



**CITY COUNCIL REGULAR MEETING
MONDAY, DECEMBER 5, 2022 – 6:00 P.M.
COUNCIL CHAMBERS, CITY HALL
910 S. FRIENDSWOOD DRIVE
FRIENDSWOOD, TEXAS 77546**

AGENDA

1. CALL TO ORDER

2. INVOCATION

3. PLEDGE OF ALLEGIANCE – United States and State of Texas

4. COUNCIL COMMENTS AND REPORTS

Notice is hereby given in accordance with Section 551.0415 of the Texas Government Code, the City Council of the City of Friendswood may receive reports about items of community interest from City staff and/or a member of the City Council, but no action or possible action shall be taken or discussed concerning the subject of such report.

5. PUBLIC COMMENT

In order to comply with the provisions of the Texas Open Meetings Act, the City Council may not deliberate any item not listed on the agenda, as such, the City Council will listen to public comment and may (i) refer the item to City Management for further action or (ii) direct staff for the placement of said item on a future agenda. During public comment, the public shall comply with rules of decorum.

6. WORK SESSION TOPICS

A. Receive and discuss an update regarding the Drainage Update.

7. CITY MANAGER'S REPORT

- A. Present an update regarding Council candidate application and packet.
- B. Present an update regarding the new water meter interface for residents.
- C. Present an update regarding the Texas EMS Educator of the Year Award.

8. BUSINESS ITEM

- A. Consider awarding the Blackhawk Facility Renovation Project (CSP 2022-17) to Construction Masters of Houston, Inc.

- B. Consider ratifying the Agreement and Change Order No.1 with Pavecon Ltd. Co., for emergency repairs required on Bay Area Boulevard.
- C. Consider authorizing an End User Agreement with PM Construction & Rehab, LLC, through the Houston-Galveston Area Council's Contract #TP07-18 for the Sanitary Sewer Evaluation Survey, Phase IV Project, which will execute identified sewer main line and sewer manhole rehabilitation repairs.
- D. Consider consenting to the extension of the License Agreement between Greater Harris County 911 Emergency Network and American Tower, L.P., for the continued use of the telecommunications tower located at 1606 Whitaker Drive, Friendswood, Texas.

9. PROPOSED RESOLUTIONS & ORDINANCES

- A. Consider an ordinance amending the City's General Budget for Fiscal Year 2021-2022 by approving "Budget Amendment XIII" and providing for supplemental appropriation and/or transfer of certain funds.
- B. Consider an ordinance amending the City's General Budget for Fiscal Year 2022-2023 by approving "Budget Amendment II" and providing for supplemental appropriation and/or transfer of certain funds.
- C. Consider an ordinance amending Chapter 2 "Civil Emergencies," Article I "In General," Section 22-1 "Definitions"; Article II "Emergency Management," Section 22-24 "Authority to participate in countywide emergency management plan," Section 22-25 "Emergency management director," Section 22-27 "Organization," Section 22-29 "Expenditure of public funds," and Section 22-30 "Oath of personnel assigned functions or responsibilities"; and Article III "Assistance to Counties and Other Cities," Section 22-58 "Authority of city officials to furnish assistance" and Section 22-59 "Rights and duties of officers" of the Friendswood City Code; and repealing Chapter 22 "Civil Emergencies," Article II "Emergency Management," Section 22-58 "Interlocal agreement adopted" of the Friendswood City Code; to update definitions, duties, authority and references for emergency management activities.
- D. Consider a resolution authorizing the submission of a Community Development Block Grant Mitigation Method of Distribution (CDBG-MIT MOD) application to the Texas General Land Office for infrastructure improvements projects.
- E. Consider a resolution adopting both Financial Policies and Procedures along with Procurement Policies and Procedures for the City of Friendswood for Federal Grant Programs.

10. CONSENT AGENDA

- A. Consider accepting the City of Friendswood's FY2021-2022 Asphalt Street Maintenance Program, and the commencement of the contractor's one-year maintenance period.
- B. Consider approving a banner permit application for The Harbor (Friendswood Community Church) to advertise its annual "Christmas Eve Church Services."

- C. Consider approving the ad valorem tax report for October 2022.
- D. Consider approving the minutes of the City Council Regular Meeting held on November 7, 2022.

11. ADJOURNMENT

PUBLIC NOTICE IS GIVEN THAT IN ADDITION TO ANY EXECUTIVE SESSION LISTED ABOVE, THE CITY COUNCIL RESERVES THE RIGHT TO ADJOURN INTO EXECUTIVE SESSION AT ANY TIME AS AUTHORIZED BY THE TEXAS GOVERNMENT CODE SECTIONS 551.071 - 551.090 TO DISCUSS ANY MATTERS LISTED ABOVE.

THE CITY OF FRIENDSWOOD IS COMMITTED TO COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT. REASONABLE ACCOMMODATIONS AND EQUAL ACCESS TO COMMUNICATIONS WILL BE PROVIDED UPON REQUEST. PLEASE CONTACT THE CITY SECRETARY'S OFFICE BY PHONE AT (281) 996-3270, FAX (281) 482-1634, OR CONTACT (281) 996-3270 VIA RELAY TEXAS AT 711 OR 1-800-735-2988 FOR TTY SERVICES. FOR MORE INFORMATION CONCERNING RELAY TEXAS, PLEASE VISIT: [HTTP://RELAYTEXAS.COM](http://RELAYTEXAS.COM).



Leticia Brysch, City Secretary
Posted in compliance with the Open Meetings Act on this 1st day
of December 2022, at 5:00 p.m.



FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/08/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Receive and discuss an update regarding the Drainage Update.

Originating Department: Engineering

Degree of importance: Significant.

SUMMARY / ORIGINATING CAUSE

Updating the Council on pertinent drainage topics to Friendswood enables them to make critical decisions regarding drainage and flood control projects the City's Engineering Department is pursuing. The Engineering Department recommends Council actively listen and participate in the discussion. Of importance for consideration is the resulting impact on the future tax rate from funding of the FM 1959 Basin and Whitcomb Inline/Offline Detention Basin projects.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Education on drainage projects will enable the Council to make informed decisions.

RECOMMENDATIONS

Recommend the Council listen and actively participate in any discussion.

ATTACHMENTS

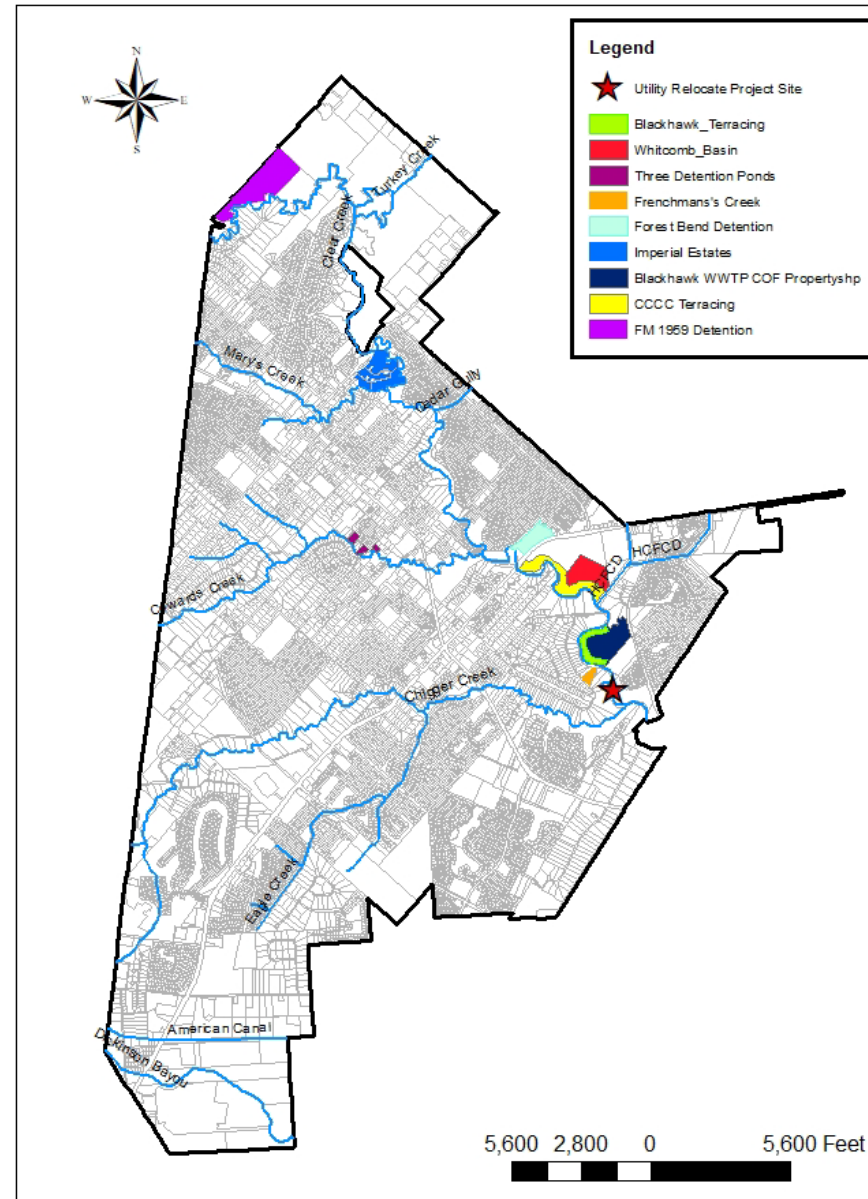
1. December 2022 Drainage Update - Final Version

CITY OF FRIENDSWOOD

December 2022 Drainage Update
Samantha Haritos – Deputy Director of Engineering



City of Friendswood Flood Control Projects



Frenchmen's Creek Green Space

Community Block Development Grant – Hurricane Harvey

Completed Activities

Building 5 Closed Out

Building 4 Closed Sept 30th, 2022.

Ongoing/Upcoming Activities

Temporary Leases Active in Building 4

Demolition / Hydromulching

After All Buildings Close (After January) – Title for Transfer of Green Space from Homeowners Association

Project Close Out

Update on Galveston County's Acquisition Project

Buildings 2 and 3 Anticipated to Close End of November

Building 1 – Galveston County Awaiting Signed Sales Contracts

Closing to Occur End of December or January

Forest Bend



Forest Bend Offline Detention

Community Development Block Grant – Hurricane Harvey

Waiting on GLO Approval for \$300,000 (From CSD)

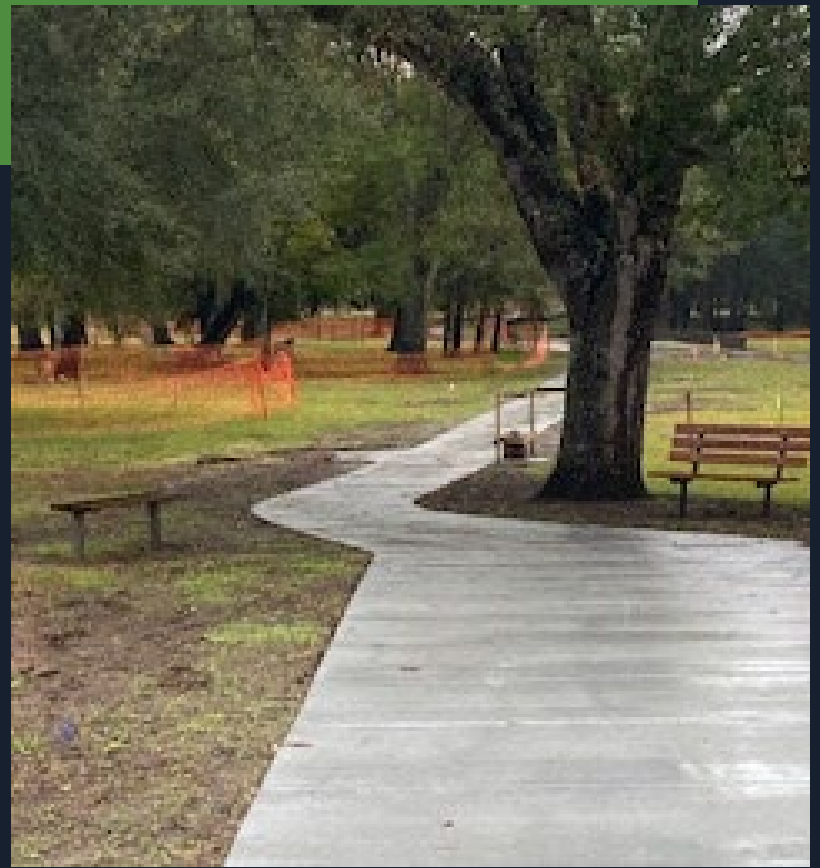
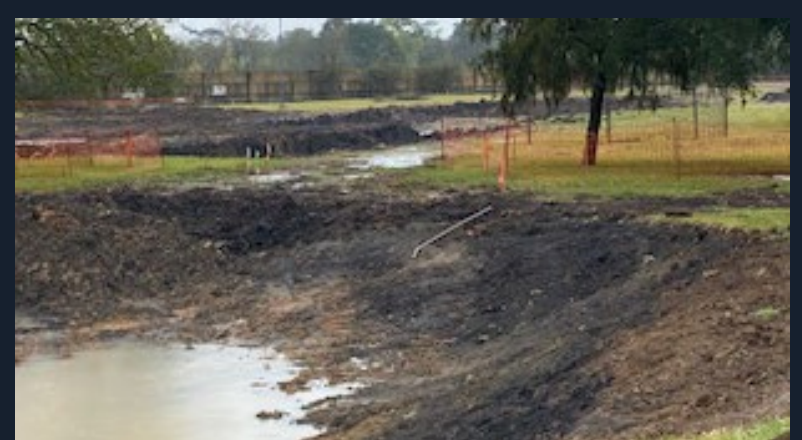
Status Update: Approximately 1100 cy excavated (Ponds B and C)

Sidewalks are In Progress

Electrical in for Solar Lighting

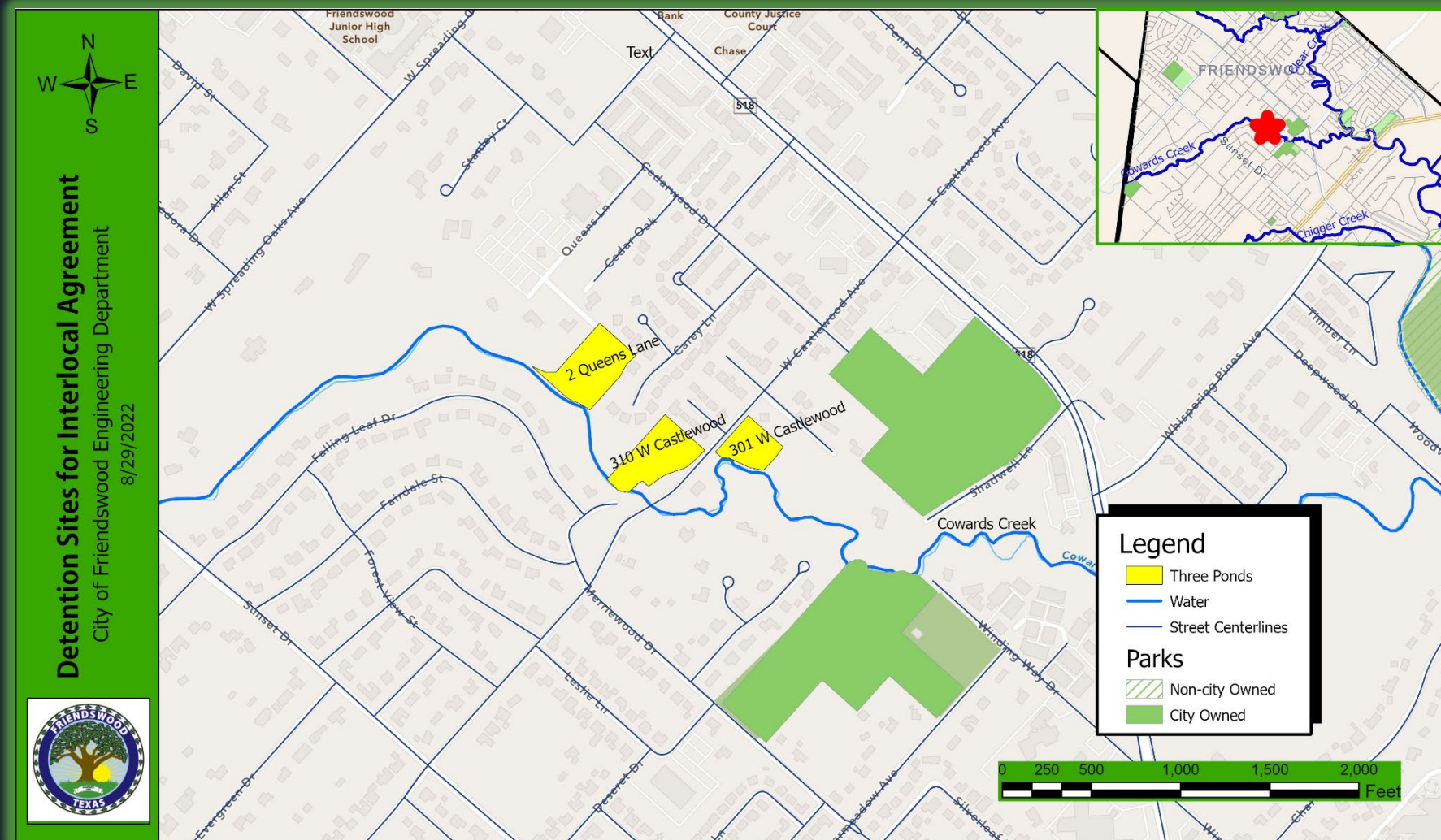
Gate and Fence Submittal Approved

Construction Duration: 288 Days (On Schedule to Complete Late Summer 2023)



Forest Bend

Three Detention Basins Along Cowart's Creek



Three Detention Basins Along Cowart's Creek

Interlocal Agreement with Galveston County Consolidated Drainage District (GCCDD) for Three Offline Detention Ponds North of Cowart's Creek

Preliminary Engineering and Survey Work Underway:

Fieldwork Complete

Geotechnical Borings Collected (Early November)

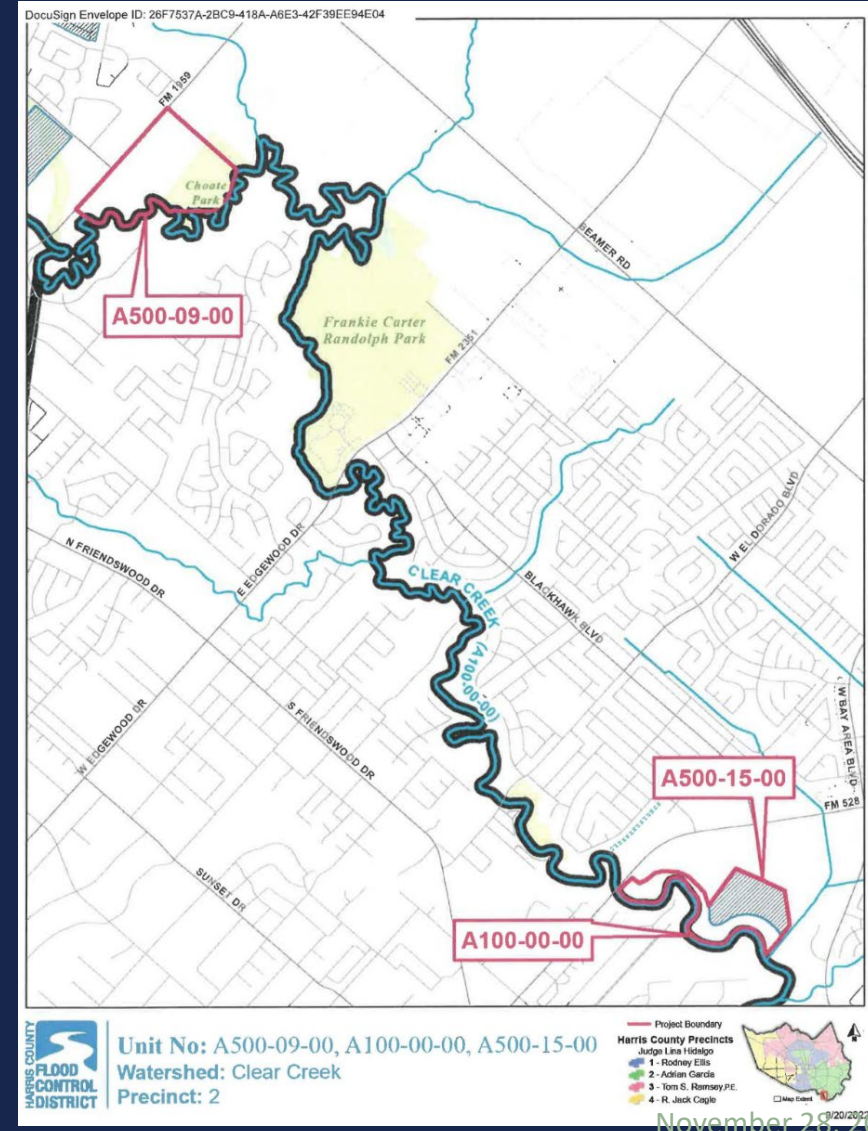
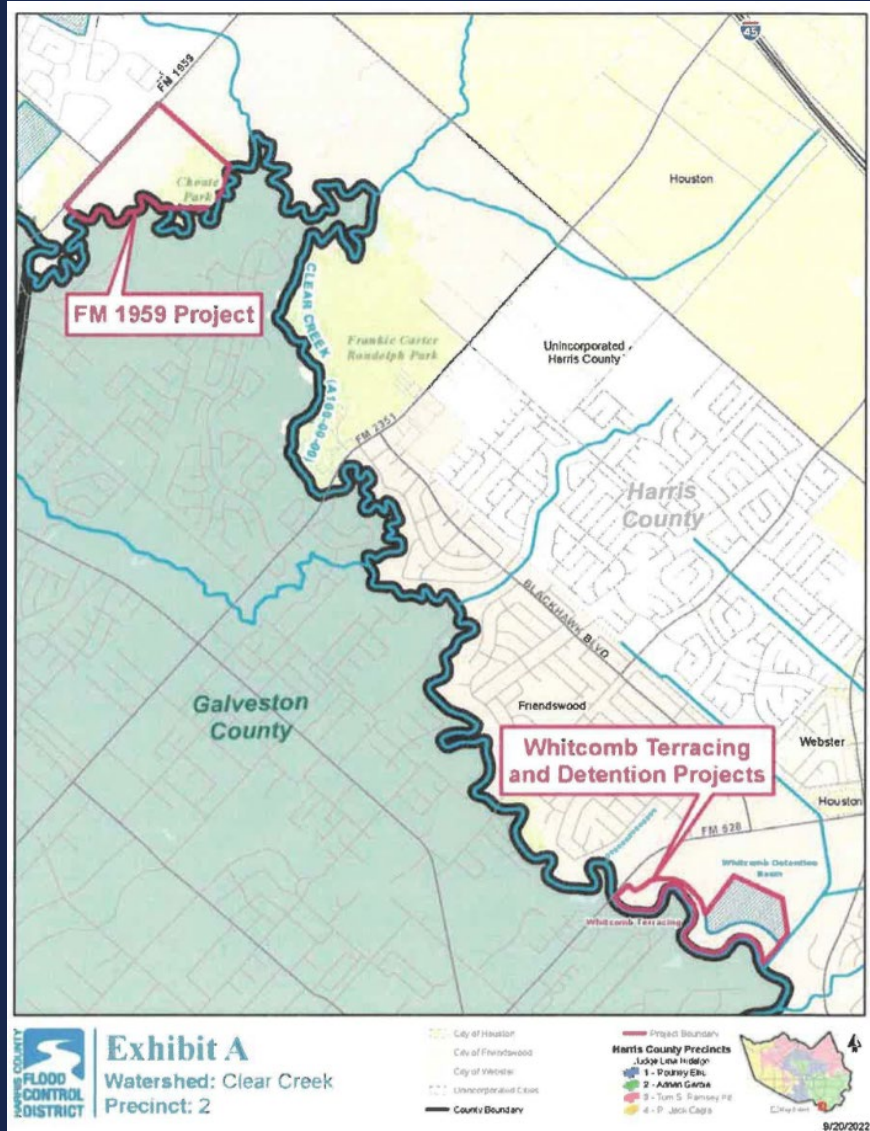
Drafting Ongoing (Expected by End December)

Geotechnical Report in Progress (Expected by End December)

Hydraulics and Hydrology in Progress

Next Phase : Engineering Design, Environmental, and Construction of Projects

FM-1959 Detention Basin Site Maps



November 28, 2022

FM 1959 Detention Basin

Location: Friendswood/Pearland Border Along Harris County Side of Clear Creek

Features: 1000 - 1800 Ac-Ft Detention Basin

Completed Milestones:

Interlocal Agreement for 1959 Detention Basin (Executed)

Approval of Agreement with McDonough Engineering Corporation
(Approved 11/15/22)

Upcoming Milestones:

Project Kickoff Meeting

Contract with BGE, Inc. for Wildlife Hazard Site Visit (Ongoing)

Preliminary Engineering Report (Estimated Completion Fall 2023)



FM 1959 Payment Schedule

Payment Schedule Table

PROJECT	1 ST PAYMENT	2 ND PAYMENT
FM 1959	\$954,233 (Due 11/25/22)	\$7,045,767 (Due within 45 Days of 1 st Publication of Construction Bid Advertisement)
Whitcomb Inline/Offline Detention Basins	\$2,850,000 (Due Within 45 Days of Receipt of City Grant Contribution and the City's Acquisition of Whitcomb Property Interests)	\$24,150,000* (Due within 45 Days of 1 st Publication of Construction Bid Advertisement)

*The \$10,000,000 Award from the State of Texas will go directly to the City of Friendswood, so only \$14,150,000 will be Provided by the City.

Fiscal Year 2024 Estimated Debt Service Tax Rate Impact

ASSUMPTIONS

Bonds to be Issued in February 2023

Bonds Issued with a 30-Year Maturity Structure (Same as the 2021 Bonds)

Interest Rate Assumed at 4.75% (Volatile Fluctuations Recently)

Taxable Assessed Value Growth of 3% in Tax Year 2023-24, 2% in 2025-26, 1% in 2027-28, and 0% Growth Thereafter

The Debt Service Requirements and Interest Rate are Preliminary and Will Probably Change by the Time of Actual Pricing

Fiscal Year 2024 Estimated Debt Service Tax Rate Impact

City of Friendswood, Texas
\$52.1 Million in General Obligation Bond - November 2019 Bond Election
No Growth Scenario / 30-Year Debt Structure

Year Ending 9/30	Starting D/S Fund Balance	Interest on Fund Balance	Prior Year/ Estimated Taxable Assessed Valuation	Assessed Valuation Growth Rate (%)	Tax Rate per \$100 of Assessed Value	Tax Collections 99.00%	Total Funds Available for Debt Service	Total Outstanding Debt Service (a)	Less: Debt Service Paid By WWSS (b)	\$30,000,000 Series 2023 @ 4.75% February 2023	Total Debt Service Requirements	Less: Capitalized Interest	Ending D/S Fund Balance	Debt Service Coverage (%)
2023	\$53,000	\$928	\$4,614,143,928		0.0987	\$4,508,025	\$4,561,952	\$6,348,231	(\$2,439,325)	\$831,250	\$4,740,156	(\$831,250)	\$653,046	11.926%
2024	653,046	11,428	4,752,568,246	3.00%	0.1137	5,349,633	6,014,108	6,344,906	(2,435,700)	1,566,556	5,475,763		538,345	9.819%
2025	538,345	9,421	4,895,145,293	3.00%	0.1137	5,510,122	6,057,888		(2,438,500)	1,574,313	5,482,781		575,107	10.492%
2026	575,107	10,064	4,993,048,199	2.00%	0.1137	5,620,325	6,205,496			1,571,594	5,481,263		724,234	13.213%
2027	724,234	12,674	5,092,909,163	2.00%	0.1100	5,546,178	6,283,086	6,355,378			5,481,263		801,695	14.546%
2028	801,695	14,030	5,143,838,255	1.00%	0.1080	5,499,792	6,315,517	6,358,694	(2,404,750)		5,481,263		803,992	14.527%
2029	803,992	14,070	5,195,276,637	1.00%	0.1075	5,529,073	6,347,135	6,469,344	(2,518,675)	1,583,913	5,530,319			
2030	812,554	14,220	5,195,276,637		0.1075	5,529,073	6,355,847	6,468,825	(2,517,800)	1,579,294	5,530,319			
2031	825,528	14,447	5,195,276,637		0.1025	5,271,907	6,111,882	4,685,175	(732,400)	1,579,319	5,532,094		579,788	13.500%
2032	579,788	10,146	5,195,276,637		0.0705	3,626,043	4,215,977	2,319,125	(731,300)	2,062,113	3,649,938		566,040	15.520%
2033	566,040	9,906	5,195,276,637		0.0705	3,626,043	4,201,989	2,324,025	(734,100)	2,057,200	3,647,125		554,864	15.207%
2034	554,864	9,710	5,195,276,637		0.0705	3,626,043	4,190,617	2,320,800	(732,600)	2,060,625	3,648,825		541,792	14.864%
2035	541,792	9,481	5,195,276,637		0.0705	3,626,043	4,177,317	1,587,850		2,057,269	3,645,119		532,198	15.213%
2036	532,198	9,313	5,195,276,637		0.0675	3,471,744	4,013,255	1,411,800		2,086,419	3,498,219		515,037	14.723%
2037	515,037	9,013	5,195,276,637		0.0675	3,471,744	3,995,793	1,410,300		2,087,838	3,498,138		497,656	14.219%
2038	497,656	8,709	5,195,276,637		0.0675	3,471,744	3,978,109	1,412,825		2,087,119	3,499,944		478,165	13.667%
2039	478,165	8,368	5,195,276,637		0.0675	3,471,744	3,958,276	1,414,300		2,084,263	3,498,563		459,714	13.139%
2040	459,714	8,045	5,195,276,637		0.0670	3,446,027	3,913,786	1,414,725		2,084,150	3,498,875		414,911	14.232%
2041	414,911	7,261	5,195,276,637		0.0565	2,905,978	3,328,150	921,600		1,993,800	2,915,400		412,750	14.144%
2042	412,750	7,223	5,195,276,637		0.0565	2,905,978	3,325,951	920,150		1,998,094	2,918,244		407,707	13.965%
2043	407,707	7,135	5,195,276,637		0.0565	2,905,978	3,320,820	924,572		1,994,894	2,919,466		401,354	13.749%
2044	401,354	7,024	5,195,276,637		0.0565	2,905,978	3,314,356	924,897		1,994,200	2,919,097		395,259	13.557%
2045	395,259	6,917	5,195,276,637		0.0565	2,905,978	3,308,154	924,684		1,990,894	2,915,578		392,576	13.450%
2046	392,576	6,870	5,195,276,637		0.0565	2,905,978	3,305,424	923,950		1,994,738	2,918,688		386,737	13.253%
2047	386,737	6,768	5,195,276,637		0.0565	2,905,978	3,299,482	922,694		1,995,494	2,918,188		381,295	13.063%
2048	381,295	6,673	5,195,276,637		0.0565	2,905,978	3,293,946	920,900		1,998,044	2,918,944		375,002	12.861%
2049	375,002	6,563	5,195,276,637		0.0565	2,905,978	3,287,542	923,509		1,992,388	2,915,897		371,645	12.733%
2050	371,645	6,504	5,195,276,637		0.0565	2,905,978	3,284,127	920,522		1,998,288	2,918,809		365,318	12.514%
2051	365,318	6,393	5,195,276,637		0.0565	2,905,978	3,277,689	591,947		2,327,431	2,919,378		358,311	12.271%
2052	358,311	6,270	5,195,276,637		0.0565	2,905,978	3,270,559			2,919,975	2,919,975		350,584	12.016%
2053	350,584	6,135	5,195,276,637		0.0525	2,700,245	3,056,964			2,917,688	2,917,688		139,277	0.000%
Totals	\$281,717							\$81,216,366	(\$22,582,725)	\$60,156,325	\$118,789,966	(\$831,250)		

Average Tax Rate: \$0.0664
Tax Rate Increase: \$0.0150

- (a) Include portions of the City's Series 2010B, Series 2014, Series 2006 and Series 2016A Bonds which are paid by the City's Waterworks and Sewer System.
(b) Includes the debt service to be paid by the City's Waterworks and Sewer System.

Tax Rate Analysis

IMPACTS

1.5 Cents Added to the Tax Rate

OR

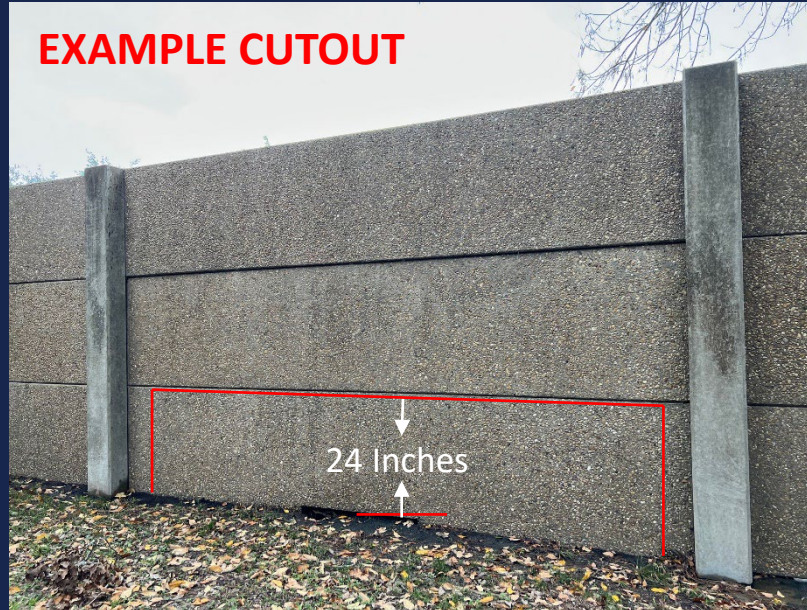
\$700,000 Moved from General Fund to Pay Principal and Interest Payments for the \$30 Million Bond Issuance

Sound Wall at FM 2351 and Clear Creek (Frankie Carter Park)

Joint Effort with Texas
Department of
Transportation (TXDOT)

Looking at Removing Lower
Portion of 4 to 6 Panels

TXDOT Looking at Structural
Requirements to Determine
Allowable Dimensions of Cut



FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/09/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Present an update regarding Council candidate application and packet.

Originating Department: City Manager

Degree of importance:

SUMMARY / ORIGINATING CAUSE

The candidate application and packet is available on the City of Friendswood's website as well as in the City Secretary's Office in electronic format.

The candidate packet includes all forms, deadlines and information needed for anyone who is interested in running for office in the May 6, 2022, General Election for Councilmember Position Nos. Two and Five.

Below is a list of important dates related to the upcoming election:

01/18/2023	First day to file for place on the ballot. Filings must be received by the City Secretary's Office. A candidate for City Council must meet the requirements noted in the Texas Election Code, Section 141.001 "Eligibility Requirement for Public Office" as well as Section 6.02 "Filing for Office" of the Charter of the City of Friendswood, Texas.
02/17/2023	Last day to file an Application for Place on Ballot at 5:00 P.M. in City Secretary's Office, City Hall.
02/21/2023	Last day for a Write-in Candidate to File for a Place on the Ballot. Filing must be received by the City Secretary's Office no later than 5:00 P.M.
02/24/2023	The last day for Candidacy Withdrawal must be filed with the City Secretary's Office no later than 5:00 P.M. Candidate Drawing at 5:15 P.M. in Council Chamber, City Hall
04/06/2023	Due date for filing first Report of Campaign Contributions and Expenditures by Opposed Candidate (30 days prior to Election). Deadline to register to vote for May 6, 2023, Election (Must register with Voter Registrar of the county of residence.)
04/25/2023	Last day to apply (by mail or fax) for an early voting ballot to be voted by mail; applications must be received by the County Clerk of Galveston County or the Elections Administration for Harris County, depending on which county the registered voter resides. An application must be received and not merely postmarked on this date.

04/28/2023	Due date for filing second report of Campaign Contributions and Expenditures (8 days prior to election)
04/24 – 05/02	Early Voting Period by Personal Appearance (schedule may vary by county)
05/06/2023	Election Day (7:00 a.m. to 7:00 p.m.)
05/17/2023	Last Day to Canvass the Election, City Council is the canvassing authority that will canvass and declare the results of the election at a council meeting, posted in compliance with the Open Meetings Act. Swearing-in of incoming councilmembers.
Any time after election	Final report of Campaign Contributions and Expenditures.

Additionally, attached please find important FAQs related to City of Friendswood Elections. Please note that this information is available in English, Spanish, Vietnamese and Chinese (Traditional) on the City website.

For more information on the May 6, 2022, General Election, please contact the City Secretary's Office or visit the City's website: <https://www.ci.friendswood.tx.us/313/Elections>.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

ATTACHMENTS

1. COF Election FAQs



CITY OF FRIENDSWOOD

OFFICE OF THE CITY SECRETARY

INFORMATION REGARDING THE CITY OF FRIENDSWOOD ELECTIONS

When does the City of Friendswood hold its elections?

The City of Friendswood holds its elections on the first Saturday in May of every year. See §41.001(a)(1) & (2) TEC and §6.01 "City elections" Charter, City of Friendswood, Texas.

What are the City Council positions?

The City Council is comprised of a Mayor and six Councilmembers. The Mayor and each Councilmember shall be elected from the City at large, and each shall occupy a position on the City Council. Councilmember positions shall be numbered 1 through 6 consecutively. The Mayor and each Councilmember shall be elected to serve for three-year terms, but no person shall be elected to serve on the City Council in any capacity for more than four three-year terms. The three-year terms of Office of Councilmembers and the Mayor shall be staggered, with the upcoming election and deadlines to file as follows:

Position	Election Date	Deadline to File
Mayor	05/04/2024	02/16/2024
Councilmember, Position 1	05/04/2024	02/16/2024
Councilmember, Position 2	05/06/2023	02/17/2023
Councilmember, Position 3	05/04/2024	02/16/2024
Councilmember, Position 4	05/07/2022	02/14/2025
Councilmember, Position 5	05/06/2023	02/17/2023
Councilmember, Position 6	05/07/2022	02/14/2025

What are the qualifications for council members?

A candidate for city council must meet all eligibility requirements of state law and the City's Charter. State law provides that a candidate for city council must:

1. be a United States citizen;
2. be 18 years of age or older on the first day of the term to be filled at the election or on the date of appointment, as applicable;
3. have not been determined by a final judgment of a court exercising probate jurisdiction to be:
4. totally mentally incapacitated; or
5. partially mentally incapacitated without the right to vote;
6. have not been finally convicted of a felony from which the person has not been pardoned or otherwise released from the resulting disabilities; and
7. be registered to vote in the territory the candidate seeks to represent by the filing deadline.

See §141.001 TEC

The City's Charter provides that a candidate must meet the requirements noted in Section 3.02 "Qualifications" and 6.02 "Filing for Public Office":

Section 3.02 states in part that "the Mayor and each Councilmember shall meet the conditions of subsections 6.02(a), items (1), (2) and (3) while in office, and shall reside within the City while in office.

And

Section 6.02 states in part that "each candidate for an elective City Office shall meet the following qualifications:

- (1) Shall be a qualified voter of the City.
- (2) Shall have resided for at least 12 months preceding the election within the corporate limits of the City, including territory annexed prior to the filing deadline.
- (3) Shall be at least 21 years of age.
- (4) Shall meet the requirements for sponsors stipulated in subsection 6.02(b) below."

What are the salaries of the mayor and council members?

The members of the Friendswood City Council are volunteers and receive no compensation for their service.

When can I file for a place on the ballot?

Texas Election Code, Section 143.007(a) states that an application may not be filed earlier than the 30th day before the date of the filing deadline. Texas Election Code, Section 143.007(c) states that for an election to be held on a uniform election date, the day of the filing deadline is the 78th day before Election Day.

How do file for a place on the ballot?

The application for a place on the ballot can be accessed on the City's website or a copy may be requested from the City Secretary. The application must be completed, notarized and filed with the City Secretary, at Friendswood City Hall, 910 S. Friendswood Drive, Friendswood, Texas 77520, Monday – Friday, during regular business hours. There is no fee associated with this process.

In addition to the Application for a Place on the Ballot, a candidate must also comply with Section 6.02(b) of the City Charter, which refers to a petition with at least 25-registered voters of the City sponsoring a candidate's placement on the ballot, said petition must be filed at the time the candidate files his/her Application for a Place on the Ballot. A copy of this information and its related petition form can be accessed on the City's website and/or requested from the City Secretary's Office.

Lastly, per Section 6.02(d) a candidate must file with the City Secretary a Financial Public Disclosure Statement on the 21st day prior to election day. Failure to file this statement in compliance with Section 6.02(d) will invalidate the candidate's filing for office. A copy of this information and its related form can be accessed on the City's website and/or requested from the City Secretary's Office.

Is there a candidate packet?

A candidate packet is made available at no cost to the public. A candidate may access the candidate packet on the City's website, or he/she may request a copy of the packet, which will be provided in electronic format on a thumb drive. This packet will include all forms, applications, guides, and important dates that will help guide the candidates through the election process.

Do I need to appoint a campaign treasurer if I am not going to raise any money?

Yes. The law requires every candidate to file a campaign treasurer appointment, even if the candidate does not intend to raise or spend money. You are allowed to appoint yourself as your treasurer. A campaign treasurer appointment must be on file prior to the acceptance of contributions.

Where and when do I file my Campaign Contributions and Expenditure Report?

Campaign Contributions and Expenditure Report related to the City's local elections must be filed with the City Secretary's Office, City Hall, 910 S. Friendswood Drive, Friendswood, Texas, 77546. As a candidate for the May election, you must file your report on: (1) mid-January (Semiannual Report), (2) 30-days prior to the election, (3) 8-days prior to the election, (4) mid-July (Semiannual Report), and/or a final report after the election is completed. The City Secretary cannot advise a candidate on the form and content of the report and can only receive said record. For more information related to the campaign finance reports, please visit the Texas Ethics Commission at www.ethics.state.tx.us.

Do I still have to file reports if I chose modified reporting on my treasurer appointment?

By selecting the modified reporting schedule, you are indicating that you plan to stay under the \$940.00 threshold in either contributions or expenditures in connection with an election. The modified reporting schedule exempts you from filing 30-day and 8-day pre-election reports. If you have selected the modified reporting schedule, you must still report activity during the entire period you were a candidate, either on a semiannual report or on a final report.

What happens if I select modified reporting and then exceed \$940?

If you select modified reporting and exceed \$940.00 (in either contributions or expenditures in connection with an election) before the 30-day pre-election report is due, you must file required 30-day and 8-day pre-election reports. Keep in mind that unopposed candidates are not required to file these reports regardless of their level of activity. If you exceed the \$940.00 threshold after the 30-day pre-election report is due, you must file an "exceeded \$940 report" within 48 hours of exceeding the threshold and, if the threshold is exceeded before the 8-day pre-election report is due, you must file the 8-day pre-election report.

Who do I call if I have a complaint?

For any election related issue or complaint, please contact the City Secretary's Office at 281-996-3270 or via email at citysecretary@friendswood.org.

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/09/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Present an update regarding the new water meter interface for residents.

Originating Department: City Manager

Degree of importance:

SUMMARY / ORIGINATING CAUSE

As of November 14th, a total of 13,477 meters have been changed out to automated ones; approximately 95% of the City's active connections. Separate but related, a pilot program has been up and running for City Council members and staff that live in Friendswood to test the WaterSmart interface (to see consumption history, set limits/alerts, etc.). The pilot program has been ongoing since mid-October. Staff is set to open up the user interface to utility customers starting December 5th.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

ATTACHMENTS

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/23/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Present an update regarding the Texas EMS Educator of the Year Award.

Originating Department: City Manager

Degree of importance:

SUMMARY / ORIGINATING CAUSE

Congratulations to Chief Hunter on receiving the 2022 Texas EMS Educator of the Year at the Texas EMS Conference in Austin, TX.

The Texas EMS Conference is hosted by the Texas Department of State Health Services. Each awards category honors a person or organization that exemplifies the best that EMS/Trauma System has to offer. It is quite an honor to be nominated and to win.

Specifically, the EMS Educator Award honors a state-certified EMS instructor or course coordinator who advances EMS education in Texas through innovation, collaboration, and a commitment to students.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

ATTACHMENTS

1. Roy Hunter



FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/08/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider awarding the Blackhawk Facility Renovation Project (CSP 2022-17) to Construction Masters of Houston, Inc.

Originating Department: Engineering

Degree of importance: Significant

SUMMARY / ORIGINATING CAUSE

This project was part of the 2019 Bond Elections. PGAL, Inc. ("PGAL") was selected to design the Blackhawk Facility Renovation Project (the "Project") in August 2021. City Staff coordinated with PGAL to develop and advertise a Request for Competitive Sealed Bid for renovation services. Proposals were evaluated and Construction Masters of Houston, Inc., was selected by a selection committee based upon a combination of factors, including price, experience, its ability to finish projects on schedule, the qualifications of its subcontractors, its quality assurance program, and its current workload.

Based Stipulated Price: \$3,725,200

- Alternate #1 - Exterior finishes and signage upgrades \$79,100
- Alternate #2A - New door cover canopies \$21,800
- Alternate #2B - New outdoor truck repair area canopy \$124,400
- Alternate #3 - New natural gas-powered generator \$525,600
- Alternate #4 - Protective wainscot and finish for Corridor 168 drywall partitions \$11,500

Total Alternates: \$762,400

Cash Allowance:

- Security camera devices and installation \$20,000
- Owner's Contingency (7.5%) \$279,390
- Contractor's Contingency (7.5%) \$279,390

Total Stipulated Price \$5,066,380

This Project will be funded by multiple funding sources including 2020 General Obligation Bonds, 2018 Water Sewer Construction Bonds, Water Sewer Working Capital, potential DAC funds, and General Fund – unassigned

fund balance. This Project does not include the shelter component of the Blackhawk Facility, which will be awarded via a separate competitive process once offices are built.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Facility renovation will include construction of new offices, shop space, storage, conference rooms, etc. This contract is in the amount of \$5,066,380 and will be funded through multiple funding sources including 2020 General Obligation Bonds, 2018 Water Sewer Construction Bonds, Water Sewer Working Capital, potential DAC funds, and General Fund – unassigned fund balance.

RECOMMENDATIONS

Staff recommends approval of the Project, including Alternates 1, 2A, 2B, 3, and 4.

ATTACHMENTS

1. Blackhawk Reno Presentation
2. Blackhawk Renovation CSP2022-17 - Advertisement Information
3. Construction Masters of Houston, Inc
4. Unbehagen Construction
5. 00235 - Intent to Award
6. 00230 - Standard Agreement Construction Masters of Houston
7. Construction Masters of Houston Submittal
8. Certificate of Insurance
9. Government Code Verification Form Executed
10. Form 1295 - Construction Masters of Houston

CITY OF FRIENDSWOOD

Blackhawk Renovation Project



Top Two Respondents



3908 Third St. Pearland, Texas 77581

TUCON, LLC dba UNBEHAGEN
CONSTRUCTION
2925 Gulf Fwy, S, Ste. B-194
League City, TX 77573



Competitive Sealed Proposal Scoring Criteria

Selection: Any contract awarded pursuant to this CSP is to be awarded based on provision of “Best Value” to the City. Within 30 days after receiving the proposals, the Owner City will consider and rank each proposal and select the Proposal that offers the best value to the City using the following criteria:

1	Cost Proposal	50%
2	Experience with major subcontractors and with similar projects within past 5 year	10%
3	Experience and qualifications of key project personnel	10%
4	Demonstrated ability to meet schedules on similar projects	10%
5	Subcontractor Qualifications and Work History with General Contractor	10%
6	Quality Assurance Program and Safety Record	5%
7	Current workload	5%
	Total	100%

- Selection panel for this project is comprised of 3 city personnel who office in the Blackhawk Facility.
- Rankings were performed independently. The submittals were reviewed and graded by each individual separately.

Cost Proposal 50% - Base Bid

- Cost proposals were ranked on base bid. Alternates were not considered in the total price as it was not known if funds would be available to cover any/all of the alternates.
 - Unbehagen, Tucon LLC - \$3,724,119.00
 - Construction Masters - \$3,725,200.00

Difference: \$1,081

Experience with Major Subs on Similar Projects 10%

- **The City of Friendswood selection panel graded this section based demonstrated experience with Major subcontractors on similar projects in the last 5 years.**
- *Definition of major subcontractor: trades with a contract amount at or above 10% of the contract value. While we don't see the subcontractor numbers, this typically includes Mechanical, Electrical and Plumbing, Structural and Civil trades.*

Experience with Major Subs on Similar Projects 10%

- **Unbehagen, TUCON LLC:**

- Subcontractor and supplier references were provided in the submittal. These subcontractors included Millwork, Specialty Products, Flooring, Painting, Roofing and Mechanical trades.
- Within the Project Experience section, these trades were not listed under specific projects or called out to demonstrate previous work on similar projects.
- Of the municipal completed project list (2017-2022), 10 of the 11 projects were contract amounts under \$1 Million.

- **Construction Masters:**

- Listed major subcontractors and the projects that they partnered on.
- Five related projects were listed with contract amounts in the same range as this project. Demonstrated and highlighted multiple examples of a municipal building renovation where City operations continued during construction.
- It is noted in their submittal that all subcontractors are required to complete a pre-qualification screening.
- They note that 95% of the proposed subcontractors on this project are companies they have previous work experience with.
- The 3 largest scopes (MEP) have completed more than 15 contracts with their firm.

Demonstrated Ability to Meet Schedule – 10%

- Unbehagen, TUCON LLC:
 - Demonstrated the ability to meet schedule through completed projects and references.
- Construction Masters:
 - Demonstrated the ability to meet schedule through completed projects and references.

Subcontractor Qualifications and Work History – 10%

➤ Unbehagen, TUCON LLC:

- Subcontractors with prior work history were listed in the submittal.
- Specific projects with major subcontractors were not identified.
- Positive feedback was given when references were contacted.

➤ Construction Masters:

- Listed major subcontractors, the length of their work history and the specific projects.
- Positive feedback was provided when references were contacted.

Quality Assurance Program and Safety Record – 5%

- Unbehagen, TUCON LLC:
 - Provided company health and safety plan.
 - Provided a letter stating that they do not qualify for EMR.
 - Quality Control was noted to be the responsibility of the superintendent. A quality assurance program/plan was not included with the submittal.

- Construction Masters:
 - Submittal includes a Quality Assurance Program which states that a designated Quality Control Manager will be provided on each each project. This is in addition to the Project Manager and Project Superintendent.
 - Provided Safety Record and included OSHA 300 Logs.
 - Provided EMR letter.

*EMR: Experience Modification Rating, a metric used by insurance carriers to gauge both the past cost of workers' compensation claims and the future probability of additional claim costs.

Current Workload – 5%

- Unbehagen, TUCON LLC:
 - Current Project List included 4 projects.
 - Majority of open projects are slated to be complete by the end of the year.
- Construction Masters:
 - Current Project List included 7 projects.
 - Majority of open projects are slated to be complete by the end of the year.

Overall Ranking

- Unbehagen, TUCON LLC:
 - Unbehagen demonstrated a strong work history with decades of experience in renovation projects.
 - Most recent projects noted in the “Government Entity Completed Projects List” showcased projects that were under \$2,000,000 contract value.
 - Overall Rank - 2
- Construction Masters:
 - Construction Masters exhibited a strong work history in renovations and showcased multiple projects where construction did not impact daily operations and that were of the same scale as this project.
 - The Quality Control Policy highlighted in their submittal demonstrates a commitment to customer satisfaction and provides an extra layer of insurance that the project is meeting the contract documents and owner requirements.
 - Overall Rank – 1

Reservations: The City reserves the right to award a contract based on its sole assessment and ranking of the above factors in its own best interests; (2) waive any irregularities therein; (3) select candidates for the submittal of more detailed or alternate proposals; (5) reject any or all Offerors submitting responses, should it be deemed in the City of Friendswood’s best interest; or (6) cancel the entire process.



ADVERTISEMENT INFORMATION ONLY

Solicitation Type and Name: Request for Competitive Sealed Proposal – Blackhawk Renovation

Solicitation Number: CSP 2022-17

Description: The City of Friendswood Engineering Department is soliciting proposals from qualified offerors that have a proven record of successfully completing municipal renovation projects. The facility at 15355 Blackhawk is being utilized by the City's Public Works, Engineering, and Parks Departments. The proposed renovations include mechanic/work bays, office and conference rooms, breakrooms, and site improvements. The budget for this project is estimated at \$4.5 million. The bid documents including complete construction plans and specifications can be found with this posting at <https://www.ci.friendswood.tx.us/Bids.aspx>.

Date Issued: September 22nd, 2022
Due Date & Time: Tuesday, October 18th, 2022, 2:00 p.m. Central Time

Pre-Submittal Conference: A Pre-Submittal Conference will be held at 2:00 p.m. Central Time, on Wednesday October 5th, 2022. The Pre-Submittal Conference for this solicitation will be held via TEAMS only. Attendance at the Pre-Submittal Conference is optional, but highly encouraged. TEAMS meeting information below:

https://friendswood.com/Pre-Submittal_Meeting

Meeting ID: 284 302 635 468
Passcode: KSN84e

Restrictions on Communications:

Offerors may submit written questions concerning this RFCSP to the Staff Contact Person listed below until 3:00 p.m., Local Time, on October 6, 2022. Questions received after the stated deadline will not be answered. All questions shall be sent by e-mail to:

Hailee Medwedeff, Projects Coordinator
City of Friendswood – Engineering Department
hmedwedeff@friendswood.com

Questions submitted and the City's responses will be posted with this solicitation.

Process: Submit one (1) original sealed proposal along with one (1) electronic copy on flash drive or CD. The flash drive/CD must contain only one (1) file in PDF format and must match the original sealed proposal identically. The PDF files must include the digital signature of a person with the authority to bind the Offeror into a contract. All sealed proposals must be clearly marked with **CSP No. 2022-17** and must be received before 2:00PM on Tuesday, October 18, 2022. Sealed proposals must be signed, in ink, by a person having authority to bind the Offeror in a contract and are to be submitted to the address below. **Responses to this Request for Proposals must be received on or before 2:00 PM on Tuesday, October 18, 2022, at which time they will be publicly opened and read allowed in the City Secretary's Office at the following address:**

The City of Friendswood
City Secretary's Office
910 S. Friendswood Dr.
Friendswood, Tx. 77546
M-Th: 7:30AM to 5:30PM
Friday: 8:00AM to 5:00PM

Each Offeror is responsible for obtaining any/all addenda prior to submitting a proposal. Acknowledge receipt of each addendum (if issued) in writing as part of the submission. Note that the City qualifies for exemption from state and local tax pursuant to Section 151.311 of the Texas Tax Code for material incorporated into the project.

Selection: Any contract awarded pursuant to this CSP is to be awarded based on provision of "Best Value" to the City. Within 30 days after receiving the proposals, the Owner City will consider and rank each proposal and select the Proposal that offers the best value to the City using the following criteria:

1	Cost Proposal	50%
2	Experience with major subcontractors and with similar projects within past 5 year	10%
3	Experience and qualifications of key project personnel	10%
4	Demonstrated ability to meet schedules on similar projects	10%
5	Subcontractor Qualifications and Work History with General Contractor	10%
6	Quality Assurance Program and Safety Record	5%
7	Current workload	5%
	Total	100%

The Cost Proposal should include an Owner's Contingency in the amount of 7.5% of the total contract value and a Contractor's Contingency in the amount of 7.5% of the total contract value. Funds remaining in these contingencies will be returned to the City at the end of the project. Use of these funds are to be authorized by the City prior to use.

Upon selection of a primary Offeror, the City will attempt to negotiate a contract with the most qualified Offeror. The City may discuss with the selected Offeror options for a scope or time modification and any price change associated with the modification. If the Owner is unable to negotiate a contract with the selected Offeror, the City may end negotiations with that Offeror and proceed to the next Offeror in the order of the selection ranking until a contract is reached or all proposals are rejected.

The City may make such investigations as he deems necessary to determine the ability of the Offeror to perform the work, and the Offeror shall furnish the Owner City all such information and data for this purpose as the City may request. The City reserves the right to reject any proposal if the evidence submitted by, or investigation of, such Offeror fails to satisfy the City that such Offeror is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional proposals will not be accepted.

Performance, and Payment, and Maintenance Bonds: The successful Offeror must furnish Performance and Payment Bonds as required by Chapter 2253 of the Texas Government Code or other applicable law, as amended, upon the form included in the Contract Documents, in the amount of one hundred percent (100%) of the final contract price, such bonds to be executed by a corporate surety duly authorized to do business in the State of Texas, and named in the current list of "Treasury Department Circular No. 570", naming the City as Obligee. Additionally, the successful Offeror shall be required to provide a one- year Maintenance Bond for the improvements installed as part of this work, as provided in the Special Conditions of Agreement.

Reservations: The City reserves the right to award a contract based on its sole assessment and ranking of the above factors in its own best interests; (2) waive any irregularities therein; (3) select candidates for the submittal of more detailed or alternate proposals; (5) reject any or all Offerors submitting responses, should it be deemed in the City of Friendswood's best interest; or (6) cancel the entire process.

Engineering Department
15355 Blackhawk Blvd. ♦ Friendswood, TX 77546 ♦ Tel:
281-993-3411

INTENT TO AWARD

Date: November 2, 2022

Construction Masters of Houston, Inc.
ATTN: Justin Davis
2908 Third Street
Pearland, TX 77581

RE: Project Name: Blackhawk Renovation Project
Project No.: BLKHWKBLDG
RFP No.: 2022-17

Dear Justin Davis:

Your RFP dated October 18, 2022, for the above Contract has been considered and you are the apparent "Best Value" to the City. The Engineering Department of the City of Friendswood has recommended that the City Council Award the Blackhawk Renovation Project, RFP Number 2022-17 to Construction Masters of Houston, Inc. on November 7, 2022. With the City Council approval and your satisfactory compliance with contractual requirements, the City hereby intends to award the construction contract to you for:

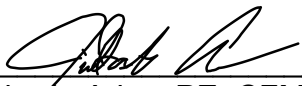
BLACKHAWK RENOVATION PROJECT

The Contract Price is FIVE MILLION SIXTY-SIX THOUSAND THREE HUNDRED EIGHTY AND NO/100 DOLLARS (\$5,066,380.00) to be completed in the Contract Time of Two Hundred Fifty-Five (255) Calendar Days.

After the City Council has considered and approved this action, and after the City has signed the Documents, the City shall provide the Executed Contract as a PDF file.

Direct questions regarding the contract award process to Heather Van Dine at hvandine@friendswood.com or (281)993-3411.

Respectfully,



Jildardo Arias, PE, CFM
Director of Engineering/City
City of Friendswood

JA/hv

END OF DOCUMENT

00235-1

THE STATE OF TEXAS §
 §
COUNTY OF GALVESTON §

**STANDARD AGREEMENT FOR
CONTRACTING SERVICES**

THIS AGREEMENT, entered into as of this 7th day of November, 2022, by and between the City of Friendswood, Texas (hereinafter called the "CITY") acting herein by its Mayor, duly authorized by approval of the City Council of the City of Friendswood and Construction Masters of Houston, Inc., 2908 Third Street, Pearland, Texas 77581 (hereinafter called the "CONTRACTOR") acting herein by Justin Davis, President hereunto duly authorized:

WITNESSETH THAT:

WHEREAS, the CITY and the CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I: WORK

- 1.1 The Contractor shall complete all the Work as specified in the Contract Documents. The Work is generally described as follows:

BLACKHAWK RENOVATION PROJECT

- 1.2 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

BLACKHAWK RENOVATION PROJECT

ARTICLE II: DESIGN PROFESSIONAL

- 2.1 The Project has been designed by PGAL, Inc., 3131 Briarpark Dr., Suite 299, Houston, TX 77042, who is hereinafter called the Design Professional and who is to act as the City's Representative, assume all duties and responsibilities and shall have the rights and authority assigned to the Design Professional in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE III: CONTRACT TIME

- 3.1 The Work shall be Substantially Complete within Two Hundred Twenty-Five (225) Calendar Days after the date when the Contract Time commences to run as provided by the General Conditions.

- 3.2 The Work shall have Final Completion and be ready for Final Payment in accordance with the General Conditions within Two Hundred Fifty-Five (255) Calendar Days after the date when the Contract Time commences to run as provided by the General Conditions.

ARTICLE IV: LIQUIDATED DAMAGES

- 4.1 The City and the Contractor recognize that time is of the essence of this Agreement and that the City shall suffer financial loss if the Work is not completed within the time specified in Article 3.1 above, plus any extensions thereof allowed in accordance with the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the City and the Contractor agree that as liquidated damages for delay (not as a penalty) the Contractor shall pay the City FIVE HUNDRED Dollars (\$500.00) for each day that expires after the time specified in Article 3.1, in this Agreement, for Substantial Completion until the Work is Substantially Complete.
- 4.2 After Substantial Completion, if the Contractor shall neglect, refuse or fail to complete the remaining Work within the time specified in Article 3.2 for Final Completion and readiness for Final Payment or any proper extension thereof granted by the City, the Contractor shall pay City One Thousand Dollars (\$1,000) for each day that expires after the time specified in Article 3.2, in this Agreement, for Final Completion until the Work is Finally Complete and ready for Final Payment.
- 4.3 Contractor agrees any assessed liquidated damages may be offset against retainage held by the City.

ARTICLE V: CONTRACT PRICE

- 5.1 The City shall pay the Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Document 00150 – Total Stipulated Price Form.
- 5.2 TOTAL AMOUNT OF BID is FIVE MILLION SIXTY-SIX THOUSAND THREE HUNDRED EIGHTY AND NO/100 DOLLARS (\$5,066,380.00), which includes:

Based Stipulated Price \$3,725,200

Alternates..... \$762,400

Alternate #1
Exterior finishes and signage upgrades\$79,100

Alternate #2A
New door cover canopies\$21,800

Alternate #2B
New outdoor truck repair area canopy\$124,400

Alternate #3
New natural gas-powered generator\$525,600

Alternate #4
Protective wainscot and finish for Corridor
168 drywall partitions\$11,500

Cash Allowance - Security camera devices and installation\$20,000

Owner's Contingency (7.5%)\$279,390

Contractor's Contingency (7.5%)\$279,390

- 5.3 As provided in the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by the City as provided in the General Conditions. Unit prices have been computed as provided in the General Conditions. Unit prices specified as per lump sum have been computed in accordance with of the General Conditions.

ARTICLE VI: PAYMENT PROCEDURES

- 6.1 The Contractor shall submit Contractor Payment Application. Payment Applications shall be processed by the City as provided in the General Conditions.
- 6.2 Progress Payments; The City shall make progress payments on account of the Contract Price on the basis of the Contractor's Payment Application on or about the twentieth (20th) day of each month during construction as provided in Paragraph 6.3 below. All such payments shall be measured by the schedule of value established in Section 01295 – Schedule of Values (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
- 6.3 Prior to Substantial Completion progress payments shall be made equal to the percentage of the Work completed, as established above, and materials

and/or equipment not incorporated in the work completed but delivered, suitably stored, and accompanied by suitable documentation satisfactory to the City as provided in the General Conditions. Progress payments shall be made less retainage as indicated in Paragraph 6.4 and 6.5 below, but in each case, less the aggregate of payments previously made less such amounts as the City shall determine or withhold, in accordance with of the General Conditions.

- 6.4 Retainage prior to Substantial Completion; If the total Contract Price at the time of Contract Execution is FIVE HUNDRED THOUSAND AND NO/100 DOLLARS (\$500,000.00) or more, the agreed retainage until Substantial Completions shall be five percent (5%), otherwise the agreed retainage shall be ten percent (10%).
- 6.5 Retainage after Substantial Completion: On projects where a long period of time is expected to occur between the Substantial Completion and Final Acceptance, retainage may be reduced by one-half (1/2). The reduced retainage shall never be less that the expected value of any work requiring correction or unfinished work. A portion of the retainage shall always be held until issuance of a Certification of Final Completion.

ARTICLE VII: INTEREST

- 7.1 All monies except retainage, not paid when due as provided in the General Conditions shall bear interest at the maximum rate allowed by the law.

ARTICLE VII: CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement the Contractor makes the following representations:

- 8.1 The Contractor has examined and carefully studied the Contract Documents (including the Addenda listed in Article IX) and other related data identified in the Documents including "technical data" and performed a constructability review.
- 8.2 The Contractor has visited the site and become familiar with and is satisfied as to the general local and site conditions, including utilities that may affect cost, progress, performance and furnishing of the Work.
- 8.3 The Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work.
- 8.4 The Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings if

physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in the General Conditions. Contractor accepts the determination set forth in the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which the Contractor is entitled to rely as provided in the General Conditions. The Contractor acknowledges that such reports and drawings are not Contract Documents and may not be complete for the Contractor's purposes. The Contractor acknowledges that the City and the Design Professional shall not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. The Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by the Contractor and safety precautions and programs incident hereto. The Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with other terms and conditions of the Contract Documents.

- 8.5 The Contractor is aware of the general nature of work to be performed by the City and others at the site that relates to the Work as indicated in the Contract Documents.
- 8.6 The Contractor has correlated the information known to the Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- 8.7 The Contractor has given the City written notice of all conflicts, errors, ambiguities or discrepancies that the Contractor has discovered in the Contract Documents and the written resolution thereof by the City is acceptable to the Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE IX: THE CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between the City and the Contractor concerning the Work consists of those referenced in this article. The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. In case of conflict between any of the Contract Documents, priority of interpretation shall be in the following order:

- 9.1 Any modification, including Change Orders, duly delivered after Execution of the Agreement
- 9.2 Addenda as issued, with Acknowledgement of Addenda if applicable
- 9.3 Federal Contract Required Clauses, including Certification for Contracts, Grants, Loans and Cooperative Agreements, if any
- 9.4 Standard Agreement for Contracting Services (this agreement)
- 9.5 General Conditions
- 9.6 Supplemental Conditions
- 9.7 Technical Specifications Divisions 1 through 16
- 9.8 Request for Proposals (Cover Sheet and numbered sheets)
- 9.9 Post-Bid Procedures
- 9.10 Insurance Requirements
- 9.11 Performance Bond, included herein
- 9.12 Payment Bond, included herein.
- 9.13 Texas Workers' Compensation
- 9.14 Wage Scale
- 9.15 Affidavit of Insurance, and Certificates of Insurance
- 9.16 Alcohol and Drug Free Workplace Policy
- 9.17 Construction Storm Preparation Policy
- 9.18 Hazardous Communications Program Requirement Agreement.

- 9.19 Homeland Security Policy
- 9.20 Child Support Affidavit
- 9.21 Total Stipulated Price Form
- 9.22 Texas Ethics Commission Form 1295
- 9.23 Government Code Verifications

There are no Contract Documents other than those listed above in this Article IX. The Contract Documents shall only be altered, amended, or repealed by a modification (as defined in the General Conditions).

ARTICLE X: INDEMNIFICATION

CONTRACTOR SHALL PROTECT, DEFEND, INDEMNIFY, AND HOLD THE CITY, ITS OFFICERS, ELECTED OFFICIALS, AGENTS, AND EMPLOYEES, HARMLESS FROM ANY CLAIMS, FINES, DEMANDS, LOSS, DAMAGE, SUIT, AND LIABILITY OF EVERY KIND, INCLUDING ALL EXPENSES OF LITIGATION, COURT COSTS, AND ATTORNEY'S FEES, FOR INJURY TO OR DEATH OF ANY PERSON, OR FOR DAMAGE TO ANY PROPERTY, CAUSED BY THE NEGLIGENT, INTENTIONAL OR WILLFUL ACTS OR OMISSIONS OF THE CONTRACTOR, ITS OFFICERS, EMPLOYEES, AGENTS, CONTRACT LABORERS, OR SUBCONTRACTORS IN THE PERFORMANCE OF THIS AGREEMENT.

CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS, RULES, AND REGULATIONS IN CONNECTION WITH THE SERVICES OF CONTRACTOR AND SHALL EXONERATE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CITY, ITS OFFICERS, AGENTS AND ALL EMPLOYEES FROM ANY AND ALL LIABILITY, LOSS OR DAMAGE ARISING OUT OF NONCOMPLIANCE WITH SUCH LAWS, RULES AND REGULATIONS, WITHOUT LIMITATION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR PAYMENTS OF FEDERAL, STATE AND LOCAL TAXES OR CONTRIBUTIONS IMPOSED OR REQUIRED UNDER THE SOCIAL SECURITY, WORKER'S COMPENSATION, AND INCOME TAX LAWS WITH RESPECT TO CONTRACTOR'S EMPLOYEES. FURTHER, CONTRACTOR SHALL EXONERATE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CITY, ITS OFFICERS, AGENTS AND ALL EMPLOYEES FROM ANY AND ALL LIABILITY, LOSS, DAMAGES, EXPENSES OR

CLAIMS ARISING OUT OF ANY ACT OR OMISSION, INTENTIONAL TORT, OR FAILURE TO PAY A SUBCONTRACTOR OR SUPPLIER OF CONTRACTOR, ITS OFFICERS, AGENTS AND EMPLOYEES IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY CONTRACTOR OR AS A RESULT OF CONTRACTOR'S FAILURE TO USE AND EMPLOY REASONABLE SKILL AND CARE BEFITTING THE PROFESSION IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT. FURTHER, CONTRACTOR SHALL EXONERATE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE CITY, ITS OFFICERS, AGENTS, AND ALL EMPLOYEES FROM ANY AND ALL LIABILITY, LOSS, DAMAGES, EXPENSES OR CLAIMS FOR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY CONTRACTOR IN THE PERFORMANCE OF THIS AGREEMENT.

THE FOREGOING INDEMNIFICATION PROVISION SHALL APPLY TO CONTRACTOR REGARDLESS OF WHETHER OR NOT SAID LIABILITY, LOSS, DAMAGES, EXPENSES, OR CLAIMS IS CAUSED IN PART BY A PARTY INDEMNIFIED HEREUNDER.

THE CONTRACTOR SHALL REQUIRE ALL OF ITS APPROVED SUBCONTRACTORS TO INCLUDE IN THEIR SUBCONTRACTS, A RELEASE AND INDEMNITY IN FAVOR OF THE CITY IN SUBSTANTIALLY THE SAME FORM AS ABOVE.

ARTICLE XI: MISCELLANEOUS

- 11.1 Terms used in this Agreement which are defined in the General Conditions will have the meanings indicated in the General Conditions.
- 11.2 No assignment by a party hereto of any rights under or interests in the Contract Documents shall be binding on another party hereto without written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due but may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment shall release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 11.3 The City and the Contractor each binds itself, its partners, successors,

assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

11.4 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the City and the Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close to expressing the intention of the stricken provision.

11.5 Other Provisions – None.

ARTICLE XII: ADDRESSES FOR GIVING NOTICES

12.1 The City:

City of Friendswood
910 S. Friendswood Drive
Friendswood, Texas 77546

12.2 The Contractor:

Construction Masters of Houston, Inc.
3908 Third Street
Pearland, TX 77581

ARTICLE XIII: VENUE

13.1 Any action brought by either party based on any claim arising under or as a result of this contract shall be brought in a court of competent jurisdiction in Galveston County, Texas.

EXECUTED IN on behalf of the Contractor by Justin Davis its President shown below, and on behalf of the City by Mike Foreman, its Mayor, thereto duly authorized this 7th day of November, 2022.

ACCEPTED:

CITY:

CITY OF FRIENDSWOOD, TEXAS

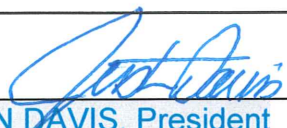
PROPOSED AND AGREED TO:

CONTRACTOR:

CONSTRUCTION MASTERS OF
HOUSTON, INC.

MIKE FOREMAN, Mayor

BY: _____


JUSTIN DAVIS, President

DATE: _____

DATE: 11-7-2022

ATTEST:

ATTEST:

LETICIA BRYSCH, City Secretary


(OFFICER OR SECRETARY)

APPROVED AS TO FORM:

KAREN HORNER, City Attorney

END OF SECTION

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/17/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider ratifying the Agreement and Change Order No.1 with Pavecon Ltd. Co., for emergency repairs required on Bay Area Boulevard.

Originating Department: Engineering

Degree of importance: Significant

SUMMARY / ORIGINATING CAUSE

City staff recently discovered that three portions of Bay Area Boulevard were severely sunken and posed a risk to vehicles travelling on the roadway. The problem areas were located adjacent to and near parts of Bay Area Boulevard which have been repaired in the past two years to address similar issues. Repairs have been undertaken on a continual basis and staff budgeted a portion of street funds in anticipation of future repairs. However, the drought of summer 2022 affected the roads more than expected, leading to City staff reducing northbound Bay Area to a single lane and requiring repairs on an emergency basis.

Pavecon Ltd. Co. ("Pavecon") provided a proposal through the TIPS purchasing cooperative to remove and replace 7" of concrete roadway in three areas impacting both lanes of the northbound portion of Bay Area Boulevard. The City entered into an emergency Standard Agreement for Contracting Services with Pavecon for \$322,285. The agreement included labor and materials to remove and replace the concrete roadway in the damaged locations, as well as the replacement of pre-existing damaged guardrails.

The original bid included the use of cement-stabilized sand for leveling, which is the method that has been specified for concrete repairs in the annual road maintenance program due to a quicker turn-around time. After excavation of the roadway, it was discovered that the subgrade was not adequate for re-use and was going to require stabilization in order to provide a good foundation for the future road. A change order was subsequently issued to Pavecon Ltd. Co. for lime stabilization for \$78,250. The change order includes labor and materials associated with stabilizing the subgrade under the concrete roadway and an additional month of rental of traffic control to account for the extended time needed to perform the additional work.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. Standard Agreement - Pavecon Ltd. Co.
2. Change Order 1 - Lime Stabilization
3. Certificate of Insurance Expires 07-01-2023
4. Government Code Verifications Form
5. Form 1295 Certificate

THE STATE OF TEXAS §
 §
COUNTY OF GALVESTON §

**STANDARD AGREEMENT FOR
CONTRACTING SERVICES**

THIS AGREEMENT, entered into as of this 13th day of October 2022, by and between the City of Friendswood, Texas (hereinafter called the "CITY") a home-rule municipal corporation located in Harris and Galveston Counties, Texas, and Pavecon Ltd. Co., 9900 Windfern Road, Houston, Texas 77064 (hereinafter called the "CONTRACTOR") acting herein by Don Heierman, Chief Financial Officer hereunto duly authorized:

WITNESSETH THAT:

WHEREAS, the CITY and the CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I: WORK

- 1.1 The Contractor shall complete all the Work as specified in the Contract Documents. The Work is generally described as follows:

Bay Area Boulevard Concrete Repair

- 1.2 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Bay Area Boulevard Concrete Repair

ARTICLE II: DESIGN PROFESSIONAL

- 2.1 The City of Friendswood Engineering Department is the Design Professional on this project.

ARTICLE III: CONTRACT TIME

- 3.1 The Work shall be Substantially Complete within Thirty (30) Calendar Days after the date when the Contract Time commences to run as provided by the General Conditions.
- 3.2 The Work shall have Final Completion and be ready for Final Payment in accordance with the General Conditions within Forty-Five (45) Calendar Days after the date when the Contract Time commences to run as provided by the General Conditions.

ARTICLE IV: LIQUIDATED DAMAGES

- 4.1 The City and the Contractor recognize that time is of the essence of this Agreement and that the City shall suffer financial loss if the Work is not completed within the time specified in Article 3.1 above, plus any extensions thereof allowed in accordance with the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the City and the Contractor agree that as liquidated damages for delay (not as a penalty) the Contractor shall pay the City FIVE HUNDRED Dollars (\$500.00) for each day that expires after the time specified in Article 3.1, in this Agreement, for Substantial Completion until the Work is Substantially Complete.
- 4.2 After Substantial Completion, if the Contractor shall neglect, refuse or fail to complete the remaining Work within the time specified in Article 3.2 for Final Completion and readiness for Final Payment or any proper extension thereof granted by the City, the Contractor shall pay City Seven Hundred Fifty Dollars (\$750) for each day that expires after the time specified in Article 3.2, in this Agreement, for Final Completion until the Work is Finally Complete and ready for Final Payment.
- 4.3 Contractor agrees any assessed liquidated damages may be offset against retainage held by the City.

ARTICLE V: CONTRACT PRICE

- 5.1 The City shall pay the Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Exhibit A.
- 5.2 TOTAL AMOUNT OF BID is Three Hundred Twenty - Two Thousand Two Hundred Eighty - Five Dollars (\$322,285) unless one or more change orders are approved, as allowed by law.
- 5.3 As provided in the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by the City as provided in the General Conditions. Unit prices have been computed as provided in the General Conditions. Unit prices specified as per lump sum have been computed in accordance with of the General Conditions.

ARTICLE VI: PAYMENT PROCEDURES

- 6.1 The Contractor shall submit Contractor Payment Application. Payment Applications shall be processed by the City as provided in the General

Conditions.

- 6.2 Progress Payments; The City shall make progress payments on account of the Contract Price on the basis of the Contractor's Payment Application on or about the twentieth (20th) day of each month during construction as provided in Paragraph 6.3 below. All such payments shall be measured by the schedule of value established in Section 01295 – Schedule of Values (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
- 6.3 Prior to Substantial Completion progress payments shall be made equal to the percentage of the Work completed, as established above, and materials and/or equipment not incorporated in the work completed but delivered, suitably stored, and accompanied by suitable documentation satisfactory to the City as provided in the General Conditions. Progress payments shall be made less retainage as indicated in Paragraph 6.4 and 6.5 below, but in each case, less the aggregate of payments previously made less such amounts as the City shall determine or withhold, in accordance with of the General Conditions.
- 6.4 Retainage prior to Substantial Completion; If the total Contract Price at the time of Contract Execution is Five Hundred Thousand Dollars (\$500,000) or more, the agreed retainage until Substantial Completions shall be five percent (5%), otherwise the agreed retainage shall be ten percent (10%).
- 6.5 Retainage after Substantial Completion: On projects where a long period of time is expected to occur between the Substantial Completion and Final Acceptance, retainage shall be reduced by one-half (1/2). The reduced retainage shall never be less than the expected value of any work requiring correction or unfinished work. A portion of the retainage shall always be held until issuance of a Certification of Final Completion.

ARTICLE VII: INTEREST

- 7.1 All monies except retainage, not paid when due as provided in the General Conditions shall bear interest at the rate specified in Section 2251.025 of the Texas Government Code.

