2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Jourdanton Drainage and Regional Detention Improvements, from SH-16 to Marion Road

FMP ID: 133000005

Project Sponsor: City of Jourdanton

Project Source: Engineering Feasibility Report for City of Jourdanton, TX

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$26,000
Real Estate	$190,300
Environmental	$0
Construction	$1,965,960
Total Cost**	**$2,182,260**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 145,787	$ -
10-year storm	$ 380,598	$ 104,136
100-year storm	$ 622,808	$ 495,699
Benefits (B)	**$ 1,474,976**	
Cost (C)* **	**$ 2,044,134**	
BCR (B/C)	**0.7**	

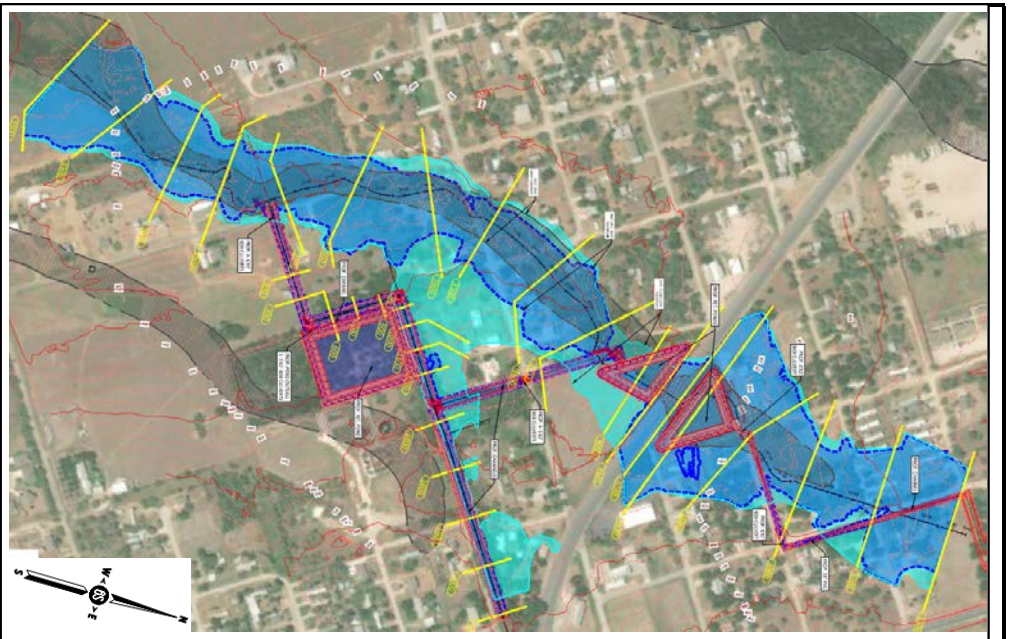
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	2	4	1
Commercial	-	-	-
Critical	-	-	-
Road (miles)	1	1	1
Others Note	N/A	N/A	N/A

Impact Analysis

Analysis	Modeling Software - HEC-RAS
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

The City of Jourdanton has flooding issues in residential areas even during relatively small rainfall events. The majority of the city drains at the surface through streets and roadside ditches, with a few existing culverts, inlets, and storm sewer systems located along State Highways 16 and 97. The project area addressed by these improvements is a relatively flat, low-lying residential area that extends from State Highway 16 to Marion Road and includes two minor tributaries to Goose Creek. The City plans to improve drainage conveyance from this problematic area to reduce the depth and duration of flooding events that impact city residents. The proposed project consists of an earthen drainage channel and some drainage culverts located along roadsides and undeveloped city right-of-way. The proposed channel alignment runs along Cedar, McDowell, and Commerce Streets north of State Highway 97. Three dry retention ponds are also proposed to reduce peak flow rates. These drainage improvements add conveyance and reduce minor flooding however this project will not solve major flooding issues.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Rutledge Hollow Creek Tributary Regional Detention Pond Improvements

FMP ID: 133000006

Project Sponsor: City of Poteet

Project Source: 2022 City of Poteet Drainage Needs

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$105,090
Real Estate	$0
Environmental	$8,728
Construction	$1,017,630
Total Cost**	**$1,132,000**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 10,670,771	$ 10,081,734
10-year storm	$ 17,109,982	$ 16,492,620
100-year storm	$ 26,318,058	$ 25,088,479
Benefits (B)	**$ 4,198,438**	
Cost (C)* **	**$ 1,095,254**	
BCR (B/C)	**3.8**	

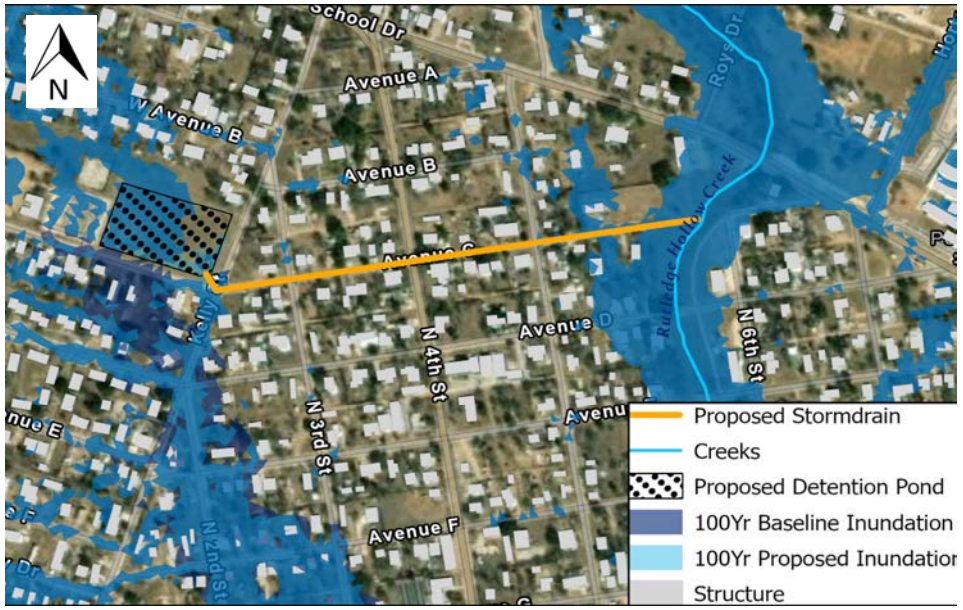
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	9	7	14
Commercial	1	0	3
Critical	-	-	-
Road (miles)	1	1	1
Others Note	N/A	N/A	N/A

Impact Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

The problem area is located in downtown Poteet, where a tributary of Rutledge Hollow Creek floods, stretching to adjacent roadways and structures from School Drive to Avenue J. Flooding is caused by a large quantity of localized drainage flowing to an undersized stormdrain network along 3rd Street between Avenue F and H. In proposed conditions a detention pond with an outfall system was used to mitigate the flooding issues. The placement of the detention pond is located at property owned by the City at corner of Avenue B and Kelly St. The proposed pond has approximately 15 acre-feet of storage. The outlet pipe is 24-inch diameter and it connects the pond to the Rutledge Hollow Creek tributary by passing under Avenue C. The Poteet Drainage Improvements would reduce the amount of stormwater going to the existing stormdrain and reduce the total amount of structures flooded.
Note that for this project the real estate/easement acquisition cost is assumed to be $0 because the proposed detention pond area is owned by the City and would not require any costs to obtain.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: City of Benavides Las Animas Conveyance Infrastructure

FMP ID: 133000007

Project Sponsor: City of Benavides

Project Source: 2022 Duval County Master Plan

Related Goals: 1 - Low Water Crossing

Cost Information

Category	Cost*
Design	$854,750
Real Estate	-
Environmental	-
Construction	$4,359,225
Total Cost**	**$5,214,000**

*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Benefit Cost Analysis (BCA)

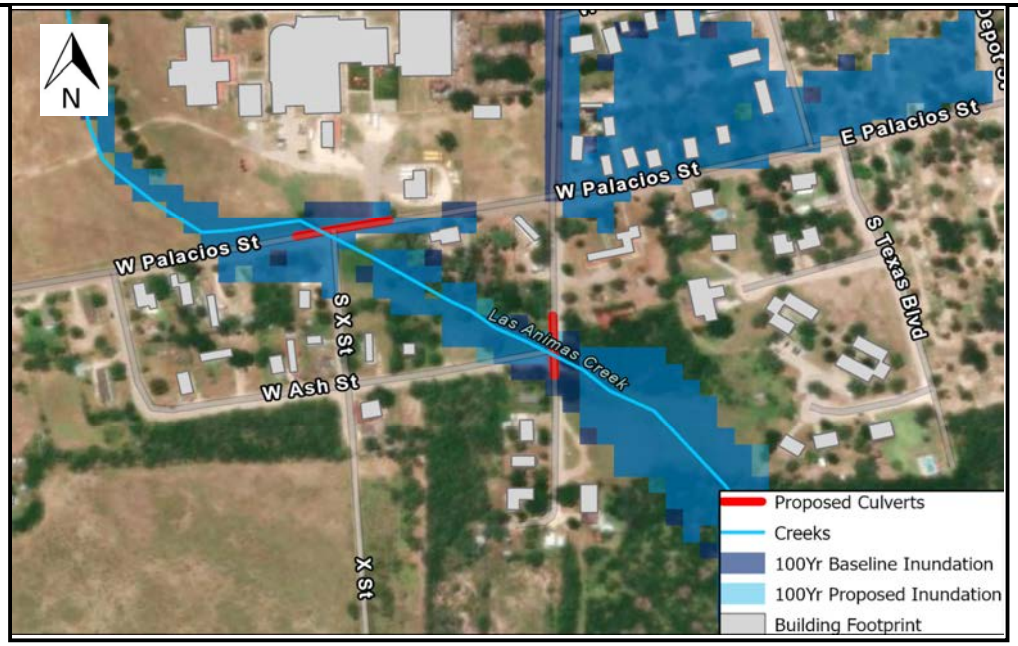
Event Damages	Baseline	Project
2-year storm	$ 107,722	$ -
25-year storm	$ 96,950	$ -
100-year storm	$ 165,461	$ -
Benefits (B)	**$ 742,768**	
Cost (C)* **	**$ 4,900,236**	
BCR (B/C)	**0.2**	

LWC Level of Service Existing Vs. Proposed

Condition	Level of Service	100-Yr Depth Over Road (ft)
Existing	< 10-Yr	2.5 ft
Proposed	>100-Yr	0 ft

Impacts Analysis

Analysis	Modeling Software - PCSWMM v7.4.3240
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

The project area lies at Las Animas Creek in Benevida, TX. This approximately 4,000 linear foot section of creek bed needs to be cleaned, cleared, and regularly maintained. The creek runs through private property, so easements and rights-of-way must be obtained as part of the project. Additionally, the culverts crossing Palacios Street and Benavides Street need to be replaced and upsized to improve conveyance.The proposed project will replace the existing culverts at Palacios Street and the Benavides Street Lift Station with six 5-ft by 3-ft box culverts (two at Palacios Street and four at Benavides Street). This project will occur without any changes to the Benavides Street Lift station and will increase the level of service at these low water crossings.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: City of Benavides Main City Network Storm Drain Improvements

FMP ID: 133000008

Project Sponsor: City of Benavides

Project Source: 2022 Duval County Master Plan

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$1,412,628
Real Estate	-
Environmental	-
Construction	$7,203,916
Total Cost**	**$8,617,000**

*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 930,486	$ 183,442
10-year storm	$ 1,782,048	$ 605,389
100-year storm	$ 3,558,316	$ 1,548,248
Benefits (B)	**$ 6,718,056**	
Cost (C)* **	**$ 8,098,063**	
BCR (B/C)	**0.8**	

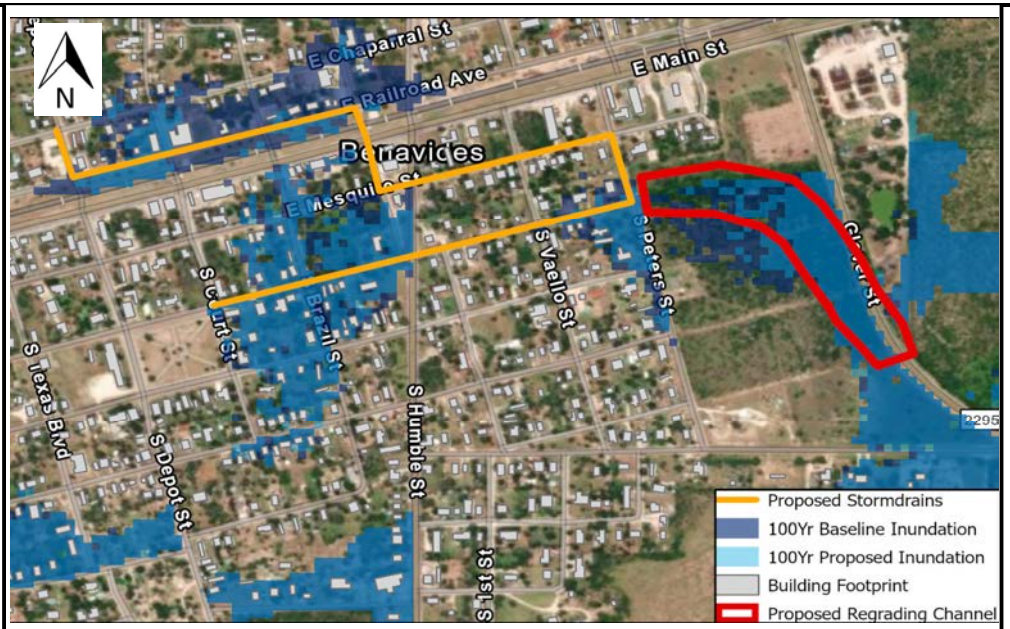
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	11	13	24
Commercial	-	1	1
Critical	-	-	-
Road (miles)	-	-	-
Others Note	N/A	N/A	N/A

