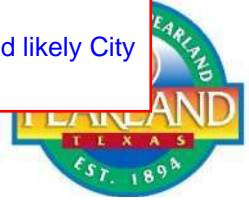


8 October 2020

To: Mayor and City

Council members

Resident drive for preserving certain existing conditions causing additional time and likely City project expense. Continuing to work with all for path forward. Clay



West Lea Subdivision Drainage Improvements

Scope: The West Lea Drainage project intends to improve the drainage within the West Lea Subdivision. The project area is bounded by Manvel Road, Bailey Road, BDD4 Ditch, and Mary's Creek. Drainage improvements will require removal and replacement of driveway culverts, upsizing of culverts, widening and re-grading of bar ditches, the installation of storm sewer pipe, and improvements to the drainage ditch along the eastern perimeter to Mary's Creek. The project will also require the re-grading of the ditch along Manvel Road all the way to Mary's Creek outfall.

Justification: Several homes in the neighborhood have a history of repetitive loss. Concerns related to drainage have been expressed by the residents on several occasions. In addition, the City staff has participated in several HOA meetings to understand the drainage concerns. When the new FIRM maps go into effect (December 30, 2020) the majority of the subdivision will be located within the FIRM 100-year floodplain. Subdivision drainage is currently severed by an inadequate open ditch system.

Project Manager: Jennifer Lee

Designer: IDS Engineering Group

Contractor: N/A

Budget Info:



Funding Sources	Series	To Date	Future	Total Budget
General Revenue - Cash				-
Certificates of Obligation				-
Certificates of Obligation				-
General Obligation Bonds	2020	600,000		600,000
General Obligation Bonds			4,892,000	4,892,000
W/S Revenue Bonds				-
Impact Fee - Debt				-
Other Funding Sources				-
Total Funding Sources		600,000	4,892,000	5,492,000

Expenditures	To Date	Future	Total
PER			-
Land			-
Design	552,780		552,780

Construction		4,029,300	4,029,300
Construction Management/Inspection			-
Construction Materials Testing		15,000	15,000
FF&E			-
Total Expenditures	552,780	4,044,300	4,597,080

Project Balance/Contingency			894,920
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Schedule Info:

	<i>Base Line</i>	<i>Current</i>
Design Start	August-19	August-19
Bid Start	June-20	April-21
Construction Start	June-21	
Proposed Construction Completion	November-22	

Rain Days: N/A

Highlights:

- Notice to proceed for the design of the drainage system was issued on 08.22.19
- The project will help with the conveyance of the smaller intense rainfall events. The project will be meeting the current Engineering Design Criteria Manual for drainage requirements, such as meeting the required 3-year event and the 100-year detention requirements for road side ditches, but there will likely still be flooding of structures with heavy intense longer duration storms as many of the resident's finish floor elevations are below the road elevation
- The design team prepared for and attended a public meeting with property owners on 11.19.19 BDD4 attended this meeting but did not contribute at this time.
 - During the meeting the property owner concerns focused on the ditch depth and side slope configuration for mowing and the conflict of ditch and mature trees that are either in the right of way or are in very close proximity to the right of way. Ditch cross-section must be wide and flat to allow mowing, but this configuration impacts more trees. Residents expressed more concern for keeping the trees than resolving potential flooding issues.
 - Additional discussions were held with the residents regarding the conversion of an unused, existing public road right-of-way located east of the subdivision to expand the existing drainage basin infrastructure. Although dedicated as a public road ROW the land is privately owned and residents do not want to allow a larger ditch to be constructed within that area. The project's ability to expand the existing drainage ditch is critical to resolving the drainage issues.
 - In response to resident's continuing concerns for preservation of existing trees and ability to mow ditches, the project team reassessed and revised the proposed drainage system; adding pipe at the deep end of the ditches to limit the depth of ditches.
 - Partnering with the City's efforts, BDD4 began discussions with Staff to assist in easement acquisition and opened discussions with property owners.
- The project team attended a second property owner meeting on 01.10.20 to provide updates to the residents on changes to the proposed solutions in response to their concerns.