ARTICLE VII: CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement the Contractor makes the following representations:

- 8.1 The Contractor has examined and carefully studied the Contract Documents (including the Addenda listed in Article IX) and other related

- data identified in the Documents including “technical data” and performed a constructability review.
- 8.2 The Contractor has visited the site and become familiar with and is satisfied as to the general local and site conditions, including utilities that may affect cost, progress, performance and furnishing of the Work.
- 8.3 The Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work.
- 8.4 The Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings if physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in the General Conditions. Contractor accepts the determination set forth in the Supplementary Conditions of the extent of the “technical data” contained in such reports and drawings upon which the Contractor is entitled to rely as provided in the General Conditions. The Contractor acknowledges that such reports and drawings are not Contract Documents and may not be complete for the Contractor’s purposes. The Contractor acknowledges that the City and the Design Professional shall not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. The Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by the Contractor and safety precautions and programs incident hereto. The Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with other terms and conditions of the Contract Documents.
- 8.5 The Contractor is aware of the general nature of work to be performed by the City and others at the site that relates to the Work as indicated in the Contract Documents.
- 8.6 The Contractor has correlated the information known to the Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all examinations,

investigations, explorations, tests, studies and data with the Contract Documents.

- 8.7 The Contractor has given the City written notice of all conflicts, errors, ambiguities or discrepancies that the Contractor has discovered in the Contract Documents and the written resolution thereof by the City is acceptable to the Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE IX: THE CONTRACT DOCUMENTS

The Contract Documents, which comprise the entire agreement between the FDEDC and the Contractor concerning the Work, consist of those referenced in this article. The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. In case of conflict between any of the Contract Documents, priority of interpretation shall be in the following order:

- 9.1 Any modification, including Change Orders, duly delivered after Execution of the Agreement.
- 9.2 Standard agreement for Contracting Services (this agreement).
- 9.3 General Conditions.
- 9.4 Supplemental Conditions.
- 9.5 Technical Specifications Divisions 1 through 16.
- 9.6 Insurance Requirements.
- 9.7 Performance Bond, included herein.
- 9.8 Payment Bond, included herein.
- 9.9 Texas Works' Compensation.
- 9.10 Affidavit of Insurance, and Certificates of Insurance.
- 9.11 Alcohol and Drug Free Workplace Policy.
- 9.12 Construction Storm Preparation Policy.
- 9.13 Hazardous Communications Program Requirement Agreement.
- 9.14 Homeland Security Policy.

9.15 Child Support Affidavit.

9.17 Texas Ethics Commission Form 1295.

9.18 Texas Government Code Verifications

There are no Contract Documents other than those listed above in this Article IX. The Contract Documents shall only be altered, amended, or repealed by a modification (as defined in the General Conditions).

ARTICLE X: INDEMNIFICATION

CONTRACTOR AGREES TO AND SHALL PROTECT, DEFEND, INDEMNIFY, AND HOLD THE FDEDC, ITS OFFICERS, ELECTED OFFICIALS, AGENTS, AND EMPLOYEES (HEREINAFTER IN THIS ARTICLE X referred to as the "FDEDC"), HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS, FINES, DEMANDS, LOSSES, DAMAGES, CAUSES OF ACTION, SUITS, AND LIABILITIES OF EVERY KIND, INCLUDING ALL EXPENSES OF LITIGATION, COURT COSTS, AND ATTORNEYS' FEES, FOR INJURY TO OR DEATH OF ANY PERSON, OR FOR DAMAGE TO ANY PROPERTY, ARISING OUT OF OR IN CONNECTION WITH THE ACT OR OMISSION OF THE CONTRACTOR UNDER THIS CONTRACT, WHERE SUCH INJURIES, DEATH OR DAMAGES ARE CAUSED BY THE SOLE OR JOINT NEGLIGENCE, INTENTIONAL OR WILLFUL ACTS OR OMISSIONS OF THE CONTRACTOR, ITS OFFICERS, EMPLOYEES, AGENTS, CONTRACT LABORERS, OR SUBCONTRACTORS IN THE PERFORMANCE OF THIS AGREEMENT. IT IS THE EXPRESSED INTENTION OF THE PARTIES HERETO, BOTH THE CONTRACTOR AND THE FDEDC, THAT THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH IS AN INDEMNITY BY THE CONTRACTOR TO INDEMNIFY, PROTECT AND DEFEND THE FDEDC FROM THE CONSEQUENCES OF THE FDEDC'S OWN NEGLIGENCE, WHERE THAT NEGLIGENCE IS A CONCURRING CAUSE OF THE INJURY, DEATH OR DAMAGE AND FROM THE CONSEQUENCES OF THE CONTRACTOR'S OWN NEGLIGENCE, WHERE THAT NEGLIGENCE IS THE SOLE OR CONCURRING CAUSE OF THE INJURY, DEATH, OR DAMAGE. FURTHERMORE, THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL HAVE NO APPLICATION TO THE FDEDC FOR ANY CLAIM, LOSS, DAMAGE, CAUSE OF ACTION, SUIT AND LIABILITY WHERE THE INJURY, DEATH OR DAMAGE RESULTS FROM THE SOLE

NEGLIGENCE OF THE FDEDC, UNMIXED WITH THE FAULT OF ANY OTHER PERSON OR ENTITY.

CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS, RULES, AND REGULATIONS IN CONNECTION WITH THE SERVICES OF CONTRACTOR AND SHALL EXONERATE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE FDEDC, ITS OFFICERS, AGENTS AND ALL EMPLOYEES FROM ANY AND ALL LIABILITY, LOSS OR DAMAGE ARISING OUT OF NONCOMPLIANCE WITH SUCH LAWS, RULES AND REGULATIONS, WITHOUT LIMITATION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR PAYMENTS OF FEDERAL, STATE AND LOCAL TAXES OR CONTRIBUTIONS IMPOSED OR REQUIRED UNDER THE SOCIAL SECURITY, WORKER'S COMPENSATION, AND INCOME TAX LAWS WITH RESPECT TO CONTRACTOR'S EMPLOYEES. FURTHER, CONTRACTOR SHALL EXONERATE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE FDEDC, ITS OFFICERS, AGENTS AND ALL EMPLOYEES FROM ANY AND ALL LIABILITY, LOSS, DAMAGES, EXPENSES OR CLAIMS ARISING OUT OF ANY ACT OR OMISSION, INTENTIONAL TORT, OR FAILURE TO PAY A SUBCONTRACTOR OR SUPPLIER OF CONTRACTOR, ITS OFFICERS, AGENTS AND EMPLOYEES IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY CONTRACTOR OR AS A RESULT OF CONTRACTOR'S FAILURE TO USE AND EMPLOY REASONABLE SKILL AND CARE BEFITTING THE PROFESSION IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT. FURTHER, CONTRACTOR SHALL EXONERATE, INDEMNIFY, DEFEND, AND HOLD HARMLESS THE FDEDC, ITS OFFICERS, AGENTS, AND ALL EMPLOYEES FROM ANY AND ALL LIABILITY, LOSS, DAMAGES, EXPENSES OR CLAIMS FOR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY CONTRACTOR IN THE PERFORMANCE OF THIS AGREEMENT. THE FOREGOING INDEMNIFICATION PROVISION SHALL APPLY TO CONTRACTOR REGARDLESS OF WHETHER OR NOT SAID LIABILITY, LOSS, DAMAGES, EXPENSES, OR CLAIMS IS CAUSED IN PART BY A PARTY INDEMNIFIED HEREUNDER.

THE CONTRACTOR SHALL REQUIRE ALL OF ITS APPROVED SUBCONTRACTORS TO INCLUDE IN THEIR SUBCONTRACTS, A

**RELEASE AND INDEMNITY IN FAVOR OF THE FDEDC IN THE SAME
FORM AS IN THIS ARTICLE X.**

ARTICLE XI: MISCELLANEOUS

- 11.1 Terms used in this Agreement which are defined in the General Conditions will have the meanings indicated in the General Conditions.
- 11.2 No assignment by a party hereto of any rights under or interests in the Contract Documents shall be binding on another party hereto without written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due but may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment shall release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 11.3 The City and the Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- 11.4 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the City and the Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close to expressing the intention of the stricken provision.
- 11.5 Other Provisions – None.

ARTICLE XII: ADDRESSES FOR GIVING NOTICES

- 12.1 The City:
Attention: Jildardo Arias, PE, CFM
Director of Engineering
City of Friendswood
15355 Blackhawk Boulevard
Friendswood, TX 77546
- 12.2 The Contractor:
Attention: Daniel Kilman
President
Pavecon Ltd. Co.

9900 Windfern Rd
Houston, TX 77064

ARTICLE XIII: VENUE

- 13.1 Any action brought by either party based on any claim arising under or as a result of this contract shall be brought in a court of competent jurisdiction in Galveston County, Texas.

**CITY OF FRIENDSWOOD
STANDARD CONTRACT AGREEMENT**

**CONTRACTING
SERVICES**

EXECUTED IN on behalf of the Contractor by Don Heierman its Chief Financial Officer shown below, and on behalf of the City by Morad Kabiri, its City Manager, thereto duly authorized this 13th day of October 2022.

ACCEPTED:

PROPOSED AND AGREED TO:

CITY:

CONTRACTOR:

CITY OF FRIENDSWOOD, TEXAS

PAVECON LTD. CO.



Morad Kabiri
City Manager

BY:



Daniel Kilman
President

DATE: November 18, 2022

DATE: 10-14-2022

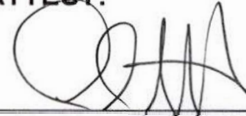
ATTEST:



CITY SECRETARY



ATTEST:



(OFFICER OR SECRETARY)

APPROVED AS TO FORM:



CITY ATTORNEY

END OF SECTION

Bay Area Blvd - Concrete Repair

3100 Bay Area Blvd
Friendswood, TX

Prepared for:

City of Friendswood

Hailee Medwedeff

Prepared By:
Daniel Stuckey
Project Manager
9900 Windfern Rd
Houston, TX 77064
281-640-4910



October 7, 2022

PROPOSAL & CONTRACT



October 7, 2022

City of Friendswood
910 South Friendswood Drive
Friendswood, TX

Houston Division
9900 Windfern Rd
Houston, TX 77064
Office 281-571-8040

Attn: Hailee Medwedeff

Re: Bay Area Blvd - Concrete Repair

Thank you for contacting Pavecon and allowing us to provide you with the following proposal and scope of work

Repair Type	Description	Quantity	Unit	Total
Concrete	Traffic Control	1	LS	\$ 18,208.91
Concrete	7" Concrete Remove and Replace	16,984	SF	\$ 281,801.09
Concrete	Guardrail Replacement	1	LS	\$ 22,275.00
Total Project Cost =				\$ 322,285.00

The work is to be performed as follows: (Reference Plans or Site map as necessary)

PAVECON, Ltd. will furnish all labor, materials and equipment required for the performance of the following described work in connection with construction or improvements at:

3100 Bay Area Blvd - Friendswood, TX

Please see following pages to view repair details, inclusions, exclusions, and our terms and conditions. Please sign below to accept this proposal.

ACCEPTED:

PAVECON, LTD.

Daniel Stuckey
Project Manager

DESCRIPTION OF WORK:

7" Concrete Remove and Replace

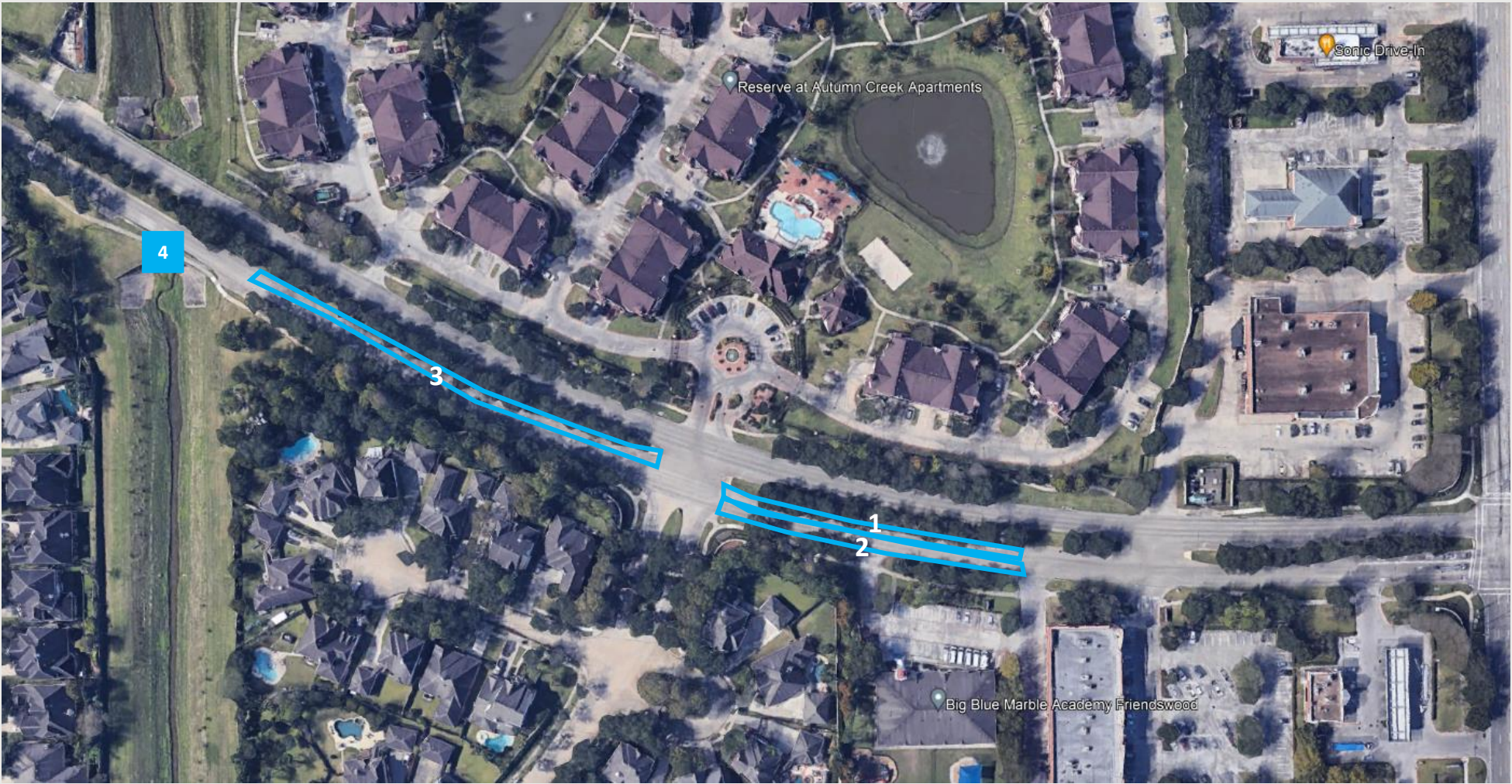
Saw cut defined limits of areas. Excavate failed pavement to a depth of 7". Install pre-mold expansion joint material along perimeter of repair adjacent to existing concrete (see joint layout plan). Drill, dowel, and epoxy grout edges of repair with #7 smooth dowels at 16" on center. Install redwood expansion joints at 40' max intervals (see joint layout plan). Drill, dowel, and epoxy grout redwood expansion joints with #7 smooth dowels at 16" on center. Set forms and place 7" concrete with a tine broom finish. Reinforce with #4 rebar at 16" on center. Concrete shall be a high-early 7-sack (no fly ash) mix at minimum 4000 PSI with air entrainment for durability and resistance to surface scaling. Cure concrete with liquid membrane curing compound to insure strength development. Cut control joints at 10' max intervals as indicated on provided joint layout plan. Seal all joints with Dow Chemical DC890 Silicone.

Guardrail Replacement

Guardrail will be removed and replaced to match existing. New synthetic bollards and spacers will be used and set to a minimum depth of 3' (below ground) and a maximum height of 2' (above ground). Ends will be Terminal Anchor Sections (as currently exist). Concrete pavement and curb surrounding existing guardrail will be removed and replaced as part of the project. Concrete paving will be 4" in thickness with a 2" sand bed. Rebar will be #4 (1/2") at 18" on center each way. Concrete will be 4000 PSI minimum. Concrete will be cured with liquid membrane curing compound to insure strength development. Control joints will be tooled to a depth of 1" at 10' maximum intervals. Guardrail will be W Beam and meet TXDOT specifications.

PAVEMENT REPAIR PLAN

Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd, Friendswood, TX



SUMMARY OF WORK

- Area #1 4,480 SF
- Area #2 4,354 SF
- Area #3 8,150 SF
- Area #4 Guardrail Replacement (120 LF)

LEGEND

- Asphalt
- Concrete
- Maintenance
- Miscellaneous

PROJECT PHOTO PAGE



Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd
Friendswood, TX



Area #1 - 7" Concrete RR - 4,480 SF



Area #1 - 7" Concrete RR - 4,480 SF

PROJECT PHOTO PAGE



Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd
Friendswood, TX



Area #1 - 7" Concrete RR - 4,480 SF



Area #1 - 7" Concrete RR - 4,480 SF

PROJECT PHOTO PAGE



Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd
Friendswood, TX



Area #2 - 7" Concrete RR - 4,354 SF



Area #2 - 7" Concrete RR - 4,354 SF

PROJECT PHOTO PAGE



Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd
Friendswood, TX



Area #2 - 7" Concrete RR - 4,354 SF

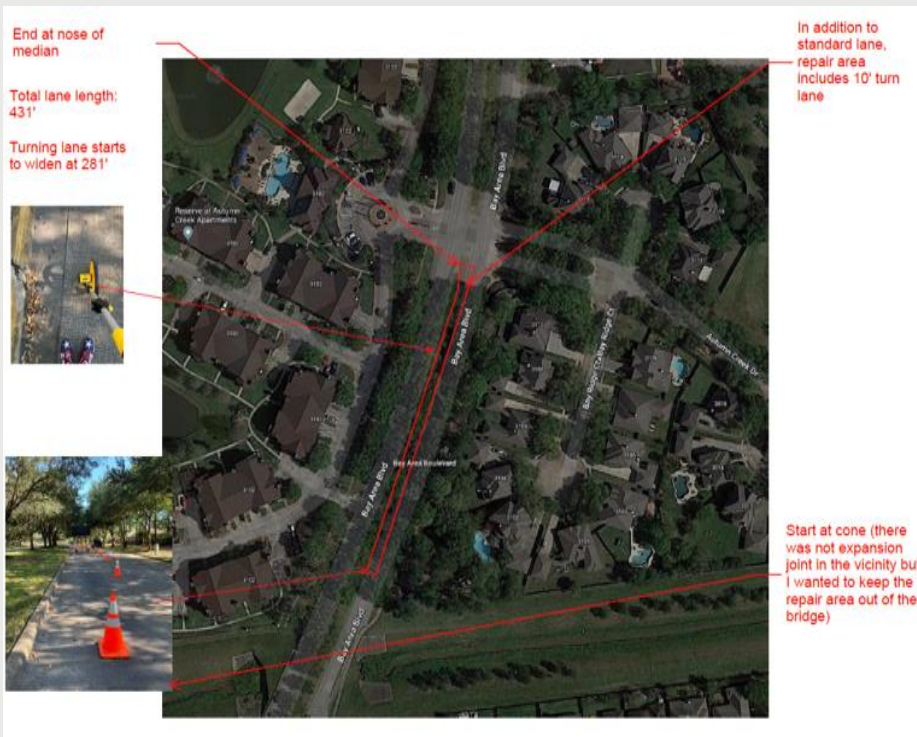


Area #2 - 7" Concrete RR - 4,354 SF

PROJECT PHOTO PAGE



Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd
Friendswood, TX



Area #3 - 7" Concrete RR - 8,150 SF



Area #4 - Guardrail Replacement - 120 LF

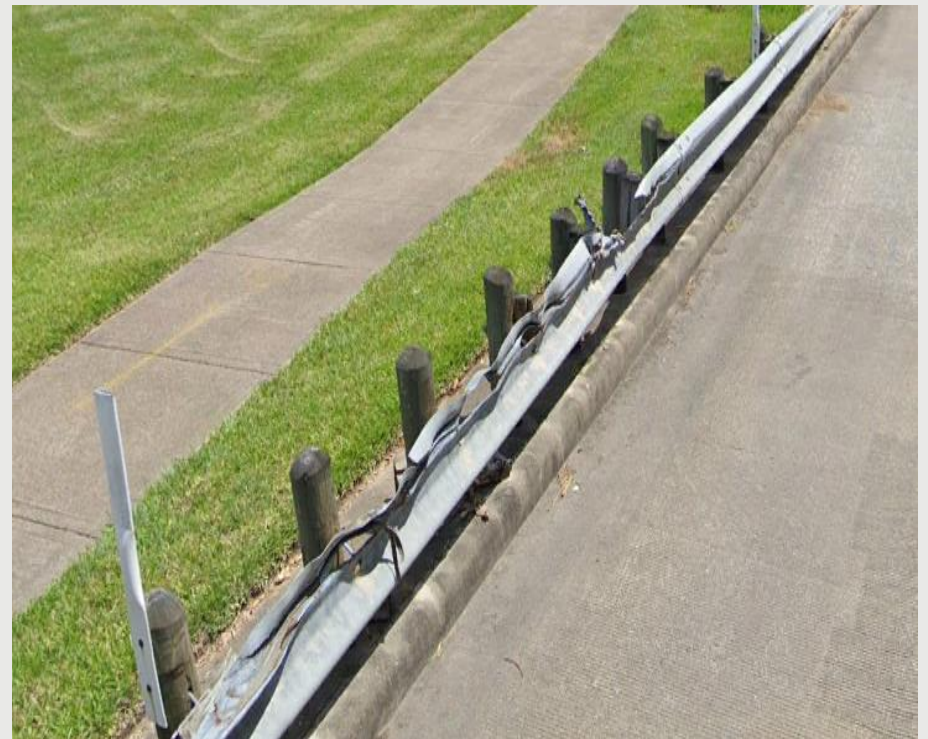
PROJECT PHOTO PAGE



Bay Area Blvd - Concrete Repair
3100 Bay Area Blvd
Friendswood, TX



Area #4 - Guardrail Replacement - 120 LF



Area #4 - Guardrail Replacement - 120 LF

INCLUSIONS AND EXCLUSIONS

INCLUSIONS:

TIPS Fees/ Bond Fees.

Traffic Control - 2 Lane Closure (6 weeks).

PAVECON, Ltd. guarantees this work for materials and workmanship for a period of 1-year from installation, excluding unusual abuse or neglect.

Due to the ongoing cement shortage experienced by our industry the scheduling related to the purchase, acquisition, and installation of ready-mix concrete, dry portland (type I or II) cement may be affected. Pavecon cannot guarantee material availability. If there are excessive delays in installation or acquisition of concrete related materials, potential supplier pricing may become an issue.

EXCLUSIONS:

Subgrade or Subbase remediation required in the repair area discovered during construction or through investigation by a proof-roll or any other construction activities.

Taxes (Resale or Exempt must be provided).

Permits and Testing.

Utility relocation/adjustment, irrigation, or landscape repair.

Pumping, heating, or cooling of concrete.

All work areas must be free of materials & equipment.

Pavement markings.

The scope of work herein will be completed in (3) trip(s). I understand additional trip(s) necessitated by obstructions, lack of preparedness, water, cars or other impediments that would inhibit the service from being completed will result in a rescheduling fee of \$1000.00 per trip.

Sleeves for Irrigation. Dewatering.

Erosion Control or SWPPP.

CHANGE ORDER

CHANGE ORDER No.: CO-1

PROJECT NAME: Bay Area Blvd – Lime Stabilization

TO: DANIEL STUCKEY
PAVECON LTD. CO.
3022 ROY ORR BLVD.
GRAND PARAIRIE, TX 75050

Proposed Change:	Add	Deduct
Traffic Control	8,220.29	\$
8" Lime Stabilization – 6%	53,534.71	\$
7" Concrete Driveway RR w/Ramps	16,495.00	\$
	\$	\$
	\$	\$
Request For Time Change		

Original Contract Amount:	<u>\$322,285.00</u>	Original Contract Time:	_____
Net Previous Change Orders:	\$_____	Net Previous Time Changes:	_____
Total Contract Amount:	<u>\$322,285.00</u>	Total Time Amount:	_____
This Change Order Amount Adds:	<u>\$78,250.00</u>	This Change Order Time Adds:	_____
This Change Order Amount Deducts:	\$_____	This Change Order Time Deducts:	_____
New Contract Amount:	<u>\$400,535.00</u>	New Contract Time:	_____

We, the undersigned, enter to agreement on the change of Contract Price and/or change in Contract Time.



Don Heierman
Chief Financial Officer

11/17/22
Date



Morad Kabiri
City Manager
City of Friendswood

11/17/2022
Date

END OF DOCUMENT

00510-1

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/23/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider authorizing an End User Agreement with PM Construction & Rehab, LLC, through the Houston-Galveston Area Council's Contract #TP07-18 for the Sanitary Sewer Evaluation Survey, Phase IV Project, which will execute identified sewer main line and sewer manhole rehabilitation repairs.

Originating Department: Public Works

Degree of importance: Significant

SUMMARY / ORIGINATING CAUSE

The Sanitary Sewer System Assessment Phased Study Reports and follow-up flow monitoring/leak-detection process have assisted and continue to assist the City in identifying a significant amount of potential inflow and infiltration ("I&I") sources within surveyed basins of the City of Friendswood. The I&I sources range from failing manholes, broken and/or faulty sewer mains, missing/broken sewer cleanouts, direct tie-ins, and more.

As part of our long-range sanitary sewer assessment and rehabilitation program, Public Works is preparing to begin executing Phase IV (Construction & Rehabilitation) based on the findings of Phase II which was part of an assessment phase. The Phase II Study Report (find attached), outlines the recommended rehabilitation to assist in reducing sewer inflows to basin FM-08.

As the funds for this proposed project are being provided through prior approved bonds, the Public Works Department and Finance Department coordinated together to confirm the City's ability to use the H-GAC cooperative purchase program for the project. Upon such confirmation and consistent with our practice regarding annual Sewer Rehab CIP process, Public Works immediately coordinated with the H-GAC-approved contractor PM Construction & Rehab, LLC ("PM Construction") to review the proposed scope of work. PM Construction presented its pricing for the proposed outlined scope of work based on H-GAC Contract #TP07-18. Being that part of the recommended scope of work will also consist of additional investigatory work during construction, we will be contracting for a not-to-exceed amount within the approved bond funding. The H-GAC Contract #TP07-18 has been integrated within the End User Agreement between City and Contractor (also find attached).

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Initiating the recommended scope of work will directly assist the City of Friendswood in improving critical I&I concerns. The I&I is causing an adverse impact to our storage, pumping, and utility infrastructure.

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. End User Agreement for H-GAC Contract No. TP07-18
2. Exhibit A - Wage Rates
3. Friendswood Phase 2 SSES Year 1 Master - Revised Nov 2019
4. H-GAC Amendment No. 2 to Contract No. TP07-18
5. H-GAC Amendment No. 1 to Contract No. TP07-18
6. H-GAC General and Special Provisions to Contract No. TP07-18
7. Government Code Verifications
8. Form 1295

END USER AGREEMENT BETWEEN CITY AND CONTRACTOR FOR HGACBUY PURCHASE

STATE OF TEXAS §
 §
COUNTY OF GALVESTON §

This End User Agreement (the "Agreement") is entered into by and between the City of Friendswood (the "City") and PM Construction & Rehab, LLC (the "Contractor") for the Sanitary Sewer Evaluation Survey, Phase IV Project (the "Project").

1. **SCOPE OF WORK:** This scope of work shall entail the complete pipebursting replacement and cured-in-place pipe rehabilitation of the items identified by RJN Engineering, Inc., concerning the Phase II Sanitary Sewer Evaluation Survey, which shall include, but not be limited to the following:

- Provide pre-work submittals;
- Coordinate/communicate with residents and customers to attain their approval before accessing any public and/or private easements upon or within the rear of a property in question (at least 72 hrs. in advance);
- Perform pre-rehab CCTV & cleaning (normal only). Two-wheel drive vehicle access to manholes is required for this work;
- Perform heavy cleaning, excluding tuberculation removal, mechanical cleaning, debris disposal, dump site, etc.;
- Complete CIPP rehabilitation per ASTM 1216 standards utilizing water or air inversion & water or steam curing methods;
- Reinstate service laterals to CIPP mains via internal robotic cutter only (if required);
- Reinstate service laterals to PB mains by utilizing saddles with stainless steel bands and reconnecting to the existing lateral;
- Perform PB replacement by utilizing DR 17 HDPE for replacement pipe, utilizing pneumatic bursting methods only;
- Backfill all excavations with previously excavated material;
- Perform post lining CCTV inspection upon completion of the work to confirm rehab & replacement work;
- Demobilize all construction equipment and clean-up of all identifiable debris generated by Contractor's crew(s); and
- Mobilize for each technology.

Such Project shall entail the following at the unit prices indicated hereinbelow for a total amount not to exceed ONE MILLION THREE HUNDRED SIXTY-EIGHT THOUSAND ONE HUNDRED EIGHTEEN AND 75/100 DOLLARS (\$1,368,118.75 (the "Payment Amount")):

Item No.	Description	Qty	Unit	Unit Price	Total
Mobilization					
1A	Mobilization	1	EA	\$15,000.00	\$15,000.00
Point Repairs by Excavation					
2A	8" Sanitary Sewer (10' Length; Depth < 10')	4	EA	\$3,250.00	\$13,000.00
2B	12" Sanitary Sewer (10' Length; Depth < 10')	1	EA	\$4,500.00	\$4,500.00
2C	15" Sanitary Sewer (10' Length; Depth < 10')	2	EA	\$5,000.00	\$10,000.00
Pipe Bursting Existing Mainline					
3A	Pipe Bursting Existing 8" Sanitary Sewer by 8" including Clean/CCTV	1739	LF	\$90.00	\$156,510.00
3B	Reinstate Laterals to PB Main	16	EA	\$1,000.00	\$16,000.00
3C	Asphalt Repair, Entry Pits	75	SY	\$200.00	\$15,000.00
Cured-In-Place Pipe Lining					
4A	CIPP-10" Sanitary Sewer including Clean/CCTV	330	LF	\$80.00	\$26,400.00
4B	CIPP-15" Sanitary Sewer including Clean/CCTV	412	LF	\$115.00	\$47,380.00

Item No.	Description	Qty	Unit	Unit Price	Total
Remove & Replace Existing Mainline					
5A	Remove and Replace existing 8"sanitary sewer line, Depth <10'	394	LF	\$185.00	\$72,890.00
Additional CCTV Inspection					
6A	8" Sanitary Sewer Line	370	LF	\$7.00	\$2,590.00
6B	15" Sanitary Sewer Line w/ Heavy Cleaning	325	LF	\$11.00	\$3,575.00
Removal of Protruding Taps					
7A	Tap Cutting-8"Sanitary Sewer Line (Number of Taps unknown)	1	EA	\$1000.00	\$1000.00
Heavy Cleaning of Sewer Mainline					
8A	Heavy Cleaning- 15" Sanitary Sewer Line	325	LF	\$15.00	\$4,875.00
Manhole Rehabilitation & Replacement					
9A	Cementitious Coating/Rehab	95	VF	\$275.00	\$26,125.00
9B	Replace Cover/Frame/Frame Seal (Frame/Cover provided by City)	6	EA	\$950.00	\$5,700.00
9C	Replace Cover/Frame/Frame Seal & Adjustment (Frame/Cover provided by the City)	1	EA	\$750.00	\$750.00
9D	Repair Bench/Trough	2	EA	\$1,065.00	\$2,130.00
9E	Install New Manhole Frame & Cover (Frame/Cover provided by Owner)	3	EA	\$955.00	\$2,865.00
9F	Install New Manhole Cover (Cover provided by the City)	1	EA	\$350.00	\$350.00
9G	Replace Cover/Frame/Frame Seal (Frame/Cover provided by Owner)	69	EA	\$950.00	\$65,550.00
9H	Replace Cover/Frame/Frame Seal and Adjustment (Frame/Cover provided by Owner)	11	EA	\$1,100.00	\$12,100.00
9I	Install Bolts/Gasket for Bolted Cover	1	EA	\$255.00	\$255.00
9J	Remove and Replace Manhole, Fiberglass,< 10.5 VF Each, Non Paved (Frame/Cover provided by Owner)	51	EA	\$8,250.00	\$420,750.00
9K	Remove and Replace Manhole, Fiberglass,< 10.5 VF Each, Paved, (Frame/Cover provided by Owner)	12	EA	\$14,000.00	\$168,000.00
9L	Replace Adjustment, Realign Frame, and Install External Chimney Seal	1	EA	\$1,200.00	\$1,200.00
Bonds					
10A	Performance Bond	1	EA		
10B	Payment Bond	1	EA		
10C	Maintenance Bond	1	EA		
Owner's Contingency					
11A	Owner's Contingency*	1	EA		
TOTAL NOT TO EXCEED					\$1,368,118.75

*Owners Contingency is the allowance authorized by the City for additional work in connection with the Project. The City retains exclusive use and control of the Owner's Contingency. The Contractor has no right or entitlement whatsoever to the Owner's Contingency, and use of such funds are subject to the City Manager's prior written approval and issuance of a Change Order

by the City at its sole and absolute discretion. Any unused Owner's Contingency remaining at the completion of the Project shall accrue solely to the City.

This Project will consist of all necessary parts, materials, equipment, freight, delivery, installation, labor, travel time, mileage, cleanup, and any other related costs to complete the Project. The Project will be constructed to meet the City's specifications.

2. CONTRACT DOCUMENTS: The Contract Documents shall consist of the following documents, which are listed in the order of priority of interpretation should there be a conflict:

- a) Addenda/Change Orders to this Agreement,
- b) End User Agreement,
- c) Plans, if any,
- d) Technical Specifications,
- e) Standard details,
- f) Phase II Sanitary Sewer Evaluation Survey by RJN Engineering, Inc.,
- g) Performance Payment and Maintenance Bonds,
- h) H-GAC Amendment No. 2 to Contract No. TP07-18,
- i) H-GAC Amendment No. 1 to Contract No. TP07-18,
- j) H-GAC Special Provisions to Contract No. TP07-18, and
- k) H-GAC General Provisions to Contract No. TP07-18.

(collectively the "Contract Documents")

No amendments to this Agreement shall be effective and binding until it is reduced to writing and signed by the duly authorized representatives of both parties. Contract Documents shall be distributed by the Contractor to its subcontractors as necessary and must be kept and be accessible at the work site. The plans and specifications must be returned to the City on request at the completion of the work.

3. CITY'S REPRESENTATIVE: The Project shall be administered by the City's Representative within the Public Works Department ("City Representative"), whose duties shall include, but not be limited to, the following:

- a) periodically review and inspect the Contractor's work;
- b) issue instructions and directives to the Contractor, with which Contractor is obligated to comply, provided such directions and instructions are consistent with the obligations of this Contract;
- c) make visits to the site at intervals appropriate to the various stages of construction, appropriate to observe as an experienced and qualified design professional the progress and quality of the work; and
- d) keep City informed of the progress of the work.

4. COMMUNICATIONS: The Contractor shall forward all communications, written or oral, to the City through the City's Representative. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered or sent by telecopier, overnight or facsimile transmission or if delivered or sent by certified or registered mail to the last business address as indicated herein. Each party will have the right to change its business address by giving at least thirty (30) calendar days' written notice to the other party of such change. Notice given by mail shall be deemed given three (3) calendar days after the date of the mailing thereof.

5. COMMENCEMENT AND COMPLETION OF WORK: Once the bonds and the certificate of insurance have been submitted to and approved by the City, the Contractor shall perform the work in the most expedient manner possible. The work shall commence as soon as possible, but no later than **ten (10) calendar days** from the date specified in the written notice to proceed. Substantial Completion of Project under this Agreement shall

be within three hundred sixty-five (365) calendar days of the date specified in the notice to proceed and Final Completion shall be within thirty (30) calendar days thereafter. Time is of the essence in this Agreement and the date of beginning and the date for final completion of work as specified in this Agreement are essential conditions of this Agreement. Contractor has submitted its quote in full recognition of the time required for the completion of this work taking into consideration all factors, including, but not limited to, the average climatic range, industry conditions, and liquidated damages. At final completion of the work, a certificate of final completion shall be issued by a professional engineer hired by the Contractor with the approval of the Director of Public Works.

6. **WORK.** The Contractor shall complete the work described in the Contract Documents in strict conformity therewith. The Contractor shall:

- a) provide and pay for all materials, supplies, machinery, equipment, tools, superintendents, laborers, insurance, fuel, transportation, and all other facilities and utilities necessary for the execution and completion of the work;
- b) secure and pay all permits, fees, licenses, and inspections necessary for the proper execution and completion of the work;
- c) give all notices required by law and comply with all applicable laws, City ordinances, City regulations, City codes, City rules, City standards and details, City specifications, and lawful orders of all public authorities bearing on the performance of the work;
- d) pay sales, consumer, use and similar taxes as legally required; and
- e) provide shop drawings and schedules to the City's Representative and secure the City's Representative's approval of the same, which approval shall not relieve Contractor from responsibility for errors.

7. **EXTENSIONS AND DELAYS:**

- a) **EXTENSIONS.** Within seven (7) calendar days of any act or incident that the Contractor reasonably believes may justify an extension of time for final completion, the Contractor may apply in writing for an extension of such time, submitting therewith all written justification as may be required by City. Thereafter, the City's Representative, within seven (7) calendar days after receipt of a written request for an extension of time from the Contractor, which is supported by all requested documentation, shall then grant or deny such written request; provided that the request for an extension is not based upon weather conditions. Should an extension be requested within the seven (7) calendar-day period based upon weather conditions, the City's Representative shall grant or deny such a written request upon Final Completion of the work based upon any variation from the average climatic range.
- b) **DELAYS.** The Contractor, in undertaking to complete the work within the time herein fixed, has taken into consideration and made allowance for all hindrances and delays incident to such work, whether growing out of delays in securing material or workmen or weather or otherwise. No charge whatsoever shall be made for hindrances or delays from any cause whatever, except where the work is stopped by order of the City or by extraordinary causes. Any extension shall not exceed the time actually lost by Contractor.

8. **PAYMENT:** The Contractor agrees to perform the work for the prices specified hereinabove, which the City shall pay upon final completion and acceptance of the work, subject to any adjustment allowed herein. The Contractor shall never be entitled to anticipated or lost profits on the deleted or reduced portion of a job. The Contractor shall not have the right to obligate the City to make any payments to another party.

- a. **Progress Payments:** The Contractor shall submit applications to the City's Representative for progress payments as provided for herein no more often than once a month Application for payment will be processed by the City's Representative.

(1) Subject to the terms of this paragraph and the other provision of this Agreement, the City shall make progress payment based upon unit prices and the Contractor's application for payment as approved by the City's Representative. Whenever the Contractor's application for payment includes payment for work that is determined to be either (1) not in accordance with this Agreement, the work write-up, specifications, or other Contract Documents, or (2) defective, the the City may, in his sole discretion, withhold progress payments whenever some work for which payment has already been made under a prior progress payment or a portion thereof, is determined to be either (1) not in accordance with the Agreement, the work write-up, specifications or other Contract Documents or (2) defective. No partial payment shall be made for materials or equipment stored on-site or off-site unless approved in writing in advance by the City's Director of Public Works.

(2) Subject to the terms of this paragraph and the other provision of this Agreement, progress payments will be made, less the normal retainage specified below and additional amounts as the City may determine and may withhold in accordance with this Agreement. The City may, at any time, suspend progress payments on the work if, in the sole discretion of the City, it determines that (i) the projected liquidated damages may exceed the retainage, (ii) the Contractor will not timely complete the work due to actual default, (iii) the Contractor has represented or done some act that indicates that the Contractor will not complete the work within the dates specified in this Agreement for final completion, or (iv) the Contractor will otherwise not complete the work in accordance with this Agreement.

b. **Retainage:** From each approved statement, the City shall retain until final payment five percent (5%). The City may also retain from each approved statement any sums authorized under other terms of this Agreement.

c. **Final Payment:** After final completion and acceptance of the work specified in the plans and specifications, the City shall pay the Contractor the remainder of the price due under this Agreement less any sums withheld under other terms of this Agreement.

d. **Payment based on Actual Work and Material:** If the actual amount of the work to be done and the materials to be furnished differ from the estimate, then payment shall be for the actual amount of accepted work done and materials incorporated into the Project. Reduction in the scope or quantity of work on unit price items shall merely reduce the number of units.

e. **Changes:** No changes shall be made and no bills for changes, alterations, modifications, deviations, and extra orders shall be recognized or paid for except upon a written change order signed by the Contractor and the City. Any change shall not affect the validity of any bonds. Any requests by the Contractor for a change in original Payment Amount shall be made prior to the beginning of the work covered by the proposed change or the right to payment for extra work shall be waived.

9. **INDEPENDENT CONTRACTOR:** In all activities or services performed hereunder, the Contractor is and at all times shall remain an independent contractor, not an agent or employee of the City. The Contractor, as an

independent contractor, shall be solely responsible for the final product contemplated under this Agreement. It shall be the responsibility of the Contractor to furnish a completed work product that meets the requirements of the City. Any additional work, material, or equipment needed to meet the intent of this specification shall be supplied by the Contractor without claim for additional payment, even though not specifically mentioned herein.

10. **DISORDERLY EMPLOYEES:** The Contractor agrees to employ only orderly and competent persons, skillful in the performance of the type of work required under this Agreement, to do the work. The Contractor shall retain personal control and shall give its personal attention to the faithful prosecution and completion of the work and fulfillment of this Agreement. The Contractor shall appoint and keep on the Project during the progress of the work a competent Project Superintendent-Manager and any necessary assistants, all satisfactory to City to supervise its employees and subcontractors. Adequate supervision by Contractor is essential to the proper performance of the work, and lack of such supervision shall be grounds for suspending the operations of the Contractor and declaring Contractor in breach of this Agreement. Whenever the City or the City's Representative shall inform the Contractor in writing that any person or persons performing any of the requisite work are, in the opinion of the City or the City's Representative, incompetent, unfaithful or disorderly, such person or persons shall be discharged and shall not again be employed to perform any work on the Project without prior written consent of the City or the City's Representative.
11. **NATURE OF THE WORK:** It is understood and agreed that the Contractor has, by careful examination, satisfied itself as to the nature and location of the work, the confirmation of the ground and soil, the nature of any structures, including surface and subsurface utilities, the character, quality and quantity of the material to be utilized, the character of equipment and facilities needed for and during the prosecution of the work, the time needed to complete the work, Contractor's ability to meet all deadlines and schedules required by this Agreement, the general and local conditions, and all other matters that in any way affect the work under this Agreement.
12. **PROGRESS OF WORK:** The Contractor may prosecute its work at such time and sessions, in such order of precedence, and in such manner as shall be most conducive to the economy of the Project; provided; however, that the order and time of prosecution shall be such that the work shall be finally completed as a whole, in accordance with this Agreement. Further, the parties shall be subject to the following:
 - a) The City reserves the right to enter the property by such employee(s) or agent(s) as it may elect for the purpose of inspecting the work;
 - b) The Project Superintendent-Manager shall coordinate its activities and work with the City. If required by the City, the Contractor shall provide a weekly schedule of planned activities, which may be reviewed on a daily basis. In the case of any completed work or material that is to be covered over by other material, the Project Superintendent-Manager shall provide notice to the City no later than twenty-four (24) hours before the anticipated cover-up of the previously completed work or material. In the event, however, that such notice is provided on a Friday the City will have until the following Monday afternoon to approve the previously completed work and its cover-up and the Contractor shall take no action until such approval is given by City;
 - c) The Contractor shall submit, at such time as may reasonably be requested by City, further schedules that shall list the order in which the Contractor proposes to carry on the work with dates at which the Contractor will start the several parts of the work and the estimated dates of completion of the several parts; and
 - d) The Contractor and the engineer performing services under this Agreement shall attend additional meetings called by the City or the City's Representative upon twenty-four (24) hours' notice unless otherwise agreed by the parties.

13. **SITE CONDITIONS AND MANAGEMENT:** Throughout the progress of the work, the Contractor shall keep the working area free from debris of all types, and remove from premises all rubbish, resulting from any work being done by the Contractor. At the completion of the work, the Contractor shall leave the premises in a clean and finished condition. Any failure to do so may be remedied by the City or its designee and charged back to the Contractor. Where the Contractor is working around or in existing structures, it shall verify conditions at the site, including, but not limited to, roads, easements, door openings, passages, and other existing site conditions. Any items constructed or manufactured off-site or outside of buildings shall be done so that they are not too bulky for existing facilities. The Contractor shall provide special apparatus as required to handle any such items. All special handling equipment charges shall be at the Contractor's sole cost and expense.

Where gas, water, and sewer lines exist in the vicinity, the Contractor shall assume that service connections exist to each building and exercise appropriate caution during excavation. It is the Contractor's responsibility to notify various owners in advance when excavation is to be done in the vicinity of their underground lines and structures. Damage to such underground lines and structures, whether or not shown on the plans, shall be the responsibility of the Contractor and it shall bear the cost of necessary repair or replacement of damaged parts.

The Contractor shall be responsible for verifying all conditions at the site prior to performing the work. As such, the Contractor understands and agrees that it shall be responsible for conditions encountered at the site, including, but not limited to, (i) subsurface or otherwise concealed physical conditions which differ from those indicated in the Contract Documents, and (ii) unknown physical conditions, which differ from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents. No additional compensation shall be afforded to the Contractor for differing site conditions. Any information provided by the City, including, but not limited to geotechnical information, shall be for the Contractor's convenience only and the City does not guarantee the accuracy or correctness of any information so provided.

14. **LAYOUT OF WORK:** The Contractor shall lay out all work in a manner acceptable to the City in accordance with applicable codes and ordinances of the city, county and state. The City's Representative will review the Contractor's layout of all structures and any other layout work done by the Contractor, but this review does not relieve the Contractor of the responsibility of accurately locating all work in accordance with the specifications and Contract Documents.
15. **CONTRACTOR'S STRUCTURES:** Whenever the Contractor erects, installs, or uses additional structures on the property for the storage, maintenance of materials or use of employees and subcontractors, such structure shall not damage the property and the Contractor shall maintain sanitary conditions in and about such structures at all times in a manner satisfactory to the City. The Contractor shall provide and maintain necessary sanitary conveniences for the use of laborers on the work. Such conveniences shall be properly secluded from public observation and shall be in a location approved by the City's Representative. The City may charge the Contractor for any damage or injury to the City, its property or third persons as a result of the location or use of any of Contractor's structures.

16. MATERIALS:

- a) Materials or work described in words which when so applied have well-known technical or trade meaning shall be held to refer to such recognized standards. All work shall be done, and all materials furnished in strict conformity with the Contract Documents, and recognized industry standards.
- b) Materials and supplies utilized in the final product that will be turned over to the City shall be new and of good quality. Upon request, the Contractor shall supply proof of quality and manufacturer.
- c) No refurbished, reconditioned or other previously utilized materials or supplies will be used without the signed authorization of the City.
- d) Where the product is to be turned over to the City, the Contractor may utilize substitutes of equal quality and function as provided for in the specifications following a formal submittal review and authorized approval from the City.
- e) The City shall have full and final decision over the use of substitute materials and supplies.
- f) The Contractor shall certify to the City that all materials installed are free from asbestos containing material.

17. OBSERVATION, INSPECTIONS, TESTS:

- a) The City and the City's Representative reserve the right to enter the property by such employee(s) or agent(s) as he may elect for the purpose of inspecting the work. In accordance therewith, the Contractor shall supply the City or the City's Representative, upon request, with any keys or information necessary for the City or the City's Representative to have access to the property. The City and the City's Representative shall have the right to enter the property or location of the work for the purpose of performing such collateral work as the City or the City's Representative deems necessary or appropriate.
- b) The City and the City's Representative shall have the right, at any reasonable time, to observe and test the work. The Contractor shall make necessary arrangements and provide proper facilities and access for such observation and testing at any location wherever the work or any part thereof is in preparation or progress. The Contractor shall ascertain the scope of any observation that may be contemplated by the City or the City's Representative and shall give ample notice as to the time each part of the work will be ready for such observation.
- c) The City or the City's Representative may reject any work found to be defective or not in accordance with the Contract Documents, regardless of the state of its completion or the time or place of its discovery regardless of whether the City or the City's Representative has previously accepted the work through oversight or otherwise. Neither observations by the City or the City's Representative nor inspections, tests, or approvals made by the City or the City's Representative, or persons authorized under this Agreement to make such inspections, tests, or approvals, shall relieve the Contractor from its obligation to perform the work in accordance with the requirements of the Contract Documents.
- d) The City or the City's Representative upon approval of the City may require the Contractor to remove, dismantle or uncover work completed. In the event that the Contractor has failed to perform the work as required by the specifications, or drawings, or other Contract Documents, Contractor shall assume and pay the costs of repair and restoration of the work required to be removed, dismantled, or uncovered. In the event that the Contractor has performed the work correctly to specifications, City shall assume and pay the cost of restoration of the construction to the point that the City has required the work to be uncovered or dismantled.

18. WORK STOPPAGE: The City or the City's Representative shall have the right to order the work of the Contractor or any subcontractor wholly or partially stopped immediately under any one or more of the following conditions:

- a) the work may be ordered stopped immediately if in the judgment of the City or the City's Representative, any of the materials furnished or the work being done is not in strict accordance with this Contract;
- b) the work may be ordered stopped immediately until any objectionable person or material is removed from the premises; or
- c) the work may be ordered stopped immediately if any portion of the work is being performed so as to create a hazardous condition.

Such stoppage or suspension shall neither invalidate any of the Contractor's performance obligations under this Agreement, including time of performance and deadlines therefor, nor will extra charge be allowed the Contractor by reason of such stoppage or suspension.

19. REJECTED WORK: The City or the City's Representative, in its discretion, may reject any and all work that is found to be defective or deemed not in conformity with this Agreement. The City or the City's Representative

may reject said work or any portion thereof regardless of the stage of its completion or time or place of discovery of such errors. Further, the City or the City's Representative may reject said work regardless of whether the City or the City's Representative has previously accepted the work through oversight or otherwise. Neither observations by the City or the City's Representative nor inspections, tests, certificates or approvals made by the City or the City's Representative, or persons authorized under this Agreement to make such inspections, tests, certificates or approvals, shall relieve the Contractor from its obligation to perform the work in accordance with the requirements of this Agreement and the other Contract Documents. In the event that any work or any part thereof is rejected by the City or the City's Representative, the Contractor shall, at its sole expense and after receipt of written notice thereof from the City or the City's Representative remove such material and rebuild or otherwise remedy such work so that it shall be in full compliance with this Agreement and the other Contract Documents, as follows:

- a) At the option of the City, the Contractor may be required to remedy such work so that it shall be in full compliance with this Agreement. As soon as possible but not later than seven (7) calendar days after receipt of notice from the City or the City's Representative or such other period of time specified by the City's Representative in writing, the Contractor shall, at its sole expense, replace or repair all rejected work or materials so as to conform with this Agreement.
- b) If the City or the City's Representative in its discretion deems it inexpedient to correct work damaged or not done in accordance with this Agreement, an equitable deduction for the Payment Amount may be made by the City.
- c) If the Contractor does not remove or replace any rejected work within the time specified in subsection (a) hereof, then the City or the City's Representative may have the work removed, replaced or repaired at the Contractor's expense.

20. SUBCONTRACTORS: The Contractor shall retain personal control and give its personal, utmost attention to the faithful prosecution and completion of the work and fulfillment of this Agreement. The subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Contractor from its obligations to the City under this Agreement. All subcontractors must be approved by the City's Representative prior to performing any work on the Project. If the City's Representative judges any subcontractor to be failing to perform the work in strict accordance with the drawings and specifications, the Contractor shall discharge the same, but this shall in no way release the Contractor from its obligations and responsibility under this Agreement. Every subcontractor shall be bound by the terms and provisions of this Agreement as far as applicable to its work. The Contractor shall be fully responsible to the City and the City's Representative for the acts and omissions of its subcontractors.

The Contractor shall be solely and exclusively responsible for compensating any of the Contractor's employees, subcontractors, materialmen and/or suppliers of any type or nature whatsoever. The Contractor shall further be exclusively responsible for ensuring that no claims or liens of any type are filed against any property owned by the City arising out of or incidental to the performance of any services performed pursuant to this Agreement. In the event a statutory lien notice is sent to the City or the City's Representative, the Contractor shall, where no payment bond covers the work, upon written notice from the City or the City's Representative, immediately obtain bond at the Contractor's sole expense and hold the City harmless from any losses that may result from the filing or enforcement of any said lien notice. In the event that the Contractor defaults in the provision of the bond, the City may withhold such funds as are necessary to ensure the payment of such claim until litigation determines to whom payment shall be made.

21. POSSESSION AND USE OF COMPLETED PORTIONS: The City shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents.

22. **PERMITS AND CERTIFICATES:** The Contractor shall secure and pay for all necessary permits, licenses and/or certificates issued by the state, municipality or other authorities and submit the same to the City's Representative. The City may withhold any payments due under this Agreement or that may become due under this Agreement until the necessary permits, licenses and/or certificates are procured and delivered. The Contractor will not, however, be required to pay for any permit fees for permits to be issued by the City, which will be waived in conjunction with this Agreement.
23. **FAULTY WORKMANSHIP:** Neither the final payment nor any acceptance nor certificate nor any provision of this Agreement shall relieve the Contractor of any responsibility for faulty workmanship or materials. At the option of the City, as provided in this Agreement, the Contractor shall remedy any defects thereto and pay for any damage to other work resulting therefrom, which may appear after final acceptance of the work.
24. **WARRANTY:** Upon acceptance of the work by the City, the Contractor warrants for a period of one (1) calendar year from the date thereof that all materials provided to the City under this Agreement shall be new unless otherwise approved in writing by the City's Representative and that all materials and work will be of good quality, free from faults and defects, and in conformance with this Agreement. All work not conforming to these requirements, including, but not limited to, substitutions not properly approved and authorized, may be considered defective. This warranty is in addition to any rights or warranties expressed or implied by law and consumer protection claims arising from misrepresentations by the Contractor. Where more than a one (1) year warranty is specified for individual products, work or materials, the longer warranty shall govern. This warranty obligation shall be covered by all performance, payment, and maintenance bonds tendered in compliance with this Agreement.
25. **DEFECTIVE WORK DISCOVERED DURING WARRANTY PERIOD:** If within one (1) calendar year after the date of acceptance by the City of designated equipment or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by this Agreement, any of the work is found or determined to be defective, including obvious defects, or otherwise not in accordance with this Agreement, the Contractor shall correct it PROMPTLY.
- a) After receipt of written notice from the City to begin corrective work, the Contractor shall promptly begin the corrective work. This obligation shall survive the termination of this Agreement. The guarantee shall not constitute the exclusive remedy of the City, nor shall other remedies be limited to either warranty or guarantee period.
 - b) If within seven (7) calendar days after the City has notified the Contractor of a defect, failure or abnormality in the work, the Contractor has not started to make the necessary corrections or adjustments, the City is hereby authorized to make the corrections or adjustments, or to order the work to be done by a third party. The cost of the work shall be paid by the Contractor.
 - c) The cost of all materials, parts, labor, transportation, supervision, special instruments, and supplies required for replacement or repair of parts and for correction of defects, shall be paid by the Contractor or by the surety.
 - d) The one (1) calendar year warranty shall cover all work, equipment, and materials that are part of this Project, whether or not a warranty is specified in the individual section prescribing that particular aspect of the work.
26. **LIQUIDATED DAMAGES:** It is expressly understood and agreed by the parties that time is of the essence to this Agreement and that the date set for the final completion of the work described herein is an essential condition of this Agreement. It is further understood and agreed that the date for final completion of the work is reasonable for the completion of the Project, taking into consideration all conditions, including, but not limited to, the average climatic change and conditions and usual industrial conditions prevailing in this locality. If the Contractor should neglect, fail, or refuse to complete the work required for final completion within the date specified in this Agreement, or any proper extension that is granted in writing by the City, then the Contractor hereby agrees, as a part of the consideration for the awarding of this Agreement, that the City may withhold

permanently from the Contractor's total Payment Amount the sum of FIVE HUNDRED AND NO/100 DOLLARS (\$500.00) for each and every **calendar day** that the Contractor is in default after the date stipulated for final completion, not as a penalty, but as liquidated damages for the breach of the Agreement. The amount of liquidated damages for the Contractor's failure to meet the deadline for final completion is fixed and agreed on by the Contractor because of the impracticability and extreme difficulty in fixing and ascertaining actual damages that the City would in such an event sustain. The amounts to be charged are agreed to be the damages that the City would sustain and may, at the option of the City, be retained from final payment or any other payment made hereunder.

27. **WITHHOLD PAYMENT AND CONTRACTOR'S PAYMENT:** Regardless of any bond, the City may, on account of subsequently discovered evidence, withhold payment or nullify the whole or part of any acceptance or certificate to such extent as may be necessary to protect the City from loss on account of:
- a) Defective work or work that is not in strict accordance with the terms of this Agreement, the Specifications, or the other Contract Documents;
 - b) Claims filed or reasonable evidence indicating probable filing of claims, as determined at the sole discretion of the City;
 - c) Failure of the Contractor to make prompt payments to subcontractors or for material or labor or materialmen;
 - d) Claims filed or reasonable evidence, as determined at the sole discretion of the City, of damage to another Contractor or a third party, including adjacent property owners;
 - e) Reasonable doubt, as determined at the sole discretion of the City, that the work can be completed for the unpaid balance of the Contract Amount;
 - f) Reasonable indication, as determined at the sole discretion of the City, that the work will not be completed within the contract time;
 - g) Liquidated damages and administrative charges, as determined by the City at its sole discretion;
 - h) Charges made for repairs to the Contractor's defective work or repairs made by the City to correct damage to other property;
 - i) Claims filed or reasonable evidence as determined at the sole discretion of the City indicating unremedied damage to property owned by the City; or
 - j) Other amounts authorized under this Agreement.

Whenever the Contractor and/or its surety is required to make a payment under this Agreement, it is expressly understood and agreed that such payment shall be due within thirty (30) days after receipt of an invoice therefor unless expressly stated otherwise herein or otherwise required by law. Payments required by Contractor and/or its surety, which are not timely made, shall accrue interest at a rate of one percent per month.

28. **CHARGES FOR INJURY OR REPAIRS:**
- a) **REPAIRS.** The Contractor shall be liable and responsible for any damages incurred or repairs made necessary by reason of its work and/or caused by it. Repairs of any kind required by the City or the City's Representative will be made and charged to the Contractor by the City. The Contractor shall take the necessary precautions to protect any areas adjacent to its work. The work specified consists of all work, materials and labor required by the City or the City's Representative to repair any damage to the property of the City, including, but not limited to, structures, roadways, curbs, parking areas and sidewalks, to an equal or better condition than before such property was damaged.
 - b) **INJURY.** The Contractor shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America except where incompatible with Federal, State, or Municipal laws or regulations. The Contractor shall provide such machinery guards, safe walkways, ladders, bridges,

gangplanks, and other safety devices. The safety precautions actually taken, and their adequacy shall be the sole responsibility of the Contractor, acting at his discretion as an independent Contractor.

29. PAYMENT OF EMPLOYEES AND FOR MATERIALS: Wage rates paid on this Project shall not be less than specified in the schedule of general prevailing rates of per diem rates attached hereto as Exhibit "A" and incorporated herein for all intents and purposes. Should the Contractor or any of its subcontractors fail to pay the general prevailing rate to a worker performing work on the Project, the Contractor shall pay to the City SIXTY AND NO/100 DOLLARS (\$60.00) for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in this Agreement. The Contractor and each of the subcontractors shall pay each of its employees engaged in work on the Project under this Agreement in full (less mandatory legal deductions), in cash or by check readily cashable, without discount, no less than once every two (2) weeks. The City or City's Representative may, prior to final acceptance of the Project, require the Contractor to execute an affidavit in legal form stating that all bills for labor, materials, and incidentals incurred have been paid in full and that there are no claims pending of which the Contractor has been notified.

30. INSURANCE REQUIREMENTS:

Contractor shall procure and maintain at its sole cost and expense for the duration of the Agreement, insurance against claims for injuries to person or damages to property which may arise from or in connection with the performance of the work hereunder by Contractor, its agents, representatives, volunteers, employees or subconsultants.

a) Contractor's insurance coverage shall be primary insurance with respect to the City, its officials, employees and agents. Any insurance or self-insurance maintained by the City, its officials, employees or agents shall be considered in excess of Contractor's insurance and shall not contribute to it. Further, Contractor shall include all subconsultants, agents and assigns as additional insured under its policy or shall furnish separate certificates and endorsements for each such person or entity. All coverages for subconsultants and assigns shall be subject to all of the requirements stated herein.

The following is a list of standard insurance policies along with their respective minimum coverage amounts required in this Contract:

1. Commercial General Liability
 - General Aggregate: \$2,000,000
 - Products & Completed Operations Aggregate: \$1,000,000
 - Personal & Advertising Injury: \$1,000,000
 - Per Occurrence: \$1,000,000
 - Fire Damage: \$50,000
 - Coverage shall be broad form CGL.
 - Waiver of subrogation required
 - No coverage shall be deleted from standard policy without notification of individual exclusions being attached for review and acceptance.
2. Business Automobile Policy
 - Combined Single Limits: \$1,000,000
 - Coverage for "Any Auto"
 - Waiver of subrogation required
3. Workers' Compensation
 - Statutory Limits
 - Employer's Liability: \$500,000
 - Waiver of Subrogation required

b) The following shall be applicable to all policies of insurance required herein.

1. Insurance carrier must have an A.M. Best Rating of A: VII or better.
2. Only insurance carriers licensed and admitted to do business in the State of Texas will be accepted.
3. Liability policies must be on occurrence form.
4. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled or reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.
5. The City, its officers, agents and employees are to be added as Additional Insured to all liability policies.
6. Upon request and without cost to the City, a certified copy of all insurance policies and/or certificates of insurance shall be furnished to the City.
7. Upon request and without cost to the City, loss runs (claims listing) of any and/or all insurance coverages shall be furnished to the City.
8. All insurance required herein shall be secured and maintained in a company or companies satisfactory to the City, and shall be carried in the name of Contractor.
9. The Contractor shall comply with Section 110.110 of Title 28 of the Texas Administrative Code, which is incorporated herein by this reference for all intents and purposes. However, it is expressly understood and agreed that in the event of a conflict between the provisions of this section and the provision contained in Section 110.110 of Title 28 of the Texas Administrative Code, the more stringent shall control.

31. **BONDING:** Both the Contractor and the City agree that the Contractor will execute performance, payment, and maintenance bonds, each in the sum of one hundred percent (100%) of the total Payment Amount, in standard forms for this purpose, guaranteeing faithful performance of the Agreement, faithful payment to all persons supplying labor and materials or furnishing any equipment in the execution of the Agreement, and faithful performance of any work needed during the warranty period. It is agreed that this Agreement shall not be in effect until such bonds are furnished and approved by the City. The cost of the premium for the bonds have been included in the Payment Amount.

The bonds shall be executed by the Contractor and by a corporate surety, the qualifications of which shall be as required below. The bond required herein shall remain in effect throughout the term of this Agreement and for a period of one (1) year after the completion of the work and shall be extended for any warranty work to cover the warranty period. If at any time during the execution of this Agreement or in the required period thereafter, the bond becomes invalid or ineffective for any reason, the Contractor shall promptly supply within ten (10) days such other bond, which bond shall assure payment as required. Such replacement bond(s) shall be issued by a surety acceptable to the City.

Changes and alterations in the work herein contemplated, or any part thereof, does not affect the validity of this Agreement and any accompanying bond.

32. **PROJECT UNDER CONTRACTOR'S CONTROL:** Any injury or damage caused to the Contractor or the Project prior to and including the date of final completion caused by an act of God, natural cause, a party or entity not privy to this Agreement, or other force majeure shall be assumed and borne by the Contractor.
33. **COMPLIANCE WITH LAWS:** Contractor shall comply with all Federal and State laws and City Ordinances and Codes applicable to the Contractor's operation under this Agreement. Violations will be corrected at Contractor's expense. The Contractor will pay for all applicable royalties, permits, and license fees and defend all suits and claims of infringements of any rights.
34. **SAFETY PRECAUTIONS:** Safety precautions at the site are a part of the construction techniques and processes for which the Contractor shall be solely responsible. The Contractor is solely responsible for handling and use of hazardous materials or waste, and informing employees of any such hazardous materials or waste.

The Contractor has the sole obligation to protect or warn any individual of potential hazards created by the performance of the work set forth herein. The Contractor shall, at its own expense, take such precautionary measures for the protection of persons, property and the work as may be necessary. The safety of the public and convenience of traffic shall be regarded as prime importance during construction.

- a) During normal construction, the Contractor shall not hinder or inconvenience travel of streets or intersecting alleys for more than two blocks at any one time. The Contractor shall use warning signs as necessary and in compliance with the minimum standards set by the latest version of the Texas Manual of Uniform Traffic Control Devices to adequately protect the traffic. If the City or other appropriate entity approves a street closure, the Contractor shall furnish and maintain at each end of the closed section, at all intersecting streets within the section, and in all intersecting streets at a distance of one block on each side of the work, properly worded signs and barricades announcing the closure to the public. The Contractor shall not be allowed to start any operation that will close a street or streets until the required barricades are in place. Barricades and warning signs shall meet the specifications as shown in the plans and/or specifications, and per the latest version of the Texas Manual of Uniform Traffic Control Devices. Warning lights shall be kept burning from sunset to sunrise. When a street is to be closed, the Contractor must notify the City's Public Works Department 48 hours in advance of the closure.
- b) The Contractor shall remove, as soon as practicable, accumulated rubbish, surplus dirt, etc., from the construction site, thereby opening each block for public use. Use by the public, however, of any portion of a street where work has been done, shall not constitute in itself acceptance of the work done therein. The Contractor shall backfill and shape trenches across street intersections or driveways to permit safe usage at night. If trenches must be left open for any length of time, the Contractor shall span with wooden mats or bridges to permit traffic flow and prevent injury to the public. When driveways are cut, the City may direct the immediate placement of mats for ingress and egress of vehicles if, in the City's Representative or City's opinion, undue hardship to property owners would otherwise result.
- c) The Contractor shall not block ditches, inlets, fire hydrants, etc. The Contractor shall provide temporary drainage where necessary or as directed by the City's Representative or the City.
- d) When persons or equipment are working in streets open to moving traffic, or if otherwise ordered by the City's Representative, the Contractor shall furnish flagmen for direction of traffic to protect both the moving traffic and the Contractor's operations. The flagmen shall wear an orange, fluorescent vest over their normal work clothes.

The Contractor shall be held responsible for all damages to property, personal injuries and/or death due to failure to use safety devices of any type or nature that may be required to protect or warn any individual of potential hazards created by the performance of the work; and when any property damage is incurred, the damaged portion shall immediately be replaced or compensated for by the Contractor at its own cost and expense.

35. **RELEASE:** By this Agreement, the City does not consent to litigation and expressly revokes any consent to litigation that it may have granted by the terms of this Agreement, any charter, or applicable state law. The Contractor assumes full responsibility for the work to be performed and releases, relinquishes, and discharges the City, its officers, agents and employees from all claims, demands and causes of action of every kind and character for any injury to, including, but not limited to, death of any person (whether third persons, the Contractor, or employees of either of the parties). This release includes the cost of defense of any claim and any loss of or damage to property (whether property of the parties or of third parties) that is caused by or alleged to be caused by, arising out of, or in connection with the Contractor's work to be performed under this Agreement whether or not said claims, demands, and causes of action are covered in whole or in part by insurance.

36. **INDEMNITY AGREEMENT:**

THE CONTRACTOR HEREBY AGREES TO AND SHALL INDEMNIFY, HOLD HARMLESS, AND DEFEND THE CITY, ITS OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ANY AND ALL CLAIMS, LOSSES,
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DAMAGES, DEMANDS, CAUSES OF ACTION, SUITS AND LIABILITY OF EVERY KIND, INCLUDING ALL EXPENSES OF LITIGATION, COURT COSTS AND ATTORNEYS' FEES, FOR INJURY TO OR DEATH OF ANY PERSON, FOR LOSS OF USE OR REVENUE, OR FOR DAMAGE TO ANY PROPERTY ARISING OUT OF OR IN CONNECTION WITH THE ACTUAL OR ALLEGED MALFUNCTION, DESIGN OR WORKMANSHIP IN THE MANUFACTURE OF EQUIPMENT, THE FULFILLMENT OF AGREEMENT, OR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTIES UNDER THIS AGREEMENT. SUCH INDEMNITY SHALL APPLY WHERE THE CLAIMS, LOSSES, DAMAGES, CAUSES OF ACTION, SUITS OR LIABILITY ARISE IN PART FROM (I) THE JOINT NEGLIGENCE OF THE CITY AND THE CONTRACTOR, AND/OR THEIR RESPECTIVE OFFICERS, AGENTS AND/OR EMPLOYEES OR (II) THE SOLE NEGLIGENCE OF THE CONTRACTOR, ITS OFFICERS, AGENTS AND EMPLOYEES. IT IS THE EXPRESSED INTENTION OF THE PARTIES HERETO, BOTH CONTRACTOR AND THE CITY, THAT THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH IS INDEMNITY BY CONTRACTOR TO INDEMNIFY AND PROTECT THE CITY FROM THE CONSEQUENCE OF (I) THE CITY'S OWN NEGLIGENCE WHERE THAT NEGLIGENCE IS A CONCURRING CAUSE WITH THAT OF THE CONTRACTOR OF THE INJURY, DEATH OR DAMAGE AND/OR (II) THE CONTRACTOR'S OWN NEGLIGENCE WHERE THAT NEGLIGENCE IS THE SOLE CAUSE OF THE INJURY, DEATH, OR DAMAGE. FURTHERMORE, THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL HAVE NO APPLICATION TO ANY CLAIM, LOSS, DAMAGE, CAUSE OF ACTION, SUIT AND LIABILITY WHERE THE INJURY, DEATH OR DAMAGE RESULTS FROM THE SOLE NEGLIGENCE OF THE CITY UNMIXED WITH THE FAULT OF ANY OTHER PERSON OR ENTITY. IN THE EVENT ANY ACTION OR PROCEEDING IS BROUGHT AGAINST THE CITY BY REASON OF ANY OF THE ABOVE, THE CONTRACTOR AGREES AND COVENANTS TO DEFEND THE ACTION OR PROCEEDING BY COUNSEL ACCEPTABLE TO THE CITY. THE INDEMNITY PROVIDED FOR HEREIN SHALL SURVIVE THE TERMINATION OR EXPIRATION OF THIS AGREEMENT.

37. **ABANDONMENT:** In case the Contractor should abandon, fail or refuse to resume work within ten (10) days after written notification from the City or the City's Representative, or if the Contractor fails to comply with the orders of the City or the City's Representative, when such orders are consistent with the Contract Documents, then, and in that case, where performance and payment bonds exist, the sureties on these bonds shall be notified in writing and directed to complete the work, and a copy of said notice shall be delivered to the Contractor. After receiving said notice of abandonment, the Contractor shall not remove from the work any machinery, equipment, tools, materials, or supplies then on the job, but the same, together with any materials and equipment under contract for the work, may be held for use on the work by the City or the surety on the performance bond, or another Contractor in completion of the work; and the Contractor shall not receive any rental or credit therefor, it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the work and be reflected in the final settlement.

38. **BREACH OF CONTRACT:** The City shall have the right to declare the Contractor in breach of this Agreement for cause when the City determines that this Agreement is not being performed according to its understanding of the intent and meaning of this Agreement. Such breach shall not in any way invalidate, abrogate or terminate the Contractor's obligation under this Agreement.

39. **TERMINATION:** If this Agreement is terminated for cause, the City shall have the right but shall not be obligated to complete the work either itself or by others; and to this end, the City shall be entitled to take possession of and use such equipment and materials as may be on the job site and to exercise all rights, options and privileges of the Contractor under its subcontracts, purchase orders or otherwise; and the Contractor shall promptly assign such rights, options, and privileges to the City. If the City elects to complete the work itself or by others, pursuant to the foregoing, then the Contractor will reimburse the City for all costs incurred by the City's Representative, (including, without limitation, applicable, general and administrative expenses, and field overhead, and the cost of necessary equipment, materials and field labor) in correcting work by the Contractor that fails to meet the requirements of the Contract Documents.

After receipt of a notice of termination, whether with or without cause, the Contractor shall, in good faith and to the best of its ability, do all things necessary in light of such notice to assure the efficient and proper close-out of the terminated work (including, but not limited to, the protection of the City's property). Among other things the Contractor shall, except as otherwise directed or approved by the City, do the following:

- a) Stop the work on the date and to the extent specified in the notice of termination;
- b) Place no further orders or subcontracts for services, equipment, or material, except as may be necessary for completion of such portion of the work as is not terminated;
- c) Immediately terminate all orders and subcontracts to the extent that they relate to the performance of the work terminated by the notice of termination;
- d) Assign to the City, in the manner and to the extent directed by it, all of the right, title and interest of the Contractor under the orders or subcontracts so terminated in which case, the City shall have the right to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
- e) With the approval of the City, settle all outstanding liabilities and all claims arising out of such termination, orders and subcontracts;
- f) Deliver to the City, when directed by the City, all documents and all property, which if the work had been completed, the Contractor would have been required to account for or deliver to the City, and transfer title to such property to the City to the extent not already transferred; and/or
- g) Take actions necessary or as otherwise directed by the City's Representative or the City for the protection and preservation of the work.

In the event of such termination, there shall be an equitable reduction of the Payment Amount to reflect the reduction in the work. Costs incurred after the effective date of the notice of termination shall not be treated as reimbursable costs unless they relate to carrying out the unterminated portion or taking close-out measures.

40. **TERMINATION FOR CAUSE:** Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City, upon giving the Contractor five (5) days' prior written notice, shall be entitled to terminate this Agreement in its entirety at any time for the following:

- a) If the Contractor becomes insolvent, commits any act of bankruptcy, makes a general assignment for the benefit of creditors, or becomes the subject of any proceeding commenced under any statute or law for the relief of debtors;
- b) If a receiver, trustee or liquidator of any of the property or income of the Contractor shall be appointed;
- c) If the Contractor shall fail to prosecute the work or any part thereof with diligence necessary to ensure its progress and completion as prescribed by the time schedules;
- d) If within five (5) calendar days after written notice thereof from the City or the City's Representative, the Contractor shall fail to remedy any defective work or work that does not conform to the requirements of this Agreement, specifications, and other Contract Documents, or any other default under any of the terms,

provisions, conditions, or covenants contained in this Agreement or any other current agreement between the Contractor and another City for similar construction work on other property; or

- e) If the Contractor shall fail for any reason other than the failure by the City to make payment called upon when due.

In the event of such termination for cause, the Contractor shall only be paid its reimbursable costs incurred prior to the effective date of the termination and shall not be entitled to receive any further payment hereunder and shall be further subject to any claim that the City's Representative or the City may have against the Contractor under the provisions of this Agreement or as a matter of law, including the refund of any overpayments of reimbursable costs or other payments.

41. **TERMINATION FOR CONVENIENCE:** The performance of the work may be terminated at any time in whole or in part, by the City's Representative for its convenience. Any such termination shall be effected by delivery to the Contractor of a written notice (notice of termination) specifying the extent to which performance of the work is terminated and the date upon which termination becomes effective. If, for whatever reason, this Agreement is terminated for cause, which is later determined not to exist, the parties agree that the Agreement will be deemed to be terminated for convenience. In the event of termination for convenience, the Contractor shall only be paid its reimbursable costs incurred prior to the effective date of the termination notice and shall not be entitled to receive any further payment hereunder and shall be further subject to any claim the City may have against the Contractor under other provisions of this Agreement or as a matter of law, including the refund of any overpayment of reimbursable costs and/or other payment.

42. **COMPLETION AFTER ABANDONMENT OR TERMINATION:** In the event that the Contractor has abandoned the Project or the City has terminated the Agreement for cause and where there is no performance bond provided or where there is a surety but such surety, within seven (7) calendar days after the notice demanding completion is sent, fails to commence the completion and diligent prosecution of the work in compliance with this Agreement, then the City may AT ITS OPTION provide for completion of the work in either of the following elective manners:

- a) The City may employ such force of men and use such machinery, equipment, tools, materials, and supplies as said City may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials, and supplies to said Contractor, and expense so charged shall be deducted and paid by the City out of such monies as may be due, or that may thereafter at any time become due to the Contractor under and by virtue of this Agreement. In case such expense is less than the sum which would have been payable under this Agreement, if the same had been completed by the Contractor, then said Contractor and/or its surety hereby waives any and all privileges, rights, and claims to receive the difference. In case such expense is greater than the sum which would have been payable under this Agreement, if the same had been completed by said Contractor, then the Contractor and/or its surety shall, within seven (7) calendar days, pay the amount of such excess to the City.
- b) The City, under sealed bids, after notice published as required by law at least twice in a newspaper having general circulation in the city, may let the contract for the completion of the work under substantially the same terms and conditions which are provided in this Agreement. In case any increase in cost to the City under the new contract as compared to what would have been the cost under this Agreement, such increase shall be charged to the Contractor and the surety shall be and remain bound therefor. However, should the cost to complete any such new contract prove to be less than what would have been the cost to complete under this Agreement, the Contractor and/or its surety hereby waives any and all privileges, rights and claims to such excess.

In the event of abandonment by the Contractor, the Contractor shall assign to the City, in the manner and to the extent directed by the City, all of the right, title, and interest of the Contractor in and to any and all materials located on the property and any subcontracts for work to be performed on the property; in which case the City shall have the right to settle or pay all claims arising out of the termination of such orders and subcontracts.

43. **DAMAGES:** Without prejudice to any other legal or equitable right or remedy that the City would otherwise possess hereunder or as a matter of law, the City upon giving the Contractor five (5) days' prior written notice shall be entitled to damages for breach of contract, upon but not limited to the following occurrences:
- a) If the Contractor shall fail to remedy any default after written notice thereof from the City or the City's Representative; or
 - b) If the Contractor shall fail for any reason other than the failure by the City to make payments called upon when due; or
 - c) If the Contractor commits a substantial default under any of the terms, provisions, conditions or covenants contained in this Agreement.
44. **INVALIDITY:** If any provision of this Agreement shall be held to be invalid, illegal or unenforceable by a court or other tribunal of competent jurisdiction, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The parties shall use their best efforts to replace the respective provisions or provisions of this Agreement with the legal terms and conditions approximating the original intent of the parties.
45. **ENTIRE AGREEMENT:** It is understood that this Agreement contains the entire agreement between the parties and supersedes any and all prior agreements, arrangements or understandings between the parties relating to the subject matter. There are no oral understandings, statements, promises or inducements contrary to the terms of this Agreement. This Agreement cannot be changed or terminated orally. No verbal agreement or conversation with any officer, agent, representative or employee of the City, either before or after the execution of this Agreement, shall affect or modify any of the terms or obligations hereunder.
46. **AMENDMENT:** No amendments to this Agreement shall be effective and binding until they are reduced to writing and signed by duly authorized representatives of both parties.
47. **TEXAS LAW:** This Agreement has been made under and shall be governed by the laws of the State of Texas.
48. **PLACE OF PERFORMANCE:** The place of making and the place of performance for all purposes shall be Friendswood, Galveston County, Texas. Venue shall lie exclusively in Galveston County, Texas.
49. **NON-WAIVER:** Failure of any party, at any time, to enforce a provision of this Agreement shall in no way constitute a waiver of that provision, nor in any way affect the validity of this Agreement or part hereof or the right of the City or the City's Representative thereafter to enforce each and every provision hereof. No term of this Agreement shall be deemed waived or breach excused unless the waiver shall be in writing and signed by the party claimed to have waived the same. Furthermore, any consent to or waiver of a breach will not constitute consent to or waiver of or excuse of any other different or subsequent breach. Nothing contained in this Agreement or any of the Contract Documents shall be deemed to limit or waive the sovereign immunity of the City
50. **HEADINGS:** The article headings are used in this Agreement for convenience and reference purposes only and are not intended to define, limit or describe the scope or intent of any provision of this Agreement and shall have no meaning or effect upon its interpretation.
51. **GENDER AND NUMBER:** Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, and vice versa, unless context requires otherwise.
52. **CONSTRUCTION OF CONTRACT:** The parties agree that this Agreement shall not be construed in favor of or against any party on the basis that the party did or did not author this Agreement.