Impacts Analysis

Analysis	Modeling Software - PCSWMM v7.4.3240
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

This project involves the storm drain network of Benavides, TX. Approximately 7,900 linear feet of storm drain in the downtown Benavides system needs to be cleaned, expanded, and upsized. The entire subsurface system needs to be upsized and the manholes need to be lowered to provide enough head for the pipes to properly drain. The channel itself needs to be cleared of vegetation, which would also require obtaining easements. The proposed project includes the upsizing of existing storm drain infrastructure along N Depot Street, Chaparral Street, and Mesquite Street, to a 3.5-foot circular pipe, 4-foot circular pipe, and 6.33-foot by 4-foot elliptical pipe respectively. Additionally, the proposed project includes the upsizing of the existing storm drain network along Santa Rose de Lima Street to 3.5-foot circular pipe and then 5.67-foot by 3.583-foot elliptical pipe downstream. Lastly, the proposed project includes the regrading and debris removal of the downstream channel. These improvements will increase the capacity of the Benavides storm drain network and reduce the number of structures flooded upstream.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: CR 1520 / Tehuacana Rd - Drainage Study & PS&E

FMP ID: 133000009

Project Sponsor: Frio County

Project Source: Frio County Road and Bridge Department

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$165,000
Real Estate	-
Environmental	$10,000
Construction	$825,000
Total Cost**	**$1,000,000**

*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 6,083	$ -
25-year storm	$ 60,831	$ 6,083
100-year storm	$ 156,188	$ 121,662
Benefits (B)	**$ 875,238**	
Cost (C)* **	**$ 203,881**	
BCR (B/C)	**4.3**	
BCR (Recreation)	**4.4**	

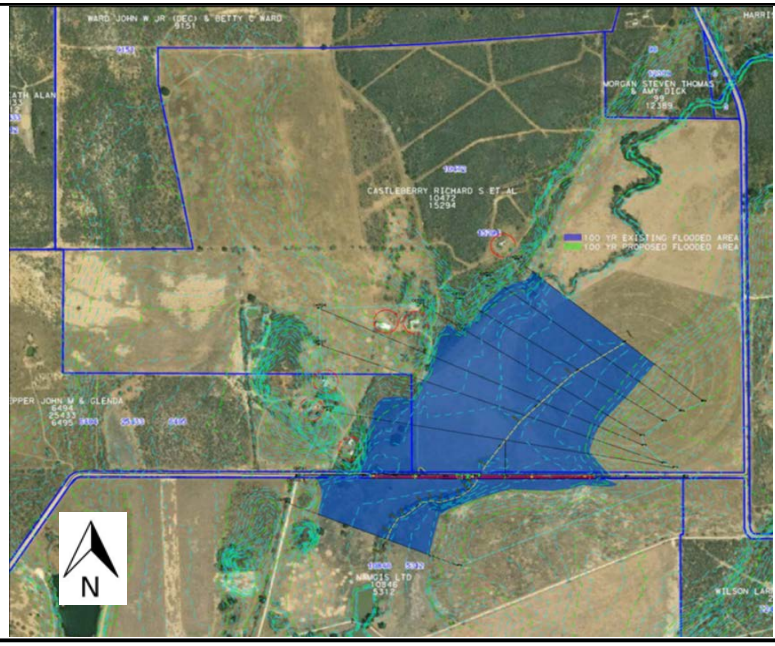
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

LWC Level of Service Existing Vs. Proposed

Condition	Level of Service	100-Yr Depth Over Road (ft)
Existing	<1-Yr	3 ft
Proposed	2-Yr	2 ft

Impacts Analysis

Analysis	Modeling Software - 1D HEC-RAS v5.0.7
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

The existing 36" CMP drainage culvert lacks the hydraulic capacity to convey a 1 year storm frequency peak discharge across CR 1520 leaving the road non-operational during small rain events. Installing a larger crossing culvert in combination with improvements that increase the structures slope and raise the roadway profile will prevent roadway overtopping in the 1 year storm event. The proposed drainage structure consists of multiple reinforced concrete culvlerts using 12-42"x30' pipes (RCP) Proposed roadway is 24' wide and profile is raised approximately 1' within the vicinity of the proposed structure. The proposed solution eliminates roadway overtopping for the 1 year storm frequency and is still passable for the 2 year storm event with no adverse impacts to adjacent properties upstream or downstream for the 100 year storm event.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: FH#1.1 Regional Detention Pond in Davila Street Tributary

FMP ID: 133000010 Master Plan: FH#1 & FH#6

Project Sponsor: City of Pearsall

Project Source: 2022 City of Pearsall Drainage Masterplan Report

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$172,250
Real Estate	$285,140
Environmental	$8,728
Construction	$1,661,985
Total Cost**	**$2,129,000**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 1,075,818	$ 719,706
10-year storm	$ 6,219,366	$ 4,741,150
100-year storm	$ 14,511,907	$ 12,058,223
Benefits (B)	**$ 6,101,054**	
Cost (C)***	**$ 3,758,799**	
BCR (B/C)	**1.7**	

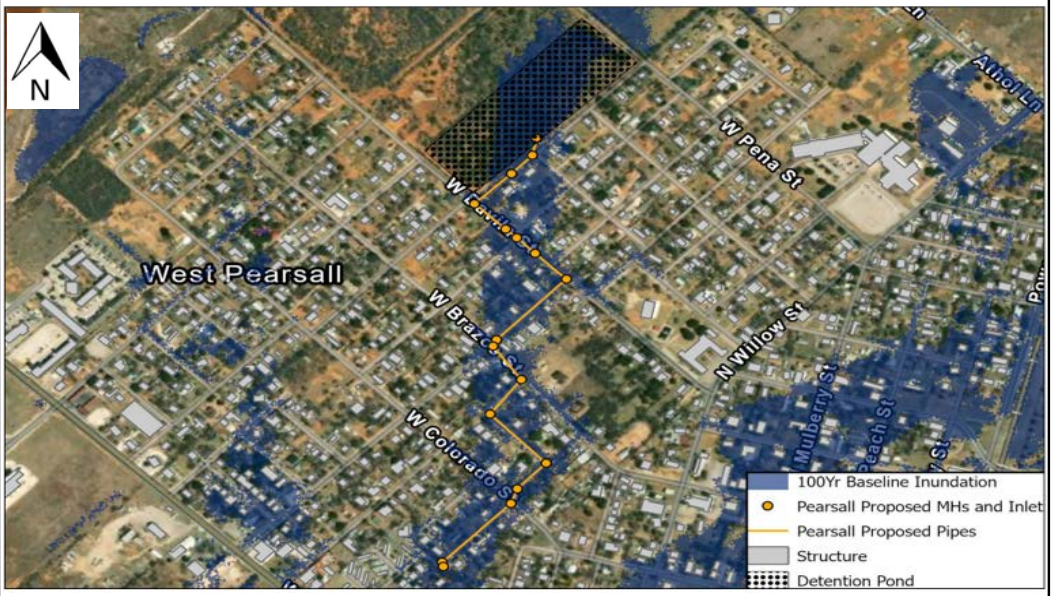
*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	7	25	30
Commercial	0	0	1
Critical	-	-	-
Road (miles)	-	-	-
Others Note	N/A	N/A	N/A

Impact Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

The project proposes a regional detention pond to mitigate the flooding issues. The placement of the detention pond is located on a private property along N Garcia St between W Sanches St and Gonzales St. The pond has approximately 58 acre-feet of storage. The outlet pipe is 2 feet in diameter and outfalls to the drainage ditch to the culvert under W Comal St. The outlet pipe runs from the pond down N Garcia St to S Puente St and discharges to the drainage ditch.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: FH#2.1: Storm Sewer Bypass Improvements in Trinity St Tributary from Trinity St to Radio Rd

FMP ID: 133000011 Master Plan: FH#2

Project Sponsor: City of Pearsall

Project Source: 2022 City of Pearsall Drainage Masterplan Report

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$825,419
Real Estate	$0
Environmental	$8,728
Construction	$7,889,005
Total Cost**	**$8,724,000**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 1,075,818	$ 1,025,240
10-year storm	$ 6,219,366	$ 6,116,514
100-year storm	$ 14,511,907	$ 14,429,581
Benefits (B)	**$ 537,721**	
Cost (C)* **	**$ 8,444,112**	
BCR (B/C)	**0.1**	

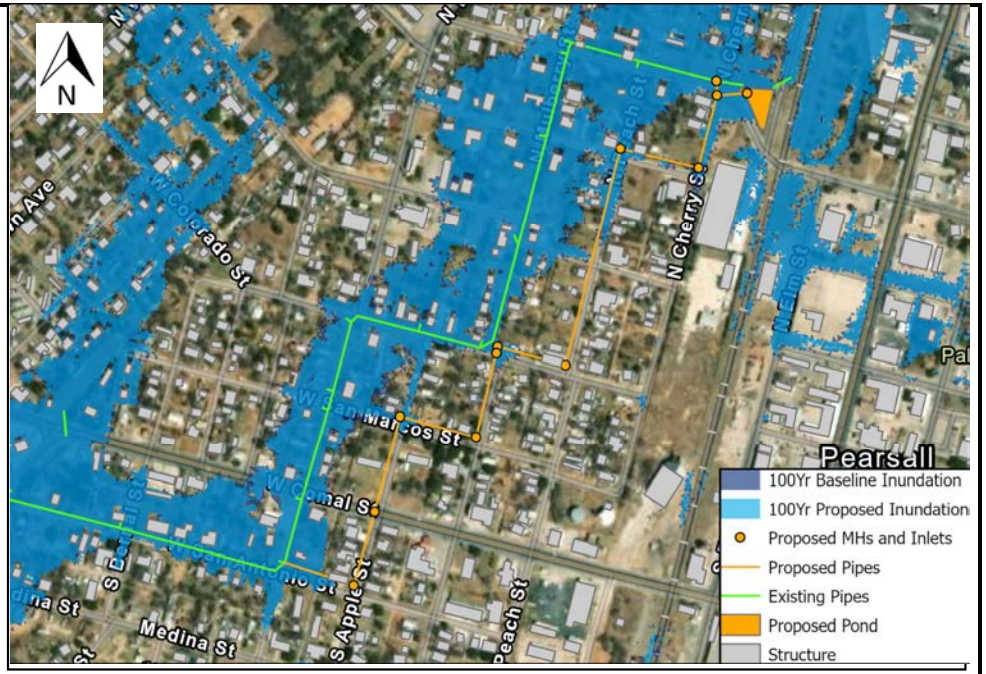
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	1	1	1
Commercial	0	0	0
Critical	-	-	-
Road (miles)	-	-	-
Others Note	N/A	N/A	N/A

Impact Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

In proposed conditions a relief storm sewer is added in parallel streets to the existing storm sewer. The storm sewer varies in size from twin 6x5 RBC to twin 7x6 RBC. The relief storm sewer runs from an added small detention pond that acts as an inlet for the storm sewer at W Trinity and Power Plant Rd connecting the existing 5x4 RBC and new inlet to the twin 7-8 RBC in W San Antonio St.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: FH#2.2: Detention Ponds in the Pearsall High School Grounds

FMP ID: 133000012

Project Sponsor: City of Pearsall

Project Source: 2022 City of Pearsall Drainage Masterplan Report

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$69,964
Real Estate	$399,388
Environmental	$8,728
Construction	$683,997
Total Cost**	**$1,163,000**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 1,075,818	$ 1,077,768
10-year storm	$ 6,219,366	$ 6,085,495
100-year storm	$ 14,511,907	$ 13,858,653
Benefits (B)	**$ 562,254**	
Cost (C)***	**$ 1,124,904**	
BCA	**0.5**	

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

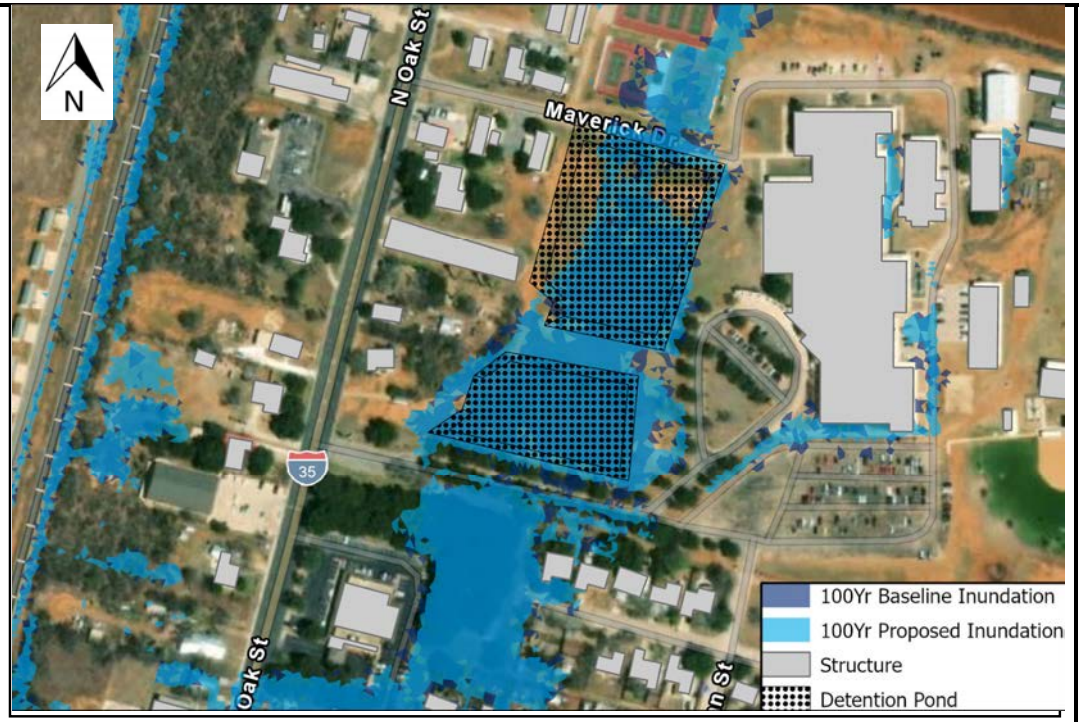
***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	1	7
Commercial	0	0	1
Critical	-	-	-
Road (miles)	-	-	-
Others Note	N/A	N/A	N/A