- Subdivision representatives continued to expressed concern for the potential loss of trees and perceived loss of property to widened ditches.
- This continued resistance resulted in Staff agreeing to another modification to the plan for the drainage system.
- This modification added additional drainage pipe in areas where ditch slopes would exceed 3:1 due to depth and limited Right of Way.
- BDD4 introduced a plan to widening Mary's Creek in the area of the subdivision outfall (Manvel Road to Magnolia Parkway) at BDD4's cost, in addition;
 - BDD4's proposal included increasing the size of the existing drainage ditch/ detention pond east of the subdivision.
 - The proposal requires all 18 residents that own property along the eastern boundary of the subdivision to sign easement agreements with BDD4 to change the road easement to a drainage easement.
 - Currently 12 owners have signed, as of this memo, 4 have not. Meetings are being conducted with these 4 outstanding residents in an effort to complete this re-assignment.
- The design consultant has completed hydraulic and hydrologic (H&H) modeling and is coordinating those results with BDD4's engineer for a total model of the entire system at this location. This will be used to configure the system outfall and operation of the detention pond.
- The design consultant is also coordinating with TxDOT to obtain agreement to include the cleaning and regrading of the drainage ditch along Manvel Road as part of the overall project scope.
- Efforts to accommodate resident's concerns through these major modifications to the design on two occasions have increased construction costs. BDD4 has accepted the costs of modifications to the creek and construction of the detention pond and modified outfall. Within the subdivision, costs to install drainage pipe, not originally included in the preliminary engineering report, have increased the overall cost of the City's portion of this project. The 60% cost estimate now stands at \$4.65 million. The current budget is \$3.66 million for construction plus \$1.23 in contingency. Staff will work to mitigate this with cost efficiencies, but the scope of work required has increased significantly due to the addition of the partnerships with BDD4 detention work and now looking at converting some of the roadside ditches to underground piping as the water is discharged to the detention basin.

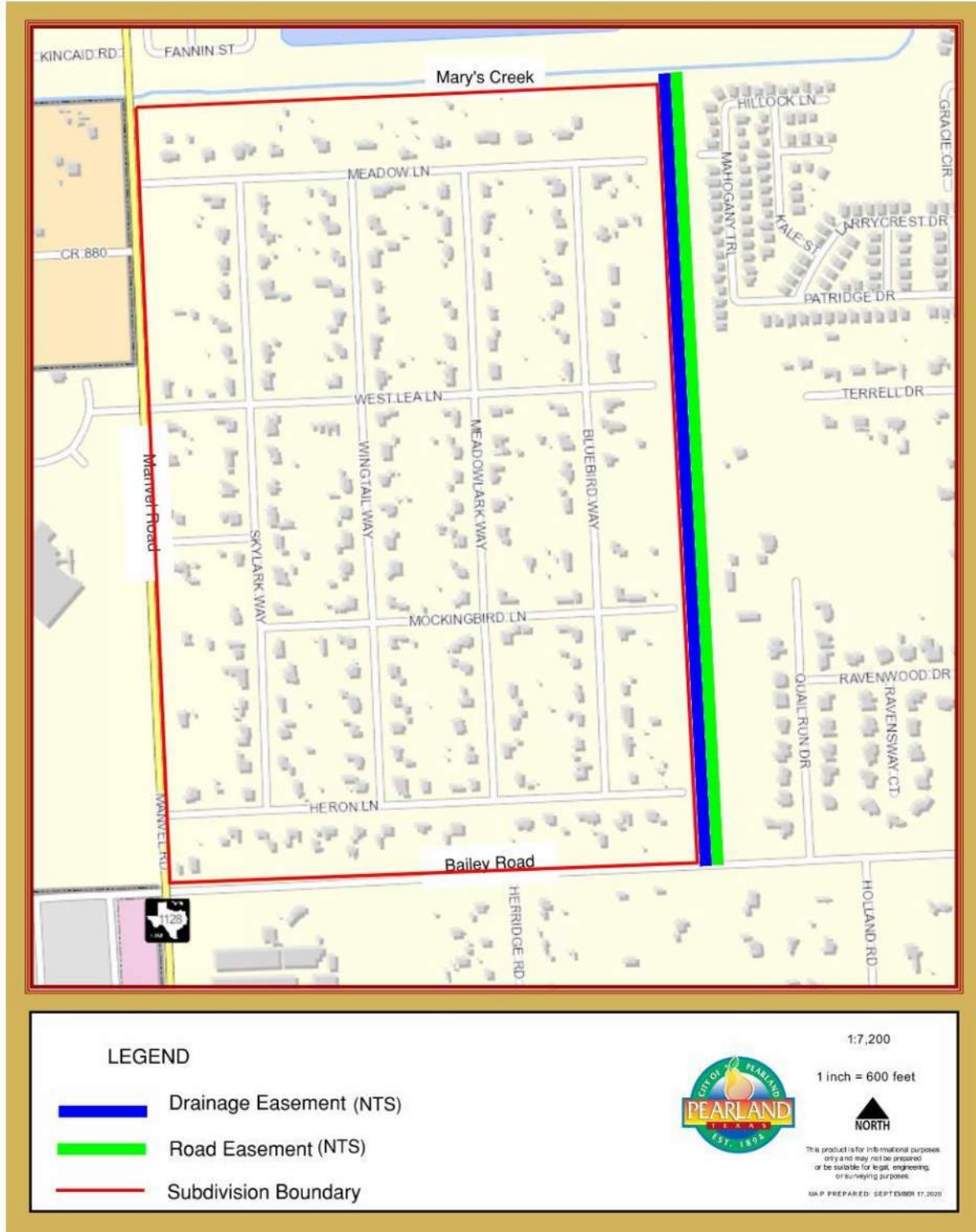
Upcoming Work Items:

- The engineer will coordinate with BDD4 to finalize H&H area model with the latest drainage design and resident imposed constraints
- 60% plan submittal was received October 6th and is under review at this time.
- Continue discussions with the representatives from the subdivision to obtain the drainage easements and maintain communication regarding progress
- Continued coordination with BDD4 and their plan to widen Mary's Creek at this location
- Continued coordination with TxDOT to perform maintenance on the Manvel Road ditch.