53. **AUTHORITY TO ENTER CONTRACT:** Each party has the full power and authority to enter into and perform this Agreement, and the person signing this Agreement on behalf of each party has been properly authorized and empowered to enter into this Agreement. The persons executing this Agreement hereby represent that they have authorization to sign on behalf of their respective corporations and/or business entities.
54. **AGREEMENT READ:** The parties acknowledge that they have read, understand and intend to be bound by the terms and conditions of this Agreement.
55. **ASSIGNMENT:** Contractor may not assign or otherwise transfer this Agreement or any rights or obligations hereunder without the prior written consent of the City.
56. **SUCCESSORS AND ASSIGNS:** This Agreement shall inure to the benefit of and be binding upon the Contractor and its successors and assigns.
57. **MULTIPLE ORIGINALS:** It is understood and agreed that this Agreement may be executed in a number of identical counterparts each of which shall be deemed an original for all purposes.
58. **SEVERABILITY:** If any section, subsection, paragraph, sentence, clause, phrase or word of these requirements or specifications shall be held invalid, such holding shall not affect the remaining portions of these requirements and the specifications and it is hereby declared that such remaining portions would have been included in these requirements and the specifications as though the invalid portion had been omitted.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in multiple copies, each of which shall be deemed to be an original, but all of which shall constitute but one and the same contract on the ____ day of _____, 2022, the date of execution by the City Manager of the City of Friendswood.

CITY OF FRIENDSWOOD

MORAD KABIRI, City Manager

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN HORNER, City Attorney

PM CONSTRUCTION & REHAB, LLC

(Signature)

(Printed Name)

(Title)

STATE OF TEXAS §
 §
COUNTY OF GALVESTON §

Before me on this day personally appeared _____, in his/her capacity as
_____ of PM Construction & Rehab, LLC, on behalf of such business entity,
_____ known to me;
_____ proved to me on the oath of _____; or
_____ proved to me through his/her current _____ {description of
identification card or other document issued by the federal government or any state government that
contains the photograph and signature of the acknowledging person}

(check one)

to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed that
instrument for the purposes and consideration therein expressed.

Given under my hand and seal of office this ____ day of _____, 2022.

Notary Public in and for the State of Texas

My commission expires: _____

"General Decision Number: TX20220062 02/25/2022

Superseded General Decision Number: TX20210062

State: Texas

Construction Type: Heavy

County: Galveston County in Texas.

HEAVY CONSTRUCTION PROJECTS Including Water and Sewer Lines
(Does Not Include Flood Control)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	- Executive Order 14026 generally applies to the contract. - The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	- Executive Order 13658 generally applies to the contract. - The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/25/2022

SFTX0669-001 04/01/2021

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 31.68	22.20

* SUTX2005-021 08/05/2005

HEAVY Including Water and Sewer Lines (Excluding Flood Control)

	Rates	Fringes
Carpenter.....	\$ 14.38 **	
Cement mason/concrete finisher.....	\$ 11.37 **	1.13
Electrician.....	\$ 18.40	1.34
FORM BUILDER/FORM SETTER.....	\$ 13.35 **	1.17
IRONWORKER, REINFORCING.....	\$ 11.29 **	
Laborers:		
Common.....	\$ 10.70 **	
Landscape.....	\$ 7.35 **	
Mason Tender Cement.....	\$ 9.96 **	
Pipelayer.....	\$ 10.07 **	
PIPEFITTER.....	\$ 17.00	0.04
Power equipment operators:		
Excavator.....	\$ 16.74	
Backhoe.....	\$ 13.25 **	
Bulldozer.....	\$ 14.00 **	
Crane.....	\$ 14.91 **	0.58
Front End Loader.....	\$ 11.75 **	0.92
Grader.....	\$ 12.20 **	1.48
Tractor.....	\$ 12.38 **	1.51
TRUCK DRIVER.....	\$ 12.28 **	0.98

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is

like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a

new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"

February 2017

Revised November 2019

City of Friendswood, Texas Sanitary Sewer System Assessment - Phase 2 SSES Year 1

Final Report



Friendswood, Texas



rjngroup
40 years of collection system solutions

February 10, 2017
(Revised November 18, 2019)

Mr. Rene Ibarra
Public Works Director
City of Friendswood
15355 Blackhawk Blvd.
Friendswood, TX 77546

SUBJECT: City of Friendswood, Texas
2016 Sanitary Sewer System Assessment-Phase 2 Year 1 Final Report

Dear **Mr. Ibarra**:

In accordance with the April 2016 Engineering Agreement, RJN is pleased to present this **final** report for the above referenced project. The activities include manhole inspections, smoke testing, dye water flooding, CCTV inspection, and data analysis. The following conclusions were based on the results of these activities:

- The recommended plan includes the rehabilitation/replacement of 158 manholes. **127** service line sources, 2,875 linear feet of sewer line rehabilitation, and 4 sewer line point repairs.
- Implementation of the recommended plan would remove approximately **1.507** mgd of 1-year/60-minute inflow.
- The estimated Capital Cost to implement the recommended plan is **\$1.371** million.

If you have any questions regarding this submittal or you require additional information, please do not hesitate to call us.

Sincerely,
RJN Group, Inc.



Jose D. Maldonado
Senior Project Manager

18-2969-00
Enclosure

TABLE OF CONTENTS

TABLE OF CONTENTS

1. Introduction

Overview	1-2
Description of the Study Area	1-2
Project Approach.....	1-2
Definitions and Abbreviations	1-3

2. System Survey

Mapping and Structure Numbering.....	2-1
Field Inspections	2-1
Manhole and Visual Pipe Inspections	2-1
Visual Pipe Inspections	2-4
Rainfall Simulation	2-4
Smoke Testing	2-5
Public Sector Dyed Water Testing	2-7
Television Inspection	2-8

3. I/I Source Data Analysis

Determination of Inflow.....	3-1
Inflow Source Quantification.....	3-1
Quantification Procedure	3-1
Quantification Results.....	3-3
Determination of Infiltration	3-7
Infiltration Source Quantification	3-7
Quantification Procedure	3-7
Quantification Results.....	3-8

4. Recommended Rehabilitation

Sewer Replacement/Rehabilitation	4-1
Recommended Manhole Rehabilitation	4-5
Recommended Inflow Removal from Service Line Sources	4-7

5. Summary of Recommended Plan

Recommended Line Rehabilitation.....	5-1
Recommended Manhole Rehabilitation (I/I Removal)	5-2
Recommended Inflow Removal from Service Line Sources	5-2
Summary of Recommended Plan.....	5-3

List of Figures

1.1	Study Area Basins	1-1
-----	-------------------------	-----

List of Tables

2-A	Manhole Inspection Summary	2-2
2-B	Summary of Manhole Defects	2-3
2-C	Smoke Test Data.....	2-6
2-D	Public Sector Dyed Water Flooding	2-8
2-E	Summary of Line Segments Televised	2-9
3-A	Summary of Projected Inflow Rates Selected Basins	3-4
3-B	Distribution of Inflow Sources Selected Basins.....	3-5
3-C	Distribution of Identified Infiltration Sources.....	3-8
4-A	Recommended Point Repairs.....	4-2
4-B	Recommended Line Replacement	4-3
4-C	Line Recommended for Additional Investigation.....	4-4
4-D	Recommended Manhole Rehabilitation	4-5
4-E	Typical Manhole Rehabilitation Construction Cost.....	4-6
4-F	Summary of Recommended Inflow Removal from Service Line Sources	4-8
4-G	Typical Rehab/ Replace Construction Costs for Service Line Sources	4-8
5-A	Summary of Recommended Sewer Replacement/Repairs (Study Basins)	5-1
5-B	Summary of Recommended Plan for Service Line Sources Inflow Removal	5-2
5-C	Summary of Recommended Plan.....	5-3

List of Exhibits

1	Basin Maps - Manhole Investigation
2 - 3	Basin Maps – Smoke Observations
4	Basin Maps – Televised Sewer Lines
5	Basin Maps – Line Rehabilitations
6	Basin Maps – Manhole Rehabilitations
7	Basin Maps – Service Line & Cleanout Repair

List of Appendices

- APPENDIX A – Manhole Inspection Report
- APPENDIX B – Visual Pipe Inspection Report
- APPENDIX C – Smoke Testing Report
- APPENDIX D – Dyed Water Report
- APPENDIX E – Television Inspection Report
- APPENDIX F – Inflow Source Report
- APPENDIX G – Infiltration Source Report
- APPENDIX H – Manhole Rehabilitation Recommendations
- APPENDIX I – Recommended Service Line Inflow Removal

CHAPTER 1

INTRODUCTION

INTRODUCTION

In April 2016, RJN Group, Inc. was retained by the City of Friendswood to perform an evaluation of the sanitary sewer collection system for the City of Friendswood by means of intensive field investigations within the drainage basins FM-08 and FM-18. Both basins were identified in the Phase 1 study as contributing excessive levels of I/I. This evaluation is part of a Condition Assessment and Infiltration/Inflow (I/I) Reduction Phase 2 Program with the purpose to reduce I/I recommended in the 2015 Sanitary Sewer System Assessment - Phase 1. Figure 1.1 depicts the basins evaluated in this project. The findings of the field inspections and recommendations associated from, those findings are discussed in this report.

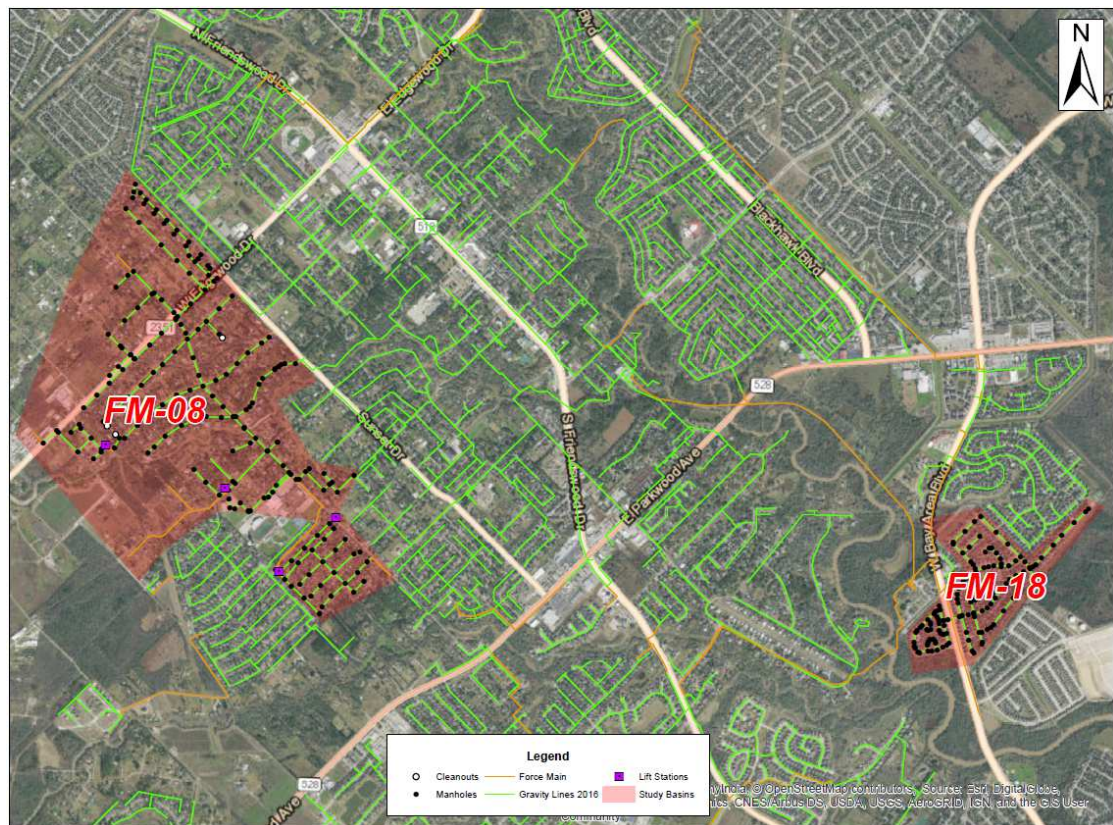


Figure 1.1 Study Basins

OVERVIEW

Infiltration and Inflow may enter the sanitary sewer system during storm events. Infiltration occurs when groundwater enters sewer lines and manholes. Inflow occurs when storm water runoff enters the sanitary sewer system through both public sector and private sector sources. These sources include cross connections with storm sewers, main line defects, vented manhole covers, defective frame seals, defective cleanouts, and direct connections to the sanitary sewer from downspouts and/or area drains.

The data collected from the field investigations is thoroughly analyzed by engineers to generate a plan that can effectively reduce I/I, therefore, resulting in considerable savings in transport and treatment costs. Field investigations performed during this project include the following:

1. Manhole and Visual Pipe Inspections
2. Smoke Testing
3. Dyed Water Flooding
4. Television Inspection (CCTV) / Pipe Cleaning
5. Mapping
6. Data Analysis
7. Recommendations/Report

DESCRIPTION OF THE STUDY AREA

The basins included in this study are primarily comprised of residential neighborhoods. The study area includes two (2) drainage basins, 197 sanitary sewer structures, and approximately 70,692 linear feet of sewer pipe, which are owned and maintained by the City of Friendswood. The drainage basins included in the study area are shown on Figure 1.1.

PROJECT APPROACH

The basins were studied to identify I/I sources and recommend a plan to reduce the overall wet-weather flow and improve the efficiency of the wastewater collection system. Based upon the small size of basin FM-18 and the large I/I response identified in the Phase 1 report, only smoke testing was performed with the intent of identifying major defects as the main contributor of I/I in the basin. Basin FM-08 was identified of having significantly more total of I/I, thus a comprehensive study was performed for this basin. The following project approach for the 2016 condition assessment and infiltration/inflow reduction program was employed:

Field Investigations:

1. Manhole and Visual Pipe Inspections (Basin FM-08 only)
2. Smoke Testing
3. Dye Testing
4. Television Inspection

Data Analysis and Recommendations:

The recommended plan was arrived at after carefully reviewing the results achieved from the field investigations, and consists of the following:

1. Recommended I/I removal based on manhole inspections and smoke testing
2. Line replacements and point repairs based on smoke testing, dyed water flooding, and CCTV
3. Maintenance issues based on CCTV
4. Cost to implement the plan

DEFINITIONS AND ABBREVIATIONS

This section contains definitions and abbreviations commonly used throughout this report.

- (1) Infiltration (as defined by USEPA) – the water entering a sewer system and service connections from the ground through such means as, but not limited to, defective pipes, pipe joints, service connections, service laterals, or manhole walls.
- (2) Inflow (as defined by USEPA) – the water discharged into a sewer system, including service connections, from such sources as roof leaders; cellar, yard, and area drains; foundation drains; cooling water discharges; drains from springs and swampy areas; manhole covers; cross connections from storm sewers, combined sewers, or catch basins; storm waters; surface runoff; or drainage.
- (3) Excessive Infiltration and Inflow (I/I) – the extraneous clean water that enters the sanitary sewer system which can be eliminated on a cost-effective basis.
- (4) Base Flow – wastewater flow exclusive of infiltration or inflow. Generally determined from water records during months when most of the water consumption is returned to the wastewater collection system.
- (5) Permanent Infiltration – extraneous flow that enters the sewer system through the ground during periods of dry weather/low groundwater. Generally determined by subtracting base flow during winter months from the average daily dry-weather monitored flow.
- (6) Peak Infiltration – the maximum extraneous flow that enters the wastewater collection system during high groundwater conditions after the inflow effects of a rain event have ended. Generally determined by subtracting dry-weather/low-groundwater flow (average daily dry-weather monitored flow) from flow recorded during periods of high groundwater.
- (7) Average Daily Dry-Weather Flow – dry-weather/low-groundwater flow exclusive of dry-weather/high-groundwater (peak infiltration) and wet-weather (inflow) flow. Includes base flow and permanent infiltration only.
- (8) Average Daily Dry-Weather Flow Peaking Factor – the ratio between the peak hourly flow rate and the average daily flow.

- (9) 1-Year/60-Minute Storm – a storm event that produces 2.02 inches of rain per hour and is expected to occur once in any given year.
- (10) 5-Year/60-Minute Storm – a storm event that produces 2.95 inches of rain per hour and has a 20 percent probability of occurring in a given year.
- (11) Design Storm Event - a storm event selected for purposes of analyzing its effect on the wastewater collection system.
- (12) gpd – gallons per day.
- (13) mgd – million gallons per day.
- (14) idm – inch-diameter-miles. The product of sewer pipe diameter in inches and length of sewer in feet divided by 5,280 feet.
- (15) gpd/idm – gallons per day per inch-diameter-mile.
- (16) Surcharge Condition – When the sewer flow depth equals or exceeds the diameter of the discharging sewer lines. (WEF Manual of Practice FD-6)
- (17) Infiltration and Inflow (I/I) – A combination of infiltration and inflow wastewater volume in sanitary sewer.
- (18) Public Sector Cleanouts – Cleanouts that are approximately located within city easements or right-of-way.
- (19) Private Sector Cleanouts – Cleanouts that are approximately located on private property, such as homeowner’s yard.

CHAPTER 2

SYSTEM SURVEY

SYSTEM SURVEY

RJN conducted a Wastewater Collection System Study to identify sewer manhole, service line and pipeline defects along with maintenance related issues, recommend repairs to reduce I/I, and increase the overall efficiency of the collection system. Sewer investigation activities included the following:

1. Mapping
2. Manhole/Visual Pipe Inspection
3. Rainfall Simulation
 - a. Smoke Testing
 - b. Dyed Water Testing
4. Television Inspection

MAPPING AND STRUCTURE NUMBERING

The City of Friendswood, TX provided maps of the wastewater collection system in the study area at the initiation of the study. Manholes or other information found during the field investigations that were not shown on existing maps were assigned a number ending in the letter 'A' and were added to the collection system map. The maps were updated to include routing changes, new line segments, and manholes found during field investigations. Twenty (20) unmapped manholes were found during the investigations in FM-08.

FIELD INSPECTIONS

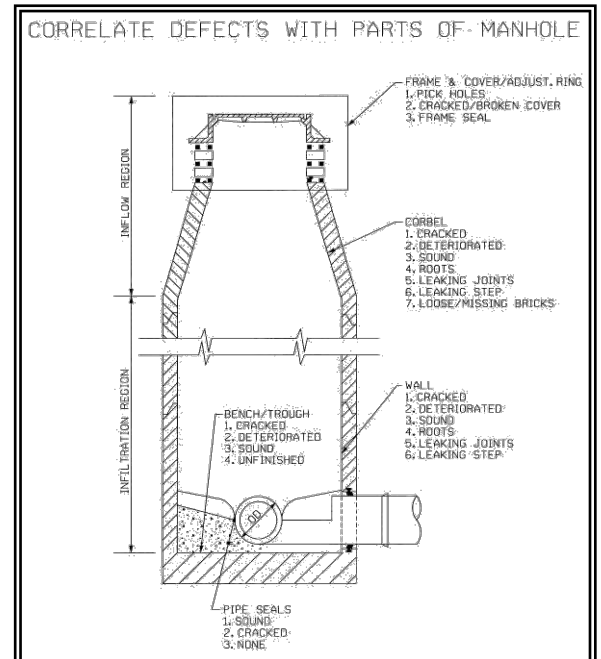
Field inspection activities included: manhole reconnaissance survey, manhole and visual pipe inspections, rainfall simulation and television inspection.

MANHOLE AND VISUAL PIPE INSPECTIONS

Manhole inspection and visual pipe inspection is part of the survey where the physical condition of the sewer system is visually evaluated. These inspections verified manhole location, condition, pipe size, pipe condition, and line segment continuity. A sectional elevation of a typical manhole is shown on the right.

The manhole inspection procedure included recording the following observations:

1. Location and identification number
2. Potential for ponding on manhole cover
3. Cover type, fit, description, segment length, distance above or below grade, and evidence of inflow



4. Frame adjustment, seal, and evidence of inflow
5. Corbel construction, condition, evidence of inflow
6. Wall construction, condition, evidence of infiltration
7. Bench/trough construction, condition, deposition, evidence of infiltration
8. Pipe seal condition, evidence of infiltration
9. Step conditions
10. Manhole inside diameter
11. Surcharging or evidence of surcharging
12. Indication of groundwater level

FINDINGS: MANHOLE INSPECTIONS

Inspections were completed on 170 of the attempted 196 manholes (87%) located in the study basins. Access structures not inspected included: buried, not found, and inaccessible structures. Manholes that were not inspected are indicated on the manhole inspection report included in the Appendix A and are noted in Table 2-A.

Table 2-A					
Manhole Inspection Summary					
Basin	Total	Inspected	<u>Not Inspected</u>		
			Not Found	Buried	Inaccessible
FM-8	196	170	6	9	11



*Hole in Manhole Wall
(FM-08) 862-03*



*Broken Frame with Pick Hole Cover
(FM-08) 828-01*

Manhole construction includes brick, precast, poured, and coated manholes. The manholes range in diameter from 40-inches to 52-inches with the majority 48-inches in diameter. Due to the results of the Phase 1 study indicating the sewer systems wet-weather response throughout the City to be primarily inflow, all manhole related defects were considered inflow sources. Upper manhole inflow sources include defective covers, frame seals, and corbels. Lower manhole inflow sources include defective walls, pipe seals, and benches/troughs. Manhole inspection resulted in identification of approximately 1.078 mgd of 1-year inflow. Major sources identified included pick holes and bench/trough defects. Overall, the most significant source of inflow from manholes was attributed to covers with pick holes which are contributing approximately 0.423 mgd of inflow.

Field investigations identified 150 structures with covers with pick holes.

Inspections indicated 65 defective benches/ troughs to be primarily caused by poor compatibility of materials, primarily the fiberglass walls and the concrete bench connection. Defective benches/ troughs contribute approximately 0.359 mgd of lower inflow. The picture to the right depicts a cracked bench with roots.



*Cracked Bench with Roots
(FM-08) 808-03*

A manhole inspection summary is given in Table 2-A, while a summary of manhole defects is given in Table 2-B. A detailed summary of the manhole inspection is in the Appendix A. Maps depicting the manhole inspection status for the study area is shown on Exhibit 1 located in at the back of this report.

Table 2-B	
SUMMARY OF MANHOLE DEFECTS	
Type of Defect	Number of Defects
<u>Upper Inflow</u>	
Defective Cover (Pick Holes, Broken)	150
Covers Missing Bolts	1
Broken Frame	8
Frame Offset	1
Defective Frame Seals	50
Manhole Corbel Defects	<u>10</u>
<i>Subtotal</i>	220
<u>Lower Inflow</u>	
Manhole Wall Defects	15
Defective Bench/ Trough	65
Defective Pipe Seals	<u>21</u>
<i>Subtotal</i>	<u>101</u>
Total	321

VISUAL PIPE INSPECTIONS

Visual pipe inspection was also performed as part of the manhole inspection program with the following observations recorded:

1. Manhole identification numbers for connecting sewer lines
2. Flow direction in pipes
3. Pipe diameter and construction material
4. Amount of root growth percentage based
5. Amount and type of deposition
6. Structural condition and line/grade of pipe
7. Visible infiltration in pipe and/or from pipe seals

Visual pipe inspection verifies pipe diameter, continuity, and aids in identifying pipe defects near the collection system access structure.

FINDINGS: VISUAL PIPE INSPECTIONS

Sewer lines in the study area are mainly constructed of polyvinyl chloride (PVC), with some truss, cast iron, concrete and vitrified clay. One pipe showed longitudinal cracks and one showed circular cracks. Root growth were observed in two other pipe sections. A computer output report detailing the visual pipe inspection data is in Appendix B.



*Root Growth at Joint
(FM-08) 812*

RAINFALL SIMULATION

A major field task in sewer system evaluation studies is locating infiltration and inflow sources by rainfall simulation. Types of infiltration and inflow sources identified by rainfall simulation may include the following:

1. Roof downspouts, yard, and area drains
2. Defective sewer services, faulty connections, and defective cleanouts
3. Cross connections between sanitary sewers and storm sewers (indirect or direct)
4. Storm sewer sections, stream sections, ditch sections, and ponding areas which may cause infiltration and inflow
5. Structurally damaged sewers and manholes

Rainfall simulation can also be utilized with flow measurements to quantify infiltration and inflow from identified sources. Rainfall simulation techniques include smoke testing and dyed water flooding.

SMOKE TESTING

Smoke testing is a quick method for detecting infiltration and inflow sources in a sanitary sewer system. This method is very effective in detecting sources such as roof downspouts, yard and area drains, defective sewer services, faulty connections, defective cleanouts, and storm sewer cross connections. It can also be utilized to detect infiltration sources in the sewer main. During testing, observations are recorded by line segment as follows:



*Storm Ditch
(FM-08)809 – (FM-08)808*

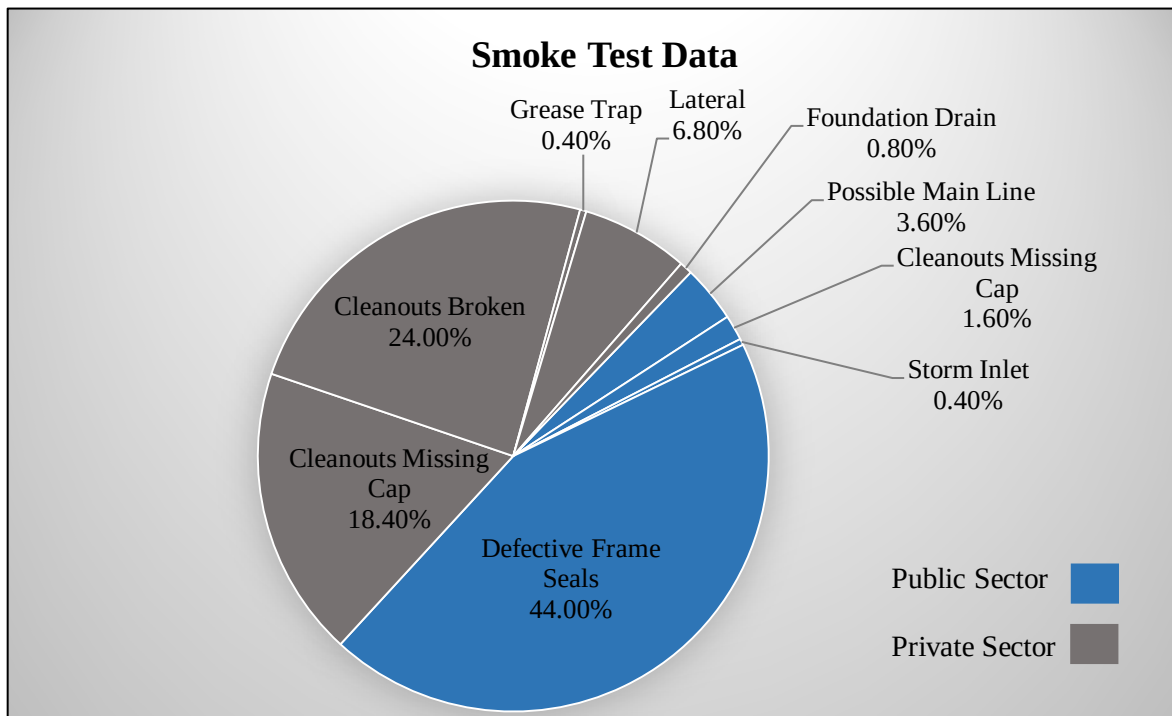
1. Location of line segment
2. Location of observed smoke leaks recorded at the:
 - a. Curb
 - b. Sidewalk
 - c. Cleanout
 - d. Sewer services, front, side or rear yard
 - e. Driveway or area drain
 - f. Downspouts
 - g. Building interior (resident must inform inspector)
3. Location of smoke observed from stormwater conveyance systems
4. Location of smoke along a main sewer line

SMOKE INSPECTION FINDINGS:

Smoke testing was performed in each of the study basins. A total of 250 potential sources of I/I were identified from the 70,692 linear feet of sewer line that was smoke tested. A total of 126 I/I sources identified are from the private sector and 124 in the public sector. These sources are represented in the following Table 2-C. Maps depicting the smoke defects for the study area are shown on Exhibits 2-3 located in the back of this report.

Table 2-C	
SMOKE TEST DATA	
Type of Source	Quantity
<u>Public Sector</u>	
Possible Main Line	9
Cleanouts Missing Cap	4
Storm Inlet	1
Defective Frame Seals	<u>110</u>
<i>Subtotal</i>	124
<u>Private Sector</u>	
Cleanouts Missing Cap	46
Cleanouts Broken	60
Grease Trap	1
Building Laterals	17
Foundation Drain	<u>2</u>
<i>Subtotal</i>	<u>126</u>
Total	250

A computer output report listing the findings of the smoke testing program is given in Appendix C.



PUBLIC SECTOR DYED WATER TESTING

Public sector dyed water flooding was performed on potential main line, storm ditch, and catch basin defects identified during smoke testing. This testing was used to more accurately identify and quantify public sector inflow sources. The observation of heavy smoke from smoke testing and an ideal tributary area for flooding were key factors in selecting dye water flooding tests. A total of 10 dyed water flooding tests were completed out of the 10 identified potential inflow sources.

A total of four dye tests resulted in positive manhole defect. These manhole defects were further analyzed and quantified in the manhole inspection report. A summary of the dyed water testing is included in Table 2-D. The following pictures show two identified sources during dye testing. Appendix D shows a computer output of the dye test findings.



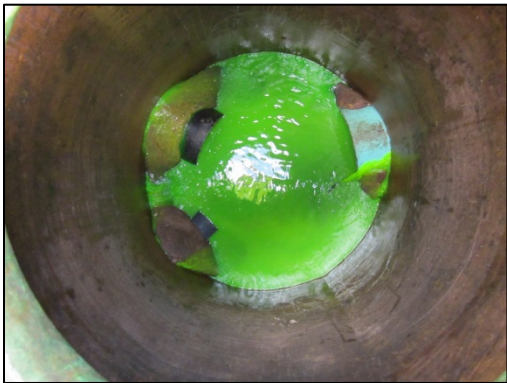
*Area of Dye Test
(FM-08)245A- (FM8) 245B*



*Positive Dye Test
(FM-08) 245B*



*Area of Dye Test
(FM-08) 8850- (FM-08) 846A*



*Positive Dye Test
(FM-08) 846A*

Table 2-D				
PUBLIC SECTOR DYED WATER FLOODING				
Line Segment		Defect Type	Result	
(FM-08) 245A	- (FM-08) 245B	Mainline Defect	Positive	
(FM-08) 245B	- (FM-08) 871	Cracks in Manhole	Positive	
(FM-08) 55	- (FM-08) 54	No Sources Found	Negative	
(FM-08) 777	- (FM-08) 776	No Sources Found	Negative	
(FM-08) 786	- (FM-08) 779	Mainline Defect	Positive	
(FM-08) 806	- (FM-08) 807	Cracks in Manhole	Positive	
(FM-08) 809	- (FM-08) 808	Cracks in Manhole	Positive	
(FM-08) 811	- (FM-08) 810	No Sources Found	Negative	
(FM-08) 825	- (FM-08) 806	Mainline Defect	Positive	
(FM-08) 850	- (FM-08) 846A	Cracks in Manhole	Positive	

TELEVISION INSPECTION

RJN Group, Inc. attempted to televise a total of 5,870 linear feet of sewer lines based on identified defects from smoke testing, dyed water flooding, and visual pipe inspection. 5,575 linear feet. Approximately 295 linear feet of televised pipe was unable to be completed due to obstructions such as broken pipe, and debris within the sewer line.

A summary of segments televised is given in Table 2-E and a log of the findings during each inspection is included in Appendix E. A Map depicting the location of segments televised is shown on Exhibit 4 located in at the back of this report.



*Service Break-Intruding at 141.7 ft.
(FM-08) 6-16 - (FM-08) 5-16*



*Pipe with Hole at 373.8 ft.
(FM-08) 13-(FM-08) 12*

Table 2-E						
Summary of Line segments Televised						
Line segment		Diameter (in)	Segment Length (lf)	Televised Length (lf)	Justification	
(FM-08) 13	- (FM-08) 12	8	418	418	Mainline Defect	
(FM-08) 25	- (FM-08) 22	8	365	365	Mainline Defect	
(FM-08) 245	- (FM-08) 245A	8	473	473	Mainline Defect	
(FM-08) 245A	- (FM-08) 245B	8	405	405	Mainline Defect	
(FM-08) 245B	- (FM-08) 871	8	496	496	Mainline Defect	
(FM-08) 4-29	- (FM-08) 3-29	8	371	371	Mainline Defect	
(FM-08) 6-16	- (FM-08) 5-16	8	370	134	Visual Pipe	
(FM-08) 777	- (FM-08) 776	8	183	183	Mainline Defect	
(FM-08) 778	- (FM-08) 778A	15	325	266	Creek Crossing	
(FM-08) 778A	- (FM-08) 768	15	5	5	Creek Crossing	
(FM-08) 786	- (FM-08) 779	15	401	401	Mainline Defect	
(FM-08) 806	- (FM-08) 807	15	236	236	Mainline Defect	
(FM-08) 809	- (FM-08) 808	10	290	290	Mainline Defect	
(FM-08) 811	- (FM-08) 810	10	330	330	Mainline Defect	
(FM-08) 825	- (FM-08) 806	15	412	412	Creek Crossing	
(FM-08) 831	- (FM-08) 836	8	394	394	Visual Pipe	
(FM-08) 850	- (FM-08) 850A	12	7	7	Mainline Defect	
(FM-08) 850A	- (FM-08) 846A	12	94	94	Mainline Defect	
(FM-08) 887	- (FM-08) 885	8	174	174	Pipe Material (Truss)	
(FM-08) 890	- (FM-08) 889	8	121	121	Pipe Material (Truss)	
			Total	5,575		

CHAPTER 3

I/I SOURCE DATA ANALYSIS

I/I SOURCE DATA ANALYSIS

DETERMINATION OF INFLOW

Inflow in a sanitary sewer system is defined as extraneous flow that is a direct result of storm water runoff. Inflow may enter the sanitary sewer system through directly connected downspouts, area drains, cleanouts, and building sewers. Inflow may also enter the system through direct or indirect connections between the sanitary sewers and storm drains or ditches, sewer line defects, and through the different components of the manhole such as defective manhole covers, frame seals, corbels and manhole walls.

Flow monitoring was performed in the spring of 2015 to determine dry and wet-weather flows in the system, prioritizing the areas with excessive amounts of inflow and infiltration. For reference, a summary listing of the projected 1-year/60-minute inflow (2.02 inches/hour) and 5-year/60-minute inflow (2.95 inches/hour) for the study area basins is given in Table 3-A along with unit inflow expressed in gallons per day per 1,000 linear feet of sewer to express the relative magnitude of peak inflow amongst meter basins.

INFLOW SOURCE QUANTIFICATION

QUANTIFICATION PROCEDURE

Research and testing of typical inflow source defects was performed in the past by RJN Group Inc. by means of dyed water flooding and observation of defects during actual storm events. The result of those tests has led to the creation of standard inflow source rates that are used as a guideline when assigning the source rates.

1. Manhole Inspections:

Defect Type	Rate (gpm)
a. Broken frame	- 1.5
b. Corbel*	-
i. Curb, gutter, ditch or subject to ponding with corbel cracked	- 1.0 – 1.5
ii. Center Street, paved easement or grassed easement with corbel cracked	- 0.2
iii. Curb, gutter, ditch or subject to ponding with evidence of inflow	- 1.0 – 1.5
iv. Center street, paved easement or easement with evidence of inflow	- 0.2
c. Frame seals	
i. Curb, gutter or ditch or subject to ponding	- 1.5 – 2.0
ii. Center street, paved easement or grass easement	- 0.4 – 0.6

* High values, 2-8 gpm, could be justified for corbels in curb, gutter, ditch or subject to ponding in areas with watertight manhole covers that would tend to transfer the entry point for inflow farther down in the manhole.

In addition to the standard inflow source rates, direct inflow sources such as pick holes in a manhole cover are calculated utilizing the orifice equation. Measurements in the field are taken for the number of pick holes, diameter of the pick holes, and the height of the cover in relation to the ground.

Orifice Equation: $Q = C_d A (5.37h)^{0.5}$

Q = Flow

C_d = Coefficient of Discharge

h = Height or head

2. Smoke Testing:

Smoke testing inflow rates are typically determined by utilizing the rational equation, and the associated drainage area of each defect. The rational equation is as follows:

Rational Equation: $Q = CiA$

Q = Flow

C = runoff coefficient

i = Rainfall intensity

A = Area

Photos taken in the field assist engineers in the office to confirm the drainage area, the intensity of the smoke, and the ability of the defect to pond. If a defect is determined to have the capability of ponding the orifice equation can be used to determine the inflow rate. Typically the lowest inflow rate is assigned to the defect when comparing the orifice equation to the rational equation.

Smoking frame seals are not assigned a flow rate under the smoke inspection data. This defect is cross checked against the manhole inspection data and accounted for in the manhole source inflow. Smoke defects such as mainline defects, and storm sewer related defects such as catch basins and cross-connections are also not assigned an inflow rate. These defects are further investigated utilizing dyed water flooding.

3. Dyed Water Flooding:

Dyed water flooding inflow rates are typically determined by utilizing the Continuity equation using field measurements taken in the manhole for the velocity and depth.

Continuity Equation: $Q = VA$

Q = Flow

V = Velocity

A = Area

Field Measurements are taken consisting of the velocity using a portable velocity meter (pvm) and the depth using a measuring ruler in the downstream manhole of the dye test location prior to dyed water flooding. Upon visually identifying dye water in the downstream manhole (a positive test) the field crew waits for a period of approximately 20 minutes for the area to fully saturate. A second velocity and depth measurement is taken at this time and the difference of velocity and depth is recorded for calculation use in the office.

At times when a positive test cannot be obtained but the defect is heavily suspect or known, inflow rates will still be assigned. The following table is used as a guideline for dyed water flooding.

Defect Type		Rate (gpm)
a.	Direct Connection to storm sewer	- 25.0 – 100.0
b.	Leak to Sewer Service	
	i. Trickle	- 1.0 – 2.0
	ii. $\frac{1}{3}$ to $\frac{1}{2}$ pipe	- 2.0 – 10.0
	iii. Full pipe “gusher”	- 10.0 – 20.0
c.	Cross-connections – main line	
	i. Trickle	- 1.0 – 2.0
	ii. $\frac{1}{3}$ to $\frac{1}{2}$ pipe	- 2.0 – 10.0
	iii. Full pipe “gusher”	- 10.0 – 40.0
d.	Cracked Manhole Wall	
	i. Trickle	- 1.0 – 2.0
	ii. Moderate	- 2.0 – 10.0
	iii. Severe	- 10.0 – 20.0

Default inflow rates and calculated rates as mentioned above are typically used to associate values for many defects since the inspections may not be performed during an actual high groundwater or storm event conditions. The default inflow rates are based on a 1-year/60-minute storm event. Engineering experience both in the field and from previous projects provides a value and a bench mark and at times the Engineer might deviate from the standard I/I rates due to his/her knowledge of the severity of the defect and the geographical location of the defect.

QUANTIFICATION RESULTS

The total quantified inflow from all sources identified within the study basins through field investigation was estimated to be approximately 1.653 mgd during a 1-year/60-minute design storm. This equates to approximately 50 percent of the predicted inflow identified during flow monitoring and hydraulic modeling update.

Table 3-A

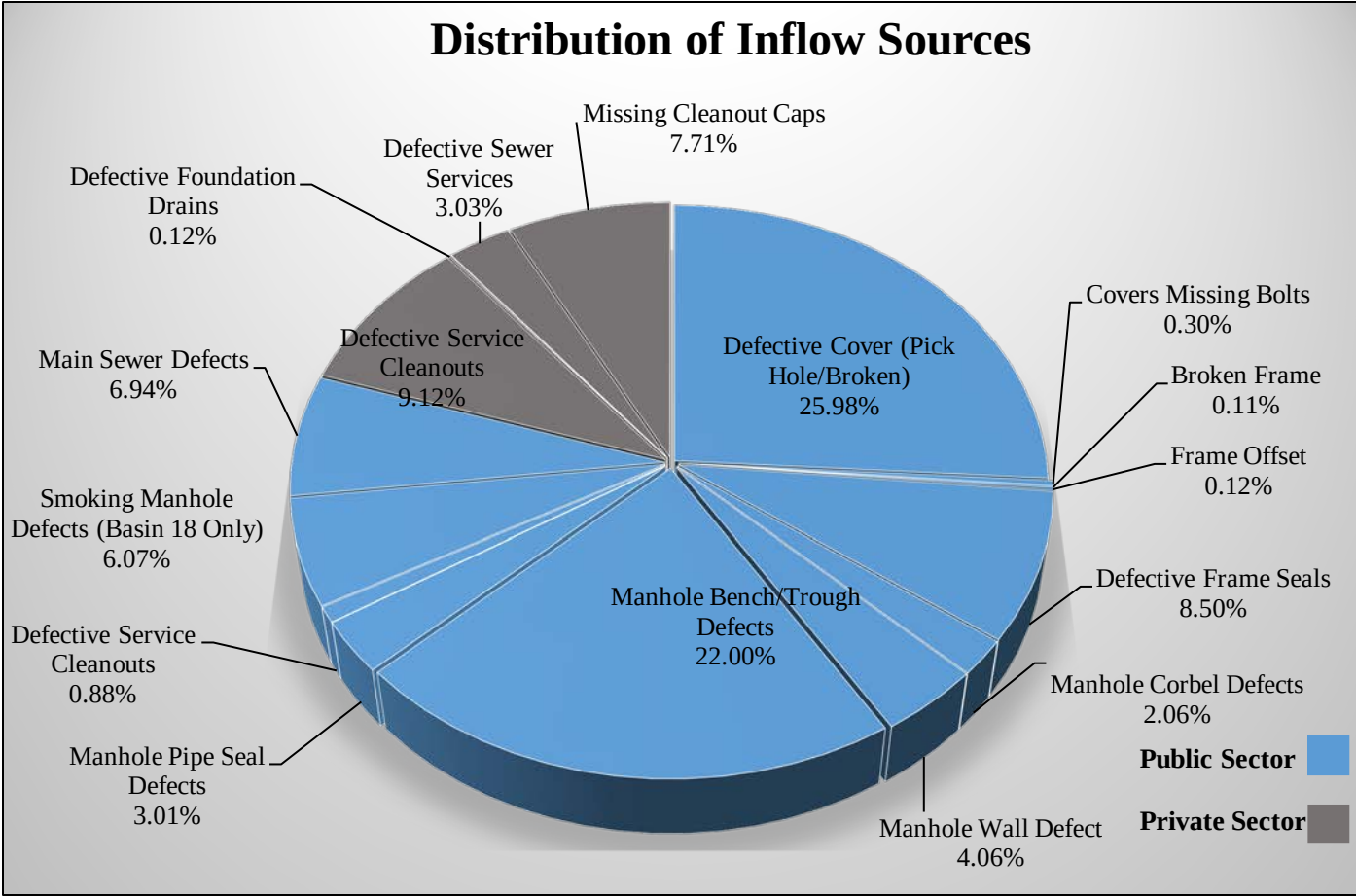
SUMMARY OF PROJECTED INFLOW RATES ^{1/}

		Basin Peak 1-Year/60-Minute Discrete Inflow	Basin Peak 1-Year/60-Minute Discrete Inflow	Basin Peak 5-Year/60-Minute Discrete Inflow	Basin Peak 5-Year/60-Minute Discrete Inflow	
Basin	Basin Size (lf)	Rate (mgd)	Rate (gpd/1,000 lf)	Rate (mgd)	Rate (gpd/1,000 lf)	Ranking
FM-08	54,001	2.404	44,518	3.510	64,999	2
FM-18	<u>18,627</u>	<u>0.912</u>	<u>48,961</u>	<u>1.332</u>	<u>71,509</u>	1
Total	72,628	3.320	93,479	4.842	136,508	

^{1/} Based on 1-year/60-minute rainfall intensity of 2.02 and 5-year/60-minute rainfall intensity of 2.95

All inflow sources identified during manhole inspections and rainfall simulation were evaluated and quantified for Basins FM-08 and FM-18. Quantification of individual sources was based on a 1-year/60-minute storm. The summary of inflow identified in the basins by source type is given in Table 3-B and shown graphically on page 3-6.

Table 3-B			
Distribution of Inflow Sources			
Defect Type	Quantity	Inflow (gpd)	Percentage of Inflow (%)
<u>Public</u>			
Defective Cover (Pick Hole/Broken)	150	423,518	25.67%
Covers Missing Bolts	1	4,896	0.30%
Broken Frame	8	1,866	0.11%
Frame Offset	1	1,944	0.12%
Defective Frame Seals	50	138,528	8.40%
Manhole Corbel Defects	10	33,538	2.03%
Manhole Wall Defect	15	66,240	4.02%
Manhole Bench/Trough Defects	65	358,560	21.73%
Manhole Pipe Seal Defects	21	48,989	2.97%
Defective Service Cleanouts	4	14,781	0.90%
Smoking Manhole Defects (Basin 18 Only)	29	98,993	6.00%
Main Sewer Defects	<u>6</u>	<u>113,098</u>	<u>6.86%</u>
Subtotal	360	1,304,951	79.10%
<u>Private</u>			
Defective Service Cleanouts	60	158,575	9.61%
Defective Foundation Drains	2	1,935	0.12%
Defective Sewer Services	17	59,411	3.60%
Missing Cleanout Caps	<u>46</u>	<u>124,829</u>	<u>7.57%</u>
Subtotal	<u>125</u>	<u>344,750</u>	<u>20.90%</u>
Total	485	1,649,701	100.00%



DETERMINATION OF INFILTRATION

Infiltration in a sanitary sewer system is defined as extraneous flow that enters the system through pipe joints, sewer line defects (including main sewer lines and building sewer lines), defective manhole walls, benches, and pipe seals. Two types of infiltration can be determined during a study, permanent infiltration and peak infiltration. Permanent infiltration is defined as extraneous flow that enters the system through the ground during periods of dry-weather and low-groundwater. Peak infiltration is defined as the maximum extraneous flow that enters the sewer system during high-groundwater conditions after the inflow effects of a rain event have ended. Peak infiltration was determined during the Flow Monitoring Study and used during the SSEs investigations and analysis to evaluate the effects of infiltration on the sewer system.

Analyses of wastewater infiltration were based on flow monitoring data and I/I source data from field investigations, specifically the internal television inspection of sewer lines. For the purposes of this report only sewer lines identified with defects during CCTV inspection were categorized as infiltration due to lower manhole defects being classified as inflow. The lower manhole defects do have the potential to also serve as infiltration defects but are not assessed as such as to not double count the identified defect flows and repairs.

INFILTRATION SOURCE QUANTIFICATION

Each of the infiltration sources identified during field investigations was evaluated and quantified in reference to the corresponding basin and line segment. The infiltration rate was estimated based on the severity of the defect. A potential infiltration rate was estimated for each manhole and pipe defect that was observed but not actively leaking. The sum of all observed infiltration sources is referred to as total identified infiltration. The difference between total identified infiltration and peak monitored infiltration is total unidentified infiltration.

QUANTIFICATION PROCEDURE

Research and testing of typical infiltration source defects was performed previously by RJN Group Inc. by means of injection dyed water flooding and observations during high groundwater periods. The results of those tests have led to the creation of standard infiltration source rates that are used as a guideline when assigning the source rates.

1. Television Inspection:

	Defect Type	Rate (gpm)
a.	Service with infiltration	- 0.05
b.	Break in service connection	- 0.15
c.	Roots in service	- 0.05
d.	Protruding Tap	- 0.05
e.	Joint with light roots	- 0.01
f.	Joint with moderate roots	- 0.02
g.	Joint with heavy roots	- 0.03
h.	Joint with Infiltration	- 0.05
i.	Slightly offset joint	- 0.01
j.	Moderately offset joint	- 0.05
k.	Severely offset joint	- 0.15
l.	Cracked joint	- 0.05
m.	Capped joint	- 0.05
n.	Mineral deposit	- 0.01
o.	Broken pipe	- 0.15
p.	Circular pipe crack	- 0.15
q.	Longitudinal pipe crack	- 0.15
r.	Collapsed pipe	- 0.45

QUANTIFICATION RESULTS

Total identified infiltration in Basins FM-08 and FM-18 was quantified to be approximately 0.017 mgd. The total identified infiltration for the study basins is summarized by source type in Table 3-C and shown graphically on page 3-9.

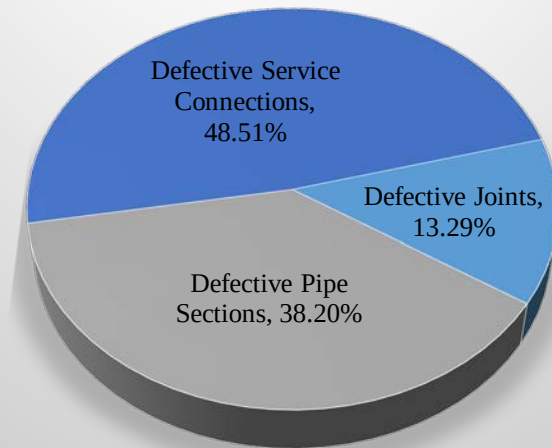
Table 3-C

DISTRIBUTION OF IDENTIFIED INFILTRATION SOURCES^{1/}

	Quantity	Estimated Infiltration Rate (gpd)	Percent of Total Infiltration
<u>Internal Pipe Defects</u>			
Defective Joints	9	2,304	13.29%
Defective Pipe Sections	14	6,624	38.20%
Defective Service Connections	40	8,410	48.51%
Total Identified Infiltration	63	17,338	100.00%

^{1/} Based on identified infiltration for all CCTV sewer line defects.

DISTRIBUTION OF IDENTIFIED INFILTRATION SOURCES



CHAPTER 4

RECOMMENDED REHABILITATION

RECOMMENDED REHABILITATION

Once the Inflow/Infiltration (I/I) sources have been identified and data analysis is completed, recommended rehabilitation methods are determined. The recommended methods are focused in three areas: sanitary sewer line, manhole, and service line sources.

SEWER REPLACEMENT/REHABILITATION

Television inspection data was evaluated for repair of specific I/I and maintenance defects. I/I defects are those defects that had active infiltration or the potential for I/I to enter the sanitary sewer system. Maintenance defects are those defects that would justify repair or replacement based on their potential to cause future maintenance problems in the sewer system. Maintenance defects include sections of broken or cracked pipe and sections of pipe with sags, root intrusion, or other defects. The maintenance defects are not significant sources of I/I and would not be recommended for repair based on I/I removal alone, but recommended for repair to improve system reliability. The television inspection data was evaluated to determine if a sewer segment should be completely replaced or if a point repair should be made.

RJN Group, Inc. recommended that television inspection (CCTV) be performed on 20 sanitary sewer line segments (5,870 lf) based on the evaluation of the visual pipe, smoke, dyed water testing and its location in or near a creek. Approximately 295 linear feet of televised pipe was unable to be completed due to obstructions such as broken pipe, and debris within the sewer line.

Based on review of television inspection observations recorded by RJN Group, Inc, point repairs are recommended for 4 line segments and complete replacements are recommended for 7 line segments (2,875 lf). A list of point repairs is given in Table 4-A and a summary of line replacements in Table 4-B. Point repairs and line replacements are shown graphically on Exhibit 5.

Several sewer lines could not be completely televised during the field investigation work. Either they require maintenance or point repairs before the lines can be re-televised and final recommendations can be made. Sewer lines (FM-08)6-16 - (FM-08)5-16 and (FM-08)778 - (FM-08)778A are recommended for maintenance and heavy cleaning due to heavy debris that obstruct camera view as listed in Table 4-C.

Table 4-A

RECOMMENDED POINT REPAIRS

Line Segment	Pipe Diameter (in)	Segment Length (lf)	Average Depth (ft.)	Repair Location	Total Inflow^{1/} (gpd)	Total Infiltration (gpd)	Estimated Construction Cost (\$)	Estimated Capital Cost^{3/} (\$)
(FM-08) 13 - (FM-08) 12	8	418	7	0+55 to 0+65 ^{2/}	0	216	7,000	9,100
				1+60 to 1+70 ^{2/}	0	216	7,000	9,100
				3+70 to 3+80	0	720	7,000	9,100
(FM-08) 777 - (FM-08) 776	8	183	7	0+33 to 0+43 ^{2/}	0	216	7,000	9,100
(FM-08) 786 - (FM-08) 779	12	401	8	1+02 to 1+09 ^{2/}	25,056	216	9,000	11,700
(FM-08) 806 - (FM-08) 807	15	236	9	1+30 to 1+40	0	43	11,000	14,300
				1+70 to 1+80	0	72	11,000	14,300
Total		1,238			25,056	1,699	59,000	76,700

^{1/} Based on 1-year/60-minute inflow.

^{2/} Includes service reconnection(s).

^{3/} Includes estimated construction cost plus a 30 percent engineering service and contingency fees.

Table 4-B

RECOMMENDED LINE REPLACEMENT

Line Segment	Existing Diameter (in)	Minimum Required Replacement Diameter ^{1/}	Length (lf)	Average Depth (ft)	Total Inflow ^{2/} (gpd)	Total Infiltration (gpd)	Repair Method	Estimated Construction Cost (\$)	Estimated Capital Cost (\$) ^{3/}
(FM-08) 245 - (FM-08) 245A	8	8	473	7	0	1,022	Pipe Burst	82,775	107,608
(FM-08) 245A - (FM-08) 245B	8	8	405	7	25,733	2,045	Pipe Burst	70,875	92,138
(FM-08) 245B - (FM-08) 871	8	8	496	8	0	3,758	Pipe Burst	86,800	112,840
(FM-08) 25 - (FM-08) 22	8	8	365	6	0	1,080	Pipe Burst	63,875	83,038
(FM-08) 811 - (FM-08) 810	10	10	330	5	0	1,368	CIPP	36,300	47,190
(FM-08) 825 - (FM-08) 806	15	15	412	9	40,709	2,059	CIPP	49,440	64,272
(FM-08) 831 - (FM-08) 836	8	8	394	5	0	3,341	Open Cut	70,920	92,196
Total			2,875		66,442	14,673		460,985	599,281

^{1/} Pipe size should be determined during final design.

^{2/} Based on 1-year/60-minute inflow.

^{3/} Includes estimated construction cost plus a 30 percent engineering service and contingency fees.

Table 4-C

LINE RECOMMENDED FOR ADDITIONAL INVESTIGATION

Line Segment			Pipe Diameter (in)	Length (lf)	Justification
(FM-08) 6-16	-	(FM-08) 5-16	8	370	Recommended Maintenance – Tap Cutting and Re-TV for Final Recommendation
(FM-08) 778	-	(FM-08) 778A	15	<u>325</u>	Recommended Maintenance – Heavy Cleaning and Re-TV for Final Recommendation
Total				695	

RECOMMENDED MANHOLE REHABILITATION

Manhole I/I defects identified during field investigation were analyzed together to obtain recommendations for rehabilitation for each manhole and a cost to perform rehabilitation work. The recommended rehabilitation for each manhole addresses both upper and lower inflow defects identified within each manhole. Of the 170 manholes inspected, a total of 158 manholes were identified as requiring rehabilitation. A summary of the recommended manhole rehabilitation is shown in Table 4-D. Individual manhole rehabilitation recommendations are included in Appendix H. The recommended manhole rehabilitation is also shown graphically in Exhibits 6.

Based upon the smoke testing results in Basin FM-18 which shows a multitude of frame/cover type defects, it is recommended that a frame and cover replacement program is enacted in this basin in order to reduce I/I.

A list of typical rehabilitation methods for manholes and associated construction costs for both inflow and infiltration defects is given in Table 4-E.

Table 4-D
RECOMMENDED MANHOLE REHABILITATION

Rehabilitation Description^{2/}	Numbers of Manholes	Estimated Inflow^{1/} (gpd)	Construction Cost (\$)
Cementitious Coating and Replace Cover/Frame/Frame Seal	6	54,432	15,283
Cementitious Coating and Replace Cover/Frame/Frame Seal and Adjustment	1	4,392	2,904
Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	2	12,758	3,296
Complete Manhole Rehab w/New Frame and Cover	3	34,894	7,266
Complete Manhole Rehab w/New Cover	1	2,880	2,665
Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	7	63,939	21,700
Install Bolts/Gasket for Bolted Cover	1	4,896	100
Remove and Replace Manhole	63	617,311	311,339
Replace Adjustment, Realign Frame, and Install External Chimney Seal	1	3,096	1,200
Replace Cover/Frame/Frame Seal	62	225,303	73,900
Replace Cover/Frame/Frame Seal and Adjustment	11	53,746	16,500
Total	158	1,077,647	456,153

^{1/} Based on 1-year/60-minute storm.

^{2/} Final rehabilitation recommendations should be determined during design.

Table 4-E

TYPICAL MANHOLE REHABILITATION CONSTRUCTION COSTS

Description	Estimated Construction Cost (\$)
Cementitious Coating	900-1,200 ^{1/}
Cementitious Coating and Grout Pipe Seals	960-3,900 ^{1/}
Cementitious Coating and Install Bolts/Gasket for Bolted Cover	1,500-1,800 ^{1/}
Cementitious Coating and Install External Chimney Seal	1,450-1,800 ^{1/}
Cementitious Coating and Replace Cover/Frame/Frame Seal	3,650-4,050 ^{1/}
Cementitious Coating and Replace Cover/Frame/Frame Seal and Adjustment	1,500-2,510 ^{1/}
Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	1,000-1,960 ^{1/}
Complete Manhole Rehab w/ New Frame and Cover	4,000-5,050 ^{1/}
Complete Manhole Rehab and External Chimney Seal w/o New Frame and Cover	1,450-2,410 ^{1/}
Complete Manhole Rehab w/ New Cover	750-1,710 ^{1/}
Complete Manhole Rehab w/ New Cover/Frame/Frame Seal and Adjustment	2,000-2,960 ^{1/}
Complete Manhole Rehab w/o New Frame and Cover	2,050-2,600 ^{1/}
Complete Manhole Rehab, Internal Chimney Seal w/o New Frame and Cover	2,250-2,750 ^{1/}
Complete Manhole Rehab, Internal Chimney Seal, and New Cover	1,150-2,110 ^{1/}
Grout Lower 18" of Manhole and Repair Bench/Trough	775-1,000 ^{1/}
Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	2,375-2,950 ^{1/}
Grout Lower 18" of Manhole, Repair Bench/Trough, and Install Internal Chimney Seal	700-1,000
Grout Lower 18" of Manhole, Repair Bench/Trough, and Repair Corbel	1,390-1,450 ^{1/}
Grout Walls/Joints	200 ^{2/}
Grout Walls/Joints and Install External Chimney Seal	200-500 ^{2/}
Grout Walls/Joints and Repair Bench/Trough	200-500 ^{2/}
Install Bolts/Gasket for Bolted Cover	220-250
Remove and Replace Manhole	4,000-6,000
Repair Bench/Trough	500
Repair Bench/Trough and Install Bolts/Gasket for Bolted Cover	600
Repair Bench/Trough and Replace Cover/Frame/Frame Seal and Adjustment	2,000
Repair Bench/Trough, Install External Chimney Seal, and Repair Corbel	1,500

^{1/} Unit cost will vary per vertical foot.

^{2/} Unit cost will vary per joint.

Table 4-E (cont.)

TYPICAL MANHOLE REHABILITATION CONSTRUCTION COSTS

Description	Estimated Construction Cost (\$)
Repair Bench/Trough, Repair Corbel, and Replace Cover	1,150
Repair Corbel	450
Repair Corbel and Replace Bench/Trough	1,500
Repair Corbel and Replace Cover/Frame/Frame Seal and Adjustment	2,000
Repair Corbel, and Replace Cover/Frame/Frame Seal	1,550-1,950
Replace Bench/Trough and Install Bolts/Gasket for Bolted Cover	1,100
Replace Bench/Trough and Install External Chimney Seal	1,500
Replace Cover/Frame/Frame Seal	2,050-2,450
Replace Cover/Frame/Frame Seal and Adjustment	2,720-2,800
Replace Cover/Frame/Frame Seal and Adjustment	1,500

1/ Unit cost will vary per vertical foot.

2/ Unit cost will vary per joint.

RECOMMENDED INFLOW REMOVAL FROM SERVICE LINE SOURCES

A total of 127 service line inflow sources identified during the field survey investigations are recommended for removal from the selected basins. The indicated sources consist of 4 public sector and 123 private sector sources which will be eliminated through rehabilitation. This will remove approximately 0.338 mgd of 1-year/60-minute inflow. A summary of recommended service line inflow removal is given in Table 4-F and a detailed report is included in Appendix I. The recommended service line inflow removal is also shown graphically in Exhibits 7.

Table 4-F

**SUMMARY OF RECOMMENDED INFLOW REMOVAL
FROM SERVICE LINE SOURCES**

Source	Quantity	1-Year/60-Minute Projected Peak Inflow (gpd)	Estimated Construction Cost (\$)
<u>Public Sector</u>			
Defective Service Cleanouts	<u>4</u>	<u>14,583</u>	<u>675</u>
Subtotal	4	14,583	675
<u>Private Sector</u>			
Defective Building Lateral	17	49,336	51,000
Defective Service Cleanout	106	274,348	26,275
Subtotal	<u>123</u>	<u>323,684</u>	<u>77,275</u>
Total	127	338,267	77,950

A list of typical rehabilitation methods for service line sources and associated construction costs for both inflow and infiltration defects is given in Table 4-G.

Table 4-G

**TYPICAL REHABILITATION/REPLACEMENT
CONSTRUCTION COSTS FOR SERVICE LINE SOURCES**

Description	Rehabilitation	Estimated Construction Cost (\$)
<u>I/I Source Rehabilitation</u>		
Building Sewer Point Repair	Replace Defective Pipe	1,500-2,000
Building Sewer Replacement	Replace Building Sewer	3,000
Building Sewer Cleanouts	Repair Cleanouts	100

CHAPTER 5

SUMMARY AND RECOMMENDED PLAN

SUMMARY OF RECOMMENDED PLAN

The recommended rehabilitation plan consists of work to be performed in the public and private sector of the collection system. The plan includes inflow repairs, infiltration repairs, sewer line replacement/rehabilitation, maintenance repairs, and routine maintenance. The costs to perform the recommended plan is given in capital cost which includes construction cost and a 30 percent additional cost which includes administrative cost, legal fees, engineering fees, and contingencies. The recommended plan is discussed in the following sections.

RECOMMENDED LINE REHABILITATION

Sewer line rehabilitation is recommended for 7 line segments (2,875 lf) and point repairs are recommended on 4 sewer line segments. The recommended repair plan for both replacements and point repairs will eliminate approximately 91,498 gpd of 1-year/60-minute inflow and 16,905 gpd of infiltration at an estimated capital cost of \$675,981. A detailed discussion of the recommended plan for sewer line repair is included in Chapter 4. A summary of the plan is given in Table 5-A. A detailed list of line segments that are recommended for replacement and point repairs are included in Tables 4-A and 4-B.

Table 5-A

SUMMARY OF RECOMMENDED SEWER REPLACEMENT/REPAIRS (STUDY BASINS)

Item	Inflow Reduction ^{1/} (gpd)	Infiltration Reduction (gpd)	Estimated Capital Cost ^{2/} (\$)
Point Repairs	25,056	1,699	76,700
Line Replacements	<u>66,442</u>	<u>15,206</u>	<u>599,281</u>
Total	91,498	16,905	675,981

^{1/} Based on 1-year/60-minute storm.

^{2/} Includes estimated construction cost plus a 30 percent engineering service fee, contingency fees, and legal fees.

RECOMMENDED MANHOLE REHABILITATION (I/I REMOVAL)

The recommended manhole rehabilitation plan includes the rehabilitation of 158 manholes contributing approximately 1.077 mgd of 1-year/60-minute inflow in Basin FM-08. The estimated capital cost would be approximately \$592,999.

In addition to the manholes inspected in Basin FM-08, it is recommended to replace the frame and covers of the manholes located in Basin FM-18. Smoke testing activities revealed frame/cover type defects were prevalent in Basin FM-18. Due to the manholes not being inspected in Basin FM-18, the anticipated I/I removal and the costs associated with replacing the frame/covers in Basin FM-18 is not included in this report.

The manholes recommended for rehabilitation are presented in the computer printout in Appendix H. A map is provided for all manhole rehabilitation in Exhibits 6.

RECOMMENDED INFLOW REMOVAL FROM SERVICE LINE SOURCES

The recommended plan for service line inflow removal includes the repair of selected identified sources (127) discovered through field procedures. Each area of rehabilitation is addressed in the following sections.

There are 127 identified public and private sector sources contributing 338,267 gpd of 1-year/60-minute inflow recommended for repair. The capital cost to remove these sources is approximately \$101,336. A computer printout of the inflow sources recommended for repair is provided in Appendix I. A summary of the recommended plan for inflow reduction is given in Table 5-B.

The projected inflow reduction is based on the assumption that comprehensive rehabilitation repairs will be completed for the identified I/I sources and that the repairs will effectively eliminate I/I from those identified sources.

Table 5-B			
SUMMARY OF RECOMMENDED PLAN FOR SERVICE LINE SOURCES INFLOW REMOVAL			
Item	Quantity of Sources	1-Year Inflow Elimination (gpd)	Estimated Capital Cost ^{1/} (\$)
Public Sector	4	14,538	878
Private Sector	<u>123</u>	<u>323,684</u>	<u>100,458</u>
Total	127	338,267	101,336

^{1/} Includes estimated construction cost plus a 30 percent engineering service fee, contingency fees, and legal fees.

SUMMARY OF RECOMMENDED PLAN

The recommended plan includes repairing 127 service line inflow sources, 158 manholes recommended for rehabilitation, replacing or repairing 7 sewer lines (2,875 lf), and point repairs on 4 sewer lines. Approximately 16,372 gpd of infiltration will be eliminated by implementation of the recommended plan. The peak 1-year inflow in the study area is projected to be reduced by 1.507 mgd after rehabilitation of the recommended inflow sources.

Comparing all inflow reduction by completed rehabilitation work and recommended rehabilitation, overall inflow will be reduced by approximately 46 percent.

The total capital cost to implement the recommended plan is approximately \$1.371 million. The total capital cost consists of \$878 for service line inflow removal from the public sector, \$101,336 for service line inflow removal in the private sector, \$592,999 for manhole rehabilitation, and \$675,981 for main sewer replacement and repair. A summary of the recommended plan is given in Table 5-C

Table 5-C

SUMMARY OF RECOMMENDED PLAN

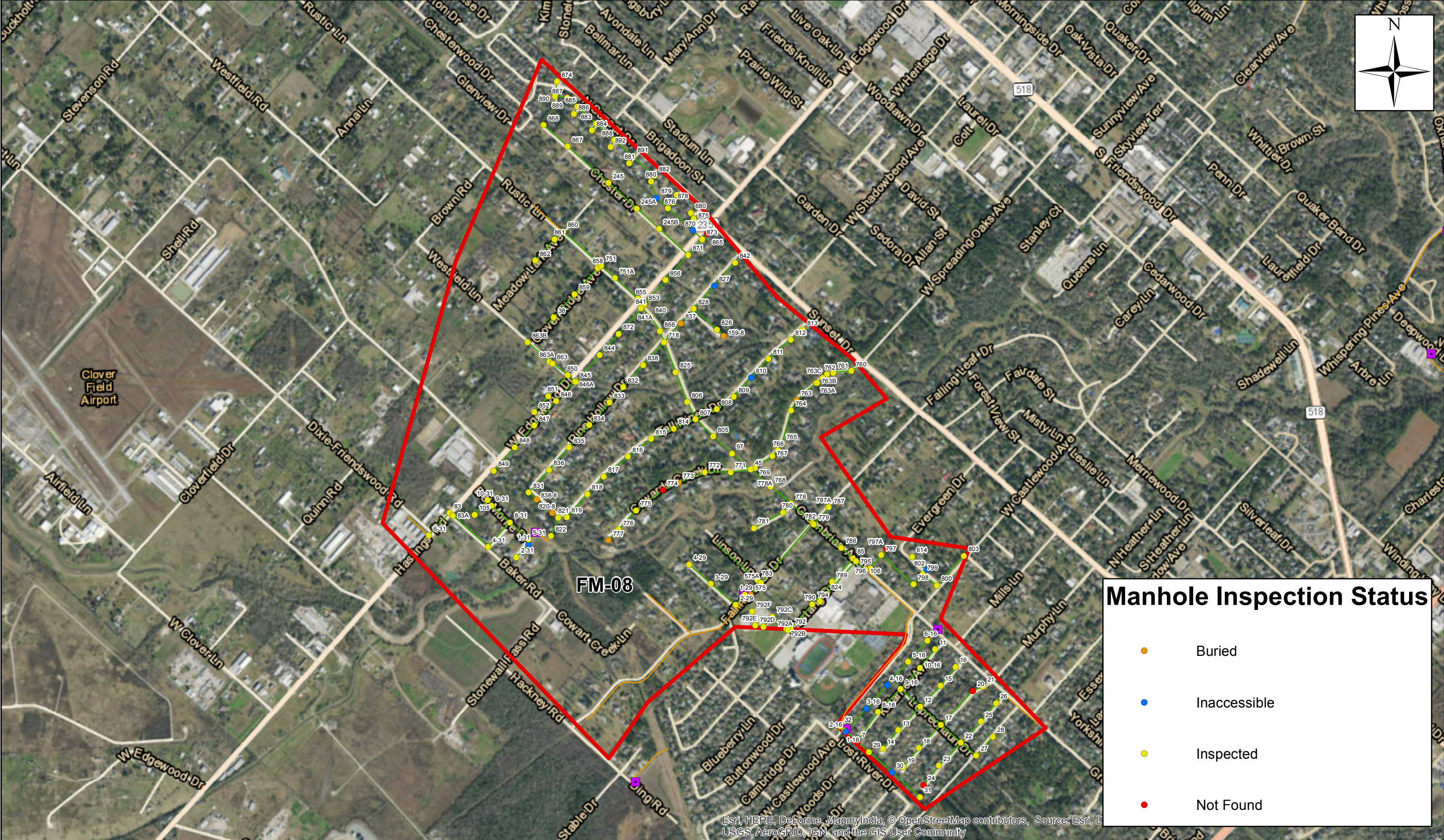
Item	I/I Reduction		Estimated Construction Cost (\$)	Estimated Capital Cost ^{2/} (\$)
	Inflow ^{1/} (gpd)	Infiltration (gpd)		
Sewer Replacement/Repairs	91,498	16,372	519,985	675,981
Manhole Rehabilitation	1,077,647	N/A	456,153	592,999
Service Line Rehabilitation				
Public Sector	14,538	N/A	675	878
Private Sector	<u>323,684</u>	<u>N/A</u>	<u>77,950</u>	<u>101,336</u>
Total	1,507,331	16,372	1,54,763	1,371,194

^{1/} Based on projected 1-year/60-minute inflow.

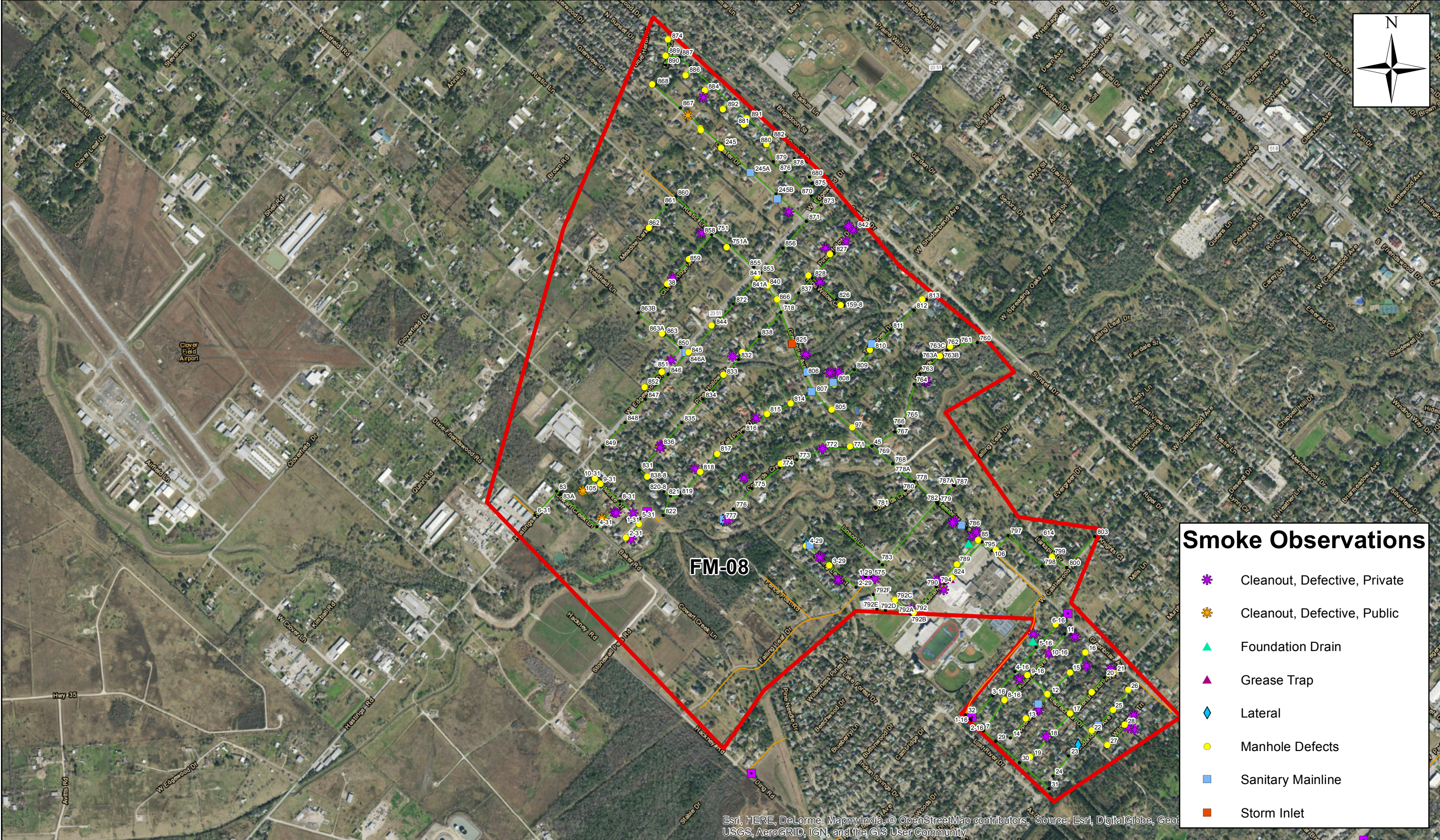
^{2/} Includes estimated construction cost plus a 30 percent engineering service fee, contingency fees, and legal fees.

EXHIBITS

The City of Friendswood, Texas



The City of Friendswood, Texas



Smoke Observations

- Cleanout, Defective, Private
- Cleanout, Defective, Public
- Foundation Drain
- Grease Trap
- Lateral
- Manhole Defects
- Sanitary Mainline
- Storm Inlet

FM-08

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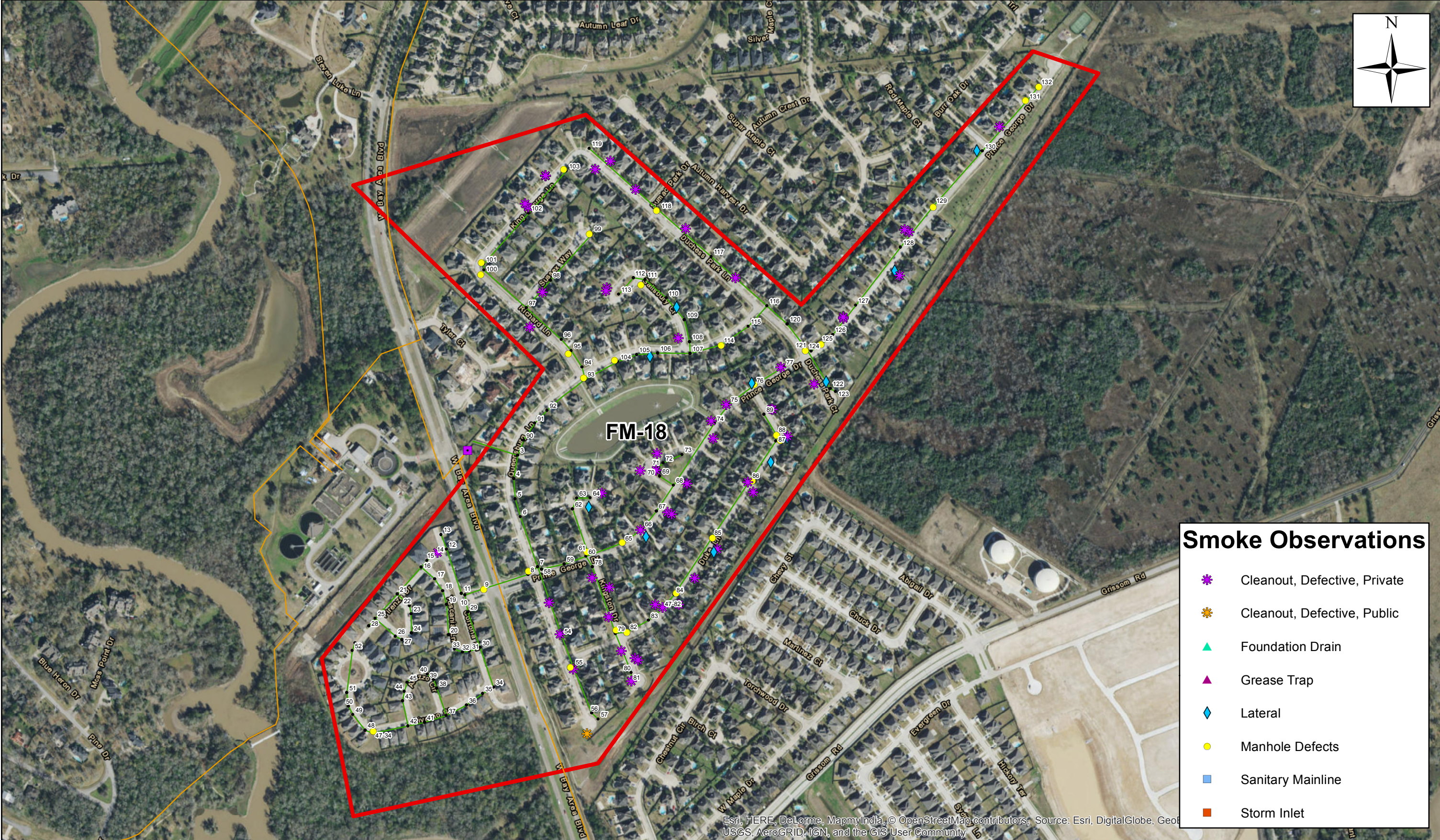
Legend

- FM-08
- Lift Station
- Gravity Sewer
- Force Main
- Manhole

Smoke Observations
Basin FM-08
Exhibit 2



The City of Friendswood, Texas



Smoke Observations

- Cleanout, Defective, Private
- Cleanout, Defective, Public
- Foundation Drain
- Grease Trap
- Lateral
- Manhole Defects
- Sanitary Mainline
- Storm Inlet

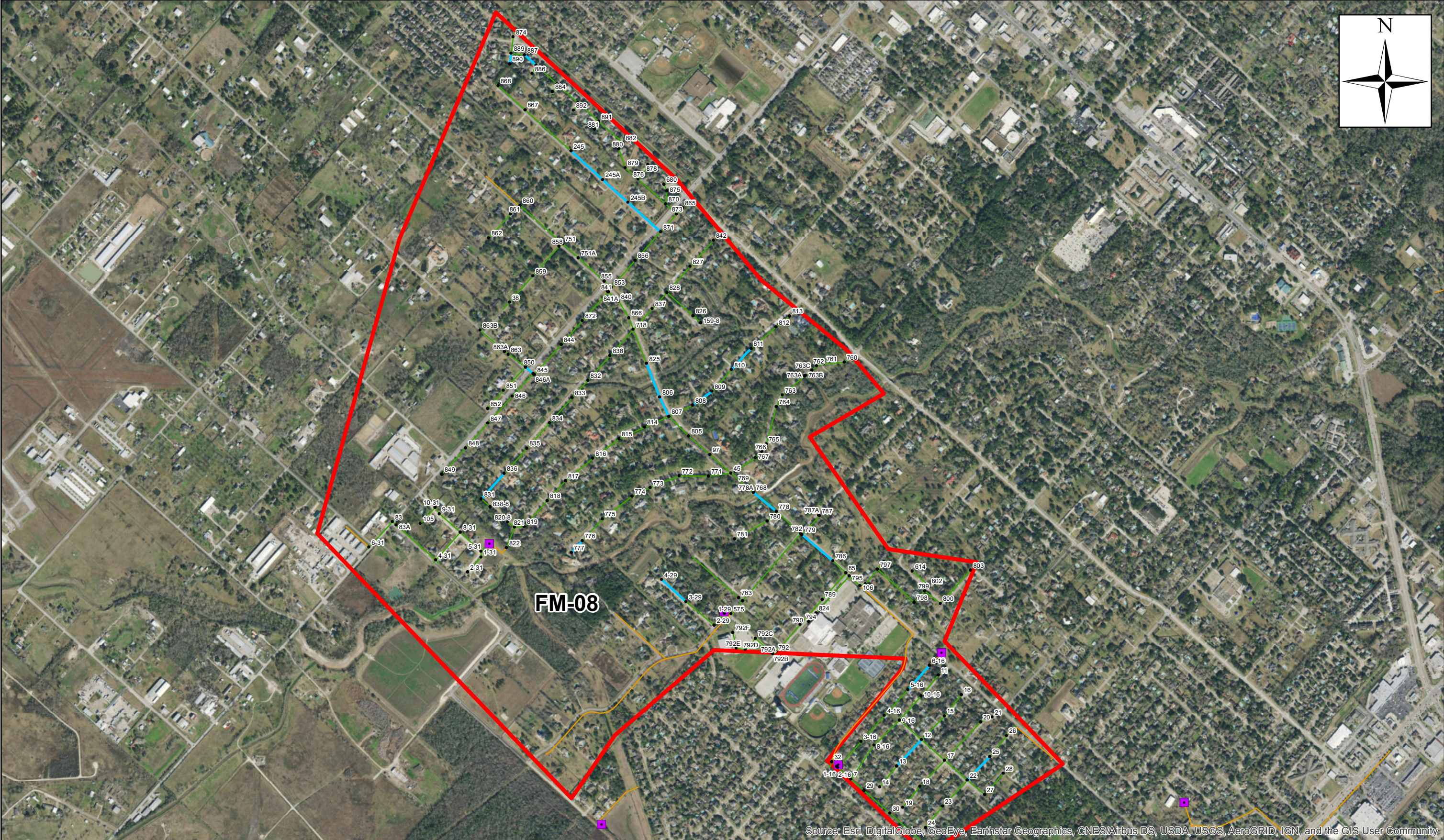
Legend

- FM-18
- Lift Station
- Gravity Sewer
- Force Main
- Manhole

Smoke Observations
Basin FM-18
Exhibit 3



The City of Friendswood, Texas



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

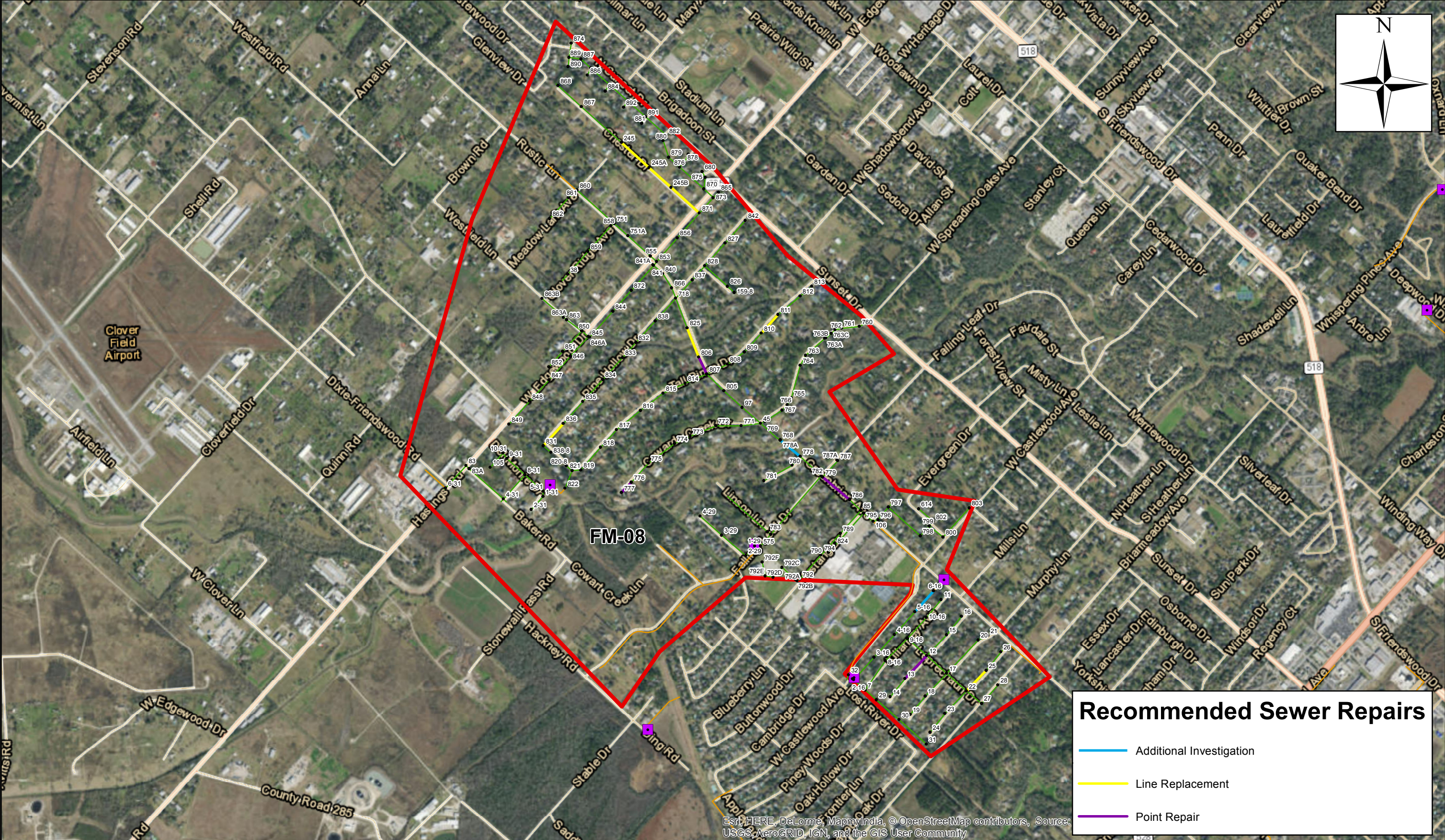
Legend

FM-08 • Manhole ■ Lift Stations — Gravity Sewer — Televised Segments — Force Main

Line Segments Televised
Basin FM-08
Exhibit 4

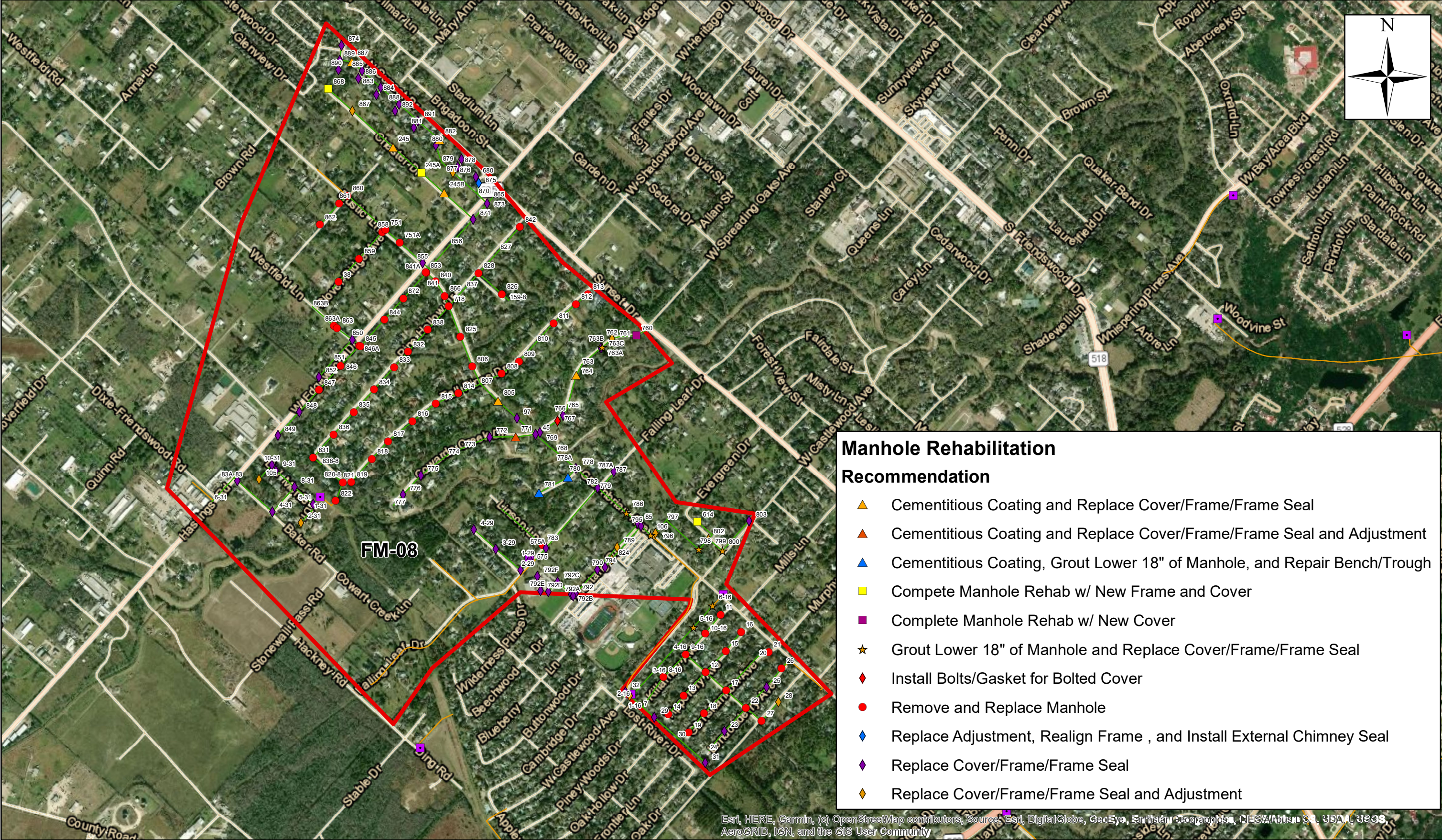


The City of Friendswood, Texas



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The City of Friendswood, Texas



Manhole Rehabilitation

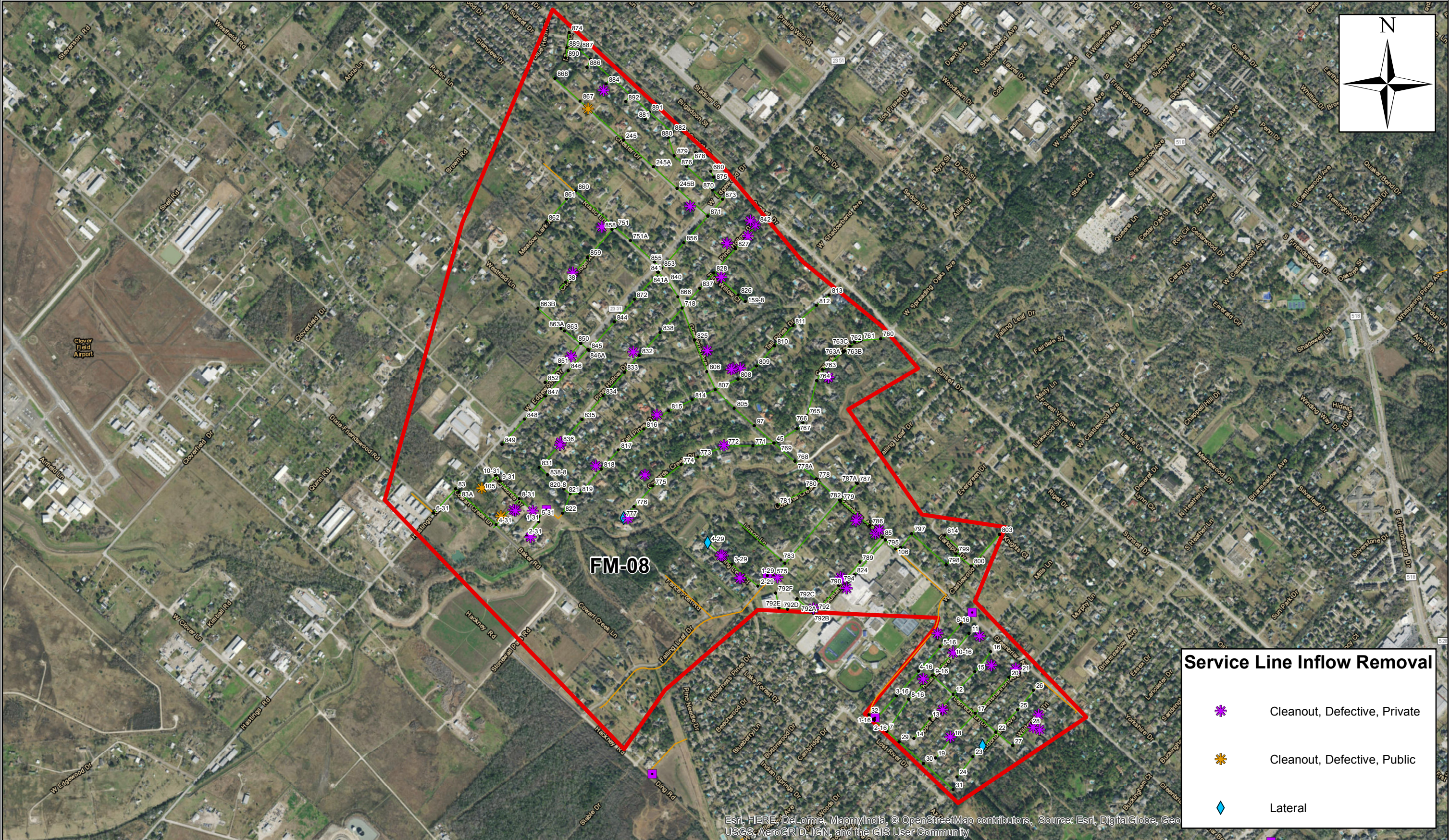
Recommendation

- ▲ Cementitious Coating and Replace Cover/Frame/Frame Seal
- ▲ Cementitious Coating and Replace Cover/Frame/Frame Seal and Adjustment
- ▲ Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough
- Complete Manhole Rehab w/ New Frame and Cover
- Complete Manhole Rehab w/ New Cover
- ★ Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal
- ◆ Install Bolts/Gasket for Bolted Cover
- Remove and Replace Manhole
- ◆ Replace Adjustment, Realign Frame , and Install External Chimney Seal
- ◆ Replace Cover/Frame/Frame Seal
- ◆ Replace Cover/Frame/Frame Seal and Adjustment

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The City of Friendswood, Texas



FM-08

Service Line Inflow Removal

Cleanout, Defective, Private

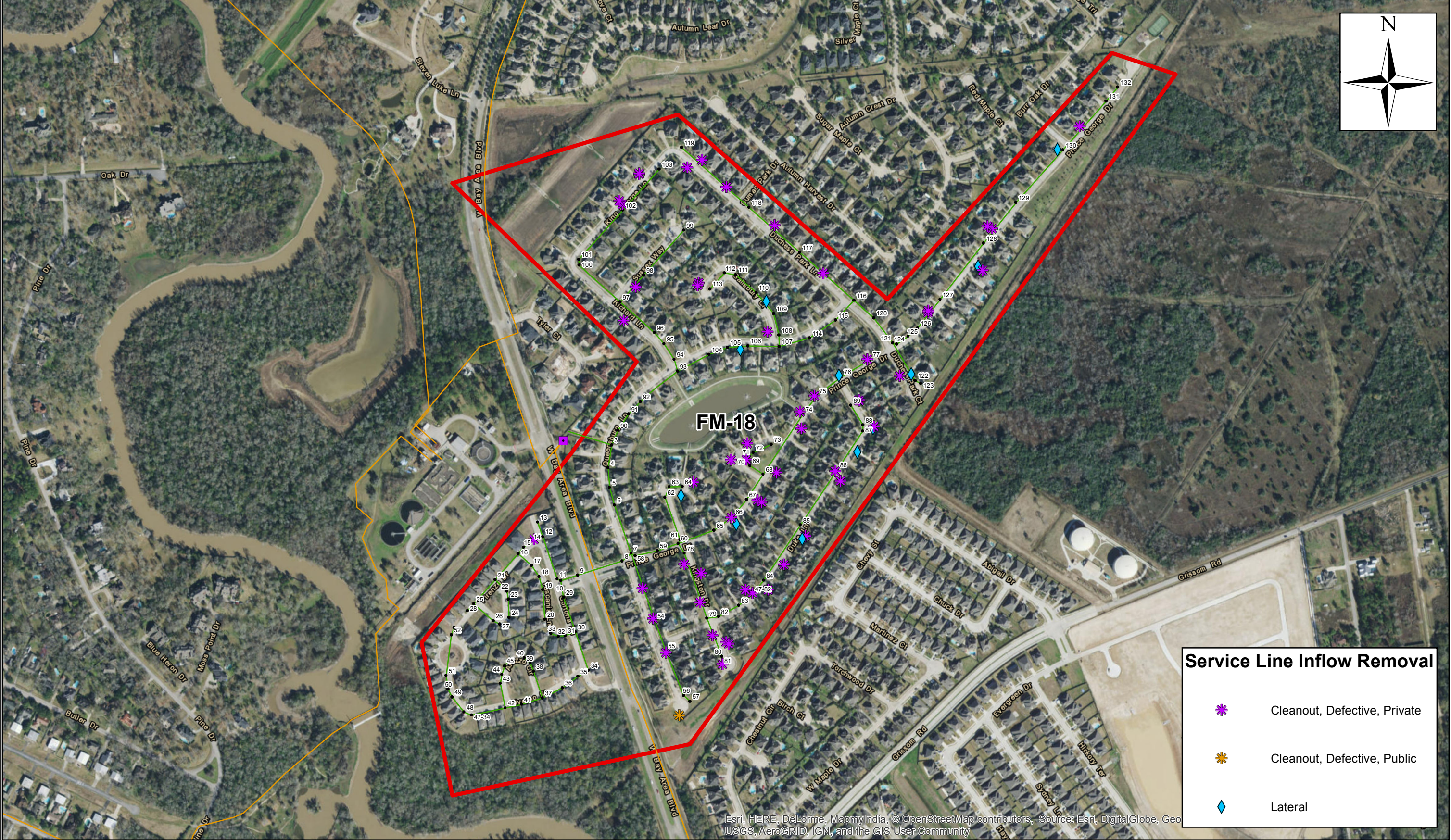
Cleanout, Defective, Public

Lateral

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The City of Friendswood, Texas



Service Line Inflow Removal

- Cleanout, Defective, Private
- Cleanout, Defective, Public
- Lateral

Legend

FM-18 Lift Station Gravity Sewer Force Main • Manhole

**Service Line Inflow Removal
Basin FM-18
Exhibit 8**



APPENDICES

APPENDIX A

MANHOLE INSPECTION REPORT

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)10-16	1009 KILLARNEY AVE	Paved Esmt	48	5.1	No	Pick	Fiberglas	Sound	No	4,536
(FM-08)10-31	105 DEL MONTE DR	Paved Esmt	48	7.0	Yes	Pick	Precast	Sound	No	14,544
(FM-08)105	2110 COUNTY RD 129	Grass Esmt	48	6.9	No	Pick	Precast	Sound	No	2,520
(FM-08)106	702 GREENBRIAR AVE	Grass Esmt	48	7.8	No	Pick	Poured	Sound	Yes	2,232
(FM-08)11	1003 KILLARNEY AVE	Not Found	48	5.3	No	Pick	Fiberglas	Sound	No	8,352
(FM-08)1-16	902 LOST RIVER DR	Grass Esmt	48	17.1	No	Pick	Plastic	Sound	No	2,376
(FM-08)12	1017 TIPPERARY AVE		48	7.7	No	Pick	Fiberglas	Sound	Yes	5,112
(FM-08)1-29	1 FALLING LEAF CT	Not Found	48	10.2	No	Pick	Precast	Sound	No	1,152
(FM-08)13	1107 TIPPERARY AVE	Paved Esmt	48	5.5	No	Pick	Fiberglas	Sound	No	5,112
(FM-08)1-31	205 DEL MONTE DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)14	1115 TIPPERARY AVE		48	4.4	No	Pick	Fiberglas	Sound	No	23,976
(FM-08)15	1011 TIPPERARY AVE	Grass Esmt	48	5.4	No	Pick	Fiberglas	Sound	No	7,848
(FM-08)159	209 PINE WILLOW CT	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)16	1003 TIPPERARY AVE	Paved Esmt	48	4.9	No	Pick	Fiberglas	Sound	No	10,152
(FM-08)17	1011 GLENSHANNON AVE	Not Found	48	6.8	No	Pick	Fiberglas	Sound	No	5,112
(FM-08)18	1107 GLENSHANNON AVE	Paved Esmt	48	4.9	Yes	Pick	Fiberglas	Sound	No	21,614
(FM-08)19	1115 GLENSHANNON AVE		48	5.3	No	Pick	Fiberglas	Sound	No	7,776
(FM-08)20	1003 GLENSHANNON AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)21	1001 GLENSHANNON AVE	Paved Esmt	48	5.0	No	Pick	Fiberglas	Sound	No	8,136
(FM-08)2-16	902 LOST RIVER DR	Inaccessible	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)22	1017 LONDONDERRY AVE	Paved Esmt	48	6.4	No	Pick	Fiberglas	Sound	No	4,536
(FM-08)2-29	1 FALLING LEAF CT	Grass Esmt	48	10.3	Yes	Pick	Precast	Sound	No	27,749
(FM-08)23	1109 LONDONBERRY AVE	Grass Esmt	48	4.4	No	Pick	Poured	Sound	No	3,888
(FM-08)2-31	314 DEL MONTE DR	Not Found	48	4.8	No	Pick	Precast	Sound	No	3,240
(FM-08)24	1115 LONDONBERRY AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)245	301 CHESTER DR	Grass Esmt	48	6.2	No	Pick	Precast	Leaking Joints	No	8,352
(FM-08)245A	201 CHESTER DR	Ditch	48	6.9	No	Pick	Precast	Leaking Joints	No	15,512
(FM-08)245B	104 CHESTER DR	Grass Esmt	48	7.1	No	Pick	Precast	Leaking Joints	Yes	25,488
(FM-08)25	1009 LONDONDERRY AVE	Grass Esmt	48	4.6	No	Pick	Poured	Sound	No	3,888
(FM-08)26	1003 LONDONDERRY AVE	Grass Esmt	48	4.5	No	Pick	Fiberglas	Sound	No	4,536
(FM-08)27	4 WILDERNESS TRL	Ditch	48	5.3	No	Pick	Fiberglas	Sound	No	14,112
(FM-08)28	2 WILDERNESS TRL	Ditch	48	3.4	No	Pick	Precast	Sound	No	10,368
(FM-08)29	1002 LOST RIVER DR	Grass Esmt	48	8.0	No	Pick	Precast	Sound	No	3,888
(FM-08)30	1102 LOST RIVER DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)31	1202 LOST RIVER DR	Grass Esmt	48	4.1	No	Pick	Plastic	Sound	No	1,152
(FM-08)3-16	1116 CASTLEWOOD AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)32	205 HOLLY SPRING DR	Grass Esmt	6	1.5	No	Pick	None	N/A	No	1,944
(FM-08)3-29	9 FALLING LEAF CT	Paved Esmt	40	6.1	No	Pick	Precast	Sound	No	13,882
(FM-08)33	205 HOLLY SPRINGS DR	Grass Esmt	6	N/A	No	Pick	None	N/A	No	576
(FM-08)38	1002 CLOVER RIDGE AVE	Gutter	48	6.4	No	Concealed	Fiberglas	Sound	No	6,782
(FM-08)4-16	1108 CASTLEWOOD AVE	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)4-29	19 FALLING LEAF CT		48	5.0	No	Pick	Precast	Sound	No	2,952
(FM-08)4-31	1313 INVERNESS ST	Not Found	48	11.7	No	Pick	Poured	Sound	No	4,896
(FM-08)45	1003 COWARDS CREEK DR		48	9.5	No	Pick	Precast	Sound	No	1,152
(FM-08)5-16	1012 W CASTLEWOOD AVE	Grass Esmt	48	6.4	No	Pick	Plastic	Sound	No	9,144
(FM-08)5-31	302 DEL MONTE DR	Not Found	48	10.6	No	Pick	Poured	Sound	No	4,896
(FM-08)575	1115 FALLING LEAF DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)575A	1101 FALLING LEAF DR	Grass Esmt	48	5.3	No	Pick	Poured	Sound	No	3,888
(FM-08)614	907 EVERGREEN DR	Grass Esmt	48	3.8	No	Pick	Brick	Cracked	No	3,326
(FM-08)6-16	1006 W CASTLEWOOD AVE	Grass Esmt	48	4.5	No	Pick	Precast	Sound	Yes	26,395

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)6-31	1941 COUNTY RD 129	Grass Esmt	52	9.1	No	Pick	Precast	Sound	Yes	72
(FM-08)680	702 E HAVEN CT	Paved Esmt	48	6.1	No	Pick	Poured	Sound	No	7,056
(FM-08)7	906 LOST RIVER DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)718	901 PINE HOLLOW DR	Grass Esmt	48	8.9	No	Pick	Fiberglas	Sound	No	4,104
(FM-08)751	215 RUSTIC LN	Gutter	48	9.4	No	Concealed	Fiberglas	Sound	Yes	11,419
(FM-08)751A	107 RUSTIC LN	Gutter	48	10.4	No	Pick	Fiberglas	Leaking Joints	No	13,205
(FM-08)760	701 COWARDS CREEK DR	Ditch	48	12.0	No	Pick	Precast	Deteriorated	No	2,880
(FM-08)761	707 COWARDS CREEK	Not Found	48	11.7	No	Concealed	Poured	Sound	No	
(FM-08)762	707 COWARDS CREEK DR	Not Found	48	11.6	No	Pick	Precast	Sound	No	6,696
(FM-08)763	805 COWARDS CREEK	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)763A	803 COWARDS CREEK DR	Grass Esmt	48	8.9	No	Pick	Poured	Sound	No	4,896
(FM-08)763B	803 COWARDS CREEK DR	Grass Esmt	48	8.3	No	Pick	Precast	Sound	No	6,293
(FM-08)763C	707 COWARDS CREEK DR	Grass Esmt	48	8.3	No	Pick	Precast	Sound	No	72
(FM-08)764	809 COWARDS CREEK	Not Found	48	9.9	No	Pick	Poured	Cracked	No	5,616
(FM-08)765	901 COWARDS CREEK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)766	905 COWARDS CREEK	Not Found	48	10.0	Yes	Pick	Poured	Sound	No	4,896
(FM-08)767	911 COWARDS CREEK	Not Found	48	9.7	No	Bolts Missing	Poured	Sound	No	4,896
(FM-08)768	1003 COWARDS CREEK DR	Grass Esmt	48	7.3	No	Concealed	Precast	Sound	No	
(FM-08)769	1003 COWARDS CREEK	Not Found	48	9.4	No	Pick	Precast	Sound	No	3,456
(FM-08)771	1005 COWARDS CREEK DR	Not Found	48	8.5	No	Pick	Precast	Cracked	No	4,392
(FM-08)772	1103 COWARDS CREEK DR	Grass Esmt	48	8.1	No	Pick	Precast	Sound	No	1,152
(FM-08)773	1105 COWARDS CREEK	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)774	COWARDS CREEK	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)775	1201 COWARDS CREEK DR	Ditch	48	7.9	No	Pick	Precast	Sound	No	576
(FM-08)776	1205 COWARDS CREEK DR	Ditch	48	6.6	No	Pick	Precast	Sound	No	1,152

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)777	1207 COWARDS CREEK DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)778	1002 COWARDS CREEK CT	Ditch	48	5.7	No	Pick	Precast	Sound	Yes	3,888
(FM-08)779	1001 FALLING LEAF DR	Not Found	48	7.3	No	Concealed	Precast	Sound	Yes	
(FM-08)780	1002 COWARDS CREEK CT	Ditch	48	4.3	Yes	Pick	None	N/A	No	8,496
(FM-08)781	1006 COWARDS CREEK CT	Not Found	48	3.8	Yes	Concealed	None	N/A	No	4,262
(FM-08)782	1001 FALLING LEAF DR	Grass Esmt	48	7.1	No	Pick	Precast	Sound	Yes	3,888
(FM-08)783	512 LINSON LN	Not Found	48	4.7	No	Pick	Fiberglas	Sound	No	9,648
(FM-08)786	704 GREENBRIAR AVE	Grass Esmt	48	8.1	No	Pick	Poured	Cracked	No	7,272
(FM-08)787	921 FALLING LEAF DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)787A	921 FALLING LEAF DR	Grass Esmt	48	4.7	No	Pick	Poured	Sound	No	3,888
(FM-08)789	1008 GREENBRIAR AVE	Grass Esmt	48	6.8	No	Pick	Poured	Sound	No	3,185
(FM-08)790	1018 MUSTANG DR	Grass Esmt	48	5.2	No	Pick	Precast	Sound	No	1,152
(FM-08)792	1108 MUSTANG DR	Grass Esmt	48	5.2	No	Pick	Precast	Sound	No	1,152
(FM-08)792A	1108 PRIDE ST	Center Street	48	5.4	No	Pick	Precast	Sound	No	1,152
(FM-08)792B	1115 PRIDE ST	Center Street	48	5.3	No	Pick	Precast	Sound	No	1,152
(FM-08)792C	1115 PRIDE ST	Center Street	48	3.2	No	Pick	Precast	Sound	No	1,152
(FM-08)792D	1115 PRIDE ST	Center Street	48	2.3	No	Pick	Precast	Sound	No	1,152
(FM-08)792E	1115 PRIDE ST	Paved Esmt	48	2.8	No	Pick	Precast	Sound	No	1,152
(FM-08)792F	1115 PRIDE ST	Paved Esmt	48	3.1	No	Pick	Precast	Sound	No	1,152
(FM-08)794	702 GREENBRIAR AVE	Paved Esmt	48	7.5	No	Pick	Poured	Sound	Yes	1,152
(FM-08)795	702 GREENBRIAR AVE	Grass Esmt	48	7.1	No	Pick	Poured	Sound	Yes	1,944
(FM-08)796	711 GREENBRIAR AVE	Grass Esmt	48	7.7	No	Pick	Poured	Sound	Yes	5,688
(FM-08)797	711 GREENBRIAR AVE	Grass Esmt	48	7.1	No	Pick	Precast	Sound	No	72
(FM-08)797A	904 EVERGREEN DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)798	908 W CASTLEWOOD AVE	Grass Esmt	48	6.2	No	Pick	Precast	Sound	No	5,285

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)799	910 EVERGREEN DR	Grass Esmt	48	6.5	No	Pick	Precast	Sound	No	5,688
(FM-08)800	908 W CASTLEWOOD AVE	Grass Esmt	48	5.3	No	Pick	Precast	Sound	Yes	7,318
(FM-08)802	904 EVERGREEN DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)803	808 W CASTLEWOOD AVE	Grass Esmt	48	6.4	No	Pick	Poured	Sound	No	3,888
(FM-08)805	499 GREENBRIAR AVE	Grass Esmt	48	8.2	No	Pick	Precast	Leaking Joints	No	5,976
(FM-08)806	1002 TALL PINES DR	Paved Esmt	48	8.9	Yes	Concealed	Fiberglas	Sound	No	23,040
(FM-08)807	1001 TALL PINES DR	Grass Esmt	48	8.5	No	Pick	Fiberglas	Sound	No	72
(FM-08)808	903 TALL PINES DR	Grass Esmt	48	7.1	No	Pick	Fiberglas	Sound	No	6,912
(FM-08)809	901 TALL PINES DR	Grass Esmt	48	6.1	No	Concealed	Fiberglas	Sound	No	10,397
(FM-08)810	803 TALL PINES	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)811	707 TALL PINES DR	Grass Esmt	48	4.4	No	Pick	Fiberglas	Sound	No	26,885
(FM-08)812	402 SUNSET DR	Grass Esmt	48	3.5	No	Pick	Fiberglas	Sound	No	5,285
(FM-08)813	402 SUNSET DR	Grass Esmt	48	3.4	No	Pick	Fiberglas	Sound	No	12,888
(FM-08)814	1005 TALL PINES	Grass Esmt	48	7.5	No	Pick	Fiberglas	Sound	No	4,709
(FM-08)815	1011 TALL PINES DR	Grass Esmt	48	7.1	No	Pick	Fiberglas	Sound	No	8,712
(FM-08)816	1105 TALL PINES DR	Not Found	48	6.5	No	Pick	Fiberglas	Sound	No	5,429
(FM-08)8-16	1111 KILLARNEY AVE	Grass Esmt	48	8.9	No	Pick	Fiberglas	Sound	No	5,904
(FM-08)817	1111 TALL PINES DR	Grass Esmt	48	5.7	No	Pick	Fiberglas	Sound	No	6,048
(FM-08)818	1203 TALL PINES DR	Grass Esmt	48	4.5	No	Pick	Fiberglas	Sound	No	3,312
(FM-08)819	1203 TALL PINES DR	Not Found	48	4.2	No	Pick	Fiberglas	Sound	No	12,096
(FM-08)820-8	201 HOLLY SPRINGS DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)821	1211 HOLLY SPRINGS DR	Grass Esmt	48	3.2	Yes	Pick	Fiberglas	Sound	No	26,496
(FM-08)822	1211 HOLLY SPRINGS DR	Grass Esmt	48	1.7	No	Pick	Fiberglas	Sound	Yes	10,037
(FM-08)824	702 GREENBRIAR AVE	Grass Esmt	48	8.4	No	Pick	Poured	Sound	No	5,688
(FM-08)825	206 GREENBRAIR AVE	Grass Esmt	48	8.3	No	Pick	Fiberglas	Sound	No	38,304

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)826	207 PINE WILLOW CT	Grass Esmt	48	5.2	No	Pick	Fiberglass	Sound	No	3,600
(FM-08)827	707 PINE HOLLOW DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)828	201 PINE WILLOW CT	Grass Esmt	48	7.9	No	Pick	Fiberglass	Sound	No	6,310
(FM-08)83	2005 COUNTY RD 149	Paved Esmt	52	12.1	No	Concealed	Precast	Sound	No	
(FM-08)831	207 HOLLY SPRINGS DR	Grass Esmt	48	3.7	No	Pick	Fiberglass	Sound	No	6,336
(FM-08)8-31	121 DEL MONTE	Paved Esmt	48	10.3	No	Pick	Precast	Sound	No	2,880
(FM-08)832	911 PINE HOLLOW DR	Grass Esmt	48	7.5	No	Pick	Fiberglass	Sound	No	12,341
(FM-08)833	1003 PINE HOLLOW DR	Grass Esmt	48	6.3	No	Pick	Fiberglass	Sound	No	3,960
(FM-08)834	1009 PINE HOLLOW DR	Grass Esmt	48	6.2	No	Pick	Fiberglass	Sound	No	3,600
(FM-08)835	1107 PINE HOLLOW DR	Grass Esmt	48	5.9	No	Pick	Fiberglass	Sound	No	3,600
(FM-08)836	1203 PINE HOLLOW DR	Grass Esmt	48	4.8	No	Pick	Fiberglass	Sound	No	9,144
(FM-08)837	202 PINE WILLOW CT	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)838	909 PINE HOLLOW DR	Grass Esmt	48	8.3	No	Pick	Fiberglass	Sound	No	5,400
(FM-08)838-8	205 HOLLY SPRINGS DR	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)83A	2024 COUNTY RD 149	Gutter	52	10.6	No	Pick	Precast	Sound	No	1,440
(FM-08)840	201 GREENBRIAR AVE	Grass Esmt	48	9.7	No	Pick	Fiberglass	Sound	No	7,848
(FM-08)841	201 GREENBRIAR AVE	Grass Esmt	48	10.3	No	Pick	Fiberglass	Sound	Yes	2,880
(FM-08)841A	201 GREENBRIAR AVE	Grass Esmt	48	8.9	No	Concealed	Fiberglass	Leaking Joints	No	21,240
(FM-08)842	202 SUNSET DR	Grass Esmt	48	5.6	No	Pick	Fiberglass	Sound	No	2,232
(FM-08)844	913 FM 2351	Grass Esmt	48	9.3	No	Pick	Fiberglass	Sound	No	22,176
(FM-08)845	1007 FM 2351	Grass Esmt	48	7.5	No	Pick	Fiberglass	Sound	Yes	11,016
(FM-08)846	1101 W EDGEWOOD DR	Grass Esmt	48	5.4	No	Pick	Fiberglass	Sound	No	3,862
(FM-08)846A	1005 FM 2351	Grass Esmt	48	7.4	No	Pick	Fiberglass	Sound	Yes	16,632
(FM-08)847	1105 FM 2351	Grass Esmt	48	4.4	No	Pick	Fiberglass	Sound	No	12,096
(FM-08)848	1201 W EDGEWOOD DR	Grass Esmt	48	4.3	No	Pick	Precast	Sound	No	720

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)849	2116 COUNTY RD 129	Grass Esmt	48	3.6	No	Pick	Precast	Sound	No	4,896
(FM-08)85	710 GREENBRIAR AVE	Grass Esmt	48	6.8	No	Pick	Poured	Sound	No	1,152
(FM-08)850	100 WESTFIELD LN	Grass Esmt	48	6.9	No	Pick	Precast	Sound	No	1,152
(FM-08)851	1102 W EDGEWOOD DR	Grass Esmt	48	6.5	No	Pick	Poured	Sound	No	72
(FM-08)852	1106 FM 2351	Grass Esmt	48	5.6	No	Pick	Precast	Sound	No	3,888
(FM-08)853	865 FM 2351	Grass Esmt	48	10.2	No	Concealed	Precast	Sound	Yes	
(FM-08)855	101 RUSTIC LN	Grass Esmt	48	9.4	No	Pick	Precast	Sound	No	3,888
(FM-08)856	801 W EDGEWOOD DR	Grass Esmt	48	9.3	No	Pick	Precast	Sound	Yes	72
(FM-08)858	902 CLOVER RIDGE AVE	Ditch	48	8.3	No	Concealed	Fiberglas	Sound	No	7,200
(FM-08)859	904 CLOVER RIDGE AVE	Ditch	48	7.4	No	Concealed	Fiberglas	Sound	No	13,205
(FM-08)860	810 MEADOW LARK AVE	Grass Esmt	48	6.7	No	Concealed	Fiberglas	Sound	No	2,520
(FM-08)861	2591 CLOVER RIDGE AVE	Ditch	48	8.4	No	Concealed	Fiberglas	Sound	No	7,920
(FM-08)862	2591 CLOVER RIDGE AVE	Ditch	48	7.5	No	Concealed	Fiberglas	Cracked	No	8,582
(FM-08)863	100 WESTFIELD LN	Gutter	48	6.4	No	Concealed	Fiberglas	Cracked	No	13,856
(FM-08)863A	100 WESTFIELD LN	Ditch	48	5.2	No	Concealed	Fiberglas	Sound	No	7,433
(FM-08)863B	1006 CLOVER RIDGE AVE	Grass Esmt	48	5.8	No	Concealed	Precast	Sound	No	
(FM-08)865	701 FM 2351	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)866	902 PINE HOLLOW DR	Grass Esmt	48	9.5	No	Pick	Fiberglas	Sound	No	5,112
(FM-08)867	403 CHESTER DR	Not Found	48	5.2	No	Pick	Precast	Sound	No	2,376
(FM-08)868	405 CHESTER DR	Grass Esmt	48	4.2	No	Pick	Precast	Cracked	No	16,056
(FM-08)870	703 HAVEN CT	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)871	707 FM 2351	Grass Esmt	48	8.0	No	Pick	Poured	Sound	Yes	6,912
(FM-08)872	907 FM 2351	Grass Esmt	48	10.3	No	Pick	Fiberglas	Sound	No	5,112
(FM-08)873	703 EDGEWOOD DR	Grass Esmt	48	8.0	No	Pick	Poured	Sound	Yes	4,896
(FM-08)874	1001 N SUNSET DR	Paved Esmt	48	6.4	No	Pick	Poured	Sound	No	2,952

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Depth (ft.)	Subj. Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
(FM-08)875	703 E HAVEN CT	Not Found	48	6.8	No	Pick	Poured	Sound	No	3,096
(FM-08)876	706 FLAMINGO CT	Grass Esmt	48	8.2	No	Pick	Poured	Sound	No	5,921
(FM-08)877	704 FLAMINGO CT	Grass Esmt	48	7.0	No	Pick	Poured	Sound	No	1,152
(FM-08)878	706 FLAMINGO CT	Grass Esmt	48	6.9	No	Pick	Poured	Sound	Yes	1,152
(FM-08)879	705 FERNDAL CT	Not Found	N/A	N/A	No	N/A	N/A	N/A	No	
(FM-08)880	705 FERNDAL CT	Paved Esmt	48	8.2	No	Pick	Poured	Sound	No	3,888
(FM-08)881	706 TROPICANA CT	Paved Esmt	48	5.1	No	Pick	Poured	Sound	No	3,888
(FM-08)882	711 FERNDAL CT		48	8.1	No	Pick	Poured	Leaking Joints	No	4,032
(FM-08)883	702 ALADDIN CT	Not Found	48	7.8	No	Pick	Poured	Sound	No	3,888
(FM-08)884	710 ALADDIN CT	Paved Esmt	48	5.0	No	Pick	Poured	Sound	No	1,152
(FM-08)885	704 EXCALIBUR CT	Not Found	48	7.6	No	Pick	Poured	Sound	No	3,888
(FM-08)886	711 EXCALIBUR CT	Paved Esmt	48	5.4	No	Pick	Poured	Sound	No	5,688
(FM-08)887	703 MIRAGE CT	Grass Esmt	48	6.7	No	Pick	Poured	Leaking Joints	No	4,968
(FM-08)888	702 JULIABORA CT	Grass Esmt	48	7.8	No	Pick	Poured	Sound	No	3,888
(FM-08)889	704 MIRAGE CT	Paved Esmt	48	6.9	No	Pick	Poured	Sound	No	2,952
(FM-08)890	706 MIRAGE CT	Paved Esmt	48	5.5	No	Pick	Poured	Sound	No	1,152
(FM-08)891	704 TROPICANA CT	Grass Esmt	48	8.3	No	Pick	Poured	Sound	No	3,888
(FM-08)892	706 JULIABORA CT	Paved Esmt	48	4.5	No	Pick	Poured	Sound	No	6,696
(FM-08)9-16	1017 KILLARNEY AVE	Paved Esmt	48	8.7	No	Pick	Fiberglass	Sound	No	9,576
(FM-08)9-31	105 DEL MONTE DR	Paved Esmt	48	7.3	No	Pick	Poured	Sound	No	1,872
(FM-08)97	1104 COWARDS CREEK	Grass Esmt	48	8.3	No	Pick	Precast	Sound	No	3,888

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Subj. Depth (ft.)	Pond.	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
Totals for Basin FM-08										1,078,079
Total Manholes		196	Percent:							
Manholes Inspected		170	Inspected		86.73%					
Manholes Not Inspected		26	Not Inspected		13.27%					
Manholes Buried		8	Buried		4.08%					
Manholes Not Found		7	Not Found		3.57%					
Manholes Inaccessible		11	Inaccessible		5.61%					
Location Not Specified		25								
Evidence of Surcharge		22	Surcharge		11.22%					
Subject to Ponding		8	Ponding		4.08%					
Subject to Sheeting		74	Sheeting		37.76%					

Manhole Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Manhole Number	Address /Street	Location	Manhole Diam. (in.)	Subj. Depth (ft.)	Cover Type	Wall Const.	Wall Condition	Surcharge Evidence	Inflow (gpd)
Totals for All Basins									
Total Manholes	196								
Manholes Inspected	170								
Manholes Not Inspected	26								
Manholes Buried	8								
Manholes Not Found	7								
Manholes Inaccessible	11								
Location Not Specified	31								
Evidence of Surcharge	22								
Subject to Ponding	8								
Subject to Sheeting	74								

Total Infiltration =	0
Total Inflow =	1,078,079

APPENDIX B

VISUAL PIPE INSPECTIONS REPORT

Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 10-16	(FM-08) 11	2. NE-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.9
	(FM-08) 4-16	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.1
(FM-08) 10-31	(FM-08) 105	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.1	7.1
	(FM-08) 9-31	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.1	7.1
(FM-08) 105	(FM-08) 10-31	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	7.1
(FM-08) 106	(FM-08)	4. SE-In	15	PVC	No	N/A	N/A	Good	0	4.0	2.0	7.0
	(FM-08) 795	1. NW-Out	15	PVC	No	N/A	N/A	Good	0	6.0	1.5	7.8
	(FM-08) 796	2. E-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.1	7.2
	(FM-08) SVC	5. SW-In	8	Cast Iron	No	N/A	N/A	Good	0	4.0	0.2	7.4
	(FM-08) SVC	3. E-In	6	PVC	No	N/A	4.0	Good	0	N/A	N/A	4.3
(FM-08) 11	(FM-08) 10-16	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.4
	(FM-08) SVC	3. SE-In	6	Vitrified Clay	No	N/A	N/A	Good	0	N/A	N/A	5.2
	(FM-08) SVC	2. N-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.2
(FM-08) 1-16	(FM-08) 2-16	2. SE-In	18	PVC	No	N/A	N/A	Good	0	6.0	2.0	11.9
	(FM-08) 32	4. NW-In	12	PVC	No	N/A	N/A	Good	0	4.0	1.5	17.1
	(FM-08) Lift station	1. NE-Out	18	PVC	No	N/A	N/A	Good	0	12.0	0.1	17.1
	(FM-08) SVC	3. SW-In	4	PVC	No	N/A	N/A	Good	0	0.3	0.8	6.1
	(FM-08) 13	4. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.7	7.4
(FM-08) 12	(FM-08) 15	2. NE-In	8	PVC	No	N/A	N/A	Good	0	0.1	0.1	7.4
	(FM-08) 17	3. SE-In	10	PVC	No	N/A	N/A	Good	0	1.0	0.1	7.4
	(FM-08) 9-16	1. NW-Out	10	PVC	No	N/A	2.0	Good	0	2.0	0.5	7.7
	(FM-08) 2-29	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.8	0.6	10.2
(FM-08) 1-29	(FM-08) Lift station	1. N-Out	8	PVC	No	N/A	N/A	Good	0	0.8	0.6	10.3

1. "SVC"-Service Lateral/Building Lateral Connection
2. "EOL" -End of Line or Line has no Structure Connection

Monday, December 12, 2016

Page 1 of 20

Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 13	(FM-08) 12	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.4	5.4
	(FM-08) 14	3. SW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	4.0
	(FM-08) SVC	2. SE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.2
	(FM-08) SVC	4. W-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.3
(FM-08) 14	(FM-08) 13	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.8	0.4	4.6
	(FM-08) SVC	3. W-In	6	PVC	No	N/A	N/A	Good	0	0.5	0.5	4.4
	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.4
(FM-08) 15	(FM-08) 12	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.5	5.5
	(FM-08) 16	3. NE-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.5	5.4
	(FM-08) SVC	2. NW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.9
(FM-08) 16	(FM-08) 15	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	4.9
	(FM-08) SVC	2. N-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.2	4.4
	(FM-08) SVC	3. E-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.2	4.6
(FM-08) 17	(FM-08) 12	1. NW-Out	10	PVC	No	N/A	N/A	Good	0	0.8	0.5	7.0
	(FM-08) 18A	4. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.8
	(FM-08) 20	2. NE-In	8	PVC	No	N/A	N/A	Good	0	0.1	0.2	6.6
	(FM-08) 22	3. SE-In	10	PVC	No	N/A	N/A	Good	0	0.5	0.5	6.9
(FM-08) 18	(FM-08) 18A	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	5.0
	(FM-08) 19	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	4.9
	(FM-08) SVC	3. NW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.8
(FM-08) 19	(FM-08) 18	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	5.6
	(FM-08) SVC	3. W-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.2
	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.1

1. "SVC"-Service Lateral/Building Lateral Connection
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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 19	(FM-08) SVC	4. W-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.3
(FM-08) 21	(FM-08) 20	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.0
	(FM-08) SVC	2. NW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	2.6
(FM-08) 22	(FM-08) 17	1. NW-Out	10	PVC	No	N/A	N/A	Good	0	1.0	1.0	6.7
	(FM-08) 23	4. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	6.4
	(FM-08) 25	2. NE-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	6.5
	(FM-08) 27	3. SE-In	10	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.3
(FM-08) 2-29	(FM-08) 1-29	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.8	0.6	10.3
	(FM-08) 3-29	2. NW-In	8	PVC	No	N/A	N/A	Good	0	0.8	0.6	10.3
(FM-08) 23	(FM-08) 23A	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	2.0	0.8	4.7
	(FM-08) 24	2. SW-In	8	PVC	No	N/A	N/A	Good	0	3.0	0.8	4.5
	(FM-08) SVC	3. NW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.0
(FM-08) 2-31	(FM-08) 1-31	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.9
	(FM-08) SVC	2. SE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.0
	(FM-08) SVC	3. SW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.2
(FM-08) 245	(FM-08) 245A	1. SE-Out	8	N/A	No	N/A	N/A	Good	0	2.0	0.2	6.2
	(FM-08) 867	3. NW-In	8	N/A	No	N/A	N/A	Good	0	2.0	0.2	6.2
	(FM-08) SVC	2. SW-In	8	N/A	No	N/A	N/A	Good	0	1.0	0.2	6.1
(FM-08) 245A	(FM-08) 245	2. NW-In	8	N/A	No	N/A	N/A	Good	0	1.5	0.5	7.1
(FM-08) 245B	(FM-08) 871	1. SW-Out	8	N/A	No	N/A	N/A	Good	0	3.0	0.5	7.2
(FM-08) 25	(FM-08) 23A	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	1.0	0.5	4.7
	(FM-08) 26	3. NE-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.5	4.7
	(FM-08) SVC	2. N-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.8

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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 26	(FM-08) 25	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.4	4.5
	(FM-08) EOL	3. NE-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.4	4.5
	(FM-08) SVC	2. NE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.1
	(FM-08) SVC	4. E-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.2
(FM-08) 27	(FM-08) 22	1. NW-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.2	5.3
	(FM-08) 28	2. NE-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.2	5.3
(FM-08) 28	(FM-08) 27	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	0.5	N/A	3.5
	(FM-08) EOL	2. NE-In	8	PVC	No	N/A	N/A	Good	0	0.5	N/A	3.4
(FM-08) 29	(FM-08) 30	2. SE-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	8.0
	(FM-08) 7	1. NW-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	8.0
(FM-08) 31	(FM-08) 30	1. NW-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.3
	(FM-08) SVC	2. SW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	2.5
(FM-08) 32	(FM-08) 1-16	1. SE-Out	12	PVC	No	N/A	N/A	Good	0	3.0	0.1	15.6
	(FM-08) 2882	2. SW-In	12	PVC	No	N/A	N/A	Good	0	3.0	0.1	15.5
(FM-08) 3-29	(FM-08) 2-29	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.6	6.2
	(FM-08) 4-29	2. NW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.6	6.0
(FM-08) 33	(FM-08) 8-31	1. NW-Out	8	N/A	No	N/A	N/A	Good	0	N/A	N/A	1.0
(FM-08) 38	(FM-08) 859	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.1	6.5
	(FM-08) EOL	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.1	6.5
(FM-08) 4-29	(FM-08) 3-29	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	5.1
	(FM-08) SVC	2. W-In	6	PVC	No	N/A	N/A	Good	0	0.3	0.1	5.1
	(FM-08) SVC	3. N-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.1
(FM-08) 4-31	(FM-08) 8-31	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	11.7

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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 4-31	(FM-08) 83A	5. NW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.2	11.7
	(FM-08) EOL	2. SE-In	8	PVC	No	N/A	N/A	Good	0	0.1	N/A	11.6
	(FM-08) EOL	4. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	11.7
	(FM-08) SVC	3. SE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.1
(FM-08) 45	(FM-08) 768	2. SE-In	15	PVC	No	N/A	N/A	Good	0	3.0	2.0	9.3
	(FM-08) 769	1. NE-Out	18	PVC	No	N/A	N/A	Good	0	6.0	2.0	9.6
	(FM-08) 771	4. W-In	10	PVC	No	N/A	N/A	Good	0	0.3	0.7	9.0
	(FM-08) 97	5. NW-In	15	PVC	No	N/A	N/A	Good	0	2.0	1.0	8.9
	(FM-08) SVC	3. SW-In	8	PVC	No	N/A	N/A	Good	0	0.1	0.3	8.0
(FM-08) 5-16	(FM-08) 4-16	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	0.1	0.2	6.3
	(FM-08) 6-16	2. NE-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.1	6.4
(FM-08) 5-31	(FM-08) 1-31	2. SW-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.2	10.6
	(FM-08) 8-31	3. NW-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.4	10.7
	(FM-08) Lift station	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	2.0	0.5	10.7
(FM-08) 575A	(FM-08) 575	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.8	0.1	5.3
	(FM-08) 782	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	1.0	0.4	5.4
	(FM-08) 783	3. NW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.1	5.3
(FM-08) 614	(FM-08) 802	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.9
	(FM-08) SVC	2. NE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	1.7
(FM-08) 6-16	(FM-08)	2. NE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.1
	(FM-08) 5-16	1. SW-Out	8	PVC	Yes	N/A	N/A	No Visual	0	0.3	N/A	4.8
(FM-08) 6-31	(FM-08) 83	1. NE-Out	12	PVC	No	N/A	N/A	Good	0	3.0	N/A	9.1
	(FM-08) EOL	3. NW-In	12	PVC	No	N/A	N/A	Good	0	3.0	N/A	9.0

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Monday, December 12, 2016

Page 5 of 20

Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 6-31	(FM-08) EOL	2. SW-In	12	PVC	No	N/A	N/A	Good	0	3.0	N/A	9.1
(FM-08) 680	(FM-08) 875	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.3
	(FM-08) SVC	2. W-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.0
	(FM-08) SVC	3. NW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.0
(FM-08) 718	(FM-08) 825	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	4.0	1.0	8.9
	(FM-08) 837	4. NE-In	10	N/A	No	N/A	N/A	Good	0	0.5	0.4	8.7
	(FM-08) 838	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.8	0.4	8.9
	(FM-08) 866	3. NW-In	15	N/A	No	N/A	N/A	Good	0	2.5	0.7	8.8
(FM-08) 751	(FM-08) 751A	1. SE-Out	15	PVC	No	N/A	N/A	Good	0	1.0	0.5	9.4
	(FM-08) 858	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	9.3
	(FM-08) 860	3. NW-In	15	PVC	No	N/A	N/A	Good	0	1.0	0.5	9.3
	(FM-08) SVC	4. NE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.3
(FM-08) 751A	(FM-08) 751	2. NW-In	15	PVC	No	N/A	N/A	Good	0	2.0	0.2	10.3
	(FM-08) 855	1. SE-Out	15	PVC	No	N/A	N/A	Good	0	2.0	0.2	10.5
	(FM-08) SVC	3. NE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.3
	(FM-08) SVC	4. NE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.2
(FM-08) 760	(FM-08) 2515	1. NE-Out	22	PVC	No	N/A	N/A	Good	0	7.0	2.0	11.9
	(FM-08) 761	3. W-In	22	PVC	No	N/A	N/A	Good	0	7.0	2.0	11.8
	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	8.2
(FM-08) 761	(FM-08) 762	2. SW-In	24	PVC	No	N/A	N/A	Good	0	5.0	2.0	11.8
	(FM-08) 760	1. SE-Out	24	PVC	No	N/A	N/A	Good	0	5.0	2.0	11.7
(FM-08) 762	(FM-08) 761	1. NE-Out	22	PVC	No	N/A	N/A	Good	0	6.0	2.0	11.6
	(FM-08) 763C	2. SW-In	22	PVC	No	N/A	N/A	Good	0	6.0	2.0	11.7

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Visual Pipe Inspection Report

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Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 763A	(FM-08) 763	2. SW-In	22	PVC	No	N/A	N/A	Good	0	5.0	1.5	8.8
	(FM-08) 763B	1. NE-Out	22	PVC	No	N/A	N/A	Good	0	5.0	1.5	8.9
(FM-08) 763B	(FM-08) 763A	3. SW-In	22	PVC	No	N/A	N/A	Good	0	6.0	1.5	8.4
	(FM-08) 763C	1. NE-Out	22	PVC	No	N/A	N/A	Good	0	6.0	2.0	8.3
	(FM-08) SVC	2. SW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.3
(FM-08) 763C	(FM-08) 762	1. NE-Out	22	PVC	No	N/A	N/A	Good	0	6.0	2.0	8.5
	(FM-08) 763B	2. SW-In	22	PVC	No	N/A	N/A	Good	0	6.0	2.0	8.5
(FM-08) 764	(FM-08) 763	1. NE-Out	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	10.1
	(FM-08) 765	3. SW-In	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	10.0
	(FM-08) SVC	4. NW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.3
	(FM-08) SVC	2. S-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	7.8
(FM-08) 766	(FM-08) 764	1. NE-Out	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	10.0
	(FM-08) 766	3. SW-In	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	10.0
	(FM-08) SVC	2. SE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.7
(FM-08) 767	(FM-08) 766	1. NE-Out	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	9.7
	(FM-08) 769	3. SW-In	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	9.7
	(FM-08) SVC	4. NW-In	6	PVC	No	N/A	N/A	Good	0	1.0	0.1	8.1
	(FM-08) SVC	2. SE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	7.7
(FM-08) 768	(FM-08) 45	1. NW-Out	15	PVC	No	N/A	N/A	Good	0	6.0	1.0	7.4
	(FM-08) 778	2. SE-In	15	PVC	No	N/A	N/A	Good	0	6.0	1.0	7.3
(FM-08) 769	(FM-08) 45	2. SW-In	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	9.6
	(FM-08) 767	1. NE-Out	24	PVC	No	N/A	N/A	Good	0	10.0	2.0	9.6
(FM-08) 771	(FM-08) 45	1. E-Out	10	N/A	No	N/A	N/A	Good	0	0.5	0.5	8.5

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 771	(FM-08) 772	2. W-In	10	N/A	No	N/A	2.0	Good	0	0.5	0.5	8.5
(FM-08) 772	(FM-08) 771	1. E-Out	10	N/A	No	N/A	5.0	Good	0	2.0	0.3	8.1
	(FM-08) 773	3. SW-In	10	N/A	No	N/A	N/A	Good	0	2.0	0.3	7.9
	(FM-08) SVC	2. S-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.1
	(FM-08) 774	1. NE-Out	10	N/A	No	N/A	N/A	Good	0	0.8	0.4	8.0
(FM-08) 775	(FM-08) 776	3. SW-In	10	N/A	No	N/A	N/A	Good	0	0.8	0.4	7.9
	(FM-08) SVC	2. E-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.4
	(FM-08) 775	1. NE-Out	10	N/A	No	N/A	N/A	Good	0	0.1	0.2	6.7
(FM-08) 776	(FM-08) 777	2. SW-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.2	6.6
	(FM-08) 778	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	1.0	0.1	4.3
(FM-08) 780	(FM-08) 781	3. SW-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.1	4.3
	(FM-08) SVC	2. S-In	6	N/A	No	N/A	N/A	Good	0	0.3	0.4	4.1
	(FM-08) 780	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	N/A	3.8
(FM-08) 781	(FM-08) SVC	4. N-In	6	N/A	No	N/A	N/A	Good	0	0.1	N/A	3.8
	(FM-08) SVC	3. W-In	6	N/A	No	N/A	N/A	Good	0	0.3	N/A	3.8
	(FM-08) SVC	2. S-In	6	N/A	No	N/A	N/A	Good	0	0.5	N/A	3.8
	(FM-08) 575A	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	4.7
(FM-08) 783	(FM-08) EOL	2. NW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.5	4.7
	(FM-08) 779	1. NW-Out	15	PVC	No	N/A	N/A	Good	0	12.0	0.6	8.1
(FM-08) 786	(FM-08) 85	3. SE-In	15	PVC	No	N/A	N/A	Good	0	12.0	0.6	8.1
	(FM-08) SVC	2. E-In	6	PVC	No	N/A	N/A	Good	0	0.3	0.3	5.7
	(FM-08) 787	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.1	4.7
(FM-08) 787A	(FM-08) EOL	3. NE-In	6	PVC	No	N/A	N/A	Good	0	0.1	N/A	4.6

1. "SVC"-Service Lateral/Building Lateral Connection
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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 787A	(FM-08) SVC	2. NW-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.2	4.6
(FM-08) 789	(FM-08) 790	2. SW-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.7	6.6
	(FM-08) 85	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	1.0	0.5	6.6
(FM-08) 790	(FM-08) 789	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	5.2
	(FM-08) 792	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	5.2
(FM-08) 792	(FM-08) 790	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.1	5.2
	(FM-08) 792A	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.1	5.2
(FM-08) 792A	(FM-08) 792	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	5.4
	(FM-08) 792B	3. NW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	5.4
(FM-08) 792B	(FM-08) EOL	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.4
	(FM-08) 792A	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.3
(FM-08) 792C	(FM-08) 792C	2. NW-In	8	PVC	No	N/A	N/A	Good	0	0.1	0.2	5.2
	(FM-08) 792B	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.3
(FM-08) 792D	(FM-08) 792D	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.2
	(FM-08) 792C	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	2.3
(FM-08) 792E	(FM-08) 792E	2. W-In	8	PVC	No	N/A	N/A	Good	0	0.1	N/A	2.2
	(FM-08) 792D	1. E-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	2.8
(FM-08) 792F	(FM-08) 792F	3. NW-In	8	PVC	No	N/A	N/A	Good	0	0.3	0.3	2.9
	(FM-08) SVC	2. W-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	2.8
(FM-08) 792F	(FM-08) 792E	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.1	N/A	3.2
	(FM-08) SVC	2. SW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.0
(FM-08) 794	(FM-08) 824	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	7.6
	(FM-08) EOL	3. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	7.4

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 794	(FM-08) SVC	2. SE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	7.3
(FM-08) 795	(FM-08) 106	2. SE-In	15	PVC	No	N/A	N/A	Good	0	10.0	0.5	7.0
	(FM-08) 824	3. SW-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.1	6.7
	(FM-08) 85	1. NW-Out	15	PVC	No	N/A	N/A	Good	0	10.0	0.5	7.1
	(FM-08) 106	1. W-Out	8	N/A	No	N/A	1.5	Good	0	2.0	0.1	7.8
(FM-08) 796	(FM-08) 797	2. NE-In	8	N/A	No	N/A	1.0	Good	0	2.0	0.1	7.8
	(FM-08) SVC	3. NE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.8
	(FM-08) 796	1. SW-Out	10	N/A	No	N/A	N/A	Good	0	1.5	0.3	7.3
(FM-08) 797	(FM-08) 798	2. SE-In	10	N/A	No	N/A	N/A	Good	0	1.5	0.3	7.1
	(FM-08) 797	1. NW-Out	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	6.3
(FM-08) 798	(FM-08) 799	2. NE-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.4	6.3
	(FM-08) SVC	3. SE-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.2	4.9
	(FM-08) SVC	4. SW-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.2	4.9
	(FM-08) 798	1. SW-Out	10	PVC	No	N/A	1.5	Good	0	0.8	0.2	6.6
	(FM-08) 800	3. SE-In	6	N/A	No	N/A	N/A	Good	0	0.5	0.3	6.7
(FM-08) 799	(FM-08) 802	2. NE-In	8	N/A	No	N/A	N/A	Good	0	0.1	0.2	6.1
	(FM-08) 799	1. NW-Out	8	N/A	No	N/A	N/A	Good	0	4.0	0.4	5.4
	(FM-08) 803	2. NE-In	8	N/A	No	N/A	N/A	Good	0	3.0	0.4	5.4
	(FM-08) SVC	3. SE-In	4	PVC	No	N/A	N/A	Good	0	0.3	N/A	3.5
	(FM-08) SVC	5. W-In	4	PVC	No	N/A	N/A	Good	0	1.5	1.0	3.3
	(FM-08) SVC	4. S-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.1
(FM-08) 803	(FM-08) 800	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	0.1	0.1	6.9
	(FM-08) SVC	2. NE-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.4	2.7

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 805	(FM-08) 807	2. NW-In	15	N/A	No	N/A	N/A	Good	0	5.0	1.0	8.2
	(FM-08) 97	1. SE-Out	15	PVC	No	N/A	N/A	Good	0	5.0	1.0	8.3
(FM-08) 806	(FM-08) 807	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	3.0	1.0	9.0
	(FM-08) 825	2. NW-In	15	N/A	No	N/A	N/A	Good	0	3.0	1.0	8.9
(FM-08) 807	(FM-08) 805	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	5.0	3.0	8.6
	(FM-08) 806	3. NW-In	15	N/A	No	N/A	N/A	Good	0	2.0	1.0	8.6
	(FM-08) 808	4. NE-In	10	PVC	No	N/A	N/A	Good	0	1.0	0.5	8.5
	(FM-08) 814	2. SW-In	10	PVC	No	N/A	N/A	Good	0	2.0	3.0	8.4
(FM-08) 808	(FM-08) 807	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	0.8	0.7	7.1
	(FM-08) 809	2. NE-In	10	PVC	No	N/A	N/A	Good	0	1.0	0.5	7.1
	(FM-08) SVC	3. E-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	0.0
(FM-08) 809	(FM-08) 808	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	1.0	0.1	6.1
	(FM-08) 810	2. NE-In	10	PVC	No	N/A	N/A	Good	0	2.0	0.7	6.1
(FM-08) 811	(FM-08) 810	1. SW-Out	10	PVC	No	N/A	2.0	Good	0	2.0	0.4	4.4
	(FM-08) 812	3. NE-In	10	PVC	No	N/A	2.0	Good	0	2.0	0.4	4.1
	(FM-08) SVC	2. NW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.8
(FM-08) 812	(FM-08) 811	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	0.8	0.1	3.4
	(FM-08) 813	3. NE-In	10	PVC	No	N/A	N/A	Good	0	0.8	0.1	3.6
	(FM-08) SVC	2. NW-In	6	PVC	Yes	N/A	N/A	Circular Cracks	0	0.5	0.1	3.4
(FM-08) 813	(FM-08) 812	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	0.3	0.5	3.4
	(FM-08) SVC	3. E-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.2
	(FM-08) SVC	2. NW-In	6	PVC	No	N/A	N/A	Good	0	0.3	0.5	3.3
(FM-08) 814	(FM-08) 816	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	1.0	0.5	7.6

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 814	(FM-08) 818	2. SW-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.5	7.5
	(FM-08) SVC	3. N-In	6	PVC	No	N/A	N/A	Good	0	0.1	1.0	4.1
(FM-08) 815	(FM-08) 814	1. NE-Out	10	PVC	No	N/A	N/A	Good	0	1.3	1.5	7.2
	(FM-08) 816	2. SW-In	10	PVC	No	N/A	N/A	Good	0	1.3	1.5	7.2
(FM-08) 816	(FM-08) 815	1. NE-Out	10	PVC	No	N/A	N/A	Good	0	1.3	1.0	6.6
	(FM-08) 817	2. SW-In	10	PVC	No	N/A	N/A	Good	0	1.0	1.0	6.5
	(FM-08) SVC	3. NW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.5
(FM-08) 8-16	(FM-08) 7	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	1.0	0.7	9.0
	(FM-08) 9-16	2. NE-In	10	PVC	No	N/A	N/A	Good	0	1.0	0.7	8.9
(FM-08) 817	(FM-08) 816	1. NE-Out	10	PVC	No	N/A	N/A	Good	0	1.0	0.7	5.7
	(FM-08) 818	2. SW-In	10	PVC	No	N/A	N/A	Good	0	1.0	0.7	5.7
(FM-08) 818	(FM-08) 817	1. NE-Out	10	PVC	No	N/A	N/A	Good	0	1.0	0.5	4.5
	(FM-08) 819	2. SW-In	10	PVC	No	N/A	N/A	Good	0	1.0	0.5	4.5
(FM-08) 819	(FM-08) 818	1. NE-Out	10	PVC	No	N/A	N/A	Good	0	0.5	0.7	4.3
	(FM-08) 821	2. W-In	10	PVC	No	N/A	N/A	Good	0	0.5	0.3	4.2
(FM-08) 821	(FM-08) 819	1. E-Out	10	PVC	No	N/A	N/A	Good	0	1.5	0.3	3.2
	(FM-08) 820-8	3. NW-In	10	PVC	No	N/A	N/A	Good	0	0.8	0.3	3.2
	(FM-08) 822	2. SW-In	10	PVC	No	N/A	N/A	Good	0	1.5	0.3	3.2
(FM-08) 822	(FM-08) 821	1. NE-Out	10	PVC	No	N/A	N/A	Good	0	1.5	N/A	1.8
	(FM-08) Lift Station	2. SW-In	4	PVC	No	N/A	N/A	No Visual	0	0.5	1.0	1.7
(FM-08) 824	(FM-08) 794	3. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	8.4
	(FM-08) 795	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	8.4
	(FM-08) SVC	2. SE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.4

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 825	(FM-08) 718	2. NW-In	15	N/A	No	N/A	N/A	Good	0	3.0	1.0	8.3
	(FM-08) 806	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	3.0	1.0	8.4
	(FM-08) SVC	3. NE-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.3	4.9
(FM-08) 826	(FM-08) 159-8	3. SE-In	8	N/A	No	N/A	N/A	Good	0	1.5	0.4	5.2
	(FM-08) 828	1. NW-Out	8	N/A	No	N/A	N/A	Good	0	1.0	0.8	5.3
	(FM-08) SVC	2. NE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.3
(FM-08) 828	(FM-08) 826	4. SE-In	8	N/A	No	N/A	N/A	Good	0	0.3	0.5	6.7
	(FM-08) 827	3. NE-In	8	N/A	No	N/A	N/A	Good	0	0.8	0.6	7.7
	(FM-08) 837	1. SW-Out	8	N/A	No	N/A	N/A	Good	0	1.5	0.5	7.9
	(FM-08) SVC	2. NW-In	4	N/A	No	N/A	N/A	Good	0	0.1	0.1	5.3
(FM-08) 83	(FM-08) 6-31	2. SW-In	12	PVC	No	N/A	N/A	Good	0	N/A	N/A	12.1
	(FM-08) 83A	1. SE-Out	12	PVC	No	N/A	N/A	Good	0	2.0	0.2	12.2
	(FM-08) EOL	3. NE-In	12	PVC	No	N/A	N/A	Good	0	2.0	N/A	12.0
(FM-08) 831	(FM-08) 836	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.1	0.2	3.7
	(FM-08) 838-8	2. SE-In	8	N/A	No	N/A	N/A	Good	0	0.1	0.2	3.7
(FM-08) 8-31	(FM-08) 4-31	2. SW-In	8	PVC	No	N/A	N/A	Good	0	2.0	0.5	10.3
	(FM-08) 5-31	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	2.5	0.5	10.4
	(FM-08) 9-31	3. NW-In	8	PVC	No	N/A	N/A	Good	0	1.5	0.5	10.3
(FM-08) 832	(FM-08) 833	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	7.5
	(FM-08) 838	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	7.6
(FM-08) 833	(FM-08) 832	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	0.7	6.4
	(FM-08) 834	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.7	6.3
(FM-08) 834	(FM-08) 833	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	6.2

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 834	(FM-08) 835	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	6.2
(FM-08) 835	(FM-08) 834	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	5.9
	(FM-08) 836	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	5.9
(FM-08) 836	(FM-08) 831	2. SW-In	8	N/A	No	N/A	N/A	Longitudinal Cracks	0	0.5	0.5	4.7
	(FM-08) 835	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	0.5	4.7
(FM-08) 838	(FM-08) 718	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.8	0.1	8.3
	(FM-08) 832	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.8	1.0	8.3
(FM-08) 83A	(FM-08) 4-31	1. SE-Out	12	PVC	No	N/A	N/A	Good	0	4.0	N/A	10.6
	(FM-08) 83	2. NW-In	12	PVC	No	N/A	N/A	Good	0	4.0	N/A	10.5
(FM-08) 840	(FM-08) 841	2. NW-In	15	N/A	No	N/A	N/A	Good	0	2.0	1.0	9.7
	(FM-08) 866	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	2.0	1.0	9.7
(FM-08) 841	(FM-08) 840	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	1.5	0.5	10.4
	(FM-08) 841A	4. NW-In	18	N/A	No	N/A	N/A	Good	0	1.5	0.5	10.3
	(FM-08) 853	5. NE-In	15	PVC	No	N/A	N/A	Good	0	1.5	0.5	10.2
	(FM-08) 872	3. SW-In	15	PVC	No	N/A	N/A	Good	0	1.5	0.2	10.1
	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.2
(FM-08) 841A	(FM-08) 841	1. SE-Out	18	N/A	No	N/A	N/A	Good	0	2.0	1.0	9.0
(FM-08) 842	(FM-08) 827	1. SW-Out	8	N/A	No	N/A	N/A	Good	0	N/A	N/A	5.7
(FM-08) 844	(FM-08) 845	2. SW-In	15	PVC	No	N/A	N/A	Good	0	2.0	1.0	9.0
	(FM-08) 872	1. NE-Out	15	PVC	No	N/A	N/A	Good	0	2.0	1.0	9.1
(FM-08) 845	(FM-08) 844	1. NE-Out	12	PVC	No	N/A	N/A	Good	0	9.0	0.6	7.6
	(FM-08) 846A	2. NW-In	12	PVC	No	N/A	4.0	Good	0	8.0	0.6	7.7
(FM-08) 846	(FM-08) 846A	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	5.4

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		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 846	(FM-08) 847	3. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	5.4
	(FM-08) SVC	2. SW-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	3.2
(FM-08) 847	(FM-08) 846	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.3	0.3	4.4
	(FM-08) 848	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.3	0.3	4.4
(FM-08) 848	(FM-08) 847	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.3	0.5	4.3
	(FM-08) 849	2. SW-In	8	N/A	No	N/A	N/A	Good	0	0.3	0.5	4.3
(FM-08) 849	(FM-08) 848	1. NE-Out	8	N/A	No	N/A	N/A	Good	0	0.5	N/A	3.7
(FM-08) 85	(FM-08) 786	1. NW-Out	15	PVC	No	N/A	N/A	Good	0	10.0	0.6	6.8
	(FM-08) 789	3. SW-In	8	PVC	No	N/A	N/A	Good	0	6.0	0.2	6.3
	(FM-08) 795	2. SE-In	15	PVC	No	N/A	N/A	Good	0	10.0	0.6	6.6
(FM-08) 850	(FM-08) 846A	1. SE-Out	12	PVC	No	N/A	N/A	Good	0	0.5	N/A	6.9
	(FM-08) 851	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	N/A	6.9
	(FM-08) 863	3. NW-In	12	PVC	No	N/A	N/A	Good	0	0.5	N/A	6.9
(FM-08) 851	(FM-08) 850	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.1	0.2	6.7
	(FM-08) 852	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.1	0.2	6.6
(FM-08) 852	(FM-08) 851	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.7
(FM-08) 853	(FM-08) 841	1. SW-Out	15	N/A	No	N/A	N/A	Good	0	1.5	0.4	10.3
	(FM-08) 855	2. NW-In	15	PVC	No	N/A	N/A	Good	0	1.5	0.2	10.4
	(FM-08) 856	3. NE-In	15	PVC	No	N/A	N/A	Good	0	1.5	0.4	10.4
(FM-08) 855	(FM-08) 751A	2. NW-In	15	PVC	No	N/A	N/A	Good	0	2.0	4.0	9.5
	(FM-08) 853	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	2.0	0.4	9.4
(FM-08) 858	(FM-08) 751	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	8.4
	(FM-08) 859	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	8.4

1. "SVC"-Service Lateral/Building Lateral Connection
2. "EOL" -End of Line or Line has no Structure Connection

Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 859	(FM-08) 38	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	7.4
	(FM-08) 858	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.3	7.4
	(FM-08) SVC	3. N-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	2.5
(FM-08) 860	(FM-08) 751	1. SE-Out	15	PVC	No	N/A	N/A	Good	0	0.5	0.5	6.8
	(FM-08) 861	2. SW-In	10	PVC	No	N/A	N/A	Good	0	0.5	0.5	6.7
(FM-08) 861	(FM-08) 860	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	8.4
	(FM-08) 862	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	8.4
	(FM-08) SVC	3. NE-In	4	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.1
(FM-08) 862	(FM-08) 861	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	7.5
	(FM-08) EOL	2. SW-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.5	7.5
(FM-08) 863	(FM-08) 850	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	0.8	0.3	6.4
	(FM-08) 863A	2. NW-In	10	PVC	No	N/A	N/A	Good	0	0.1	0.4	5.7
	(FM-08) SVC	3. NE-In	4	PVC	No	N/A	N/A	Good	0	0.3	0.4	2.6
(FM-08) 863A	(FM-08) 863	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	0.3	N/A	5.1
	(FM-08) EOL	2. NW-In	10	PVC	No	N/A	N/A	Good	0	0.3	N/A	5.1
(FM-08) 863B	(FM-08) 863A	1. SE-Out	12	PVC	No	N/A	N/A	Good	0	3.0	N/A	5.8
	(FM-08) UNK	2. NW-In	8	PVC	No	N/A	N/A	Good	0	3.0	N/A	5.2
(FM-08) 866	(FM-08) 718	1. SE-Out	15	N/A	No	N/A	N/A	Good	0	2.5	1.0	9.5
	(FM-08) 840	3. NW-In	15	N/A	No	N/A	N/A	Good	0	2.5	1.0	9.6
	(FM-08) SVC	2. W-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.1	2.7
(FM-08) 867	(FM-08) 245	1. SE-Out	8	N/A	No	N/A	N/A	Good	0	1.0	0.2	5.3
	(FM-08) 868	2. NW-In	8	N/A	No	N/A	N/A	Good	0	1.0	0.2	5.2
(FM-08) 868	(FM-08) 867	1. SE-Out	8	N/A	No	N/A	N/A	Good	0	N/A	N/A	4.3

1. "SVC"-Service Lateral/Building Lateral Connection
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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 872	(FM-08) 841	1. NE-Out	15	PVC	No	N/A	N/A	Good	0	2.0	1.0	10.3
	(FM-08) 844	3. SW-In	15	PVC	No	N/A	N/A	Good	0	2.0	1.0	10.3
	(FM-08) SVC	2. E-In	4	PVC	No	N/A	N/A	Good	0	2.0	1.0	2.8
(FM-08) 874	(FM-08) 889	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	0.1	0.1	6.7
	(FM-08) SVC	2. NW-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.0
	(FM-08) SVC	3. SE-In	4	PVC	No	N/A	N/A	Good	0	0.1	0.1	4.7
(FM-08) 875	(FM-08) 680	3. NW-In	8	PVC	No	N/A	N/A	Good	0	2.0	0.4	6.3
	(FM-08) 870	1. S-Out	10	PVC	No	N/A	N/A	Good	0	0.5	0.1	6.9
	(FM-08) SVC	2. SW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.0
(FM-08) 876	(FM-08) 870	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	0.5	0.4	8.4
	(FM-08) 878	3. NE-In	8	PVC	No	N/A	N/A	Good	0	0.1	0.1	7.4
	(FM-08) 879	2. NW-In	10	PVC	No	N/A	N/A	Good	0	0.5	0.4	8.2
(FM-08) 877	(FM-08) 878	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	7.0
	(FM-08) SVC	3. SE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.4
	(FM-08) SVC	2. N-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.3
(FM-08) 878	(FM-08) 876	1. SW-Out	8	PVC	No	N/A	N/A	Good	0	1.0	0.1	7.2
	(FM-08) 877	3. NE-In	8	PVC	No	N/A	N/A	Good	0	1.0	0.1	6.9
	(FM-08) SVC	4. S-In	6	PVC	No	N/A	N/A	Good	0	0.5	0.1	5.2
	(FM-08) SVC	2. NW-In	8	Concrete	No	N/A	N/A	No Visual	0	N/A	N/A	5.5
(FM-08) 880	(FM-08) 879	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	2.0	0.1	8.2
	(FM-08) 882	3. NE-In	10	PVC	No	N/A	N/A	Good	0	2.0	0.1	8.3
	(FM-08) SVC	2. NW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.4
(FM-08) 881	(FM-08) 891	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.2

1. "SVC"-Service Lateral/Building Lateral Connection
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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Type	Deposition Depth (in.)	Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction						Depth (in.)	Velocity (fps)	
(FM-08) 881	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.5
(FM-08) 882	(FM-08) 880	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	0.8	0.7	8.2
	(FM-08) 891	2. NW-In	10	PVC	No	N/A	N/A	Good	0	0.8	0.7	8.2
	(FM-08) SVC	3. SE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.5
(FM-08) 883	(FM-08) 884	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.5
	(FM-08) 885	3. NW-In	10	PVC	No	N/A	N/A	Good	0	0.3	0.2	7.8
	(FM-08) 888	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	0.3	0.2	7.8
	(FM-08) SVC	4. N-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.4	5.2
(FM-08) 884	(FM-08) 883	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.0
	(FM-08) SVC	2. SW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.6
(FM-08) 885	(FM-08) 883	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	1.0	N/A	7.5
	(FM-08) 886	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.7
	(FM-08) 887	3. NW-In	10	PVC	No	N/A	N/A	Good	0	1.5	N/A	7.6
	(FM-08) SVC	4. N-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.8
(FM-08) 886	(FM-08) 885	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.6
	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.6
(FM-08) 887	(FM-08) 885	1. SE-Out	8	Concrete	No	N/A	N/A	Good	0	2.0	N/A	6.8
	(FM-08) 889	2. NW-In	10	PVC	No	N/A	N/A	Good	0	2.0	N/A	6.8
(FM-08) 888	(FM-08) 883	3. NW-In	10	PVC	No	N/A	N/A	Good	0	0.5	0.2	7.8
	(FM-08) 891	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	0.5	0.2	7.8
	(FM-08) 892	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.2
	(FM-08) SVC	4. NW-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.1	4.7
(FM-08) 889	(FM-08) 874	4. NE-In	8	PVC	No	N/A	N/A	Good	0	2.0	N/A	6.9

1. "SVC"-Service Lateral/Building Lateral Connection
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Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----			Root Growth	Deposition		Structural Condition	Visual Infiltr. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction		Type	Depth (in.)			Depth (in.)	Velocity (fps)	
(FM-08) 889	(FM-08) 887	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	2.0	N/A	7.0
	(FM-08) 890	2. SW-In	8	Concrete	No	N/A	N/A	Good	0	2.0	N/A	6.9
	(FM-08) SVC	3. NW-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	4.7
(FM-08) 890	(FM-08) 889	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.3
	(FM-08) SVC	2. SE-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.1	5.1
	(FM-08) SVC	2. W-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.1
(FM-08) 891	(FM-08) 881	2. SW-In	8	PVC	No	N/A	N/A	Good	0	N/A	N/A	6.5
	(FM-08) 882	1. SE-Out	10	PVC	No	N/A	N/A	Good	0	1.0	0.4	8.2
	(FM-08) 888	3. NW-In	10	PVC	No	N/A	N/A	Good	0	1.5	0.4	8.2
	(FM-08) SVC	4. NE-In	6	PVC	No	N/A	N/A	Good	0	N/A	N/A	5.7
(FM-08) 892	(FM-08) 888	1. NE-Out	8	PVC	No	N/A	N/A	Good	0	0.3	0.5	4.9
	(FM-08) SVC	2. S-In	6	PVC	No	N/A	N/A	Good	0	0.3	0.4	4.3
(FM-08) 9-16	(FM-08) 10-16	3. NE-In	8	PVC	No	N/A	N/A	Good	0	0.5	0.4	8.7
	(FM-08) 12	4. SE-In	10	PVC	No	N/A	N/A	Good	0	0.3	0.4	8.7
	(FM-08) 8-16	1. SW-Out	10	PVC	No	N/A	N/A	Good	0	1.0	0.5	8.8
	(FM-08) SVC	2. NE-In	6	PVC	No	N/A	N/A	Good	0	0.1	0.2	5.5
(FM-08) 9-31	(FM-08) 10-31	2. NW-In	8	PVC	No	N/A	N/A	Good	0	0.2	N/A	7.4
	(FM-08) 8-31	1. SE-Out	8	PVC	No	N/A	N/A	Good	0	0.2	N/A	7.4
(FM-08) 97	(FM-08) 45	1. SE-Out	18	N/A	No	N/A	N/A	Good	0	4.0	1.0	8.3
	(FM-08) 805	2. NW-In	18	PVC	No	N/A	N/A	Good	0	4.0	1.0	8.3
Structural Condition												
Total Segments 434		Good	429	Long Crack	1	Collapsed 0						
Total Footage		Broken	0	Circular Crac	1	N/A 0						

1. "SVC"-Service Lateral/Building Lateral Connection
2. "EOL" -End of Line or Line has no Structure Connection

Visual Pipe Inspection Report

Project No. 18-2969-00 Friendswood Phase 2 SSES Year 1

Structure Number	Connecting Line Segment	-----PIPE-----				Deposition		Visual Infilt. (gpm)	Observed		Rim to Invert (ft.)
		Dir.	Diam (in.)	Construction	Root Growth	Type	Depth (in.)		Structural Condition	Depth (in.)	
Report Totals				<u>Structural Condition</u>							
Total Segments	434	Good	429	Long Crack	1	Collapsed	0				
Total Footage		Broken	0	Circular Crac	1	N/A	0				

1. "SVC"-Service Lateral/Building Lateral Connection
2. "EOL" -End of Line or Line has no Structure Connection

Monday, December 12, 2016

Page 20 of 20

APPENDIX C

SMOKE TESTING REPORT

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)10-16 - (FM-08)9-16	KILLARNEY AVE	No Building Leaks	No	N/A		371
	1107 KILLARNEY AVE	USMH	No	Medium		
(FM-08)10-31 - (FM-08)9-31	DEL MONTE DR	No Building Leaks	No	N/A		95
	105 DEL MONTE DR	USMH	No	Heavy		
(FM-08)105 - (FM-08)10-31	2110 EDGEWOOD	Cleanout Missing Cap, Public	No	Heavy	3,394	293
	2110 EDGEWOOD	USMH	No	Heavy		
(FM-08)106 - (FM-08)795	GREENBRIAR AVE	No Building Leaks	No	N/A		125
(FM-08)11 - (FM-08)10-16	1002 KILLARNEY AVE	Cleanout Missing Cap, Private	No	Heavy	0	313
	1009 KILLARNEY AVE	Cleanout Defective, Private	No	Medium	194	
(FM-08)12 - (FM-08)9-16	LEPRECHAUN FDR	No Building Leaks	No	N/A		351
	1017 LEPRECHAUN FDR	USMH	No	Heavy		
(FM-08)13 - (FM-08)12	1106 TIPPERARY AVE	Cleanout Defective, Private	No	Medium	2,618	422
	1103 TIPPERARY AVE	Lateral, Private Building	No	Low		
	1107 TIPPERARY AVE	USMH	No	Low		
(FM-08)1-31 - (FM-08)5-31	DEL MONTE DR	No Building Leaks	No	N/A		67
	305 DEL MONTE DR	USMH	No	Medium		
(FM-08)14 - (FM-08)13	TIPPERARY AVE	No Building Leaks	No	N/A		306
(FM-08)15 - (FM-08)12	TIPPERRARY AVE	No Building Leaks	No	N/A		376
	1009 TIPPERRARY AVE	USMH	No	Heavy		
(FM-08)159 - (FM-08)826	PINE WILLOW CT	No Building Leaks	No	N/A		124
	209 PINE WILLOW CT	USMH	No	Medium		
(FM-08)16 - (FM-08)15	1006 TIPPERARY AVE	Cleanout Missing Cap, Private	No	Heavy	0	312
	1003 TIPPERARY AVE	USMH	No	Low		
(FM-08)17 - (FM-08)12	LEPRECHAUN DR	No Building Leaks	No	N/A		350
	1017 GLENSHANNON AVE	USMH	No	Medium		
(FM-08)18 - (FM-08)18A	1107 GLENSHANNON AVE	Cleanout Missing Cap, Private	No	Heavy	4,557	420
	1107 GLENSHANNON AVE	USMH	No	Heavy		

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.

2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)19 - (FM-08)18	GLENSHANNON AVE	No Building Leaks	No	N/A		313
	3355 GLENSHANNON AVE	USMH	No	Heavy		
(FM-08)20 - (FM-08)17	GLENSHANNON AVE	No Building Leaks	No	N/A		375
	1009 GLENSHANNON AVE	USMH	No	Heavy		
(FM-08)21 - (FM-08)20	1001 GLENSHANNON AVE	Cleanout Defective, Private	No	Heavy	194	370
	1001 GLENSHANNON AVE	USMH	No	Heavy		
(FM-08)2-16 - (FM-08)1-16	CASTLEWOOD AVE	No Building Leaks	No	N/A		10
(FM-08)22 - (FM-08)17	LEPRECHAUN DR	No Building Leaks	No	N/A		349
	1017 LONDONDERRY AVE	USMH	No	Heavy		
(FM-08)2-29 - (FM-08)1-29	FALLING LEAF DR	No Building Leaks	No	N/A		182
(FM-08)23 - (FM-08)23A	1103 LONDONDERRY AVE	Lateral, Private Building	No	Light	2,909	380
(FM-08)2-31 - (FM-08)1-31	305 DEL MONTE DR	Cleanout Missing Cap, Private	No	Heavy	4,363	274
	314 DEL MONTE DR	USMH	No	Heavy		
(FM-08)24 - (FM-08)23	LONDONDERRY AVE	No Building Leaks	No	N/A		312
(FM-08)245 - (FM-08)245A	CHESTER DR	No Building Leaks	No	N/A		468
	205 CHESTER DR	USMH	No	Medium		
(FM-08)245A - (FM-08)245B	CHESTER DR	No Building Leaks	No	N/A		415
	201 CHESTER DR	Storm Ditch	No	Low		
(FM-08)245B - (FM-08)871	102 CHESTER DR	Cleanout Missing Cap, Private	No	Medium	3,878	504
	105 CHESTER DR	Storm Ditch	No	High		
(FM-08)25 - (FM-08)22	LONDONDERRY AVE	No Building Leaks	No	N/A		370
	1009 LONDONDERRY AVE	USMH	No	High		
	1015 LONDONDERRY AVE	Lateral, Private Building	No	Low		
(FM-08)26 - (FM-08)25	LONDONDERRY AVE	No Building Leaks	No	N/A		314
	1003 LONDONDERRY AVE	USMH	No	Medium		
(FM-08)27 - (FM-08)22	WILLDERNESS TRL	No Building Leaks	No	N/A		256
	4 WILLDERNESS TRL	USMH	No	Heavy		

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Monday, November 11, 2019

Page 2 of 18

Page 191 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)28 - (FM-08)27	2 WILLDERNESS TRL	Cleanout Defective, Private	No	Medium	2,618	331
	2 WILLDERNESS TRL	Cleanout Missing Cap, Private	No	Heavy	5,333	
	2 WILLDERNESS TRL	USMH	No	Heavy		
	3 WILLDERNESS TRL	Cleanout Defective, Private	No	Heavy	6,302	
(FM-08)29 - (FM-08)7	LOST RIVER DR	No Building Leaks	No	N/A		194
(FM-08)30 - (FM-08)29	LOST RIVER DR	No Building Leaks	No	N/A		396
(FM-08)31 - (FM-08)30	LOST RIVER DR	No Building Leaks	No	N/A		480
(FM-08)3-16 - (FM-08)2-16	CASTLEWOOD AVE	No Building Leaks	No	N/A		473
(FM-08)32 - (FM-08)1-16	CASTLEWOOD AVE	No Building Leaks	No	N/A		81
(FM-08)32 - (FM-08)821	HOLLY SPINGS DR	No Building Leaks	No	N/A		112
(FM-08)3-29 - (FM-08)2-29	6 FALLING LEAF CT	Cleanout Missing Cap, Private	No	Medium	2,909	363
	6 FALLING LEAF CT	Cleanout Missing Cap, Private	No	Light	2,909	
	9 FALLING LEAF CT	USMH	No	Light		
(FM-08)33 - (FM-08)831	HOLLY SPRINGS DR	No Building Leaks	No	N/A		140
	205 HOLLY SPRINGS DR	USMH	No	Low		
(FM-08)38 - (FM-08)859	1002 CLOVER RIDGE AVE	Cleanout Missing Cap, Private	No	Heavy	2,909	403
	1002 CLOVER RIDGE AVE	USMH	No	Heavy		
(FM-08)4-16 - (FM-08)3-16	CASTLEWOOD AVE	No Building Leaks	No	N/A		396
(FM-08)4-29 - (FM-08)4-29A	19 FALLING LEAF CT	Lateral, Private Building	No	Heavy	3,394	103
	17 FALLING LEAF CT	Lateral, Private Building	No	Low		
	19 FALLING LEAF CT	USMH	No	Medium		
(FM-08)4-29A - (FM-08)3-29	15 FALLING LEAF CT	Cleanout Missing Cap, Private	No	Heavy	4,848	263
	15 FALLING LEAF CT	Cleanout Missing Cap, Private	No	Heavy	2,618	
(FM-08)4-31 - (FM-08)8-31	1300 INVERNESS ST	Cleanout Missing Cap, Private	No	Medium	0	436
	1300 INVERNESS ST	Cleanout Missing Cap, Private	No	Heavy	194	
	1313 INVERNESS ST	Cleanout Missing Cap, Public	No	Medium	4,363	
(FM-08)45 - (FM-08)768	COWARDS CREEK LN	No Building Leaks	No	N/A		363

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.

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Monday, November 11, 2019

Page 3 of 18

Page 192 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)45 - (FM-08)769	COWARDS CREEK DR	No Building Leaks	No	N/A		35
(FM-08)5-16 - (FM-08)4-16	CASTLEWOOD AVE	No Building Leaks	No	N/A		400
(FM-08)5-31 - (FM-08)Lift Station	DEL MONTE DR	No Building Leaks	No	N/A		164
(FM-08)575 - (FM-08)575A	1101 FALLING LEAF DR	Cleanout Missing Cap, Private	No	Medium	4,848	250
(FM-08)614 - (FM-08)802	EVERGREEN DR	No Building Leaks	No	N/A		265
(FM-08)6-16 - (FM-08)5-16	1010 CASTLEWOOD AVE	Cleanout Missing Cap, Private	No	Heavy	970	370
	1012 CASTLEWOOD AVE	Foundation Drain	No	Heavy	726	
	1006 CASTLEWOOD AVE	USMH	No	Heavy		
(FM-08)6-31 - (FM-08)83	HASTINGS RD	No Building Leaks	No	N/A		363
(FM-08)680 - (FM-08)875	EAST HAVEN CT	No Building Leaks	No	N/A		88
(FM-08)7 - (FM-08)2-16	LOST RIVER DR	No Building Leaks	No	N/A		200
(FM-08)718 - (FM-08)825	GREENBRIAR DR	No Building Leaks	No	N/A		413
(FM-08)751 - (FM-08)751A	RUSTIC LN	No Building Leaks	No	N/A		244
(FM-08)751A - (FM-08)855	RUSTIC LN	No Building Leaks	No	N/A		380
	105 RUSTIC LN	USMH	No	Low		
(FM-08)761 - (FM-08)760	COWARDS CREEK DR	No Building Leaks	No	N/A		223
(FM-08)762 - (FM-08)761	COWARDS CREEK DR	No Building Leaks	No	N/A		88
	709 COWARDS CREEK DR	USMH	No	Medium		
(FM-08)763 - (FM-08)763A	805 COWARDS CREEK DR	Cleanout Defective, Private	No	Heavy	2,424	492
	805 COWARDS CREEK DR	Cleanout Defective, Private	No	Medium	2,424	
(FM-08)763A - (FM-08)763B	COWARDS CREEK DR	No Building Leaks	No	N/A		15
(FM-08)763B - (FM-08)763C	COWARDS CREEK DR	No Building Leaks	No	N/A		46
	803 COWARDS CREEK DR	USMH	No	Medium		
(FM-08)763C - (FM-08)762	COWARDS CREEK DR	No Building Leaks	No	N/A		120
(FM-08)764 - (FM-08)763	COWARDS CREEK DR	No Building Leaks	No	N/A		193
(FM-08)765 - (FM-08)764	COWARDS CREEK DR	No Building Leaks	No	N/A		448
(FM-08)766 - (FM-08)765	COWARDS CREEK LN	No Building Leaks	No	N/A		96

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Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)767 - (FM-08)766	COWARDS CREEK DR	No Building Leaks	No	N/A		93
(FM-08)769 - (FM-08)767	COWARDS CREEK DR	No Building Leaks	No	N/A		268
(FM-08)771 - (FM-08)45	COWARDS CREEK DR	No Building Leaks	No	N/A		259
	1005 COWARDS CREEK DR	USMH	No	Heavy		
(FM-08)772 - (FM-08)771	1103 COWARDS CREEK DR	Cleanout Missing Cap, Private	No	Medium	3,878	346
(FM-08)773 - (FM-08)772	COWARDS CREEK DR	No Building Leaks	No	N/A		579
	1109 COWARDS CREEK DR	USMH	No	Heavy		
(FM-08)774 - (FM-08)773	1202 COWARDS CREEK DR	Cleanout Missing Cap, Private	No	Heavy	1,939	459
(FM-08)775 - (FM-08)774	COWARDS CREEK DR	No Building Leaks	No	N/A		460
(FM-08)776 - (FM-08)775	COWARDS CREEK DR	No Building Leaks	No	N/A		330
(FM-08)777 - (FM-08)776	1205 COWARDS CREEK DR	Cleanout Missing Cap, Private	No	Heavy	2,909	140
	1207 COWARDS CREEK DR	Lateral, Private Building	No	Medium	4,848	
	1207 COWARDS CREEK DR	Storm Ditch	No	Low		
(FM-08)783 - (FM-08)575A	FALLING LEAF DR	No Building Leaks	No	N/A		63
(FM-08)786 - (FM-08)779	706 GREENBRIAR AVE	Cleanout Missing Cap, Private	No	Medium	5,333	401
	706 GREENBRIAR AVE	Cleanout Missing Cap, Private	No	Heavy	7,272	
	708 GREENBRIAR AVE	Storm Ditch	No	Heavy		
	708 GREENBRIAR AVE	USMH	No	Medium		
(FM-08)789 - (FM-08)85	GREENBRIAR AVE	No Building Leaks	No	N/A		400
	1008 MUSTANG DR	USMH	No	Medium		
(FM-08)790 - (FM-08)789	1014 MUSTANG DR	Cleanout Defective, Private	No	Heavy	4,363	383
	1014 MUSTANG DR	Cleanout Defective, Private	No	Heavy	4,363	
(FM-08)792 - (FM-08)790	1108 MUSRANG DR	Cleanout Defective, Private	No	Heavy	194	416
	1108 MUSRANG DR	USMH	No	Heavy		
(FM-08)792A - (FM-08)792	PRIDE DR	No Building Leaks	No	N/A		34
(FM-08)792B - (FM-08)792A	PRIDE DR	No Building Leaks	No	N/A		34
(FM-08)792C - (FM-08)792B	PRIDE DR	No Building Leaks	No	N/A		240

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2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

Monday, November 11, 2019

Page 5 of 18

Page 194 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
	1115 FALLING LEAF DR	USMH	No	Heavy		
(FM-08)792D - (FM-08)792C	PRIDE DR	No Building Leaks	No	N/A		175
(FM-08)794 - (FM-08)824	702 GREENBRIAR AVE	Cleanout Missing Cap, Private	No	Heavy	2,424	161
	702 GREENBRIAR AVE	Private San MH (Grease Trap)	No	Low		
	702 GREENBRIAR AVE	USMH	No	Heavy		
(FM-08)795 - (FM-08)85	GREENBRIAR AVE	No Building Leaks	No	N/A		81
(FM-08)796 - (FM-08)106	GREENBRIAR AVE	No Building Leaks	No	N/A		58
	711 GREENBRIAR AVE	USMH	No	Low		58
(FM-08)797 - (FM-08)796	GREENBRIAR AVE	No Building Leaks	No	N/A		210
(FM-08)797A - (FM-08)797	EVERGREEN DR	No Building Leaks	No	N/A		110
(FM-08)798 - (FM-08)797	EVERGREEN DR	No Building Leaks	No	N/A		574
(FM-08)799 - (FM-08)798	EVERGREEN DR	No Building Leaks	No	N/A		165
	910 EVERGREEN DR	USMH	No	Heavy		
(FM-08)800 - (FM-08)799	EVERGREEN DR	No Building Leaks	No	N/A		230
(FM-08)802 - (FM-08)799	EVERGREEN DR	No Building Leaks	No	N/A		77
(FM-08)803 - (FM-08)800	CASTLEWOOD AVE	No Building Leaks	No	N/A		513
(FM-08)805 - (FM-08)97	EASEMENT	No Building Leaks	No	N/A		320
	1001 TALL PINES AVE	USMH	No	Medium		
(FM-08)806 - (FM-08)807	GREENBRIAR DR	No Building Leaks	No	N/A		226
	1001 TALL PINES DR	Storm Ditch	No	Medium		
(FM-08)807 - (FM-08)805	GREENBRIAR AVE	No Building Leaks	No	N/A		320
(FM-08)808 - (FM-08)807	TALL PINES DR	No Building Leaks	No	N/A		276
	903 TALL PINES DR	USMH	No	Heavy		
(FM-08)809 - (FM-08)808	904 TALL PINES DR	Cleanout Missing Cap, Private	No	Heavy	1,454	285
	906 TALL PINES DR	Cleanout Missing Cap, Private	No	Heavy	0	
	906 TALL PINES DR	Cleanout Missing Cap, Private	No	Heavy	0	
	901 TALL PINES DR	Storm Ditch	No	Medium		

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Monday, November 11, 2019

Page 6 of 18

Page 195 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address</i>	<i>Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)810 - (FM-08)809	TALL PINES DR		No Building Leaks	No	N/A		325
	803 TALL PINES DR		USMH	No	Medium		
(FM-08)811 - (FM-08)810	TALL PINES DR		No Building Leaks	No	N/A		330
	806 TALL PINES DR		Storm Ditch	No	Medium		
(FM-08)812 - (FM-08)811	TALL PINES DR		No Building Leaks	No	N/A		391
(FM-08)813 - (FM-08)812	TALL PINES DR		No Building Leaks	No	N/A		193
	402 Sunset Dr		USMH	No	Heavy		
(FM-08)814 - (FM-08)807	TALL PINES DR		No Building Leaks	No	N/A		310
	1005 TALL PINES DR		USMH	No	Low		
(FM-08)815 - (FM-08)814	TALL PINES DR		No Building Leaks	No	N/A		320
	1011 TALL PINES DR		USMH	No	Heavy		
(FM-08)8-16 - (FM-08)7	KILLARNEY AVE		No Building Leaks	No	N/A		480
	1107 KILLARNEY AVE		USMH	No	Medium		
(FM-08)816 - (FM-08)815	1012 TALL PINES DR		Cleanout Missing Cap, Private	No	Heavy	1,939	386
(FM-08)817 - (FM-08)816	TALL PINES DR		No Building Leaks	No	N/A		397
	1113 TALL PINES DR		USMH	No	Low		
(FM-08)818 - (FM-08)817	1204 TALL PINES DR		Cleanout Missing Cap, Private	No	Medium	3,394	315
	1203 TALL PINES DR		USMH	No	Low		
(FM-08)819 - (FM-08)818	TALL PINES LN		No Building Leaks	No	N/A		413
(FM-08)821 - (FM-08)819	TALL PINES DR		No Building Leaks	No	N/A		110
(FM-08)822 - (FM-08)821	EASEMENT		No Building Leaks	No	N/A		263
(FM-08)824 - (FM-08)795	MUSTANG DR		No Building Leaks	No	N/A		565
	GREENBRIAR DR		USMH	No	Heavy		
(FM-08)825 - (FM-08)806	207 GREENBRIAR DR		Cleanout Missing Cap, Private	No	Heavy	2,909	412
	206 GREENBRIAR DR		USMH	No	Low		
	206 GREENBRIAR DR		Inlet	No	Heavy		
	1002 TALL PINES DR		Storm Ditch	No	Low		

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Monday, November 11, 2019

Page 7 of 18

Page 196 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)826 - (FM-08)828	203 PINE WILLOW CT	Cleanout Defective, Private	No	Light	2,618	404
(FM-08)827 - (FM-08)828	PINE HOLLOW DR	No Building Leaks	No	N/A		410
	707 PINE HOLLOW DR	USMH	No	Heavy		
(FM-08)828 - (FM-08)837	PINE HOLLOW DR	No Building Leaks	No	N/A		284
	201 PINE HOLLOW DR	USMH	No	Heavy		
(FM-08)83 - (FM-08)83A	HASTINGS RD	No Building Leaks	No	N/A		93
(FM-08)8-31 - (FM-08)5-31	205 DEL MONTE DR	Cleanout Missing Cap, Private	No	Medium	3,588	348
(FM-08)831 - (FM-08)836	1203 PINE HOLLOW DR	Cleanout Missing Cap, Private	No	Medium	2,909	383
(FM-08)832 - (FM-08)838	PINE HOLLOW DR	No Building Leaks	No	N/A		275
	911 PINE HOLLOW DR	USMH	No	Heavy		
(FM-08)833 - (FM-08)832	1004 PINE HOLLOW DR	Cleanout Missing Cap, Private	No	Light	3,588	363
	1005 PINE HOLLOW DR	USMH	No	Heavy		
(FM-08)834 - (FM-08)833	PINE HOLLOW DR	No Building Leaks	No	N/A		406
(FM-08)835 - (FM-08)834	PINE HOLLOW DR	No Building Leaks	No	N/A		397
(FM-08)836 - (FM-08)835	1293 PINE HOLLOW DR	Cleanout Missing Cap, Private	No	Heavy	4,363	382
	1203 PINE HOLLOW DR	USMH	No	Low		
(FM-08)838 - (FM-08)718	EDGEWOOD LN	No Building Leaks	No	N/A		410
(FM-08)838 - (FM-08)841	909 PINE HOLLOW DR	USMH	No	Heavy		313
(FM-08)83A - (FM-08)4-31	COWARDS CREEK LN	No Building Leaks	No	N/A		640
(FM-08)840 - (FM-08)866	GREENBRIAR DR	No Building Leaks	No	N/A		210
	901 GREENBRIAR DR	USMH	No	Heavy		
(FM-08)841 - (FM-08)840	GREENBRIAR DR	No Building Leaks	No	N/A		183
	901 GREENBRIAR DR	USMH	No	Medium		
(FM-08)841A - (FM-08)841	W EDGEWOOD DR	No Building Leaks	No	N/A		10
	901 W EDGEWOOD DR	USMH	No	Medium		
(FM-08)842 - (FM-08)827	704 PINE HOLLOW DR	Cleanout Missing Cap, Private	No	Heavy	3,588	395
	705 PINE HOLLOW DR	Cleanout Defective, Private	No	Heavy	3,394	

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Monday, November 11, 2019

Page 8 of 18

Page 197 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

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	708 PINE HOLLOW DR	Cleanout Defective, Private	No	Light	0	
	202 SUNSET DR	Cleanout Defective, Private	No	Heavy	2,424	
(FM-08)844 - (FM-08)872	913 W EDGEWOOD DR	USMH	No	Heavy		368
(FM-08)845 - (FM-08)844	W EDGEWOOD DR	No Building Leaks	No	N/A		470
	1007 W EDGEWOOD DR	USMH	No	Medium		
(FM-08)846 - (FM-08)846A	W EDGEWOOD DR	No Building Leaks	No	N/A		340
(FM-08)846A - (FM-08)845	W EDGEWOOD DR	No Building Leaks	No	N/A		30
(FM-08)847 - (FM-08)846	W EDGEWOOD DR	No Building Leaks	No	N/A		420
(FM-08)848 - (FM-08)847	W EDGEWOOD DR	No Building Leaks	No	N/A		372
(FM-08)849 - (FM-08)848	W EDGEWOOD DR	No Building Leaks	No	N/A		398
(FM-08)85 - (FM-08)786	707 GREENBRIAR AVE	Cleanout Missing Cap, Private	No	Heavy	1,454	253
	710 GREENBRIAR AVE	Foundation Drain	No	Heavy	1,210	
	710 GREENBRIAR AVE	Cleanout Missing Cap, Private	No	Heavy	2,909	
	710 GREENBRIAR AVE	USMH	No	Medium		
(FM-08)850 - (FM-08)846A	W EDGEWOOD DR	No Building Leaks	No	N/A		130
	1007 W EDGEWOOD DR	Storm Ditch	No	High		
(FM-08)851 - (FM-08)850	1010 W EDGEWOOD DR	Cleanout Missing Cap, Private	No	Heavy	2,909	360
	1014 W EDGEWOOD DR	USMH	No	Medium		
(FM-08)852 - (FM-08)851	W EDGEWOOD DR	No Building Leaks	No	N/A		270
	1106 W EDGEWOOD DR	USMH	No	Low		
(FM-08)853 - (FM-08)841	EDGEWOOD LN	No Building Leaks	No	N/A		60
(FM-08)855 - (FM-08)853	EDGEWOOD DR	No Building Leaks	No	N/A		115
(FM-08)856 - (FM-08)853	EDGEWOOD DR	No Building Leaks	No	N/A		407
(FM-08)858 - (FM-08)751	CLOVER RIDGE AVE	No Building Leaks	No	N/A		50
(FM-08)859 - (FM-08)858	CLOVER RIDGE AVE	No Building Leaks	No	N/A		454
	904 CLOVER RIDGE AVE	USMH	No	Low		
(FM-08)860 - (FM-08)860A	RUSTIC LN	No Building Leaks	No	N/A		336

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Monday, November 11, 2019

Page 9 of 18

Page 198 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)860A - (FM-08)751	902 CLOVER RIDGE AVE	Cleanout Missing Cap, Private	No	Medium	1,590	310
(FM-08)861 - (FM-08)860	MEADOW LARK AVE	No Building Leaks	No	N/A		107
(FM-08)862 - (FM-08)861	MEADOW LARK AVE	No Building Leaks	No	N/A		387
	906 MEADOW LARK AVE	USMH	No	Heavy		
(FM-08)863 - (FM-08)850	WESTFIELD LN	No Building Leaks	No	N/A		290
(FM-08)863A - (FM-08)863	WESTFIELD BLK	No Building Leaks	No	N/A		292
	1006 WESTFIELD BLK	USMH	No	Medium		
(FM-08)863B - (FM-08)863A	WESTFIELD BLK	No Building Leaks	No	N/A		307
(FM-08)865 - (FM-08)873	EDGEWOOD DR	No Building Leaks	No	N/A		113
(FM-08)866 - (FM-08)718	GREENBRIAR DR	No Building Leaks	No	N/A		163
	902 Pine Hallow Dr	USMH	No	Medium		
(FM-08)867 - (FM-08)867A	401 CHESTER DR	Cleanout Defective, Public	No	Heavy	6,826	400
(FM-08)867A - (FM-08)245	CHESTER DR	No Building Leaks	No	N/A		332
	303 CHESTER DR	USMH	No	Heavy		
(FM-08)868 - (FM-08)867	CHESTER DR	No Building Leaks	No	N/A		410
	405 CHESTER DR	USMH	No	Low		
(FM-08)870 - (FM-08)873	EDGEWOOD DR	No Building Leaks	No	N/A		170
(FM-08)871 - (FM-08)856	EDGEWOOD DR	No Building Leaks	No	N/A		436
(FM-08)872 - (FM-08)841	W EDGEWOOD DR	No Building Leaks	No	N/A		415
(FM-08)873 - (FM-08)871	EDGEWOOD DR	No Building Leaks	No	N/A		268
(FM-08)874 - (FM-08)889	MIRAGE CT	No Building Leaks	No	N/A		189
	506 MIRAGE CT	USMH	No	Low		
(FM-08)875 - (FM-08)870	EAST HAVEN CT	No Building Leaks	No	N/A		150
(FM-08)876 - (FM-08)870	EASEMENT	No Building Leaks	No	N/A		428
(FM-08)877 - (FM-08)878	FLAMINGO CT	No Building Leaks	No	N/A		110
(FM-08)878 - (FM-08)876	FLAMINGO CT	No Building Leaks	No	N/A		91
(FM-08)879 - (FM-08)876	EASEMENT	No Building Leaks	No	N/A		197

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Monday, November 11, 2019

Page 10 of 18

Page 199 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)880 - (FM-08)879	EASEMENT	No Building Leaks	No	N/A		227
	705 FERNDAL CT	USMH	No	Low		
(FM-08)881 - (FM-08)891	TROPICANA CT	No Building Leaks	No	N/A		101
	706 TROPICANA CT	USMH	No	Heavy		
(FM-08)882 - (FM-08)880	FERNDAL CT	No Building Leaks	No	N/A		81
(FM-08)882 - (FM-08)880	703 FERNDAL CT	USMH	No	Medium		
(FM-08)883 - (FM-08)888	EASEMENT	No Building Leaks	No	N/A		318
(FM-08)884 - (FM-08)883	705 ALADDIN CT	Cleanout Defective, Private	No	Medium	970	101
	706 ALADDIN CT	USMH	No	Medium		
(FM-08)885 - (FM-08)883	EASEMENT	No Building Leaks	No	N/A		320
(FM-08)886 - (FM-08)885	EXCALIBER CT	No Building Leaks	No	N/A		104
	706 EXCALIBER CT	USMH	No	Heavy		
(FM-08)887 - (FM-08)885	EASEMENT	No Building Leaks	No	N/A		177
(FM-08)888 - (FM-08)891	EASEMENT	No Building Leaks	No	N/A		320
(FM-08)889 - (FM-08)887	MIRAGE CT	No Building Leaks	No	N/A		154
	702 MIRAGE CT	USMH	No	Heavy		
(FM-08)890 - (FM-08)889	MIRAGE CT	No Building Leaks	No	N/A		121
(FM-08)891 - (FM-08)882	EASEMENT	No Building Leaks	No	N/A		369
	702 TROPICANA CT	USMH	No	Low		
(FM-08)892 - (FM-08)888	JULIABORA CT	No Building Leaks	No	N/A		102
	706 JULIABORA CT	USMH	No	Heavy		
(FM-08)9-16 - (FM-08)8-16	1101 KILLARNEY AVE	Cleanout Missing Cap, Private	No	Heavy	0	421
	1017 KILLARNEY AVE	USMH	No	Heavy		
(FM-08)9-31 - (FM-08)8-31	DEL MONTE DR	No Building Leaks	No	N/A		350
	105 DEL MONTE DR	USMH	No	Medium		
(FM-08)97 - (FM-08)45	EASEMENT	No Building Leaks	No	N/A		331
	1100 COWARDS CREEK DR	USMH	No	Low		

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Monday, November 11, 2019

Page 11 of 18

Page 200 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address</i>	<i>Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-08)972E - (FM-08)972D		PRIDE DR	No Building Leaks	No	N/A		105
(FM-08)972F - (FM-08)972E		PRIDE DR	No Building Leaks	No	N/A		166
(FM-08)Eol - (FM-08)26		LONDONDERRY AVE	No Building Leaks	No	N/A		146
(FM-08)Eol - (FM-08)38		CLOVER RIDGE AVE	No Building Leaks	No	N/A		110
(FM-08)Eol - (FM-08)4-31		CAWART CREEK LN	No Building Leaks	No	N/A		50
(FM-08)Eol - (FM-08)783		LINSON LN	No Building Leaks	No	N/A		864
(FM-08)Eol - (FM-08)868		CHESTER DR	No Building Leaks	No	N/A		30
(FM-18)10 - (FM-18)9		W BAY AREA BLVD	No Building Leaks	No	N/A		123
(FM-18)100 - (FM-18)97	3329	KING GEORGE	USMH	No	Medium	1,440	300
(FM-18)101 - (FM-18)100	3329	KING GEORGE	USMH	No	Medium	1,440	30
(FM-18)102 - (FM-18)101		KING GEORGE	No Building Leaks	No	N/A		359
(FM-18)103 - (FM-18)102	3305	KING GEORGE	USMH	No	Heavy	4,896	297
	3306	KING GEORGE	Cleanout Defective, Private	No	Heavy	2,909	
	3310	KING GEORGE	Cleanout Defective, Private	No	Medium	2,909	
	3314	KING GEORGE	Cleanout Defective, Private	No	Medium	2,909	
	3318	KING GEORGE	Cleanout Defective, Private	No	Medium	3,588	
(FM-18)104 - (FM-18)93	3334	QUEENSBURG	USMH	No	Medium	1,440	195
	3342	QUEENSBURG	DSMH	No	Light	1,440	
(FM-18)105 - (FM-18)104		QUEENSBURG LN	No Building Leaks	No	N/A		108
(FM-18)106 - (FM-18)105	3330	QUEENSBURG	Lateral, Private Building	No	Medium	3,588	109
(FM-18)107 - (FM-18)106		QUEENSBURG LN	No Building Leaks	No	N/A		171
(FM-18)108 - (FM-18)107		SALISBURY	No Building Leaks	No	N/A		61
(FM-18)109 - (FM-18)108	3228	SALISBURY	Cleanout Missing Cap, Private	No	Heavy	194	120
(FM-18)11 - (FM-18)10		CORTONA LN	No Building Leaks	No	N/A		20
(FM-18)110 - (FM-18)109	3229	SALISBURY	Lateral, Private Building	No	Heavy	2,909	147
(FM-18)111 - (FM-18)110	3217	SALISBURY	USMH	No	Medium	1,440	147
(FM-18)112 - (FM-18)111		SALISBURY	No Building Leaks	No	N/A		65

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Monday, November 11, 2019

Page 12 of 18

Page 201 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-18)113 - (FM-18)112	3201 SALISBURY	Cleanout Defective, Private	No	Light	970	115
	3205 SALISBURY	Cleanout Defective, Private	No	Light	2,909	
(FM-18)114 - (FM-18)107	3310 QUEENSBURG	USMH	No	Medium	1,440	178
(FM-18)115 - (FM-18)114	QUEENSBURG LN	No Building Leaks	No	N/A		172
(FM-18)116 - (FM-18)115	QUEENSBURG LN	No Building Leaks	No	N/A		141
(FM-18)117 - (FM-18)116	3230 DUCHESS PARK	Cleanout Missing Cap, Private	No	Heavy	6,012	396
(FM-18)118 - (FM-18)117	3210 DUCHESS PARK	Cleanout Missing Cap, Private	No	Light	0	363
(FM-18)119 - (FM-18)118	3105 DUCHESS PARK	Cleanout Missing Cap, Private	No	Light	970	486
	3108 DUCHESS PARK	Cleanout Defective, Private	No	Light	194	
	3120 DUCHESS PARK	Cleanout Defective, Private	No	Light	2,618	
	3206 DUCHESS PARK	USMH	No	Heavy	2,880	
(FM-18)12 - (FM-18)11	CORTONA LN	No Building Leaks	No	N/A		244
(FM-18)120 - (FM-18)116	DUCHESS PARK	No Building Leaks	No	N/A		146
(FM-18)121 - (FM-18)120	3314 DUCHESS PARK	USMH	No	Medium	4,896	170
(FM-18)122 - (FM-18)121	3405 DUCHESS PARK	Cleanout Defective, Private	No	Heavy	5,333	241
	3406 DUCHESS PARK	Lateral, Private Building	No	Heavy	5,333	
(FM-18)123 - (FM-18)122	DUCHESS PARK	No Building Leaks	No	N/A		35
(FM-18)124 - (FM-18)121	PRINCE GEORGE	No Building Leaks	No	N/A		15
(FM-18)125 - (FM-18)124	3249 PRINCE GEORGE	USMH	No	Medium	1,440	73
(FM-18)126 - (FM-18)125	PRINCE GEORGE CT	No Building Leaks	No	N/A		71
(FM-18)127 - (FM-18)126	3245 PRINCE GEORGE	Cleanout Missing Cap, Private	No	Light	2,424	195
	3245 PRINCE GEORGE	Cleanout Defective, Private	No	Medium	4,557	
(FM-18)128 - (FM-18)127	3230 PRINCE GEORGE	Lateral, Private Building	No	Light	2,618	388
	3230 PRINCE GEORGE	Cleanout Defective, Private	No	Medium	1,939	
(FM-18)129 - (FM-18)128	3213 PRINCE GEORGE	USMH	No	Light	1,440	284
	3221 PRINCE GEORGE	Cleanout Defective, Private	No	Light	3,588	
	3225 PRINCE GEORGE	Cleanout Defective, Private	No	Medium	6,787	

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Monday, November 11, 2019

Page 13 of 18

Page 202 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-18)13 - (FM-18)12	CORTONA LN	No Building Leaks	No	N/A		83
(FM-18)130 - (FM-18)129	3201 PRINCE GEORGE	Lateral, Private Building	No	Light	2,424	380
(FM-18)131 - (FM-18)130	3109 PRINCE GEORGE	USMH	No	Light	4,896	355
	3117 PRINCE GEORGE	Cleanout Defective, Private	No	Medium	4,557	
(FM-18)132 - (FM-18)131	3105 PRINCE GEORGE	USMH	No	Light	4,896	100
(FM-18)14 - (FM-18)12	4005 FIRENZE DR	Cleanout Defective, Private	No	Heavy	5,818	68
(FM-18)15 - (FM-18)14	FIRENZE DR	No Building Leaks	No	N/A		51
(FM-18)16 - (FM-18)15	FIRENZE DR	No Building Leaks	No	N/A		46
(FM-18)17 - (FM-18)16	TUSCANIA LN	No Building Leaks	No	N/A		95
(FM-18)18 - (FM-18)17	TUSCANIA LN	No Building Leaks	No	N/A		68
(FM-18)19 - (FM-18)18	TUSCANIA LN	No Building Leaks	No	N/A		74
(FM-18)20 - (FM-18)19	TUSCANIA LN	No Building Leaks	No	N/A		160
(FM-18)21 - (FM-18)16	FIRENZE DR	No Building Leaks	No	N/A		189
(FM-18)22 - (FM-18)21	VOLTERRA CIR	No Building Leaks	No	N/A		89
(FM-18)23 - (FM-18)22	VOLTERRA CIR	No Building Leaks	No	N/A		44
(FM-18)24 - (FM-18)23	VOLTERRA CIR	No Building Leaks	No	N/A		100
(FM-18)25 - (FM-18)21	FIRENZE DR	No Building Leaks	No	N/A		173
(FM-18)26 - (FM-18)25	VOLTERRA CIR	No Building Leaks		N/A		141
(FM-18)27 - (FM-18)26	VOLTERRA CIR	No Building Leaks		N/A		38
(FM-18)28 - (FM-18)25	FIRENZE DR	No Building Leaks		N/A		51
(FM-18)29 - (FM-18)10	CORTONA LN	No Building Leaks		N/A		91
(FM-18)30 - (FM-18)29	CORTONA LN	No Building Leaks		N/A		197
(FM-18)31 - (FM-18)30	TUSCANIA LN	No Building Leaks		N/A		58
(FM-18)32 - (FM-18)31	TUSCANIA LN	No Building Leaks		N/A		37
(FM-18)33 - (FM-18)32	TUSCANIA LN	No Building Leaks		N/A		36
(FM-18)34 - (FM-18)30	CORTONA LN	No Building Leaks		N/A		221
(FM-18)35 - (FM-18)34	LIVORNO DR	No Building Leaks		N/A		65

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Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address</i>	<i>Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-18)36 - (FM-18)35		LIVORNO DR	No Building Leaks		N/A		104
(FM-18)37 - (FM-18)36		LIVORNO DR	No Building Leaks		N/A		121
(FM-18)38 - (FM-18)37		AREZZO CIR	No Building Leaks		N/A		152
(FM-18)39 - (FM-18)38		AREZZO CIR	No Building Leaks		N/A		48
(FM-18)40 - (FM-18)39		AREZZO CIR	No Building Leaks		N/A		44
(FM-18)41 - (FM-18)37		LIVORNO DR	No Building Leaks		N/A		120
(FM-18)42 - (FM-18)41		LIVORNO DR	No Building Leaks		N/A		89
(FM-18)43 - (FM-18)42		AREZZO CIR	No Building Leaks		N/A		135
(FM-18)44 - (FM-18)43		AREZZO CIR	No Building Leaks		N/A		50
(FM-18)45 - (FM-18)44		AREZZO CIR	No Building Leaks		N/A		49
(FM-18)46 - (FM-18)45		AREZZO CIR	No Building Leaks		N/A		44
(FM-18)47 - (FM-18)42	3549	FIRENZE DR	USMH		Heavy	1,440	188
(FM-18)47-82 - (FM-18)83		DUKE LN	No Building Leaks		N/A		94
(FM-18)48 - (FM-18)47		FIRENZE DR	No Building Leaks		N/A		44
(FM-18)49 - (FM-18)48		FIRENZE DR	No Building Leaks		N/A		104
(FM-18)50 - (FM-18)49		FIRENZE DR	No Building Leaks	No	N/A		49
(FM-18)51 - (FM-18)50		FIRENZE DR	No Building Leaks	No	N/A		74
(FM-18)52 - (FM-18)51		FIRENZE DR	No Building Leaks	No	N/A		222
(FM-18)53 - (FM-18)52		FIRENZE DR	No Building Leaks	No	N/A		43
(FM-18)54 - (FM-18)7		QUEENSBURG	Cleanout Defective, Private	No	Light	194	390
	3506	QUEENSBURG	Cleanout Defective, Private	No	Medium	0	
(FM-18)55 - (FM-18)54		QUEENSBURG	USMH	No	Medium	2,880	173
(FM-18)56 - (FM-18)55		QUEENSBURG	Cleanout Defective, Private	No	Light	194	263
(FM-18)57 - (FM-18)56	3613	QUEENSBURG	Cleanout Missing Cap, Public	No	Medium	0	45
(FM-18)58 - (FM-18)7		PRINCE GEORGE	No Building Leaks	No	N/A		20
(FM-18)59 - (FM-18)58		PRINCE GEORGE	No Building Leaks	No	N/A		121
(FM-18)60 - (FM-18)59		PRINCE GEORGE	No Building Leaks	No	N/A		122

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Monday, November 11, 2019

Page 15 of 18

Page 204 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address</i>	<i>Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-18)61 - (FM-18)60		KINGSTON	USMH	No	Heavy	1,800	20
(FM-18)62 - (FM-18)61		KINGSTON DR	No Building Leaks	No	N/A		241
(FM-18)63 - (FM-18)62		KINGSTON DR	No Building Leaks	No	N/A		60
(FM-18)64 - (FM-18)63		KINGSTON	Cleanout Missing Cap, Private	No	Heavy	2,715	70
		KINGSTON	Lateral, Private Building	No	Heavy	3,394	
(FM-18)65 - (FM-18)60	3357	QUEENSBURG	USMH	No	Medium	1,440	208
(FM-18)66 - (FM-18)65		QUEENSBURG	Cleanout Defective, Private	No	Medium	3,394	125
		QUEENSBURG	Lateral, Private Building	No	Medium	3,394	
(FM-18)67 - (FM-18)66		QUEENSBURG LN	No Building Leaks	No	N/A		119
(FM-18)68 - (FM-18)67		QUEENSBURG	Cleanout Missing Cap, Private	No	Medium	2,424	166
		QUEENSBURG	Cleanout Defective, Private	No	Medium	194	
(FM-18)69 - (FM-18)68		PRINCE GEORGE	No Building Leaks	No	N/A		85
(FM-18)70 - (FM-18)69		PRINCE GEORGE CT	No Building Leaks	No	N/A		26
(FM-18)71 - (FM-18)70	3341	PRINCE GEORGE	Cleanout Defective, Private		Light	2,424	20
	3341	PRINCE GEORGE	Cleanout Defective, Private		Medium	3,394	
(FM-18)72 - (FM-18)71	3337	PRINCE GEORGE	Cleanout Defective, Private		Medium	0	32
(FM-18)73 - (FM-18)72		PRINCE GEORGE	No Building Leaks		N/A		108
(FM-18)74 - (FM-18)68	3324	PRINCE GEORGE	Cleanout Defective, Private		Medium	3,588	395
	3338	PRINCE GEORGE	Cleanout Defective, Private		Medium	3,878	
(FM-18)75 - (FM-18)74	3321	PRINCE GEORGE	Cleanout Defective, Private		Light	3,394	121
	3325	PRINCE GEORGE	Cleanout Defective, Private		Medium	2,424	
(FM-18)76 - (FM-18)75	3309	PRINCE GEORGE	Lateral, Private Building		Light	3,588	171
	3309	PRINCE GEORGE	USMH		Light	1,440	
(FM-18)77 - (FM-18)76	3305	3305	Cleanout Defective, Private		Medium	2,618	185
(FM-18)78 - (FM-18)60		KINGSTON DR	No Building Leaks		N/A		65
(FM-18)79 - (FM-18)78	3501	KINGSTON	Cleanout Defective, Private		Light	970	374
	3504	KINGSTON	Cleanout Defective, Private		Medium	2,909	

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Monday, November 11, 2019

Page 16 of 18

Page 205 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
	3513 KINGSTON	Cleanout Defective, Private		Light	0	
	3513 KINGSTON	USMH		Heavy	2,880	
(FM-18)8 - (FM-18)7	3449 QUEENSBURG LN	USMH		Heavy	22,054	64
(FM-18)80 - (FM-18)79	3601 KINGSTON	Cleanout Defective, Private		Medium	194	226
	3602 KINGSTON	Cleanout Defective, Private		Light	2,424	
	3606 KINGSTON	Cleanout Defective, Private		Medium	194	
(FM-18)81 - (FM-18)80	3609 KINGSTON	Cleanout Defective, Private		Heavy	4,363	45
(FM-18)82 - (FM-18)79	3367 DUKE LN	USMH		Heavy	2,880	64
(FM-18)83 - (FM-18)82	DUKE LN	No Building Leaks		N/A		127
(FM-18)84 - (FM-18)47-82	3355 DUKE LN	USMH		Medium	3,600	91
	3358 DUKE LN	Cleanout Defective, Private		Medium	2,424	
	3359 DUKE LN	Cleanout Defective, Private	No	Light	3,394	
	3359 DUKE LN	Cleanout Defective, Private	No	Medium	1,939	
(FM-18)85 - (FM-18)84	3339 DUKE LN	USMH	No	Light	1,440	365
	3342 DUKE LN	Cleanout Defective, Private	No	Heavy	194	
	3346 DUKE LN	Lateral, Private Building	No	Medium	3,588	
	3354 DUKE LN	Cleanout Defective, Private	No	Light	0	
(FM-18)86 - (FM-18)85	3323 DUKE LN	USMH	No	Medium	1,440	361
	3326 DUKE LN	Cleanout Defective, Private	No	Medium	194	
	3327 DUKE LN	Cleanout Defective, Private	No	Light	3,394	
(FM-18)87 - (FM-18)86	3315 DUKE LN	USMH	No	Heavy	15,595	253
	3322 DUKE LN	Lateral, Private Building	No	Light	1,590	
(FM-18)88 - (FM-18)87	3310 DUKE LN	Lateral, Private Building	No	Medium	5,759	31
	3310 DUKE LN	Cleanout Missing Cap, Private	No	Heavy	2,909	
	3315 DUKE LN	USMH	No	Heavy	1,800	
(FM-18)89 - (FM-18)88	3302 DUKE LN	Cleanout Defective, Private	No	Heavy	7,272	122
	3302 DUKE LN	Cleanout Missing Cap, Private	No	Heavy	7,272	

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Monday, November 11, 2019

Page 17 of 18

Page 206 of 376

Smoke Test Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Structure</i>	<i>Address Street Name</i>	<i>Smoke Source</i>	<i>Recommended Dyed Water Flooding</i>	<i>Smoke Intensity</i>	<i>Inflow Rate (gpd)</i>	<i>Length (ft)</i>
(FM-18)9 - (FM-18)8	3424 CORTONA LN	USMH	No	Medium	1,440	253
(FM-18)94 - (FM-18)93	RICHARD	No Building Leaks	No	N/A		65
(FM-18)95 - (FM-18)94	3131 RICHARD	USMH	No	Medium	1,440	104
(FM-18)96 - (FM-18)95	RICHARD	No Building Leaks	No	N/A		80
(FM-18)97 - (FM-18)96	3120 RICHARD	Cleanout Defective, Private	No	Light	3,588	248
(FM-18)98 - (FM-18)97	3325 SUSSEX WAY	Cleanout Defective, Private	No	Light	2,909	194
(FM-18)99 - (FM-18)98	3301 SUSSEX WAY	USMH	No	Medium	1,440	326
<i>Totals</i>					439,196	70,692

1. USMH and DSMH sources are upstream/downstream manhole frame seal defects. Manhole rehabilitation is summarized in Chapter 4 and detailed in the Appendix section of the report.

2. Mainline and Catch Basins sources are quantified in the dyed water flooding report.

Source Summary

Cleanout Defective, Private	60
Cleanout Defective, Public	1
Cleanout Missing Cap, Private	46
Cleanout Missing Cap, Public	3
DSMH	1
Foundation Drain	2
Inlet	1
Lateral, Private Building	17
Private San MH (Grease Trap)	1
Storm Ditch	9
USMH	109
Total Sources	250

APPENDIX D

DYED WATER FLOODING REPORT

Dyed Water Flooding Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

<i>Line Segment</i>	<i>Street Name</i>	<i>Location Flooded</i>	<i>Dye MH No</i>	<i>Illegal Conditions</i>	<i>Flow Rate</i>	<i>Recommended for TV Inspection</i>
(FM-08)245A - (FM-08)245B		Storm Ditch	(FM-8)245B	Main Line Defect	10.68	No
(FM-08)245B - (FM-08)871		Storm Ditch	(FM-8)245B	Cracks in Manhole	0.00	Yes
(FM-08)55 - (FM-08)54		Deprs Paved Area		No Sources Found	0.00	No
(FM-08)777 - (FM-08)776		Storm Ditch		No Sources Found	0.00	Yes
(FM-08)786 - (FM-08)779		Storm Ditch	(FM-8)779	Main Line Defect	17.40	Yes
(FM-08)806 - (FM-08)807		Storm Ditch	(FM-8)807	Cracks in Manhole	0.00	Yes
(FM-08)809 - (FM-08)808		Storm Ditch	(FM-8)808	Cracks in Manhole	0.00	Yes
(FM-08)811 - (FM-08)810		Storm Ditch		No Sources Found	0.00	Yes
(FM-08)825 - (FM-08)806		Deprs Grass Area	(FM-8)806	Main Line Defect	9.20	Yes
(FM-08)850 - (FM-08)846A		Storm Ditch	(FM-8)846A	Cracks in Manhole	0.00	Yes

Total Line Segments: 10

Total Flow (gpm): 37.28

Total Recommended for TV: 8

APPENDIX E

TV INSPECTION REPORT

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)
(FM-08)13 - (FM-08)12								
10/11/2016	TIPPERARY							
8 "		418	418					
				0	Upstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				10	Service Connection	0.00		0
				21	Service Connection	0.00		0
				60	Service Connection w/ Break-I	0.15	Repair	5
				163	Service Connection w/ Break-I	0.15	Repair	5
				184	Service Connection	0.00		0
				184	Service Connection	0.00		0
				242	Service Connection	0.00		0
				288	Service Connection w/ Break-I	0.00		0
				376	Pipe w/ Hole	0.50	Repair	5
				418	Downstream Manhole	0.00		0
				418	End TV Observation	0.00		0

(FM-08)245 - (FM-08)245A

10/13/2016 CHESTER

8 "

473

473

0	Upstream Manhole	0.00		0
0	Begin TV Observation	0.00		0
34	Joint w/ Infiltration	0.05	Grout	0
121	Joint w/ Mineral Deposits	0.03	Grout	0
133	Service Connection w/ Break-I	0.15	Repair	5
159	Joint w/ Mineral Deposits	0.03	Grout	0
218	Service Connection w/Defect	0.15	Repair	5
394	Service Connection w/ Break-I	0.15	Repair	5
438	Service Connection w/ Break-I	0.15	Repair	5
473	Downstream Manhole	0.00		0
473	End TV Observation	0.00		0

(FM-08)245A - (FM-08)245B

10/13/2016 CHESTER

8 "

405

405

0	Upstream Manhole	0.00		0
0	Begin TV Observation	0.00		0

Sunday, December 11, 2016

Page 1 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)
				10	Pipe w/ Longitudinal Crack	0.10	Repair	5
				22	Pipe w/ Open Crack	0.30	Repair	5
				24	Service Connection w/ Break-I	0.15	Repair	5
				90	Joint, Cracked	0.50	Repair	5
				140	Joint w/ Mineral Deposits	0.03	Grout	0
				198	Service Connection w/ Break-I	0.15	Repair	5
				235	Pipe w/ Grease	0.00		0
				240	Pipe w/ Circular Crack	0.10	Repair	5
				250	Joint w/ Mineral Deposits	0.03	Grout	0
				250	Pipe Material Change	0.00		0
				255	Pipe Material Change	0.00		0
				266	Joint w/ Mineral Deposits	0.03	Grout	0
				379	Joint w/ Mineral Deposits	0.03	Grout	0
				405	Downstream Manhole	0.00		0
				405	End TV Observation	0.00		0

(FM-08)245B - (FM-08)871

10/13/2016 CHESTER

8 "

496

496

0	Upstream Manhole	0.00		0
0	Begin TV Observation	0.00		0
43	Service Connection w/Defect	0.15	Repair	5
48	Pipe w/ Hole	0.50	Repair	5
50	Service Connection w/Defect	0.15	Repair	5
114	Joint w/ Mineral Deposits	0.03	Grout	0
154	Service Connection w/Defect	0.15	Repair	5
190	Pipe w/ Circular Crack	0.10	Repair	5
202	Service Connection w/Defect	0.15	Repair	5
227	Joint w/ Mineral Deposits	0.03	Grout	0
280	Pipe w/ Hole	0.50	Repair	5
299	Service Connection w/ Break-I	0.15	Repair	5
402	Joint w/ Gasket Exposed	0.10	Repair	5
408	Pipe w/ Hole	0.50	Repair	5
412	Joint w/ Gasket Exposed	0.10	Repair	5
496	Downstream Manhole	0.00		0
496	End TV Observation	0.00		0

Sunday, December 11, 2016

Page 2 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)
(FM-08)25 - (FM-08)22								
10/11/2016	LONDONERRY AVENUE							
8 "		365	365					
				0	Upstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				83	Service Connection w/Defect	0.15	Repair	5
				171	Service Connection w/ Break-I	0.15	Repair	5
				183	Service Connection w/Defect	0.15	Repair	5
				257	Service Connection w/Defect	0.15	Repair	5
				289	Service Connection w/ Break-I	0.15	Repair	5
				365	Downstream Manhole	0.00		0
				365	End TV Observation	0.00		0
(FM-08)4-29 - (FM-08)3-29								
10/17/2016								
8 "		371	371					
				0	Upstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				60	Service Connection	0.00		0
				114	Service Connection	0.00		0
				121	Service Connection	0.00		0
				218	Service Connection	0.00		0
				371	Downstream Manhole	0.00		0
				371	End TV Observation	0.00		0
(FM-08)6-16-REV - (FM-08)5-16								
10/17/2016	W CASTLEWOOD							
8 "		134	370					
				0	Reverse Setup	0.00		0
				0	Downstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				42	Service Connection w/ Break-I	0.15	Repair	5
				134	End TV Observation	0.00		0
				134	Service Connection w/ Break-I	0.15	Repair	5
				134	Intruding > 1 Inch	0.07	Repair	5

Sunday, December 11, 2016

Page 3 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)

(FM-08)777 - (FM-08)776

10/17/2016 COWARDS CREEK DRIVE
8 " 183 183

0	Upstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
38	Service Connection w/ Break-I	0.15	Repair 5
183	Downstream Manhole	0.00	0
183	End TV Observation	0.00	0

(FM-08)778 - (FM-08)778A

10/18/2016 COWARDS CREEK CT
15 " 217 325

0	Upstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
210	Pipe Material Change	0.00	0
217	Pipe w/ Grease	0.00	0
217	End TV Observation	0.00	0

(FM-08)778A - (FM-08)768

10/18/2016 COWARDS CREEK DR
15 " 5 5

0	Upstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
5	Downstream Manhole	0.00	0
5	End TV Observation	0.00	0

Sunday, December 11, 2016

Page 4 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)
(FM-08)778-REV - (FM-08)778A								
10/18/2016	COWARDS CREEK							
15"		49						
				0	Reverse Setup	0.00		0
				0	Downstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				26	Camera Submerged	0.00		0
				49	End TV Observation	0.00		0
				49	Camera Submerged	0.00		0
(FM-08)786 - (FM-08)779								
10/18/2016	GREEBBRIAR							
12"		401	401					
				0	Upstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				87	Pipe w/ Grease	0.00		0
				107	Pipe w/ Grease	0.00		0
				107	Service Connection w/Defect	0.15	Repair	5
				218	Pipe w/ Deposits	0.00		0
				283	Service Connection	0.00		0
				401	Downstream Manhole	0.00		0
				401	Pipe w/ Deposits	0.00		0
				401	End TV Observation	0.00		0
(FM-08)806 - (FM-08)807								
10/12/2016	TALL PINES							
15"		236	236					
				0	Upstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				136	Joint w/ Mineral Deposits	0.03	Grout	0
				174	Joint w/ Infiltration	0.05	Grout	0
				236	Downstream Manhole	0.00		0
				236	End TV Observation	0.00		0

Sunday, December 11, 2016

Page 5 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)

(FM-08)809 - (FM-08)808

10/12/2016 TALL PINES
10"

290

290

0	Upstream Manhole	0.00		0
0	Begin TV Observation	0.00		0
68	Service Connection w/ Break-I	0.15	Repair	5
164	Service Connection w/Defect	0.15	Repair	5
290	Downstream Manhole	0.00		0
290	End TV Observation	0.00		0

(FM-08)811 - (FM-08)810

10/12/2016 TALL PINES
10"

330

330

0	Upstream Manhole	0.00		0
0	Begin TV Observation	0.00		0
60	Service Connection w/ Break-I	0.15	Repair	5
164	Pipe, Broken	0.50	Repair	5
217	Service Connection w/Defect	0.15	Repair	5
274	Service Connection w/Defect	0.15	Repair	5
330	Downstream Manhole	0.00		0
330	End TV Observation	0.00		0

(FM-08)825 - (FM-08)806

10/12/2016 GREENBRIAR
15"

412

412

0	Upstream Manhole	0.00		0
0	Begin TV Observation	0.00		0
33	Service Connection w/ Break-I	0.15	Repair	5
46	Connection Infiltration	0.15	Repair	5
157	Joint, Cracked	0.50	Repair	5
168	Service Connection w/ Break-I	0.15	Repair	5

Sunday, December 11, 2016

Page 6 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----			
Date	Street	Length	Length	Flow	Type	Length	
Dia.		(ft)	(ft)	Footage	Observations	(gpm)	(ft)
				208	Pipe w/ Grease	0.00	0
				208	Pipe Material Change	0.00	0
				247	Pipe w/ Grease	0.00	0
				247	Pipe Material Change	0.00	0
				321	Joint w/ Mineral Deposits	0.03	0
				326	Pipe w/ Open Crack	0.30	5
				328	Service Connection w/ Break-I	0.15	5
				412	Downstream Manhole	0.00	0
				412	End TV Observation	0.00	0

(FM-08)831 - (FM-08)836

10/11/2016 PINE HOLLOW DRIVE
8 " 394 394

0	Upstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
6	Service Connection w/ Break-I	0.15	Repair 5
62	Pipe Material Change	0.00	0
81	Pipe Material Change	0.00	0
82	Service Connection w/Defect	0.15	Repair 5
102	Service Connection w/ Break-I	0.15	Repair 5
103	Pipe w/ Longitudinal Crack	0.10	Repair 5
138	Pipe w/ Longitudinal Crack	0.10	Repair 5
195	Service Connection w/ Break-I	0.15	Repair 5
199	Pipe, Broken	0.50	Repair 5
199	Intruding > 1 Inch	0.07	Repair 5
250	Pipe, Broken	0.50	Repair 5
251	Service Connection w/Defect	0.15	Repair 5
286	Service Connection w/ Break-I	0.15	Repair 5
387	Service Connection w/ Break-I	0.15	Repair 5
394	Downstream Manhole	0.00	0
394	End TV Observation	0.00	0

(FM-08)850 - (FM-08)850A

10/17/2016 W EDGEWOOD
12 " 7 7

0	Downstream Manhole	0.00	0
0	Begin TV Observation	0.00	0

Sunday, December 11, 2016

Page 7 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----			
Date	Street	Length	Length	Flow	Type	Length	
Dia.		(ft)	(ft)	Footage	Observations	(gpm)	(ft)

7	Upstream Manhole	0.00	0
7	End TV Observation	0.00	0

(FM-08)850A - (FM-08)846A

10/17/2016 W EDGEWOOD
12"

94 94

0	Downstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
94	Upstream Manhole	0.00	0
94	End TV Observation	0.00	0

(FM-08)887 - (FM-08)885

10/18/2016 MIRAGE CT
8"

174 174

0	Upstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
174	Downstream Manhole	0.00	0
174	End TV Observation	0.00	0

(FM-08)890 - (FM-08)889

10/17/2016 MIRAGE CT
8"

121 121

0	Upstream Manhole	0.00	0
0	Begin TV Observation	0.00	0
121	Downstream Manhole	0.00	0
121	End TV Observation	0.00	0

Sunday, December 11, 2016

Page 8 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

TV Inspection Report

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Line Segment		TV	Segment	-----Repair-----				
Date	Street	Length	Length	Flow	Type	Length		
Dia.		(ft)	(ft)	Footage	Observations	(gpm)		(ft)
(FM-8)6-16 - (FM-8)5-16								
10/17/2016	W CASTLEWOOD							
8 "		0						
				0	Upstream Manhole	0.00		0
				0	Begin TV Observation	0.00		0
				0	End TV Observation	0.00		0

Total TV Length (ft) 5,575

Total Segment Length (ft) 5,870

Sunday, December 11, 2016

Page 9 of 9

1. Refer to the Recommended Line Replacements section of the report for cost details.

APPENDIX F

INFLOW SOURCE REPORT

Inflow Source Report

Project Number

18-2969-00

Friendswood Phase 2 SSES Year 1

					Flow	Repair	Ratio	Cumulative	Cumulative	
Basin/Structure		Street Address	Type	Source	Rehabilitation Work	(PGD)	Cost (\$)	(\$/GPD)	Flow (GPD)	Cost (\$)
FM-08 245B		104 Chester Dr	Inflow	Wall Leakage	Grout Manhole Joints	21,600	\$0	0.000	21,600	\$0
FM-08 751A		107 Rustic Ln	Inflow	Wall Leakage	Grout Manhole Joints	2,160	\$0	0.000	23,760	\$0
FM-08 887		703 Mirage Ct	Inflow	Wall Leakage	Grout Manhole Joints	1,080	\$0	0.000	24,840	\$0
FM-08 841A		201 Greenbriar Ave	Inflow	Wall Leakage	Grout Manhole Joints	17,280	\$0	0.000	42,120	\$0
FM-08 805		499 Greenbriar Ave	Inflow	Wall Leakage	Grout Manhole Joints	2,520	\$0	0.000	44,640	\$0
FM-08 245A		201 Chester Dr	Inflow	Wall Leakage	Grout Manhole Joints	1,080	\$0	0.000	45,720	\$0
FM-08 882		711 Ferndale Ct	Inflow	Wall Leakage	Grout Manhole Joints	1,080	\$0	0.000	46,800	\$0
FM-08 245		301 Chester Dr	Inflow	Wall Leakage	Grout Manhole Joints	7,200	\$0	0.000	54,000	\$0
FM-18 8	FM-18 7	3449 Queensburg Ln	Inflow	Manhole	Replace Frame and Cover	22,054	\$250	0.011	76,054	\$250
FM-08 786	FM-08 779	706 Greenbriar Ave	Inflow	Cleanout	Replace Cleanout Cap	7,272	\$100	0.014	83,326	\$350
FM-18 89	FM-18 88	3302 Duke Ln	Inflow	Cleanout	Replace Cleanout Cap	7,272	\$100	0.014	90,598	\$450
FM-08 867	FM-08 867A	401 Chester Dr	Inflow	Cleanout	Repair Broken Cleanout	6,826	\$375	0.055	97,423	\$550
FM-18 129	FM-18 128	3225 Prince George	Inflow	Cleanout	Replace Cleanout Cap	6,782	\$100	0.015	104,206	\$650
FM-18 87	FM-18 86	3315 Duke Ln	Inflow	Manhole	Replace Frame and Cover	15,595	\$250	0.016	119,801	\$900
FM-18 117	FM-18 116	3230 Duchess Park	Inflow	Cleanout	Replace Cleanout Cap	6,005	\$100	0.017	125,806	\$1000
FM-08 28	FM-08 27	2 Willderness Trl	Inflow	Cleanout	Replace Cleanout Cap	5,328	\$100	0.019	131,134	\$1100
FM-08 786	FM-08 779	706 Greenbriar Ave	Inflow	Cleanout	Replace Cleanout Cap	5,328	\$100	0.019	136,462	\$1200
FM-08 767		911 Cowards Creek	Inflow	Cover Missing Bolts	Replace Cover Bolts	4,896	\$100	0.020	141,358	\$1300
FM-08 4-29A	FM-08 3-29	15 Falling Leaf Ct	Inflow	Cleanout	Replace Cleanout Cap	4,853	\$100	0.021	146,210	\$1400
FM-08 575	FM-08 575A	1101 Falling Leaf Dr	Inflow	Cleanout	Replace Cleanout Cap	4,853	\$100	0.021	151,063	\$1500
FM-08 846A		1005 FM 2351	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	14,400	\$300	0.021	165,463	\$1800
FM-08 18	FM-08 18A	1107 Glenshannon Ave	Inflow	Cleanout	Replace Cleanout Cap	4,558	\$100	0.022	170,021	\$1900
FM-08 790	FM-08 789	1014 Mustang Dr	Inflow	Cleanout	Repair Broken Cleanout	4,363	\$375	0.086	174,384	\$2000
FM-08 4-31	FM-08 8-31	1313 Inverness St	Inflow	Cleanout	Replace Cleanout Cap	4,363	\$100	0.023	178,747	\$2100
FM-08 836	FM-08 835	1293 Pine Hollow Dr	Inflow	Cleanout	Replace Cleanout Cap	4,363	\$100	0.023	183,110	\$2200
FM-08 2-31	FM-08 1-31	305 Del Monte Dr	Inflow	Cleanout	Replace Cleanout Cap	4,363	\$100	0.023	187,474	\$2300
FM-08 790	FM-08 789	1014 Mustang Dr	Inflow	Cleanout	Repair Broken Cleanout	4,363	\$375	0.086	191,837	\$2400
FM-08 14		1115 Tipperary Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	21,600	\$500	0.023	213,437	\$2900
FM-08 806		1002 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	21,600	\$500	0.023	235,037	\$3400
FM-08 821		1211 Holly Springs Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	21,600	\$500	0.023	256,637	\$3900
FM-08 6-16		1006 W Castlewood Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	21,600	\$500	0.023	278,237	\$4400

Basin/Structure		Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 811		707 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	21,600	\$500	0.023	299,837	\$4900
FM-08 245B	FM-08 871	102 Chester Dr	Inflow	Cleanout	Replace Cleanout Cap	3,888	\$100	0.026	303,725	\$5000
FM-08 772	FM-08 771	1103 Cowards Creek Dr	Inflow	Cleanout	Replace Cleanout Cap	3,888	\$100	0.026	307,613	\$5100
FM-08 833	FM-08 832	1004 Pine Hollow Dr	Inflow	Cleanout	Replace Cleanout Cap	3,586	\$100	0.028	311,198	\$5,200
FM-08 8-31	FM-08 5-31	205 Del Monte Dr	Inflow	Cleanout	Replace Cleanout Cap	3,586	\$100	0.028	314,784	\$5,300
FM-08 842	FM-08 827	704 Pine Hollow Dr	Inflow	Cleanout	Replace Cleanout Cap	3,586	\$100	0.028	318,370	\$5,400
FM-08 825		206 Greenbrair Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	33,984	\$950	0.028	352,354	\$6,350
FM-08 844		913 FM 2351	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	17,280	\$500	0.029	369,634	\$6,850
FM-08 818	FM-08 817	1204 Tall Pines Dr	Inflow	Cleanout	Replace Cleanout Cap	3,398	\$100	0.029	373,032	\$6,950
FM-08 842	FM-08 827	705 Pine Hollow Dr	Inflow	Cleanout	Replace Cleanout Cap	3,398	\$100	0.029	376,430	\$7,050
FM-08 105	FM-08 10-31	2110 Edgewood	Inflow	Cleanout	Replace Cleanout Cap	3,398	\$100	0.029	379,829	\$7,150
FM-08 2-29		1 Falling Leaf Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	27,749	\$950	0.034	407,578	\$8,100
FM-08 825	FM-08 806	207 Greenbriar Dr	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	410,486	\$8,200
FM-08 777	FM-08 776	1205 Cowards Creek Dr	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	413,395	\$8,300
FM-08 85	FM-08 786	710 Greenbriar Ave	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	416,304	\$8,400
FM-08 3-29	FM-08 2-29	6 Falling Leaf Ct	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	419,213	\$8,500
FM-08 3-29	FM-08 2-29	6 Falling Leaf Ct	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	422,122	\$8,600
FM-08 851	FM-08 850	1010 W Edgewood Dr	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	425,030	\$8,700
FM-08 831	FM-08 836	1203 Pine Hollow Dr	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	427,939	\$8,800
FM-18 88	FM-18 87	3310 Duke Ln	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	430,848	\$8,900
FM-08 38	FM-08 859	1002 Clover Ridge Ave	Inflow	Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	433,757	\$9,000
FM-18 64	FM-18 63	3404 Kingston	Inflow	Cleanout	Replace Cleanout Cap	2,714	\$100	0.037	436,471	\$9,100
FM-08 4-29A	FM-08 3-29	15 Falling Leaf Ct	Inflow	Cleanout	Replace Cleanout Cap	2,618	\$100	0.038	439,089	\$9,200
FM-08 794	FM-08 824	702 Greenbriar Ave	Inflow	Cleanout	Replace Cleanout Cap	2,419	\$100	0.041	441,508	\$9,300
FM-18 127	FM-18 126	3245 Prince George	Inflow	Cleanout	Replace Cleanout Cap	2,419	\$100	0.041	443,928	\$9,400
FM-18 68	FM-18 67	3346 Queensburg	Inflow	Cleanout	Replace Cleanout Cap	2,419	\$100	0.041	446,347	\$9,500
FM-08 16	FM-08 15	1006 Tipperary Ave	Inflow	Cleanout	Replace Cleanout Cap	2,419	\$100	0.041	448,766	\$9,600
FM-08 786		704 Greenbriar Ave	Inflow	Cracked Wall	Wall - Coat Manhole Wall	4,320	\$200	0.046	453,086	\$9,800
FM-08 5-31		302 Del Monte Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$250	0.051	457,982	\$10,050
FM-08 4-31		1313 Inverness St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$250	0.051	462,878	\$10,300
FM-08 763B		803 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$250	0.051	467,774	\$10,550
FM-18 131	FM-18 130	3109 Prince george	Inflow	Manhole	Replace Frame and Cover	4,896	\$250	0.051	472,670	\$10,800
FM-18 132	FM-18 131	3105 Prince George	Inflow	Manhole	Replace Frame and Cover	4,896	\$250	0.051	477,566	\$11,050

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 762	707 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$250	0.051	482,462	\$11,300
FM-08 847	1105 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$250	0.051	487,358	\$11,550
FM-18 103	FM-18 102 3305 King George	Inflow	Manhole	Replace Frame and Cover	4,896	\$250	0.051	492,254	\$11,800
FM-18 121	FM-18 120 3314 Duchess Park	Inflow	Manhole	Replace Frame and Cover	4,896	\$250	0.051	497,150	\$12,050
FM-08 844	913 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$250	0.051	502,046	\$12,300
FM-08 816	FM-08 815 1012 Tall Pines Dr	Inflow	Cleanout	Replace Cleanout Cap	1,944	\$100	0.051	503,990	\$12,400
FM-08 774	FM-08 773 1202 Cowards Creek Dr	Inflow	Cleanout	Replace Cleanout Cap	1,944	\$100	0.051	505,934	\$12,500
FM-18 89	FM-18 88 3302 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	7,272	\$375	0.052	513,206	\$12,875
FM-08 861	2591 Clover Ridge Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	5,760	\$300	0.052	518,966	\$13,175
FM-08 28	FM-08 27 3 Willderness Trl	Inflow	Cleanout	Repair Broken Cleanout	6,307	\$375	0.059	525,273	\$13,550
FM-08 860A	FM-08 751 902 Clover Ridge Ave	Inflow	Cleanout	Replace Cleanout Cap	1,590	\$100	0.063	526,863	\$13,650
FM-08 245B	104 Chester Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	530,751	\$13,900
FM-08 15	1011 Tipperary Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	534,639	\$14,150
FM-08 811	707 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	538,527	\$14,400
FM-08 782	1001 Falling Leaf Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	542,415	\$14,650
FM-08 25	1009 Londonderry Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	546,303	\$14,900
FM-08 817	1111 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	550,191	\$15,150
FM-08 876	706 Flamingo Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	554,079	\$15,400
FM-08 880	705 Ferndale Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	557,967	\$15,650
FM-08 23	1109 Londonberry Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	561,855	\$15,900
FM-08 803	808 W Castlewood Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	565,743	\$16,150
FM-08 855	101 Rustic Ln	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	569,631	\$16,400
FM-08 852	1106 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	573,519	\$16,650
FM-08 751A	107 Rustic Ln	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	577,407	\$16,900
FM-08 575A	1101 Falling Leaf Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	581,295	\$17,150
FM-08 840	201 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	585,183	\$17,400
FM-08 883	702 Aladdin Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	589,071	\$17,650
FM-08 800	908 W Castlewood Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	592,959	\$17,900
FM-08 881	706 Tropicana Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	596,847	\$18,150
FM-08 885	704 Excaliber Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	600,735	\$18,400
FM-08 886	711 Excaliber Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	604,623	\$18,650
FM-08 813	402 Sunset Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	608,511	\$18,900
FM-08 812	402 Sunset Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	612,399	\$19,150

					Flow	Repair	Ratio	Cumulative	Cumulative	
Basin/Structure		Street Address	Type	Source	Rehabilitation Work	(PGD)	Cost (\$)	(\$/GPD)	Flow (GPD)	Cost (\$)
FM-08 783		512 Linson Ln	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	616,287	\$19,400
FM-08 29		1002 Lost River Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	620,175	\$19,650
FM-08 824		702 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	624,063	\$19,900
FM-08 796		711 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	627,951	\$20,150
FM-08 887		703 Mirage Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	631,839	\$20,400
FM-08 798		908 W Castlewood Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	635,727	\$20,650
FM-08 97		1104 Cowards Creek	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	639,615	\$20,900
FM-08 888		702 Juliabora Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	643,503	\$21,150
FM-08 778		1002 Cowards Creek Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	647,391	\$21,400
FM-08 799		910 Evergreen Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	651,279	\$21,650
FM-08 891		704 Tropicana Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	655,167	\$21,900
FM-08 787A		921 Falling Leaf Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,888	\$250	0.064	659,055	\$22,150
FM-18 14	FM-18 12	4005 Firenze Dr	Inflow	Cleanout	Repair Broken Cleanout	5,818	\$375	0.064	664,872	\$22,525
FM-08 868		405 Chester Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	13,882	\$950	0.068	678,754	\$23,475
FM-08 3-29		9 Falling Leaf Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	13,882	\$950	0.068	692,636	\$24,425
FM-08 85	FM-08 786	707 Greenbriar Ave	Inflow	Cleanout	Replace Cleanout Cap	1,454	\$100	0.069	694,090	\$24,525
FM-08 809	FM-08 808	906 Tall Pines Dr	Inflow	Cleanout	Replace Cleanout Cap	1,454	\$100	0.069	695,544	\$24,625
FM-08 809	FM-08 808	904 Tall Pines Dr	Inflow	Cleanout	Replace Cleanout Cap	1,454	\$100	0.069	696,999	\$24,725
FM-08 16		1003 Tipperary Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	704,199	\$25,225
FM-08 822		1211 Holly Springs Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	711,399	\$25,725
FM-08 19		1115 Glenshannon Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	718,599	\$26,225
FM-08 819		1203 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	725,799	\$26,725
FM-08 809		901 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	732,999	\$27,225
FM-08 5-16		1012 W Castlewood Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	740,199	\$27,725
FM-08 813		402 Sunset Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	747,399	\$28,225
FM-08 847		1105 FM 2351	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	754,599	\$28,725
FM-08 863		100 Westfield Ln	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	761,799	\$29,225
FM-08 836		1203 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	768,999	\$29,725
FM-08 863A		100 Westfield Ln	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	776,199	\$30,225
FM-08 832		911 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	783,399	\$30,725
FM-08 9-16		1017 Killarney Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	790,599	\$31,225
FM-08 858		902 Clover Ridge Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	797,799	\$31,725
FM-08 11		1003 Killarney Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	7,200	\$500	0.069	804,999	\$32,225

Basin/Structure		Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-18 84	FM-18 47-82	3355 Duke Ln	Inflow	Manhole	Replace Frame and Cover	3,600	\$250	0.069	808,599	\$32,475
FM-18 122	FM-18 121	3405 Duchess Park	Inflow	Cleanout	Repair Broken Cleanout	5,328	\$375	0.070	813,927	\$32,850
FM-08 805		499 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3,456	\$250	0.072	817,383	\$33,100
FM-08 27		4 Wilderness Trl	Inflow	Frame Seal/Ponding	Repair Frame Seal	9,648	\$750	0.078	827,031	\$33,850
FM-08 859		904 Clover Ridge Ave	Inflow	Frame Seal/Ponding	Repair Frame Seal	9,648	\$750	0.078	836,679	\$34,600
FM-08 10-31		105 Del Monte Dr	Inflow	Frame Seal/Ponding	Repair Frame Seal	9,648	\$750	0.078	846,327	\$35,350
FM-08 18		1107 Glenshannon Ave	Inflow	Frame Seal/Ponding	Repair Frame Seal	9,648	\$750	0.078	855,975	\$36,100
FM-08 245A		201 Chester Dr	Inflow	Frame Seal/Ponding	Repair Frame Seal	9,648	\$750	0.078	865,623	\$36,850
FM-08 28		2 Wilderness Trl	Inflow	Frame Seal/Ponding	Repair Frame Seal	9,648	\$750	0.078	875,271	\$37,600
FM-18 127	FM-18 126	3245 Prince George	Inflow	Cleanout	Repair Broken Cleanout	4,558	\$375	0.082	879,828	\$37,975
FM-18 131	FM-18 130	3117 Prince George	Inflow	Cleanout	Repair Broken Cleanout	4,558	\$375	0.082	884,386	\$38,350
FM-18 81	FM-18 80	3609 Kingston	Inflow	Cleanout	Repair Broken Cleanout	4,363	\$375	0.086	888,749	\$38,725
FM-08 751A		107 Rustic Ln	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	894,509	\$39,225
FM-08 21		1001 Glenshannon Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	900,269	\$39,725
FM-08 815		1011 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	906,029	\$40,225
FM-08 783		512 Linson Ln	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	911,789	\$40,725
FM-08 845		1007 FM 2351	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	917,549	\$41,225
FM-08 808		903 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	923,309	\$41,725
FM-08 831		207 Holly Springs Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	929,069	\$42,225
FM-18 82	FM-18 79	3367 Duke Ln	Inflow	Manhole	Replace Frame and Cover	2,880	\$250	0.087	931,949	\$42,475
FM-18 55	FM-18 54	3602 Queensburg	Inflow	Manhole	Replace Frame and Cover	2,880	\$250	0.087	934,829	\$42,725
FM-18 79	FM-18 78	3513 Kingston	Inflow	Manhole	Replace Frame and Cover	2,880	\$250	0.087	937,709	\$42,975
FM-18 119	FM-18 118	3206 Duchess Park	Inflow	Manhole	Replace Frame and Cover	2,880	\$250	0.087	940,589	\$43,225
FM-08 751		215 Rustic Ln	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	5,760	\$500	0.087	946,349	\$43,725
FM-08 863		100 Westfield Ln	Inflow	Cracked Wall	Wall - Coat Manhole Wall	2,160	\$200	0.093	948,509	\$43,925
FM-08 862		2591 Clover Ridge Ave	Inflow	Cracked Wall	Wall - Coat Manhole Wall	2,160	\$200	0.093	950,669	\$44,125
FM-18 74	FM-18 68	3338 Prince George	Inflow	Cleanout	Repair Broken Cleanout	3,888	\$375	0.096	954,557	\$44,500
FM-08 18		1107 Glenshannon Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	9,806	\$950	0.097	964,364	\$45,450
FM-08 825	FM-08 806		Inflow	Main Line Defect	Repair Defective Pipe	40,709	\$4,000	0.098	1,005,072	\$49,450
FM-08 875		703 E Haven Ct	Inflow	Frame Offset	Replace Frame and Cover	1,944	\$200	0.103	1,007,016	\$49,650
FM-08 11	FM-08 10-16	1002 Killarney Ave	Inflow	Cleanout	Replace Cleanout Cap	965	\$100	0.104	1,007,981	\$49,750
FM-08 884	FM-08 883	705 Aladdin Ct	Inflow	Cleanout	Repair Broken Cleanout	965	\$375	0.389	1,008,946	\$49,850
FM-08 6-16	FM-08 5-16	1010 Castlewood Ave	Inflow	Cleanout	Replace Cleanout Cap	965	\$100	0.104	1,009,911	\$49,950

Basin/Structure		Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-18 119	FM-18 118	3105 Duchess Park	Inflow	Cleanout	Replace Cleanout Cap	965	\$100	0.104	1,010,876	\$50,050
FM-08 786		704 Greenbriar Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	2,880	\$300	0.104	1,013,756	\$50,350
FM-18 97	FM-18 96	3120 Richard	Inflow	Cleanout	Repair Broken Cleanout	3,586	\$375	0.105	1,017,341	\$50,725
FM-18 103	FM-18 102	3318 King George	Inflow	Cleanout	Repair Broken Cleanout	3,586	\$375	0.105	1,020,927	\$51,100
FM-18 74	FM-18 68	3324 Prince George	Inflow	Cleanout	Repair Broken Cleanout	3,586	\$375	0.105	1,024,512	\$51,475
FM-18 129	FM-18 128	3221 Prince George	Inflow	Cleanout	Repair Broken Cleanout	3,586	\$375	0.105	1,028,098	\$51,850
FM-18 75	FM-18 74	3321 Prince George	Inflow	Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	1,031,496	\$52,225
FM-18 86	FM-18 85	3327 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	1,034,895	\$52,600
FM-18 66	FM-18 65	3351 Queensburg	Inflow	Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	1,038,293	\$52,975
FM-18 85	FM-18 84	3354 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	1,041,692	\$53,350
FM-18 71	FM-18 70	3341 Prince George	Inflow	Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	1,045,090	\$53,725
FM-18 84	FM-18 47-82	3359 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	1,048,488	\$54,100
FM-08 245A		201 Chester Dr	Inflow	Cracked Corbel	Corbel - Coat Corbel	4,262	\$500	0.117	1,052,751	\$54,600
FM-08 38		1002 Clover Ridge Ave	Inflow	Cracked Corbel	Corbel - Coat Corbel	4,262	\$500	0.117	1,057,013	\$55,100
FM-08 862		2591 Clover Ridge Ave	Inflow	Cracked Corbel	Corbel - Coat Corbel	4,262	\$500	0.117	1,061,276	\$55,600
FM-08 863		100 Westfield Ln	Inflow	Cracked Corbel	Corbel - Coat Corbel	4,262	\$500	0.117	1,065,538	\$56,100
FM-08 751		215 Rustic Ln	Inflow	Cracked Corbel	Corbel - Coat Corbel	4,262	\$500	0.117	1,069,800	\$56,600
FM-08 781		1006 Cowards Creek Ct	Inflow	Cracked Corbel	Corbel - Coat Corbel	4,262	\$500	0.117	1,074,063	\$57,100
FM-08 795		702 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,076,007	\$57,350
FM-08 832		911 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,077,951	\$57,600
FM-08 836		1203 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,079,895	\$57,850
FM-08 27		4 Wilderness Trl	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,081,839	\$58,100
FM-08 6-16		1006 W Castlewood Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,083,783	\$58,350
FM-08 32		205 Holly Spring Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,085,727	\$58,600
FM-08 718		901 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,087,671	\$58,850
FM-08 5-16		1012 W Castlewood Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,089,615	\$59,100
FM-08 8-16		1111 Killarney Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,944	\$250	0.129	1,091,559	\$59,350
FM-18 103	FM-18 102	3310 King George	Inflow	Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	1,094,468	\$59,725
FM-18 113	FM-18 112	3205 Salisbury	Inflow	Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	1,097,376	\$60,100
FM-18 103	FM-18 102	3314 King George	Inflow	Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	1,100,285	\$60,475
FM-18 79	FM-18 78	3504 Kingston	Inflow	Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	1,103,194	\$60,850
FM-18 103	FM-18 102	3306 King George	Inflow	Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	1,106,103	\$61,225
FM-18 98	FM-18 97	3325 Sussex Way	Inflow	Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	1,109,012	\$61,600

					Flow	Repair	Ratio	Cumulative	Cumulative	
Basin/Structure		Street Address	Type	Source	Rehabilitation Work	(PGD)	Cost (\$)	(\$/GPD)	Flow (GPD)	Cost (\$)
FM-08 871		707 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	6,912	\$950	0.137	1,115,924	\$62,550
FM-08 780		1002 Cowards Creek Ct	Inflow	Cracked Corbel	Corbel - Coat Corbel	3,600	\$500	0.139	1,119,524	\$63,050
FM-18 61	FM-18 60	3413 Kingston	Inflow	Manhole	Replace Frame and Cover	1,800	\$250	0.139	1,121,324	\$63,300
FM-18 88	FM-18 87	3315 Duke Ln	Inflow	Manhole	Replace Frame and Cover	1,800	\$250	0.139	1,123,124	\$63,550
FM-08 771		1005 Cowards Creek Dr	Inflow	Cracked Wall	Wall - Coat Manhole Wall	1,440	\$200	0.139	1,124,564	\$63,750
FM-08 825		206 Greenbrair Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	2,160	\$300	0.139	1,126,724	\$64,050
FM-18 119	FM-18 118	3120 Duchess Park	Inflow	Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	1,129,342	\$64,425
FM-18 54	FM-18 7	3510 Queensburg	Inflow	Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	1,131,960	\$64,800
FM-08 826	FM-08 828	203 Pine Willow Ct	Inflow	Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	1,134,577	\$65,175
FM-08 13	FM-08 12	1106 Tipperary Ave	Inflow	Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	1,137,195	\$65,550
FM-18 77	FM-18 76	3305 3305	Inflow	Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	1,139,813	\$65,925
FM-08 28	FM-08 27	2 Willderness Trl	Inflow	Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	1,142,431	\$66,300
FM-08 763	FM-08 763A	805 Cowards Creek Dr	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,144,850	\$66,675
FM-08 842	FM-08 827	202 Sunset Dr	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,147,270	\$67,050
FM-18 71	FM-18 70	3341 Prince George	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,149,689	\$67,425
FM-18 75	FM-18 74	3325 Prince George	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,152,108	\$67,800
FM-18 84	FM-18 47-82	3358 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,154,527	\$68,175
FM-08 763	FM-08 763A	805 Cowards Creek Dr	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,156,946	\$68,550
FM-18 80	FM-18 79	3602 Kingston	Inflow	Cleanout	Repair Broken Cleanout	2,419	\$375	0.155	1,159,366	\$68,925
FM-08 245A	FM-08 245B		Inflow	Main Line Defect	Repair Defective Pipe	25,733	\$4,000	0.155	1,185,098	\$72,925
FM-08 786	FM-08 779		Inflow	Main Line Defect	Repair Defective Pipe	25,056	\$4,000	0.160	1,210,154	\$76,925
FM-18 47	FM-18 42	3549 Firenze Dr	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,211,594	\$77,175
FM-18 76	FM-18 75	3309 Prince George	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,213,034	\$77,425
FM-08 834		1009 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,214,474	\$77,675
FM-08 835		1107 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,215,914	\$77,925
FM-18 95	FM-18 94	3131 Richard	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,217,354	\$78,175
FM-08 838		909 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,218,794	\$78,425
FM-18 111	FM-18 110	3217 Salisbury	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,220,234	\$78,675
FM-18 114	FM-18 107	3310 Queensburg	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,221,674	\$78,925
FM-08 833		1003 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,223,114	\$79,175
FM-18 100	FM-18 97	3329 King George	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,224,554	\$79,425
FM-18 104	FM-18 93	3342 Queensburg	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,225,994	\$79,675
FM-18 9	FM-18 8	3424 Cortona Ln	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,227,434	\$79,925

Basin/Structure		Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 822		1211 Holly Springs Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,228,874	\$80,175
FM-18 129	FM-18 128	3213 Prince George	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,230,314	\$80,425
FM-18 104	FM-18 93	3334 Queensburg	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,231,754	\$80,675
FM-18 85	FM-18 84	3339 Duke Ln	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,233,194	\$80,925
FM-18 86	FM-18 85	3323 Duke Ln	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,234,634	\$81,175
FM-18 125	FM-18 124	3249 Prince George	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,236,074	\$81,425
FM-18 101	FM-18 100	3329 King George	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,237,514	\$81,675
FM-18 65	FM-18 60	3357 Queensburg	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,238,954	\$81,925
FM-18 99	FM-18 98	3301 Sussex Way	Inflow	Manhole	Replace Frame and Cover	1,440	\$250	0.174	1,240,394	\$82,175
FM-08 83A		2024 County Rd 149	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,241,834	\$82,425
FM-08 826		207 Pine Willow Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,440	\$250	0.174	1,243,274	\$82,675
FM-18 128	FM-18 127	3230 Prince George	Inflow	Cleanout	Repair Broken Cleanout	1,944	\$375	0.193	1,245,218	\$83,050
FM-18 84	FM-18 47-82	3359 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	1,944	\$375	0.193	1,247,162	\$83,425
FM-08 892		706 Juliabora Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,252,058	\$84,375
FM-08 766		905 Cowards Creek	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,256,954	\$85,325
FM-08 764		809 Cowards Creek	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,261,850	\$86,275
FM-08 680		702 E Haven Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,266,746	\$87,225
FM-08 819		1203 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,271,642	\$88,175
FM-08 821		1211 Holly Springs Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,276,538	\$89,125
FM-08 873		703 Edgewood Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,281,434	\$90,075
FM-08 763A		803 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,286,330	\$91,025
FM-08 780		1002 Cowards Creek Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,291,226	\$91,975
FM-08 10-31		105 Del Monte Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,296,122	\$92,925
FM-08 849		2116 County Rd 129	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	4,896	\$950	0.194	1,301,018	\$93,875
FM-08 860		810 Meadow Lark Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,520	\$500	0.198	1,303,538	\$94,375
FM-08 833		1003 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,520	\$500	0.198	1,306,058	\$94,875
FM-08 38		1002 Clover Ridge Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,520	\$500	0.198	1,308,578	\$95,375
FM-08 27		4 Wilderness Trl	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,520	\$500	0.198	1,311,098	\$95,875
FM-08 806		1002 Tall Pines Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,440	\$300	0.208	1,312,538	\$96,175
FM-08 6-16		1006 W Castlewood Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,313,935	\$96,475
FM-08 816		1105 Tall Pines Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,315,332	\$96,775
FM-08 800		908 W Castlewood Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,316,729	\$97,075
FM-08 812		402 Sunset Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,318,126	\$97,375

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 814	1005 Tall Pines	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,319,522	\$97,675
FM-08 822	1211 Holly Springs Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,320,919	\$97,975
FM-08 763B	803 Cowards Creek Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,322,316	\$98,275
FM-08 751	215 Rustic Ln	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,323,713	\$98,575
FM-08 828	201 Pine Willow Ct	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,325,110	\$98,875
FM-08 751A	107 Rustic Ln	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,326,506	\$99,175
FM-08 811	707 Tall Pines Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,327,903	\$99,475
FM-08 846	1101 W Edgewood Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,329,300	\$99,775
FM-08 859	904 Clover Ridge Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,330,697	\$100,075
FM-08 798	908 W Castlewood Ave	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,332,094	\$100,375
FM-08 809	901 Tall Pines Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,333,490	\$100,675
FM-08 832	911 Pine Hollow Dr	Inflow	Pipe Seals	Pipe Seals - Seal Pipe Seal	1,397	\$300	0.215	1,334,887	\$100,975
FM-08 1-29	1 Falling Leaf Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,336,039	\$101,225
FM-08 776	1205 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,337,191	\$101,475
FM-08 889	704 Mirage Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,338,343	\$101,725
FM-08 792	1108 Mustang Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,339,495	\$101,975
FM-08 614	907 Evergreen Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,340,647	\$102,225
FM-08 875	703 E Haven Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,341,799	\$102,475
FM-08 808	903 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$250	0.217	1,342,951	\$102,725
FM-08 835	1107 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,345,111	\$103,225
FM-08 15	1011 Tipperary Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,347,271	\$103,725
FM-08 846	1101 W Edgewood Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,349,431	\$104,225
FM-08 861	2591 Clover Ridge Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,351,591	\$104,725
FM-08 841A	201 Greenbriar Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,353,751	\$105,225
FM-08 862	2591 Clover Ridge Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,355,911	\$105,725
FM-08 828	201 Pine Willow Ct	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,358,071	\$106,225
FM-08 834	1009 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,360,231	\$106,725
FM-08 866	902 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,362,391	\$107,225
FM-08 825	206 Greenbrair Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,364,551	\$107,725
FM-08 826	207 Pine Willow Ct	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,366,711	\$108,225
FM-08 18	1107 Glenshannon Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,368,871	\$108,725
FM-08 718	901 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,371,031	\$109,225
FM-08 859	904 Clover Ridge Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,373,191	\$109,725

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 8-16	1111 Killarney Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,375,351	\$110,225
FM-08 841	201 Greenbriar Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,377,511	\$110,725
FM-08 17	1011 Glenshannon Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,379,671	\$111,225
FM-08 817	1111 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,381,831	\$111,725
FM-08 814	1005 Tall Pines	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,383,991	\$112,225
FM-08 12	1017 Tipperary Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,386,151	\$112,725
FM-08 846A	1005 FM 2351	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,388,311	\$113,225
FM-08 842	202 Sunset Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,390,471	\$113,725
FM-08 816	1105 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,392,631	\$114,225
FM-08 22	1017 Londonderry Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,394,791	\$114,725
FM-08 872	907 FM 2351	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,396,951	\$115,225
FM-08 13	1107 Tipperary Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,399,111	\$115,725
FM-08 838	909 Pine Hollow Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2,160	\$500	0.231	1,401,271	\$116,225
FM-08 26	1003 Londonderry Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2160	\$500	0.231	1,403,431	\$116,725
FM-08 818	1203 Tall Pines Dr	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2160	\$500	0.231	1,405,591	\$117,225
FM-08 106	702 Greenbriar Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2160	\$500	0.231	1,407,751	\$117,725
FM-08 840	201 Greenbriar Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2160	\$500	0.231	1,409,911	\$118,225
FM-08 10-16	1009 Killarney Ave	Inflow	Bench/Trough Leak	Bench/Trough - Seal Bench	2160	\$500	0.231	1,412,071	\$118,725
FM-08 872	907 FM 2351	Inflow	Frame Seal	Repair Frame Seal	2880	\$750	0.260	1,414,951	\$119,475
FM-08 845	1007 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3456	\$950	0.275	1,418,407	\$120,425
FM-08 769	1003 Cowards Creek	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	3456	\$950	0.275	1,421,863	\$121,375
FM-08 614	907 Evergreen Dr	Inflow	Cracked Wall	Wall - Coat Manhole Wall	720	\$200	0.278	1,422,583	\$121,575
FM-08 868	405 Chester Dr	Inflow	Cracked Wall	Wall - Coat Manhole Wall	720	\$200	0.278	1,423,303	\$121,775
FM-08 764	809 Cowards Creek	Inflow	Cracked Wall	Wall - Coat Manhole Wall	720	\$200	0.278	1,424,023	\$121,975
FM-08 8-31	121 Del Monte	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	2880	\$950	0.330	1,426,903	\$122,925
FM-08 760	701 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	2880	\$950	0.330	1,429,783	\$123,875
FM-08 868	405 Chester Dr	Inflow	Cracked Corbel	Corbel - Coat Corbel	1454	\$500	0.344	1,431,238	\$124,375
FM-08 614	907 Evergreen Dr	Inflow	Cracked Corbel	Corbel - Coat Corbel	1454	\$500	0.344	1,432,692	\$124,875
FM-08 6-16	1006 W Castlewood Ave	Inflow	Cracked Corbel	Corbel - Coat Corbel	1454	\$500	0.344	1,434,146	\$125,375
FM-08 848	1201 W Edgewood Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	720	\$250	0.347	1,434,866	\$125,625
FM-08 680	702 E Haven Ct	Inflow	Frame Seal	Repair Frame Seal	2160	\$750	0.347	1,437,026	\$126,375
FM-08 105	2110 County Rd 129	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	720	\$250	0.347	1,437,746	\$126,625
FM-08 841	201 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	720	\$250	0.347	1,438,466	\$126,875

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 28	2 Wilderness Trl	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	720	\$250	0.347	1,439,186	\$127,125
FM-08 828	201 Pine Willow Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	720	\$250	0.347	1,439,906	\$127,375
FM-18 79	FM-18 78 3513 Kingston	Inflow	Cleanout	Repair Broken Cleanout	965	\$375	0.389	1,440,871	\$127,750
FM-18 79	FM-18 78 3501 Kingston	Inflow	Cleanout	Repair Broken Cleanout	965	\$375	0.389	1,441,836	\$128,125
FM-18 113	FM-18 112 3201 Salisbury	Inflow	Cleanout	Repair Broken Cleanout	965	\$375	0.389	1,442,801	\$128,500
FM-08 816	1105 Tall Pines Dr	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,444,601	\$129,250
FM-08 8-16	1111 Killarney Ave	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,446,401	\$130,000
FM-08 824	702 Greenbriar Ave	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,448,201	\$130,750
FM-08 832	911 Pine Hollow Dr	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,450,001	\$131,500
FM-08 838	909 Pine Hollow Dr	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,451,801	\$132,250
FM-08 845	1007 FM 2351	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,453,601	\$133,000
FM-08 809	901 Tall Pines Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,455,401	\$133,750
FM-08 840	201 Greenbriar Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,457,201	\$134,500
FM-08 841A	201 Greenbriar Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,459,001	\$135,250
FM-08 813	402 Sunset Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,460,801	\$136,000
FM-08 828	201 Pine Willow Ct	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,462,601	\$136,750
FM-08 15	1011 Tipperary Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,464,401	\$137,500
FM-08 9-16	1017 Killarney Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,466,201	\$138,250
FM-08 815	1011 Tall Pines Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,468,001	\$139,000
FM-08 9-31	105 Del Monte Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,469,801	\$139,750
FM-08 22	1017 Londonderry Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,471,601	\$140,500
FM-08 21	1001 Glenshannon Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,473,401	\$141,250
FM-08 771	1005 Cowards Creek Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,475,201	\$142,000
FM-08 800	908 W Castlewood Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,477,001	\$142,750
FM-08 2-31	314 Del Monte Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,478,801	\$143,500
FM-08 789	1008 Greenbriar Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,480,601	\$144,250
FM-08 17	1011 Glenshannon Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,482,401	\$145,000
FM-08 14	1115 Tipperary Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,484,201	\$145,750
FM-08 13	1107 Tipperary Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,486,001	\$146,500
FM-08 12	1017 Tipperary Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,487,801	\$147,250
FM-08 4-29	19 Falling Leaf Ct	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,489,601	\$148,000
FM-08 1-16	902 Lost River Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,491,401	\$148,750
FM-08 105	2110 County Rd 129	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,493,201	\$149,500

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 10-16	1009 Killarney Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,495,001	\$150,250
FM-08 16	1003 Tipperary Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,496,801	\$151,000
FM-08 762	707 Cowards Creek Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,498,601	\$151,750
FM-08 876	706 Flamingo Ct	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,500,401	\$152,500
FM-08 867	403 Chester Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,502,201	\$153,250
FM-08 866	902 Pine Hollow Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,504,001	\$154,000
FM-08 796	711 Greenbriar Ave	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,505,801	\$154,750
FM-08 882	711 Ferndale Ct	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,507,601	\$155,500
FM-08 874	1001 N Sunset Dr	Inflow	Frame Seal	Repair Frame Seal	1,800	\$750	0.417	1,509,401	\$156,250
FM-08 886	711 Excaliber Ct	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,511,201	\$157,000
FM-08 26	1003 Londonderry Ave	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,513,001	\$157,750
FM-08 889	704 Mirage Ct	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,514,801	\$158,500
FM-08 799	910 Evergreen Dr	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,516,601	\$159,250
FM-08 892	706 Juliabara Ct	Inflow	Frame Seal	Repair Frame Seal	1800	\$750	0.417	1,518,401	\$160,000
FM-08 19	1115 Glenshannon Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$250	0.434	1,518,977	\$160,250
FM-18 119	FM-18 118 3108 Duchess Park	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,519,171	\$160,350
FM-08 792	FM-08 790 1108 Musrang Dr	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,519,366	\$160,450
FM-08 4-31	FM-08 8-31 1300 Inverness St	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,519,560	\$160,550
FM-08 4-31	FM-08 8-31 1300 Inverness St	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,519,754	\$160,650
FM-08 9-16	FM-08 8-16 1101 Killarney Ave	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,519,949	\$160,750
FM-08 21	FM-08 20 1001 Glenshannon Ave	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,520,143	\$160,850
FM-18 118	FM-18 117 3210 Duchess Park	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,520,338	\$160,950
FM-18 57	FM-18 56 3613 Queensburg	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,520,532	\$161,050
FM-18 109	FM-18 108 3228 Salisbury	Inflow	Cleanout	Replace Cleanout Cap	194	\$100	0.515	1,520,726	\$161,150
FM-18 56	FM-18 55 3602 Queensburg	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,520,921	\$161,250
FM-18 88	FM-18 87 3310 Duke Ln	Inflow	Lateral Defects	Replace Lateral	5759	\$3,000	0.521	1,526,681	\$164,250
FM-08 811	FM-08 810	Inflow	Main Line Defect	Repair Defective Pipe	7200	\$4,000	0.556	1,533,881	\$168,250
FM-08 777	FM-08 776	Inflow	Main Line Defect	Repair Defective Pipe	7200	\$4,000	0.556	1,541,081	\$172,250
FM-08 55	FM-08 54	Inflow	Main Line Defect	Repair Defective Pipe	7200	\$4,000	0.556	1,548,281	\$176,250
FM-18 122	FM-18 121 3406 Duchess Park	Inflow	Lateral Defects	Replace Lateral	5333	\$3,000	0.563	1,553,609	\$179,250
FM-08 777	FM-08 776 1207 Cowards Creek Dr	Inflow	Lateral Defects	Replace Lateral	4853	\$3,000	0.618	1,558,462	\$182,250
FM-08 2-31	314 Del Monte Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1440	\$950	0.660	1,559,902	\$183,200
FM-08 844	FM-08 872 913 W Edgewood Dr	Inflow	Lateral Defects	Replace Lateral	4320	\$3,000	0.694	1,564,222	\$186,200

					Flow	Repair	Ratio	Cumulative	Cumulative
Basin/Structure	Street Address	Type	Source	Rehabilitation Work	(PGD)	Cost (\$)	(\$/GPD)	Flow (GPD)	Cost (\$)
FM-08 16	1003 Tipperary Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,565,374	\$187,150
FM-08 815	1011 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,566,526	\$188,100
FM-08 245	301 Chester Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,567,678	\$189,050
FM-08 11	1003 Killarney Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,568,830	\$190,000
FM-08 814	1005 Tall Pines	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,569,982	\$190,950
FM-08 12	1017 Tipperary Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,571,134	\$191,900
FM-08 13	1107 Tipperary Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1152	\$950	0.825	1,572,286	\$192,850
FM-08 794	702 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,573,438	\$193,800
FM-08 17	1011 Glenshannon Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,574,590	\$194,750
FM-08 31	1202 Lost River Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,575,742	\$195,700
FM-08 792C	1115 Pride St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,576,894	\$196,650
FM-08 874	1001 N Sunset Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,578,046	\$197,600
FM-08 877	704 Flamingo Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,579,198	\$198,550
FM-08 878	706 Flamigo ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,580,350	\$199,500
FM-08 882	711 Ferndale Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,581,502	\$200,450
FM-08 884	710 Aladdin Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,582,654	\$201,400
FM-08 792F	1115 Pride St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,583,806	\$202,350
FM-08 866	902 Pine Hollow Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,584,958	\$203,300
FM-08 792D	1115 Pride St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,586,110	\$204,250
FM-08 792E	1115 Pride St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,587,262	\$205,200
FM-08 792B	1115 Pride St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,588,414	\$206,150
FM-08 792A	1108 Pride St	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,589,566	\$207,100
FM-08 771	1005 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,590,718	\$208,050
FM-08 772	1103 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,591,870	\$209,000
FM-08 790	1018 Mustang Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,593,022	\$209,950
FM-08 789	1008 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,594,174	\$210,900
FM-08 4-29	19 Falling Leaf Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,595,326	\$211,850
FM-08 890	706 Mirage Ct	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,596,478	\$212,800
FM-08 818	1203 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,597,630	\$213,750
FM-08 85	710 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,598,782	\$214,700
FM-08 45	1003 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,599,934	\$215,650
FM-08 850	100 Westfield Ln	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	1,152	\$950	0.825	1,601,086	\$216,600
FM-18 76	FM-18 75 3309 Prince George	Inflow	Lateral Defects	Replace Lateral	3,588	\$3,000	0.836	1,604,671	\$219,600

Basin/Structure		Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-18 106	FM-18 105	3330 Queensburg	Inflow	Lateral Defects	Replace Lateral	3,588	\$3,000	0.836	1,608,257	\$222,600
FM-18 85	FM-18 84	3346 Duke Ln	Inflow	Lateral Defects	Replace Lateral	3,586	\$3,000	0.837	1,611,842	\$225,600
FM-08 4-29	FM-08 4-29A	19 Falling Leaf Ct	Inflow	Lateral Defects	Replace Lateral	3,394	\$3,000	0.884	1,615,241	\$228,600
FM-18 64	FM-18 63	3406 Kingston	Inflow	Lateral Defects	Replace Lateral	3,394	\$3,000	0.884	1,618,639	\$231,600
FM-18 66	FM-18 65	3354 Queensburg	Inflow	Lateral Defects	Replace Lateral	3,394	\$3,000	0.884	1,622,038	\$234,600
FM-08 23	FM-08 23A	1103 Londonderry Ave	Inflow	Lateral Defects	Replace Lateral	2,909	\$3,000	1.031	1,624,946	\$237,600
FM-18 110	FM-18 109	3229 Salisbury	Inflow	Lateral Defects	Replace Lateral	2,909	\$3,000	1.031	1,627,855	\$240,600
FM-18 128	FM-18 127	3230 Prince George	Inflow	Lateral Defects	Replace Lateral	2,618	\$3,000	1.146	1,630,473	\$243,600
FM-18 130	FM-18 129	3201 Prince George	Inflow	Lateral Defects	Replace Lateral	2,419	\$3,000	1.240	1,632,892	\$246,600
FM-08 21		1001 Glenshannon Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,633,468	\$247,550
FM-08 26		1003 Londonderry Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,634,044	\$248,500
FM-08 775		1201 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,634,620	\$249,450
FM-08 831		207 Holly Springs Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,635,196	\$250,400
FM-08 9-16		1017 Killarney Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,635,772	\$251,350
FM-08 14		1115 Tipperary Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,636,348	\$252,300
FM-08 22		1017 Londonderry Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,636,924	\$253,250
FM-08 1-16		902 Lost River Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,637,500	\$254,200
FM-08 10-16		1009 Killarney Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,638,076	\$255,150
FM-08 867		403 Chester Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,638,652	\$256,100
FM-08 33		205 Holly Springs Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	576	\$950	1.649	1,639,228	\$257,050
FM-18 87	FM-18 86	3322 Duke Ln	Inflow	Lateral Defects	Replace Lateral	1,590	\$3,000	1.887	1,640,818	\$260,050
FM-18 72	FM-18 71	3337 Prince George	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,641,012	\$260,425
FM-08 11	FM-08 10-16	1009 Killarney Ave	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,641,207	\$260,800
FM-18 85	FM-18 84	3342 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,641,401	\$261,175
FM-18 68	FM-18 67	3346 Queensburg	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,641,596	\$261,550
FM-18 54	FM-18 7	3506 Queensburg	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,641,790	\$261,925
FM-08 842	FM-08 827	708 Pine Hollow Dr	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,641,984	\$262,300
FM-18 80	FM-18 79	3606 Kingston	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,642,179	\$262,675
FM-18 80	FM-18 79	3601 Kingston	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,642,373	\$263,050
FM-18 86	FM-18 85	3326 Duke Ln	Inflow	Cleanout	Repair Broken Cleanout	194	\$375	1.933	1,642,568	\$263,425
FM-08 851	FM-08 850	1014 W Edgewood Dr	Inflow	Lateral Defects	Replace Lateral	1,440	\$3,000	2.083	1,644,008	\$266,425
FM-18 13	FM-18 12	1103 Tipperary Ave	Inflow	Lateral Defects	Replace Lateral	1,181	\$3,000	2.540	1,645,188	\$269,425
FM-08 85	FM-08 786	710 Greenbriar Ave	Inflow	Foundation Drains	Connect New Storm Sump	1,210	\$3,700	3.058	1,646,398	\$273,125

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (PGD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 245A	201 Chester Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	288	\$950	3.299	1,646,686	\$274,075
FM-08 856	801 W Edgewood Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,646,758	\$274,325
FM-08 846	1101 W Edgewood Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,646,830	\$274,575
FM-08 872	907 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,646,902	\$274,825
FM-08 9-31	105 Del Monte Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,646,974	\$275,075
FM-08 106	702 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,046	\$275,325
FM-08 763C	707 Cowards Creek Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,118	\$275,575
FM-08 842	202 Sunset Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,190	\$275,825
FM-08 851	1102 W Edgewood Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,262	\$276,075
FM-08 797	711 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,334	\$276,325
FM-08 846A	1005 FM 2351	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,406	\$276,575
FM-08 786	704 Greenbriar Ave	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,478	\$276,825
FM-08 807	1001 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,550	\$277,075
FM-08 6-31	1941 County Rd 129	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,622	\$277,325
FM-08 816	1105 Tall Pines Dr	Inflow	Defective Cover(Pick Holes, Broken)	Replace Frame and Cover	72	\$250	3.472	1,647,694	\$277,575
FM-08 863	100 Westfield Ln	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,647,927	\$278,525
FM-08 800	908 W Castlewood Ave	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,648,161	\$279,475
FM-08 789	1008 Greenbriar Ave	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,648,394	\$280,425
FM-08 863A	100 Westfield Ln	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,648,627	\$281,375
FM-08 876	706 Flamingo Ct	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,648,860	\$282,325
FM-08 245A	201 Chester Dr	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,649,094	\$283,275
FM-08 846	1101 W Edgewood Dr	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,649,327	\$284,225
FM-08 828	201 Pine Willow Ct	Inflow	Broken Frame	Replace Frame and Cover	233	\$950	4.077	1,649,560	\$285,175
FM-08 6-16	FM-08 5-16	1012 Castlewood Ave	Inflow	Foundation Drains	726	\$3,700	5.096	1,650,286	\$288,875
FM-08 809	FM-08 808	906 Tall Pines Dr	Inflow	Cleanout	10	\$100	10.000	1,650,296	\$288,975

Total Flow (gpd): 1,650,296

Total Cost: \$288,975

Total Sources: 485

APPENDIX G

INFILTRATION SOURCE REPORT

Infiltration Source Report

Project Number

18-2969-00

Friendswood Phase 2 SSES Year 1

						Repair		Cumulative	Cumulative	
Basin/Structure		Street Address	Typ	Source	Rehabilitation Work	Flow (GPD)	Cost (\$)	Ratio (\$/GPD)	Flow (GPD)	Cost (\$)
FM-08 13	FM-08 12	TIPPERARY	Infilt	Pipe w/ Hole	Repair	720	\$545	0.757	720	\$545
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Joint, Cracked	Repair	720	\$545	0.757	1,440	\$1,090
FM-08 245A	FM-08 245B	CHESTER	Infilt	Joint, Cracked	Repair	720	\$600	0.833	2,160	\$1,690
FM-08 245B	FM-08 871	CHESTER	Infilt	Pipe w/ Hole	Repair	720	\$650	0.903	2,880	\$2,340
FM-08 811	FM-08 810	TALL PINES	Infilt	Pipe, Broken	Repair	720	\$650	0.903	3,600	\$2,990
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Pipe, Broken	Repair	720	\$650	0.903	4,320	\$3,640
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Pipe, Broken	Repair	720	\$650	0.903	5,040	\$4,290
FM-08 245B	FM-08 871	CHESTER	Infilt	Pipe w/ Hole	Repair	720	\$650	0.903	5,760	\$4,940
FM-08 245B	FM-08 871	CHESTER	Infilt	Pipe w/ Hole	Repair	720	\$650	0.903	6,480	\$5,590
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Pipe w/ Open Crack	Repair	432	\$545	1.262	6,912	\$6,135
FM-08 245A	FM-08 245B	CHESTER	Infilt	Pipe w/ Open Crack	Repair	432	\$600	1.389	7,344	\$6,735
FM-08 25	FM-08 22	LONDONERRY AVENUE	Infilt	Service Connection w/ Break-In	Repair	216	\$500	2.315	7,560	\$7,235
FM-08 25	FM-08 22	LONDONERRY AVENUE	Infilt	Service Connection w/Defect	Repair	216	\$500	2.315	7,776	\$7,735
FM-08 25	FM-08 22	LONDONERRY AVENUE	Infilt	Service Connection w/Defect	Repair	216	\$500	2.315	7,992	\$8,235
FM-08 25	FM-08 22	LONDONERRY AVENUE	Infilt	Service Connection w/ Break-In	Repair	216	\$500	2.315	8,208	\$8,735
FM-08 777	FM-08 776	COWARDS CREEK DRIVE	Infilt	Service Connection w/ Break-In	Repair	216	\$500	2.315	8,424	\$9,235
FM-08 25	FM-08 22	LONDONERRY AVENUE	Infilt	Service Connection w/Defect	Repair	216	\$500	2.315	8,640	\$9,735
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Service Connection w/ Break-In	Repair	216	\$545	2.523	8,856	\$10,280
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Service Connection w/ Break-In	Repair	216	\$545	2.523	9,072	\$10,825
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Service Connection w/ Break-In	Repair	216	\$545	2.523	9,288	\$11,370
FM-08 13	FM-08 12	TIPPERARY	Infilt	Service Connection w/ Break-In	Repair	216	\$545	2.523	9,504	\$11,915
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Connection Infiltration	Repair	216	\$545	2.523	9,720	\$12,460
FM-08 786	FM-08 779	GREEBBRIAR	Infilt	Service Connection w/Defect	Repair	216	\$545	2.523	9,936	\$13,005
FM-08 13	FM-08 12	TIPPERARY	Infilt	Service Connection w/ Break-In	Repair	216	\$545	2.523	10,152	\$13,550
FM-08 245A	FM-08 245B	CHESTER	Infilt	Service Connection w/ Break-In	Repair	216	\$600	2.778	10,368	\$14,150
FM-08 245A	FM-08 245B	CHESTER	Infilt	Service Connection w/ Break-In	Repair	216	\$600	2.778	10,584	\$14,750
FM-08 245A	FM-08 245B	CHESTER	Infilt	Joints With Infiltration	Repair Defective Pipe	173	\$508	2.940	10,757	\$15,258
FM-08 245B	FM-08 871	CHESTER	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	10,973	\$15,908
FM-08 245B	FM-08 871	CHESTER	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	11,189	\$16,558

Saturday, December 10, 2016

Page 1 of 3

Basin/Structure		Street Address	Typ	Source	Rehabilitation Work	Flow (GPD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 245B	FM-08 871	CHESTER	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	11,405	\$17,208
FM-08 245B	FM-08 871	CHESTER	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	11,621	\$17,858
FM-08 245	FM-08 245A	CHESTER	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	11,837	\$18,508
FM-08 6-16-REV	FM-08 5-16	W CASTLEWOOD	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	12,053	\$19,158
FM-08 245	FM-08 245A	CHESTER	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	12,269	\$19,808
FM-08 245B	FM-08 871	CHESTER	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	12,485	\$20,458
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	12,701	\$21,108
FM-08 809	FM-08 808	TALL PINES	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	12,917	\$21,758
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	13,133	\$22,408
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	13,349	\$23,058
FM-08 6-16-REV	FM-08 5-16	W CASTLEWOOD	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	13,565	\$23,708
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	13,781	\$24,358
FM-08 245	FM-08 245A	CHESTER	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	13,997	\$25,008
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	14,213	\$25,658
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	14,429	\$26,308
FM-08 811	FM-08 810	TALL PINES	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	14,645	\$26,958
FM-08 811	FM-08 810	TALL PINES	Infilt	Service Connection w/Defect	Repair	216	\$650	3.009	14,861	\$27,608
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	15,077	\$28,258
FM-08 811	FM-08 810	TALL PINES	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	15,293	\$28,908
FM-08 245	FM-08 245A	CHESTER	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	15,509	\$29,558
FM-08 809	FM-08 808	TALL PINES	Infilt	Service Connection w/ Break-In	Repair	216	\$650	3.009	15,725	\$30,208
FM-08 245	FM-08 245A	CHESTER	Infilt	Joints With Infiltration	Repair Defective Pipe	158	\$506	3.194	15,883	\$30,714
FM-08 245A	FM-08 245B	CHESTER	Infilt	Pipe w/ Circular Crack	Repair	144	\$600	4.167	16,027	\$31,314
FM-08 245A	FM-08 245B	CHESTER	Infilt	Pipe w/ Longitudinal Crack	Repair	144	\$600	4.167	16,171	\$31,914
FM-08 806	FM-08 807	TALL PINES	Infilt	Joints With Infiltration	Repair Defective Pipe	115	\$508	4.410	16,286	\$32,422
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Pipe w/ Longitudinal Crack	Repair	144	\$650	4.514	16,430	\$33,072
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Pipe w/ Longitudinal Crack	Repair	144	\$650	4.514	16,574	\$33,722
FM-08 245B	FM-08 871	CHESTER	Infilt	Joint w/ Gasket Exposed	Repair	144	\$650	4.514	16,718	\$34,372
FM-08 245B	FM-08 871	CHESTER	Infilt	Joint w/ Gasket Exposed	Repair	144	\$650	4.514	16,862	\$35,022
FM-08 245B	FM-08 871	CHESTER	Infilt	Pipe w/ Circular Crack	Repair	144	\$650	4.514	17,006	\$35,672
FM-08 245B	FM-08 871	CHESTER	Infilt	Joints With Infiltration	Repair Defective Pipe	86	\$504	5.833	17,093	\$36,176

Project Number 18-2969-00 Friendswood Phase 2 SSES Year 1

Basin/Structure		Street Address	Typ	Source	Rehabilitation Work	Flow (GPD)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 6-16-REVFM-08 5-16		W CASTLEWOOD	Infilt	Intruding > 1 Inch	Repair	101	\$650	6.448	17,194	\$36,826
FM-08 831	FM-08 836	PINE HOLLOW DRIVE	Infilt	Intruding > 1 Inch	Repair	101	\$650	6.448	17,294	\$37,476
FM-08 825	FM-08 806	GREENBRIAR	Infilt	Joints With Infiltration	Repair Defective Pipe	43	\$504	11.667	17,338	\$37,980

Total Flow (gpd): 17,338

Total Cost: \$37,980

Total Sources: 63

APPENDIX H

MANHOLE REHABILITATION RECOMMENDATIONS

Manhole Rehabilitation Recommendations

Project Number 18 -2969-00 Friendswood Phase 2 SSES Year 1

Manhole		Repair Description	Street Address	Construction / MH Type	Surface	Depth	Rating	Grade	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infilt (GPD)	Flow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
FM-08-10-16		Remove and Replace Manhole	1009 Killarney Ave	Fiberglass / MH	Paved	5.10	0.0		\$5,000	\$5,000	4,536		4,536	4,536	0.772	1
FM-08-10-31		Replace Cover/Frame/Frame Seal	105 Del Monte Dr	Precast / MH	Paved	7.04	0.0		\$1,450	\$6,450	14,544		14,544	19,080	0.100	2
FM-08-105		Replace Cover/Frame/Frame Seal and Adjustment	2110 County Rd 129	Precast / MH	Non-Paved	6.93	0.0		\$1,500	\$7,950	2,520		2,520	21,600	0.595	3
FM-08-106		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	702 Greenbriar Ave	Poured / MH	Non-Paved	7.78	0.0		\$3,100	\$11,050	2,232		2,232	23,832	1.389	4
FM-08-11		Remove and Replace Manhole	1003 Killarney Ave	Fiberglass / MH	Non-Paved	5.35	0.0		\$5,000	\$16,050	8,352		8,352	32,184	0.371	5
FM-08-1-16		Replace Cover/Frame/Frame Seal and Adjustment	902 Lost River Dr	Plastic / MH	Non-Paved	17.06	0.0		\$1,500	\$17,550	2,376		2,376	34,560	0.631	6
FM-08-12		Remove and Replace Manhole	1017 Tipperary Ave	Fiberglass / MH	Paved	7.66	0.0		\$5,000	\$22,550	5,112		5,112	39,672	0.685	7
FM-08-1-29		Replace Cover/Frame/Frame Seal	1 Falling Leaf Ct	Precast / MH	Non-Paved	10.22	0.0		\$1,050	\$23,600	1,152		1,152	40,824	0.911	8
FM-08-13		Remove and Replace Manhole	1107 Tipperary Ave	Fiberglass / MH	Paved	5.48	0.0		\$5,000	\$28,600	5,112		5,112	45,936	0.685	9
FM-08-14		Remove and Replace Manhole	1115 Tipperary Ave	Fiberglass / MH	Paved	4.45	0.0		\$5,000	\$33,600	23,976		23,976	69,912	0.146	10
FM-08-15		Remove and Replace Manhole	1011 Tipperary Ave	Fiberglass / MH	Non-Paved	5.41	0.0		\$5,000	\$38,600	7,848		7,848	77,760	0.395	11
FM-08-16		Remove and Replace Manhole	1003 Tipperary Ave	Fiberglass / MH	Paved	4.91	0.0		\$5,000	\$43,600	10,152		10,152	87,912	0.345	12
FM-08-17		Remove and Replace Manhole	1011 Glenshannon Ave	Fiberglass / MH	Non-Paved	6.85	0.0		\$5,000	\$48,600	5,112		5,112	93,024	0.606	13
FM-08-18		Remove and Replace Manhole	1107 Glenshannon Ave	Fiberglass / MH	Non-Paved	4.91	0.0		\$5,000	\$53,600	21,614		21,614	114,638	0.143	14
FM-08-19		Remove and Replace Manhole	1115 Glenshannon Ave	Fiberglass / MH	Paved	5.28	0.0		\$5,000	\$58,600	7,776		7,776	122,414	0.450	15
FM-08-21		Remove and Replace Manhole	1001 Glenshannon Ave	Fiberglass / MH	Paved	4.98	0.0		\$5,000	\$63,600	8,136		8,136	130,550	0.430	16
FM-08-22		Remove and Replace Manhole	1017 Londonderry Ave	Fiberglass / MH	Paved	6.37	0.0		\$5,000	\$68,600	4,536		4,536	135,086	0.772	17
FM-08-2-29		Replace Cover/Frame/Frame Seal	1 Falling Leaf Ct	Precast / MH	Non-Paved	10.28	0.0		\$1,050	\$69,650	27,749		27,749	162,835	0.038	18
FM-08-23		Replace Cover/Frame/Frame Seal	1109 Londonberry Ave	Poured / MH	Non-Paved	4.40	0.0		\$1,050	\$70,700	3,888		3,888	166,723	0.270	19
FM-08-2-31		Replace Cover/Frame/Frame Seal and Adjustment	314 Del Monte Dr	Precast / MH	Non-Paved	4.80	0.0		\$1,500	\$72,200	3,240		3,240	169,963	0.463	20
FM-08-245		Cementitious Coating and Replace Cover/Frame/Frame Seal	301 Chester Dr	Precast / MH	Non-Paved	6.22	0.0		\$2,245	\$74,445	8,352		8,352	178,315	0.269	21
FM-08-245A		Compete Manhole Rehab w/ New Frame and Cover	201 Chester Dr	Precast / MH	Non-Paved	6.88	0.0		\$2,726	\$77,171	15,512		15,512	193,827	0.176	22
FM-08-245B		Cementitious Coating and Replace Cover/Frame/Frame Seal	104 Chester Dr	Precast / MH	Non-Paved	7.07	0.0		\$2,381	\$79,552	25,488		25,488	219,315	0.093	23
FM-08-25		Replace Cover/Frame/Frame Seal	1009 Londonderry Ave	Poured / MH	Non-Paved	4.60	0.0		\$1,050	\$80,602	3,888		3,888	223,203	0.270	24
FM-08-26		Remove and Replace Manhole	1003 Londonderry Ave	Fiberglass / MH	Non-Paved	4.47	0.0		\$5,000	\$85,602	4,536		4,536	227,739	0.683	25
FM-08-27		Remove and Replace Manhole	4 Wilderness Trl	Fiberglass / MH	Paved	5.28	0.0		\$5,000	\$90,602	14,112		14,112	241,851	0.248	26
FM-08-28		Replace Cover/Frame/Frame Seal and Adjustment	2 Wilderness Trl	Precast / MH	Non-Paved	3.36	0.0		\$1,500	\$92,102	10,368		10,368	252,219	0.145	27
FM-08-29		Replace Cover/Frame/Frame Seal	1002 Lost River Dr	Precast / MH	Non-Paved	8.01	0.0		\$1,050	\$93,152	3,888		3,888	256,107	0.270	28
FM-08-31		Replace Cover/Frame/Frame Seal	1202 Lost River Dr	Plastic / MH	Non-Paved	4.08	0.0		\$1,050	\$94,202	1,152		1,152	257,259	0.911	29
FM-08-32		Replace Cover/Frame/Frame Seal	205 Holly Spring Dr	None / N/A	Non-Paved	1.50	0.0		\$1,050	\$95,252	1,944		1,944	259,203	0.540	30
FM-08-3-29		Replace Cover/Frame/Frame Seal	9 Falling Leaf Ct	Precast / MH	Paved	6.08	0.0		\$1,450	\$96,702	13,882		13,882	273,084	0.104	31
FM-08-33		Replace Cover/Frame/Frame Seal	205 Holly Springs Dr	None / N/A	Non-Paved	1.00	0.0		\$1,050	\$97,752	576		576	273,660	1.823	32
FM-08-38		Remove and Replace Manhole	1002 Clover Ridge Ave	Fiberglass / MH	Non-Paved	6.45	0.0		\$5,000	\$102,752	6,782		6,782	280,443	0.221	33
FM-08-4-29		Replace Cover/Frame/Frame Seal	19 Falling Leaf Ct	Precast / MH	Paved	5.02	0.0		\$1,450	\$104,202	2,952		2,952	283,395	0.491	34
FM-08-4-31		Replace Cover/Frame/Frame Seal	1313 Inverness St	Poured / MH	Non-Paved	11.70	0.0		\$1,050	\$105,252	4,896		4,896	288,291	0.214	35
FM-08-45		Replace Cover/Frame/Frame Seal	1003 Cowards Creek Dr	Precast / MH	Paved	9.51	0.0		\$1,450	\$106,702	1,152		1,152	289,443	1.259	36
FM-08-5-16		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1012 W Castlewood Ave	Plastic / MH	Non-Paved	6.40	0.0		\$3,100	\$109,802	9,144		9,144	298,587	0.339	37

Manhole Rehabilitation Recommendations

Project Number 18 -2969-00 Friendswood Phase 2 SSES Year 1

Manhole		Repair Description	Street Address	Construction / MH Type	Surface	Depth	Rating	Grade	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infilt (GPD)	Flow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
FM-08-5-31		Replace Cover/Frame/Frame Seal	302 Del Monte Dr	Poured / MH	Non-Paved	10.62	0.0		\$1,050	\$110,852	4,896		4,896	303,483	0.214	38
FM-08-575A		Replace Cover/Frame/Frame Seal	1101 Falling Leaf Dr	Poured / MH	Non-Paved	5.35	0.0		\$1,050	\$111,902	3,888		3,888	307,371	0.270	39
FM-08-614		Compete Manhole Rehab w/ New Frame and Cover	907 Evergreen Dr	Brick / MH	Non-Paved	3.83	0.0		\$2,238	\$114,140	3,326		3,326	310,697	0.673	40
FM-08-6-16		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	1006 W Castlewood Ave	Precast / MH	Non-Paved	4.46	0.0		\$3,100	\$117,240	26,395		26,395	337,092	0.117	41
FM-08-680		Replace Cover/Frame/Frame Seal	702 E Haven Ct	Poured / MH	Paved	6.05	0.0		\$1,450	\$118,690	7,056		7,056	344,148	0.205	42
FM-08-718		Remove and Replace Manhole	901 Pine Hollow Dr	Fiberglass / MH	Non-Paved	8.94	0.0		\$5,000	\$123,690	4,104		4,104	348,252	0.755	43
FM-08-751		Remove and Replace Manhole	215 Rustic Ln	Fiberglass / MH	Non-Paved	9.36	0.0		\$5,000	\$128,690	11,419		11,419	359,672	0.131	44
FM-08-751A		Remove and Replace Manhole	107 Rustic Ln	Fiberglass / MH	Non-Paved	10.44	0.0		\$3,295	\$131,985	13,205		13,205	372,876	0.250	45
FM-08-760		Complete Manhole Rehab w/ New Cover	701 Cowards Creek Dr	Precast / MH	Non-Paved	11.97	0.0		\$2,665	\$134,650	2,880		2,880	375,756	0.925	46
FM-08-762		Replace Cover/Frame/Frame Seal and Adjustment	707 Cowards Creek Dr	Precast / MH	Non-Paved	11.63	0.0		\$1,500	\$136,150	6,696		6,696	382,452	0.224	47
FM-08-763A		Replace Cover/Frame/Frame Seal	803 Cowards Creek Dr	Poured / MH	Non-Paved	8.88	0.0		\$1,050	\$137,200	4,896		4,896	387,348	0.214	48
FM-08-763B		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	803 Cowards Creek Dr	Precast / MH	Non-Paved	8.25	0.0		\$3,100	\$140,300	6,293		6,293	393,641	0.493	49
FM-08-764		Cementitious Coating and Replace Cover/Frame/Frame Seal	809 Cowards Creek	Poured / MH	Non-Paved	9.90	0.0		\$2,834	\$143,134	5,616		5,616	399,257	0.505	50
FM-08-766		Replace Cover/Frame/Frame Seal	905 Cowards Creek	Poured / MH	Paved	9.96	0.0		\$1,450	\$144,584	4,896		4,896	404,153	0.296	51
FM-08-767		Install Bolts/Gasket for Bolted Cover	911 Cowards Creek	Poured / MH	Non-Paved	9.70	0.0		\$100	\$144,684	4,896		4,896	409,049	0.020	52
FM-08-769		Replace Cover/Frame/Frame Seal	1003 Cowards Creek	Precast / MH	Non-Paved	9.40	0.0		\$1,050	\$145,734	3,456		3,456	412,505	0.304	53
FM-08-771		Cementitious Coating and Replace Cover/Frame/Frame Seal and Adjustment	1005 Cowards Creek Dr	Precast / MH	Non-Paved	8.46	0.0		\$2,904	\$148,638	4,392		4,392	416,897	0.661	54
FM-08-772		Replace Cover/Frame/Frame Seal	1103 Cowards Creek Dr	Precast / MH	Non-Paved	8.07	0.0		\$1,050	\$149,688	1,152		1,152	418,049	0.911	55
FM-08-775		Replace Cover/Frame/Frame Seal	1201 Cowards Creek Dr	Precast / MH	Non-Paved	7.93	0.0		\$1,050	\$150,738	576		576	418,625	1.823	56
FM-08-776		Replace Cover/Frame/Frame Seal	1205 Cowards Creek Dr	Precast / MH	Non-Paved	6.64	0.0		\$1,050	\$151,788	1,152		1,152	419,777	0.911	57
FM-08-778		Replace Cover/Frame/Frame Seal	1002 Cowards Creek Ct	Precast / MH	Non-Paved	5.71	0.0		\$1,050	\$152,838	3,888		3,888	423,665	0.270	58
FM-08-780		Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	1002 Cowards Creek Ct	None / MH	Non-Paved	4.28	0.0		\$1,685	\$154,523	8,496		8,496	432,161	0.198	59
FM-08-781		Cementitious Coating, Grout Lower 18" of Manhole, and Repair Bench/Trough	1006 Cowards Creek Ct	None / MH	Non-Paved	3.82	0.0		\$1,611	\$156,134	4,262		4,262	436,424	0.378	60
FM-08-782		Replace Cover/Frame/Frame Seal	1001 Falling Leaf Dr	Precast / MH	Non-Paved	7.07	0.0		\$1,050	\$157,184	3,888		3,888	440,312	0.270	61
FM-08-783		Remove and Replace Manhole	512 Linson Ln	Fiberglass / MH	Non-Paved	4.67	0.0		\$5,000	\$162,184	9,648		9,648	449,960	0.321	62
FM-08-786		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	704 Greenbriar Ave	Poured / MH	Non-Paved	8.11	0.0		\$3,100	\$165,284	7,272		7,272	457,232	0.426	63
FM-08-787A		Replace Cover/Frame/Frame Seal	921 Falling Leaf Dr	Poured / MH	Non-Paved	4.67	0.0		\$1,050	\$166,334	3,888		3,888	461,120	0.270	64
FM-08-789		Replace Cover/Frame/Frame Seal and Adjustment	1008 Greenbriar Ave	Poured / MH	Non-Paved	6.78	0.0		\$1,500	\$167,834	3,185		3,185	464,305	0.471	65
FM-08-790		Replace Cover/Frame/Frame Seal	1018 Mustang Dr	Precast / MH	Non-Paved	5.21	0.0		\$1,050	\$168,884	1,152		1,152	465,457	0.911	66
FM-08-792		Replace Cover/Frame/Frame Seal	1108 Mustang Dr	Precast / MH	Non-Paved	5.21	0.0		\$1,050	\$169,934	1,152		1,152	466,609	0.911	67
FM-08-792A		Replace Cover/Frame/Frame Seal	1108 Pride St	Precast / MH	Paved	5.41	0.0		\$1,450	\$171,384	1,152		1,152	467,761	1.259	68
FM-08-792B		Replace Cover/Frame/Frame Seal	1115 Pride St	Precast / MH	Paved	5.25	0.0		\$1,450	\$172,834	1,152		1,152	468,913	1.259	69
FM-08-792C		Replace Cover/Frame/Frame Seal	1115 Pride St	Precast / MH	Paved	3.23	0.0		\$1,450	\$174,284	1,152		1,152	470,065	1.259	70
FM-08-792D		Replace Cover/Frame/Frame Seal	1115 Pride St	Precast / MH	Paved	2.27	0.0		\$1,450	\$175,734	1,152		1,152	471,217	1.259	71
FM-08-792E		Replace Cover/Frame/Frame Seal	1115 Pride St	Precast / MH	Paved	2.85	0.0		\$1,450	\$177,184	1,152		1,152	472,369	1.259	72
FM-08-792F		Replace Cover/Frame/Frame Seal	1115 Pride St	Precast / MH	Paved	3.13	0.0		\$1,450	\$178,634	1,152		1,152	473,521	1.259	73
FM-08-794		Replace Cover/Frame/Frame Seal	702 Greenbriar Ave	Poured / MH	Non-Paved	7.52	0.0		\$1,050	\$179,684	1,152		1,152	474,673	0.911	74

Manhole Rehabilitation Recommendations

Project Number 18 -2969-00 Friendswood Phase 2 SSES Year 1

Manhole		Repair Description	Street Address	Construction / MH Type	Surface	Depth	Rating	Grade	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infilt (GPD)	Flow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
FM-08-795		Replace Cover/Frame/Frame Seal	702 Greenbriar Ave	Poured / MH	Non-Paved	7.07	0.0		\$1,050	\$180,734	1,944		1,944	476,617	0.540	75
FM-08-796		Replace Cover/Frame/Frame Seal and Adjustment	711 Greenbriar Ave	Poured / MH	Non-Paved	7.71	0.0		\$1,500	\$182,234	5,688		5,688	482,305	0.264	76
FM-08-798		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	908 W Castlewood Ave	Precast / MH	Non-Paved	6.21	0.0		\$3,100	\$185,334	5,285		5,285	487,590	0.587	77
FM-08-799		Replace Cover/Frame/Frame Seal and Adjustment	910 Evergreen Dr	Precast / MH	Non-Paved	6.50	0.0		\$1,500	\$186,834	5,688		5,688	493,278	0.264	78
FM-08-800		Grout Lower 18" of Manhole and Replace Cover/Frame/Frame Seal	908 W Castlewood Ave	Precast / MH	Non-Paved	5.28	0.0		\$3,100	\$189,934	7,318		7,318	500,596	0.424	79
FM-08-803		Replace Cover/Frame/Frame Seal	808 W Castlewood Ave	Poured / MH	Non-Paved	6.38	0.0		\$1,050	\$190,984	3,888		3,888	504,484	0.270	80
FM-08-805		Cementitious Coating and Replace Cover/Frame/Frame Seal	499 Greenbriar Ave	Precast / MH	Non-Paved	8.16	0.0		\$2,556	\$193,540	5,976		5,976	510,460	0.428	81
FM-08-806		Remove and Replace Manhole	1002 Tall Pines Dr	Fiberglass / MH	Paved	8.94	0.0		\$5,000	\$198,540	23,040		23,040	533,500	0.043	82
FM-08-808		Remove and Replace Manhole	903 Tall Pines Dr	Fiberglass / MH	Non-Paved	7.10	0.0		\$5,000	\$203,540	6,912		6,912	540,412	0.448	83
FM-08-809		Remove and Replace Manhole	901 Tall Pines Dr	Fiberglass / MH	Non-Paved	6.06	0.0		\$5,000	\$208,540	10,397		10,397	550,809	0.164	84
FM-08-811		Remove and Replace Manhole	707 Tall Pines Dr	Fiberglass / MH	Non-Paved	4.36	0.0		\$5,000	\$213,540	26,885		26,885	577,693	0.115	85
FM-08-812		Remove and Replace Manhole	402 Sunset Dr	Fiberglass / MH	Non-Paved	3.46	0.0		\$5,000	\$218,540	5,285		5,285	582,978	0.587	86
FM-08-813		Remove and Replace Manhole	402 Sunset Dr	Fiberglass / MH	Non-Paved	3.38	0.0		\$5,000	\$223,540	12,888		12,888	595,866	0.241	87
FM-08-814		Remove and Replace Manhole	1005 Tall Pines	Fiberglass / MH	Non-Paved	7.48	0.0		\$5,000	\$228,540	4,709		4,709	600,575	0.658	88
FM-08-815		Remove and Replace Manhole	1011 Tall Pines Dr	Fiberglass / MH	Non-Paved	7.11	0.0		\$5,000	\$233,540	8,712		8,712	609,287	0.356	89
FM-08-816		Remove and Replace Manhole	1105 Tall Pines Dr	Fiberglass / MH	Non-Paved	6.53	0.0		\$5,000	\$238,540	5,429		5,429	614,716	0.571	90
FM-08-8-16		Remove and Replace Manhole	1111 Killarney Ave	Fiberglass / MH	Non-Paved	8.94	0.0		\$5,000	\$243,540	5,904		5,904	620,620	0.525	91
FM-08-817		Remove and Replace Manhole	1111 Tall Pines Dr	Fiberglass / MH	Non-Paved	5.67	0.0		\$5,000	\$248,540	6,048		6,048	626,668	0.513	92
FM-08-818		Remove and Replace Manhole	1203 Tall Pines Dr	Fiberglass / MH	Non-Paved	4.51	0.0		\$5,000	\$253,540	3,312		3,312	629,980	0.936	93
FM-08-819		Remove and Replace Manhole	1203 Tall Pines Dr	Fiberglass / MH	Non-Paved	4.18	0.0		\$5,000	\$258,540	12,096		12,096	642,076	0.256	94
FM-08-821		Remove and Replace Manhole	1211 Holly Springs Dr	Fiberglass / MH	Non-Paved	3.22	0.0		\$5,000	\$263,540	26,496		26,496	668,572	0.117	95
FM-08-822		Remove and Replace Manhole	1211 Holly Springs Dr	Fiberglass / MH	Non-Paved	1.74	0.0		\$5,000	\$268,540	10,037		10,037	678,609	0.309	96
FM-08-824		Replace Cover/Frame/Frame Seal and Adjustment	702 Greenbriar Ave	Poured / MH	Non-Paved	8.41	0.0		\$1,500	\$270,040	5,688		5,688	684,297	0.264	97
FM-08-825		Remove and Replace Manhole	206 Greenbrair Ave	Fiberglass / MH	Non-Paved	8.33	0.0		\$5,000	\$275,040	38,304		38,304	722,601	0.081	98
FM-08-826		Remove and Replace Manhole	207 Pine Willow Ct	Fiberglass / MH	Non-Paved	5.18	0.0		\$5,000	\$280,040	3,600		3,600	726,201	0.861	99
FM-08-828		Remove and Replace Manhole	201 Pine Willow Ct	Fiberglass / MH	Non-Paved	7.91	0.0		\$5,000	\$285,040	6,310		6,310	732,511	0.491	100
FM-08-831		Remove and Replace Manhole	207 Holly Springs Dr	Fiberglass / MH	Non-Paved	3.67	0.0		\$5,000	\$290,040	6,336		6,336	738,847	0.489	101
FM-08-8-31		Replace Cover/Frame/Frame Seal	121 Del Monte	Precast / MH	Paved	10.30	0.0		\$1,450	\$291,490	2,880		2,880	741,727	0.503	102
FM-08-832		Remove and Replace Manhole	911 Pine Hollow Dr	Fiberglass / MH	Non-Paved	7.48	0.0		\$5,000	\$296,490	12,341		12,341	754,068	0.251	103
FM-08-833		Remove and Replace Manhole	1003 Pine Hollow Dr	Fiberglass / MH	Non-Paved	6.31	0.0		\$5,000	\$301,490	3,960		3,960	758,028	0.783	104
FM-08-834		Remove and Replace Manhole	1009 Pine Hollow Dr	Fiberglass / MH	Non-Paved	6.17	0.0		\$5,000	\$306,490	3,600		3,600	761,628	0.861	105
FM-08-835		Remove and Replace Manhole	1107 Pine Hollow Dr	Fiberglass / MH	Non-Paved	5.87	0.0		\$5,000	\$311,490	3,600		3,600	765,228	0.861	106
FM-08-836		Remove and Replace Manhole	1203 Pine Hollow Dr	Fiberglass / MH	Non-Paved	4.78	0.0		\$5,000	\$316,490	9,144		9,144	774,372	0.339	107
FM-08-838		Remove and Replace Manhole	909 Pine Hollow Dr	Fiberglass / MH	Non-Paved	8.25	0.0		\$5,000	\$321,490	5,400		5,400	779,772	0.574	108
FM-08-83A		Replace Cover/Frame/Frame Seal	2024 County Rd 149	Precast / MH	Non-Paved	10.58	0.0		\$1,050	\$322,540	1,440		1,440	781,212	0.729	109
FM-08-840		Remove and Replace Manhole	201 Greenbriar Ave	Fiberglass / MH	Non-Paved	9.68	0.0		\$5,000	\$327,540	7,848		7,848	789,060	0.395	110
FM-08-841		Remove and Replace Manhole	201 Greenbriar Ave	Fiberglass / MH	Non-Paved	10.34	0.0		\$5,000	\$332,540	2,880		2,880	791,940	1.076	111

Manhole Rehabilitation Recommendations

Project Number 18 -2969-00 Friendswood Phase 2 SSES Year 1

Manhole		Repair Description	Street Address	Construction / MH Type	Surface	Depth	Rating	Grade	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infilt (GPD)	Flow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
FM-08-841A		Remove and Replace Manhole	201 Greenbriar Ave	Fiberglass / MH	Non-Paved	8.87	0.0		\$3,044	\$335,584	21,240		21,240	813,180	0.143	112
FM-08-842		Remove and Replace Manhole	202 Sunset Dr	Fiberglass / MH	Non-Paved	5.57	0.0		\$5,000	\$340,584	2,232		2,232	815,412	1.389	113
FM-08-844		Remove and Replace Manhole	913 FM 2351	Fiberglass / MH	Non-Paved	9.25	0.0		\$5,000	\$345,584	22,176		22,176	837,588	0.140	114
FM-08-845		Remove and Replace Manhole	1007 FM 2351	Fiberglass / MH	Non-Paved	7.53	0.0		\$5,000	\$350,584	11,016		11,016	848,604	0.281	115
FM-08-846		Remove and Replace Manhole	1101 W Edgewood Dr	Fiberglass / MH	Non-Paved	5.42	0.0		\$5,000	\$355,584	3,862		3,862	852,466	0.803	116
FM-08-846A		Remove and Replace Manhole	1005 FM 2351	Fiberglass / MH	Non-Paved	7.45	0.0		\$5,000	\$360,584	16,632		16,632	869,098	0.186	117
FM-08-847		Remove and Replace Manhole	1105 FM 2351	Fiberglass / MH	Non-Paved	4.40	0.0		\$5,000	\$365,584	12,096		12,096	881,194	0.256	118
FM-08-848		Replace Cover/Frame/Frame Seal	1201 W Edgewood Dr	Precast / MH	Non-Paved	4.33	0.0		\$1,050	\$366,634	720		720	881,914	1.458	119
FM-08-849		Replace Cover/Frame/Frame Seal	2116 County Rd 129	Precast / MH	Non-Paved	3.62	0.0		\$1,050	\$367,684	4,896		4,896	886,810	0.214	120
FM-08-85		Replace Cover/Frame/Frame Seal	710 Greenbriar Ave	Poured / MH	Non-Paved	6.78	0.0		\$1,050	\$368,734	1,152		1,152	887,962	0.911	121
FM-08-850		Replace Cover/Frame/Frame Seal	100 Westfield Ln	Precast / MH	Non-Paved	6.92	0.0		\$1,050	\$369,784	1,152		1,152	889,114	0.911	122
FM-08-852		Replace Cover/Frame/Frame Seal	1106 FM 2351	Precast / MH	Non-Paved	5.56	0.0		\$1,050	\$370,834	3,888		3,888	893,002	0.270	123
FM-08-855		Replace Cover/Frame/Frame Seal	101 Rustic Ln	Precast / MH	Non-Paved	9.36	0.0		\$1,050	\$371,884	3,888		3,888	896,890	0.270	124
FM-08-858		Remove and Replace Manhole	902 Clover Ridge Ave	Fiberglass / MH	Non-Paved	8.31	0.0		\$5,000	\$376,884	7,200		7,200	904,090	0.139	125
FM-08-859		Remove and Replace Manhole	904 Clover Ridge Ave	Fiberglass / MH	Non-Paved	7.43	0.0		\$5,000	\$381,884	13,205		13,205	917,294	0.235	126
FM-08-860		Remove and Replace Manhole	810 Meadow Lark Ave	Fiberglass / MH	Non-Paved	6.73	0.0		\$5,000	\$386,884	2,520		2,520	919,814	0.397	127
FM-08-861		Remove and Replace Manhole	2591 Clover Ridge Ave	Fiberglass / MH	Non-Paved	8.42	0.0		\$5,000	\$391,884	7,920		7,920	927,734	0.126	128
FM-08-862		Remove and Replace Manhole	2591 Clover Ridge Ave	Fiberglass / MH	Non-Paved	7.46	0.0		\$5,000	\$396,884	8,582		8,582	936,317	0.209	129
FM-08-863		Remove and Replace Manhole	100 Westfield Ln	Fiberglass / MH	Non-Paved	6.42	0.0		\$5,000	\$401,884	13,856		13,856	950,172	0.224	130
FM-08-863A		Remove and Replace Manhole	100 Westfield Ln	Fiberglass / MH	Non-Paved	5.21	0.0		\$5,000	\$406,884	7,433		7,433	957,606	0.417	131
FM-08-866		Remove and Replace Manhole	902 Pine Hollow Dr	Fiberglass / MH	Non-Paved	9.52	0.0		\$5,000	\$411,884	5,112		5,112	962,718	0.606	132
FM-08-867		Replace Cover/Frame/Frame Seal and Adjustment	403 Chester Dr	Precast / MH	Non-Paved	5.15	0.0		\$1,500	\$413,384	2,376		2,376	965,094	0.631	133
FM-08-868		Compete Manhole Rehab w/ New Frame and Cover	405 Chester Dr	Precast / MH	Non-Paved	4.23	0.0		\$2,302	\$415,686	16,056		16,056	981,150	0.143	134
FM-08-871		Replace Cover/Frame/Frame Seal	707 FM 2351	Poured / MH	Non-Paved	8.00	0.0		\$1,050	\$416,736	6,912		6,912	988,062	0.152	135
FM-08-872		Remove and Replace Manhole	907 FM 2351	Fiberglass / MH	Non-Paved	10.25	0.0		\$5,000	\$421,736	5,112		5,112	993,174	0.606	136
FM-08-873		Replace Cover/Frame/Frame Seal	703 Edgewood Dr	Poured / MH	Non-Paved	7.98	0.0		\$1,050	\$422,786	4,896		4,896	998,070	0.214	137
FM-08-874		Replace Cover/Frame/Frame Seal	1001 N Sunset Dr	Poured / MH	Paved	6.37	0.0		\$1,450	\$424,236	2,952		2,952	1,001,022	0.491	138
FM-08-875		Replace Adjustment, Realign Frame , and Install External Chimney Seal	703 E Haven Ct	Poured / MH	Non-Paved	6.82	0.0		\$1,200	\$425,436	3,096		3,096	1,004,118	0.388	139
FM-08-876		Replace Cover/Frame/Frame Seal and Adjustment	706 Flamingo Ct	Poured / MH	Non-Paved	8.16	0.0		\$1,500	\$426,936	5,921		5,921	1,010,039	0.253	140
FM-08-877		Replace Cover/Frame/Frame Seal	704 Flamingo Ct	Poured / MH	Non-Paved	7.00	0.0		\$1,050	\$427,986	1,152		1,152	1,011,191	0.911	141
FM-08-878		Replace Cover/Frame/Frame Seal	706 Flamigo ct	Poured / N/A	Non-Paved	6.92	0.0		\$1,050	\$429,036	1,152		1,152	1,012,343	0.911	142
FM-08-880		Replace Cover/Frame/Frame Seal	705 Ferndale Ct	Poured / MH	Paved	8.22	0.0		\$1,450	\$430,486	3,888		3,888	1,016,231	0.373	143
FM-08-881		Replace Cover/Frame/Frame Seal	706 Tropicana Ct	Poured / MH	Paved	5.11	0.0		\$1,450	\$431,936	3,888		3,888	1,020,119	0.373	144
FM-08-882		Cementitious Coating and Replace Cover/Frame/Frame Seal	711 Ferndale Ct	Poured / MH	Paved	8.08	0.0		\$2,943	\$434,879	4,032		4,032	1,024,151	0.730	145
FM-08-883		Replace Cover/Frame/Frame Seal	702 Aladdin Ct	Poured / MH	Non-Paved	7.81	0.0		\$1,050	\$435,929	3,888		3,888	1,028,039	0.270	146
FM-08-884		Replace Cover/Frame/Frame Seal	710 Aladdin Ct	Poured / MH	Paved	4.98	0.0		\$1,450	\$437,379	1,152		1,152	1,029,191	1.259	147
FM-08-885		Replace Cover/Frame/Frame Seal	704 Excaliber Ct	Poured / MH	Non-Paved	7.56	0.0		\$1,050	\$438,429	3,888		3,888	1,033,079	0.270	148

Manhole Rehabilitation Recommendations

Project Number 18 -2969-00 Friendswood Phase 2 SSES Year 1

Manhole		Repair Description	Street Address	Construction / MH Type	Surface	Depth	Rating	Grade	Repair Cost	Cumulative Repair Cost	Inflow (GPD)	Infilt (GPD)	Flow (GPD)	Cumulative Flow (GPD)	Ratio (\$/GPD)	Count
FM-08-886		Replace Cover/Frame/Frame Seal	711 Excaliber Ct	Poured / MH	Paved	5.38	0.0		\$1,450	\$439,879	5,688		5,688	1,038,767	0.255	149
FM-08-887		Cementitious Coating and Replace Cover/Frame/Frame Seal	703 Mirage Ct	Poured / MH	Non-Paved	6.71	0.0		\$2,324	\$442,203	4,968		4,968	1,043,735	0.468	150
FM-08-888		Replace Cover/Frame/Frame Seal	702 Juliabora Ct	Poured / MH	Non-Paved	7.84	0.0		\$1,050	\$443,253	3,888		3,888	1,047,623	0.270	151
FM-08-889		Replace Cover/Frame/Frame Seal	704 Mirage Ct	Poured / MH	Paved	6.91	0.0		\$1,450	\$444,703	2,952		2,952	1,050,575	0.491	152
FM-08-890		Replace Cover/Frame/Frame Seal	706 Mirage Ct	Poured / N/A	Paved	5.46	0.0		\$1,450	\$446,153	1,152		1,152	1,051,727	1.259	153
FM-08-891		Replace Cover/Frame/Frame Seal	704 Tropicana Ct	Poured / MH	Non-Paved	8.27	0.0		\$1,050	\$447,203	3,888		3,888	1,055,615	0.270	154
FM-08-892		Replace Cover/Frame/Frame Seal	706 Juliabora Ct	Poured / MH	Paved	4.48	0.0		\$1,450	\$448,653	6,696		6,696	1,062,311	0.217	155
FM-08-9-16		Remove and Replace Manhole	1017 Killarney Ave	Fiberglass / MH	Paved	8.72	0.0		\$5,000	\$453,653	9,576		9,576	1,071,887	0.365	156
FM-08-9-31		Replace Cover/Frame/Frame Seal	105 Del Monte Dr	Poured / MH	Paved	7.35	0.0		\$1,450	\$455,103	1,872		1,872	1,073,759	0.775	157
FM-08-97		Replace Cover/Frame/Frame Seal	1104 Cowards Creek	Precast / MH	Non-Paved	8.30	0.0		\$1,050	\$456,153	3,888		3,888	1,077,647	0.270	158
Report Totals:		Total Cost: \$456,153	Total InFlow: 1,077,647													
			Total InFilt: 0													
			Total Flow: 1,077,647													

APPENDIX I

RECOMMENDED SERVICE LINE INFLOW REMOVAL

Service Line Inflow Removal

Project Number

18-2969-00

Friendswood Phase 2 SSES Year 1

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (gpd)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-08 105	FM-08 10-31	2110 Edgewood	Inflow Cleanout	Replace Cleanout Cap	3,394	\$100	0.029	3,394	\$100
FM-08 11	FM-08 10-16	1009 Killarney Ave	Inflow Cleanout	Repair Broken Cleanout	194	\$375	1.929	3,588	\$475
FM-08 11	FM-08 10-16	1002 Killarney Ave	Inflow Cleanout	Replace Cleanout Cap	0	\$100	0.104	3,588	\$575
FM-08 13	FM-08 12	1106 Tipperary Ave	Inflow Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	6,206	\$950
FM-08 16	FM-08 15	1006 Tipperary Ave	Inflow Cleanout	Replace Cleanout Cap	0	\$100	0.041	6,206	\$1,050
FM-08 18	FM-08 18A	1107 Glenshannon Ave	Inflow Cleanout	Replace Cleanout Cap	4,557	\$100	0.022	10,763	\$1,150
FM-08 21	FM-08 20	1001 Glenshannon Ave	Inflow Cleanout	Repair Broken Cleanout	194	\$375	0.514	10,957	\$1,525
FM-08 23	FM-08 23A	1103 Londonderry Ave	Inflow Lateral Defects	Replace Lateral	2,909	\$3000	1.031	13,866	\$4,525
FM-08 2-31	FM-08 1-31	305 Del Monte Dr	Inflow Cleanout	Replace Cleanout Cap	4,363	\$100	0.023	18,229	\$4,625
FM-08 245B	FM-08 871	102 Chester Dr	Inflow Cleanout	Replace Cleanout Cap	3,878	\$100	0.026	22,107	\$4,725
FM-08 28	FM-08 27	2 Willderness Trl	Inflow Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	24,725	\$5,100
FM-08 28	FM-08 27	2 Willderness Trl	Inflow Cleanout	Replace Cleanout Cap	5,333	\$100	0.019	30,058	\$5,200
FM-08 28	FM-08 27	3 Willderness Trl	Inflow Cleanout	Repair Broken Cleanout	6,302	\$375	0.059	36,360	\$5,575
FM-08 3-29	FM-08 2-29	6 Falling Leaf Ct	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	39,269	\$5,675
FM-08 3-29	FM-08 2-29	6 Falling Leaf Ct	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	42,178	\$5,775
FM-08 38	FM-08 859	1002 Clover Ridge Ave	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	45,087	\$5,875
FM-08 4-29	FM-08 4-29A	19 Falling Leaf Ct	Inflow Lateral Defects	Replace Lateral	3,394	\$3000	0.883	48,481	\$8,875
FM-08 4-29A	FM-08 3-29	15 Falling Leaf Ct	Inflow Cleanout	Replace Cleanout Cap	2,618	\$100	0.038	51,099	\$8,975
FM-08 4-29A	FM-08 3-29	15 Falling Leaf Ct	Inflow Cleanout	Replace Cleanout Cap	4,848	\$100	0.021	55,947	\$9,075
FM-08 4-31	FM-08 8-31	1300 Inverness St	Inflow Cleanout	Replace Cleanout Cap	0	\$100	0.514	55,947	\$9,175
FM-08 4-31	FM-08 8-31	1313 Inverness St	Inflow Cleanout	Replace Cleanout Cap	4,363	\$100	0.023	60,310	\$9,275
FM-08 4-31	FM-08 8-31	1300 Inverness St	Inflow Cleanout	Replace Cleanout Cap	194	\$100	0.514	60,504	\$9,375
FM-08 575	FM-08 575A	1101 Falling Leaf Dr	Inflow Cleanout	Replace Cleanout Cap	4,848	\$100	0.021	65,352	\$9,475
FM-08 6-16	FM-08 5-16	1010 Castlewood Ave	Inflow Cleanout	Replace Cleanout Cap	390	\$100	0.104	65,742	\$9,575
FM-08 763	FM-08 763A	805 Cowards Creek Dr	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	68,166	\$9,950
FM-08 763	FM-08 763A	805 Cowards Creek Dr	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	70,590	\$10,325
FM-08 772	FM-08 771	1103 Cowards Creek Dr	Inflow Cleanout	Replace Cleanout Cap	3,878	\$100	0.026	74,468	\$10,425
FM-08 774	FM-08 773	1202 Cowards Creek Dr	Inflow Cleanout	Replace Cleanout Cap	1,939	\$100	0.051	76,407	\$10,525
FM-08 777	FM-08 776	1207 Cowards Creek Dr	Inflow Lateral Defects	Replace Lateral	4,848	\$3000	0.618	81,255	\$13,525

<i>Basin/Structure</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (gpd)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumlativ e Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>
FM-08 777	FM-08 776	1205 Cowards Creek Dr	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	84,164	\$13,625
FM-08 786	FM-08 779	706 Greenbriar Ave	Inflow Cleanout	Replace Cleanout Cap	5,333	\$100	0.019	89,497	\$13,725
FM-08 786	FM-08 779	706 Greenbriar Ave	Inflow Cleanout	Replace Cleanout Cap	7,272	\$100	0.014	96,769	\$13,825
FM-08 790	FM-08 789	1014 Mustang Dr	Inflow Cleanout	Repair Broken Cleanout	4,363	\$375	0.023	101,132	\$14,200
FM-08 790	FM-08 789	1014 Mustang Dr	Inflow Cleanout	Repair Broken Cleanout	4,363	\$375	0.023	105,495	\$14,575
FM-08 792	FM-08 790	1108 Musrang Dr	Inflow Cleanout	Repair Broken Cleanout	194	\$375	0.514	105,689	\$14,950
FM-08 794	FM-08 824	702 Greenbriar Ave	Inflow Cleanout	Replace Cleanout Cap	242	\$100	0.041	105,931	\$15,050
FM-08 809	FM-08 808	904 Tall Pines Dr	Inflow Cleanout	Replace Cleanout Cap	1,454	\$100	0.069	107,385	\$15,150
FM-08 809	FM-08 808	906 Tall Pines Dr	Inflow Cleanout	Replace Cleanout Cap	0	\$100	0.069	107,385	\$15,250
FM-08 816	FM-08 815	1012 Tall Pines Dr	Inflow Cleanout	Replace Cleanout Cap	1,939	\$100	0.051	109,324	\$15,350
FM-08 818	FM-08 817	1204 Tall Pines Dr	Inflow Cleanout	Replace Cleanout Cap	3,394	\$100	0.029	112,718	\$15,450
FM-08 825	FM-08 806	207 Greenbriar Dr	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	115,627	\$15,550
FM-08 826	FM-08 828	203 Pine Willow Ct	Inflow Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	118,245	\$15,925
FM-08 831	FM-08 836	1203 Pine Hollow Dr	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	121,154	\$16,025
FM-08 8-31	FM-08 5-31	205 Del Monte Dr	Inflow Cleanout	Replace Cleanout Cap	3,588	\$100	0.028	124,742	\$16,125
FM-08 833	FM-08 832	1004 Pine Hollow Dr	Inflow Cleanout	Replace Cleanout Cap	3,588	\$100	0.028	128,330	\$16,225
FM-08 836	FM-08 835	1293 Pine Hollow Dr	Inflow Cleanout	Replace Cleanout Cap	4,363	\$100	0.023	132,693	\$16,325
FM-08 842	FM-08 827	704 Pine Hollow Dr	Inflow Cleanout	Replace Cleanout Cap	3,588	\$100	0.028	136,281	\$16,425
FM-08 842	FM-08 827	708 Pine Hollow Dr	Inflow Cleanout	Repair Broken Cleanout	0	\$375	1.929	136,281	\$16,800
FM-08 842	FM-08 827	202 Sunset Dr	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	138,705	\$17,175
FM-08 842	FM-08 827	705 Pine Hollow Dr	Inflow Cleanout	Repair Broken Cleanout	3,394	\$375	0.029	142,099	\$17,550
FM-08 844	FM-08 872	913 W Edgewood Dr	Inflow Lateral Defects	Replace Lateral	4,320	\$3000	0.694	146,419	\$20,550
FM-08 85	FM-08 786	710 Greenbriar Ave	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	149,328	\$20,650
FM-08 85	FM-08 786	707 Greenbriar Ave	Inflow Cleanout	Replace Cleanout Cap	1,454	\$100	0.069	150,782	\$20,750
FM-08 851	FM-08 850	1010 W Edgewood Dr	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	153,691	\$20,850
FM-08 860A	FM-08 751	902 Clover Ridge Ave	Inflow Cleanout	Replace Cleanout Cap	1,590	\$100	0.063	155,281	\$20,950
FM-08 867	FM-08 867A	401 Chester Dr	Inflow Cleanout	Repair Broken Cleanout	6,826	\$375	0.015	162,107	\$21,325
FM-08 884	FM-08 883	705 Aladdin Ct	Inflow Cleanout	Repair Broken Cleanout	970	\$375	0.104	163,077	\$21,700
FM-08 9-16	FM-08 8-16	1101 Killarney Ave	Inflow Cleanout	Replace Cleanout Cap	0	\$100	0.514	163,077	\$21,800
FM-18 103	FM-18 102	3318 King George	Inflow Cleanout	Repair Broken Cleanout	3,588	\$375	0.105	166,665	\$22,175
FM-18 103	FM-18 102	3314 King George	Inflow Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	169,574	\$22,550

Basin/Structure		Street Address	Type	Source	Rehabilitation Work	Flow (gpd)	Repair Cost (\$)	Ratio (\$/GPD)	Cumulative Flow (GPD)	Cumulative Cost (\$)
FM-18 103	FM-18 102	3306 King George	Inflow Cleanout		Repair Broken Cleanout	2,909	\$375	0.129	172,483	\$22,925
FM-18 103	FM-18 102	3310 King George	Inflow Cleanout		Repair Broken Cleanout	2,909	\$375	0.129	175,392	\$23,300
FM-18 106	FM-18 105	3330 Queensburg	Inflow Lateral Defects		Replace Lateral	3,588	\$3000	0.837	178,980	\$26,300
FM-18 109	FM-18 108	3228 Salisbury	Inflow Cleanout		Replace Cleanout Cap	194	\$100	0.514	179,174	\$26,400
FM-18 110	FM-18 109	3229 Salisbury	Inflow Lateral Defects		Replace Lateral	2,909	\$3000	1.031	182,083	\$29,400
FM-18 113	FM-18 112	3201 Salisbury	Inflow Cleanout		Repair Broken Cleanout	970	\$375	0.389	183,053	\$29,775
FM-18 113	FM-18 112	3205 Salisbury	Inflow Cleanout		Repair Broken Cleanout	2,909	\$375	0.129	185,962	\$30,150
FM-18 117	FM-18 116	3230 Duchess Park	Inflow Cleanout		Replace Cleanout Cap	6,012	\$100	0.017	191,974	\$30,250
FM-18 118	FM-18 117	3210 Duchess Park	Inflow Cleanout		Replace Cleanout Cap	0	\$100	0.514	191,974	\$30,350
FM-18 119	FM-18 118	3108 Duchess Park	Inflow Cleanout		Repair Broken Cleanout	194	\$375	0.514	192,168	\$30,725
FM-18 119	FM-18 118	3105 Duchess Park	Inflow Cleanout		Replace Cleanout Cap	970	\$100	0.104	193,138	\$30,825
FM-18 119	FM-18 118	3120 Duchess Park	Inflow Cleanout		Repair Broken Cleanout	2,618	\$375	0.143	195,756	\$31,200
FM-18 122	FM-18 121	3406 Duchess Park	Inflow Lateral Defects		Replace Lateral	5,333	\$3000	0.563	201,089	\$34,200
FM-18 122	FM-18 121	3405 Duchess Park	Inflow Cleanout		Repair Broken Cleanout	5,333	\$375	0.070	206,422	\$34,575
FM-18 127	FM-18 126	3245 Prince George	Inflow Cleanout		Repair Broken Cleanout	4,557	\$375	0.082	210,979	\$34,950
FM-18 127	FM-18 126	3245 Prince George	Inflow Cleanout		Replace Cleanout Cap	2,424	\$100	0.041	213,403	\$35,050
FM-18 128	FM-18 127	3230 Prince George	Inflow Lateral Defects		Replace Lateral	2,618	\$3000	1.146	216,021	\$38,050
FM-18 128	FM-18 127	3230 Prince George	Inflow Cleanout		Repair Broken Cleanout	1,939	\$375	0.193	217,960	\$38,425
FM-18 129	FM-18 128	3225 Prince George	Inflow Cleanout		Repair Broken Cleanout	6,787	\$375	0.015	224,747	\$38,800
FM-18 129	FM-18 128	3221 Prince George	Inflow Cleanout		Repair Broken Cleanout	3,588	\$375	0.105	228,335	\$39,175
FM-18 130	FM-18 129	3201 Prince George	Inflow Lateral Defects		Replace Lateral	2,424	\$3000	1.240	230,759	\$42,175
FM-18 131	FM-18 130	3117 Prince George	Inflow Cleanout		Repair Broken Cleanout	4,557	\$375	0.082	235,316	\$42,550
FM-18 14	FM-18 12	4005 Firenze Dr	Inflow Cleanout		Repair Broken Cleanout	5,818	\$375	0.064	241,134	\$42,925
FM-18 54	FM-18 7	3506 Queensburg	Inflow Cleanout		Repair Broken Cleanout	0	\$375	1.929	241,134	\$43,300
FM-18 54	FM-18 7	3510 Queensburg	Inflow Cleanout		Repair Broken Cleanout	2,618	\$375	0.143	243,752	\$43,675
FM-18 56	FM-18 55	3602 Queensburg	Inflow Cleanout		Repair Broken Cleanout	194	\$375	0.514	243,946	\$44,050
FM-18 57	FM-18 56	3613 Queensburg	Inflow Cleanout		Replace Cleanout Cap	0	\$100	0.514	243,946	\$44,150
FM-18 64	FM-18 63	3406 Kingston	Inflow Lateral Defects		Replace Lateral	3,394	\$3000	0.883	247,340	\$47,150
FM-18 64	FM-18 63	3404 Kingston	Inflow Cleanout		Replace Cleanout Cap	2,715	\$100	0.037	250,055	\$47,250
FM-18 66	FM-18 65	3354 Queensburg	Inflow Lateral Defects		Replace Lateral	3,394	\$3000	0.883	253,449	\$50,250
FM-18 66	FM-18 65	3351 Queensburg	Inflow Cleanout		Repair Broken Cleanout	3,394	\$375	0.110	256,843	\$50,625

<i>Basin/Structure</i>	<i>Street Address</i>	<i>Type</i>	<i>Source</i>	<i>Rehabilitation Work</i>	<i>Flow (gpd)</i>	<i>Repair Cost (\$)</i>	<i>Ratio (\$/GPD)</i>	<i>Cumlativ e Flow (GPD)</i>	<i>Cumulative Cost (\$)</i>
FM-18 68	FM-18 67	3346 Queensburg	Inflow Cleanout	Repair Broken Cleanout	194	\$375	1.929	257,037	\$51,000
FM-18 68	FM-18 67	3346 Queensburg	Inflow Cleanout	Replace Cleanout Cap	2,424	\$100	0.041	259,461	\$51,100
FM-18 71	FM-18 70	3341 Prince George	Inflow Cleanout	Repair Broken Cleanout	3,394	\$375	0.110	262,855	\$51,475
FM-18 71	FM-18 70	3341 Prince George	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	265,279	\$51,850
FM-18 72	FM-18 71	3337 Prince George	Inflow Cleanout	Repair Broken Cleanout	0	\$375	1.929	265,279	\$52,225
FM-18 74	FM-18 68	3338 Prince George	Inflow Cleanout	Repair Broken Cleanout	3,878	\$375	0.096	269,157	\$52,600
FM-18 74	FM-18 68	3324 Prince George	Inflow Cleanout	Repair Broken Cleanout	3,588	\$375	0.105	272,745	\$52,975
FM-18 75	FM-18 74	3321 Prince George	Inflow Cleanout	Repair Broken Cleanout	3,394	\$375	0.110	276,139	\$53,350
FM-18 75	FM-18 74	3325 Prince George	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	278,563	\$53,725
FM-18 76	FM-18 75	3309 Prince George	Inflow Lateral Defects	Replace Lateral	3,588	\$3000	0.837	282,151	\$56,725
FM-18 77	FM-18 76	3305 3305	Inflow Cleanout	Repair Broken Cleanout	2,618	\$375	0.143	284,769	\$57,100
FM-18 79	FM-18 78	3504 Kingston	Inflow Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	287,678	\$57,475
FM-18 79	FM-18 78	3501 Kingston	Inflow Cleanout	Repair Broken Cleanout	970	\$375	0.389	288,648	\$57,850
FM-18 79	FM-18 78	3513 Kingston	Inflow Cleanout	Repair Broken Cleanout	0	\$375	0.389	288,648	\$58,225
FM-18 80	FM-18 79	3606 Kingston	Inflow Cleanout	Repair Broken Cleanout	194	\$375	1.929	288,842	\$58,600
FM-18 80	FM-18 79	3602 Kingston	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	291,266	\$58,975
FM-18 80	FM-18 79	3601 Kingston	Inflow Cleanout	Repair Broken Cleanout	194	\$375	1.929	291,460	\$59,350
FM-18 81	FM-18 80	3609 Kingston	Inflow Cleanout	Repair Broken Cleanout	4,363	\$375	0.086	295,823	\$59,725
FM-18 84	FM-18 47-82	3359 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	1,939	\$375	0.193	297,762	\$60,100
FM-18 84	FM-18 47-82	3359 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	3,398	\$375	0.110	301,160	\$60,475
FM-18 84	FM-18 47-82	3358 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	2,424	\$375	0.155	303,584	\$60,850
FM-18 85	FM-18 84	3342 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	194	\$375	1.929	303,778	\$61,225
FM-18 85	FM-18 84	3354 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	0	\$375	0.110	303,778	\$61,600
FM-18 85	FM-18 84	3346 Duke Ln	Inflow Lateral Defects	Replace Lateral	3,588	\$3000	0.837	307,366	\$64,600
FM-18 86	FM-18 85	3327 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	3,394	\$375	0.110	310,760	\$64,975
FM-18 86	FM-18 85	3326 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	194	\$375	1.929	310,954	\$65,350
FM-18 87	FM-18 86	3322 Duke Ln	Inflow Lateral Defects	Replace Lateral	1,590	\$3000	1.887	312,544	\$68,350
FM-18 88	FM-18 87	3310 Duke Ln	Inflow Lateral Defects	Replace Lateral	5,759	\$3000	0.521	318,303	\$71,350
FM-18 88	FM-18 87	3310 Duke Ln	Inflow Cleanout	Replace Cleanout Cap	2,909	\$100	0.034	321,212	\$71,450
FM-18 89	FM-18 88	3302 Duke Ln	Inflow Cleanout	Repair Broken Cleanout	7,272	\$375	0.052	328,484	\$71,825
FM-18 89	FM-18 88	3302 Duke Ln	Inflow Cleanout	Replace Cleanout Cap	7,272	\$100	0.014	335,756	\$71,925

Basin/Structure	Street Address	Type	Source	Rehabilitation Work	Flow (gpd)	Repair Cost (\$)	Ratio (\$/GPD)	Cumlativ e Flow (GPD)	Cumulative Cost (\$)
FM-18 97	FM-18 96	3120 Richard	Inflow Cleanout	Repair Broken Cleanout	3,588	\$375	0.105	339,344	\$72,300
FM-18 98	FM-18 97	3325 Sussex Way	Inflow Cleanout	Repair Broken Cleanout	2,909	\$375	0.129	342,253	\$72,675
Total Flow	342,253								
Total Cost:	\$72,675								
Total	124								

AMENDMENT No. 2 to CONTRACT No. TP07-18

For

Trenchless Pipeline Rehabilitation Services

Between

HOUSTON-GALVESTON AREA COUNCIL

And

PM Construction & Rehab, LLC

THIS AMENDMENT modifies the above referenced Contract as follows:

This contract is extended through June 30, 2023 Midnight CT.

Unless otherwise noted, this amendment goes into effect on the date signed by **H-GAC**. All other terms and conditions of this Contract shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective duly authorized representatives.

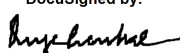
Signed for **Houston-Galveston Area Council**,
Houston, Texas

DocuSigned by:

82EC270D5D61423...
Chuck Wemple, Executive Director
7/6/2022

Date: _____

Signed for: **PM Construction & Rehab, LLC**

DocuSigned by:

A52451D995DB4C9...
Bac Ong Sr GM

Printed Name & Title:

7/5/2022
Date: _____

AMENDMENT No. 1 to CONTRACT No. TP07-18
For
Trenchless Pipeline Rehabilitation Services
Between
HOUSTON-GALVESTON AREA COUNCIL
And
PM Construction & Rehab, LLC

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IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective duly authorized representatives.

Signed for **Houston-Galveston Area Council**,
Houston, Texas

DocuSigned by:

82EC270D5D61423...

Chuck Wemple, Executive Director
Date: 6/3/2021

Signed for: **PM Construction & Rehab, LLC**

Printed Name & Title:

DocuSigned by:

A52451D995DB4C9...

Bac Ong Sr GM
Date: 6/2/2021

H-GAC

Houston-Galveston Area Council

P.O. Box 22777 · 3555 Timmons · Houston, Texas 77227-2777

Cooperative Agreement - PM Construction & Rehab, LLC - Public Services - 18-00365
18-00365

GENERAL PROVISIONS

This Agreement is made and entered into, by and between the Houston-Galveston Area Council hereinafter referred to as H-GAC having its principal place of business at 3555 Timmons Lane, Suite 120, Houston, Texas 77027 and PM Construction & Rehab, LLC, hereinafter referred to as the Contractor, having its principal place of business at 131 N. Richey, Pasadena, TX 77506.

WITNESSETH:

WHEREAS, H-GAC hereby engages the Contractor to perform certain services in accordance with the specifications of the Agreement; and

WHEREAS, the Contractor has agreed to perform such services in accordance with the specifications of the Agreement;

NOW, THEREFORE, H-GAC and the Contractor do hereby agree as follows:

ARTICLE 1: LEGAL AUTHORITY

The Contractor warrants and assures H-GAC that it possesses adequate legal authority to enter into this Agreement. The Contractor's governing body, where applicable, has authorized the signatory official(s) to enter into this Agreement and bind the Contractor to the terms of this Agreement and any subsequent amendments hereto.

ARTICLE 2: APPLICABLE LAWS

The Contractor agrees to conduct all activities under this Agreement in accordance with all applicable rules, regulations, directives, standards, ordinances, and laws, in effect or promulgated during the term of this Agreement, including without limitation, workers' compensation laws, minimum and maximum salary and wage statutes and regulations, and licensing laws and regulations. When required, the Contractor shall furnish H-GAC with satisfactory proof of its compliance therewith.

ARTICLE 3: INDEPENDENT CONTRACTOR

The execution of this Agreement and the rendering of services prescribed by this Agreement do not change the independent status of H-GAC or the Contractor. No provision of this Agreement or act of H-GAC in performance of the Agreement shall be construed as making the Contractor the agent, servant or employee of H-GAC, the State of Texas or the United States Government. Employees of the Contractor are subject to the exclusive control and supervision of the Contractor. The Contractor is solely responsible for employee related disputes and discrepancies, including employee payrolls and any claims arising therefrom.

ARTICLE 4: WHOLE AGREEMENT

The General Provisions, Special Provisions, and Attachments, as provided herein, constitute the complete Agreement ("Agreement") between the parties hereto, and supersede any and all oral and written agreements between the parties relating to matters herein. Except as otherwise provided herein, this Agreement cannot be modified without written consent of the parties.

ARTICLE 5: SCOPE OF SERVICES

The services to be performed by the Contractor are outlined in an Attachment to this Agreement.

ARTICLE 6: PERFORMANCE PERIOD

This Agreement shall be performed during the period which begins 07/01/18 and ends 06/30/21. All services under this Agreement must be rendered within this performance period, unless directly specified under a written change or extension provisioned under Article 15, which shall be fully executed by both parties to this Agreement.

ARTICLE 7: PAYMENT OR FUNDING

Payment provisions under this Agreement are outlined in the Special Provisions.

ARTICLE 8: REPORTING REQUIREMENTS

If the Contractor fails to submit to H-GAC in a timely and satisfactory manner any report required by this Agreement, or otherwise fails to satisfactorily render performances hereunder, H-GAC may terminate this agreement with notice as identified in Article 16 of these General Provisions. H-GAC has final determination of the adequacy of performance and reporting by Contractor. Termination of this agreement for failure to perform may affect Contractor's ability to participate in future opportunities with H-GAC. The Contractor's failure to timely submit any report may also be considered cause for termination of this Agreement.

Any additional reporting requirements shall be set forth in the Special Provisions of this Agreement.

ARTICLE 9: INSURANCE

Contractor shall maintain insurance coverage for work performed or services rendered under this Agreement as outlined and defined in the attached Special Provisions.

ARTICLE 10: SUBCONTRACTS and ASSIGNMENTS

Except as may be set forth in the Special Provisions, the Contractor agrees not to subcontract, assign, transfer, convey, sublet or otherwise dispose of this Agreement or any right, title, obligation or interest it may have therein to any third party without prior written approval of H-GAC. The Contractor acknowledges that H-GAC is not liable to any subcontractor or assignee of the Contractor. The Contractor shall ensure that the performance rendered under all subcontracts shall result in compliance with all the terms and provisions of this Agreement as if the performance rendered was rendered by the Contractor. Contractor shall give all required notices, and comply with all laws and regulations applicable to furnishing and performance of the work. Except where otherwise expressly required by applicable law or regulation, H-GAC shall not be responsible for monitoring Contractor's compliance, or that of Contractor's subcontractors, with any laws or regulations.

ARTICLE 11: AUDIT

Notwithstanding any other audit requirement, H-GAC reserves the right to conduct or cause to be conducted an independent audit of any transaction under this Agreement, such audit may be performed by the H-GAC local government audit staff, a certified public accountant firm, or other auditors designated by H-GAC and will be conducted in accordance with applicable professional standards and practices. The Contractor understands and agrees that the Contractor shall be liable to the H-GAC for any findings that result in monetary obligations to H-GAC.

ARTICLE 12: EXAMINATION OF RECORDS

The Contractor shall maintain during the course of the work complete and accurate records of all of the Contractor's costs and documentation of items which are chargeable to H-GAC under this Agreement. H-GAC, through its staff or designated public accounting firm, the State of Texas, and United States

Government, shall have the right at any reasonable time to inspect, copy and audit those records on or off the premises by authorized representatives of its own or any public accounting firm selected by H-GAC. The right of access to records is not limited to the required retention period, but shall last as long as the records are retained. Failure to provide access to records may be cause for termination of the Agreement. The records to be thus maintained and retained by the Contractor shall include (without limitation): (1) personnel and payroll records, including social security numbers and labor classifications, accounting for total time distribution of the Contractor's employees working full or part time on the work, as well as cancelled payroll checks, signed receipts for payroll payments in cash, or other evidence of disbursement of payroll payments; (2) invoices for purchases, receiving and issuing documents, and all other unit inventory records for the Contractor's stocks or capital items; and (3) paid invoices and cancelled checks for materials purchased and for subcontractors' and any other third parties' charges.

The Contractor further agrees that the examination of records outlined in this article shall be included in all subcontractor or third-party agreements.

ARTICLE 13: RETENTION OF RECORDS

The Contractor and its subcontractors shall maintain all records pertinent to this Agreement, and all other financial, statistical, property, participant records, and supporting documentation for a period of no less than seven (7) years from the later of the date of acceptance of the final payment or until all audit findings have been resolved. If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the retention period, the records shall be retained until completion of the action and resolution of all issues which arise from it, or until the end of the seven (7) years, whichever is later, and until any outstanding litigation, audit, or claim has been fully resolved.

ARTICLE 14: CHANGES AND AMENDMENTS

- A. Any alterations, additions, or deletions to the terms of this Agreement, which are required by changes in federal or state law or by regulations, are automatically incorporated without written amendment hereto, and shall become effective on the date designated by such law or by regulation.
- B. To ensure the legal and effective performance of this Agreement, both parties agree that any amendment that affects the performance under this Agreement must be mutually agreed upon and that all such amendments must be in writing. After a period of no less than 30 days subsequent to written notice, unless sooner implementation is required by law, such amendments shall have the effect of qualifying the terms of this Agreement and shall be binding upon the parties as if written herein.

ARTICLE 15: TERMINATION PROCEDURES

The Contractor acknowledges that this Agreement may be terminated for Convenience or Default.

- A. *Convenience*
H-GAC may terminate this Agreement at any time, in whole or in part, with or without cause, whenever H-GAC determines that for any reason such termination is in the best interest of H-GAC, by providing written notice by certified mail to the Contractor. Upon receipt of notice of termination, all services hereunder of the Contractor and its employees and subcontractors shall cease to the extent specified in the notice of termination.

The Contractor may cancel or terminate this Agreement upon submission of thirty (30) days written notice, presented to H-GAC via certified mail. The Contractor may not give notice of cancellation after it has received notice of default from H-GAC.

- B. *Default*

H-GAC may, by written notice of default to the Contractor, terminate the whole or any part of the Agreement, in any one of the following circumstances:

- (1) If the Contractor fails to perform the services herein specified within the time specified herein or any extension thereof; or
- (2) If the Contractor fails to perform any of the other provisions of this Agreement for any reason whatsoever, or so fails to make progress or otherwise violates the Agreements that completion of services herein specified within the Agreement term is significantly endangered, and in either of these two instances does not cure such failure within a period often (10) days (or such longer period of time as may be authorized by H-GAC in writing) after receiving written notice by certified mail of default from H-GAC.

ARTICLE 16: SEVERABILITY

H-GAC and Contractor agree that should any provision of this Agreement be determined to be invalid or unenforceable, such determination shall not affect any other term of this Agreement, which shall continue in full force and effect.

ARTICLE 17: FORCE MAJEURE

To the extent that either party to this Agreement shall be wholly or partially prevented from the performance of any obligation or duty placed on such party by reason of or through strikes, stoppage of labor, riot, fire, flood, acts of war, insurrection, accident, order of any court, act of God, or specific cause reasonably beyond the party's control and not attributable to its neglect or nonfeasance, in such event, the time for the performance of such obligation or duty shall be suspended until such disability to perform is removed. Determination of force majeure shall rest solely with H-GAC.

ARTICLE 18: CONFLICT OF INTEREST

No officer, member or employee of the Contractor or subcontractor, no member of the governing body of the Contractor, and no other public officials of the Contractor who exercise any functions or responsibilities in the review or Contractor approval of this Agreement, shall participate in any decision relating to this Agreement which affects his or her personal interest, or shall have any personal or pecuniary interest, direct or indirect, in this Agreement.

ARTICLE 19: FEDERAL COMPLIANCE

Contractor agrees to comply with all federal statutes relating to nondiscrimination, labor standards, and environmental compliance. Additionally, for work to be performed under the Agreement or subcontract thereof, including procurement of materials or leases of equipment, Contractor shall notify each potential subcontractor or supplier of the Contractor's federal compliance obligations. These may include, but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) the Fair Labor Standards Act of 1938 (29 USC 676 et. seq.), (d) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps and the Americans with Disabilities Act of 1990; (e) the Age Discrimination in Employment Act of 1967 (29 USC 621 et. seq.) and the Age Discrimination Act of 1974, as amended (42 U.S.C. §§ 6101-6107), which prohibits discrimination on the basis of age; (f) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (g) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to the nondiscrimination on the basis of alcohol abuse or alcoholism; (h) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (i) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. § 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (j) any other nondiscrimination provisions in any specific statute(s)

applicable to any Federal funding for this Agreement; (k) the requirements of any other nondiscrimination statute(s) which may apply to this Agreement; (l) applicable provisions of the Clean Air Act (42 U.S.C. §7401 et seq.), the Federal Water Pollution Control Act, as amended (33 U.S.C. §1251 et seq.), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and the Environmental Protection Agency regulations at 40 CFR Part 15; (m) applicable provisions of the Davis- Bacon Act (40 U.S.C. 276a - 276a-7), the Copeland Act (40 U.S.C. 276c), and the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-332), as set forth in Department of Labor Regulations at 20 CFR 5.5a; (n) the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

ARTICLE 20: CRIMINAL PROVISIONS AND SANCTIONS

The Contractor agrees to perform the Agreement in conformance with safeguards against fraud and abuse as set forth by the H-GAC, the State of Texas, and the acts and regulations of any related state or federal agency. The Contractor agrees to promptly notify H-GAC of any actual or suspected fraud, abuse, or other criminal activity through the filing of a written report within twenty-four (24) hours of knowledge thereof. Contractor shall notify H-GAC of any accident or incident requiring medical attention arising from its activities under this Agreement within twenty-four (24) hours of such occurrence. Theft or willful damage to property on loan to the Contractor from H-GAC, if any, shall be reported to local law enforcement agencies and H-GAC within two (2) hours of discovery of any such act.

The Contractor further agrees to cooperate fully with H-GAC, local law enforcement agencies, the State of Texas, the Federal Bureau of Investigation and any other duly authorized investigative unit, in carrying out a full investigation of all such incidents.

The Contractor shall notify H-GAC of the threat of lawsuit or of any actual suit filed against the Contractor pertaining to this Agreement or which would adversely affect the Contractor's ability to perform services under this Agreement.

ARTICLE 21: INDEMNIFICATION AND RECOVERY

H-GAC's liability under this Agreement, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to its order processing charge. In no event will H-GAC be liable for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. Contractor agrees, to the extent permitted by law, to defend and hold harmless H-GAC, its board members, officers, agents, officials, employees and indemnities from any and all claims, costs, expenses (including reasonable attorney fees), actions, causes of action, judgements, and liens arising as a result of Contractor's negligent act or omission under this Agreement. Contractor shall notify H-GAC of the threat of lawsuit or of any actual suit filed against Contractor relating to this Agreement.

ARTICLE 22: LIMITATION OF CONTRACTOR'S LIABILITY

Except as specified in any separate writing between the Contractor and an END USER, Contractor's total liability under this Agreement, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, but excluding its obligation to indemnify H-GAC, is limited to the price of the particular products/services sold hereunder, and Contractor agrees either to refund the purchase price or to repair or replace product(s) that are not as warranted. In no event will Contractor be liable for any loss of use, loss of time, inconvenience, commercial loss, loss of profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. Contractor understands and agrees that it shall be liable to repay and shall repay upon demand to

END USER any amounts determined by H-GAC, its independent auditors, or any agency of State or Federal government to have been paid in violation of the terms of this Agreement.

ARTICLE 23: TITLES NOT RESTRICTIVE

The titles assigned to the various Articles of this Agreement are for convenience only. Titles shall not be considered restrictive of the subject matter of any Article, or part of this Agreement.

ARTICLE 24: JOINT WORK PRODUCT

This Agreement is the joint work product of H-GAC and the Contractor. This Agreement has been negotiated by H-GAC and the Contractor and their respective counsel and shall be fairly interpreted in accordance with its terms and, in the event of any ambiguities, no inferences shall be drawn against any party.

ARTICLE 25: DISPUTES

All disputes concerning questions of fact or of law arising under this Agreement, which are not addressed within the Whole Agreement as defined pursuant to Article 4 hereof, shall be decided by the Executive Director of H-GAC or his designee, who shall reduce his decision to writing and provide notice thereof to the Contractor. The decision of the Executive Director or his designee shall be final and conclusive unless, within thirty (30) days from the date of receipt of such notice, the Contractor requests a rehearing from the Executive Director of H-GAC. In connection with any rehearing under this Article, the Contractor shall be afforded an opportunity to be heard and offer evidence in support of its position. The decision of the Executive Director after any such rehearing shall be final and conclusive. The Contractor may, if it elects to do so, appeal the final and conclusive decision of the Executive Director to a court of competent jurisdiction. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Agreement and in accordance with H-GAC's final decision.

ARTICLE 26: CHOICE OF LAW: VENUE

This Agreement shall be governed by the laws of the State of Texas. Venue and jurisdiction of any suit or cause of action arising under or in connection with the Agreement shall lie exclusively in Harris County, Texas. Disputes between END USER and Contractor are to be resolved in accordance with the law and venue rules of the state of purchase. Contractor shall immediately notify H-GAC of such disputes.

ARTICLE 27: ORDER OF PRIORITY

In the case of any conflict between or within this Agreement, the following order of priority shall be utilized: 1) General Provisions, 2) Special Provisions, 3) Scope of Work, and, 4) Other Attachments.

SIGNATURES:

H-GAC and the Contractor have read, agreed, and executed the whole Agreement as of the date first written above, as accepted by:

PM Construction, & Rehab, LLC

Signature 
A52451D995DB4C9...

Name Bac Ong

Title Sr GM

Date 6/18/2018

H-GAC DocuSigned by:

Signature 
82EC270D5D61423...

Name Chuck Wemple

Title Executive Director

Date 6/15/2018

H-GAC

Houston-Galveston Area Council

P.O. Box 22777 · 3555 Timmons · Houston, Texas 77227-2777

Cooperative Agreement - PM Construction & Rehab, LLC - Public Services - 18-00365

18-00365

SPECIAL PROVISIONS

Incorporated by attachment, as part of the whole agreement, H-GAC and the Contractor do, hereby agree to the Special Provisions as follows:

ARTICLE 1: BIDS/PROPOSALS INCORPORATED

In addition to the whole Agreement, the following documents listed in order of priority are incorporated into the Agreement by reference: Bid/Proposal Specifications and Contractor's Response to the Bid/Proposal.

ARTICLE 2: END USER AGREEMENTS ("EUA")

H-GAC acknowledges that the **END USER** may choose to enter into an End User Agreement ("EUA") with the **Contractor** through this Agreement, and that the term of the EUA may exceed the term of the current **H-GAC** Agreement. **H-GAC's** acknowledgement is not an endorsement or approval of the End User Agreement's terms and conditions. **Contractor** agrees not to offer, agree to or accept from the **END USER**, any terms or conditions that conflict with those in **Contractor's** Agreement with **H-GAC**. **Contractor** affirms that termination of its Agreement with **H-GAC** for any reason shall not result in the termination of any underlying EUA, which shall in each instance, continue pursuant to the EUA's stated terms and duration. Pursuant to the terms of this Agreement, termination of this Agreement will disallow the **Contractor** from entering into any new EUA with **END USERS**. Applicable **H-GAC** order processing charges will be due and payable to **H-GAC** on any EUAs, surviving termination of this Agreement between **H-GAC** and **Contractor**.

ARTICLE 3: MOST FAVORED CUSTOMER CLAUSE

Contractor shall provide its most favorable pricing and terms to **H-GAC**. If at any time during this Agreement, **Contractor** develops a regularly followed standard procedure of entering into agreements with other governmental customers within the State of Texas, and offers the same or substantially the same products/services offered to **H-GAC** on a basis that provides prices, warranties, benefits, and or terms more favorable than those provided to **H-GAC**, **Contractor** shall notify **H-GAC** within ten (10) business days thereafter, and this Agreement shall be deemed to be automatically retroactively amended, to the effective date of **Contractor's** most favorable past agreement with another entity. **Contractor** shall provide the same prices, warranties, benefits, or terms to **H-GAC** and its **END USER** as provided in its most favorable past agreement. **H-GAC** shall have the right and option at any time to decline to accept any such change, in which case the amendment shall be deemed null and void. If **Contractor** claims that a more favorable price, warranty, benefit, or term that was charged or offered to another entity during the term of this Agreement, does not constitute more favorable treatment, than **Contractor** shall, within ten (10) business days, notify **H-GAC** in writing, setting forth the detailed reasons **Contractor** believes the aforesaid offer is not in fact most favored treatment. **H-GAC**, after due consideration of **Contractor's** written explanation, may decline to accept such explanation and thereupon this Agreement between **H-GAC** and **Contractor** shall be automatically amended, effective retroactively, to the effective date of the most favored agreement, to provide the same prices, warranties,

benefits, or terms to H-GAC and the END USER.

EXCEPTION: *This clause shall not be applicable to prices and price adjustments offered by a bidder, Proposer or contractor, which are not within bidder's/proposer's control [example; a manufacturer's bid concession], or to any prices offered to the Federal Government and its agencies.*

ARTICLE 4: PARTY LIABILITY

Contractor's total liability under this Agreement, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to the price of the particular products/services sold hereunder. Contractor agrees either to refund the purchase price or to repair or replace product(s) that are not as warranted. Contractor accepts liability to repay, and shall repay upon demand to END USER, any amounts determined by H-GAC, its independent auditors, or any state or federal agency, to have been paid in violation of the terms of this Agreement.

ARTICLE 5: GOVERNING LAW & VENUE

Contractor and H-GAC agree that Contractor will make every reasonable effort to resolve disputes the **END USER** in accord with the law and venue rules of the state of purchase. **Contractor** shall immediately notify **H-GAC** of such disputes.

ARTICLE 6: SALES AND ORDER PROCESSING CHARGE

Contractor shall sell its products to **END USERS** based on the pricing and terms of this Agreement. **H-GAC** will invoice **Contractor** for the applicable order processing charge when H-GAC receives notification of an **END USER** order. **Contractor shall remit to H-GAC** the full amount of the applicable order processing charge, after delivery of any product or service and subsequent **END USER** acceptance. Payment of the Order Processing Charge shall be remitted from Contractor to H-GAC, within thirty (30) calendar days or ten (10) business days after receipt of an **END USER's** payment, whichever comes first, notwithstanding Contractor's receipt of invoice. For sales made by **Contractor** based on this Agreement, including sales to entities without Interlocal Agreements, **Contractor** shall pay the applicable order processing charges to **H-GAC**. Further, **Contractor** agrees to encourage entities who are not members of H-GAC's Cooperative Purchasing Program to execute an **H-GAC** Interlocal Agreement. **H-GAC** reserves the right to take appropriate actions including, but not limited to, Agreement termination if **Contractor** fails to promptly remit the appropriate order processing charge to H-GAC. In no event shall **H-GAC** have any liability to **Contractor** for any goods or services an **END USER** procures from **Contractor**. At all times, **Contractor** shall remain liable to pay to **H-GAC** any order processing charges on any portion of the Agreement actually performed, and for which compensation was received by **Contractor**.

ARTICLE 7: LIQUIDATED DAMAGES

Contractor and H-GAC agree that Contractor shall cooperate with the **END USER** at the time an **END USER** purchase order is placed, to determine terms for any liquidated damages.

ARTICLE 8: INSURANCE

Unless otherwise stipulated in Section B of the Bid/Proposal Specifications, **Contractor** must have the following insurance and coverage minimums:

- a. **General liability** insurance with a Single Occurrence limit of at least \$1,000,000.00, and a General

Aggregate limit of at least two times the Single Occurrence limit.

Product liability insurance with a Single Occurrence limit of at least \$1,000,000.00, and a General Aggregate limit of at least two times the Single Occurrence limit for all Products except Automotive Fire Apparatus. For Automotive Fire Apparatus, see Section B of the Bid/Proposal Specifications.

Property Damage or Destruction insurance is required for coverage of **End User** owned equipment while in **Contractor's** possession, custody or control. The minimum Single Occurrence limit is \$500,000.00 and the General Aggregate limit must be at least two times the Single Occurrence limit. This insurance may be carried in several ways, e.g. under an Inland Marine policy, as part of Automobile coverage, or under a Garage Keepers policy. In any event, this coverage must be specifically and clearly listed on insurance certificate(s) submitted to **H-GAC**.

- b. Insurance coverage shall be in effect for the length of any contract made pursuant to the Bid/Proposal, and for any extensions thereof, plus the number of days/months required to *deliver* any outstanding order after the close of the contract period.
- c. Original Insurance Certificates must be furnished to **H-GAC** on request, showing **Contractor** as the insured and showing coverage and limits for the insurances listed above.
- d. If any Product(s) or Service(s) will be provided by parties other than **Contractor**, all such parties are required to carry the minimum insurance coverages specified herein, and if requested by **H-GAC**, a separate insurance certificate must be submitted for each such party.
- e. **H-GAC** reserves the right to contact insurance underwriters to confirm policy and certificate issuance and document accuracy.

ARTICLE 9: PERFORMANCE AND PAYMENT BONDS FOR INDIVIDUAL ORDERS

H-GAC's contractual requirements DO NOT include a Performance & Payment Bond (PPB); therefore, **Contractor** shall offer pricing that reflects this cost savings. **Contractor** shall remain prepared to offer a PPB to cover any order if so requested by the **END USER**. **Contractor** shall quote a price to **END USER** for provision of any requested PPB, and agrees to furnish the PPB within ten business (10) days of receipt of **END USER's** purchase order.

ARTICLE 10: CHANGE OF STATUS

Contractor shall immediately notify **H-GAC**, in writing, of **ANY** change in ownership, control, dealership/franchisee status, Motor Vehicle license status, or name. **Contractor** shall offer written guidance to advise **H-GAC** if this Agreement shall be affected in any way by such change. **H-GAC** shall have the right to determine whether or not such change is acceptable, and to determine what action shall be warranted, up to and including cancellation of Agreement.

ARTICLE 11: TEXAS MOTOR VEHICLE BOARD LICENSING

All that deal in motor vehicles shall maintain current licenses that are required by the Texas Motor Vehicle Commission Code. If at any time during this Agreement term, any required **Contractor** license is denied, revoked, or not renewed, **Contractor** shall be in default of this Agreement, unless the Texas Motor Vehicle

Board issues a stay or waiver. Contractor shall promptly provide copies of all current applicable Texas Motor Vehicle Board documentation to **H-GAC** upon request.

Attachment A
PM Construction & Rehab, LLC
Trenchless Pipeline Rehabilitation Services
Contract No.: TP07-18

Item #	Unit	Pay Item Description	Unit Price
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SECTION - A**Clean/TV & Evaluation for Gravity Pipelines:**

A1	LF	Sewer Main Television Inspection (8" through 15" Diameter)	\$ 4.00
A2	LF	Sewer Main Television Inspection (18" through 24" Diameter)	\$ 6.00
A3	LF	Sewer Main Television Inspection (27" through 36" Diameter)	\$ 8.00
A4	LF	Sewer Main Television Inspection (42" through 48" Diameter)	\$ 12.00
A5	LF	Sewer Main Television Inspection (54" through 60" Diameter)	\$ 14.00
A6	LF	Sewer Main Television Inspection (66" through 72" Diameter)	\$ 22.00
A7	LF	Sewer Main Television Inspection (78" through 90" Diameter)	\$ 35.00
A8	LF	Sewer Main Television Insepction (96" through 108" Diameter)	\$ 40.00
A9	LF	Sewer Main Cleaning - Normal (8" through 15" Diameter)	\$ 4.00
A10	LF	Sewer Main Cleaning - Normal (18" through 24" Diameter)	\$ 6.00
A11	LF	Sewer Main Cleaning - Normal (27" through 36" Diameter)	\$ 8.00
A12	LF	Sewer Main Cleaning - Normal (42" through 48" Diameter)	\$ 12.00
A13	LF	Sewer Main Cleaning - Normal (54" through 60" Diameter)	\$ 14.00
A14	LF	Sewer Main Cleaning - Normal (66" through 72" Diameter)	\$ 22.00
A15	LF	Sewer Main Cleaning - Normal (78" through 90" Diameter)	\$ 35.00
A16	LF	Sewer Main Cleaning - Normal (96" through 108" Diameter)	\$ 40.00
A17	LF	Sewer Main Cleaning - Mechanical (8" through 15" Diameter)	\$ 6.00
A18	LF	Sewer Main Cleaning - Mechanical (18" through 24" Diameter)	\$ 8.00
A19	LF	Sewer Main Cleaning - Mechanical (27" through 36" Diameter)	\$ 25.00
A20	LF	Sewer Main Cleaning - Mechanical (42" through 48" Diameter)	\$ 35.00
A21	LF	Sewer Main Cleaning - Mechanical (54" through 60" Diameter)	\$ 38.00
A22	LF	Sewer Main Cleaning - Mechanical (66" through 72" Diameter)	\$ 55.00
A23	LF	Sewer Main Cleaning - Mechanical (78" through 90" Diameter)	\$ 80.00
A24	LF	Sewer Main Cleaning - Mechanical (96" through 108" Diameter)	\$ 110.00
A25	LF	6" Clean and TV storm sewer	\$ 5.52
A26	LF	8" Clean and TV storm sewer	\$ 5.52
A27	LF	10" Clean and TV storm sewer	\$ 6.90
A28	LF	12" Clean and TV storm sewer	\$ 6.90
A29	LF	15" Clean and TV storm sewer	\$ 9.66
A30	LF	18" Clean and TV storm sewer	\$ 13.80
A31	LF	21" Clean and TV storm sewer	\$ 16.56
A32	LF	24" Clean and TV storm sewer	\$ 19.32
A33	LF	27" Clean and TV storm sewer	\$ 20.70
A34	LF	30" Clean and TV storm sewer	\$ 27.60
A35	LF	33" Clean and TV storm sewer	\$ 34.50
A36	LF	36" Clean and TV storm sewer	\$ 41.40
A37	LF	42" Clean and TV storm sewer	\$ 55.20
A38	LF	48" Clean and TV storm sewer	\$ 69.00
A39	LF	54" Clean and TV storm sewer	\$ 82.80
A40	LF	60" Clean and TV storm sewer	\$ 100.00
A41	LF	66" Clean and TV storm sewer	\$ 115.00
A42	LF	72" Clean and TV storm sewer	\$ 130.00
A43	LF	78" Clean and TV storm sewer	\$ 145.00
A44	LF	84" Clean and TV storm sewer	\$ 160.00
A45	LF	90" Clean and TV storm sewer	\$ 175.00
A46	LF	96" Clean and TV storm sewer	\$ 190.00
A47	LF	102" Clean and TV storm sewer	\$ 205.00
A48	LF	108" Clean and TV storm sewer	\$ 220.00
A49	LF	114" Clean and TV storm sewer	\$ 235.00
A50	LF	Greater than 114" Clean and TV storm sewer	\$ 250.00
A51	LF	6" - 12" Post TV Inspection After Rehabilitation	\$ 5.00
A52	LF	14" - 20" Post TV Inspection After Rehabilitation	\$ 5.00
A53	LF	21" - 36" Post TV Inspection After Rehabilitation	\$ 9.00
A54	LF	37"- 42" Post TV Inspection After Rehabilitation	\$ 12.00
A55	LF	43"- 48" Post TV Inspection After Rehabilitation	\$ 22.00
A56	LF	49"- 54" Post TV Inspection After Rehabilitation	\$ 32.00
A57	LF	55"- 60" Post TV Inspection After Rehabilitation	\$ 42.00
A58	LF	61"- 72" Post TV Inspection After Rehabilitation	\$ 52.00
A59	LF	73" or Larger Post TV Inspection After Rehabilitation	\$ 62.00

A60	EA	Heavy Lift Station Cleaning (Remove all Debris to Bottom of LS - 4 hr minimum)	\$ 4,312.00
A61	HR	Major Lift Station Cleaning - Additional Hours	\$ 1,078.00
A62	EA	Minor Lift Station Cleaning (Skimming Top of LS - 4 hr minimum)	\$ 1,150.00
A63	HR	Minor Lift Station Cleaning - Additional Hours	\$ 287.50
A64	HR	Vactor Truck Services	\$ 500.00
A65	YD	Waste Water Treatment Plant Debris Removal/Sludge Hauling (Small)	\$ 90.00
A66	YD	Waste Water Treatment Plant Debris Removal/Sludge Hauling (Large)	\$ 350.00
A67	EA	Re-setup for TV Due to Point Repairs or Obstructions	\$ 300.00
A68	LF	Mechanical Root removal	\$ 8.00
A69	LF	Grease removal	\$ 3.22
A70	EA	Other Remote Obstruction removal (max. 5 lf)	\$ 690.00
A71	LF	Smoke Testing	\$ 1.84
A72	EA	Manhole/Cleanout & Sewer Line Visual Inspection	\$ 184.00
A73	EA	GPS Survey of Manholes & Cleanouts	\$ 400.00
A74	EA	Heavy Debris Removal - MAN ENTRY	\$ 250.00
A75	EA	Heavy Debris Removal - LARGE DIAMETER MAN ENTRY	\$ 500.00
A76	LF	Heavy Debris Removal - REMOTE ENTRY	\$ 1,000.00
A77	EA	Dyed Water Flooding/Leak Quantification & Evaluation	\$ 322.00

SECTION - B**Centrifugally Cast Pipe Rehabilitation for Sewer Lines:**

B1	LF	30" STORM PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 450.00
B2	LF	36" STORM PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 320.00
B3	LF	42" STORM PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 350.00
B4	LF	48" STORM PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 405.00
B5	LF	54" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 475.00
B6	LF	60" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 575.00
B7	LF	66" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 715.00
B8	LF	72" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 850.00
B9	LF	78" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 925.00
B10	LF	84" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,075.00
B11	LF	90" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,200.00
B12	LF	96" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,500.00
B13	LF	102" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,800.00
B14	LF	108" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 2,300.00
B15	LF	Greater than 108" STORM PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 2,700.00
B16	LF	30" SANITARY PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 450.00
B17	LF	36" SANITARY PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 320.00
B18	LF	42" SANITARY PIPE - ECOCAST REHABILITATION - 1." Thickness	\$ 350.00
B19	LF	48" SANITARY PIPE - ECOCAST REHABILITATION - 1" Thickness	\$ 405.00
B20	LF	54" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 475.00
B21	LF	60" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 575.00
B22	LF	66" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 715.00
B23	LF	72" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 850.00
B24	LF	78" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 925.00
B25	LF	84" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,075.00
B26	LF	90" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,200.00
B27	LF	96" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,500.00
B28	LF	102" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 1,800.00
B29	LF	108" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 2,300.00
B30	LF	Greater than 108" SANITARY PIPE - ECOCAST REHABILITATION - 1.5" Thickness	\$ 2,700.00
B31	LF	EACH ADDITIONAL .5" Thickness	\$ 115.00
B32	GAL	AMS APPLICATION	\$ 290.00
B33	CY	CHANNEL EXCAVATION	\$ 50.00
B34	CY	DEBRIS REMOVAL	\$ 65.00
B35	AC	CLEARING AND GRUBBING	\$ 4,500.00
B36	EACH	TREE REMOVAL (6" – 12")	\$ 1,500.00
B37	EACH	TREE REMOVAL (13" – 23")	\$ 3,000.00
B38	EACH	TREE REMOVAL (> 24")	\$ 5,000.00
B39	EACH	REWORK CATCHBASIN COVER TO ACCEPT NEW MANHOLE COVERS	\$ 1,200.00
B40	EACH	SERVICE LATERAL REINSTATEMENT - MAN ENTRY	\$ 250.00

SECTION - C**Cured-In-Place Pipe (CIPP) Rehabilitation for Sewer Lines:**

C1	LF	6" x 4.5mm	\$ 40.00
C2	LF	8" x 6.0mm	\$ 45.00
C3	LF	10" x 6.0mm	\$ 55.00
C4	LF	12" x 6.0mm	\$ 65.00
C5	LF	15" x 7.5mm	\$ 80.00
C6	LF	18" x 9.0mm	\$ 95.00
C7	LF	21" x 9.0mm	\$ 110.00
C8	LF	24" x 10.5mm	\$ 140.00
C9	LF	27" x 10.5mm	\$ 160.00
C10	LF	30" x 12.0mm	\$ 185.00
C11	LF	33" x 12.0mm	\$ 225.00
C12	LF	36" x 12.0mm	\$ 250.00
C13	LF	42" x 13.5mm	\$ 275.00
C14	LF	48" x 15.0mm	\$ 450.00
C15	LF	54" x 18.0mm	\$ 575.00
C16	LF	60" x 22.5mm	\$ 675.00
C17	LF	6" & 8" Additional 1.5mm	\$ 3.00
C18	LF	10" & 12" Additional 1.5mm	\$ 6.00
C19	LF	15" & 18" Additional 1.5mm	\$ 16.00
C20	LF	21" & 24" Additional 1.5mm	\$ 28.00
C21	LF	27" Additional 1.5mm	\$ 32.00
C22	LF	30" Additional 1.5mm	\$ 38.00
C23	EA	33" Additional 1.5mm	\$ 42.00
C24	EA	36" Additional 1.5mm	\$ 50.00
C25	EA	42" Additional 1.5mm	\$ 55.00
C26	EA	48" Additional 1.5mm	\$ 62.00
C27	EA	54" Additional 1.5mm	\$ 70.00
C28	EA	60" Additional 1.5mm	\$ 85.00
C29	EA	Internal reconnects on Cured-in-place pipe	\$ 276.00
C30	LF	4"-6" Installation and cure of lateral liner from main <12" dia.	\$ 4,600.00
C31	LF	4"-6" Installation and cure of lateral liner from surface clean out to main	\$ 5,980.00
C32	EA	4"-6" Set-up for installations of <20 each total	\$ 4,600.00
C33	EA	4"-6" Set-up for installations of 20-50 each total	\$ 3,220.00
C34	EA	4"-6" Set-up for installations of 51-150 each total	\$ 1,840.00
C35	EA	6" - 12" CIPP Setup Charge (< 300 LF)	\$ 3,500.00
C36	EA	15" - 21" CIPP Setup Charge (< 300 LF)	\$ 6,000.00
C37	EA	24" - 36" CIPP Setup Charge (< 300 LF)	\$ 8,500.00
C38	EA	36" or Larger CIPP Setup Charge (< 300 LF)	\$ 12,500.00
C39	EA	Backyard Easement Setup (6" - 10")	\$ 2,500.00
C40	EA	Backyard Easement Setup (12" - 18")	\$ 3,500.00
C41	SY	Timber Matting for Large Diameter Setup	\$ 75.00

Note: Any CIPP over 60" will be on an individual quote basis.

SECTION - D

Pipe Bursting Rehabilitation for Sewer Lines:

D1	LF	Burst existing 6" to 6" IPS SDR 19 (0'- 8' deep)	\$ 48.00
D2	LF	Burst existing 6" to 6" IPS SDR 19 (8'- 12' deep)	\$ 52.00
D3	LF	Burst existing 6" to 6" IPS SDR 19 (12'- 16' deep)	\$ 58.00
D4	LF	Burst existing 6" or 8" to 8" IPS SDR 19 (0'- 8' deep)	\$ 54.00
D5	LF	Burst existing 6" or 8" to 8" IPS SDR 19 (8'- 12' deep)	\$ 57.00
D6	LF	Burst existing 6" or 8" to 8" IPS SDR 19 (12'- 16' deep)	\$ 60.00
D7	LF	Burst existing 8" or 10" to 10" IPS SDR 19 (0'- 8' deep)	\$ 62.00
D8	LF	Burst existing 8" or 10" to 10" IPS SDR 19 (8'- 12' deep)	\$ 67.00
D9	LF	Burst existing 8" or 10" to 10" IPS SDR 19 (12'- 16' deep)	\$ 71.00
D10	LF	Burst existing 10" or 12" to 12" IPS SDR 19 (0'- 8' deep)	\$ 69.00
D11	LF	Burst existing 10" or 12" to 12" IPS SDR 19 (8'- 12' deep)	\$ 73.00
D12	LF	Burst existing 10" or 12" to 12" IPS SDR 19 (12'- 16' deep)	\$ 80.00
D13	LF	Burst existing 12" or 15" to 16" IPS SDR 19 (0'- 8' deep)	\$ 78.00
D14	LF	Burst existing 12" or 15" to 16" IPS SDR 19 (8'- 12' deep)	\$ 84.00
D15	LF	Burst existing 12" or 15" to 16" IPS SDR 19 (12'- 16' deep)	\$ 98.00
D16	LF	Burst existing 15" or 18" to 18" IPS SDR 19 (0'- 8' deep)	\$ 100.00
D17	LF	Burst existing 15" or 18" to 18" IPS SDR 19 (8'- 12' deep)	\$ 110.00
D18	LF	Burst existing 15" or 18" to 18" IPS SDR 19 (12'- 16' deep)	\$ 130.00
D19	LF	Burst existing 18" or 21" to 22" IPS SDR 19 (0'- 8' deep)	\$ 135.00
D20	LF	Burst existing 18" or 21" to 22" IPS SDR 19 (8'- 12' deep)	\$ 140.00
D21	LF	Burst existing 18" or 21" to 22" IPS SDR 19 (12'- 16' deep)	\$ 155.00
D22	LF	Burst existing 21" or 24" to 24" IPS SDR 19 (0'- 8' deep)	\$ 165.00

D23	LF	Burst existing 21" or 24" to 24" IPS SDR 19 (8'- 12' deep)	\$ 175.00
D24	LF	Burst existing 21" or 24" to 24" IPS SDR 19 (12'- 16' deep)	\$ 185.00
D25	LF	Burst existing 24" or 27" to 28" IPS SDR 19 (0'- 8' deep)	\$ 190.00
D26	LF	Burst existing 24" or 27" to 28" IPS SDR 19 (8'- 12' deep)	\$ 200.00
D27	LF	Burst existing 24" or 27" to 28" IPS SDR 19 (12'- 16' deep)	\$ 230.00
D28	LF	Burst existing 27" or 30" to 30" IPS SDR 19 (0'- 8' deep)	\$ 245.00
D29	LF	Burst existing 27" or 30" to 30" IPS SDR 19 (8'- 12' deep)	\$ 255.00
D30	LF	Burst existing 27" or 30" to 30" IPS SDR 19 (12'- 16' deep)	\$ 275.00
D31	EA	8" - 12" Pipeburst Setup Charge (< 300 LF)	\$ 5,000.00
D32	EA	16" - 22" Pipeburst Setup Charge (< 300 LF)	\$ 10,000.00
D33	EA	24" or Larger Pipeburst Setup Charge (< 300 LF)	\$ 20,000.00

***deeper than
16' will be on an individual quote basis.***

SECTION - E**Pipe Bursting Rehabilitation for Water Lines:**

E1	LF	Install 2" Fusible PVC or HDPE pre-chlorinated water line, SDR 11, in trench	\$ 75.00
E2	LF	Install 4" Fusible PVC or HDPE pre-chlorinated water line, SDR 11, in trench	\$ 95.00
E3	LF	Install 6" Fusible PVC or HDPE pre-chlorinated water line, SDR 11, in trench	\$ 115.00
E4	LF	Install 8" Fusible PVC or HDPE pre-chlorinated water line, SDR 11, in trench	\$ 125.00
E5	LF	Install 10" Fusible PVC or HDPE pre-chlorinated water line, SDR 11, in trench	\$ 135.00
E6	LF	Install 12" Fusible PVC or HDPE pre-chlorinated water line, SDR 11, in trench	\$ 155.00
E7	EA	6" Flow Stop	\$ 5,312.50
E8	EA	8" Flow Stop	\$ 6,656.25
E9	EA	10" Flow Stop	\$ 7,687.50
E10	EA	12" Flow Stop	\$ 9,031.25
E11	EA	3/4" Service Tap, Install on 4"-8" Waterline	\$ 806.25
E12	EA	1" Service Tap, Install on 4"-8" Waterline	\$ 868.75
E13	EA	1.5" Service Tap, Install on 4"-8" Waterline	\$ 1,218.75
E14	EA	2" Service Tap, Install on 4"-8" Waterline	\$ 1,875.00
E15	EA	3/4" Service Tap, Install on 10"-12" Waterline	\$ 856.25
E16	EA	1" Service Tap, Install on 10"-12" Waterline	\$ 900.00
E17	EA	1.5" Service Tap, Install on 10"-12" Waterline	\$ 1,243.75
E18	EA	2" Service Tap, Install on 10"-12" Waterline	\$ 2,000.00
E19	EA	Install 4"-8" tee, to any size	\$ 3,240.00
E20	EA	Install 10"-12" tee, to any size	\$ 4,522.50
E21	EA	Install 4"-8" mechanical joint wet connection, to any size	\$ 2,403.00
E22	EA	Install 10"-12" wet connection, to any size	\$ 5,670.00
E23	LF	Auger and encase 4"-8", all depths, complete in place (to include pipe in casing)	\$ 270.00
E24	LF	Auger and encase 10"-12", all depths, complete in place (to include pipe in casing)	\$ 540.00
E25	CY	Annual and void space grouting	\$ 151.20
E26	EA	Install 1" Corporation Stop with Valve Box	\$ 400.00
E27	EA	Install 2" Corporation Stop with Valve Box	\$ 700.00
E28	EA	Install 4" gate valve & box	\$ 600.00
E29	EA	Install 6" gate valve & box	\$ 800.00
E30	EA	Install 8" gate valve & box	\$ 1,200.00
E31	EA	Install 12" gate valve & box	\$ 2,200.00
E32	EA	Install 8"x2" service saddle	\$ 900.00
E33	EA	Install 12"x1" service saddle	\$ 1,200.00
E34	EA	Install 12"x2" service saddle	\$ 1,300.00
E35	EA	Connect new 1" water line w/existing 1" water line	\$ 300.00
E36	EA	Connect new 2" water line w/existing 2" water line	\$ 500.00
E37	EA	Connect new 4" water line w/existing 4" water line	\$ 600.00
E38	EA	Connect new 6" water line w/existing 6" water line	\$ 700.00
E39	EA	Connect new 8" water line w/existing 8" water line	\$ 800.00
E40	EA	Connect new 12" water line w/existing 12" water line	\$ 1,000.00
E41	EA	Install 3/4 inch service connections	\$ 525.00
E42	EA	Remove and dispose of existing fire hydrant	\$ 500.00
E43	EA	Salvage existing fire hydrant and re-install in new location	\$ 2,600.00
E44	TON	Repair pavement with cold mix asphalt	\$ 100.00

E45	EA	Furnish and install 8" x 6" ductile iron fire hydrant tee	\$ 535.00
E46	EA	Furnish and install 6" ductile iron pipe fire hydrant lead piping	\$ 625.00
E47	EA	Furnish and install 8" x 6" fire hydrant or approved equal, including lead and FH valve	\$ 4,100.00

SECTION - F**Sliplining With HDPE or FRP Rehabilitation:**

F1	LF	6" HDPE IPS SDR 21 (0'- 8' deep)	\$ 46.00
F2	LF	6" HDPE IPS SDR 21 (8'- 12' deep)	\$ 50.60
F3	LF	6" HDPE IPS SDR 21 (12'- 16' deep)	\$ 55.20
F4	LF	8" HDPE IPS SDR 21 (0'- 8' deep)	\$ 46.00
F5	LF	8" HDPE IPS SDR 21 (8'- 12' deep)	\$ 50.60
F6	LF	8" HDPE IPS SDR 21 (12'- 16' deep)	\$ 55.20
F7	LF	10" HDPE IPS SDR 21 (0'- 8' deep)	\$ 50.60
F8	LF	10" HDPE IPS SDR 21 (8'- 12' deep)	\$ 55.20
F9	LF	10" HDPE IPS SDR 21 (12'- 16' deep)	\$ 59.80
F10	LF	12" HDPE IPS SDR 21 (0'- 8' deep)	\$ 59.80
F11	LF	12" HDPE IPS SDR 21 (8'- 12' deep)	\$ 64.40
F12	LF	12" HDPE IPS SDR 21 (12'- 16' deep)	\$ 69.00
F13	LF	16" HDPE IPS SDR 21 (0'- 8' deep)	\$ 69.00
F14	LF	16" HDPE IPS SDR 21 (8'- 12' deep)	\$ 78.20
F15	LF	16" HDPE IPS SDR 21 (12'- 16' deep)	\$ 92.00
F16	LF	18" HDPE IPS SDR 21 (0'- 8' deep)	\$ 82.80
F17	LF	18" HDPE IPS SDR 21 (8'- 12' deep)	\$ 92.00
F18	LF	18" HDPE IPS SDR 21 (12'- 16' deep)	\$ 110.40
F19	LF	20" HDPE IPS SDR 21 (0'- 8' deep)	\$ 110.40
F20	LF	20" HDPE IPS SDR 21 (8'- 12' deep)	\$ 119.60
F21	LF	20" HDPE IPS SDR 21 (12'- 16' deep)	\$ 133.40
F22	LF	24" HDPE IPS SDR 21 (0'- 8' deep)	\$ 128.80
F23	LF	24" HDPE IPS SDR 21 (8'- 12' deep)	\$ 138.00
F24	LF	24" HDPE IPS SDR 21 (12'- 16' deep)	\$ 151.80
F25	LF	27" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 253.00
F26	LF	30" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 276.00
F27	LF	36" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 322.00
F28	LF	42" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 368.00
F29	LF	48" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 506.00
F30	LF	54" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 552.00
F31	LF	60" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 736.00
F32	LF	72" Installation of FRP or SRPCP segments (20 lf std. Segments)	\$ 920.00
F33	LF	27" Installation of FRP or SRPCP segments <10lf joints	\$ 303.60
F34	LF	30" Installation of FRP or SRPCP segments <10lf joints	\$ 331.20
F35	LF	36" Installation of FRP or SRPCP segments <10lf joints	\$ 386.40
F36	LF	42" Installation of FRP or SRPCP segments <10lf joints	\$ 441.60
F37	LF	48" Installation of FRP or SRPCP segments <10lf joints	\$ 607.20
F38	LF	54" Installation of FRP or SRPCP segments <10lf joints	\$ 662.40
F39	LF	60" Installation of FRP or SRPCP segments <10lf joints	\$ 883.20
F40	LF	72" Installation of FRP or SRPCP segments <10lf joints	\$ 1,104.00
F41	LS	27" Set-up for contiguous installations < 150 lf	\$ 920.00
F42	LS	30" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F43	LS	36" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F44	LS	42" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F45	LS	48" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F46	LS	54" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F47	LS	60" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F48	LS	72" Set-up for contiguous installations < 150 lf	\$ 1,840.00
F49	CUFT	All Sizes Annular space grouting cement slurry base	\$ 60.00
F50	LS	All Sizes Set-up for annular space grouting <100 cubic feet	\$ 5,000.00
F51	LB	High Density Urethane for grouting, slab lifting, void filling, pipe sealing etc.(500lb.min)	\$ 92.00

SECTION - G**Manhole and Structure Rehabilitation:**

G1	VF	Manhole Rehabilitation (Standard 4-ft Diameter) - 1-inch cementitious	\$ 125.00
G2	SQFT	Sewer Structure Rehabilitation (Non-circular or manholes greater than 4-ft Diameter) - 1-inch cementitious	\$ 35.00

G3	VF	Manhole Rehabilitation - Epoxy/Polyurea/or approved equal - (Standard 4-ft Diameter)	\$ 400.00
G4	SQFT	Sewer Structure Rehabilitation (Non-circular or manholes greater than 4-ft Diameter) - Epoxy/Polyurea/or approved equal	\$ 80.00
G5	VF	Manhole Rehabilitation - w/1 inch Geopolymer	\$ 400.00
G6	SQFT	Sewer Structure Rehabilitation (Non-circular or manholes greater than 4-ft Diameter) - 1-inch Geopolymer	\$ 145.00
G7	EA	Installation of FRP rehabilitation structures up to 6' depth (Standard 4-ft Diameter)	\$ 1,800.00
G8	VF	Additional depth for FRP rehabilitation structures (Standard 4-ft Diameter)	\$ 400.00
G9	SQFT	All Sizes Installation of poured in place structure without forms remaining depth <10 vf	\$ 90.00
G10	SQFT	All Sizes Installation of poured in place structure with forms remaining depth <10 vf	\$ 90.00
G11	SQFT	All Sizes Installation of poured in place structure without forms remaining depth +10 vf <20 vf	\$ 90.00
G12	SQFT	All Sizes Installation of poured in place structure with forms remaining depth +10 vf <20 vf	\$ 90.00
G13	SQFT	All Sizes Installation of poured in place structure without forms remaining depth +20 vf <40 vf	\$ 90.00
G14	SQFT	All Sizes Installation of poured in place structure with forms remaining depth +20 vf <40 vf	\$ 90.00
G15	LS	All Sizes Set-up for install of poured in place MH structure <100 sq ft	\$ 1,380.00
G16	EA	All Sizes Installation of Manhole Chimney Seal	\$ 552.00
G17	EA	New manhole frame and cover-24"	\$ 850.00
G18	EA	New manhole frame and cover-32"	\$ 1,500.00
G19	EA	Premium manhole frame and cover (i.e. CertainTeed PAM locking units etc.)- 24"	\$ 1,200.00
G20	EA	Premium manhole frame and cover (i.e. CertainTeed PAM locking units etc.)- 32"	\$ 1,600.00
G21	EA	Adjust manhole frame and cover up to 1 Ft	\$ 950.00
G22	VF	Adjust manhole frame and cover over 1 Ft	\$ 500.00
G23	EACH	INVERT INSTALLATION, 4' DIAMETER	\$ 250.00
G24	EACH	INVERT INSTALLATION, 5' DIAMETER	\$ 400.00
G25	EACH	INVERT INSTALLATION, 6' DIAMETER	\$ 750.00
G26	SF	INVERT INSTALLATION, OTHER CONFIGURATIONS	\$ 85.00

SECTION - H**Excavation and Additional Items:**

H1	EA	6" - 8" Point repair (0'- 8' deep) up to 12 LF	\$ 4,500.00
H2	EA	6" - 8" Point repair (8'- 12' deep) up to 12 LF	\$ 5,500.00
H3	EA	6" - 8" Point repair (12'-16' deep) up to 12 LF	\$ 7,000.00
H4	EA	10" - 12" Point repair (0'- 8' deep) up to 12 LF	\$ 5,500.00
H5	EA	10" - 12" Point repair (8'- 12' deep) up to 12 LF	\$ 7,000.00
H6	EA	10" - 12" Point repair (12'-16' deep) up to 12 LF	\$ 9,500.00
H7	EA	15" - 18" Point repair (0'-8' deep) up to 12 LF	\$ 7,000.00
H8	EA	15" - 18" Point repair (8'-12' deep) up to 12 LF	\$ 10,000.00
H9	EA	15" - 18" Point repair (12'-16' deep) up to 12 LF	\$ 12,500.00
H10	EA	21" - 24" Point repair (0'-8' deep) up to 12 LF	\$ 10,000.00
H11	EA	21" - 24" Point repair (8'-12' deep) up to 12 LF	\$ 12,500.00
H12	EA	21" - 24" Point repair (12'-16' deep) up to 12 LF	\$ 15,000.00
H13	LF	4" Open Cut (0'-8' deep)	\$ 50.00
H14	LF	4" Open Cut (8'-12' deep)	\$ 55.00
H15	LF	4" Open Cut (12'-16' deep)	\$ 65.00
H16	LF	6" Open Cut (0'-8' deep)	\$ 60.00
H17	LF	6" Open Cut (8'-12' deep)	\$ 65.00
H18	LF	6" Open Cut (12'-16' deep)	\$ 75.00
H19	LF	8" Open Cut (0'-8' deep)	\$ 75.00
H20	LF	8" Open Cut (8'-12' deep)	\$ 80.00
H21	LF	8" Open Cut (12'-16' deep)	\$ 90.00
H22	LF	10" Open Cut (0'-8' deep)	\$ 85.00
H23	LF	10" Open Cut (8'-12' deep)	\$ 90.00
H24	LF	10" Open Cut (12'-16' deep)	\$ 100.00
H25	LF	12" Open Cut (0'-8' deep)	\$ 100.00
H26	LF	12" Open Cut (8'-12' deep)	\$ 110.00
H27	LF	12" Open Cut (12'-16' deep)	\$ 130.00

H28	LF	15" Open Cut (0'-8' deep)	\$ 125.00
H29	LF	15" Open Cut (8'-12' deep)	\$ 140.00
H30	LF	15" Open Cut (12'-16' deep)	\$ 160.00
H31	LF	18" Open Cut (0'-8' deep)	\$ 155.00
H32	LF	18" Open Cut (8'-12' deep)	\$ 175.00
H33	LF	18" Open Cut (12'-16' deep)	\$ 195.00
H34	LF	21" Open Cut (0'-8' deep)	\$ 190.00
H35	LF	21" Open Cut (8'-12' deep)	\$ 220.00
H36	LF	21" Open Cut (12'-16' deep)	\$ 250.00
H37	LF	24" Open Cut (0'-8' deep)	\$ 240.00
H38	LF	24" Open Cut (8'-12' deep)	\$ 270.00
H39	LF	24" Open Cut (12'-16' deep)	\$ 300.00
H40	LF	30" Open Cut (0'-8' deep)	\$ 310.00
H41	LF	30" Open Cut (8'-12' deep)	\$ 360.00
H42	LF	30" Open Cut (12'-16' deep)	\$ 400.00
H43	LF	36" Open Cut (0'-8' deep)	\$ 380.00
H44	LF	36" Open Cut (8'-12' deep)	\$ 420.00
H45	LF	36" Open Cut (12'-16' deep)	\$ 450.00
H46	LF	42" Open Cut (0'-8' deep)	\$ 450.00
H47	LF	42" Open Cut (8'-12' deep)	\$ 490.00
H48	LF	42" Open Cut (12'-16' deep)	\$ 600.00
H49	EA	Remove and replace or install cleanout	\$ 1,840.00
H50	EA	Pipe Seal Fix (8" Diameter)	\$ 3,500.00
H51	EA	Pipe Seal Fix (10" Diameter)	\$ 3,640.00
H52	EA	Pipe Seal Fix (12" Diameter)	\$ 3,780.00
H53	EA	Pipe Seal Fix (15" Diameter)	\$ 4,060.00
H54	EA	Pipe Seal Fix (18" Diameter)	\$ 4,340.00
H55	EA	Pipe Seal Fix (21" Diameter)	\$ 4,760.00
H56	EA	Pipe Seal Fix (24" Diameter)	\$ 5,320.00
H57	EA	Access Pit (0'-8' deep)	\$ 2,500.00
H58	EA	Access Pit (8'-12' deep)	\$ 2,750.00
H59	EA	Access Pit (12'-16' deep)	\$ 4,500.00
H60	EA	Access Pit (16'-20' deep)	\$ 8,000.00
H61	EA	Access Pit (over 20' deep)	\$ 19,000.00
H62	EA	Potholing for Nearby Utility Location or Obstruction Removal (0'-8' deep)	\$ 690.00
H63	EA	Potholing for Nearby Utility Location or Obstruction Removal (8'-12' deep)	\$ 1,104.00
H64	EA	Potholing for Nearby Utility Location or Obstruction Removal (12'-16' deep)	\$ 1,472.00
H65	EA	Potholing for Nearby Utility Location or Obstruction Removal (16'-20' deep)	\$ 2,200.00
H66	LF	Trench safety (0-8' deep)	\$ 5.00
H67	LF	Trench safety (8-12' deep)	\$ 8.00
H68	LF	Trench safety (12-16' deep)	\$ 20.00
H69	LF	Trench safety (16-20' deep)	\$ 35.00
H70	LF	Trench safety over 20' deep)	\$ 100.00
H71	EA	Install New 4' DIA precast manhole 0' - 6' deep	\$ 4,500.00
H72	VF	Extra depth 4' DIA precast manhole over 6' deep	\$ 650.00
H73	EA	Install New 5' DIA precast manhole 0' - 6' deep	\$ 6,250.00
H74	VF	Extra depth 5' DIA precast manhole over 6' deep	\$ 1,100.00
H75	EA	Install New 6' DIA precast manhole 0' - 6' deep	\$ 10,500.00
H76	VF	Extra depth 6' DIA precast manhole over 6' deep	\$ 1,350.00
H77	EA	Install New 4' DIA fiberglass manhole 0' - 6' deep	\$ 4,500.00
H78	VF	Extra depth 4' DIA fiberglass manhole over 6' deep	\$ 650.00
H79	EA	Install New 5' DIA fiberglass manhole 0' - 6' deep	\$ 6,250.00
H80	VF	Extra depth 5' DIA fiberglass manhole over 6' deep	\$ 1,100.00
H81	EA	Install New 6' DIA fiberglass manhole 0' - 6' deep	\$ 10,500.00
H82	VF	Extra depth 6' DIA fiberglass manhole over 6' deep	\$ 1,350.00
H83	EA	Sanitary Sewer Structure, Type B Structure, Up to 6' deep	\$ 5,000.00
H84	VF	Extra Depth Type B Structure, greater than 6' depth	\$ 500.00
H85	EA	Sanitary Sewer Structure, Type C Structure, Up to 6' deep	\$ 6,500.00
H86	VF	Extra Depth Type C Structure, greater than 6' depth	\$ 500.00
H87	Ton	Cement stabilized sand	\$ 45.00
H88	Ton	Granular backfill/Crushed Rock	\$ 35.00
H89	CY	Flowable Fill	\$ 140.00
H90	EA	Dewatering setup (well pointing) maximum 25' deep, includes 20 linear feet setup	\$ 7,500.00

H91	LF	Extra length dewatering over 20 linear feet	\$ 100.00
H92	DAY	Operation Maintain Well Points by the Day	\$ 300.00
H93	CY	Extra hand excavation	\$ 100.00

Note: Any point repair above 24" or digging item deeper then 20' is on an individual quote basis.