Impact Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

This project proposes a series of detention ponds to mitigate the flooding issues. The proposed detention ponds are placed on Pearsall High School property in a low lying flood prone area. The ponds have approximately 11 acre-feet of combined storage. The outlet pipes are twin 18-inch diameter. There are two ponds in series with the upper pond discharging to the lower pond and the lower pond discharging to a ditch south of Maverick Drive.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: FH#3.1: Extension of the improvements to the open channel along FM 1581

FMP ID: 133000013

Project Sponsor: City of Pearsall

Project Source: 2022 City of Pearsall Drainage Masterplan Report

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$204,963
Real Estate	$0
Environmental	$8,728
Construction	$2,044,223
Total Cost**	**$2,258,000**

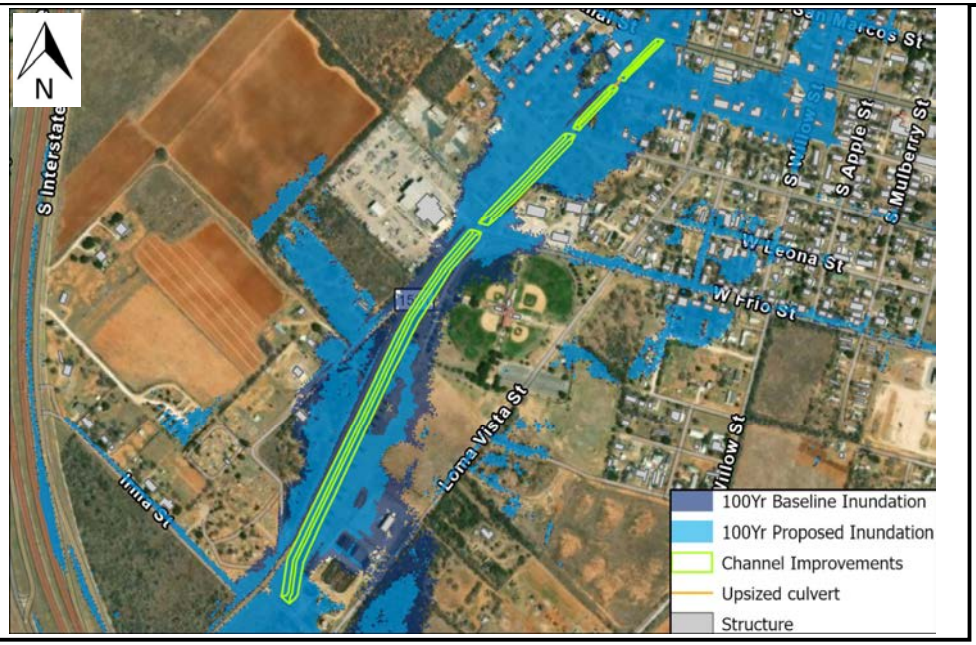
*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 1,075,818	$ 1,025,240
10-year storm	$ 6,219,366	$ 6,344,761
100-year storm	$ 14,511,907	$ 14,368,368
Benefits (B)	**$ 646,089**	
Cost (C)* **	**$ 2,185,688**	
BCR (B/C)	**0.3**	

***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.



Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	1	1	1
Commercial	0	0	1
Critical	-	-	-
Road (miles)			
Others Note	N/A	N/A	N/A

Impacts Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)

Project Description:

In proposed conditions the open channel along 1581 is improved and widened. The culvert at W San Antonio is replaced with a 36-inch RCP.
Note this project reduces flooding at the Pearsall Wastewater Treatment Plant and allows for unflooded access to the facility.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Downtown Crystal City Regional Detention Pond Improvements

FMP ID: 133000014

Project Sponsor: Crystal City

Project Source: 11/03/2022 Meeting with Crystal City City Manager and City Planner

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$245,252
Real Estate	$346,278
Environmental	$8,728
Construction	$2,405,185
Total Cost**	**$3,006,000**

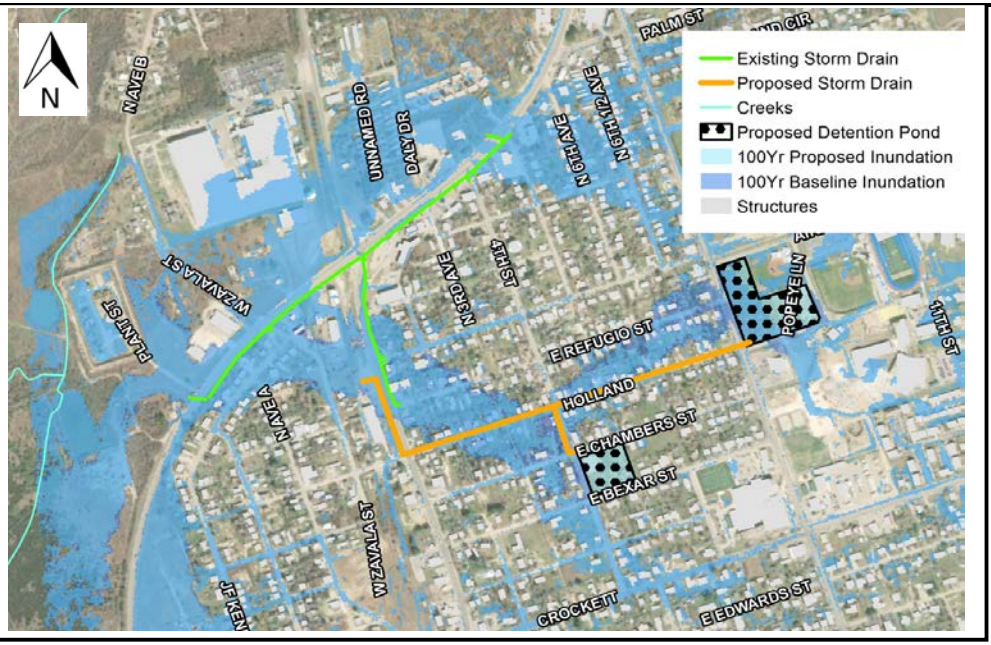
*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 7,545,196	$ 4,638,115
10-year storm	$ 11,785,581	$ 7,645,986
25-year storm	$ 14,512,325	$ 9,435,753
100-year storm	$ 18,250,447	$ 11,985,521
Benefits (B)	**$ 23,538,214**	
Cost (C)* **	**$ 2,909,304**	
BCR (B/C)	**8.1**	

***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.



Project Benefits

Post-Project Total Removed	Storm Event			
	2-year	10-year	25-year	100-year
Residential	45	64	77	93
Commercial	0	0	1	1
Critical	-	-	-	-
Road (miles)				
Others Note	N/A	N/A	N/A	N/A

Impacts Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)

Project Description:

The project area is located in downtown Crystal City, in the area of flooding stretching from US Highway 83 east to FM 1433 road and south to E Val Verde Street. Flooding is caused by a large quantity of local drainage flowing into an inadequate storm drain network. In proposed conditions, two detention ponds and a 24" outfall system was used to mitigate the flooding issues. One detention pond is located at the corner of N 7th Ave and Popeye Ln and i. The proposed detention iss approximately 8 feet deep with 25 acre-feet of storage. The placement of this detention pond is located on what is assumed to be public school property and would most likely require property acquisition. The other pond is located at the city-owned Bexar Park, between E Bexar St. and E Chambers St, alongside N 4th St. Acquisition costs for this property were not included in the estimate. The proposed detention pond is approximately 10 feet deep with 17.5 acre-feet of storage. The outlet pipe is 24" in diameter and 3,500 feet long. The outlet pipe runs along E Holland St, N 4th St, and turns north at N 1st St, and outfalls west of the intersection between N 1st St and E Jackson St. The Crystal City Drainage Improvements (the Project) would reduce the amount of stormwater going into the existing pipes and reduce the total amount of structures flooded.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: FH#1.2: Burnt Boot Creek Maximum Channel Conveyance

FMP ID: 133000015

Project Sponsor: City of Devine

Project Source: 2023 City of Devine Drainage Needs

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$1,040,288
Real Estate	$1,051,343
Environmental	$52,367
Construction	$10,490,524
Total Cost**	**$12,635,000**

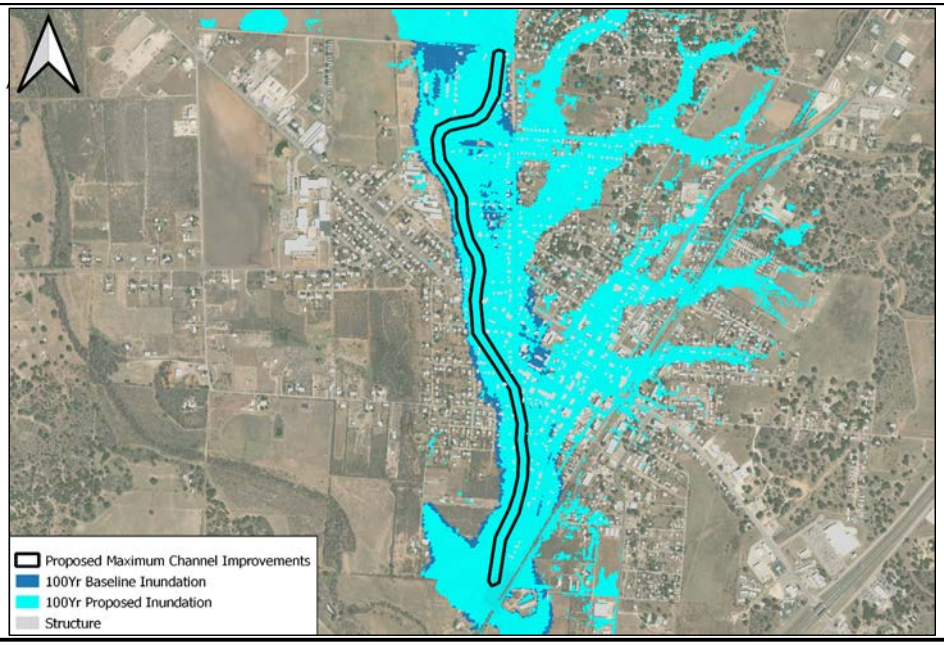
*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
2-year storm	$ 15,704,893	$ 14,405,301
10-year storm	$ 24,182,770	$ 20,691,577
100-year storm	$ 37,159,683	$ 30,318,440
Benefits (B)	**$ 6,502,685**	
Cost (C)* **	**$ 12,635,000**	
BCR (B/C)	**0.5**	



Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	18	35	61
Commercial	0	9	13
Critical	-	-	-
Road (miles)	-	-	-
Others Note	N/A	N/A	N/A

Impacts Analysis

Analysis	Modeling Software - InfoWorks ICM
Conclusion	No negative impacts from FMP (per TWDB requirements)

Project Description:

Burnt Boot Creek Maximum Channel Conveyance proposes maximizing the available full width and length of the Burnt Boot Creek from Route 132 to Colonial Parkway. The total length of the channel conveyance improvements would be approximately 9,000 feet in length, 120 feet in width, and approximately 6-9 feet deep depending on location. This channel would be approximately double the proposed length of the proposed Garcia & Wright Engineering channel. This proposed channel would extend from Route 132 (downstream extents) to Colonial Parkway (upstream extents). New bridges would be installed at Fay, Hondo, and Zig Zag Avenues. Low Water Crossings at Mesquite, Brown, McAnnelly, and Howell Avenues would be demolished and abandoned. Project could have Section 404 permit risks.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Kinney St. Pump Station Inlet Modifications

FMP ID: 133000016

Project Sponsor: City of Corpus Christi

Project Source: Provided by Stakeholder

Related Goals: 5 – Structural Inundations

Cost Information

Category	Cost*
Design	$79,000
Real Estate	$0
Environmental	$0
Construction	$421,000
Total Cost**	**$500,000**

*Costs Adjusted to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

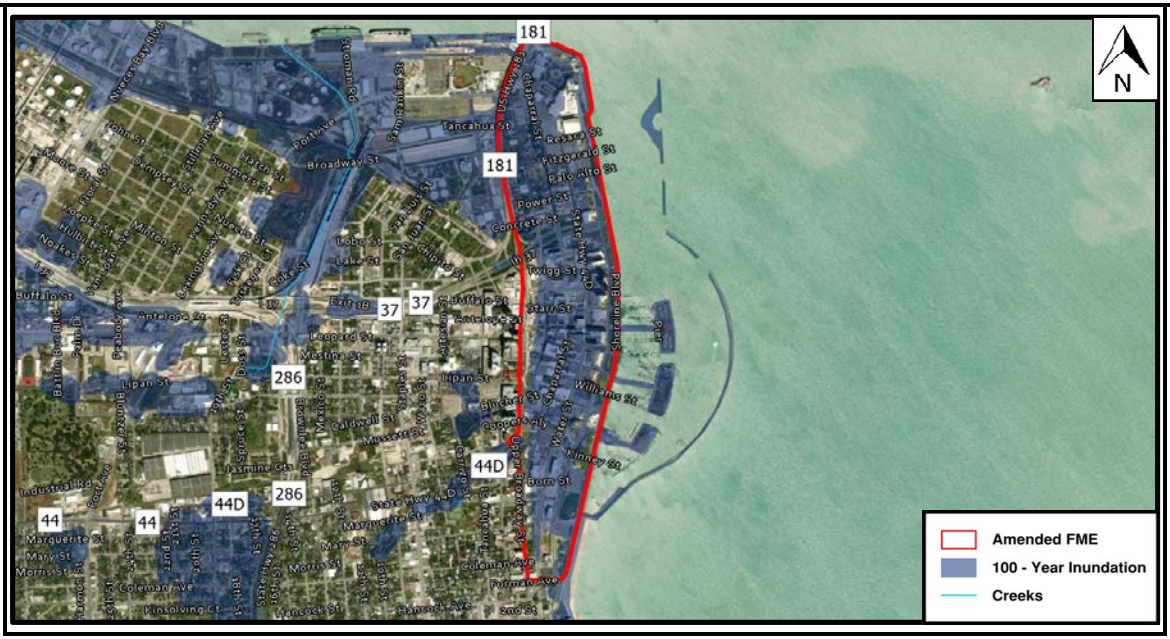
Damages	Baseline	Project
2-year storm	$ -	$ -
10-year storm	$ -	$ -
100-year storm	$ 170,983	$ 119,333
Total Benefits	**$ 6,415**	
BCA	**0.013**	

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	0	0
Commercial	0	0	0
Critical	0	0	0
Road (miles)	-	-	-
Others Note	0	0	0

Impact Analysis

Analysis	Modeling Software - XPSWMM
Conclusion	Potential Negative Impacts noted. Negative Impacts determined to be addressable during final design.



Project Description:

It is recommended that modifications be made to increase the size and capacity of the inlet to the Kinney Street Pump Station to improve its hydraulic efficiency. Based on modeling results, a small improvement in Water Surface Elevation (WSE) is anticipated within the benefit area.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Power St. Pump Station Improvements

FMP ID: 133000017

Project Sponsor: City of Corpus Christi

Project Source: Provided by Stakeholder

Related Goals: 5 – Structural Inundations

Cost Information

Category	Cost*
Design	$131,000
Real Estate	$0
Environmental	$0
Construction	$744,000
Total Cost**	**$875,000**

Benefit Cost Analysis (BCA)

Damages	Baseline	Project
2-year storm	$ -	$ -
10-year storm	$ -	$ -
100-year storm	$ 1,006,947	$ 970,558
Total Benefits	**$ 4,517**	
BCA	**0.005**	

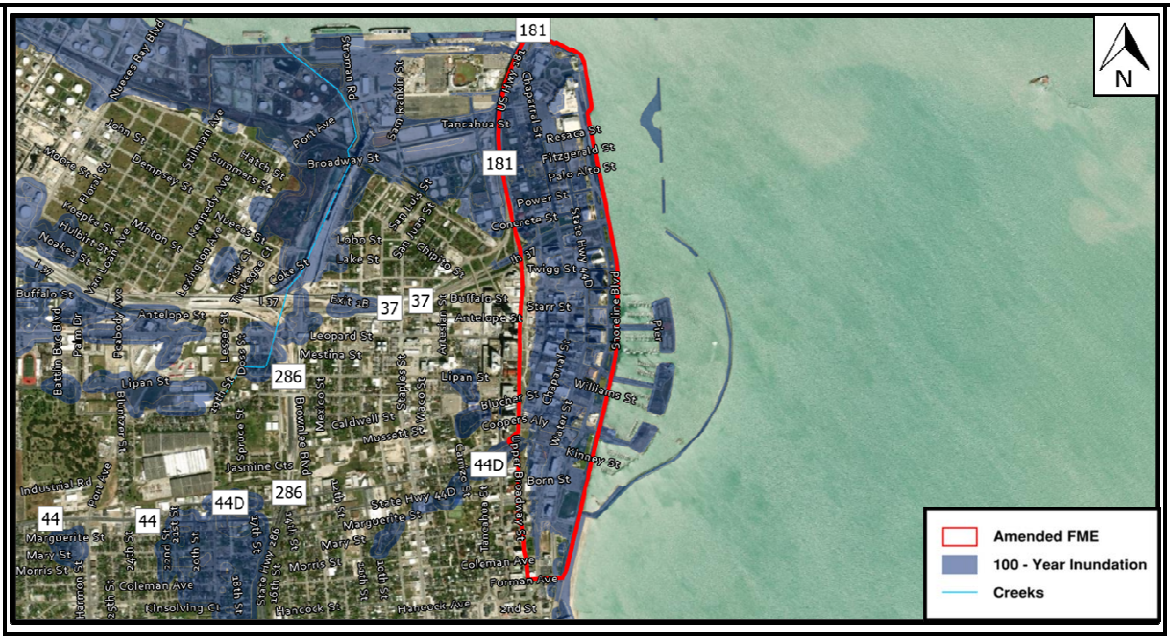
*Costs Adjusted to 2020 using CCI
**Rounded up to the nearest thousand

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	0	0
Commercial	0	0	0
Critical	0	0	0
Road (miles)	-	-	-
Others Note	0	0	0

Impact Analysis

Analysis	Modeling Software - XPSWMM
Conclusion	Potential Negative Impacts noted. Negative Impacts determined to be addressable during final design.



Project Description:

Improvements to the inlet of Power Street Power Station will improve upstream drainage throughout the basin. It is proposed to widen the inlet as much as possible to reduce head loss at the Power Station Inlet. Based on modeling results, a small improvement in Water Surface Elevation (WSE) is anticipated within the benefit area.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 06 - Agua Dulce

FMP ID: 133000018

Project Sponsor: City of Agua Dulce

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$8,473,000
Real Estate	$5,268,000
Environmental	
Construction	$79,738,760
Total Cost**	**$93,479,760**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
25-year storm	$ 16,667,562	$ 7,064,956
100-year storm	$ 20,011,288	$ 13,740,766
Total Benefits	**$ 3,910,883**	
BCA	**0.083**	

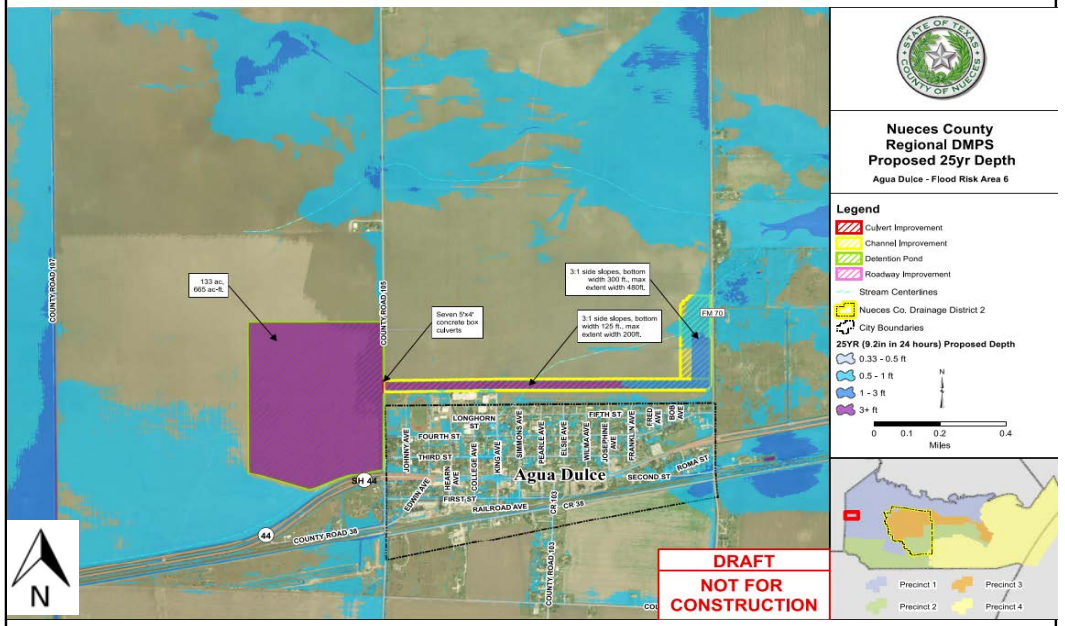
*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	76	39	
Commercial	15	2	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	Water surface elevation rasters were compared for existing conditions and post-project conditions models. Analysis showed only three areas, all of which were in undeveloped fields far from structures. These areas of increased WSE are negligible, not near any structures or infrastructure, wholly contained within the limits of their associated floodplain limits, and likely due to the modeling complexities. As such, it is the engineer's judgement that no adverse impacts are associated with this proposed project as modeled.



Project Description:

The proposed design includes a detention pond and channel improvements. The proposed pond has a footprint of approximately 133 acres with an average depth of 5 feet. The proposed channel (125 ft. bottom width, 3:1 side slopes) has a length of approximately 5,200 feet. The proposed channel then widens (300 ft. bottom width, 3:1 side slopes) for a length of 1,474 length before daylighting.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 05 - Banquete

FMP ID: 133000019

Project Sponsor: City of Banquete

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$5,864,000
Real Estate	$4,690,000
Environmental	
Construction	$54,139,200
Total Cost**	**$64,693,200**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

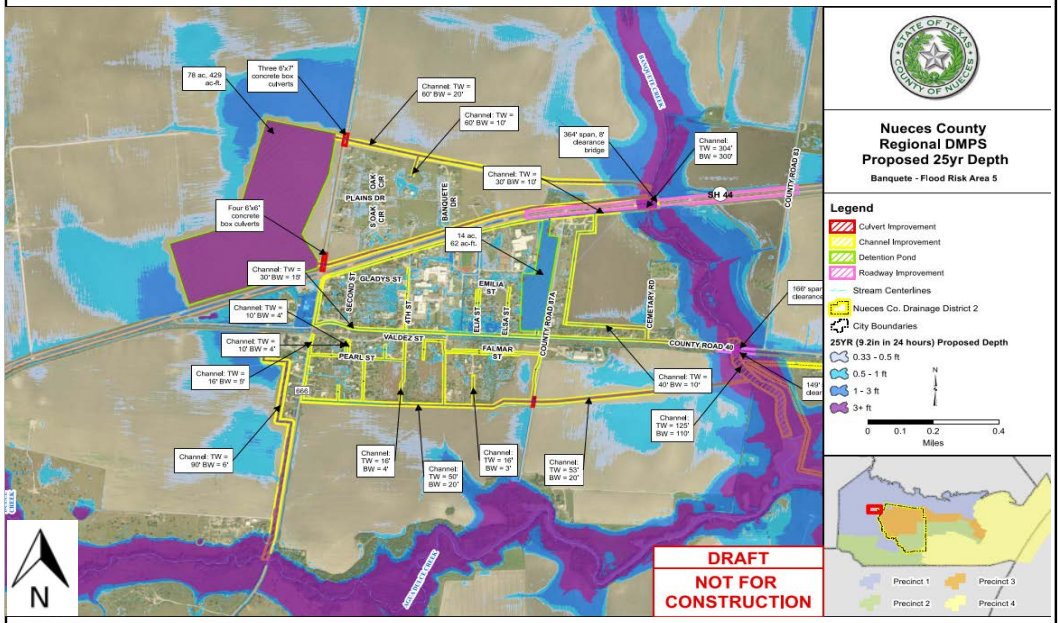
Event Damages	Baseline	Project
25-year storm	$ 14,152,312	$ 6,781,686
100-year storm	$ 18,217,288	$ 9,333,796
Total Benefits	**$ 4,117,965**	
BCA	**0.116**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	71	74	
Commercial	9	12	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	Water surface elevation rasters were compared for existing conditions and post-project conditions models. Analysis showed only two areas, both of which were in undeveloped fields far from structures. The increases were also shown as "islands" of disconnected floodplains, and can likely be attributed to irregular cell shapes and sizes caused by the creation of adjacent breaklines within the model. As such, it is the engineer's judgement that no adverse impacts are associated with this proposed project as modeled.



Project Description:

The proposed alternative consists of two detention facilities, multiple culvert and bridge crossing improvements, and various proposed channel improvements. To improve flooding conditions in the northern section of Banquete, the SH 44 bridge crossing Banquete Creek is proposed to be lengthened. To improve the flooding conditions in the central section of Banquete, the County Road 40 bridge that crosses Banquete Creek is proposed to be lengthened from 112 to 166 feet to reduce flow restriction which was resulting in backwater flow in the central section of Banquete.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 07 - La Paloma Ranch

FMP ID: 133000020

Project Sponsor: City of Bishop

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$2,088,000
Real Estate	$564,000
Environmental	
Construction	$20,379,510
Total Cost**	**$23,031,510**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

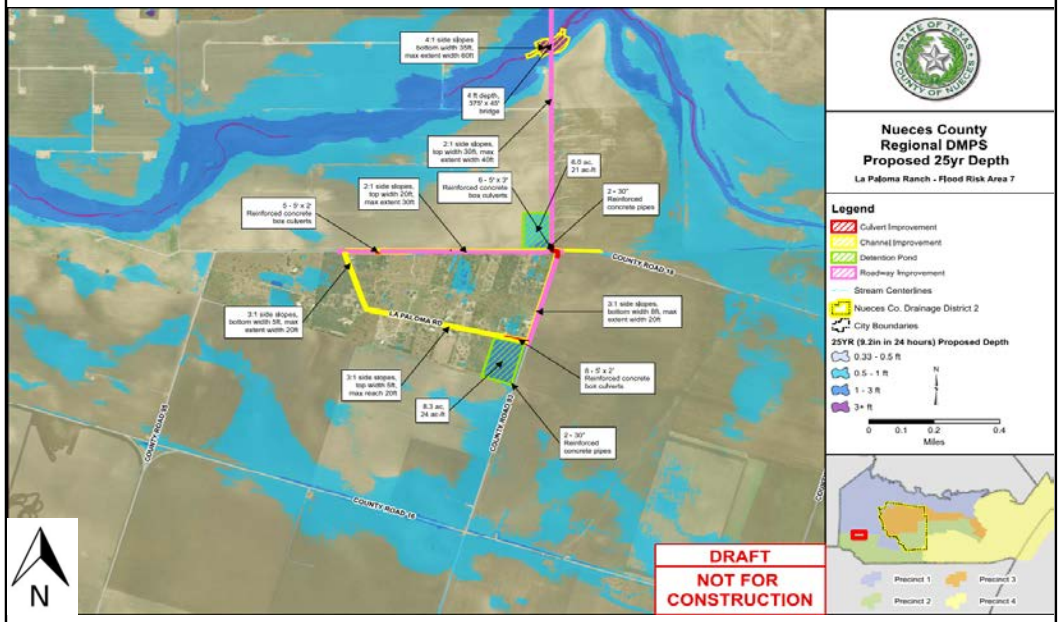
Event Damages	Baseline	Project
25-year storm	$ 771,391	$ 766,465
100-year storm	$ 1,084,582	$ 913,725
Total Benefits	**$ 50,170**	
BCA	**0.006**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	0	2	
Commercial	0	0	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	Water surface elevation rasters were compared for existing conditions and post-project conditions models. Analysis showed only two areas with minimal increased flood depths, both of which were in undeveloped fields far from structures. These areas of increased WSE are negligible, not near any structures or infrastructure, wholly contained within the limits of their associated floodplain limits, and likely due to the modeling complexities. As such, it is the engineer's judgement that no adverse impacts are associated with this proposed project as modeled.



