey Village (City) is committed to making flood insurance more affordable for its residents. The recent rollout of FEMA’s Risk Rating 2.0 initiative put a spotlight on the importance of flood insurance since each policy is based on the structure’s actuarial risk as opposed to location relative to the floodplain. Risk Rating 2.0 also made it possible for eligible property owners outside the FEMA floodplain to benefit from the flood insurance premium discount offered through the NFIP Community Rating System (CRS). The City entered the CRS program in 2019, documenting their higher standards to qualify as a class 7 and earning a 15% discount on annual flood insurance premiums for eligible policyholders. Since then, the City has prioritized its efforts in CRS participation and community outreach to encourage an increase in flood insurance policies and coverage.

## 2.0 IDENTIFY REPETITIVE LOSS AREAS

The City’s goal to ease the financial burden incurred by citizens regarding flood insurance and property protection is a driving factor towards finding ways to reduce the flooding threat. In May of 2022, the City contracted with Cahoon Consulting to assist in the preparation of the CRS cycle visit in an effort to improve the CRS rating to a class 6 or better, thereby increasing the discount to property owners. Part of the City’s plan for the class improvement involved the development of this Repetitive Loss Area Analysis (RLAA).

An RLAA is a report that identifies repetitive loss areas (RLAs) and recommends alternatives to mitigate the effects of future flooding. FEMA’s definition of repetitive loss is “a building covered by an NFIP flood insurance policy that has incurred flood-related damages on two occasions in which the cost of repairing the flood damage, on average, equaled or exceeded 25% of the market value of the building at the time of each such flood event and at the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.” Repetitive loss properties have been a drain on the NFIP for over 40 years, counting for a fourth of all NFIP payments since 1978. FEMA maintains a list of repetitive loss properties and sends the data to communities via a mutually signed Information Sharing Access Agreement (ISAA). (Due to the sensitivity of the data, it is protected by the Privacy Act of 1974 and cannot be shared with the public.) The list includes property specifics, loss dates, and claims information. Repetitive loss properties remain on FEMA’s list for the life of the structure and are classified as either mitigated or unmitigated. A mitigated property means the structure has been protected against future flood damage through elevation, acquisition, demolition, structural control project, or other means of alleviating the flood risk.

In preparation for the CRS visit and for the purpose of developing this RLAA, the City and its consultant (hereafter known as the “Team”) followed the scope in the 2017 *CRS Coordinator’s Manual* and the supplemental guidance entitled “Developing a Repetitive Loss Area Analysis” to create this RLAA. Each of the five steps outlined in the Manual is sufficiently discussed throughout the report:

1. Advise all the properties in the RLAs that the analysis will be conducted and request their input on the hazard and recommended actions. – Section 3.0, Appendix A, Appendix B
2. Contact agencies or organizations that may have plans or studies that could affect the cause or impacts of flooding. – Section 5.0, Appendix C
3. Visit each building in the RLAs and collect basic data. – Section 4.0, Appendix F
4. Review alternative approaches and determine whether any property protection measures or drainage improvement are feasible. – Section 6.0
5. Document the findings. – Section 6.0, Section 7.0



The City submitted a signed ISAA to FEMA Region VI and obtained the latest repetitive loss list with an “as of” date of July 19, 2023. The list included 162 addresses and, of those, 128 are classified as unmitigated. One address was a duplicate of another address and, thus, the City sent a correction request to the NFIP Underwriting Office. The City’s GIS specialist mapped the 127 remaining properties that revealed locations scattered throughout Jersey Village. Based on location and cause of flooding, the City delineated RLAs consisting of unmitigated repetitive loss properties on FEMA’s list plus adjacent or nearby properties that may be susceptible to the same cause of flooding. It may be that nearby structures have never flooded in the past but are at a higher risk based on their proximity to channels, drainage system features, age and foundation of the structure, or other factors. Another reason to include some properties in the RLAs that are not on FEMA’s list is that structures may have flooded in the past, but the homeowners did not have flood insurance to make a claim or did not file for disaster assistance. Regardless, these properties share the same vulnerability and may be one loss away from being added to FEMA’s repetitive loss list. The Team also looked at FEMA’s loss data and claims history, as well as flood insurance policy statistics. All the above factors were deemed reasonable to group vulnerable properties into nine (9) RLAs. (A map of the RLAs is included in Section 6.0.) The Team followed the scope in the 2017 *CRS Coordinator’s Manual* and the supplemental guidance entitled “Developing a Repetitive Loss Area Analysis” to create this RLAA. The following sections explain the RLAA development process, examine the cause of flooding and recommend mitigation alternatives, and present building data on all 229 structures (*omitted from the public version*).

### 3.0 CONTACT PROPERTY OWNERS

On November 23, 2023, the City mailed 223 letters (six of the 229 are vacant lots and were not sent a letter) to the property owners whose addresses were identified in the nine (9) RLAs. The letter (included in Appendix A) explained the purpose of the RLAA and what type of information may be collected and used in the report including permit records, appraisal district records, field data, and photographs taken at the site. The letter also notified property owners that the draft report would be posted on the City’s website for comments (see Appendix D) and included a link and a QR code to an online, 10-question Flood Protection Survey regarding individual flood damage history and property protection options. Responses and comments from the 23 respondents were factored into the consideration of potential mitigation alternatives outlined in this RLAA. Key takeaways from the survey are summarized below, and the detailed survey with answers is included in Appendix B.

- 100% of the respondents own their home (vs renting).
- 91% of respondents confirmed the home or property has flooded in the past.
- 90% of the homeowners maintain a flood insurance policy on their structures.

When asked what the City, State, or FEMA could do to help Jersey Village reduce the effects of flooding, 22 of the 23 respondents shared their thoughts. Below are suggested improvements.

- “Raise more homes, help with yard drainage to the streets”
- “Raise homes or knock down and rebuild them”
- “Increase bayou to hold more water”
- “Enlarge/enhance water runoff systems”
- “Continue to elevate home[s], expand drainage and lower streets”
- “Improve storm drainage downstream...eliminate the flow pinch points”

Respondents also shared their thoughts that acknowledged steps the City has already taken.

- “Much progress has been made. Please complete any pending projects and continue to evaluate effectiveness of measures taken.”
- “Continue to provide more funding for elevations.”
- “Continue to make improvement[s] to storm sewers and bayou system”
- “A lot has been done [since] we flooded in 2001. I feel confident that we are relatively safe now.”

## 4.0 COLLECT BUILDING DATA

An essential part of the RLAA process involved assessing the flood risk each building faced based, in part, on the specific characteristics of that structure. Each structure was researched using two resources: the Harris County Appraisal District and observations noted in the field. The City also reviewed permit records and elevation certificates for some structures.

### 4.1 Harris County Appraisal District

The Team procured the building data from the Harris County Appraisal District. The information in the Appraisal District database included year of construction, foundation type, and condition of structure. The building data helped determine the level of risk for each structure such as identifying how a common source of flooding might affect an older home (pre-FIRM) compared to a newer one (post-FIRM). The data from the appraisal district was combined with the data available on FEMA’s repetitive loss list to form a comprehensive view of each structure at risk in these areas. (Building data per property address is in Appendix F and is not available to the public per the Privacy Act of 1974.)

Older homes, such as pre-FIRM structures, were not required to meet the same higher standards the City is currently enforcing such as freeboard above the base flood elevation. This extra level of protection has helped diminish the flooding risk to newer structures or structures that have been substantially damaged. A substantially damaged building is one where the cost of repairing the structure to its pre-flood condition is greater than 50% of the market value of the structure. When a structure has been declared substantially damaged, it is required that the structure be brought into current code and regulations. Most often, the regulations require elevation to achieve compliance.

### 4.2 Field Data

In addition to data from the Harris County Appraisal District, the Team observed the properties in the field. City staff canvassed the RLAs and took photographs and from the street or sidewalk that captured ground elevation differences, drainage patterns, and nearby drainage features such as inlets, culverts, or storm drains. This data helped in understanding where and how each property drained, and whether water collected in the lot or drainage from nearby structures may have contributed to the cause of flooding. The Team also conducted observations of the natural channels and drainage systems to see how vegetation or other obstructions may be affecting the channels’ ability to function optimally.



## **5.0 CONTACT OTHER AGENCIES**

Before determining the best mitigation alternative for the RLA properties, the Team wanted to find out what studies and projects were in the process or planned for the areas by other entities and organizations. The City's Community Development Department contacted three (3) entities via email on October 24, 2023, to request this information. (A copy of the email is included in Appendix C.)

### **5.1 Harris County Flood Control District**

The City did not receive a response to the October 24<sup>th</sup> email; however, the City maintains close coordination with the Harris County Flood Control District through their partnership on the White Oak Bayou project and other projects involving Jersey Village. (The White Oak Bayou project is explained in Section 6.1.)

### **5.2 Harris County Engineering Department**

The City did not receive a response to the October 24<sup>th</sup> email from the Harris County Engineering Department. Based on frequent communication with the County and existing projects, the City believes the projects will not have an impact (positive or negative) on the flood risk in the RLAs.

### **5.3 Texas Department of Transportation**

The City received an email response from the Assistant Area Engineer in the West Harris Area Office of the Texas Department of Transportation who mentioned that he was not aware of any drainage related projects planned in or near the Jersey Village city limits. The Engineer explained that he forwarded the request for input to the Harris County Toll Road Authority who is designing a project to widen Beltway 8 in the Jersey Village area that will involve drainage elements. The Engineer also reached out to the design firm working on the Beltway 8 project for more information; however, the City had not heard back from either entity by the draft date of this RLAA.

## **6.0 CAUSE OF FLOODING**

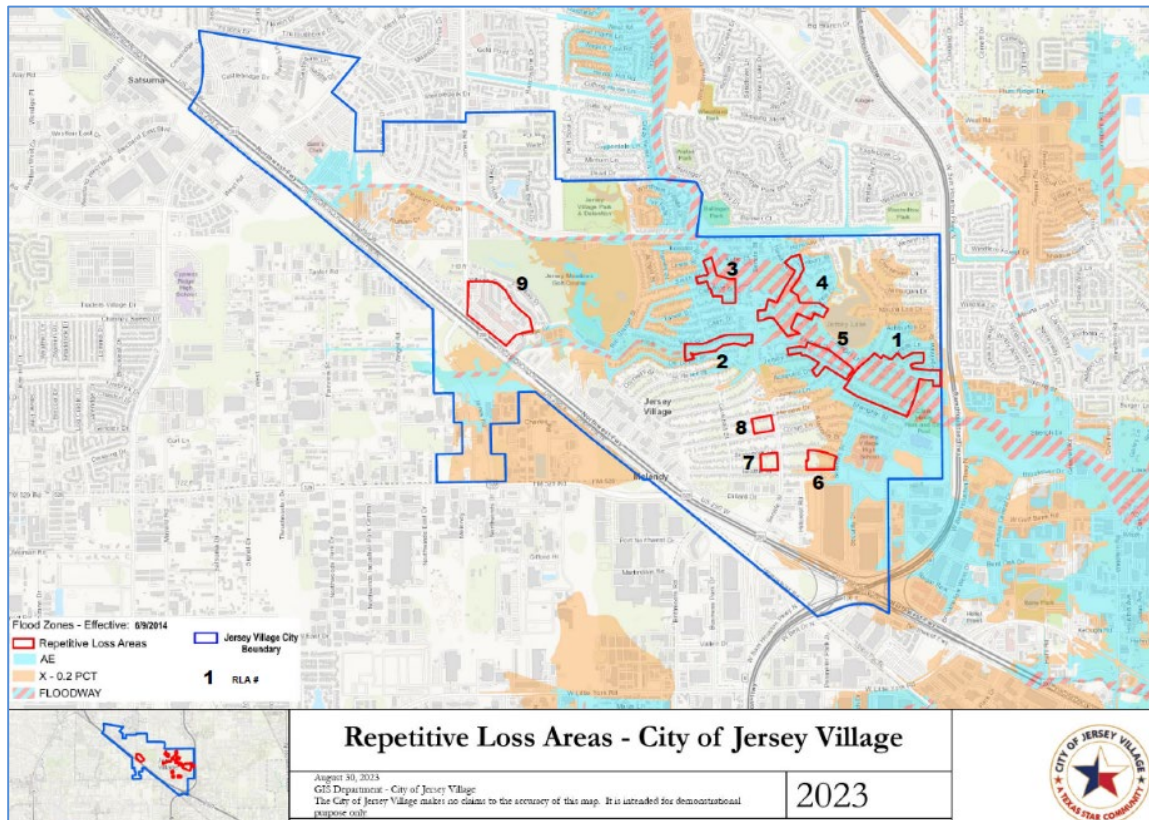
The main cause of flooding in Jersey Village is due to White Oak Bayou. In extreme events, the bayou overflows which directly impacts those properties located in the floodway, as well as properties further west that suffer from localized drainage issues such as an incapacity to handle the flow. Since both effects go hand-in-hand, they will be treated as one cause of flooding that affects all nine RLAs. This section of the RLAA will describe the RLAs and provide a snapshot of their characteristics. Following their description will be an examination of existing and planned mitigation alternatives that may be considered as viable solutions. Each of FEMA's six mitigation categories is addressed to give a comprehensive look at all possible mitigation opportunities. The end of this section will feature a summary table of recommended mitigation options including the responsible department, funding, and proposed timeline of execution.

## 6.1 Repetitive Loss Areas

The four major floods that have impacted the city of Jersey Village (see Section 1.1) have all stemmed from flooding in White Oak Bayou. RLA #s 1, 2, 3, 4, and 5 are all located within or adjacent to White Oak Bayou. All properties in these RLAs are located either in the floodway or in the floodplain (RLA #2). RLA #s 6, 7, 8, and 9 are further south and/or west and are in the 500-year/shaded X zone (RLA #6) or in the X zone. These RLAs seem to have incurred damage from smaller tributaries from White Oak Bayou. Below are some additional characteristics about the RLA properties.

- Approximately 27% of the 229 structures are pre-FIRM, with the earliest construction dating back to 1952. Four (4) of the 229 have been built in the 2000s.
- Of the 64 pre-FIRM homes, 41 of them are in RLA #1. The rest of the pre-FIRM homes are contained in RLA #s 4, 5, and 6.
- All but two (2) of the structures are single family residential homes.
- Only two (2) of the homes were built with a crawlspace and they were built after the year 2000.
- All the properties in the RLAs have at least a “fair” condition of the foundation. Other categories include “average”, “good”, and “very good”.
- Of the 127 unmitigated repetitive loss properties on FEMA’s list, 78% of them made a claim because of the Tax Day flood in 2016.
- The FEMA unmitigated repetitive loss properties have an average of four (4) losses.

A map of the RLAs is below followed by a summary table of the number of total properties and the number of FEMA repetitive loss properties in each RLA. As shown above and in the table below, only aggregate data is available in this report.



RLA #	# of Properties	# of FEMA RL Properties
1	77	49
2	24	14
3	29	19
4	23	17
5	34	21
6	18	3
7	10	1
8	12	2
9	2	1
<b>TOTAL</b>	<b>229</b>	<b>127</b>

## 6.2 Mitigation Alternatives

Understanding the causes and patterns of flooding at White Oak Bayou is crucial for devising targeted solutions. Heavy rainfall and inadequate drainage infrastructure are primary factors contributing to the bayou overflowing its banks. Urbanization and changes in land use patterns can exacerbate these issues by altering natural water flow pathways. Addressing these causes may involve a combination of engineering solutions and other mitigation alternatives. The Team factored in existing plans and projects, and evaluated several mitigation options to determine which ones would have the greatest benefit to the RLAs. Considerations were given to the location of the channel, flood zone, historical flooding, age and condition of the structure, cost effectiveness, feasibility, and potential to reduce future flood risk.

### 6.2.1 Preventative

The damage caused by the Tax Day Flood in April of 2016 moved future flood prevention to the top of the City's list in terms of priority projects. In September of 2016, the City issued a Request for Proposal in search of engineering firms to investigate the flooding problem. The final product was the Long-term Flood Recovery Plan which was an accelerated flood damage reduction study led by Dannenbaum Engineering Corporation with Crouch Environmental Services, Inc. and Kuo and Associates to address repetitive flooding in the city and the surrounding area. (Much of the data and considerations for the Long-Term Flood Recovery Plan mirror this RLAA.)

The goal of the Jersey Village Long-term Flood Recovery Plan was to develop a flood damage reduction plan that balances social acceptability with economic, hydraulic, and environmental feasibility. The plan identified both short-term and long-term flood damage reduction projects that can be designed and implemented as funding is available. (Details on specific projects are included under the "Structural projects" heading in this subsection.) The Plan consisted of three main components:

1. Assessing existing conditions to identify the extent of flooding during different storm events
2. Analyzing individual solutions with the use of hydrologic and hydraulic modeling
3. Finalizing a long-term plan including a combined recommended solution, a benefit cost analysis and possible funding sources

In addition to the Long-term Flood Recovery Plan, the City adopted and enforces higher standards in Chapter 14, Section 225, Flood Damage Prevention ordinance. For instance, all new construction and substantial improvements must be built three feet above the base flood elevation or two feet above the 500-year elevation. This higher elevation not only benefits owners with lower flood insurance premiums, but also places a higher level of property protection.

### **6.2.2 Property Protection**

The City has worked to secure substantial grants totaling approximately \$9.07 million, divided into two grants of \$4.43 million and \$4.64 million, allocated specifically for elevating 14 homes each (28 total). The objective is to raise these homes by three feet above either the base flood elevation or the 100-year flood level. The primary focus of these projects is to mitigate flood damage, minimize health and safety risks, and reduce subsequent cleanup expenses.

This initiative aligns with the City's Long-term Recovery Plan, which has been instrumental in identifying and implementing flood reduction projects. Since the Plan's adoption, the City has successfully acquired nearly \$25 million in federal and state grants for flood mitigation efforts. Upon completing the elevation of these 28 homes, the City will have elevated over 60 homes located within the 100- or 500-year flood zones, further bolstering its resilience against potential flooding. At this time, 21 homes have been elevated, six (6) are in the process of elevation, eight (8) have been awarded funding and are set to be elevated in 2024, and another 28 that have been included in the FY22 Home Elevation Grant from FEMA.

### **6.2.3 Natural Resource Protection**

Enhancing urban areas with natural functions like wet-bottom detention ponds, trees, and native landscaping in new developments helps reduce runoff pollution from roads and parking lots. In 2008, a partnership project between Harris County Precinct 4, the Harris County Flood Control District, and the City of Jersey Village resulted in the purchase of nine of the 27 holes on the Jersey Meadows Golf Course. The conversion of this portion of the golf course into the 43-acre, 114-million-gallon capacity Jersey Meadows Stormwater Detention Basin not only led to significant water quality benefits, but also removed 4,000 structures from the 100-year floodplain. The basin project included wetlands to filter water pollutants, native trees and shrubs, and a walking trail for residents. Incorporating riparian vegetation and natural plantings has helped reduce bacteria concentrations in White Oak Bayou in addition to the neighboring community's flood damage reduction.

### **6.2.4 Emergency Services**

The City relies on the Harris County Flood Warning System's rain gages as an essential component of their flood warning system maintained by the Harris County Flood Control District. Site 550 is located at Lakeview and White Oak Bayou and is one of 188 gage stations placed throughout Harris County bayous and their tributaries. The Harris County Flood Control District's Flood Warning System measures rainfall amounts and monitors water levels in bayous and major streams on a real-time basis to inform communities of dangerous weather conditions. The stations contain sensors that transmit important data during times of heavy rainfall, tropical storms, and hurricanes. This information is used by the Flood Control District and by Harris County's Office of Homeland Security and Emergency Management to

inform the public of imminent and current flooding conditions along bayous. The system is also used by the National Weather Service to assist in issuing flood watches and warnings. Accurate rainfall and bayou/stream level data help emergency management officials make critical decisions that ultimately can reduce the risk of property damage, injuries, and loss of life. With timely warning information, citizens may have the opportunity to move valuables to higher ground, evacuate if necessary, and take additional safety steps.

In addition, the City has developed a Flood Response Preparations Plan that consists of specific messaging to provide to the public before, during, and after a flood event. Property owners are encouraged to sign up for the City's emergency notification system, and the City is consistent in posting flood warning information on social media. Following a storm, the City's inspectors and other designated personnel will conduct preliminary damage assessments and will place door hangers at properties suspected of substantial damage. The door hanger includes valuable recovery information such as taking inventory of damaged items, flood safety, and advising people to contact the City's permit office to see if a permit is needed to make repairs to the structure.

## 6.2.5 Structural Projects

In the last 20 years, the Flood Control District has implemented more than \$95 million worth of improvements to address channel flooding in the White Oak Bayou watershed, including completion of the Jersey Village diversion channel in 2010, as well as completion of multiple stormwater detention basins upstream of Jersey Village. In the last decade, the City completed over \$25 million of street and drainage reconstruction efforts, with the primary goal of reducing localized neighborhood flooding.

Harris County Flood Control District has an ongoing project to address related flooding on White Oak Bayou. The White Oak Bayou Federal Flood Damage Reduction Project is a multi-year, \$124 million project that will substantially reduce flooding risks along White Oak Bayou. Started in 1998, the project is in partnership with the U.S. Army Corps of Engineers, with the Harris County Flood Control District designated as the lead. This partnership, made possible by Section 211(f) of the Water Resources Development Act of 1996, allows the Harris County Flood Control District to work hand-in-hand with the federal government to leverage local tax dollars. The project is fully funded to completion. Construction is underway on the two remaining segments of the White Oak Bayou Federal Flood Damage Reduction Project: E100-00-00-E005 (FM1960 to Hollister) and E100-00-00-E007 (Hollister to Cole Creek). Construction on the first remaining segment began in fall 2020 but came to a halt in May 2022. Construction resumed in January 2023 and is anticipated to be complete by spring 2024. Construction on the second segment began in summer 2021 but came to a halt in May 2022. Construction resumed in fall 2023 and is anticipated to be complete by fall 2024. The project also involves construction of approximately 15.4 miles of channel conveyance improvements along White Oak Bayou from Cole Creek near West Tidwell Road to F.M. 1960 to include the following:

- Excavation of six stormwater detention basins to hold almost one billion gallons of stormwater
- Construction of the Jersey Village Bypass Channel (HCFCD Unit E200-00-00), which carries approximately 30% of White Oak Bayou flows around the City of Jersey Village during heavy rains

Many of these projects have been finalized. Upon project completion, the Harris County Flood Control District estimates that most areas within the limits of the White Oak Bayou Federal Project will see water surface elevation reductions of 0.64 to 2.49 feet for the 1 percent (100-year) flooding event.



## 6.2.6 Public Information

Education and awareness play a pivotal role in fighting the effects of flooding. Residents and property owners must be informed about flood hazards, loss reduction measures, and the significance of maintaining natural floodplain functions. This effort involves highlighting the risks associated with living in flood-prone areas and promoting measures to minimize losses. Simultaneously, building public and political support is crucial. Engaging with the community and policymakers to showcase the benefits of preventive measures, reduced losses, and the preservation of floodplain ecology can garner vital support for flood mitigation activities.

The City maintains a comprehensive and proactive outreach campaign for its citizens including the following: frequent social media posting, targeted outreach letters to RLAs mailed twice a year, flood-related articles included in the Jersey Star newsletter that is mailed/emailed to all residents, “no dumping” decals on storm water inlets detailed information on the City’s website. The City has also confirmed with local realtors to provide handouts to their clients advising them to check on the flood hazard for prospective properties.

Recommended Mitigation Alternative	Responsibility	Funding	Timeline
Property Protection (Section 6.2.1)	City of Jersey Village	FMA grant	Upon funding
Structural Projects (Section 6.2.5)	City of Jersey Village Harris County Flood Control District US Army Corps of Engineers	US Army Corps of Engineers	Upon funding

## 7.0 CONCLUSION

The frequent flooding from White Oak Bayou in Houston is a critical issue that can severely impact Jersey Village during heavy rainfall. White Oak Bayou has a history of flooding during periods of heavy rainfall and the bayou's overflow leads to substantial disruption and damage, affecting communities, infrastructure, and property. This recurring problem highlights the vulnerability of the region to excessive rainfall and underscores the need for effective flood mitigation strategies. The not-so-distant memory of the 2016 Tax Day flood and the awareness that a single rain event can turn into a major storm have kept the flooding issue a priority for the City’s decision makers who strive to remain proactive and protect the public. As a result, more citizens are doing their part to protect themselves and their properties such as purchasing and maintaining flood insurance, keeping storm drains clear of debris, participating in elevation grant programs, and other forms of property protection. Ultimately, fostering a constituency committed to implementation is key.

For their part, the City continues to work with community partners in finding sustainable and cost-effective alternatives to mitigate existing problems and eliminate the threat of future flooding. Bringing together stakeholders—community members, businesses, environmental groups, and government entities—who actively advocate for the flood mitigation plan's execution is critical for the program’s success. By engaging diverse groups and cultivating shared interests in implementing recommended measures, the City can effectively manage existing flood hazards while preparing for future challenges.


## 8.0 RESOURCES

- City of Jersey Village: [www.jerseyvillagetx.com](http://www.jerseyvillagetx.com)
- Harris County Flood Control District: [www.hcfcd.org](http://www.hcfcd.org)
- Harris County Flood Warning System: [www.harriscountyfws.org](http://www.harriscountyfws.org)
- Harris County Multi-Hazard Mitigation Action Plan (2020): [www.readyharris.org](http://www.readyharris.org)
- Harris County Appraisal District: [www.hcad.org](http://www.hcad.org)
- Houston-Galveston Area Council: [www.h-gac.com](http://www.h-gac.com)
- CRS Coordinator's Manual (2017): [www.crsresources.org](http://www.crsresources.org)
- National Flood Insurance Program: [www.floodsmart.gov](http://www.floodsmart.gov)
- FEMA Flood Map Service Center: [msc.fema.gov/portal/home](http://msc.fema.gov/portal/home)
- FEMA: [www.fema.gov](http://www.fema.gov)



## APPENDIX A

Below is a screenshot of the letter the City of Jersey Village Community Development Department mailed to 223 property owners on November 22, 2023. (The number of letters was less than the number of properties since a handful of properties shared the same owner.)



**CITY OF JERSEY VILLAGE, TEXAS**  
16327 Lakeview Drive, Jersey Village, TX 77040  
713-466-2100 (office) 713-466-2140 (fax)


November 22, 2023

Address

Subject:      Address

Dear Property Owner:

**Scan Here**  
To take the Flood  
Protection Survey




As part of the City of Jersey Village's participation in the National Flood Insurance Program's Community Rating System, the Community Development Department is evaluating properties that have experienced repetitive flood damage, as well as investigating nearby properties that are vulnerable to the same cause of flooding. This analysis will include the review of all previous flood data and studies conducted in specific locations. The Repetitive Loss Area Analysis involves the collection of the following property level data:

- Building permit records (including application and associated records)
- Structure and site elevation information (elevation certificate, if available)
- Tax ID and lot and parcel number
- Building property value on record (assessed value, replacement value, or both)
- Age of structure
- Building codes/floodplain development regulations exceeding minimum standards
- Historical flood event information (amount of damage to structure)

In addition, City staff may visit several properties to survey the flood risk and take photographs. Property owners are encouraged to provide any relevant flooding information. The survey crews will be looking at the type and condition of the foundation, drainage patterns on the lot, and whether outside mechanical equipment is elevated. The results of the Repetitive Loss Area Analysis will include a review of mitigation alternatives for property protection measures or drainage improvements, where feasible. You can help the City of Jersey Village perform this analysis by completing a Flood Protection Survey by December 1, 2023. The survey can be accessed at <https://www.surveymonkey.com/r/HNWBFWJ>.

A draft of the Repetitive Loss Area Analysis will be posted to the City's Floodplain Information website ([https://www.jerseyvillagetx.com/page/city.flood\\_control](https://www.jerseyvillagetx.com/page/city.flood_control)) and will be available for public comment. Once the analysis is complete and has been adopted by City Council, a copy of the report will be posted to the same website.

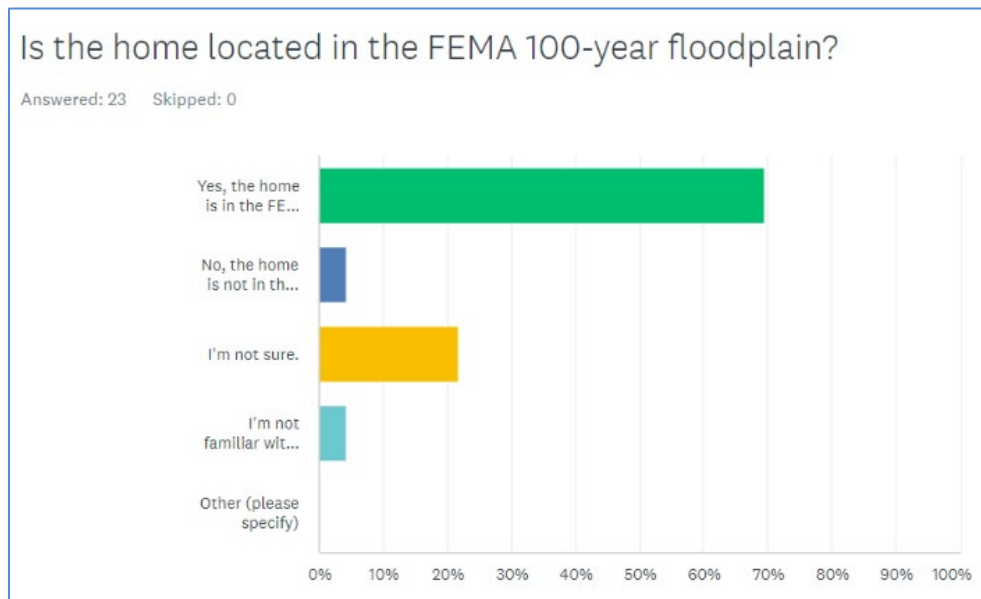
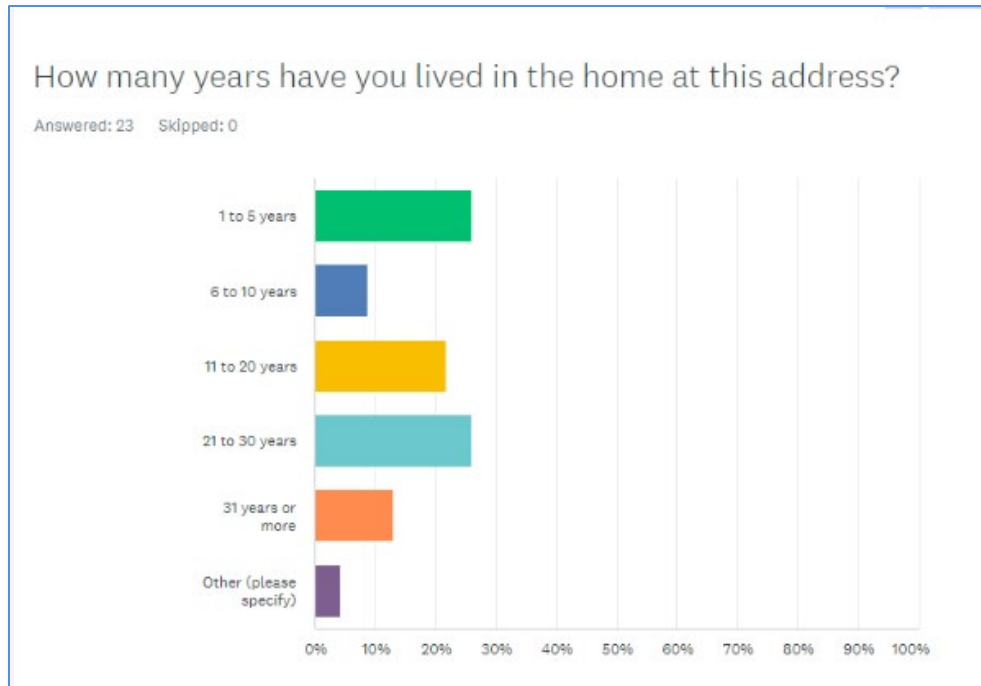
Sincerely,



Miesha Johnson  
Community Development Manager

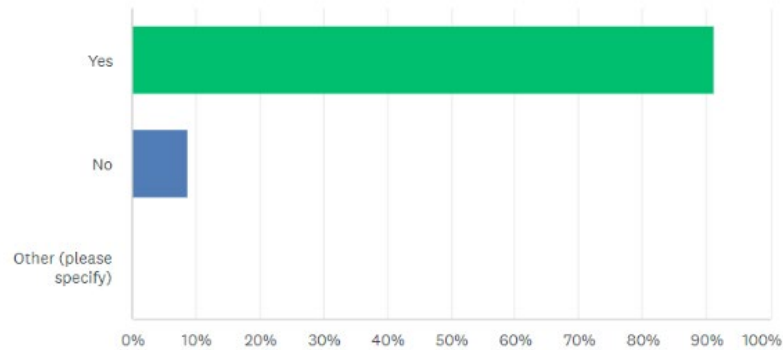
## APPENDIX B

The City sent letters to 223 property owners that included a link and a QR code to a 10-question Flood Protection Survey via [www.surveymonkey.com](http://www.surveymonkey.com). Below are some of the questions and answers from the 23 respondents.



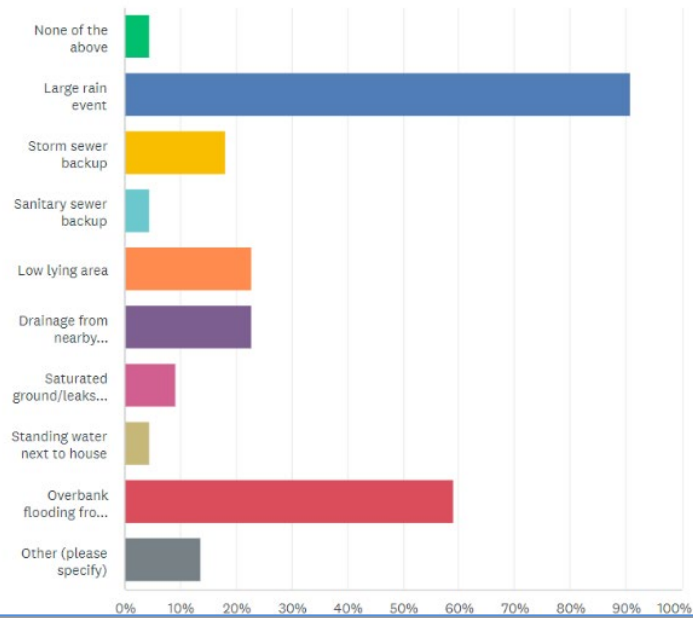
## Has this home or property ever been flooded?

Answered: 23 Skipped: 0



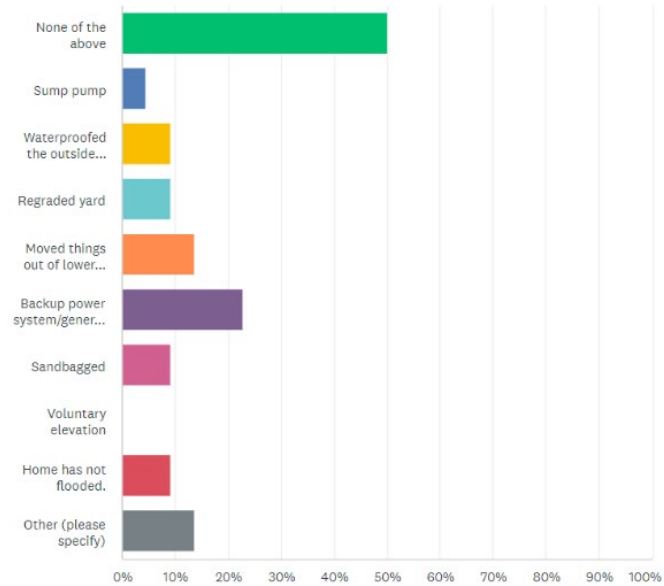
## If the home has flooded in the past, what do you believe was the cause? Check all factors that affected your home.

Answered: 22 Skipped: 1



Have any flood protection measures been installed on your property? Check all that apply.

Answered: 22 Skipped: 1



## APPENDIX C

On October 24, 2023, the City reached out via email to three entities – Harris County, Harris County Flood Control District, and Texas Department of Transportation – for feedback on any planned or current projects that might affect the RLAs in Jersey Village. Below is the content of each email sent by the City, and any responses are discussed in Section 5.0 of this RLAA.

### Flood and Drainage Related Projects



**From** Miesha Johnson <mjohnson@jerseyvillagetx.com>  
**To** ataul.hannan@hcfcd.hctx.net <ataul.hannan@hcfcd.hctx.net>  
**Cc** Debbie Vascik <debbie.vascik@cahoonconsulting.net>, Austin Bleess <ableess@jerseyvillagetx.com>  
**Date** 2023-10-24 20:31

Good Afternoon Ataul,

The City of Jersey Village is in the process of developing a Repetitive Loss Area Analysis to examine the causes of repetitive flooding and consider appropriate mitigation alternatives. As such, the City is looking for information on any planned or current projects or drainage studies administered by neighboring communities or entities that may have an impact on the flooding problem in Jersey Village.

Please advise if you are aware of any such projects and, if so, please provide the following details.

- Project name
- Location
- Goal of the project
- Funding source
- Timeline and current status
- A link to the project online (if available)


Thank you for your time and attention to this matter. If you have any questions, please do not hesitate to contact me.

**Miesha Johnson, MPA**

Community Development Manager  
City of Jersey Village  
16327 Lakeview Drive  
Jersey Village, TX 77040  
Phone: (713) 466-2141  
[www.jerseyvillagetx.com](http://www.jerseyvillagetx.com)

## APPENDIX D

As a participating community in the CRS program, the City is required to send a targeted outreach project to everyone in the RLAs. The City mailed the letter below (English on one side, Spanish on the back) to the 223 property owners in December 2023, and commits to sending the letter twice a year (once in the Spring and again in the Fall).



**CITY OF JERSEY VILLAGE, TEXAS**  
16327 Lakeview Drive, Jersey Village, TX 77040  
713-466-2100 (office) 713-466-2140 (fax)

**FLOOD HAZARD AWARENESS**  
December 2023

The City of Jersey Village is dedicated to minimizing the loss of life and property that is associated with flooding events. **Since you own or live on a property that is subject to flooding and flood hazards, you are at an increased risk of flooding.** Make sure you are knowledgeable on how to protect yourself and your property before the next flood.

- ❖ **Purchase a flood insurance policy and maintain coverage on your structure.** Basic homeowner's insurance does not cover damage from floods. Remember, there's a 30-day waiting period before a policy takes effect. For more information about flood insurance, such as types of policies and coverage limits, contact your insurance provider.
- ❖ **Don't dump in the storm drains; they drain to Galveston Bay.** City ordinance (Chapter 14) prohibits dumping or discharging of any pollutant into the storm drainage system. Trash in streams and bayous can cause backups and increase the flooding risk to nearby properties. Report debris and stream dumping to the Public Works Department at <https://www.jerseyvillagetx.com/page/pw.home>.
- ❖ **Build responsibly.** Contact the Community Development Department at 713-466-2110 for advice before you construct or place anything in the floodplain. The City has adopted and implemented specific requirements for new development within the floodplain to reduce the impacts of future flooding. These higher standards offer greater protection than the minimum required under the National Flood Insurance Program and make flood insurance more affordable.
- ❖ **Protect your home.** Consider some permanent flood protection measures such as marking your fuse or breaker box indicating the circuits to the floodable areas and elevating equipment such as the hot water heater to the City's minimum design elevation. Protect your home's foundation from flooding by making sure your downspouts drain away from your house. Check with the Floodplain Management Office on the extent of past flooding in your area. Department staff can tell you about the causes of repetitive flooding, what the City is doing about it, and what would be an appropriate flood protection level. City staff can also provide information on mitigation grant opportunities to help elevate your home and other flood protection options including sources for financial assistance. Contact the Community Development Department at 713-466-2100 for more information.
- ❖ **Prepare a family evacuation plan and make an emergency supply kit for your home.** Follow the City of Jersey Village on Facebook and Twitter to see weather-related information issued by the National Weather Service.

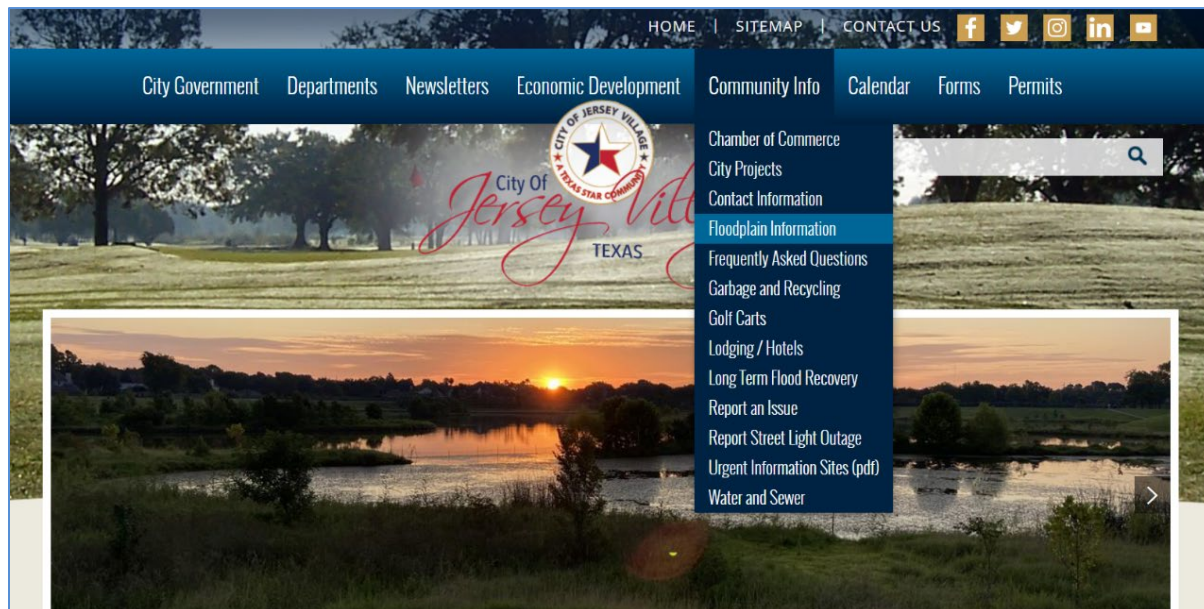
For more information on flood protection, visit the City of Jersey Village website at [https://www.jerseyvillagetx.com/page/city.flood\\_control](https://www.jerseyvillagetx.com/page/city.flood_control).

**CONCIERTIZACIÓN SOBRE EL PELIGRO DE INUNDACIÓN**  
Diciembre 2023



## APPENDIX E

The draft RLAA was posted on the Floodplain Information page on the City's website for public comment: [https://www.jerseyvillagetx.com/page/city.flood\\_control#RLAA](https://www.jerseyvillagetx.com/page/city.flood_control#RLAA).



### The CRS Repetitive Loss Area Analysis

The City has developed a Repetitive Loss Area Analysis to examine the problem of repetitive flooding and investigate possible mitigation alternatives. The draft report is available for review, and comments may be [emailed to Miesha Johnson](#). Once City Council adopts the final version of the Repetitive Loss Area Analysis, it will be posted on this page or can be obtained at City Hall or by calling 713-466-2141.

[View the Repetitive Loss Area Analysis document here.](#)



## APPENDIX F

In accordance with the Privacy Act of 1974, Appendix F containing sensitive and site-specific data per address will not be shared with the public.