



CITY OF LA PORTE DRAINAGE AND FLOODING COMMITTEE MEETING AGENDA

Notice is hereby given of a meeting of the Drainage and Flooding Committee of the City Council of the City of La Porte, to be held September 14, 2020 , in the City Hall Council Chambers, 604 West Fairmont Parkway, La Porte, Texas , beginning at 5:15 PM to consider the following items of business.

Social distancing protocols will be in effect in the Council Chambers. Remote participation is available. Attend via a screen with the link <https://us02web.zoom.us/j/87078650589?pwd=QW9TOTNNOUFSdzRVNDB3NWxUdm41QT09>. Join by phone at 888-475-4499 or 877-853-5257. The meeting ID is 870 7865 0589 and the passcode is 969834.

1. **CALL TO ORDER**
2. **CITIZEN COMMENT** *(Generally limited to five minutes per person; in accordance with state law, the time may be reduced if there is a high number of speakers or other considerations.)*
3. **STATUTORY AGENDA**
 - (a) Presentation, discussion and possible action to approve the August 10, 2020, meeting minutes. [Chairman Martin]
 - (b) Presentation, discussion, and possible action regarding the City of La Porte's detention rate requirements. [Lorenzo Wingate, Assistant Director of Public Works]
 - (c) Presentation, discussion, and possible action regarding the status of current drainage projects. [Lorenzo Wingate, Assistant Director of Public Works]
 - (d) Presentation, discussion, and possible action regarding the Harris County Flood Control District's (HCFCD) and Harris County Precinct 2's current and future plans related to flooding in the City of La Porte. [Lorenzo Wingate, Assistant Director of Public Works]
 - (e) Presentation, discussion, and possible action to provide staff with direction, if necessary, regarding additional drainage concerns. [Lorenzo Wingate, Assistant Director of Public Works]
4. **SET NEXT MEETING**
5. **COMMITTEE COMMENT** *Hear announcements concerning matters appearing on the agenda; items of community interest; and/or inquiries of staff regarding specific factual information or existing policy from the Committee members and City staff, for which no formal action will be discussed or taken.*
6. **ADJOURN**

If, during the course of the meeting and discussion of any items covered by this notice, the Drainage and Flooding Committee determines that a Closed or Executive Session of the Committee is required, then such closed meeting will be held as authorized by Texas Government Code, Chapter 551, Section 551.071 - consultation with counsel on legal matters; Section 551.072 - deliberation regarding purchase, exchange, lease or value of real property; Section 551.073 - deliberation regarding a prospective gift; Section 551.074 - personnel matters regarding the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; Section 551.076 - implementation of security personnel or devices; Section 551.087 - deliberation regarding economic development negotiation; Section 551.089 - deliberation regarding security devices or security audits, and/or other matters as authorized under the Texas Government Code. If a Closed or Executive Session is held in accordance with the Texas Government Code as set out above, the Drainage and Flooding Committee will reconvene in Open Session in order to take action, if necessary, on the items addressed during Executive Session.

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services are requested to contact the City Secretary's office (281-470-5019), two working days prior to the meeting for appropriate arrangements.

Pursuant to Texas Government Code Sec. 551.127, on a regular, non-emergency basis, members may attend and participate in the meeting remotely by video conference. Should that occur, a quorum of the members will be physically present at the location noted above on this agenda.

Councilmembers may attend in numbers constituting a quorum. This is a Drainage and Flooding Committee Meeting at which there will be no deliberation or formal action taken by City Council as a governmental body.

CERTIFICATE

I, Lee Woodward, City Secretary, do hereby certify that a copy of the September 14, 2020, Drainage and Flooding Committee agenda was posted on the City Hall bulletin board, a place convenient and readily accessible to the general public at all times, and to the City's website, www.LaPorteTX.gov, in compliance with Chapter 551, Texas Government Code.

DATE OF
POSTING

TIME OF
POSTING

TAKEN DOWN

Lee Woodward

Lee Woodward, City Secretary

JAY MARTIN
Chairman

DANNY EARP
Vice-Chairman



CHUCK ENGELKEN
Member

STEVE GILLET
Alternate Member

MINUTES OF THE DRAINAGE AND FLOODING COMMITTEE MEETING AUGUST 10, 2020

The Drainage and Flooding Committee of the City of La Porte met on Monday, August 10, 2020, at the City Hall Council Chambers, 604 West Fairmont Parkway, La Porte, Texas, at 5:00 p.m. to consider the following items of business:

Committee Members present: Jay Martin, Chuck Engelken, Danny Earp

Committee Members attending remotely: None

Committee Members absent: None

Council-appointed officers present: Corby Alexander, City Manager; Lee Woodward, City Secretary

1. **CALL TO ORDER** - Chairman Martin called the meeting to order at 5:00 p.m.
2. **CITIZEN COMMENT** (*Generally limited to five minutes per person, in accordance with state law, the time may be reduced if there is a high number of speakers or other considerations.*)

There were no citizen comments.

3. STATUTORY AGENDA

- (a) **Presentation, discussion, and possible action to approve the July 13, 2020, meeting minutes. [Jay Martin, Chair]**

Committee member Engelken moved to approve the minutes; Member Earp seconded the motion and it was adopted. 3-0.

- (b) **Presentation, discussion, and possible action regarding changes to drainage criteria recommended by Harris County. [Lorenzo Wingate, Assistant Director of Public Works]**

Mr. Wingate discussed the new Harris County requirements and their potential impact on the City (chart from packet below). Alisa Max, P.E., Chief Operations Officer, Harris County Engineering Dept., answered questions from the Committee. Member Earp asked that the City requirement for detention for the entire property size be brought back for consideration. Mr. Wingate noted that Harris County has offered to have their consultant come to La Porte to provide impact analysis to show how the Harris County proposed changes compare to current City requirements.

Harris County Requirement	Impact to La Porte
Atlas 14 rainfall rates to size storm water conveyance and detention systems	Minimal impact. Systems are designed using current rainfall characteristics.
0.55 ac-ft/ac detention rate	Increases detention volume requirement by 22%.
Prohibit detention design using hydrograph timing	Minimal impact. Rarely used for design in COLP.
No net fill in the current 500-yr floodplain	To be explained by HCFCD/EHRA.
Finished floor elevation established at or waterproofed to the 500-yr flood elevation	To be explained by HCFCD/EHRA.