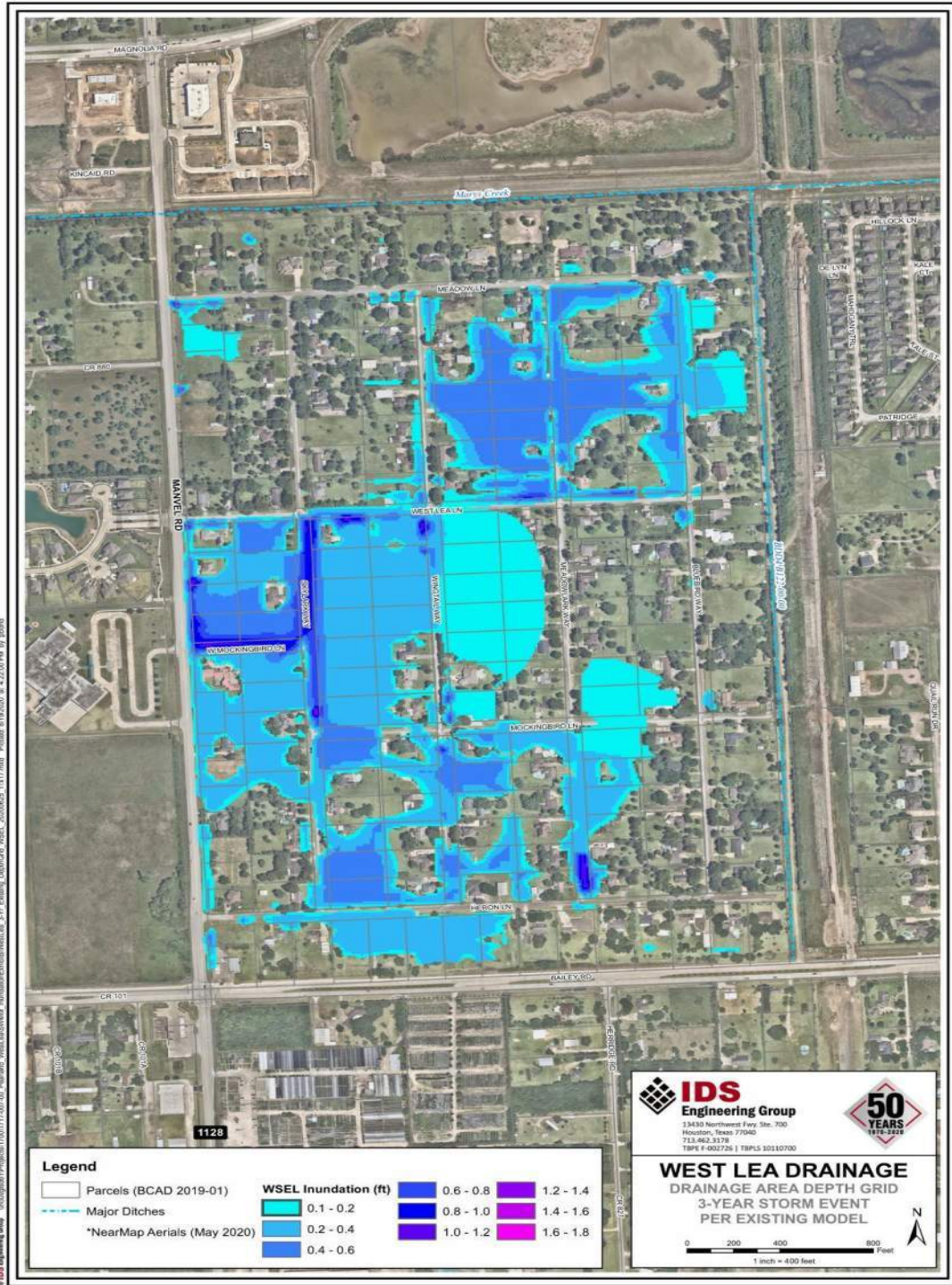
Previous Memos: 06/20/19

Project Location Map

West Lea Subdivision Area Map



Existing Ponding - 3 Yr. Event:



Ponding After Improvements – 3 Yr. Event:

