



AGENDA ITEM SUMMARY FORM

MEETING DATE: November 14, 2023
PREPARED BY: Chris Whittaker
AGENDA CONTENT: 2024 Water Line Improvements

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT: **FUNDS REQUESTED:**
\$109,035.00

FUND:

EXECUTIVE SUMMARY:

The City of Angleton has requested HDR to provide a proposal for water line replacement in the City. These identified locations have been a source of maintenance issues for City staff and require replacement.

Staff requested HDR to included cost and exhibits that identify other priority water lines that have been identified for replacement. They are not included in this proposal. They are as follows:

1. Sebesta Road
2. Wimberley Street
3. Chevy Chase Street
4. West Ash Street
5. Orange Street
6. East Cedar Street
7. Swift Street

RECOMMENDATION: Council to approve HDR for an amount of \$109,305.00 to perform the 2024 Water Line Improvements.



November 3, 2023

Chris Whittaker
City Manager
City of Angleton
121 S. Velasco
Angleton, Texas 77515

Re: Proposal for Professional Engineering Services
Design, Bid, and Construction Administration Phase Services for
2024 Water Line Improvements
City of Angleton

Dear Mr. Whittaker:

HDR Engineering, Inc. (HDR) is pleased to submit this proposal for the design, bid, and construction phase services for the above referenced project. A general overview of the project, proposed scope of services, and a fee breakdown are included herein.

General Overview

The City of Angleton (the City) has requested a proposal for the design phase, bid phase, and construction administration services for the above referenced project. The City has identified 2,250 linear feet of water lines that they would like to replace in this project due to repeated maintenance having to be performed on them. The water line will be installed by boring to limit the disturbance to the residents during construction. The water lines are as follows:

North Rock Island (Approximately 750 Linear Feet) - This improvement begins at East Magnolia Street and continuing south to the north side of State Highway 35 (SH 35). This project will replace an existing 6-inch water line with a new 8-inch pvc water line.

East Myrtle Street (Approximately 420 Linear Feet) - This improvement begins at North Rock Island Street continuing west to North Anderson Street. This project will replace an existing 6-inch water line with a new 6-inch pvc water line.

North Anderson Street (Approximately 430 Linear Feet) - This improvement begins at East Myrtle Street continuing south to the south side of SH 35. This project will replace an existing 6-inch water line with a new 8-inch pvc water line.



McBride Parkway (Approximately 650 Linear Feet) - This improvement begins at Miller Street continuing south to East Cedar Street. This project will replace an existing 2-inch water line with a new 6-inch pvc water line.

SCOPE

The scope of engineering services is as follows:

DESIGN PHASE SERVICES

I. Basic Services

- Research and gather existing data on the project such as existing utility information, pipeline crossings, and drawings on the existing utilities.
- Create existing background and perform a site visit to verify topographical features.
- Examine geotechnical information to determine potential soil conditions and potential impact on construction methodology and costs.
- Coordinate with other governmental entities or utility agencies in regard to the project (TCEQ).
- Coordinate with the City and apprise the City of HDR's findings and analysis and obtain input from the City.
- Incorporate appropriate comments and corrections from the City's review.
- Prepare final engineering design drawings and specifications as one package.
- Prepare final cost estimate for the project.
- Coordinate with the City during the design process and provide draft documents for the City to review and comment upon. Incorporate appropriate comments with the final bid documents.
- Furnish two (2) sets of construction documents to the City.



II. Special Services – Design Phase Services

Field Survey Services

- Baker and Lawson, Inc. will be performing the survey in the above mentioned locations. This will include 100-feet past the project extents at each intersection.
- One Call will be performed to identify private utility companies' location in the field and collect with the survey data.
- Survey will provide a full topographic survey with 100 feet cross sections and all features along the right-of-way and 15 feet outside of it.
- All sizes, materials, and flow line elevations of all crossing sewers (sanitary and storm). All water valves shall be identified including a measure down to the top of the nut.

Geotechnical Investigation Services

- Perform four (4) soil borings for a total of 50 vertical feet.
- Provide a geotechnical report presenting an investigation of the soils on the above mentioned streets.
- The geotechnical report will provide usual and customary information on the existing soil. It will include ground water conditions, bedding and backfill recommendations, and trench safety information. The report will be based upon information obtained from borings.

Traffic Control Plan

- Prepare traffic control plans for the project. This plan will include phasing, detours, and required signs and lane closures to complete the proposed improvements.

Texas Department of Transportation (TxDOT) Coordination

- The proposed water line replacement will require a tie-in to the existing water lines in TxDOT right-of-way on North Rock Island Street and North Anderson Street. Coordination with TxDOT for traffic control and construction phasing during construction will be required.



- No costs have been included in this proposal for permit fees associated with the coordination with TxDOT. The City shall pay all fees associated with TxDOT permitting.

BID PHASE SERVICES

HDR will enter into this phase after the acceptance of the Design Phase documents. There will be two separate bid packages that will be advertised. The following tasks must be performed for each project. HDR shall:

- Assist the City in obtaining bids for the project. The City will advertise the project and will absorb all related advertising costs. HDR will coordinate with the City and will assist in developing the wording of the advertisement.
- HDR will post project plans and specifications on CivCast to generate interest for the project during the bidding process, provide information to and answer questions from potential bidders concerning the Project's construction documents and prepare addendums as necessary. The City will absorb costs associated to posting on CivCast.
- Conduct a pre-bid conference for potential bidders, including the preparation of the meeting agenda and preparing a meeting minutes summary.
- Evaluate the bids and the qualifications of the apparent low bidder and advise the City as to the acceptability of the apparent low bidder.
- Prepare a letter of recommendation and advise the City as to the acceptability of the apparent low bidder.
- Attend a City Council Meeting to award construction project.

CONSTRUCTION ADMINISTRATION SERVICES

HDR will enter into this phase after the City accepts the bids and awards the contract to a contractor and Act as the City's Project Representative during the construction phase.

- Conduct a pre-bid conference and distribute meeting minutes.
- Review and respond accordingly to all submittals as required by the contract specifications.
- Prepare change orders necessitated by field conditions.



- Review the contractor's pay estimates, evaluate the completion of work, and make payment recommendations to the City.
- Visit the site periodically to observe the progress and quality of executed work and to determine in general if such work is proceeding in accordance with the Contract Documents. Full-time site representation (construction observation) is not included as part of the Basic Services for Construction Administration.
- HDR will not be responsible for the means, methods, techniques, sequences, or procedures of construction selected by the Contractor(s) or the safety precautions and programs incident to the work of the Contractor(s). HDR's effort will be directed toward providing a greater degree of confidence for the City that the completed work of Contractor(s) will conform to the Contract Documents, but HDR will not be responsible for the failure of Contractor(s) to perform the work in accordance with the Contract Documents. During site visits HDR shall keep the City informed of the progress of the work, shall endeavor to guard the City against defects and deficiencies in such work and may disapprove or reject work failing to conform to the Contract Documents.
- Conduct a final walk through of the Project and make a punch list of items remaining on the project
- Provide a recommendation for Final Payment on the Project to the City.
- Engineer shall provide one set of reproducible record plans based on the drawings provided to the Engineer by the Contractor(s).
- Engineer shall provide the City one electronic copy of record plans based on the drawings provided to the Engineer by the Contractor(s).

III. ADDITIONAL SERVICES

- Additional Services shall only be performed when directed by the City to HDR. These services are not considered normal or customary engineering services.
- Services resulting from significant changes in the extent of the project or its design including but not limited to changes in size, complexity, the City's schedule, or character of construction or method of financing; and revising previously accepted studies, reports design documents or Contract Documents when such revisions are due to causes beyond HDR's control.



- Preparing documents for alternate bids outside of the original scope requested by the City or documents for out of sequence work.
- Preparing to serve or serving as a consultant or witness for the City in any litigation, public hearing or other legal or administrative proceeding involving the Project.
- HDR will endeavor to appraise the City of any potential additional or extended services that may result from the above listed items, prior to HDR's expenditure of time on such services. As previously noted, any such extended or additional services shall only be performed when directed by the City to HDR.

TERMS AND CONDITIONS

This project will be performed under the current on-going services contract with the City of Angleton, and its terms and conditions will apply.

FEE SCHEDULE

HDR will submit monthly invoices with status reports for all engineering work completed to invoice date. Please be aware that these fees are based on performing all improvement design as a single project. The fees presented in this section reflect a combined effort to perform all proposed work concurrently. If the project is reduced the proposed fees will need to be adjusted accordingly to reflect the cost of performing engineering services on a smaller project. The invoices will be based on the following schedule:

<u>Engineering Services</u>	<u>Total Fees</u>
Surveying (Cost + 10%)	\$ 14,675.00
Geotechnical (cost + 10%)	\$ 10,560.00
Traffic Control Plan (Lump Sum)	\$ 4,500.00
TxDOT coordination (Hourly)	\$ 5,500.00
Design Phase (Lump Sum)	\$ 42,300.00
Bid Phase (Lump Sum)	\$ 7,500.00
Construction Admin (Lump Sum)	\$ 24,000.00
Proposed Engineering Services Total	\$ 109,035.00
Estimated Construction Cost	\$ 406,600.00
<u>Proposed Engineering Total</u>	<u>\$ 109,035.00</u>
Total Estimated Project Cost	\$ 515,635.00



Additional services beyond those described in the Scope of Services will be completed under the current on-going contract at the established rates. No additional services will be performed or invoiced without prior authorization from the City.

It is anticipated that it will take four (4) months after the approval to complete the design.

HDR appreciates the opportunity to submit this agreement and to continue working for the City of Angleton.

Sincerely,

HDR ENGINEERING, INC

David Weston
Vice President/Department Manager

Approved:

Authorized signature on behalf of the City of Angleton:

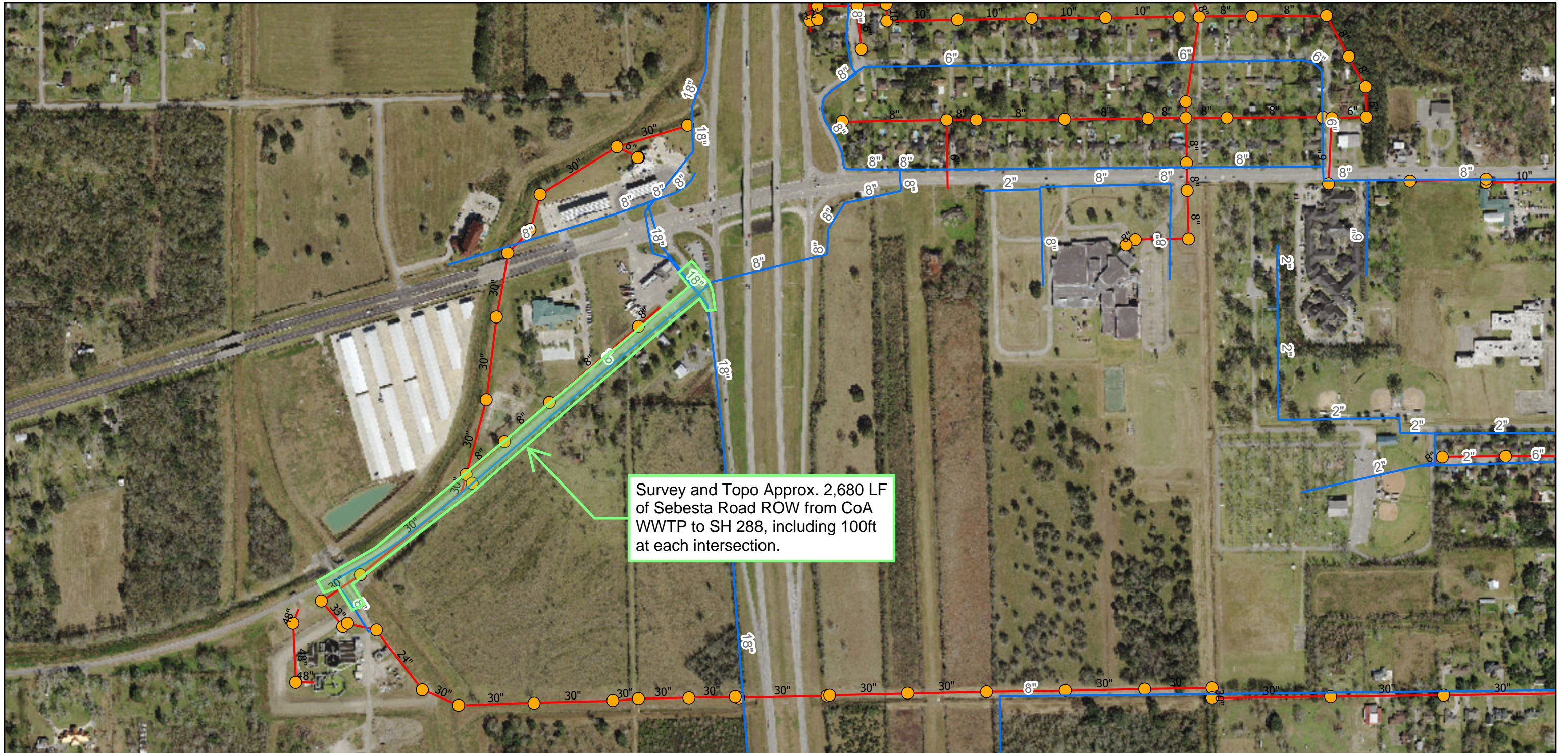
Printed Name: _____

Title: _____

Date: _____

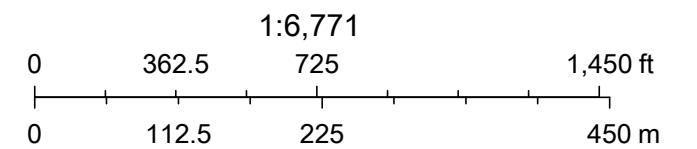
OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit A: Sebesta Road					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 34,000.00	\$ 34,000.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPES requirements, complete in place, the sum of:	L.S.	1	\$ 5,000.00	\$ 5,000.00
SUB-TOTAL GENERAL ITEMS					\$ 39,000.00
B) WATER ITEMS					
3	12-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	3	\$ 5,000.00	\$ 15,000.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	1	\$ 700.00	\$ 700.00
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	1	\$ 7,000.00	\$ 7,000.00
6	Furnish and install 12-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	2680	\$ 135.00	\$ 361,800.00
7	12" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	1	\$ 4,000.00	\$ 4,000.00
8	12" wet connection, complete in place, the sum of:	E.A.	1	\$ 3,800.00	\$ 3,800.00
9	8" cut, plug, and abandon, complete in place, the sum of:	E.A.	2	\$ 1,500.00	\$ 3,000.00
10	Short side water service connection replacement, complete in place, the sum of:	E.A.	2	\$ 1,000.00	\$ 2,000.00
11	Long side water service connection replacement, complete in place, the sum of:	E.A.	2	\$ 1,500.00	\$ 3,000.00
12	Abandon existing water valve, complete in place, the sum of:	E.A.	1	\$ 800.00	\$ 800.00
13	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	2680	\$ 2.00	\$ 5,360.00
SUB-TOTAL WATER ITEMS					\$ 406,460.00
SUB-TOTAL GENERAL ITEMS					\$ 39,000.00
SUB-TOTAL WATER ITEMS					\$ 406,460.00
MISCELLANEOUS ITEMS (30%)					\$ 133,638.00
TOTAL CONSTRUCTION ITEMS					\$ 579,098.00
SURVEY AND TOPOGRAPH ROW					\$ 10,587.50
ENGINEERING ITEMS					\$ 144,774.50
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 734,460.00

Exhibit A: Sebesta Road Water Line



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- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains

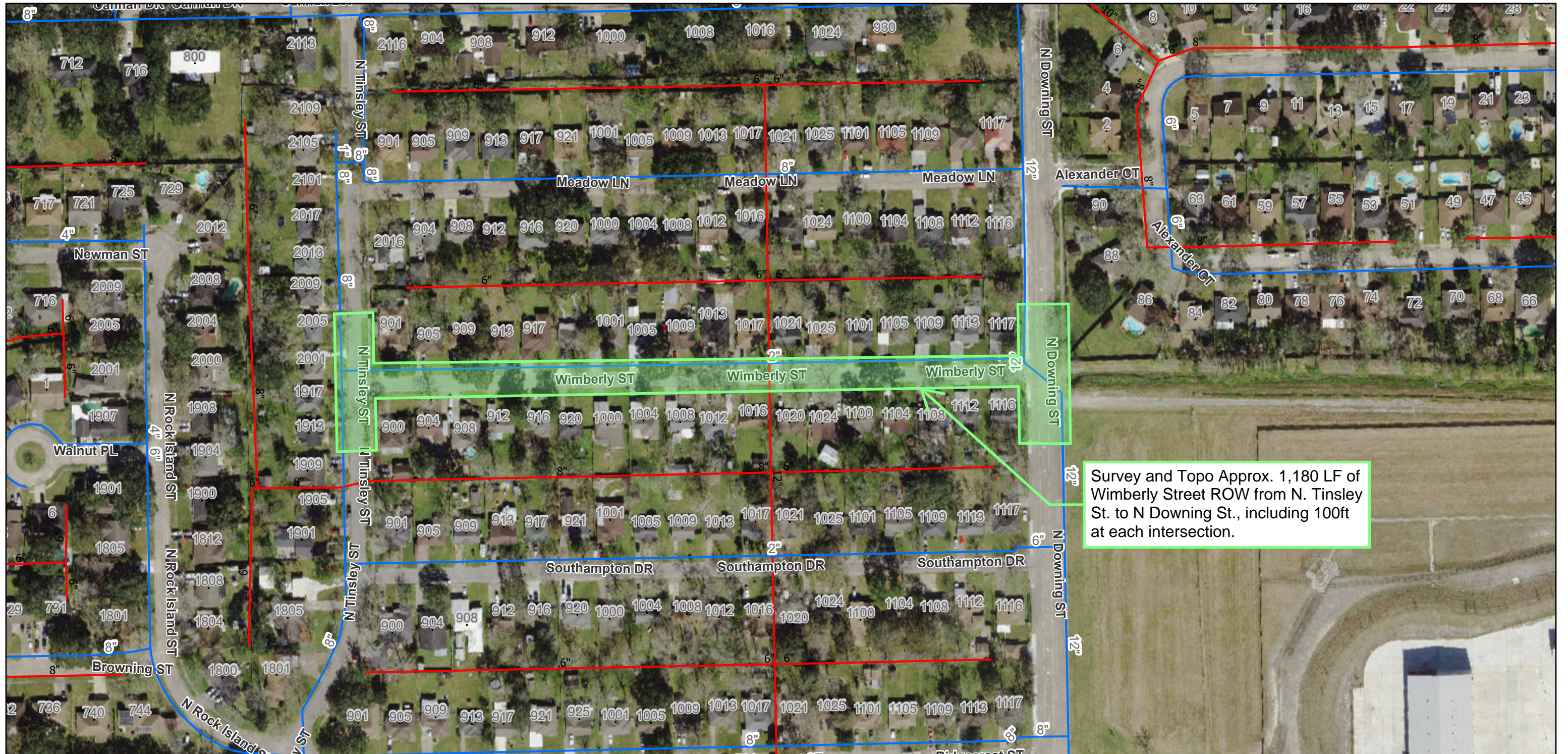


Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Brazoria County, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, HERE, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA,

ArcGIS Web AppBuilder

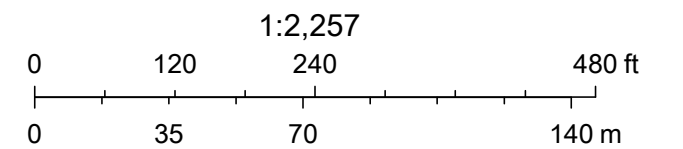
OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit B: Wimberly Street					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 15,000.00	\$ 15,000.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPES requirements, complete in place, the sum of:	L.S.	1	\$ 5,000.00	\$ 5,000.00
SUB-TOTAL GENERAL ITEMS					\$ 20,000.00
B) WATER ITEMS					
3	8-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	4	\$ 2,700.00	\$ 10,800.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	1	\$ 700.00	\$ 700.00
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	1	\$ 7,000.00	\$ 7,000.00
6	Furnish and install 8-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	1180	\$ 85.00	\$ 100,300.00
7	8" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	2	\$ 1,500.00	\$ 3,000.00
8	8" wet connection, complete in place, the sum of:	E.A.	0	\$ 1,100.00	\$ -
9	2" cut, plug, and abandon, complete in place, the sum of:	E.A.	2	\$ 500.00	\$ 1,000.00
10	Short side water service connection replacement, complete in place, the sum of:	E.A.	17	\$ 1,000.00	\$ 17,000.00
11	Long side water service connection replacement, complete in place, the sum of:	E.A.	18	\$ 1,500.00	\$ 27,000.00
12	Abandon existing water valve, complete in place, the sum of:	E.A.	2	\$ 800.00	\$ 1,600.00
13	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	1180	\$ 2.00	\$ 2,360.00
SUB-TOTAL WATER ITEMS					\$ 170,760.00
SUB-TOTAL GENERAL ITEMS					\$ 20,000.00
SUB-TOTAL WATER ITEMS					\$ 170,760.00
MISCELLANEOUS ITEMS (30%)					\$ 57,228.00
TOTAL CONSTRUCTION ITEMS					\$ 247,988.00
SURVEY AND TOPOGRAPH ROW					\$ 6,154.50
ENGINEERING ITEMS					\$ 61,997.00
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 316,139.50

Exhibit B: Wimberley Street Water Line



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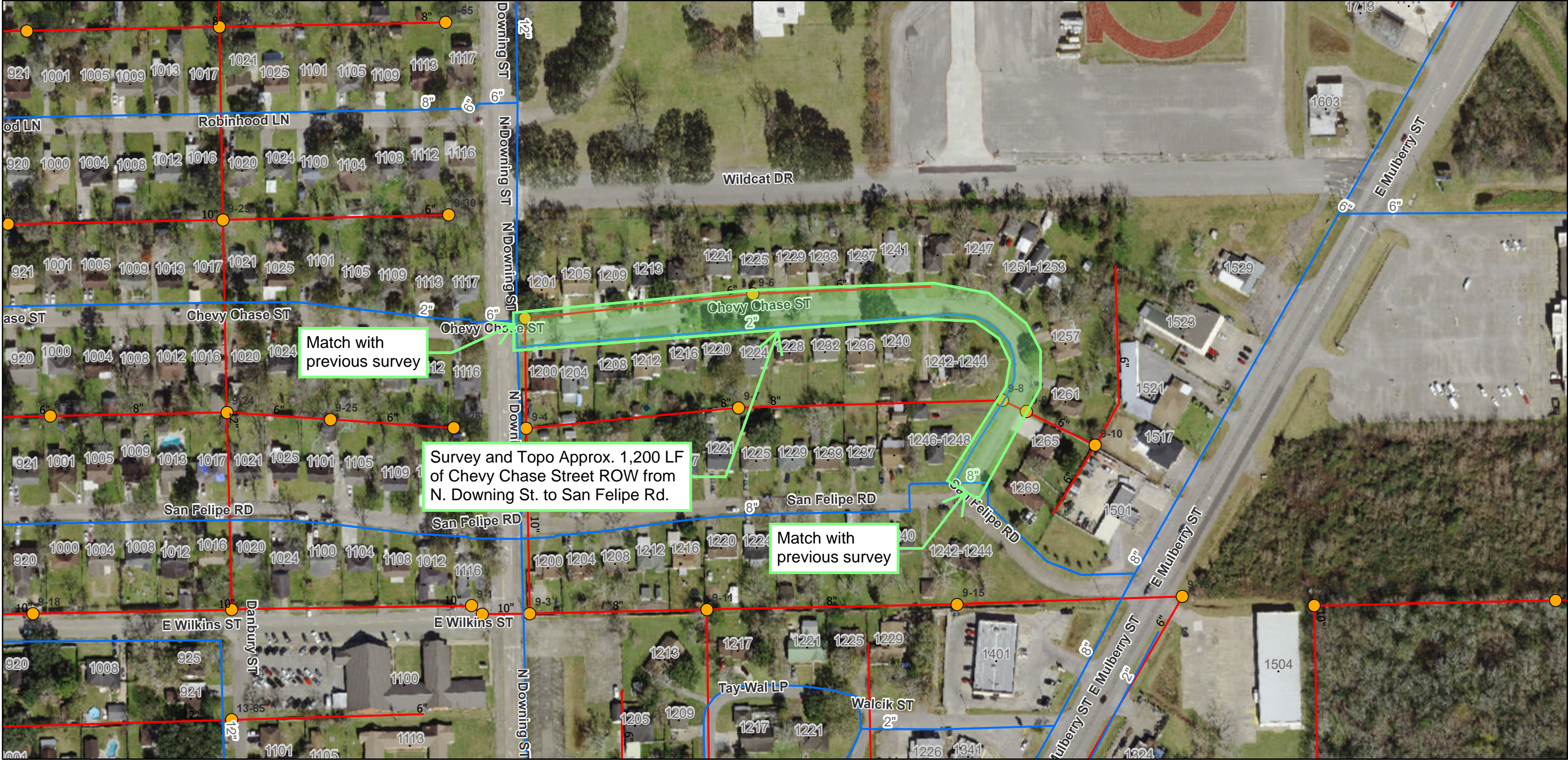
- Streets
- Address Points
- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastystyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Brazoria County, Texas Parks &

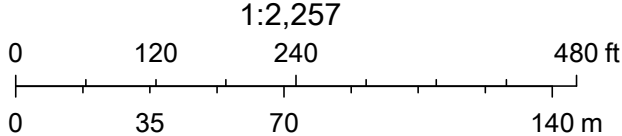
OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit C: Chevy Chase Drive					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 15,500.00	\$ 15,500.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPES requirements, complete in place, the sum of:	L.S.	1	\$ 5,000.00	\$ 5,000.00
SUB-TOTAL GENERAL ITEMS					\$ 20,500.00
B) WATER ITEMS					
3	8-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	5	\$ 2,700.00	\$ 13,500.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	2	\$ 700.00	\$ 1,400.00
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	2	\$ 7,000.00	\$ 14,000.00
6	Furnish and install 8-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	1200	\$ 85.00	\$ 102,000.00
7	8" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	2	\$ 1,500.00	\$ 3,000.00
8	8" wet connection, complete in place, the sum of:	E.A.	0	\$ 1,100.00	\$ -
9	2" cut, plug, and abandon, complete in place, the sum of:	E.A.	2	\$ 500.00	\$ 1,000.00
10	Short side water service connection replacement, complete in place, the sum of:	E.A.	13	\$ 1,000.00	\$ 13,000.00
11	Long side water service connection replacement, complete in place, the sum of:	E.A.	18	\$ 1,500.00	\$ 27,000.00
12	Abandon existing water valve, complete in place, the sum of:	E.A.	4	\$ 800.00	\$ 3,200.00
13	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	1200	\$ 2.00	\$ 2,400.00
SUB-TOTAL WATER ITEMS					\$ 180,500.00
SUB-TOTAL GENERAL ITEMS					\$ 20,500.00
SUB-TOTAL WATER ITEMS					\$ 180,500.00
MISCELLANEOUS ITEMS (30%)					\$ 60,300.00
TOTAL CONSTRUCTION ITEMS					\$ 261,300.00
SURVEY AND TOPOGRAPH ROW					\$ 4,562.80
ENGINEERING ITEMS					\$ 65,325.00
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 331,187.80

Exhibit C: Chevy Chase Water Line



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- Streets
- Address Points
- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Brazoria County, Texas Parks &

OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit D: West Ash Street					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 13,200.00	\$ 13,200.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPES requirements, complete in place, the sum of:	L.S.	1	\$ 5,000.00	\$ 5,000.00
SUB-TOTAL GENERAL ITEMS					\$ 18,200.00
B) WATER ITEMS					
3	8-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	5	\$ 2,700.00	\$ 13,500.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	2	\$ 700.00	\$ 1,400.00
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	EA.	3	\$ 7,000.00	\$ 21,000.00
6	Furnish and install 8-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	1050	\$ 85.00	\$ 89,250.00
7	8" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	3	\$ 1,500.00	\$ 4,500.00
8	8" wet connection, complete in place, the sum of:	E.A.	0	\$ 1,100.00	\$ -
9	2" cut, plug, and abandon, complete in place, the sum of:	E.A.	4	\$ 500.00	\$ 2,000.00
10	Short side water service connection replacement, complete in place, the sum of:	E.A.	6	\$ 1,000.00	\$ 6,000.00
11	Long side water service connection replacement, complete in place, the sum of:	E.A.	7	\$ 1,500.00	\$ 10,500.00
12	Abandon existing water valve, complete in place, the sum of:	E.A.	3	\$ 800.00	\$ 2,400.00
13	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	1050	\$ 2.00	\$ 2,100.00
SUB-TOTAL WATER ITEMS					\$ 152,650.00
SUB-TOTAL GENERAL ITEMS					\$ 18,200.00
SUB-TOTAL WATER ITEMS					\$ 152,650.00
MISCELLANEOUS ITEMS (30%)					\$ 51,255.00
TOTAL CONSTRUCTION ITEMS					\$ 222,105.00
SURVEY AND TOPOGRAPH ROW					\$ 6,384.40
ENGINEERING ITEMS					\$ 55,526.25
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 284,015.65

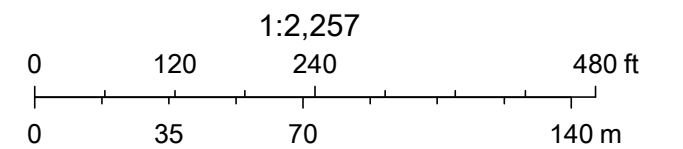
Exhibit D: West Ash Street Water Line



Survey and Topo Approx. 1,050 LF of W. Ash Street ROW and N. Walker Street to W. Miller St., including 100ft at each intersection.

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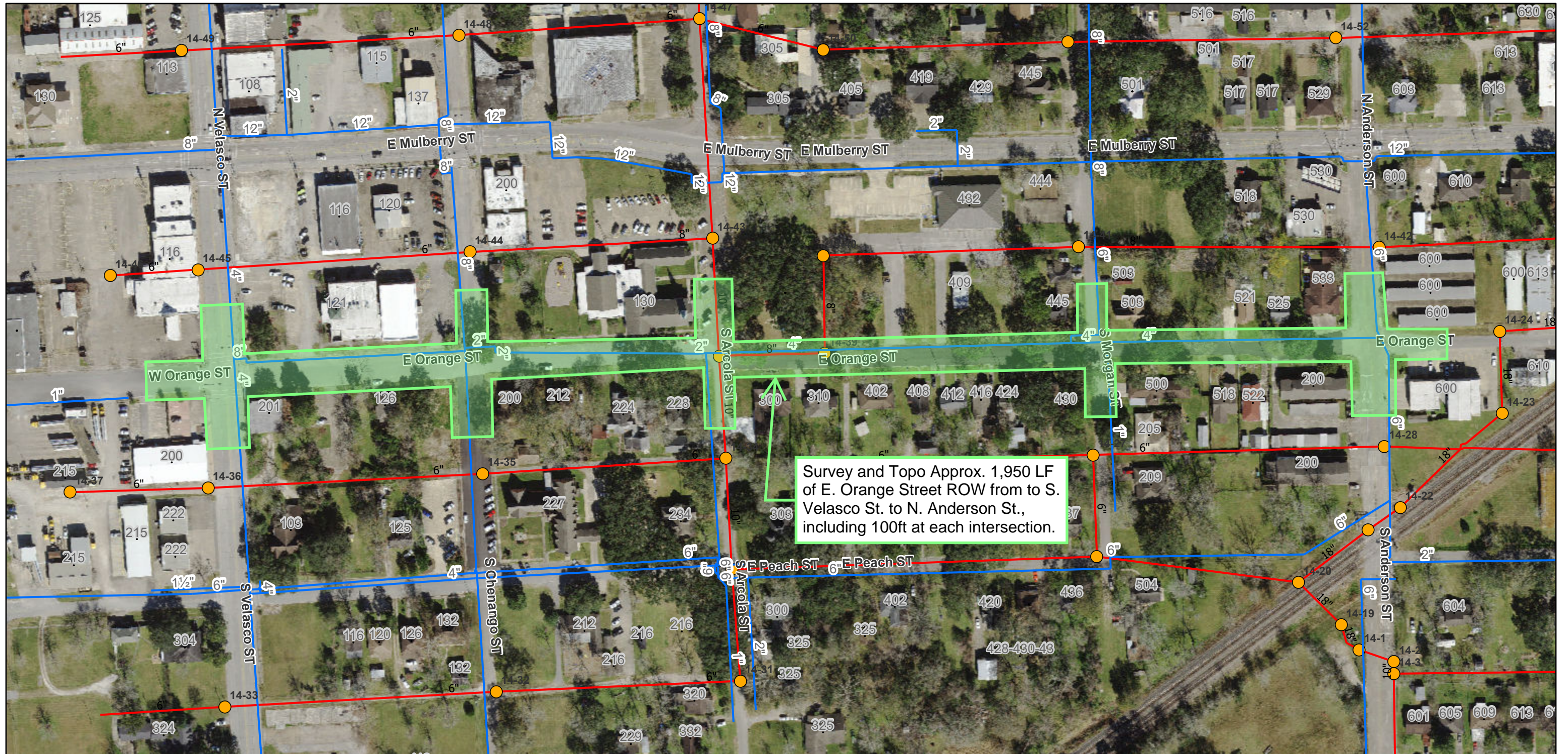
- Streets
- Address Points
- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Brazoria County, Texas Parks &

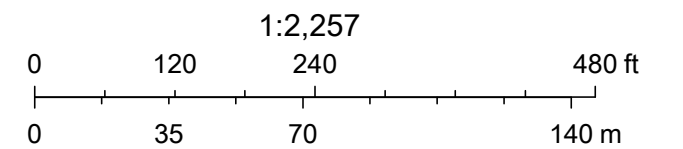
OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit E: Orange Street					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 24,500.00	\$ 24,500.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPEs requirements, complete in place, the sum of:	L.S.	1	\$ 5,000.00	\$ 5,000.00
				SUB-TOTAL GENERAL ITEMS	\$ 29,500.00
B) WATER ITEMS					
3	8-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	12	\$ 2,700.00	\$ 32,400.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	4	\$ 700.00	\$ 2,800.00
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	4	\$ 7,000.00	\$ 28,000.00
6	Furnish and install 8-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	1950	\$ 85.00	\$ 165,750.00
7	8" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	7	\$ 1,500.00	\$ 10,500.00
8	8" wet connection, complete in place, the sum of:	E.A.	0	\$ 1,100.00	\$ -
9	2" cut, plug, and abandon, complete in place, the sum of:	E.A.	3	\$ 500.00	\$ 1,500.00
10	4" cut, plug, and abandon, complete in place, the sum of:	E.A.	4	\$ 1,000.00	\$ 4,000.00
11	Short side water service connection replacement, complete in place, the sum of:	E.A.	15	\$ 1,000.00	\$ 15,000.00
12	Long side water service connection replacement, complete in place, the sum of:	E.A.	12	\$ 1,500.00	\$ 18,000.00
13	Abandon existing water valve, complete in place, the sum of:	E.A.	5	\$ 800.00	\$ 4,000.00
14	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	1950	\$ 2.00	\$ 3,900.00
				SUB-TOTAL WATER ITEMS	\$ 285,850.00
				SUB-TOTAL GENERAL ITEMS	\$ 29,500.00
				SUB-TOTAL WATER ITEMS	\$ 285,850.00
				MISCELLANEOUS ITEMS (30%)	\$ 94,605.00
				TOTAL CONSTRUCTION ITEMS	\$ 409,955.00
				SURVEY AND TOPOGRAPH ROW	\$ 11,866.80
				ENGINEERING ITEMS	\$ 102,488.75
				TOTAL OPINION OF PROBABLE CONSTRUCTION COST	\$ 524,310.55

Exhibit E: Orange Street Water Line



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- Streets
- Address Points
- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Brazoria County, Texas Parks &

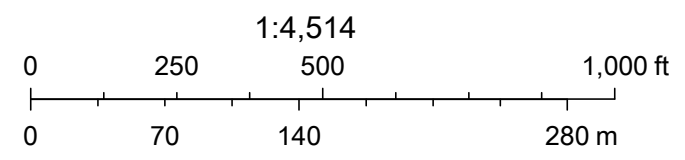
OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit F: East Cedar Street Improvements					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 43,000.00	\$ 43,000.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPES requirements, complete in place, the sum of:	L.S.	1	\$ 10,000.00	\$ 10,000.00
SUB-TOTAL GENERAL ITEMS					\$ 53,000.00
B) WATER ITEMS					
3	8-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	30	\$ 2,700.00	\$ 81,000.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	5	\$ 700.00	\$ 3,500.00
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	EA.	5	\$ 7,000.00	\$ 35,000.00
6	Furnish and install 8-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	3410	\$ 85.00	\$ 289,850.00
7	8" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	15	\$ 1,500.00	\$ 22,500.00
8	8" wet connection, complete in place, the sum of:	E.A.	0	\$ 1,100.00	\$ -
9	2" cut, plug, and abandon, complete in place, the sum of:	E.A.	15	\$ 500.00	\$ 7,500.00
10	Short side water service connection replacement, complete in place, the sum of:	E.A.	23	\$ 1,000.00	\$ 23,000.00
11	Long side water service connection replacement, complete in place, the sum of:	E.A.	13	\$ 1,500.00	\$ 19,500.00
12	Abandon existing water valve, complete in place, the sum of:	E.A.	20	\$ 800.00	\$ 16,000.00
13	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	3410	\$ 2.00	\$ 6,820.00
SUB-TOTAL WATER ITEMS					\$ 504,670.00
SUB-TOTAL GENERAL ITEMS					\$ 53,000.00
SUB-TOTAL WATER ITEMS					\$ 504,670.00
MISCELLANEOUS ITEMS (30%)					\$ 167,301.00
TOTAL CONSTRUCTION ITEMS					\$ 724,971.00
SURVEY AND TOPOGRAPH ROW					\$ 20,780.10
ENGINEERING ITEMS					\$ 181,242.75
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 926,993.85

Exhibit F: East Cedar Street Improvements



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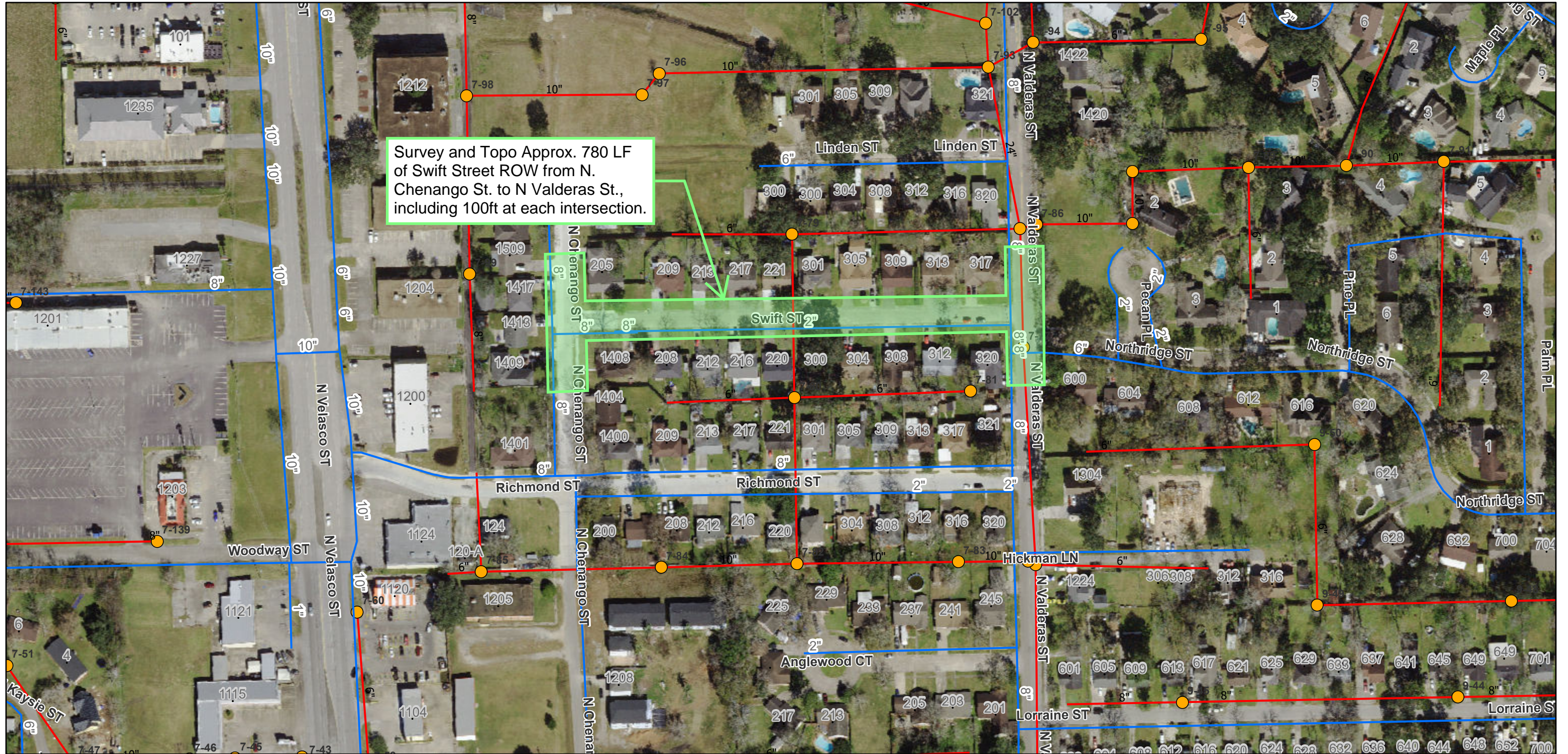
- Streets
- Address Points
- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Brazoria County, Texas Parks &

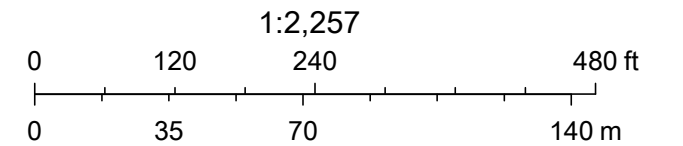
OPINION OF PROBABLE CONSTRUCTION COST					
Water/Sewer Maintenance Project					
CITY OF ANGLETON, TX					
July 2023					
Water Line - Exhibit G: Swift Street					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT
A) GENERAL ITEMS					
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes, complete in place, the sum of:	L.S.	1	\$ 11,000.00	\$ 11,000.00
2	Temporary Sediment Control including Inlet protection barriers, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments and TDPES requirements, complete in place, the sum of:	L.S.	1	\$ 5,000.00	\$ 5,000.00
SUB-TOTAL GENERAL ITEMS					\$ 16,000.00
B) WATER ITEMS					
3	8-inch resilient seated gate valve with box, complete in place, the sum of:	E.A.	4	\$ 2,700.00	\$ 10,800.00
4	Remove and slavage fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	E.A.	0	\$ 700.00	\$ -
5	Install fire hydrant assembly, including 6-inch gate valve and box and hydrant lead, complete in place, the sum of:	EA.	1	\$ 7,000.00	\$ 7,000.00
6	Furnish and install 8-inch PVC C-900 DR18 CL 235 water line, all fittings, by open cut or augered construction as shown on plans, all depths, complete in place, the sum of:	L.F.	780	\$ 85.00	\$ 66,300.00
7	8" tapping sleeve and valve connection, complete in place, the sum of:	E.A.	2	\$ 1,500.00	\$ 3,000.00
8	8" wet connection, complete in place, the sum of:	E.A.	0	\$ 1,100.00	\$ -
9	2" cut, plug, and abandon, complete in place, the sum of:	E.A.	2	\$ 500.00	\$ 1,000.00
10	Short side water service connection replacement, complete in place, the sum of:	E.A.	13	\$ 1,000.00	\$ 13,000.00
11	Long side water service connection replacement, complete in place, the sum of:	E.A.	10	\$ 1,500.00	\$ 15,000.00
12	Abandon existing water valve, complete in place, the sum of:	E.A.	6	\$ 800.00	\$ 4,800.00
13	Trench safety for all water line greater than 5' deep, including installation, operation and removal, complete in place, the sum of:	L.F.	780	\$ 2.00	\$ 1,560.00
SUB-TOTAL WATER ITEMS					\$ 122,460.00
SUB-TOTAL GENERAL ITEMS					\$ 16,000.00
SUB-TOTAL WATER ITEMS					\$ 122,460.00
MISCELLANEOUS ITEMS (30%)					\$ 41,538.00
TOTAL CONSTRUCTION ITEMS					\$ 179,998.00
SURVEY AND TOPOGRAPH ROW					\$ 4,562.80
ENGINEERING ITEMS					\$ 44,999.50
TOTAL OPINION OF PROBABLE CONSTRUCTION COST					\$ 229,560.30

Exhibit G: Swift Street Water Line



6/16/2023, 2:31:00 PM

- Streets
- Address Points
- Water Mains
- Sanitary Sewer - Manholes
- Sanitary Sewer - Gravity Mains



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, Brazoria County, Texas Parks &