(c) Presentation, discussion, and possible action regarding prioritization of current and future drainage projects. [Lorenzo Wingate, Assistant Director of Public Works]

Mr. Wingate provided a list of current projects for the Committee to prioritize or add to. The current list is:

Priority	Project Name	Project Phase (% Complete)	Total % Complete
1	Brookglen Drainage Improvements	Feasibility (0%)	0%
2	Bayside Terrace Drainage Improvements	Feasibility (85%)	30%
3	F101-06-00 Improvements	Preliminary Engineering (25%)	25%
4	Little Cedar Bayou (F216) Phase 3	Preliminary Engineering (0%)	10%
5	6 th Street (North Side Neighborhood Drainage Improvement Project)	Design (5%)	5%
6	Southside Neighborhood Drainage Improvements;	Final Design (90%)	60%
7	Bob's Gully Analysis	Project Complete	100%

Mr. Wingate noted Bay Colony has basically been dealt with since the list was put together and the Committee agreed to flip the order of Mission Drive and Sylvan Beach on the remaining list (below), thereby prioritizing additional drainage projects for future consideration.

Priority	Project Name	Project Background
8	Battleground Estates Phase II	This would be a continuation of previously completed drainage improvements along the F101-00-00 drainage channel to mitigate flooding north of N P Street with the Battleground Estates subdivision. Project is prefunded; \$65,000 for preliminary design.
9	Roseberry Drive Drainage Improvements	Several complaints received about street flooding along Roseberry. The Drainage Committee consented to further evaluation of the Roseberry drainage system at the August 12, 2019 meeting.
11	Mission Drive Drainage Improvements	Storm sewer system within Monument Estates subdivision holds water because conveyance

		channel between N P and N L has not been maintained.
10	Sylvan Beach Subdivision Drainage Improvements	Subdivision do not have roadside ditches or enclosed drainage system. All drainage is conveyed along street surface. Roadway is flooded during moderate rain events.
N/A	Bay Colony Subdivision Drainage Improvements	Inconsistent pipe sizes and elevations create restrictions within the drainage system.

(d) Presentation, discussion, and possible action in connection with receipt of a report regarding the Harris County Flood Control District’s (HCFCD) and Harris County Precinct 2’s current and future plans relating to flooding in the City of La Porte. [Lorenzo Wingate, Assistant Director of Public Works]

William Conlan of Lockwood, Andrews, & Newnam, a consultant for Harris County Flood Control District, and project manager for the Galveston Bay Watershed Planning Project, discussed the completed evaluation and remaining challenges for related to the F212-00-00 channel.

(e) Presentation, discussion, and possible action regarding the status of current drainage projects. [Lorenzo Wingate, Assistant Director of Public Works]

Mr. Wingate referred to status changes on several projects. He said he was waiting on proposals for Little Cedar Bayou Phase III and Battleground Estates Phase II, and that a notice to proceed would be issued tomorrow on the airport project.

(f) Presentation, discussion, and possible action to provide staff with direction, if necessary, regarding additional drainage concerns. [Lorenzo Wingate, Assistant Director of Public Works]

There were no additional items.

4. Set next meeting - The next meeting date was set for September 14, 2020.

5. Committee Member Comments – There were no comments.

ADJOURN – The meeting was adjourned without objection at 5:50 p.m.

Lee Woodward, City Secretary



REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: <u>September 14, 2020</u>
Requested By: <u>Lorenzo Wingate, Asst. Director</u>
Department: <u>Public Works</u>
<input checked="" type="radio"/> Report <input type="radio"/> Resolution <input type="radio"/> Ordinance

Appropriation	
Source of Funds:	_____
Account Number:	_____
Amount Budgeted:	_____
Amount Requested:	_____
Budgeted Item:	<input type="radio"/> Yes <input type="radio"/> No

Exhibits:

SUMMARY & RECOMMENDATION

Harris County has recommended that the City update its detention rate to become consistent with Harris County's detention rate of 0.55 acre-ft/acre for all development. The City's current detention rates are: 0.20 acre-ft/acre (0-1 acre); 0.45 acre-ft/acre (1-10 acres); per HCFCD criteria (10+ acres). Changes to the City's detention rates involves changing the City's Public Improvements Criteria Manual and subsequent Council approval of the respective changes. Staff recommends a consistent detention rate for all development, not contingent upon development size. Additional consideration should be given to potential adverse impacts of not detaining at a rate not to exceed the pre-development flow rate and capacity of the receiving system.

ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

Receive report, and provide staff with direction, as necessary.

Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date



REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

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Exhibits: Project map
Project update chart
Harris County Drainage Network Map

SUMMARY & RECOMMENDATION

Refer to attached exhibit(s) for updates on various drainage projects throughout the City.

ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

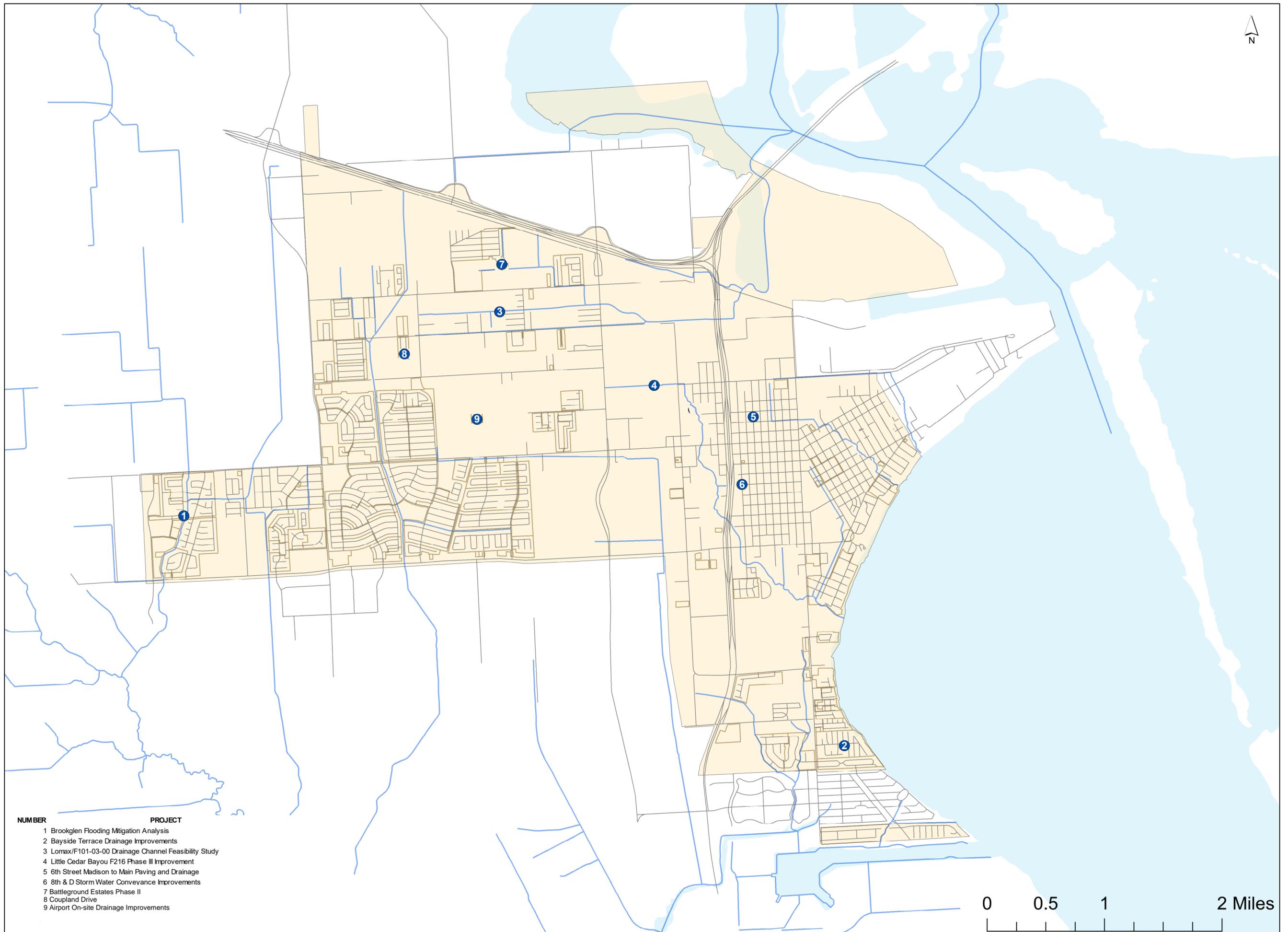
Receive report, and provide staff with direction, as necessary.

Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date

The City of La Porte Drainage Projects 2019



DRAINAGE PROJECTS

NO.	PROJECT	PROJECT MANAGER	DESCRIPTION	PROJECT PHASE (Feasibility/Preliminary Design/Final Design/Bidding/Construction)	Status	Potential Grant Funding	Potential COLP Cost Share	COLP Budgeted Amount	Estimated Completion Date	% Complete (Phase)	On Schedule
1	Brooklegen Flooding Mitigation Analysis	Public Works	The 2009 City-wide Drainage Study identifies the Brooklegen subdivision as an area with significant drainage/flooding problems, attributed to a mixture of inadequate sewerage and insufficient channel capacity within the 8112-00-00 Channel. Compounded improvements recommended within the City-wide Drainage Study could reduce the flood risk within the Brooklegen area. This analysis would expand upon the recommendations provided within 2009 study.	Feasibility	Staff working with HCFCD to develop regional solution. HCFCD is planning mitigation efforts within the 8800 block of Gladwyne Ct. Staff to submit application for CBDG-MIT funding by September 30, 2020.	\$4,000,021.50	\$1,000,005.38	\$1,275,000.00	March 2022	10%	No
2	Bayside Terrace Drainage Improvements	Public Works	Approximately 800 linear feet of RCP pipe, ranging in size from 15" to 24", exists within the Bayside Terrace Subdivision, which has not been properly maintained due to access issues attributed to limited access to infrastructure, provided within a five foot utility easement. Portions of Hamilton Street and Fondren Street utilize this system to convey stormwater to its outfall point of Galveston Bay. The system fails to function properly, causing flooding within the adjacent portion(s) of the subdivision. A proposed drainage study would discuss feasibility of rerouting this flow from the 800 feet of RCP towards Bayside Dr. and utilizing the existing system within Bayside Dr. to convey the storm water within the existing system.	Preliminary Design	Consultant provided Bayside Terrace update on June 18, 2020 (See presentation attached). 1st draft of PER was received on July 28, 2020. Staff is currently reviewing PER.	\$2,200,000.00	N/A	\$650,000.00	March 2022	70%	No
3	Lomax/F101-03-00 Drainage Channel Improvements	Public Works	Harris County Flood Control District's (HCFCD) F101-06-00 Channel system conveys storm water runoff from the Lomax area and ultimately outfalls into Lower San Jacinto Bay. The downstream section of the channel has been improved to ultimate capacity. An existing pipeline corridor, containing several pipelines located at depths ranging from approximately 2' to 18', cross the channel, limiting the depth of potential channel improvements. Moderate/heavy rain events, compounded with backwater conditions from this section of the channel, contributes to wide-spread flooding within the Lomax Area.	Preliminary Design	HCFCD has initiated PER phase and HCFCD consultants are currently performing preliminary design efforts	N/A	N/A	\$950,000.00	March 2022	10%	No
4	Little Cedar Bayou F216 Phase III Improvements	Public Works	Phase I and Phase II Improvements to Little Cedar Bayou, from Hwy 146 to Madison, have either been completed or are currently awarded for construction. Phase I and Phase II improvements include, but are not limited to, excavating and disposing off-site soil as required for the new channel alignment, clearing and grubbing, demolition of existing structures, erosion control, and site restoration for approximately 5,533 LF of channel. Approximately 4,680 LF of channel remains unimproved upstream, with those improvements slated to be included within this project, to be considered Phase III. Survey data has been collected on this most upstream section. Routine maintenance of clearing overgrowth, trees, and obstructions, minor erosion control and slope stabilization, and desilting is planned to maintain existing conveyance capacity. Those maintenance operations are projected to begin late 4th quarter 2018 or early 1st quarter 2019 (calendar year). The following Phase III mitigation action is proposed, as recommended within the hydraulic Analysis for Little Cedar Bayou Watershed HCFCD Unit F216-00-00: lowering the flow line of the Bayou 1 - 2 feet, from W. Madison to Sens Rd. Current channel side slopes would be modified to achieve 3:1 side slopes from W. Madison St. to Sens Rd. An estimated 200,000 cubic yards are to be excavated from the channel. Over excavation is provided to yield sufficient storage volume in the pond after siltation and build-up in the pond bottom.	Feasibility	Staff has coordinated with HCFCD to determine consultant's scope of work and is currently negotiating a professional services contract with a consultant.	N/A	N/A	\$1,355,232.00	March 2022	0%	No
5	8th Street Madison to Main Paving and Drainage	Public Works	The segment of 8th St from W. Madison St to W. Main St is considered part of Old La Porte, which was generally noted in the City-Wide Drainage Study as not having sufficient storm sewer capacity due to undersized storm sewer, undersized storm inlets, or not enough storm inlets. RPS-Klotz provided an analysis of the existing storm sewer system and identified problem areas within the project limits. Additional analysis is required to determine most efficient improvement alternatives.	Final Design	Executed contract with GLO effective March 9, 2019 through August 5, 2021. Staff received executed agreement with Harris County for \$3.4M allocation in early January. Phase I design has begun 1st week of July. Phase 2 engineering contract was approved at the July 27th Council Meeting.	\$3,798,532.30	\$125,000.00	\$1,140,000.00	August 2021	0%	Yes
6	8th & D Storm Water Conveyance Improvements	Public Works	The area generally bounded by 8th Street to the west, Main Street to the north, 8th Street to the east, and D Street to the south experiences flooding during heavy rain events due to undersized culverts within the area. Increasing culvert sizes within the area will provide additional conveyance capacity within the existing open ditch system.	Final Design	This project has been incorporated into the 7th Street Rehabilitation Project. Staff reviewed 90% plans. Consultant is revising plans to address staff comments.	N/A	N/A	\$139,340 / \$1,850,000	June 2021	60%	Yes
7	Battleground Estates Phase II	Public Works	A proposed conditions hydraulic model was developed during the preliminary design for the N P Street Culvert Improvement Project, which recommended replacing the upstream portion of the existing composite structure at N P Street, with structures matching the downstream portion of the composite structure. That project allows for full utilization of the structure's capacity, as well as protect the channel during rainfall events that produce higher amounts of runoff. Per the recommendations of the Phase 1 report, a more detailed Phase 2 engineering analysis of segments F101-00-00 and F101-08-00, that are upstream of N P Street, as well as an evaluation of the roadside ditch drainage conduits within Battleground Estates should be performed to identify necessary improvements to address structural flooding within the area. The more detailed study would evaluate the impacts of culverts located upstream of N P Street, along F-101-00-00 resulting from the 10-, 50-, and 100-year rain event. Channel improvements, and increasing culvert sizes to provide sufficient capacity within culverts along the roadside ditches are the anticipated mitigation efforts.	Feasibility	Staff is coordinating with a consultant to for preliminary engineering services.	\$880,500.00	\$220,125.00	\$65,000.00	August 2022	0%	No
8	Coupland Drive	Public Works	The proposed storm sewer improvements include re-sloping Coupland Drive to drain towards inlets located throughout the subdivision. The inlets will drain into proposed storm sewer ranging in size from 24" to 30" RCP. This storm sewer will then flow underneath the existing roadside ditch along L Street to a combined outfall with the existing roadside ditch to Big Island Slough. The proposed storm sewer underneath the existing ditch on L Street will be 42" RCP and the combined outfall will need to be a 60" RCP. These improvements will result in no net fill within the Big Island Slough 100-year floodplain. The proposed storm sewer was sized for the 5 year storm event, per the City of La Porte drainage criteria.	Final Design	Harris County has required the design to be updated to include Atlas 14 rainfall intensity. Staff is negotiating a professional services contract to update the design.	N/A	N/A	\$1,110,000.00	July 2022	45%	Yes
9	Airport On-site Drainage Improvements	Public Works	On-site and offsite study determined there is no impact from airport drainage run off to the area north(Lomax) of the airport. The study determined there is impact to the Glen Meadows Subdivision. Onsite detention and increased capacity will be designed to mitigate the impact on Glen Meadows.	Construction	Contractor is approximately 95% complete with construction improvements on west side of airport. Downstream connection to Spencer Highway is installed; construction of one of two detention ponds is complete. Schedule shows a completion approximately 75 days before the end of contract time.	\$2,200,000.00	\$244,500.00	\$248,467.00	May 2020	95%	Yes
10	Airport Detention Analysis	Public Works	An analysis will be performed to determine the feasibility of providing additional detention on the airport site to mitigate impacts of storm water runoff from the airport onto adjacent properties.	Feasibility	Staff has been finalizing procurement of services. Consultant expected to begin efforts in early July. Phase one expected by September 30, 2020.	N/A	N/A	\$22,520.00	December 2020	0%	Yes

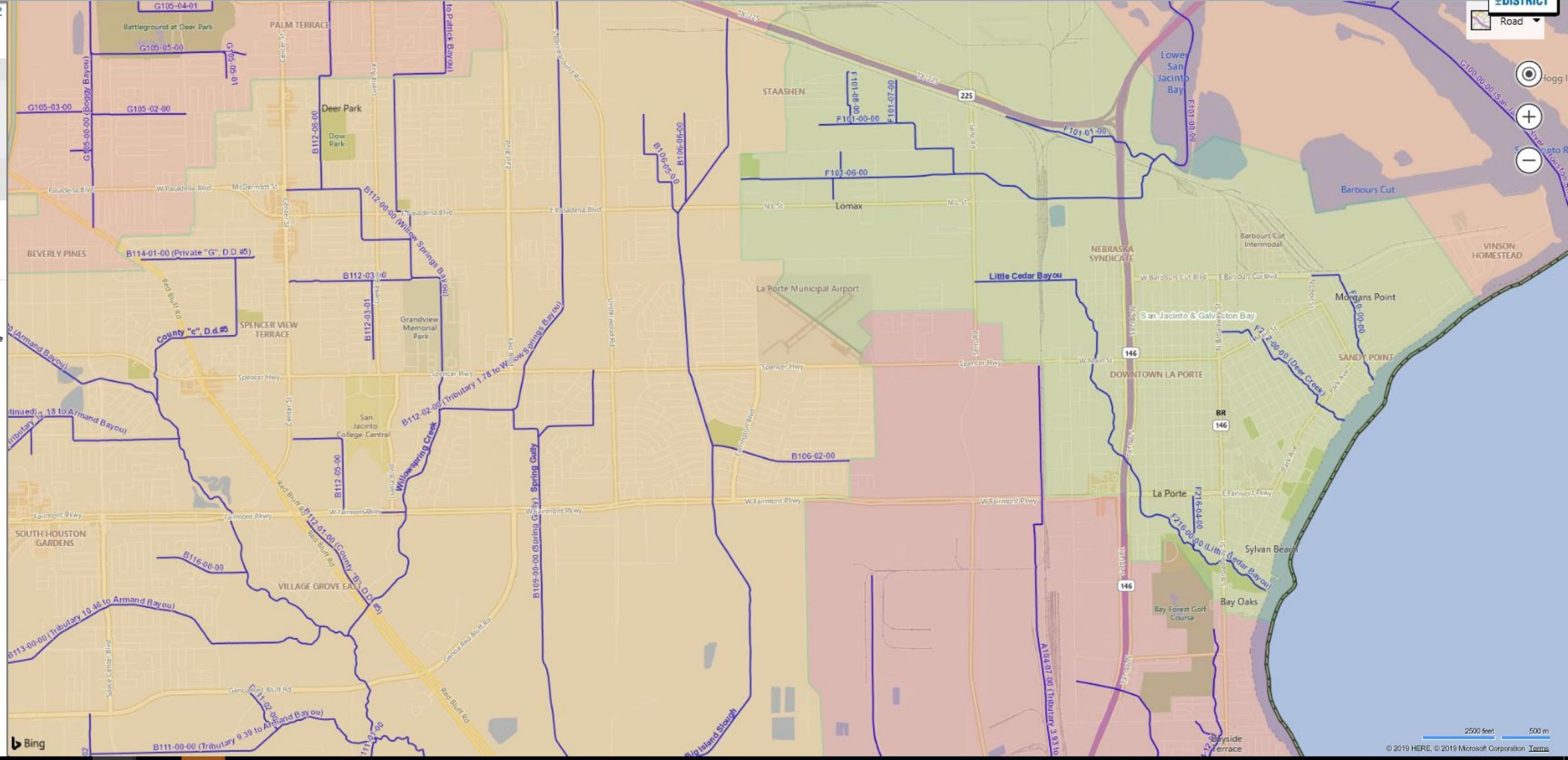
ADDRESS SEARCH [HELP](#)
Street Address, City, State, Zip Code
e.g. 8900 Northwest Fwy., Houston, TX 77092

MAP VIEW OPTIONS - Select One

- Mapped Floodplains
 - Floodway
 - 1% (100-year) Floodplain
 - 0.2% (500-year) Floodplain
 - 1% (100-year) Coastal Floodplain
- Watersheds (color-coded)
- Ponding
- Channels (Bayous and Creeks)
 - Open Channels
 - Enclosed Channels
- Harris County Boundary

[Reset to County-Level View](#) [Disclaimer](#)

 An interactive mapping tool of the Harris County Flood District





REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: <u>September 14, 2020</u>
Requested By: <u>Lorenzo Wingate, Asst. Director</u>
Department: <u>Public Works</u>
<input checked="" type="radio"/> Report <input type="radio"/> Resolution <input type="radio"/> Ordinance

Appropriation	
Source of Funds:	_____
Account Number:	_____
Amount Budgeted:	_____
Amount Requested:	_____
Budgeted Item:	<input type="radio"/> Yes <input type="radio"/> No

Exhibits:

SUMMARY & RECOMMENDATION

Receive report regarding Harris County Flood Control District's (HCFCD) and Harris County Precinct 2's current and future plans related to flooding in the City of La Porte.

ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

Receive report, and provide staff with direction, as necessary.

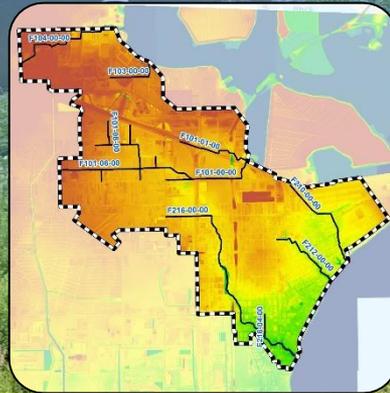
Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date

Galveston Bay Watershed Planning Project

City of LaPorte
Drainage Committee Meeting
(August 10, 2020)

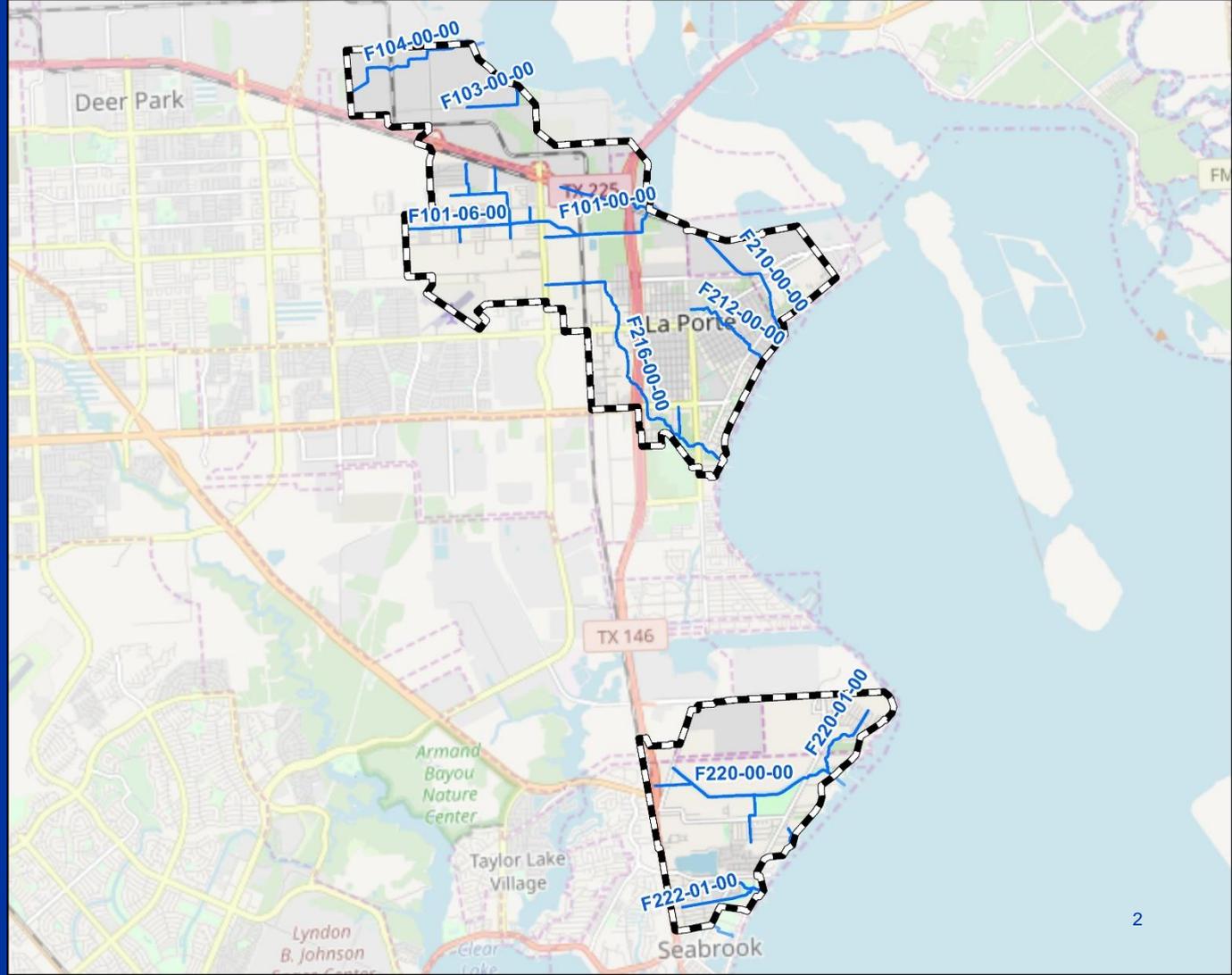


Problem Area 2 (N+6)

**F212-00-00 &
F210-00-00**

Content:

- Source of Flooding
- Possible Flood Mitigation Projects
- Constraints & Opportunities
- Damage Reduction Metrics and Costs
- Recommendations



PROBLEM AREA: N + 6

Sources of Flooding

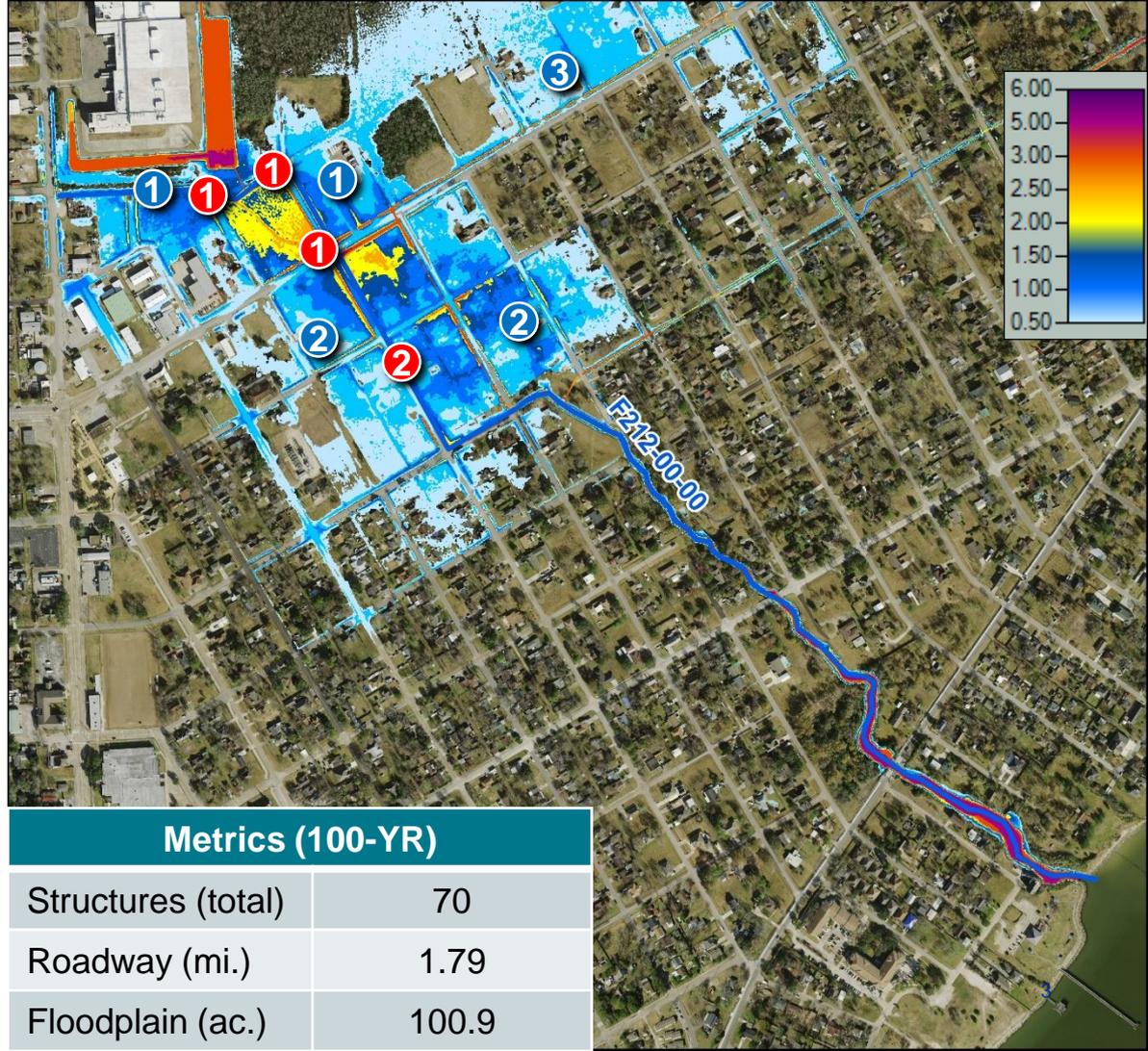
Existing Conditions (100-YR)
F212-00-00 & F210-00-00

Likely Cause

- ① Undersized Culvert
- ② Undersized Trunk-line

Flood Risk

- ① Riverine Flooding
- ② Sheet Flow to Southeast
- ③ Sheet Flow to Northeast



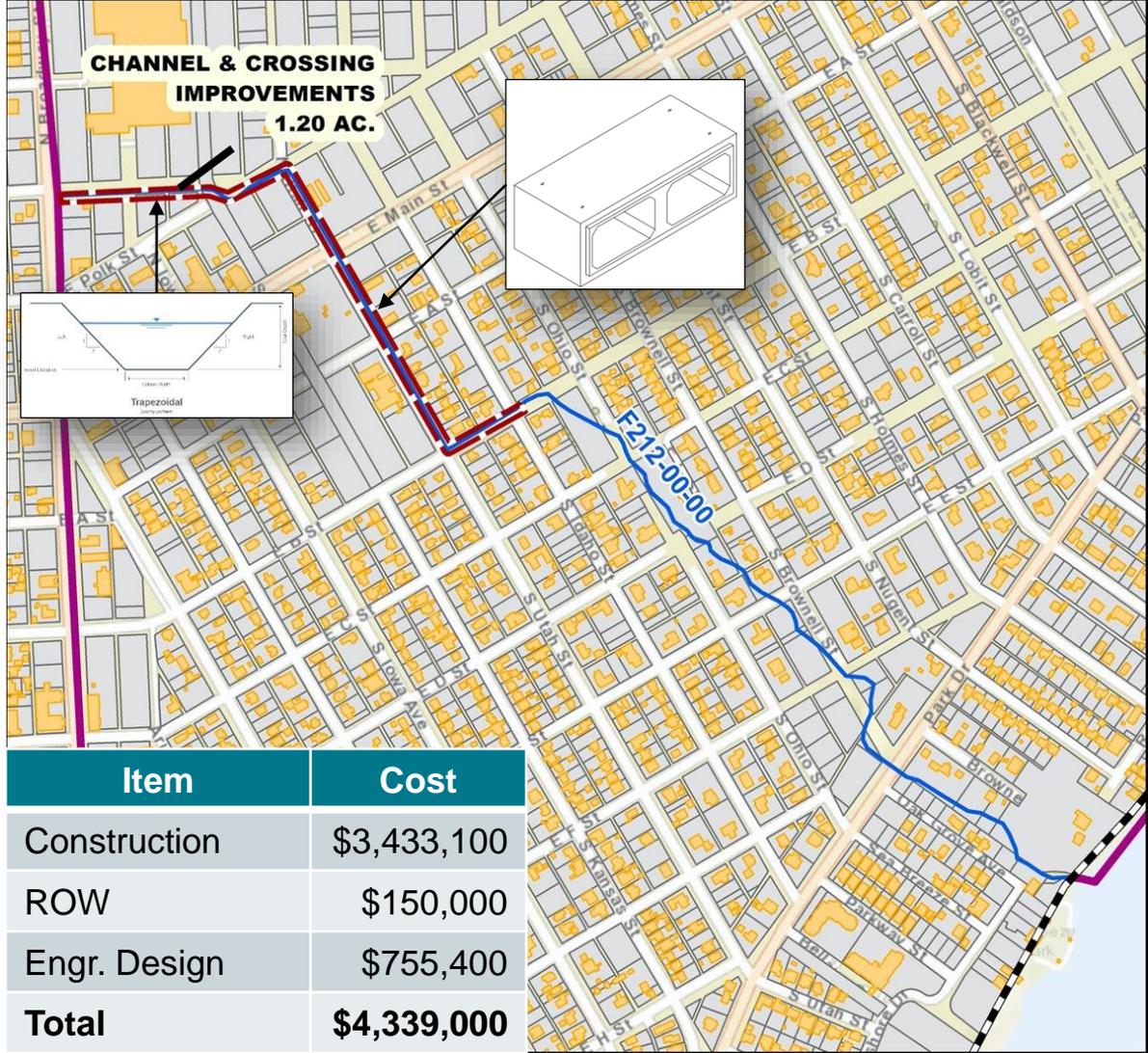
Metrics (100-YR)

Structures (total)	70
Roadway (mi.)	1.79
Floodplain (ac.)	100.9

PROBLEM AREA: N + 6
Possible Flood Damage Reduction Projects –
Alternative D
(Recommended)

Channel Improvement + Box Culvert Replacement

- Channel Improvement:
 - N Broadway St to N Utah St
 - Deepening, 4:1 side slope
- Box Culvert Replacement:
 - N Utah St to East E St
 - Double 8'x5' conc box culvert

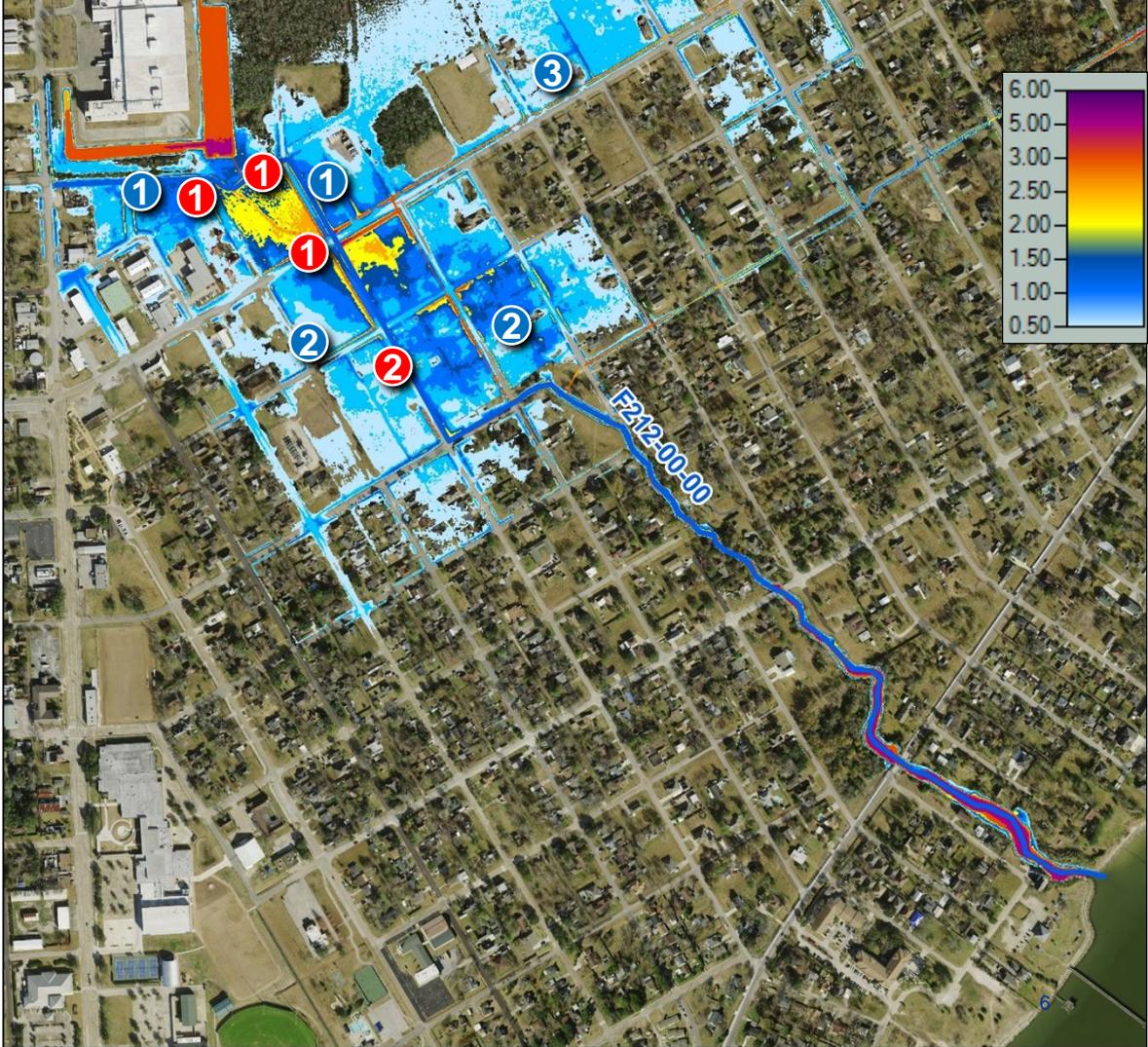


Item	Cost
Construction	\$3,433,100
ROW	\$150,000
Engr. Design	\$755,400
Total	\$4,339,000

PROBLEM AREA: N + 6
Sources of Flooding
 Existing Conditions (100-YR)
 F212-00-00 & F210-00-00

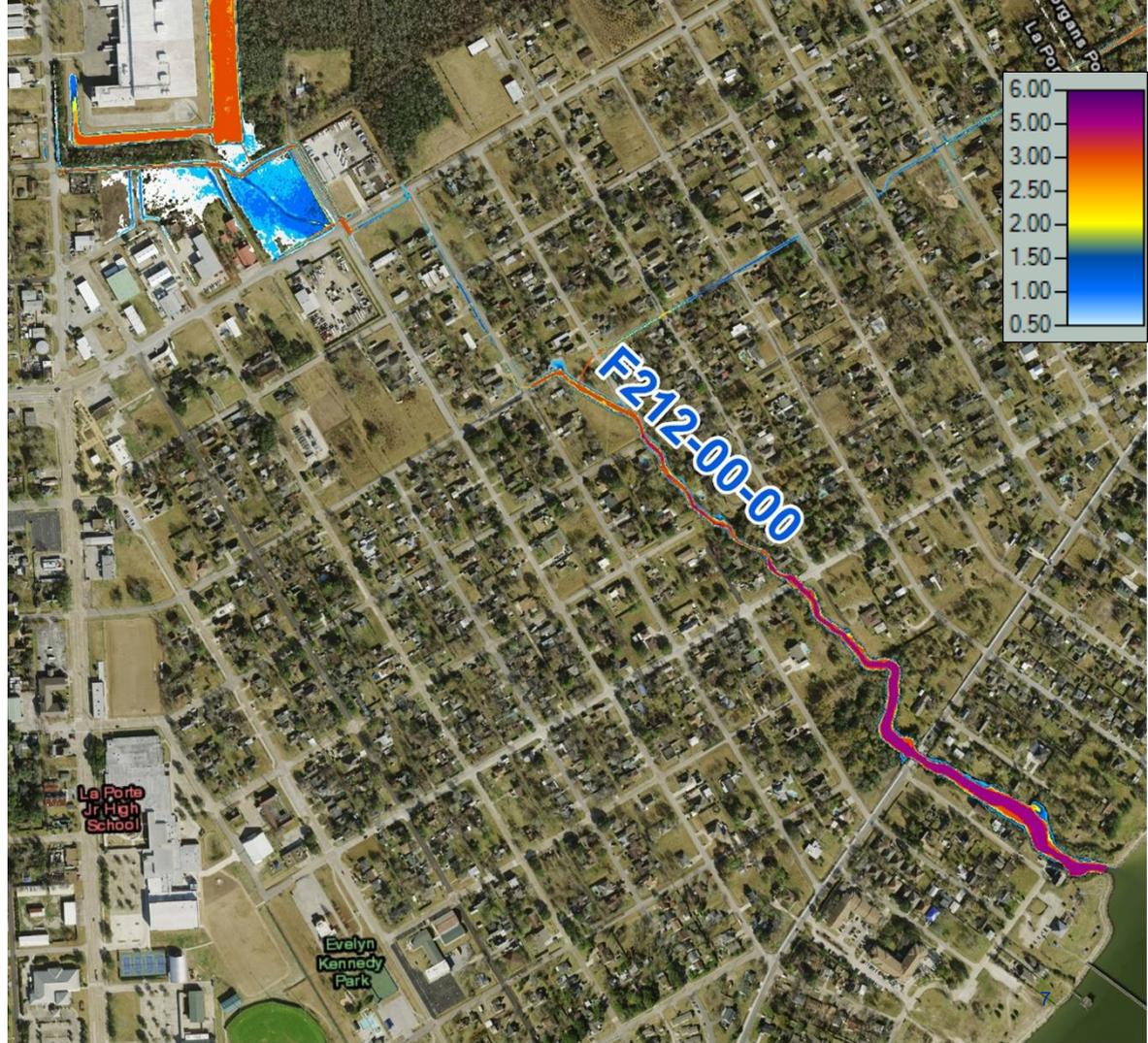
Damage Reduction (total)

Type	Existing	Proposed	Reduction
TPASF50	199	3	193
Structures	70	0	70
Roadway (mi.)	1.79	0.12	1.67
Floodplain (ac.)	61.9	53.2	8.7



PROBLEM AREA: N + 6
Sources of Flooding
 Proposed Conditions (100-YR)
 F212-00-00

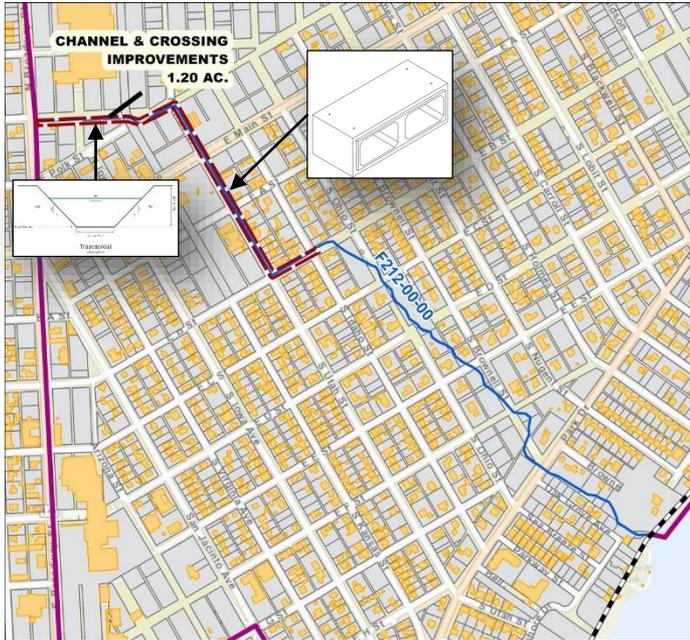
Damage Reduction (total)			
Type	Existing	Proposed	Reduction
TPASF50	199	3	193
Structures	70	0	70
Roadway (mi.)	1.79	0.12	1.67
Floodplain (ac.)	61.9	53.2	8.7



PROBLEM AREA: N + 6

Probable Costs

Alternative D (Recommended)



F212-00-00 RECOMMENDED IMPROVEMENTS - ALTERNATIVE D

OPINION OF PROBABLE COST

ITEM NAME	QTY	UNIT	UNIT COST	GROSS COST (USD.)
DEMOLITION				
REMOVE STR BOX CULV	EA.	11	\$5,844.92	\$64,300
REMOVE STR DRIVEWAY CULV (5 Along Idaho St. & 2 Along Main St.)	EA.	7	\$736.42	\$5,200
RELOCATE ELECTRICAL SERVICES	EA	11	\$2,439.86	\$26,900
REMOV STR (BOX CULVERT)	LF.	3,000.00	\$47.94	\$143,900
ROAD & CROSSING IMPROVEMENTS				
FULL - DEPTH REPAIR CRCP (8")	SY	458.33	\$237.17	\$108,800
BOX CULVERTS - 2 (8 FT X 5 FT) BOX CULVERTS @ 1,800 LF.	LF.	3,600.00	\$570.05	\$2,052,200
DETENTION PONDS 1				
EXCAVATION (CHANNEL)	CY.	10,137.00	\$11.80	\$119,700
REMOV STR (MANHOLE)	EA	2	\$460.12	\$1,000
ROW ACQUISITION & TRAFFIC CONTROL				
TRAFFIC CONTROL	MO	6	\$2,500.00	\$15,000
EROSION CONTROL MEASURES	MO	6	\$1,000.00	\$6,000
MOBILIZATION & START UP	%	5	-	\$127,200
CONTINGENCY	%	30	-	\$762,900
TOTAL CONSTRUCTION COST				\$3,433,100
ROW ACQUISITION & TRAFFIC CONTROL				
ROW ACQUISITION (2.5 ACRES TOTAL)	LS.	2.5	\$60,000.00	\$150,000
TOTAL ROW COST				\$150,000
DESIGN PHASE SERVICES				
ENGINEERING / SURVEYING / GEOTECH	%	12	-	\$412,000
CONSTRUCTION MANAGMENT / PERMITTING	%	10	-	\$343,400
TOTAL ENGINEERING COST				\$755,400
TOTAL PROJECT COST				\$4,338,500



REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

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Appropriation	
Source of Funds:	_____
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Amount Budgeted:	_____
Amount Requested:	_____
Budgeted Item:	<input type="radio"/> Yes <input type="radio"/> No

Exhibits:

SUMMARY & RECOMMENDATION

Opportunity to discuss any drainage concerns not covered by previous items.

ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

Receive report, and provide staff with direction, as necessary.

Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date