Project Description:

There is significant ponding at the intersection of La Paloma and County Road (CR) 18 and a buried culvert at intersection of La Paloma and CR 93. Further north along CR 93, flow overtops the road cutting off the main route that connects La Paloma with FM 665. The proposed solution consists of a bridge, culverts, several ditch/channel improvements and two detention ponds. The roadways were elevated by 2 ft, and 1.5 ft of the channel was excavated and widened. Channel improvements were made along the boundaries of the residential area, providing preferential flow paths around existing homes. Culvert structures were also proposed along the residential area to ensure a constant flow within the ditches. Two detention ponds were proposed in order to prevent any adverse impact within the project area while also managing the flow to ensure the roads are not overtopped by flood waters.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 26 - Balchuck Ln & Digger Ln Improvements

FMP ID: 133000021

Project Sponsor: City of Corpus Christi

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$1,737,000
Real Estate	$609,000
Environmental	
Construction	$16,814,010
Total Cost**	**$19,160,010**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

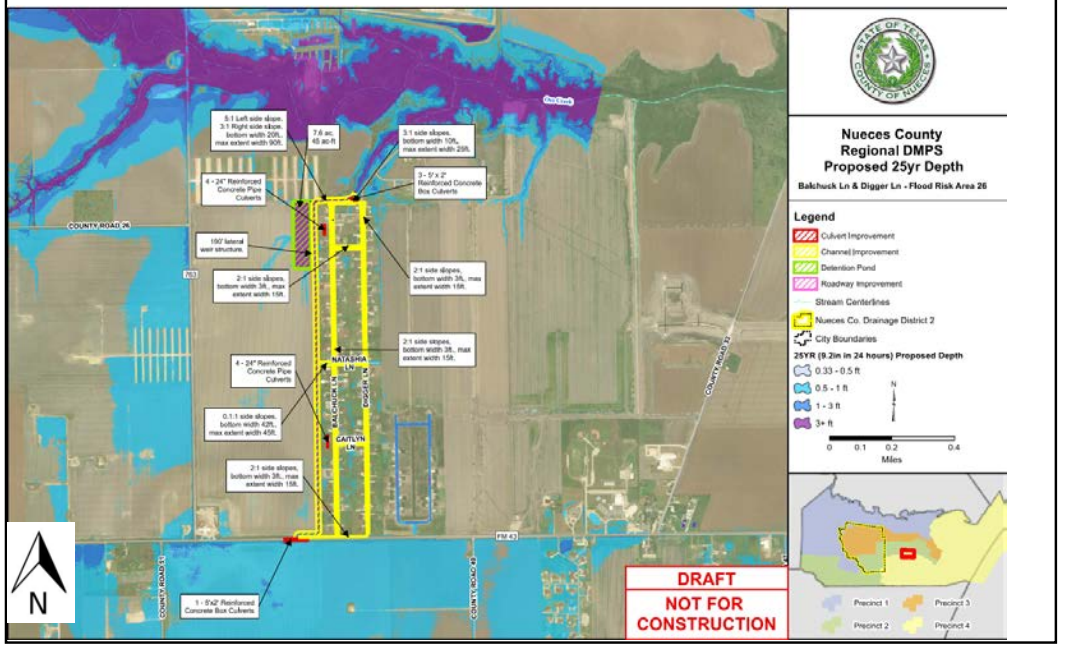
Event Damages	Baseline	Project
25-year storm	$ 4,060,741	$ 3,029,619
100-year storm	$ 7,893,219	$ 5,178,853
Total Benefits	**$ 969,829**	
BCA	**0.072**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	7	18	
Commercial	0	0	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	The proposed alternative was analyzed for the 25-year and 100-year events. Floodplain inundation extents are not increased over existing infrastructure such as residential and commercial buildings and structures. Outside of proposed project limits, no adverse depths greater than 0.3-feet were observed with the addition of the proposed project. The proposed project is assumed to have no negative impact.



Project Description:

Existing area shows multiple drainage issues due to recent development and runoff from nearby streams causing flooding in the residential areas. The proposed solution consists of ditch, channel, and culvert improvements as well as a detention pond. Proposed structures include storm drain improvement made along Balchuck Lane, including grate inlets to be installed at two locations with outfalls to the proposed channel west of the residential area. Channel improvements are proposed within and to the west of the residential home area. Channel improvements are also proposed within the channel leading into Oso creek for better flow conveyance. The proposed detention pond is approximately 7.57 acres in area with a max depth of 6 ft. The pond includes a proposed inflow weir from the adjacent channel and residential area to the proposed 20-ft wide detention facility.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 27 - Nottingham Acres

FMP ID: 133000022

Project Sponsor: City of Corpus Christi

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$4,454,000
Real Estate	$5,999,000
Environmental	
Construction	$38,681,990
Total Cost**	**$49,134,990**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

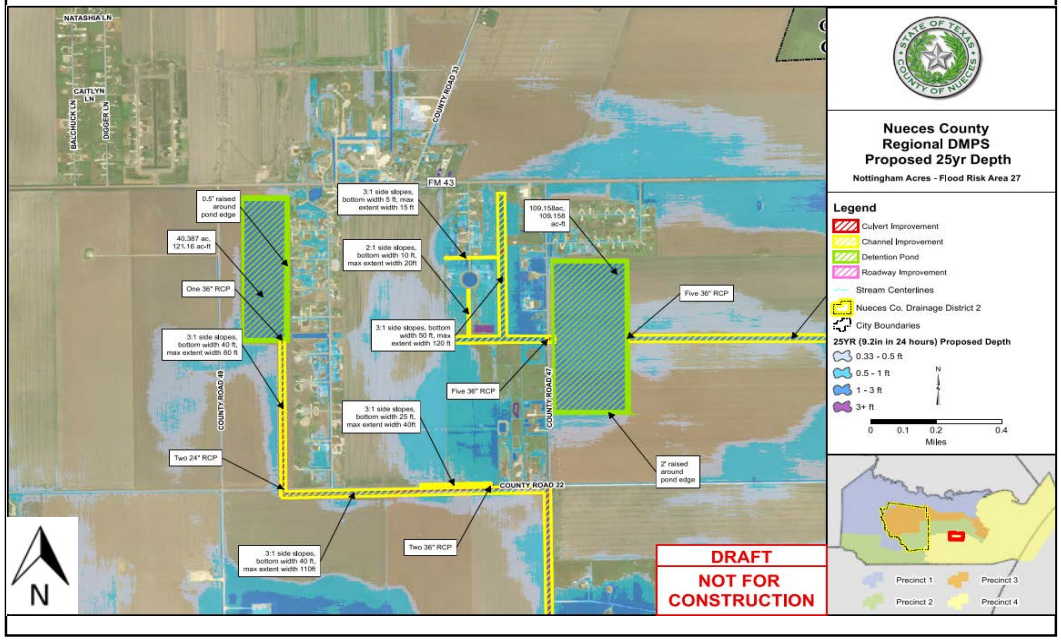
Event Damages	Baseline	Project
25-year storm	$ 9,018,289	$ 5,724,843
100-year storm	$ 10,834,022	$ 8,276,585
Total Benefits	**$ 1,434,572**	
BCA	**0.058**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	13	13	
Commercial	3	0	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	The proposed alternative was analyzed for the 100-year event. Floodplain inundation extents are not increased over existing infrastructure such as residential and commercial buildings and structures. Outside of proposed project limits, the analysis results in three locations where water surface elevations are increased by more than 0.3-feet, all of which are located in rural or open field areas. These areas are all inundated during existing conditions and the proposed projects do not increase the inundated flooding extents. The volume of the adverse depth could be further mitigated and added to the proposed channel during project detail design. For planning level design, the proposed project is assumed to have no negative impact.



Project Description:

In existing conditions, Loxley Drive floods due to flows from the open field west of the neighborhood the open field W of the neighborhood and have limited existing drainage infrastructure. Runoff flows east and ponds due to existing terrain. The proposed project includes two detention ponds and channel improvements. The west detention pond covers 40.3 acres with a provided storage of 121 acre-feet. The proposed east detention pond covers 109 acres and provides 109 acre-feet of storage. Improvements include proposed channels within residential area to provide conveyance to detention ponds, as well as channels providing conveyance to Oso Creek Tributary #5 (London Ditch) to the south and east of the project area.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 28 - South Prairie Estates

FMP ID: 133000023

Project Sponsor: City of Corpus Christi

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$3,129,000
Real Estate	$2,010,000
Environmental	
Construction	$29,376,510
Total Cost**	**$34,515,510**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

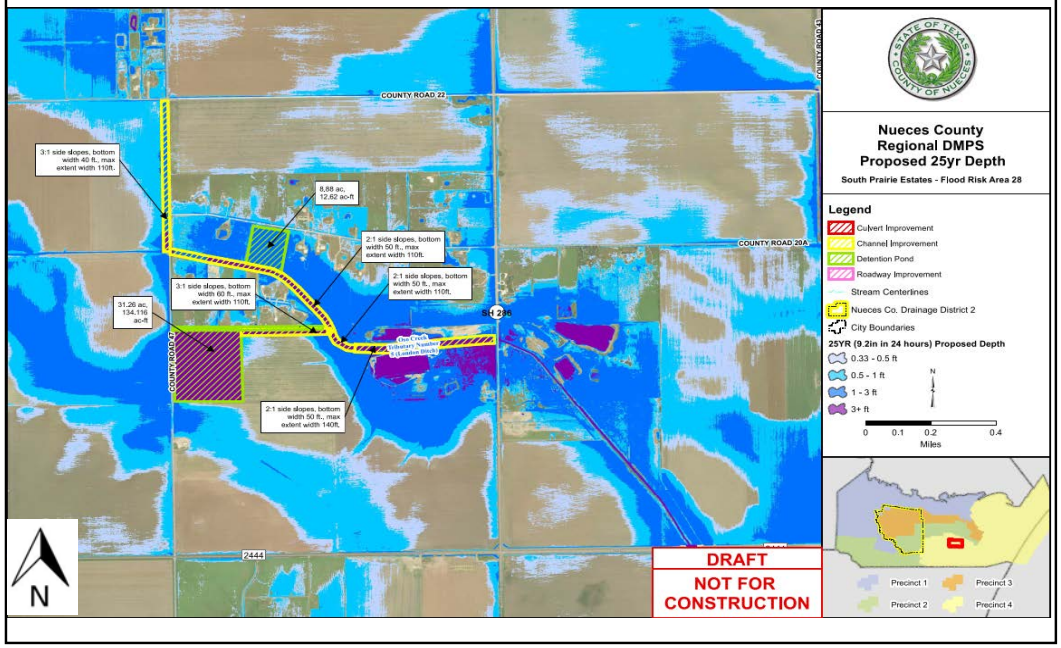
Event Damages	Baseline	Project
25-year storm	$ 2,610,806	$ 2,269,235
100-year storm	$ 4,076,991	$ 3,472,403
Total Benefits	**$ 1,434,572**	
BCA	**0.016**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	1	4	
Commercial	0	0	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	The proposed alternative was analyzed for the 25-year and 100-year events. Floodplain inundation extents are not increased over existing infrastructure such as residential and commercial buildings and structures. Outside of proposed project limits, no adverse depths greater than 0.3-feet were observed with the addition of the proposed project. The proposed project is assumed to have no negative impact.



Project Description:

Existing conditions flood results show S Prairie Rd and Rabbit Run are inundated by runoff from surrounding areas. The proposed project comprises two detention ponds and channel improvements. Channel widening improvements are proposed along Oso Creek Tributary Number 5 (London Ditch) through the risk area from the existing culvert crossing at County Road 47 through the quarry and to the existing culvert crossing at TX-286. A 31.3 acre detention pond to the south of the Rabbit Run residences is proposed to mitigate flooding from the south (Unnamed Tributary 2 to Oso Creek Tributary Number 5). The second proposed detention pond covers 8.9 acres located inside the perimeter of an empty parcel of land along South Prairie Road north of the widened main channel.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 19 - Driscoll

FMP ID: 133000024

Project Sponsor: City of Driscoll

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$6,704,000
Real Estate	$1,462,000
Environmental	
Construction	$65,799,660
Total Cost**	**$73,965,660**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
25-year storm	$ 19,111,549	$ 16,243,728
100-year storm	$ 27,671,809	$ 22,380,728
Total Benefits	**$ 2,119,539**	
BCA	**0.053**	

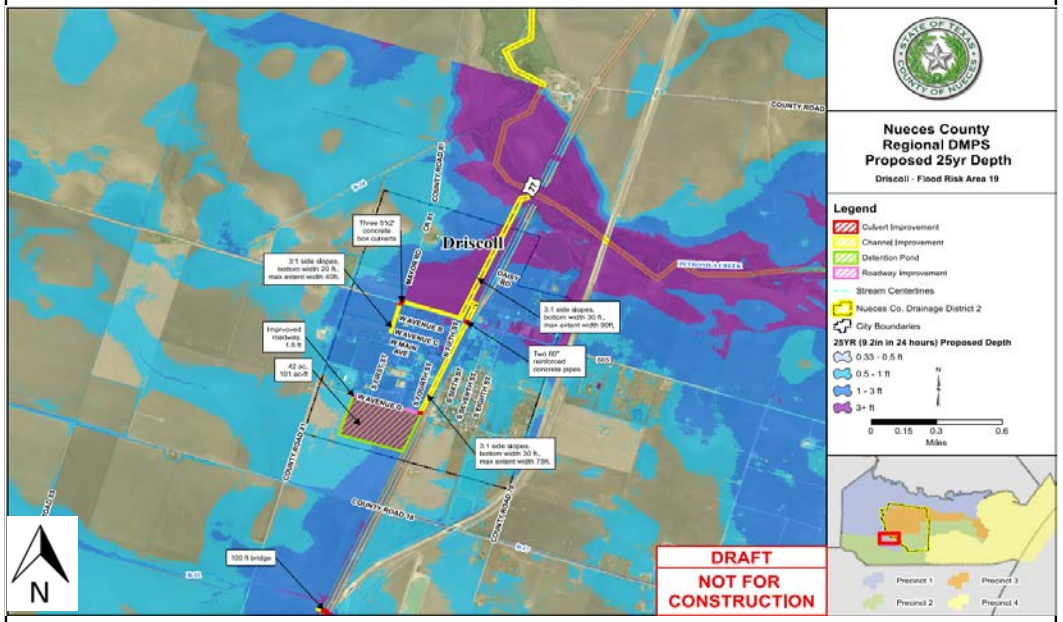
*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	11	42	
Commercial	5	28	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	The proposed alternative was analyzed for the 25-year and 100-year events. Floodplain inundation extents are not increased over existing infrastructure such as residential and commercial buildings and structures. Outside of proposed project limits, no adverse depths greater than 0.3-feet were observed with the addition of the proposed project. The proposed project is assumed to have no negative impact.



Project Description:

In existing conditions, storm water runoff flows from Driscoll from south to north toward Petronila Creek. However, Petronila Creek eventually flows north to south through Driscoll at peak flows. Flow from Petronila splits with a portion going W around Driscoll and another portion through Driscoll heading E over Highway 77. Four large culvert improvements and three bridges are proposed within the Highway 77/Union Pacific Railroad system to allow water to pass. To further control excess flooding running from south to north along Highway 77, a 103 acre-foot detention pond is proposed just south of West Avenue G. Additionally, two large channel improvements are proposed alongside the culvert improvements on Highway 77. A smaller channel (30 ft bottom width, 3:1 side slopes) is proposed at the 110 ft bridge improvement and eventually connects to a larger channel (90 ft bottom width, 3:1 side slopes) that outfalls into Petronila Creek.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 11 - Callicoate Farms

FMP ID: 133000025

Project Sponsor: City of Robstown

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$549,000
Real Estate	$244,000
Environmental	
Construction	$5,263,940
Total Cost**	**$6,056,940**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

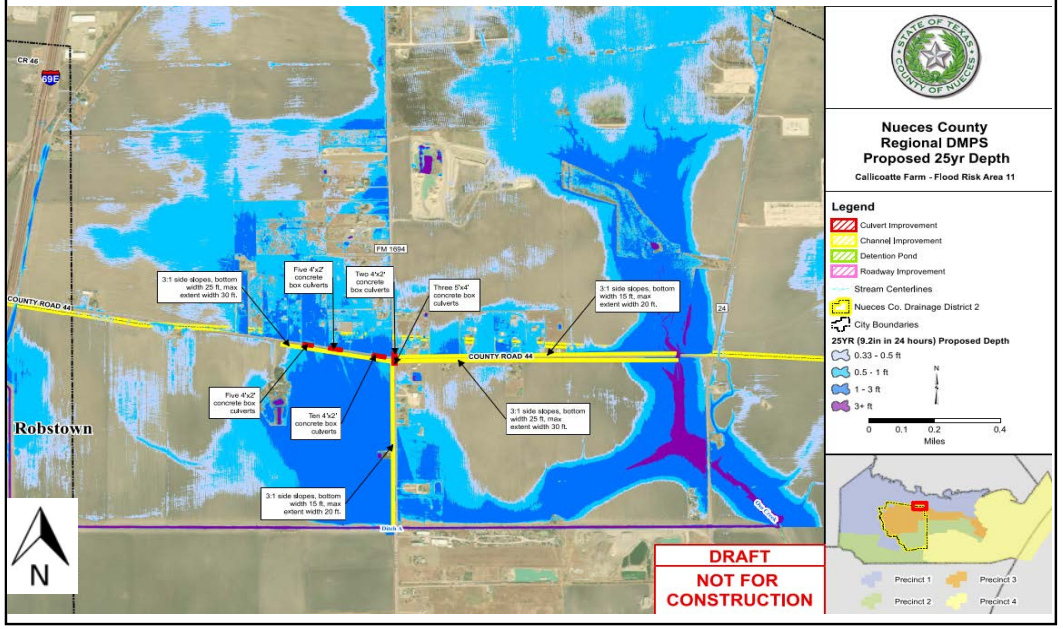
Event Damages	Baseline	Project
25-year storm	$ 3,785,165	$ 3,578,559
100-year storm	$ 4,757,467	$ 4,505,981
Total Benefits	**$ 2,022,636**	
BCA	**0.035**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	1	2	
Commercial			
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	The proposed alternative was analyzed for the 100-year event. Floodplain inundation extents are not increased over existing infrastructure such as residential and commercial buildings and structures. Outside of proposed project limits, the analysis results in two locations where water surface elevations are increased by more than 0.3-feet, all of which are located in areas already inundated. These adverse depths do not increase the flooding inundation footprint. These small locations are located near the proposed channel. The volume of the adverse depth could be further mitigated and added to the proposed channel during project detail design. For planning level design, the proposed project is assumed to have no negative impact.



Project Description:

The proposed design consists of a series of culvert improvements, and a network of local drainage ditches/channels to allow ease of drainage in the Callicoatte Farms risk area. A channel (15ft. bottom width, 3:1 side slopes) was proposed east of FM1694 and following along the north side of County Road (CR) 44. A second channel (25 ft. bottom width, 3:1 side slopes) was proposed on the south side ofCR 44. A third channel (15 ft. bottom width, 3:1 side slopes) was proposed south of CR 44 running south alongside FM 1694 and tying into Ditch A. In addition to the proposed channels, a series of culvert improvements were proposed to help convey flow into the proposed channels. A series of three culvert groups were proposed along CR 44 and west of FM 1694. Two of the groups consisted of 5 – 4'x2' RCBs and the third was a group of 10 – 4'x2' RCBs. Additionally, culvert improvements were proposed across FM 1694 to convey flow to the first and second proposed channels. They were 2 – 4'x2' RCBs and 3 – 5'x4' respectively.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 20 - Fiesta Ranch

FMP ID: 133000026

Project Sponsor: City of Robstown

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$3,209,000
Real Estate	$838,000
Environmental	
Construction	$31,351,560
Total Cost**	**$35,398,560**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

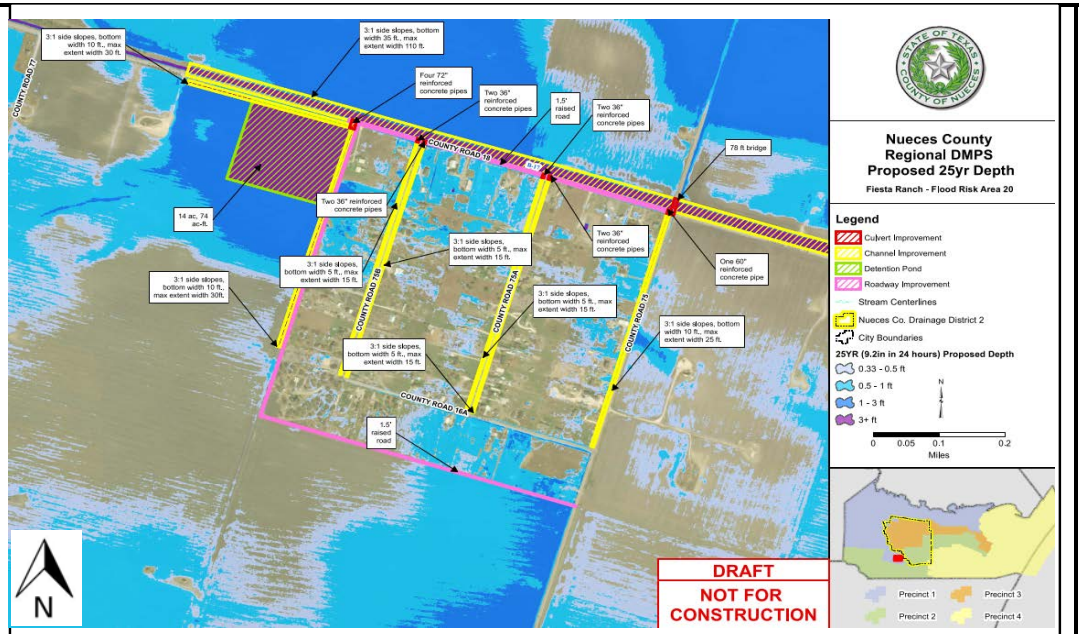
Event Damages	Baseline	Project
25-year storm	$ 6,557,531	$ 2,607,580
100-year storm	$ 7,756,761	$ 3,626,994
Total Benefits	**$ 2,022,636**	
BCA	**0.087**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	33	29	
Commercial			
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	Water surface elevation rasters were compared for existing conditions and post-project conditions models. Analysis showed only three areas of increased WSE, two of which were in undeveloped fields far from structures. These areas of increased WSE are negligible, not near any structures or infrastructure, wholly contained within the limits of their associated floodplain limits, and likely due to the modeling complexities. The third area has a small WSE increase, but it is the engineer's judgment that the outfall structure and receiving channel at this location can be optimized to mitigate the negligible rise. As such, it is the engineer's judgement that no adverse impacts are associated with this proposed project as modeled.



Project Description:

The proposed alternative consists of larger existing channel improvements along Ditch B-17, new channel improvements along County Road 665, a detention pond on the northwest corner of Fiesta Ranch just south of County Road 18, and smaller channel and culvert improvements directly within Fiesta Ranch. A proposed channel (70 ft bottom width, 3:1 side slopes) along County Road 665 acts to intercept floodwater spilling from the northern section of Petronila Creek and divert water back into the creek before it can spill over the roadway and travel south to Fiesta Ranch. Channel improvements along County Road 18 (110 ft bottom width, 3:1 side slopes) act similarly to the channel along County Road 665, diverting flooding from the north into Petronila Creek. Local ditch improvements (minimum bottom width of 15 ft max bottom width of 30 ft at 3:1 side slopes) connect directly into the optimized ditch along County Road 18. A 74 acre-foot pond on the northwest side of Fiesta Ranch collects floodwater running west to east along County Road 18 and floodwater running south to north on the west side of the development. The pond outfall is connected to the 110 bottom width channel with 4 – 72" RCP's.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 03 - Indian Trails

FMP ID: 133000027

Project Sponsor: City of Robstown

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$3,027,000
Real Estate	$3,533,000
Environmental	
Construction	$26,832,340
Total Cost**	**$33,392,340**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
25-year storm	$ 5,516,917	$ 3,922,351
100-year storm	$ 6,072,815	$ 4,937,004
Total Benefits	**$ 657,530**	
BCA	**0.041**	

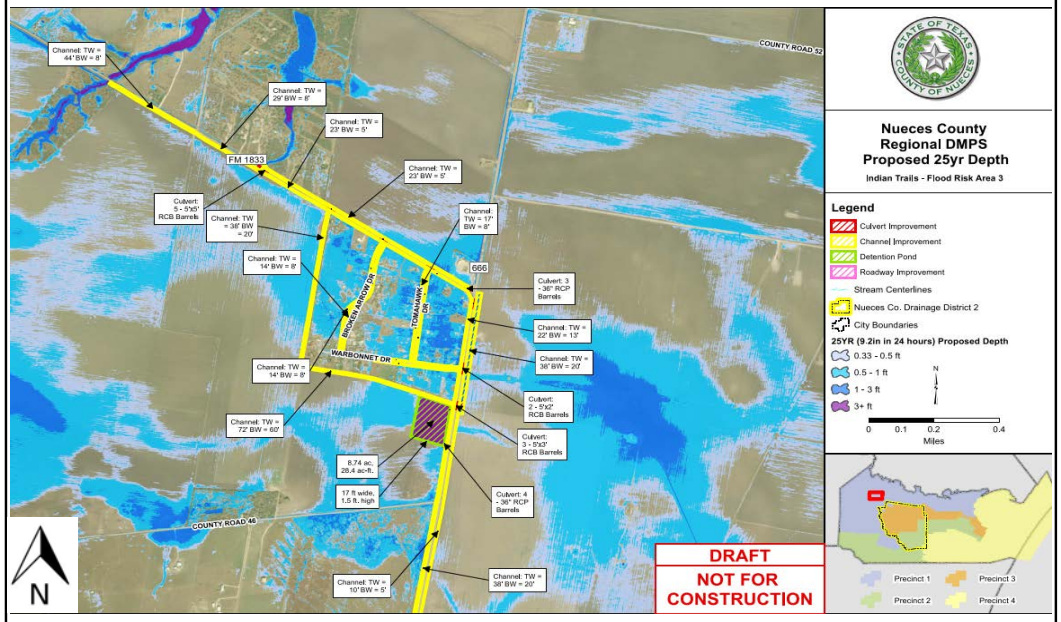
*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	9	6	
Commercial	0	0	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	Water surface elevation rasters were compared for existing conditions and post-project conditions models. Analysis showed four areas of increased WSEs. Two of the areas represented increases in flow to ditches that showed additional capacity and WSE increases were contained within existing channel banks, and also did not show any increase near any nearby residential or commercial structures. The other two areas were disconnected and distant from the proposed project improvements, and attributed to model noise and not actual adverse impacts in the judgement of the professional engineers.



Project Description:

First peak of flooding primarily due to ponding and local drainage within Indian Trails subdivision. The proposed design consists of a detention pond, a series of culvert improvements, a network of local drainage ditches and channels to mitigate the flooding in the Indian Trails residential area. These ditches generally have a bottom width ranging from 3 to 8 feet and have 3:1 side slopes with a flowline ranging from 0.5 to 2.0 feet in depth.The detention pond is located to the southeast of Indian Trails along FM 666 and has a footprint of approximately 87.3 acres.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 01 - Ranch and Cyndie Park

FMP ID: 133000028

Project Sponsor: City of Robstown

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$38,219,000
Real Estate	$27,710,000
Environmental	
Construction	$355,752,170
Total Cost**	**$421,681,170**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
25-year storm	$ 12,098,929	$ 9,795,997
100-year storm	$ 14,058,190	$ 13,460,246
Total Benefits	**$ 654,552**	
BCA	**0.007**	

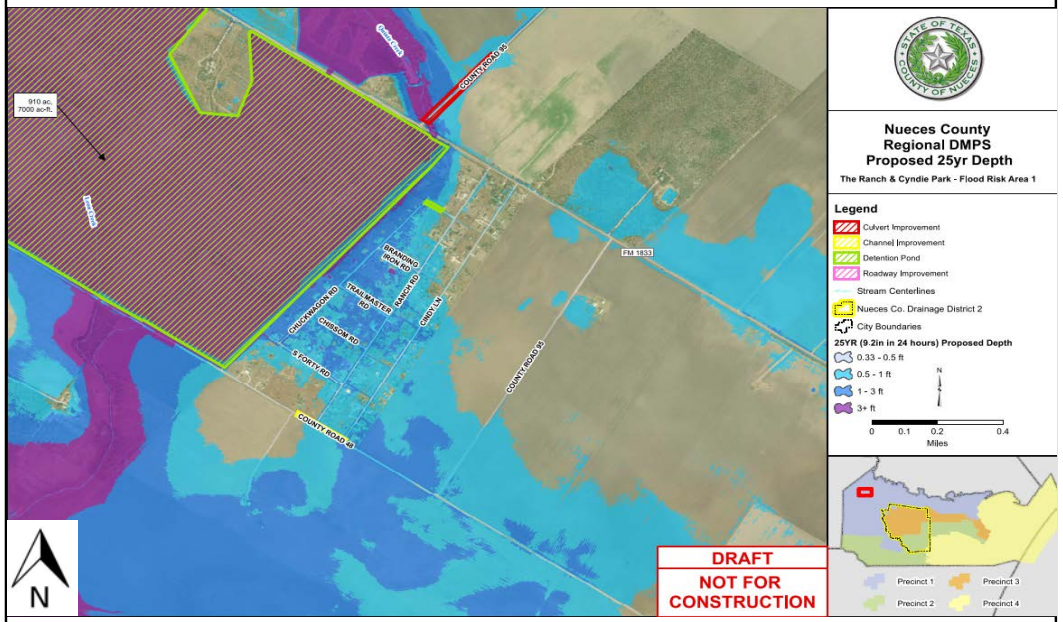
*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	7	1	
Commercial			
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	The proposed alternative was analyzed for the 25-year and 100-year events. Floodplain inundation extents are not increased over existing infrastructure such as residential and commercial buildings and structures. Outside of proposed project limits, no adverse depths greater than 0.3-feet were observed with the addition of the proposed project. The proposed project is assumed to have no negative impact.



Project Description:

The primary flooding issue is a result of riverine flooding overtopping the banks and flowing through the low-lying area in which the at-risk neighbor is situated. The proposed design consists of a regional detention facility. The undeveloped properties to the northwest of the neighborhood, bordered by County Road 48 amd FM 1833, would be excavated to construct a detention facility with approximately 7000 ac-ft of storage.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Risk Area 04 - Rancho Banquete

FMP ID: 133000029

Project Sponsor: City of Robstown

Project Source: 2023 Tri-County DMP Study

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$5,027,000
Real Estate	$4,324,000
Environmental	
Construction	$46,102,800
Total Cost**	**$55,453,800**

*Costs Adjusted from 2023 to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

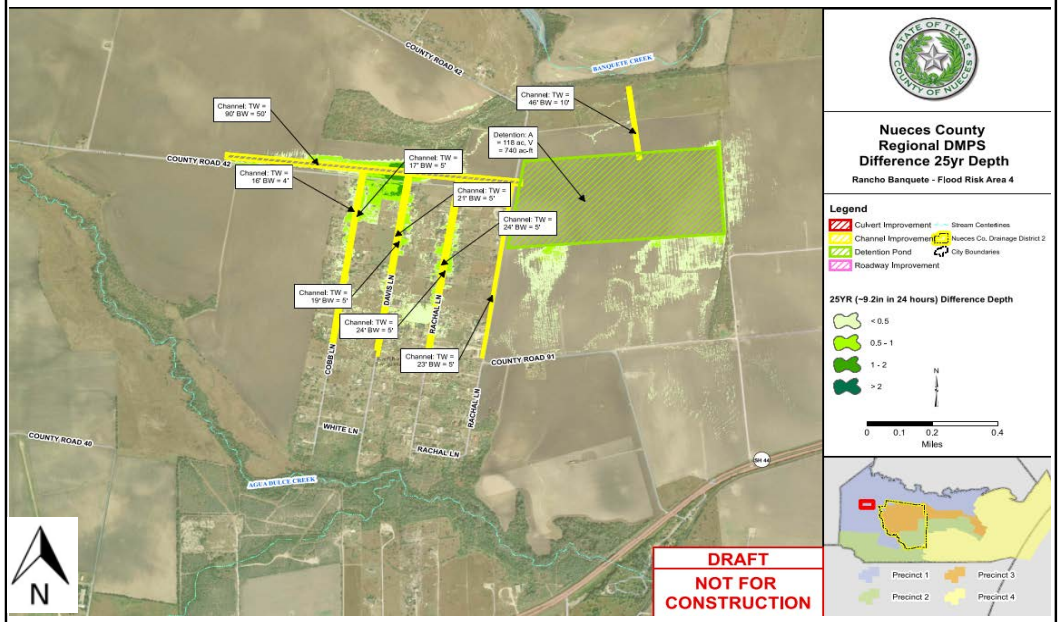
Event Damages	Baseline	Project
25-year storm	$ 6,599,362	$ 4,604,198
100-year storm	$ 11,284,891	$ 9,228,522
Total Benefits	**$ 1,041,168**	
BCA	**0.037**	

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	
Residential	18	17	
Commercial	0	0	
Critical	-	-	
Road (miles)	-	-	
Others Note	N/A	N/A	

Impact Analysis

Analysis	Modeling Software - HEC-RAS 6.3
Conclusion	Water surface elevation rasters were compared for existing conditions and post-project conditions models. Analysis showed only two areas with minimal increased flood depths, both near the proposed detention ponds or, in the case of the 100-yr comparison, near the downstream outfall channel. The increases shown here were negligible, and it is the engineer's opinion that further refinement of the pond outfall structures, downstream channel alignments, and additional ROW acquisition (as necessary) during the design process could mitigate the shown impact.



Project Description:

Backwater flow inundates Ranch Banquete neighborhood due to a nearby stream confluence and a downstream bridge acting as a choke point. The proposed design to mitigate flooding in a 25-year storm event consists of a network of local drainage ditches, an interceptor channel, a detention pond with inlet and outlet structures, and a detention pond outlet channel which outfalls to Banquete Creek. Seven local drainage ditches are proposed to parallel either side of local streets and the west side of County Road 91 within the northern portion of Rancho Banquete. These ditches have bottom widths ranging from 4 to 5 feet with 2:1 side slopes and are proposed to have average flowline depths ranging from 3 to 5 feet which drain northward into an interceptor channel. The proposed pond has a 118-acre footprint and 3:1 side slopes.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: FH#8, 10, 12 - North Robstown, West Robstown, & East Robstown

FMP ID: 133000030

Project Sponsor: Nueces County Drainage District No. 2/ Nueces County

Project Source: 2023 Nueces County Drainage Masterplan Report

Related Goals: 5-Structural Inundations

Cost Information

Category	Cost*
Design	$3,166,033
Real Estate	$7,381,080
Environmental	$0
Construction	$45,760,157
Total Cost**	**$56,307,270**

Benefit Cost Analysis (BCA)

Event Damages	Baseline	Project
25-year storm	$ 407,725,037	$ 363,399,157
100-year storm	$ 461,344,005	$ 396,048,818
500-year storm	$ 514,011,090	$ 447,686,759
Total Benefits	**$ 69,186,255**	
BCA	**1.077**	

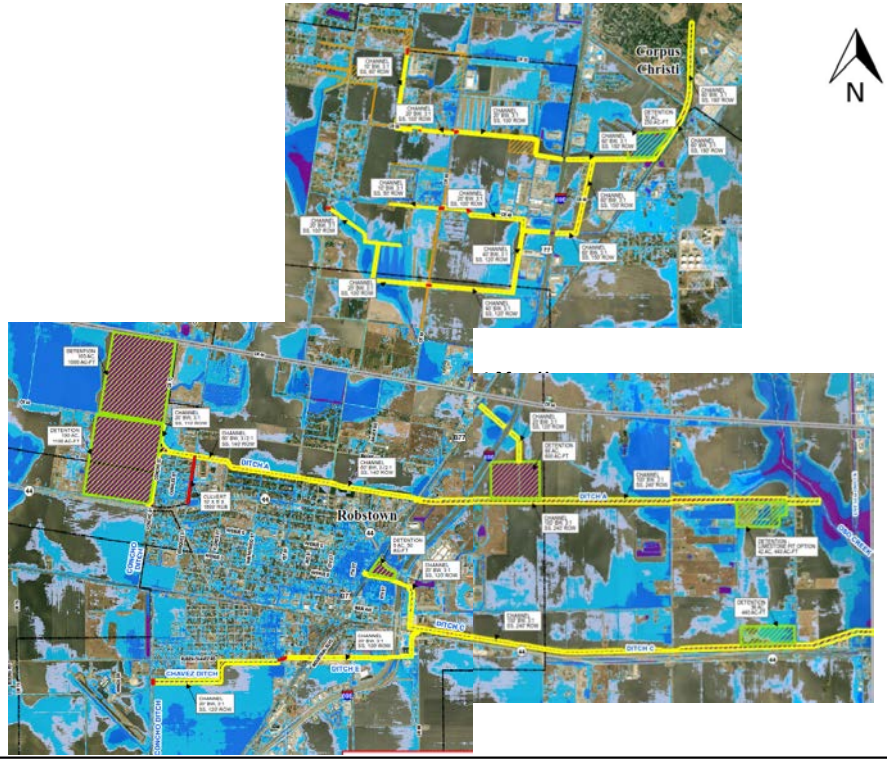
**Rounded up to the nearest thousand
*Construction Cost includes contingency

Project Benefits

Post-Project Total Removed	Storm Event		
	25-year	100-year	500-year
Residential	713	1098	574
Commercial	78	174	139
Critical	-	-	-
Road (miles)	-	-	-
Others Note	N/A	N/A	N/A

Impact Analysis

Analysis	HEC-RAS 2D Modeling
Conclusion	Per TWDB Requirements, no impacts identified



Project Description: - FH#1.10 - WEST ROBSTOWN

Three phases of projects are proposed that work in conjunction with each other to achieve the city-wide benefits. The projects consist of channel improvements with associated bridge/culvert replacements and regional detention facilities to relieve existing flooding issues. **West Robstown Infatructure:** Regional detention facilities upstream of the upper end of Ditch A to intercept large contributing drainage area sheetflow, and an extension of the Chavez Ditch (Ditch E) to the existing Concho Ditch. The overall drainage within the Robstown area west of I-69 (US 77) is to be conveyed east of US 77 within NCDD2 Ditch A and Ditch C to their ultimate outfalls into Oso Creek. **East Robstown Infrastructure:** Channel improvements along Ditch A and Ditch C to convey runoff from west of I-69/US 77 and the adjacent contributing areas north of SH 44 to Oso Creek. Regional detention facilities along the drainage channels to provide storage volume for mitigation of the proposed channel improvements within the project area and upstream. An alternative detention facility is proposed along Ditch A within the labeled limestone pit. **North Robstown Infrastructure:** Extend a channel system into the existing area without well-defined drainage. The area is to be collected and conveyed along the Union Pacific Railroad across I69/US77 to an existing ditch, which runs north to its outfall into the Nueces River. The proposed channel network will include laterals to provide conveyance to existing developed areas to relieve existing flooding. Mitigation of the improvements will be provided as inline storage within the proposed channels as well as within a detention basin east (downstream) of I69/US77 along the system's improved outfall channel.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Citywide Stormwater Drainage Improvements - Gregory

FMP ID: 133000031

Project Sponsor: City of Gregory

Project Source: Provided by Stakeholder

Related Goals: 5 – Structural Inundations

Cost Information

Category	Cost*
Design	$3,253,000
Real Estate	$142,000
Environmental	$0
Construction	$21,685,000
Total Cost**	**$25,080,000**

*Costs Adjusted to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Damages	Baseline	Project
2-year storm	$ -	$ -
10-year storm	$ -	$ -
100-year storm	$ 34,464,839	$ 26,994,339
Total Benefits	**$ 927,005**	
BCA	**0.037**	

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	0	30
Commercial	0	0	1
Critical	0	0	0
Road (miles)	-	-	-
Others Note	0	0	0

Impact Analysis

Analysis	Modeling Software - PC SWMM
Conclusion	Projects for the City of Gregory within the San Patricio County Drainage Master Plan have been checked for downstream impacts under the 100-Year Storm event and none were found. A Certification of No Negative Impacts was provided by CDM Smith.

Project Description:

Includes ditch improvements for Southwest Outfall and the Southside Diversion, swale and culvert improvements on Black Welder Street, and drainage improvements along HWY 181 Frontage Rd, HWY 35, S. Gregory, and FM 3284. Anticipated benefits of this project include reduction of Water Surface Elevation (WSE) for as many as 410 structures, 31 of which showed indications of being removed from 100 year flood risk.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Citywide Stormwater Drainage Improvements - Odem

FMP ID: 133000033

Project Sponsor: City of Odem

Project Source: Provided by Stakeholder

Related Goals: 5 – Structural Inundations

Cost Information

Category	Cost*
Design	$3,287,000
Real Estate	$8,000
Environmental	$0
Construction	$21,915,000
Total Cost**	**$25,210,000**

Benefit Cost Analysis (BCA)

Damages	Baseline	Project
2-year storm	$ -	$ -
10-year storm	$ -	$ -
100-year storm	$ 8,569,312	$ 3,225,168
Total Benefits	**$ 663,152**	
BCA	**0.027**	

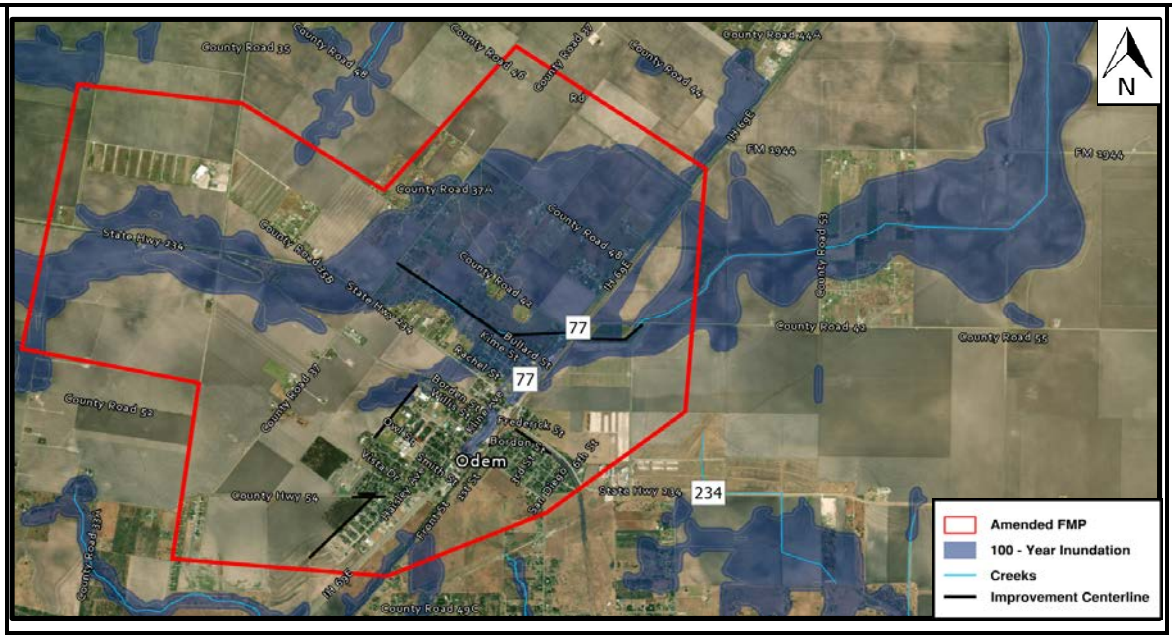
*Costs Adjusted to 2020 using CCI
**Rounded up to the nearest thousand

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	0	59
Commercial	0	0	1
Critical	0	0	0
Road (miles)	-	-	-
Others Note	0	0	0

Impact Analysis

Analysis	Modeling Software - PC SWMM
Conclusion	Projects for the City of Odem within the San Patricio County Drainage Master Plan have been checked for downstream impacts under the 100-Year Storm event and none were found. A Certification of No Negative Impacts was provided by CDM Smith.



Project Description:

Includes ditch regrading along Borden St, expansion of Peters Swale, improvements to Owl Square Ditch "and the addition of subsurface detention and drainage system improvements along Cooper Rd. Anticipated benefits of this project include reduction of Water Surface Elevation (WSE) for as many as 96 structures, 60 of which showed indications of being removed from 100 year flood risk.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Citywide Stormwater Drainage Improvements - Sinton

FMP ID: 133000035

Project Sponsor: City of Sinton

Project Source: Provided by Stakeholder

Related Goals: 5 – Structural Inundations

Cost Information

Category	Cost*
Design	$13,460,000
Real Estate	$0
Environmental	$0
Construction	$89,730,000
Total Cost**	**$103,190,000**

*Costs Adjusted to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

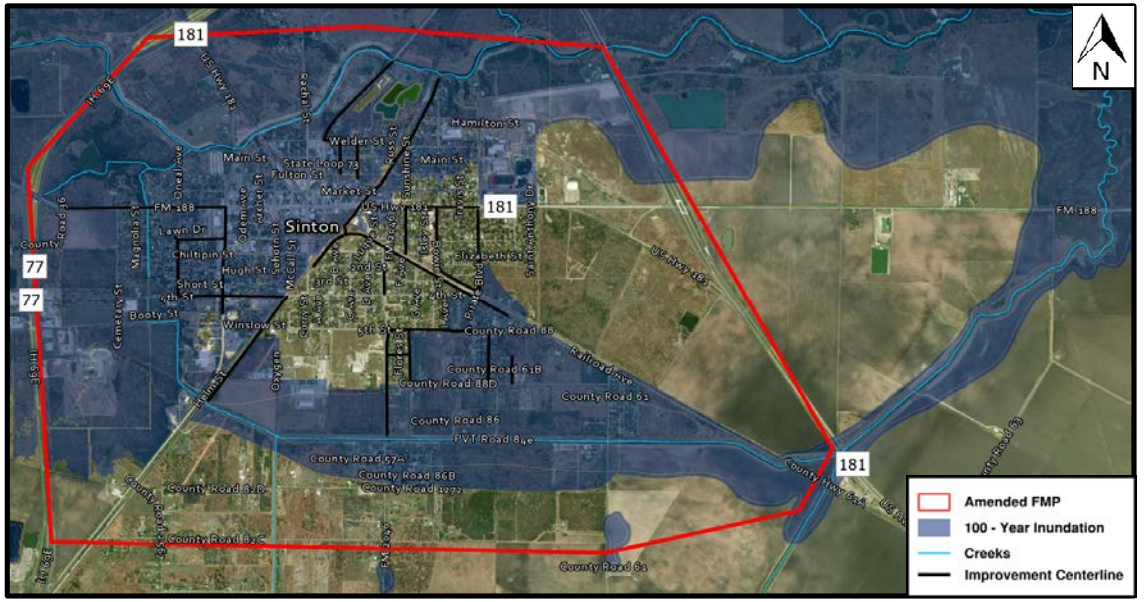
Damages	Baseline	Project
2-year storm	$ -	$ -
10-year storm	$ -	$ -
100-year storm	$ 107,137,472	$ 50,920,654
Total Benefits	**$ 6,975,904**	
BCA	**0.069**	

Impact Analysis

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	0	360
Commercial	0	0	38
Critical	0	0	0
Road (miles)	-	-	-
Others Note	0	0	0

Impact Analysis

Analysis	Modeling Software - PC SWMM
Conclusion	Projects for the City of Sinton within the San Patricio County Drainage Master Plan have been checked for downstream impacts under the 100-Year Storm event and none were found. A Certification of No Negative Impacts was provided by CDM Smith.



Project Description:

Includes drainage improvements for West Sinton, N Vineyard Ave, railroad ditches, E Sinton St and S Bowie St, S Pirate Blvd, S Sodville Ave, and Rancho Chico. Anticipated benefits of this project include reduction of Water Surface Elevation (WSE) for as many as 1059 structures, 398 of which showed indications of being removed from 100 year flood risk.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Citywide Stormwater Drainage Improvements - Taft

FMP ID: 133000037

Project Sponsor: City of Taft

Project Source: Provided by Stakeholder

Related Goals: 5 – Structural Inundations

Cost Information

Category	Cost*
Design	$4,291,000
Real Estate	$43,000
Environmental	$0
Construction	$28,608,000
Total Cost**	**$32,942,000**

*Costs Adjusted to 2020 using CCI
**Rounded up to the nearest thousand

Benefit Cost Analysis (BCA)

Damages	Baseline	Project
2-year storm	$ -	$ -
10-year storm	$ -	$ -
100-year storm	$ 76,843,226	$ 53,769,810
Total Benefits	**$ 2,863,163**	
BCA	**0.088**	

Project Benefits

Post-Project Total Removed	Storm Event		
	2-year	10-year	100-year
Residential	0	0	102
Commercial	0	0	13
Critical	0	0	0
Road (miles)	-	-	-
Others Note	0	0	0

Impact Analysis

Analysis	Modeling Software - PC SWMM
Conclusion	Projects for the City of Taft within the San Patricio County Drainage Master Plan have been checked for downstream impacts under the 100-Year Storm event and none were found. A Certification of No Negative Impacts was provided by CDM Smith.

Project Description:

The proposed project consists of ditch improvements along Compress Rd, Industrial St, and in Taft Southwest subdivision, an upsized storm sewer system on Reynolds Ave and Kirkpatrick St, and a new storm sewer on Gregory Ave, Pecan St, Walnut St, Ave A, Ave C, Harding St, and Victoria Ave. Anticipated benefits of this project include reduction of Water Surface Elevation (WSE) for as many as 750 structures, 115 of which showed indications of being removed from 100 year flood risk.

2023 Nueces Regional Flood Plan
Project Summary Sheet

Project Name: Old Frio City Road at North Prong Creek Bridge

FMP ID: 133000038

Project Sponsor: Bexar County (Border of Medina and Atascosa County)

Project Source: 2022 Bexar County Drainage Needs

Related Goals: 1-Low Water Crossing

Cost Information

Category	Cost*
Design	$426,353
Real Estate	$0
Environmental	$10,000
Construction	$2,581,573
Total Cost**	**$3,018,000**

*Costs Adjusted from 2023 to 2020 using CCI

**Rounded up to the nearest thousand

***BCA Costs are calculated using the TWDB BCA Toolkit for the purpose of assigning a project BCR and may differ from 2020 project costs estimated based on engineering assessment and CCI factors.

Benefit Cost Analysis (BCA)

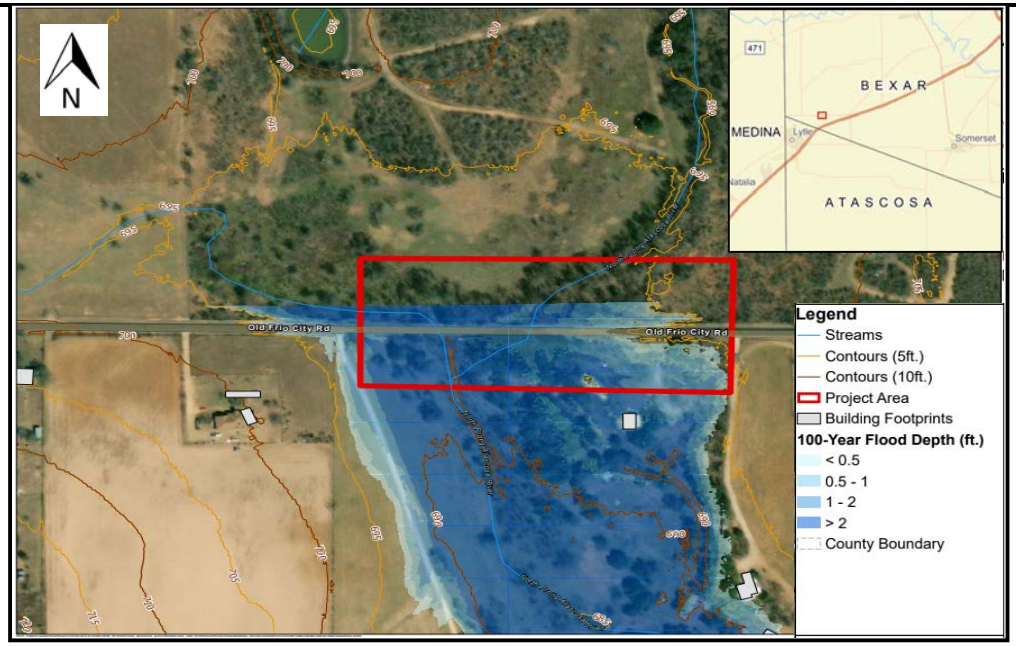
Event Damages	Baseline	Project
2-year storm	$ 299,403	$ -
25-year storm	$ 191,618	$ -
100-year storm	$ 215,570	$ -
Benefits (B)	**$ 280,742**	
Cost (C)* **	**$ 2,901,203**	
BCR (B/C)	**0.1**	

LWC Level of Service Existing Vs. Proposed

Condition	Level of Service	100-Yr Depth Over Road (ft)
Existing	< 10-Yr	1.9 ft
Proposed	>100-Yr	0 ft

Impacts Analysis

Analysis	Modeling Software - HEC-RAS v5.0.5
Conclusion	No negative impacts from FMP (per TWDB requirements)



Project Description:

This project will eliminate overtopping of Old Frio City Road and provide 100-year conveyance design, removing structures from the existing conditions floodplain extents. Proposed improvements consist of channel regrading, increasing the road elevation and adding a bridge. The proposed road profile will increase 4ft from existing. The existing five 24" RCP will be replaced with a 250ft wide bridge with a 4ft high opening. This LWC is located in Bexar County but borders both Medina and Atascosa Counties.