SECTION - I**Horizontal Directional Drilling (HDD):**

I1	IN/DIA/LF	2"-4" Installation of pipe clay ground conditions (pipe cost excluded)	\$ 38.79
I2	IN/DIA/LF	2"-4" Installation of pipe loose sand ground conditions (pipe cost excluded)	\$ 38.79
I3	IN/DIA/LF	2"-4" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	\$ 45.00
I4	IN/DIA/LF	2"-4" Installation of pipe rock ground conditions 3-8000 psi (pipe cost excluded)	\$ 46.88
I5	IN/DIA/LF	2"-4" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	\$ 5.63
I6	IN/DIA/LF	6"-8" Installation of pipe clay ground conditions (pipe cost excluded)	\$ 43.28
I7	IN/DIA/LF	6"-8" Installation of pipe loose sand ground conditions (pipe cost excluded)	\$ 43.28
I8	IN/DIA/LF	6"-8" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	\$ 48.91
I9	IN/DIA/LF	6"-8" Installation of pipe rock ground conditions 3-8000 psi (pipe cost excluded)	\$ 59.21
I10	IN/DIA/LF	6"-8" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	\$ 8.13
I11	IN/DIA/LF	10"-12" Installation of pipe clay ground conditions (pipe cost excluded)	\$ 46.88
I12	IN/DIA/LF	10"-12" Installation of pipe loose sand ground conditions (pipe cost excluded)	\$ 46.88
I13	IN/DIA/LF	10"-12" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	\$ 50.68
I14	IN/DIA/LF	10"-12" Installation of pipe rock ground conditions 3-8000 psi (pipe cost excluded)	\$ 70.31
I15	IN/DIA/LF	10"-12" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	\$ 13.75
I16	IN/DIA/LF	15"-18" Installation of pipe clay ground conditions (pipe cost excluded)	\$ 160.71
I17	IN/DIA/LF	15"-18" Installation of pipe loose sand ground conditions (pipe cost excluded)	\$ 160.71
I18	IN/DIA/LF	15"-18" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	\$ 208.34
I19	IN/DIA/LF	15"-18" Installation of pipe rock ground conditions 3-8000 psi (pipe cost excluded)	\$ 225.00
I20	IN/DIA/LF	15"-18" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	\$ 26.04
I21	IN/DIA/LF	21"-24" Installation of pipe clay ground conditions (pipe cost excluded)	\$ 187.50
I22	IN/DIA/LF	21"-24" Installation of pipe loose sand ground conditions (pipe cost excluded)	\$ 187.50
I23	IN/DIA/LF	21"-24" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	\$ 255.69
I24	IN/DIA/LF	21"-24" Installation of pipe rock ground conditions 3-8000 psi (pipe cost excluded)	\$ 312.50
I25	IN/DIA/LF	21"-24" Installation of pipe ground conditions per 1000 psi increase over 8000 ps	\$ 31.96
I26	EA	Access Pit for Directional Drill (0'-8' deep)	\$ 1,106.25
I27	EA	Access Pit for Directional Drill (8'-12' deep)	\$ 1,666.25
I28	EA	Access Pit for Directional Drill (12'-16' deep)	\$ 2,962.50
I29	EA	Access Pit for Directional Drill (16'-20' deep)	\$ 5,556.25
I30	LS	2"-4" Set-up for contiguous lengths <150 lf	\$ 3,625.00
I31	LS	6"-8" Set-up for contiguous lengths <150 lf	\$ 3,625.00
I32	LS	10"-12" Set-up for contiguous lengths <150 lf	\$ 3,625.00
I33	LS	15"-18" Set-up for contiguous lengths <150 lf	\$ 3,625.00
I34	LS	21"-24" Set-up for contiguous lengths <150 lf	\$ 3,625.00
I35	LS	27"-36" Set-up for contiguous lengths <150 lf	\$ 3,625.00

Note: Pipe cost excluded from above prices. Pipe prices to be on an individual quote basis per LF once pipe material is specified by Cooperative Member.

SECTION - J**Bypass Pumping for Gravity Pipe and Associated Items:**

J1	EA	Set up 4" pump and piping including up to 1000 feet of bypass discharge line	\$ 2,400.00
J2	EA	Set up 6" pump and piping including up to 1000 feet of bypass discharge line	\$ 4,800.00
J3	EA	Set up 8" pump and piping including up to 1000 feet of bypass discharge line	\$ 11,000.00
J4	EA	Set up 12" pump and piping including up to 1000 feet of bypass discharge line	\$ 17,400.00
J5	EA	Set up 18" pump and piping including up to 1000 feet of bypass discharge line	\$ 27,000.00
J6	LF	Additional Length 8" Bypass Discharge Line over 1000 feet	\$ 36.00
J7	LF	Additional Length 10" Bypass Discharge Line over 1000 feet	\$ 48.00
J8	LF	Additional Length 12" Bypass Discharge Line over 1000 feet	\$ 88.00
J9	LF	Additional Length 18" Bypass Discharge Line over 1000 feet	\$ 132.00
J10	DAY	Operate 4" pumping System per pump	\$ 500.00
J11	DAY	Operate 6" pumping System per pump	\$ 2,880.00
J12	DAY	Operate 8" pumping System per pump	\$ 5,640.00
J13	DAY	Operate 12" pumping System per pump	\$ 8,840.00
J14	DAY	Operate 18" pumping System per pump	\$ 17,760.00
J15	DAY	Bypass - Driveway Ramp (Setup, Operate, Maintain)	\$ 3,000.00
J16	DAY	Bypass - Street Ramp (Setup, Operate, Maintain)	\$ 3,000.00
J17	LF	Bypass - Street Trenching excluding restoration for 8" Pipe (Setup, Operate, Maintain)	\$ 92.00
J18	LF	Bypass - Street Trenching excluding restoration for 12" Pipe (Setup, Operate, Maintain)	\$ 92.00
J19	LF	Bypass - Street Trenching excluding restoration for 18" Pipe (Setup, Operate, Maintain)	\$ 92.00

SECTION - K**Pressure Pipe Lining and Reinforced Pressure Pipe Lining System:****Potable Pressure Pipelines**

K1	LF	6" Installation of Pressure Pipe Lining	\$ 360.00
K2	LF	8" Installation of Pressure Pipe Lining	\$ 405.00
K3	LF	10" Installation of Pressure Pipe Lining	\$ 465.00
K4	LF	12" Installation of Pressure Pipe Lining	\$ 516.00
K5	LF	15" Installation of Pressure Pipe Lining	\$ 585.00
K6	LF	18" Installation of Pressure Pipe Lining	\$ 705.00
K7	LF	21" Installation of Pressure Pipe Lining	\$ 786.00
K8	LF	24" Installation of Pressure Pipe Lining	\$ 879.00
K9	LF	27" Installation of Pressure Pipe Lining	\$ 960.00
K10	LF	30" Installation of Pressure Pipe Lining	\$ 1,185.00
K11	LF	33" Installation of Pressure Pipe Lining	\$ 1,380.00
K12	LF	36" Installation of Pressure Pipe Lining	\$ 1,518.00
K13	LF	39" Installation of Pressure Pipe Lining	\$ 1,746.00
K14	LF	42" Installation of Pressure Pipe Lining	\$ 2,070.00
K15	LF	48" Installation of Pressure Pipe Lining	\$ 2,760.00
K16	LF	54" Installation of Pressure Pipe Lining	\$ 3,300.00

Non-Potable Pressure Pipelines

K17	LF	6" Reinforced Pressure Pipe Lining	\$ 270.00
K18	LF	8" Reinforced Pressure Pipe Lining	\$ 330.00
K19	LF	10" Reinforced Pressure Pipe Lining	\$ 390.00
K20	LF	12" Reinforced Pressure Pipe Lining	\$ 450.00
K21	LF	15" Reinforced Pressure Pipe Lining	\$ 510.00
K22	LF	18" Reinforced Pressure Pipe Lining	\$ 630.00
K23	LF	21" Reinforced Pressure Pipe Lining	\$ 696.00
K24	LF	24" Reinforced Pressure Pipe Lining	\$ 855.00
K25	LF	27" Reinforced Pressure Pipe Lining	\$ 960.00
K26	LF	30" Reinforced Pressure Pipe Lining	\$ 1,095.00
K27	LF	33" Reinforced Pressure Pipe Lining	\$ 1,290.00
K28	LF	36" Reinforced Pressure Pipe Lining	\$ 1,518.00
K29	LF	39" Reinforced Pressure Pipe Lining	\$ 1,665.00
K30	LF	42" Reinforced Pressure Pipe Lining	\$ 2,010.00

K31	LF	48" Reinforced Pressure Pipe Lining	\$ 2,700.00
K32	LF	54" Reinforced Pressure Pipe Lining	\$ 3,000.00
K33	EA	6" Installation of End Seal	\$ 4,140.00
K34	EA	8" Installation of End Seal	\$ 4,140.00
K35	EA	10" Installation of End Seal	\$ 4,140.00
K36	EA	12" Installation of End Seal	\$ 4,140.00
K37	EA	15" Installation of End Seal	\$ 5,520.00
K38	EA	18" Installation of End Seal	\$ 6,900.00
K39	EA	21" Installation of End Seal	\$ 6,900.00
K40	EA	24" Installation of End Seal	\$ 8,280.00
K41	EA	27" Installation of End Seal	\$ 8,280.00
K42	EA	30" Installation of End Seal	\$ 8,280.00
K43	EA	33" Installation of End Seal	\$ 9,660.00
K44	EA	36" Installation of End Seal	\$ 9,660.00
K45	EA	39" Installation of End Seal	\$ 11,040.00
K46	EA	42" Installation of End Seal	\$ 11,040.00
K47	EA	48" Installation of End Seal	\$ 13,800.00
K48	EA	54" Installation of End Seal	\$ 13,800.00
K49	EA	6" to 12" System set-up charge (<150 lf)	\$ 4,140.00
K50	EA	15" to 21" System set-up charge (<150 lf)	\$ 4,140.00
K51	EA	24" to 33" System set-up charge (<150 lf)	\$ 4,140.00
K52	EA	36" to 54" System set-up charge (<150 lf)	\$ 4,140.00

SECTION - L**Pressure Pipeline Bypass:**

L1	LF	Set up bypass of mainlines sizes 2" - 4" AWWA approved bypass	\$ 110.40
L2	EA	Connection of each service from 2" - 4" AWWA approved bypass	\$ 1,269.60
L3	Day	Operation of 2" - 4" AWWA approved bypass	\$ 2,760.00
L4	LF	Set up bypass of mainlines sizes 6" - 8" AWWA approved bypass	\$ 138.00
L5	EA	Connection of each service from 6" - 8" AWWA approved bypass	\$ 1,407.60
L6	Day	Operation of 6" - 8" AWWA approved bypass	\$ 3,312.00
L7	LF	Set up bypass of mainlines sizes 10" - 12" AWWA approved bypass	\$ 165.60
L8	EA	Connection of each service from 10" - 12" AWWA approved bypass	\$ 1,725.00
L9	Day	Operation of 10" - 12" AWWA approved bypass	\$ 5,520.00
L10	LF	Set up bypass of mainlines sizes 13" - 19" AWWA approved bypass	\$ 414.00
L11	EA	Connection of each service from 13" - 19" AWWA approved bypass	\$ 1,794.00
L12	Day	Operation of 13" - 19" AWWA approved bypass	\$ 6,900.00
L13	EA	Set up bypass of mainlines sizes 20" - 24" AWWA approved bypass	\$ 552.00
L14	EA	Connection of each service from 20" - 24" AWWA approved bypass	\$ 2,760.00
L15	Day	Operation of 20" - 24" AWWA approved bypass	\$ 6,900.00
L16	LF	Set up bypass of mainlines sizes 25" - 30" AWWA approved bypass	\$ 966.00
L17	EA	Connection of each service from 25" - 30" AWWA approved bypass	\$ 2,760.00
L18	Day	Operation of 25" - 30" AWWA approved bypass	\$ 8,280.00
L19	LF	Set up bypass of mainlines sizes 31" - 37" AWWA approved bypass	\$ 1,242.00
L20	EA	Connection of each service from 31" - 37" AWWA approved bypass	\$ 2,760.00
L21	Day	Operation of 31" - 37" AWWA approved bypass	\$ 8,280.00
L22	LF	Set up bypass of mainlines sizes 38" - 48" AWWA approved bypass	\$ 1,656.00
L23	EA	Connection of each service from 38" - 48" AWWA approved bypass	\$ 2,760.00
L24	Day	Operation of 38" - 48" AWWA approved bypass	\$ 8,280.00

SECTION - M**Line Cleaning and Inspection for Pressure Pipelines & Mechanical Cleaning:**

M1	LF	6" Cleaning with pressure propelled pigs	\$ 27.60
M2	LF	8" Cleaning with pressure propelled pigs	\$ 27.60
M3	LF	10" Cleaning with pressure propelled pigs	\$ 27.60
M4	LF	12" Cleaning with pressure propelled pigs	\$ 27.60
M5	LF	15" Cleaning with pressure propelled pigs	\$ 41.40
M6	LF	18" Cleaning with pressure propelled pigs	\$ 41.40
M7	LF	21" Cleaning with pressure propelled pigs	\$ 41.40
M8	LF	24" Cleaning with pressure propelled pigs	\$ 55.20
M9	LF	27" Cleaning with pressure propelled pigs	\$ 55.20
M10	LF	30" Cleaning with pressure propelled pigs	\$ 55.20
M11	LF	33" Cleaning with pressure propelled pigs	\$ 55.20
M12	LF	36" Cleaning with pressure propelled pigs	\$ 110.40
M13	LF	42" Cleaning with pressure propelled pigs	\$ 110.40
M14	LF	48" Cleaning with pressure propelled pigs	\$ 110.40
M15	LF	54" Cleaning with pressure propelled pigs	\$ 110.40
M16	LF	6" Cleaning with scrapers or other attached tools	\$ 41.40

M17	LF	8" Cleaning with scrapers or other attached tools	\$ 41.40
M18	LF	10" Cleaning with scrapers or other attached tools	\$ 41.40
M19	LF	12" Cleaning with scrapers or other attached tools	\$ 41.40
M20	LF	15" Cleaning with scrapers or other attached tools	\$ 55.20
M21	LF	18" Cleaning with scrapers or other attached tools	\$ 55.20
M22	LF	21" Cleaning with scrapers or other attached tools	\$ 55.20
M23	LF	24" Cleaning with scrapers or other attached tools	\$ 69.00
M24	LF	27" Cleaning with scrapers or other attached tools	\$ 69.00
M25	LF	30" Cleaning with scrapers or other attached tools	\$ 69.00
M26	LF	33" Cleaning with scrapers or other attached tools	\$ 96.60
M27	LF	36" Cleaning with scrapers or other attached tools	\$ 96.60
M28	LF	42" Cleaning with scrapers or other attached tools	\$ 110.40
M29	LF	48" Cleaning with scrapers or other attached tools	\$ 138.00
M30	LF	54" Cleaning with scrapers or other attached tools	\$ 165.60
M31	LF	6" Pressure pipe inspection	\$ 11.04
M32	LF	8" Pressure pipe inspection	\$ 11.04
M33	LF	10" Pressure pipe inspection	\$ 13.80
M34	LF	12" Pressure pipe inspection	\$ 13.80
M35	LF	15" Pressure pipe inspection	\$ 13.80
M36	LF	18" Pressure pipe inspection	\$ 19.32
M37	LF	21" Pressure pipe inspection	\$ 19.32
M38	LF	24" Pressure pipe inspection	\$ 19.32
M39	LF	27" Pressure pipe inspection	\$ 19.32
M40	LF	30" Pressure pipe inspection	\$ 19.32
M41	LF	33" Pressure pipe inspection	\$ 19.32
M42	LF	36" Pressure pipe inspection	\$ 22.08
M43	LF	42" Pressure pipe inspection	\$ 22.08
M44	LF	48" Pressure pipe inspection	\$ 27.60
M45	LF	54" Pressure pipe inspection	\$ 41.40
M46	LF	Tuberculation Removal (Pressure & Gravity Pipelines)	\$ 40.00

SECTION - N**Restoration and Additional Items:**

N1	LF	Saw Cutting up to 8" depth	\$ 4.00
N2	LF	Saw Cutting over 8" depth	\$ 10.00
N3	SY	Repair/Rehab 2" Asphalt pavement	\$ 46.00
N4	SY	Repair/Rehab 8" Flex base	\$ 36.80
N5	SY	Repair/Rehab 8" Concrete pavement	\$ 110.40
N6	SY	Repair/Rehab 6" Concrete driveway	\$ 80.00
N7	SY	Repair/Rehab 4" Concrete sidewalk	\$ 65.00
N8	LF	Repair/Rehab Concrete curb and gutter	\$ 32.20
N9	SY	Sodding	\$ 9.20
N10	LF	Repair/Rehab chain link fence with new	\$ 36.80
N11	LF	Repair/Rehab wooden fence with new	\$ 36.80
N12	CY	TOPSOIL COMPLETE	\$ 35.00
N13	CY	SANDING COMPLETE	\$ 22.00
N14	CY	MULCH COMPLETE	\$ 30.00
N15	LF	STRAW BALE BARRIER	\$ 20.00
N16	EACH	TREE REPLACEMENT: HARDWOODS, 2"	\$ 200.00
N17	EACH	TREE REPLACEMENT: PINES, 2"	\$ 300.00
N18	EACH	SHRUB REPLACEMENT: 1 GALLON	\$ 40.00
N19	EACH	SHRUB REPLACEMENT: 3 GALLON	\$ 63.00
N20	EACH	SHRUB REPLACEMENT: 5 GALLON	\$ 82.00
N21	EACH	SHRUB REPLACEMENT: 7 GALLON	\$ 122.00
N22	EACH	BEDDING FLOWERS: PER FLAT OF 18	\$ 100.00
N23	SY	STONE RIP RAP TYPE I, 24" IN PLACE COMPLETE	\$ 105.00
N24	SY	STONE RIP RAP TYPE III, 12" IN PLACE COMPLETE	\$ 60.00
N25	SY	STONE GROUTED RIP RAP - 12" INSTALLED	\$ 95.00
N26	LF	SILT FENCE TYPE A, COMPLETE	\$ 12.00
N27	LF	SILT FENCE TYPE C, COMPLETE	\$ 8.00
N28	LF	ORANGE BARRIER FENCE	\$ 6.00
N29	EACH	HAY BALES COMPLETE	\$ 160.00
N30	SY	PLASTIC FILTER FABRIC INSTALLED	\$ 10.00
N31	SF	PERMANENT SOIL REINF MAT INSTALLED	\$ 125.00

SECTION - O**Additional Labor Rates and Traffic Control:**

O1	HR	SUPERINTENDENT - REGULAR	\$ 35.00
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O2	HR	FOREMAN - REGULAR	\$ 30.00
O3	HR	LABORER - REGULAR	\$ 20.00
O4	HR	TRUCK DRIVER - REGULAR	\$ 24.00
O5	HR	UTILITY - REGULAR	\$ 20.00
O6	HR	SUPERINTENDENT - OVER TIME	\$ 65.00
O7	HR	FOREMAN - OVER TIME	\$ 60.00
O8	HR	LABORER - OVER TIME	\$ 32.00
O9	HR	TRUCK DRIVER - OVER TIME	\$ 42.00
O10	HR	UTILITY - OVERTIME	\$ 40.00
O11	EA	Barricades, Signs, and Traffic Handling (per setup)	\$ 3,500.00
O12	EA	Traffic Control Plan (per setup)	\$ 2,500.00
O13	HR	Flagmen	\$ 40.00
O14	HR	Uniformed Officers	\$ 65.00
O15	EA	SWPPP	\$ 2,500.00

SECTION - P**Crew Travel & Mobilization:**

P1	EA	Travel and Mobilization- TML Region 2 (Amarillo)	\$ 15,000.00
P2	EA	Travel and Mobilization- TML Region 3 (Caprock-Lubbock)	\$ 15,000.00
P3	EA	Travel and Mobilization- TML Region 4 (Permian Basin Region-Odessa)	\$ 15,000.00
P4	EA	Travel and Mobilization- TML Region 5 (Red River Valley-Wichita Falls)	\$ 12,000.00
P5	EA	Travel and Mobilization- TML Region 6 (Hub of Texas-Abilene)	\$ 10,000.00
P6	EA	Travel and Mobilization- TML Region 7 (Alamo Region-San Antonio)	\$ 10,000.00
P7	EA	Travel and Mobilization- TML Region 8 (Where the West Begins-Ft. Worth)	\$ 10,000.00
P8	EA	Travel and Mobilization- TML Region 9 (Heart of Texas-Waco)	\$ 10,000.00
P9	EA	Travel and Mobilization- TML Region 10 (Highland Lakes-Austin)	\$ 10,000.00
P10	EA	Travel and Mobilization- TML Region 11(Coastal Bend-Corpus Christi)	\$ 7,500.00
P11	EA	Travel and Mobilization- TML Region 12 (Lower Rio Grande Valley-McAllen)	\$ 15,000.00
P12	EA	Travel and Mobilization- TML Region 13 (North Central Texas-Dallas)	\$ 10,000.00
P13	EA	Travel and Mobilization- TML Region 14 (San Jacinto-Houston Area)	\$ 5,000.00
P14	EA	Travel and Mobilization- TML Region 15 (Tyler-Longview)	\$ 10,000.00
P15	EA	Travel and Mobilization- TML Region 16 (Golden Pine & Oil-Beaumont)	\$ 10,000.00
P16	EA	Travel and Mobilization - Oklahoma	\$ 20,000.00
P17	EA	Travel and Mobilization - Louisiana	\$ 15,000.00
P18	EA	Travel and Mobilization - Colorado	\$ 20,000.00
P19	EA	Travel and Mobilization - Arkansas	\$ 20,000.00
P20	EA	Travel and Mobilization - Missouri	\$ 20,000.00
P21	EA	Travel and Mobilization - Kansas	\$ 20,000.00
P22	EA	Travel and Mobilization - Emergency Mobilization	\$ 15,000.00
P23	EA	Travel and Mobilization - Rehab of Less Than 100 Ft	\$ 25,000.00
P24	EA	Travel and Mobilization - Rehab of 101 Ft to 300 Ft	\$ 20,000.00
P25	EA	Travel and Mobilization - Rehab of 301 Ft to 500 Ft	\$ 15,000.00
P26	EA	Travel and Mobilization - Rehab of 501 Ft to 1000 Ft	\$ 10,000.00

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/30/2022

Prepared by: Karen Horner, City Attorney

Subject: Consider consenting to the extension of the License Agreement between Greater Harris County 911 Emergency Network and American Tower, L.P., for the continued use of the telecommunications tower located at 1606 Whitaker Drive, Friendswood, Texas.

Originating Department: Administrative Services

Degree of importance:

SUMMARY / ORIGINATING CAUSE

In 2010, the Greater Harris County 911 Emergency Network (the "Network") entered into a license agreement for use of a portion of the telecommunications tower owned by American Tower, L.P., and located on City property at 606 Whitaker Drive, Friendswood, Texas. The agreement expired on December 1, 2022. As such, the City Manager consented to the proposed amendment to extend the term and to adjust the compensation to be paid conditioned upon the City Council's approval of the same. Specifically, the proposed amendment:

1. extends the lease term for three (3) years from December 1, 2022,
2. provides for a possibility of four (4) additional three-year terms,
3. increases the fee \$60.91/month for the first year, and
4. increases the fee by 3%, each year thereafter commencing on December 1, 2023.

If this item is approved, the City will notify American Tower of such approval.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. American Tower - Conditional Consent to License Extension for the Harris County Emergency Network

City Manager
MORAD KABIRI

City Attorney
KAREN HORNER

City Secretary
LETICIA BRYSCH



CITY OF FRIENDSWOOD

Mayor
MIKE FOREMAN

Mayor Pro Tem
BRENT ERENWERT

Councilmembers
STEVE ROCKEY
SALLY BRANSON
TRISH HANKS
ROBERT J. GRIFFON
JOHN SCOTT

November 30, 2022

Sent via email to Christopher.marks@americantower.com

American Tower, L.P.
c/o American Tower Corporation
10 Presidential Way
Woburn, MA 01801
Attn: Christopher Marks

Re: License Agreement, dated June 11, 2007, as amended (the "Ground Agreement")
268232 / FRIENDSWOOD PS BLDG TX / Project No. 14141051
Communications Facility located at 1606 Whitaker Drive, Friendswood, TX 77546-5403
(the "Site")
Conditional Approval for the Harris County 911 Emergency Network

Dear Mr. Marks:

Please be advised that the City of Friendswood (the "City") conditionally consents to the extension of the lease at the Site for the Harris County 911 Emergency Network, which is attached hereto. Such consent is conditioned on the approval of the City Council, which is scheduled to consider this matter at its upcoming meeting on December 5, 2022.

Thank you for your attention to this matter.

Sincerely,



Morad Kabiri
City Manager

Attachment

H:\City Manager\Letters\2022\American Tower - Consent to Lease Extension for Harris County Emergency Network.docx

FIRST AMENDMENT TO LICENSE AGREEMENT

This First Amendment (the “First Amendment”) to that certain License Agreement dated December 30, 2010 by and between American Tower, L.P. and Greater Harris County 911 Emergency Network (the “Agreement”) is made and entered into as of the latter signature date hereof, by and between American Towers LLC, a Delaware limited liability company, as successor-in-interest to the Agreement (the “Licensor”) and Greater Harris County 911 Emergency Network (the “Licensee”) (collectively, the “Parties”).

RECITALS

WHEREAS, Licensor owns a certain communications tower on a certain parcel of land located at 1606 Whitaker Drive, Friendswood 77546-5403 more commonly known to Licensor as the FRIENDSWOOD PS BLDG TX, tower site (the “Tower Facility”); and

WHEREAS, Licensor and Licensee entered into the Agreement for the use of a certain portion of the Tower Facility; and

WHEREAS, the Parties agree to extend the term of the Agreement, among other things, all on the terms and conditions as set forth herein.

NOW THEREFORE, in consideration of the foregoing promises and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereto agree as follows:

- 1) Licensor and Licensee agree to extend the term of the Agreement commencing on December 1, 2022 (the “Extension Term Commencement Date”) for a period of three (3) years (the “Extension Term”).
- 2) Immediately following the expiration of the Extension Term, there shall be four (4) additional periods of three (3) years each (each a “Renewal Term”). The Agreement shall automatically renew for each successive Renewal Term unless either Party notifies the other in writing of its intention not to renew this Agreement at least one hundred eighty (180) days prior to the end of the then existing term.
- 3) Effective upon December 1, 2022, the Monthly License Fee shall be increased by Sixty and 91/100 Dollars (\$60.91) per month (“Increased Fee”) and adjusted pursuant to the Annual Escalator as set forth on Section 4 of this First Amendment. The Increased Fee for any fractional month at the beginning or end of the period shall be appropriately prorated.
- 4) Effective upon December 1, 2023, and each anniversary thereafter during the term, the Monthly License Fee shall be increased by three percent (3%) (“Annual Escalator”).
- 5) Licensor and Licensee agree and acknowledge that all future payments of the Monthly

License Fee shall be made to the Licensor at the following remittance address:

American Tower Corporation
29637 Network Place
Chicago, IL 60673-1296

- 6) The Parties agree that (i) a digital or electronic signature on this First Amendment and/or (ii) a fully executed scanned or electronically reproduced copy or image of this First Amendment shall be deemed an original and may be introduced or submitted in any action or proceeding as competent evidence of the execution, terms and existence hereof notwithstanding the failure or inability to produce or tender an original, manually executed counterpart of this First Amendment and without the requirement that the unavailability of such original, manually executed counterpart of this First Amendment first be proven.
- 7) Capitalized terms contained herein, unless otherwise defined, are intended to have the same meaning and effect as that set forth in the Agreement.
- 8) All other terms and provisions of the Agreement remain in full force and effect.

[SIGNATURES APPEAR ON THE NEXT PAGE]

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Licensor Site Name/Number: FRIENDSWOOD PS BLDG TX, / 268232

Licensor Contract Number: 291096

Licensee Site Name/Number: N/A / N/A

IN WITNESS WHEREOF, the Parties hereto have set their hands to this First Amendment to that certain License Agreement as of the day and year written below:

LICENSOR:

American Towers LLC, a Delaware limited liability company

LICENSEE:

Greater Harris County 911 Emergency Network

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 10/24/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider an ordinance amending the City's General Budget for Fiscal Year 2021-2022 by approving "Budget Amendment XIII" and providing for supplemental appropriation and/or transfer of certain funds.

Originating Department: Administrative Services

Degree of importance: Significant

SUMMARY / ORIGINATING CAUSE

By its nature, our budget is an estimate of the revenues and expenditures needed to accomplish the City Council and Staff goals for the year. Throughout the year, events occur that require adjustments to the budget. These adjustments may be needed for various reasons, such as the recognition of extraordinary revenues or expenditures, new projects that are authorized by Council or providing funding for expenditures resulting from extraordinary events like natural disasters. As the need arises, items for budget appropriations are accumulated and then submitted for approval at the City Council meeting each month in accordance with Section 8.04 of the City Charter. The budget adjustments covered by this ordinance comprise the thirteenth set for fiscal year 2021-2022.

We have attempted to provide as much explanation of the adjustments as possible through two sets of exhibits. Exhibit A provides a narrative explanation of each budget amendment. Exhibit B provides the details of each accounting transaction.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Approval of this budget amendment will allow for timely procurement of program supplies and limit delays in the progress of capital improvement projects.

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. Ordinance - Budget Amendment No. XIII
2. FY22 BA XIII Exhibit A 12-05-2022
3. FY22 BA XIII Exhibit B 12-05-2022

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, AMENDING ORDINANCE NO. 2021-22, PASSED AND APPROVED SEPTEMBER 13, 2021, SAME BEING AN ORDINANCE APPROVING AND ADOPTING THE CITY'S GENERAL BUDGET FOR FISCAL YEAR 2021-2022, BY APPROVING "BUDGET AMENDMENT XIII" THERETO; PROVIDING FOR SUPPLEMENTAL APPROPRIATION AND/OR TRANSFER OF CERTAIN FUNDS; PROVIDING FOR SEVERABILITY; PROVIDING OTHER MATTERS RELATED TO THE SUBJECT; AND PROVIDING FOR THE EFFECTIVE DATE.

WHEREAS, by Ordinance No. 2021-22, the City Council of the City of Friendswood, Texas, adopted its "Original General Budget for Fiscal Year 2021-2022"; and

WHEREAS, the City Council has determined that revenues and/or reserves are available for supplemental appropriation, and/or that the transfer of certain funds interdepartmentally is economically feasible and in the best interest of prudent budgeting and for municipal purposes; and

WHEREAS, Section 8.04 of the City Charter provides for amendments after adoption of the budget; and

WHEREAS, the City Council desires to amend said Original General Budget to reflect such supplemental appropriation and/or transfer in the fiscal year 2021-2022; NOW THEREFORE:

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, STATE OF TEXAS:

Section 1. The facts and matters set forth in the preamble of this ordinance are hereby found to be true and correct.

Section 2. The "Original General Budget of the City of Friendswood, Texas, for the Fiscal Year 2021-2022," is hereby amended for municipal purposes as shown on "Budget Amendment XIII" to the "Original Budget of the City of Friendswood, Texas, for the Fiscal Year 2021-2022" attached hereto. Said Budget Amendment XIII shall be attached to and made a part of such Original General Budget by the City Secretary and shall be filed as required by state law. A true and correct copy of said amendment is attached hereto as Exhibits "A" and "B" and is incorporated herein for all intents and purposes.

Section 3. In the event any clause, phrase, provision, sentence, or part of this ordinance or the application of the same to any person or circumstance shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Friendswood,

Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

Section 4. This ordinance shall take effect immediately from and after its passage by the City Council of the City of Friendswood, Texas.

PASSED, APPROVED and ADOPTED by the affirmative vote of the City Council of the City of Friendswood on this the 5th day of December, 2022.

MIKE FOREMAN, Mayor

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN L. HORNER, City Attorney

**City of Friendswood
Budget Amendment Summary
Fiscal Year 2021 – 2022
Budget Amendment XIII – Exhibit A
December 5, 2022**

1. **Public Works, Streets Division – Boom Mower, \$234,218.** Appropriate capital lease proceeds to purchase a Boom Mower for the Public Works, Streets Division. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
2. **Public Works, Streets Division – Dump Truck, \$135,994.** Appropriate capital lease proceeds to purchase a Dump Truck for the Public Works, Streets Division. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
3. **Community Development / Information Technology – Plotter, \$22,000.** Appropriate capital lease proceeds to purchase a replacement Plotter for the Community Development Department with assistance from the Information Technology Department. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
4. **Citywide / Information Technology – Network Switch Refresh, \$239,883.** Appropriate capital lease proceeds to purchase a replacement Network Switch for the Information Technology Department. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
5. **Citywide / Information Technology – ExecuTime Time Clock, \$26,340.** Appropriate capital lease proceeds to purchase a replacement ExecuTime Time Clock for the Information Technology Department. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
6. **CDD,FMO,ENG / Information Technology – Electronic Plan Review Tables, \$46,580.** Appropriate capital lease proceeds to purchase three Electronic Plan Review Tables for Community Development, Fire Marshal's Office, and Engineering with assistance from the Information Technology Department. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
7. **Public Works, Sewer Utilities Division – Mini Excavator, \$47,648.** Appropriate capital lease proceeds to purchase a Mini Excavator for the Public Works Department. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
8. **Administrative Services – Credit Card Processing, \$14,985.** Appropriate credit card fee revenue above budgeted amount to offset credit card processing expenses. Funds will be appropriated to the Administrative Services, Utility Billing, credit card fees expense account.
9. **Engineering / Capital Projects – Installation of Sidewalks Throughout City Limits, \$1,238.** Appropriate funds for the installation of sidewalks throughout city limits. Sidewalk installation locations are determined by the developer contribution made into the Fund. The funding source will be Sidewalk Installation Fund.
10. **Citywide / Information Technology – Computer Refresh, \$48,734.** Reallocate budgetary savings from multiple departments to purchase additional computers and mobile devices required to support citywide staff.
11. **Administrative Services, Municipal Court – Personnel, \$32,920.** Reallocate budgetary savings from Administrative Services, Finance Division and Human Resources Department to offset pay plan adjustments and day court costs exceeding available budget.

- 12. Fire Marshal's Office, Administration – Personnel & Fuel, \$17,100.** Reallocate budgetary savings from Police, Patrol Division overtime and Community Development, Code Enforcement Division to offset overtime and fuel costs exceeding available budget.
- 13. Park Land Dedication Fund – City Park Improvements, \$26,952.** Appropriate funds to repair and improve city parks. The improvements include a retaining wall and new adaptive playground equipment in Stevenson Park as well as modifications to the walking trail. The Leavesley Park Hangar will have secure doors installed as part of the Building Emergency Action Plan. This supplemental funding from the Park Land Dedication Fund will be combined with funding appropriated from the General Fund to complete the projects.
- 14. Street Maintenance Fund – 2021-2022 Street Maintenance Program C/O#1, \$23,050.** Appropriate funds to repair and improve city streets. This supplemental funding from the Street Maintenance Fund will be added to the current contract for 2021-2022 Street Maintenance Program.
- 15. Forest Bend Detention Pond – Construction Pay Application #2, \$245,250.** Appropriate advanced funding for Jerdon Enterprise Pay Application #2 for the construction of the Forest Bend Detention Pond. The City applied for and was awarded a reimbursement grant through the 2017 Community Development Block Grant – Disaster Recovery with Harris County to engineer and construct offline detention in coordination with the Forest Bend Homeowners Association. The funding source will be unassigned general fund balance and will be reimbursed once grant funding has been received from the grantor.

*Deferred Maintenance & Equipment

City of Friendswood				
December 5, 2022				
2021-2022 Budget Amendment XIII - Exhibit B				
BA Number	Account Number	Project Number	Description	Amount
1	001-0000-39370		Appropriate capital lease proceeds for the purchase of a Boom Mower for Public Works - Streets Division	(234,218)
1	001-3610-431.8400		Appropriate capital lease proceeds for the purchase of a Boom Mower for Public Works - Streets Division	234,218
2	001-0000-39370		Appropriate capital lease proceeds for the purchase of a Dump Truck for Public Works - Streets Division	(135,994)
2	001-3610-431.8400		Appropriate capital lease proceeds for the purchase of a Dump Truck for Public Works - Streets Division	135,994
3	001-0000-39370		Appropriate capital lease proceeds for the purchase of a Plotter for the Community Development Department	(22,000)
3	001-0716-419.8800		Appropriate capital lease proceeds for the purchase of a Plotter for the Community Development Department	22,000
4	001-0000-39370		Appropriate capital lease proceeds for the purchase of a Network Switch for Information Technology	(239,883)
4	001-0716-419.8800		Appropriate capital lease proceeds for the purchase of a Network Switch for Information Technology	239,883
5	001-0000-39370		Appropriate capital lease proceeds for the purchase of an ExecuTime Time Clock for Information Technology	(26,340)
5	001-0716-419.8800		Appropriate capital lease proceeds for the purchase of an ExecuTime Time Clock for Information Technology	26,340
6	001-0000-39370		Appropriate capital lease proceeds for the purchase of three Electronic Plan Review Tables for CDD, FMO & ENG	(46,580)
6	001-0716-419.8800		Appropriate capital lease proceeds for the purchase of three Electronic Plan Review Tables for CDD, FMO & ENG	46,580
7	001-0000-39370		Appropriate capital lease proceeds for the purchase of a Mini Excavator for Public Works - Sewer Utilities Division	(47,648)
7	001-0716-419.8800		Appropriate capital lease proceeds for the purchase of a Mini Excavator for Public Works - Sewer Utilities Division	47,648
8	401-0000-34010		Appropriate credit card fee revenue to offset credit card processing fee expenses	(14,985)
8	401-0401-415.7802		Appropriate credit card fee revenue to offset credit card processing fee expenses	14,985
9	160-0000-30100		Appropriate fund balance for the completion of the sidewalk installation project	(1,238)
9	160-7001-431.8510		Appropriate fund balance for the completion of the sidewalk installation project	1,238
10	001-0301-413.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(3,179)
10	001-0612-415.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(3,154)
10	001-0716-419.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(19,240)
10	001-2120-421.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(1,817)
10	001-2130-421.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(1,563)
10	001-2150-421.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(1,383)
10	001-3502-419.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(2,000)
10	001-3610-431.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(8,622)
10	001-3770-431.5800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(2,573)
10	001-0716-419.5400		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	(5,203)
10	001-0716-419.8800		Pool funding from multiple division to facilitate the purchase of additional computers and mobile devices required to support citywide staff	48,734
11	001-0401-415.4810		Reallocate funding from Administrative Services Finance division to Municipal Court for pay plan adjustment and day court costs	(17,000)
11	001-0610-415.4880		Reallocate funding from Human Resources department to Municipal Court for pay plan adjustment and day court costs	(9,498)
11	001-0610-415.7800		Reallocate funding from Human Resources department to Municipal Court for pay plan adjustment and day court costs	(6,422)
11	001-0409-412.4220		Reallocate funding from ASO-Finance Division & Human Resources Department to Municipal Court for pay plan adjustment and day court costs	32,920
12	001-2120-421.4130		Reallocate funding from Police Patrol Division to Fire Marshal Administration division for overtime	(10,200)
12	001-3528-424.7800		Reallocate funding from Community Development Inspection/Code Enforcement division to Fire Marshal Administration for fuel expenditures exceeding budget	(5,000)
12	001-3528-424.7842		Reallocate funding from Community Development Inspection/Code Enforcement division to Fire Marshal Administration for fuel expenditures exceeding budget	(1,900)
12	001-2501-422.4130		Reallocate funding from Police Patrol division to Fire Marshal Administration division for overtime	10,200
12	001-2501-422.5301		Reallocate funding from Community Development Inspection/Code Enforcement division to Fire Marshal Administration for fuel expenditures exceeding budget	6,900
13	164-0000-30100		Appropriate assigned fund balance for supplemental funding to repair and improve Stevenson Park	(26,952)
13	164-7001-456.5800		Appropriate assigned fund balance for adaptive playground equipment and improvements in Stevenson Park	4,093
13	164-7001-453.8560		Appropriate assigned fund balance for supplemental funding for retaining wall and modifications to walking trail in Stevenson Park	17,500
13	164-7001-456.8800		Appropriate assigned fund balance for supplemental funding to install secure doors at Leavesley Park Hangar	5,359

City of Friendswood				
December 5, 2022				
2021-2022 Budget Amendment XIII - Exhibit B				
BA Number	Account Number	Project Number	Description	Amount
14	170-0000-30100		Appropriate assigned fund balance for supplemental funding needed for 2021-2022 Street Maintenance Program	(23,050)
14	170-7001-431.8512		Appropriate assigned fund balance for supplemental funding needed for 2021-2022 Street Maintenance Program	23,050
15	001-10199		Due from 2017 CDBG-DR Harris County grant for advanced funding for pay application #2 for construction of Forest Bend Detention Pond	(245,250)
15	001-14028		Due from 2017 CDBG-DR Harris County grant for advanced funding for pay application #2 for construction of Forest Bend Detention Pond	245,250
15	123-26010		Due to General Fund for advance funding from 2017 CDBG-DR Harris County grant for pay application #2 for construction of Forest Bend Detention Pond	(245,250)
15	123-10199		Due to General Fund for advance funding from 2017 CDBG-DR Harris County grant for pay application #2 for construction of Forest Bend Detention Pond	245,250
*Deferred Maintenance and Equipment				

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/07/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider an ordinance amending the City's General Budget for Fiscal Year 2022-2023 by approving "Budget Amendment II" and providing for supplemental appropriation and/or transfer of certain funds.

Originating Department: Administrative Services

Degree of importance: Significant

SUMMARY / ORIGINATING CAUSE

By its nature, our budget is an estimate of the revenues and expenditures needed to accomplish the City Council and Staff goals for the year. Throughout the year, events occur that require adjustments to the budget. These adjustments may be needed for various reasons, such as the recognition of extraordinary revenues or expenditures, new projects that are authorized by Council or providing funding for expenditures resulting from extraordinary events like natural disasters. As the need arises, items for budget appropriations are accumulated and then submitted for approval at the City Council meeting each month in accordance with Section 8.04 of the City Charter. The budget adjustments covered by this ordinance comprise the second set for fiscal year 2022-2023.

We have attempted to provide as much explanation of the adjustments as possible through two sets of exhibits. Exhibit A provides a narrative explanation of each budget amendment. Exhibit B provides the details of each accounting transaction.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Approval of this budget amendment will allow for timely procurement of program supplies and limit delays in the progress of capital improvement projects.

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. Ordinance - Budget Amendment No. II
2. FY23 BA II Exhibit A 12-05-2022 v3
3. FY23 BA II Exhibit B 12-05-2022 v3

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, AMENDING ORDINANCE NO. 2022-19, PASSED AND APPROVED AUGUST 29, 2022, SAME BEING AN ORDINANCE APPROVING AND ADOPTING THE CITY'S GENERAL BUDGET FOR FISCAL YEAR 2022-23, BY APPROVING "BUDGET AMENDMENT II" THERETO; PROVIDING FOR SUPPLEMENTAL APPROPRIATION AND/OR TRANSFER OF CERTAIN FUNDS; PROVIDING FOR SEVERABILITY; PROVIDING OTHER MATTERS RELATED TO THE SUBJECT; AND PROVIDING FOR THE EFFECTIVE DATE.

WHEREAS, by Ordinance No. 2022-23, the City Council of the City of Friendswood, Texas, adopted its "Original General Budget for Fiscal Year 2022-23"; and

WHEREAS, the City Council has determined that revenues and/or reserves are available for supplemental appropriation, and/or that the transfer of certain funds interdepartmentally is economically feasible and in the best interest of prudent budgeting and for municipal purposes; and

WHEREAS, Section 8.04 of the City Charter provides for amendments after adoption of the budget; and

WHEREAS, the City Council desires to amend said Original General Budget to reflect such supplemental appropriation and/or transfer in the fiscal year 2022-23; NOW THEREFORE:

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, STATE OF TEXAS:

Section 1. The facts and matters set forth in the preamble of this ordinance are hereby found to be true and correct.

Section 2. The "Original General Budget of the City of Friendswood, Texas, for the Fiscal Year 2022-23," is hereby amended for municipal purposes as shown on "Budget Amendment II" to the "Original Budget of the City of Friendswood, Texas, for the Fiscal Year 2022-23" attached hereto. Said Budget Amendment II shall be attached to and made a part of such Original General Budget by the City Secretary and shall be filed as required by state law. A true and correct copy of said amendment is attached hereto as Exhibits "A" and "B" and is incorporated herein for all intents and purposes.

Section 3. In the event any clause, phrase, provision, sentence, or part of this ordinance or the application of the same to any person or circumstance shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Friendswood, Texas, declares that it would have passed each and every part of the same notwithstanding the

omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

Section 4. This ordinance shall take effect immediately from and after its passage by the City Council of the City of Friendswood, Texas.

PASSED, APPROVED and ADOPTED by the affirmative vote of the City Council of the City of Friendswood on this the 5th day of December, 2022.

MIKE FOREMAN, Mayor

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN HORNER, City Attorney

**City of Friendswood
Budget Amendment Summary
Fiscal Year 2022 – 2023
Budget Amendment II
December 5, 2022**

1. **Prior Year Encumbrance, \$13,161,218.** Appropriate funds for purchase orders issued in fiscal year 2021-22 and outstanding at fiscal year-end, September 30, 2022. Goods and services for these purchase orders will be received and expensed in fiscal year 2023.
2. **Unencumbered Capital, \$7,534,165.** Re-appropriate funds budgeted for capital expenditures in fiscal year 2021-22; but not expensed at fiscal year-end September 30, 2022. Goods and services will be received and expensed in fiscal year 2022-23. Section 8.06 of the City Charter allows for funds appropriated for capital expenditure to remain in force for up to three years if unencumbered or until the intended purpose is accomplished.
3. **Citywide / Information Technology – Access Control, \$45,000.** Appropriate capital lease proceeds to purchase a replacement Network Switch for the Information Technology Department. The capital lease will be for 5 years and will be supported by the Tax Debt Service Fund.
4. **Municipal Court Fund – Supplemental Funding Access Control, \$20,300.** Appropriate funds to supplement the Access Control project for city facilities. This funding will be used specifically in our Municipal Court area of the Public Safety Building. Funds will be appropriated from the Municipal Court Fund unassigned fund balance.
5. **Keep Friendswood Beautiful – Fall Haul, \$1,112.** Appropriate funds received from the KFB Fall Haul event. The appropriation will be recorded in the Keep Friendswood Beautiful division operating maintenance budget for landscaping.
6. **Public Works – Streets Division – Utility Trailer Replacement, \$7,095.** Appropriate TML-IRP insurance proceeds received in FY2022 to replace a utility trailer that was stolen. The funding source will be unassigned general fund balance.
7. **Parks & Recreation – Parks Division – Donation for Bench at Dog Park, \$8,345.** Appropriate donation received from John Gannon and JGI Outdoor Advertising for the purchase of an 8-foot bench and canopy at the Dog Park. Funds will be appropriated to the Parks and Recreation Department's Parks division capital equipment account.
8. **Library – Renovation Project – Texas State Library & Archives Commission, \$3,778.** Appropriate federal reimbursement funds from Texas State Library & Archives Commission received in FY2022. The Friendswood Public Library will use these funds to renovate an area of the Library to remove partition walls and create an open, flexible space for collaboration and group learning activities. The funding source will be unassigned general fund balance.
9. **Parks & Recreation – H-E-B Lighted Plaza Sponsorship, \$5,000.** Appropriate directed sponsorship received from H-E-B. The sponsorship will go towards additional lighting, signage, and banners at the Plaza in Stevenson Park for the Santa & Lighted Trail program. Funds will be appropriated to Parks & Recreation Department's Recreation Programs community events/programs account.

- 10. Engineering – Emergency Street Repair, \$409,763.** Appropriate funds for an emergency street repair on Bay Area Boulevard. The funding source will be unassigned Street Improvements Fund balance.
- 11. Engineering – Inlet Repair, \$49,825.** Appropriate funds for an inlet repair on Bay Area Boulevard. This necessary repair was discovered during the emergency repair work on Bay Area Boulevard. The funding source will be unassigned Street Improvements Fund balance.

City of Friendswood					
December 5, 2022					
2022-2023 Budget Amendment II - Exhibit B					
BA Number	Account Number	Project Number	Vendor		Amount
1	001-0000-30200			Prior Year Encumbrances - General Fund	(3,396,348)
1	001-3620-431.5200		22003192	ALSCO, Inc.	78
1	001-6430-456.8800	PK0032	22003334	DASH POWER PRODUCTS LLC	31,736
1	001-2501-422.5200		22002672	GALLS, LLC	210
1	001-2120-421.5200		22003387	Precision Delta Corporation	7,228
1	001-0401-415.7120		22001182	Whitley Penn, LLP	1,336
1	001-2120-421.5200		22003425	Galls, LLC	336
1	001-2120-421.5200		22003164	Galls, LLC	624
1	001-2110-421.5200		22003129	Galls, LLC	765
1	001-2120-421.5200		22003420	Galls, LLC	4,465
1	001-2120-421.5200		22002802	Galls, LLC	269
1	001-2101-421.5200		22003339	Galls, LLC	394
1	001-2120-421.6300		22003317	International Paint & Body	17,338
1	001-2120-421.7498		22003317	International Paint & Body	500
1	001-2120-421.5200		22003157	Galls, LLC	188
1	001-2120-421.5800		22003253	Stop Stick, LTD	2,990
1	001-2120-421.5200		22003139	Galls, LLC	188
1	001-6310-459.5482		22001519	Blackstone Audio, Inc.	425
1	001-6310-459.5485		22003166	Blackstone Audio, Inc.	66
1	001-2110-421.5200		22003217	Galls, LLC	26
1	001-0401-415.5800		22003070	Hallmark Office Products	3,390
1	001-2130-421.5200		22003084	Galls, LLC	320
1	001-2120-421.5200		22003171	Galls, LLC	290
1	001-2120-421.5200		22003156	Galls, LLC	174
1	001-6310-459.5800		22002747	CDW Technologies LLC	475
1	001-6310-459.5487		22003250	Baker & Taylor, Inc.	161
1	001-0716-419.8800		22003180	CDW Technologies LLC	208,325
1	001-6310-459.5800		22002753	Library Interiors of Texas, LLC	8,620
1	001-0716-419.8800		22003183	iProjectsSolutions LLC	46,580
1	001-2150-441.5200		22003101	Galls, LLC	276
1	001-2150-441.5200		22003169	Galls, LLC	186
1	001-2130-421.7400		22002890	Birdsong Printing, Inc.	1,046
1	001-6310-459.7400		22002748	Advantage Archives, LLC	181
1	001-6430-456.8200		21002446-R1	Republic Masonry & Fencing	128,224
1	001-6430-456.8200		21002446-R1	Republic Masonry & Fencing	19,400
1	001-6430-456.5400		22003219	Fun Abounds, Inc.	(666)
1	001-2501-422.5200		22003092	GALLS, LLC	174
1	001-2120-421.5200		22003170	GALLS, LLC	238
1	001-7001-421.8140		22002944	Zero Six Consulting LLC	12,822
1	001-7001-421.8597		22002157	Paradigm Consultants, Inc.	2,299
1	001-2120-421.5200		22003254	GALLS, LLC	174
1	001-6424-458.7400		22002878	Plant Interscapes, Inc.	1,689
1	001-2510-422.8800		22002680	IE Smart Systems LLC	1,128

City of Friendswood					
December 5, 2022					
2022-2023 Budget Amendment II - Exhibit B					
BA Number	Account Number	Project Number	Vendor		Amount
1	001-6430-456.5400		21002213-R1	K. Hanes, Incorporated	1,570
1	001-2120-421.5200		22003272	Ultimate Training Munition	2,712
1	001-2120-421.5800		22003272	Ultimate Training Munition	4,814
1	001-2120-421.5800		22003331	Masterpiece Arms Holding	701
1	001-6310-459.5482		22003089	Baker & Taylor, Inc.	33
1	001-6310-459.5482		22003406	Baker & Taylor, Inc.	749
1	001-6310-459.5482		22002819	Baker & Taylor, Inc.	553
1	001-7001-431.8512		22003207	Pavecon LTD Co	204,070
1	001-6310-459.5484		22002869	Baker & Taylor, Inc.	549
1	001-6310-459.5487		22001824	Baker & Taylor, Inc.	20
1	001-6310-459.5482		22003090	Baker & Taylor, Inc.	608
1	001-7001-419.8600		22002682	Computer Comforts, Inc.	18,902
1	001-3610-431.8400		22003175	Atmax Equipment Co.	234,218
1	001-7001-422.8591		23000148	Zero Six Consulting LLC	7,459
1	001-3610-431.8400		22003448	Doggett Freightliner	135,994
1	001-6428-452.6561		22003417	Coastal Group Roofing	4,550
1	001-6460-419.6610		22003076	Lighthouse Video Surveillance	8,500
1	001-6310-459.5484		22002861	Baker & Taylor, Inc.	23
1	001-6310-459.5487		22002613	Baker & Taylor, Inc.	13
1	001-6430-456.8800		22003226	Acme Architechtrual Hardware	15,000
1	001-2510-422.7400		22003007	Worldwide Power Products	25,000
1	001-0716-419.5820		22003530	Lighthouse Video Surveillance	25,500
1	001-6424-458.6210		22003115	Jorge Posada	500
1	001-6310-459.5482		22003091	Baker & Taylor, Inc.	419
1	001-6310-459.5482		22002674	Baker & Taylor, Inc.	168
1	001-6310-459.5482		22002606	Baker & Taylor, Inc.	50
1	001-2101-421.8800		22001785	CentralSquare Technologies	7,020
1	001-2501-422.5400		22003061	Precision Delta Corporation	1,098
1	001-6460-419.6600		22003126	Loftin Equipment Company	2,139
1	001-6310-459.5482		22003097	Baker & Taylor, Inc.	343
1	001-7001-431.8582		21002784-R1	PGAL, Inc.	8,925
1	001-6430-456.5800		21002809-R1	K. Hanes, Incorporated	1,423
1	001-6430-456.5800		21002860-R1	K. Hanes, Incorporated	1,423
1	001-7001-422.6610		22001116	Greenscape Six, LLC	4,560
1	001-2101-421.8800		22001386	Tyler Technologies, Inc.	21,919
1	001-7001-422.8591		22001422	Global Enterprise, Inc.	202,153
1	001-7001-431.8512		22001579	Greenscape Six, LLC	5,166
1	001-6310-459.5482		22001873	Baker & Taylor, Inc.	85
1	001-7001-431.7800		22002004	BGE, Inc.	2,263
1	001-6310-459.5482		22002179	Baker & Taylor, Inc.	177
1	001-6310-459.5482		22002181	Baker & Taylor, Inc.	184
1	001-6310-459.5487		22002202	Baker & Taylor, Inc.	11
1	001-6310-459.5482		22002345	Baker & Taylor, Inc.	165

City of Friendswood					
December 5, 2022					
2022-2023 Budget Amendment II - Exhibit B					
BA Number	Account Number	Project Number	Vendor		Amount
1	001-6310-459.5482		22002490	Baker & Taylor, Inc.	June 2022 Nonfiction
1	001-6310-459.5482		22002498	Baker & Taylor, Inc.	Library Aware August 2022 Adj
1	001-6310-459.5482		22002577	Baker & Taylor, Inc.	Misc. Reserves 6.27.22
1	001-0716-419.7720		22002600	Newedge Services, LLC	Cityworks PLL training
1	001-0716-419.7720		22002761	MCCI, LLC	Laserfiche
1	001-7001-419.8600		22002836	Brian Hancock	AV System Design - PSB Training Room
1	001-6310-459.5485		22002842	Baker & Taylor, Inc.	Audiobook Order
1	001-6460-419-6801		22002849	Loftin Equipment Company	Generator Maintenance
1	001-6310-459.5282		22003010	Baker & Taylor, Inc.	Jul 2022 Fall Book order
1	001-6424-458.7922		22003116	Quakers Landing Civic Improvement Assoc.	Matching Grant for Quakers Landing
1	001-0716-419.8800		22003532	Dell Marketing LP	Computers for refresh
1	001-6310-459.5482		22001668	Baker & Taylor, Inc.	March Nonfiction
1	001-6310-459.5482		22001722	Baker & Taylor, Inc.	Misc. Reserves 3.30.22
1	001-2510-422.5800		22003062	RCN Communications	Cradlepoint replacement
1	001-3770-431.5800		22002696	Microsoft Corporation	Microsoft Surface Pro 8
1	001-7001-422.8591		22001075	Christensen Building Group, LLC	C/O #1, #3, #4
1	001-6460-419.6600		22000191	Harvest Innovative Solutions, LLC	Roof replacement at Activity Building
1	001-2101-421.8800		22002299	LexisNexis Coplogic Solutions Inc.	LexisNexis Desk Officer Reporting System
1	001-7001-419.8600		22002690	IE Smart Systems LLC	Smart System EOC Expansion
1	001-2101-421.7800		22000849	Integrated Computer System	CAD/RMS/Mobile Software
1	001-7001-421.8140		22001099	Core Construction	GMP Public Safety Building
1	001-6460-419.6600		22002212	Star Service, Inc.	Repair VAV controls
1	001-2101-421.8800		22002386	Motorola Solutions, Inc.	Watchguard integration to CAD/RMS
1	001-3620-431.6530		22003386	Solid Rock Concrete, Inc.	Drainage - Storm Inlet and Curb Repair
1	001-0612-415.5800		23000473	Citibank	Glove kit class 0 black 11 inch
1	001-0716-419.5820		22003419	Lighthouse Video Surveillance	New security camera for the PSB court parking
1	001-0610-415.7220		23000532	Citibank	Citibank-Haley Brown (9/30)
1	001-3610-431.6510		22003385	Solid Rock Concrete, Inc.	Street Repair on Laurelfeld
1	001-6460-419.8800		22003416	Star Service, Inc.	Replace unit #9, 10 ton condensing unit
1	001-6460-419.6600		22003283	Star Service, Inc.	Replace units 1 and 5 at City Hall
1	001-6428-452.5495		22003408	Progressive Commerical Aquatics, Inc.	Chemicals
1					
1	123-0000-30200				Prior Year Encumbrances - CDBG-DR (Harris County County)
1	123-7001-431.7130		21000133-R1	RPS Infrastructure, Inc.	ENG/ARCH SERVICES FOREST BEND DET (REIMB)
1	123-7001-431.7130				
1	124-0000-30200				Prior Year Encumbrances - CDBG-DR (Galveston County)
1	124-7001-431.7800		21000882-R1	Kimley-Horn and Associates, Inc.	Utility Relocate @ Clear Creek
1	124-7001-431.7800		21000600-R1	Jeffrey S Ward & Associates, Inc.	Property Acquisitions
1	124-7001-431.7800		21000898-R1	R.C. Chuoke & Associates, Inc.	Acquisitions/Appraisals-Deepwood
1	124-7001-431.7130		22000235-R1	Fivengineering LLC	Deepwood Flood Control Project RFQ 2021-06
1					
1	131-0000-30200				Prior Year Encumbrances - FIRE/EMS Donation Fund

City of Friendswood						
December 5, 2022						
2022-2023 Budget Amendment II - Exhibit B						
BA Number	Account Number	Project Number	Vendor		Description	Amount
1	131-2201-422.8300		22002917	Silsbee Ford	2023 Ford F150 Responder	45,529
1	150-0000-30200				Prior Year Encumbrances - Municipal Court Fund	(92,781)
1	150-0409-412.8140		22001099	Core Construction	GMP Court Hallway - PSB	92,781
1	160-0000-30200				Prior Year Encumbrances - Sidewalk Installation Fund	(5,969)
1	160-7001-431.8510		22003534	Greenscape Six, LLC	TxDOT Road Sidewalk Installation	5,969
1	164-0000-30200				Prior Year Encumbrances - Park Land Dedication Fund	(24,451)
1	164-7001-453.8560	PK0032	22003361	Coastal Group Roofing and Construction	Stevenson Retaining wall repairs and pavers	15,000
1	164-7001-456.5800		22003219	Fun Abounds, Inc.	14' Spinner mat	1,988
1	164-7001-456.8800		22003226	Acme Architechtrual Hardware	Secure Doors at Leavesley Park Hangar	5,358
1	164-7001-456.5800		22003218-R1	Lone Star Recreation of Texas	Playground repair pieces for Stevenson	2,105
1	170-0000-30200				Prior Year Encumbrances - Street Maintenance Fund	(184,701)
1	170-7001-431.8512	ST2022A	22001891	Pavecon LTD CO	FY21-22 Asphalt Street Maintenance & C/O #1	184,701
1	175-0000-30200				Prior Year Encumbrances - Economic Development Fund	(2,356,139)
1	175-0303-419.7800		21000530-R2	Gandy Squared Lighting Design	FEDDC- Final Lighting Plan	5,665
1	175-7001-419.7800		22002893	Pfeiffer & Son LTD	FM 518 Illumination Installation	2,350,474
1	175-0303-419.7800					
1	254-0000-30200				Prior Year Encumbrances - 2016 G.O. Bonds	(50,800)
1	254-7001-456.8582		21000654-R1	Edminister, Hinshaw, Russ & Associates	Parks Master Plan Update	50,800
1	256-0000-30200				Prior Year Encumbrances - 2020 G.O. Bonds	(53,975)
1	256-7001-419.8582		21002914-R1	PGAL, Inc.	PGAL-Design Blackhawk Renovations	53,975
1	257-7001-30200				Prior Year Encumbrances - 2021 G.O. Bonds	(2,324,994)
1	257-7001-431.8597	FBDTPOND	22003124	Paradigm Consultants, Inc.	FBDP Const Material Testing	23,847
1	257-7001-419.8597		22001205	Paradigm Consultants, Inc.	FS2 MATERIAL TESTING Adjustment	28,505
1	257-7001-419.8597		22002157	Paradigm Consultants, Inc.	PSB Construction Material Testing Adjustment	7,749
1	257-7001-419.8582		21001821-R1	PGAL, Inc.	Design Services PSB Expansion	47,312
1	257-7001-419.8591		22002213	Jeffrey S Ward	Relocation Services	48,000
1	257-7001-419.8591		22001075	Christensen Building Group, LLC	GMP-FS #2, C/O #2	1,815,861
1	257-7001-419.8582		21001820-R2	PGAL, Inc.	Design Services FS #2 Reconstruction	44,727
1	257-7001-419.8591		22001099	Core Construction	GMP Public Safety Building	308,993
1	301-0000-30200				Prior Year Encumbrances - Vehicle Replacement Fund	(117,765)
1	301-0501-421.8300	P442	22003080	Thin Line Upfitters, LLC	Chief Charger Upfit Emergency Equip	10,263
1	301-0501-421.8300	P335	22001675	Thin Line Upfitters, LLC	Upfit CID Vehicle F150 P335	2,055
1	301-0501-421.8300	P441	22003079	Thin Line Upfitters, LLC	Charger Upfit Emergency Equipment	15,404
1	301-0501-422.8300	FM16	22002954	Silsbee Ford	2023 Ford F150 Responder 4x4	46,793
1	301-0501-421.8300		22003078	Thin Line Upfitters, LLC	Tahoe Upfit Emergency Equipment	18,980
1	301-0501-421.8300		22000088	Thin Line Upfitters, LLC	Upfit Equipment and Installation	4,045
1	301-0501-421.8300		22000086	Thin Line Upfitters, LLC	Upfit Equipment and Installation	4,045
1	301-0501-421.8300		22000091	Thin Line Upfitters, LLC	Upfit Equipment and Installation	4,045
1	301-0501-421.8300		22000087	Thin Line Upfitters, LLC	Upfit Equipment and Installation	4,045
1	301-0501-421.8300		22000089	Thin Line Upfitters, LLC	Upfit Equipment and Installation	4,045

City of Friendswood					
December 5, 2022					
2022-2023 Budget Amendment II - Exhibit B					
BA Number	Account Number	Project Number	Vendor		Amount
1	301-0501-421.8300		22000090	Thin Line Upfitters, LLC	4,045
1	401-0000-30200				(3,085,149)
1	401-3650-434.5200		22003192	ALSCO, Inc.	156
1	401-3651-433.5200		22003192	ALSCO, Inc.	156
1	401-3655-434.5200		22003192	ALSCO, Inc.	78
1	401-3650-434.6541		22001931	Core & Main LP	907
1	401-3650-434.6541		22001931	Core & Main LP	567
1	401-3650-434.6541		22001931	Core & Main LP	124
1	401-0401-415.7120		22001182	Whitley Penn, LLP	890
1	401-3656-433.6552		22003248	Coastal Pump Services Inc.	10,320
1	401-3655-434.6543		22003307	Smith Pump Company, Inc.	12,220
1	401-7001-433.7720		22003535	Carahsoft Technology	30,728
1	401-3655-434.6801		22003185	Generator Service Center	19,925
1	401-3650-434.5476		22003384	Core & Main LP	2,300
1	401-3655-434.6543		22003191	Mercer Controls Inc	23,269
1	401-3656-433.6552		22003249	3rd Coast Pump and Equip	14,610
1	401-3651-433.8400		22003173	Alvin Equipment Company	47,648
1	401-7001-433.7720		22003533	RCN Communications LLC	49,996
1	401-3650-434.6546		22003392	Core & Main LP	18,610
1	401-3650-434.6541		22003392	Core & Main LP	1,127
1	401-3650-434.5476		22003041	Core & Main LP	2,468
1	401-3656-433.7473		22000505	Hahn Equipment Co. Inc.	1,032
1	401-3655-434.6543		22001706	Mercer Controls, Inc.	16,500
1	401-3655-434.6543		22001966	Core & Main LP	160,750
1	401-3655-434.6543		22001967	Core & Main LP	14,838
1	401-3770-434.5800		22002696-R1	Microsoft Corporation	130
1	401-3770-434.5800		22003211	Microsoft Corporation	2,213
1	401-7001-433.8552		20003230-R2	Fivengineering LLC	249,682
1	401-3651-433.6551		22001793	Ferguson Enterprises LLC	353
1	401-3656-433.7473		21000839-R1	Gulf Coast Authority	2,054,760
	401-3656-433.7473		20003840-R2	Gulf Coast Authority	348,795
1	421-0000-30200				(995,527)
1	421-7001-433.8552		22001075	Christensen Building Group, LLC	82,111
1	421-7001-433.8581		21003232-R1	Ameresco	913,416
1	421-7001-433.8552				
1	422-0000-30200				(191,095)
1	422-7001-434.8582		22000078	Garver, LLC	189,627
1	422-7001-434.8582		22000078	Garver, LLC	1,468
2	001-0000-30300		Prior Year Unencumbered Capital - General Fund		
2	001-6430-456.8800		Disc Golf Gate		
2	001-7001-419.8400		FF&E Blackhawk Facility		
2	001-7001-419.8600		\$813,010=PSB:\$487,673;FS2:\$253,000;EOC:\$2,337;Blkhwk \$70,000		

City of Friendswood					
December 5, 2022					
2022-2023 Budget Amendment II - Exhibit B					
BA Number	Account Number	Project Number	Vendor	Description	Amount
2	001-7001-421.8140		Court Renovation & AV Costs		3,781
2	001-7001-422.8591		Fire Station #2 Alt Options		1,374
2	001-7001-431.8512		FY22 Unencumbered Capital for Street Maintenance		23,585
2	001-7001-431.8581		Anticipated contract with HDR for Blackhawk Blvd Ph II B		166,525
2	255-0000-30300			Prior Year Unencumbered Capital - 2017 G.O. Bonds	(5,986)
2	255-7001-431.8590		CIP Contingency		5,986
2	256-0000-30300			Prior Year Unencumbered Capital - 2020 G.O. Bonds	(1,732,200)
2	256-7001-419.8120		Blackhawk Facility Renovation		1,732,200
2	257-0000-30300			Prior Year Unencumbered Capital - 2021 G.O. Bonds	(3,628,539)
2	257-7001-431.8530		Drainage Improvement Projects		3,628,539
2	401-0000-30300			Prior Year Unencumbered Capital - Water & Sewer Fund	(579,399)
2	401-7001-433.8400		SCADA Server Upgrade		31,256
2	401-7001-433.6551		FY21 & FY22 Unencumbered Capital for Collection Line Maintenance		548,143
2	421-0000-30300			Prior Year Unencumbered Capital - 2018 W/S Bond Construction	(373,192)
2	421-7001-433.8552		FY21 & FY22 Unencumbered Capital for Lift Station Improvements (remainder after completion of LS23)		294,937
2	421-7001-434.7190		Automated Meter Program		78,255
3	001-0000-39370		Appropriate capital lease proceeds for the purchase of an Access Control System for all facilities		(45,000)
3	001-0716-419.8800		Appropriate capital lease proceeds for the purchase of an Access Control System for all facilities		45,000
4	150-0000-30500		Appropriate supplemental funding from Municipal Court Security & Tech Fund for the purchase of an Access Control System		(20,300)
4	150-0409-412.8800		Appropriate supplemental funding from Municipal Court Security & Tech Fund for the purchase of an Access Control System		20,300
5	001-0000-38600		Appropriate donations received from KFB Fall Haul event to the KFB landscaping account		(1,112)
5	001-6424-458.6210		Appropriate donations received from KFB Fall Haul event to the KFB landscaping account		1,112
6	001-0000-30500	PW225	Appropriate TML-IRP insurance proceeds received in FY2022 for the replacement of a trailer		(7,095)
6	001-3610-431.8800	PW225	Appropriate TML-IRP insurance proceeds received in FY2022 for the replacement of a trailer		7,095
7	001-0000-38600		Appropriate donation received from John Gannon and JGI Outdoor Advertising for an 8 ft bench and canopy at Dog Park		(8,345)
7	001-6430-456.8800		Appropriate donation received from John Gannon and JGI Outdoor Advertising for an 8 ft bench and canopy at Dog Park		8,345
8	001-0000-30500		Appropriate federal reimbursement funds from Texas State Library & Archives Commission received in FY22 for renovation project		(3,778)
8	001-6310-459.7800		Appropriate federal reimbursement funds from Texas State Library & Archives Commission received in FY22 for renovation project		3,778
9	001-0000-34772		Appropriate directed sponsorship received from H-E-B for lighted plaza at Santa & Lighted Trail program		(5,000)
9	001-6420-452.7910		Appropriate directed sponsorship received from H-E-B for lighted plaza at Santa & Lighted Trail program		5,000

City of Friendswood					
December 5, 2022					
2022-2023 Budget Amendment II - Exhibit B					
BA Number	Account Number	Project Number	Vendor	Description	Amount
10	170-0000-30100			Appropriate fund balance for an emergency repair on Bay Area Boulevard	(409,763)
10	170-7001-431.6510			Appropriate fund balance for emergency repair on Bay Area Boulevard (original estimate)	322,285
10	170-7001-431.6510			Appropriate fund balance for emergency repair on Bay Area Boulevard (increase from original estimate)	78,250
10	170-7001-431.6510			Appropriate fund balance for emergency repair on Bay Area Boulevard (increase from original estimate)	9,228
11	170-0000-30100			Appropriate fund balance for an inlet repair on Bay Area Boulevard	(49,825)
11	170-7001-431.6510			Appropriate fund balance for an inlet repair on Bay Area Boulevard	49,825

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/21/2022

Prepared by: Karen Horner, City Attorney

Subject: Consider an ordinance amending Chapter 2 "Civil Emergencies," Article I "In General," Section 22-1 "Definitions"; Article II "Emergency Management," Section 22-24 "Authority to participate in countywide emergency management plan," Section 22-25 "Emergency management director," Section 22-27 "Organization," Section 22-29 "Expenditure of public funds," and Section 22-30 "Oath of personnel assigned functions or responsibilities"; and Article III "Assistance to Counties and Other Cities," Section 22-58 "Authority of city officials to furnish assistance" and Section 22-59 "Rights and duties of officers" of the Friendswood City Code; and repealing Chapter 22 "Civil Emergencies," Article II "Emergency Management," Section 22-58 "Interlocal agreement adopted" of the Friendswood City Code; to update definitions, duties, authority and references for emergency management activities

Originating Department: City Attorney

Degree of importance:

SUMMARY / ORIGINATING CAUSE

This proposed ordinance updates Chapter 22 "Civil Emergencies" of the Friendswood City Code to update definitions, duties, authority and references for emergency management activities in conformance with state law and current practice. The following details the proposed changes:

Section	Title	Proposed Change
Article I. In General		
22-1	Definitions	• This section has been amended: • to refine the definition of "emergency," to mirror the definition of a disaster in Tex. Gov't Code §418.004; • to delete the definition of "emergency vehicle" since it is not used elsewhere in the ordinance; and • to add the definition of "organized volunteer group" to mirror the definition in Tex. Gov't Code §418.004
Article II. Emergency Management		
22-24	Authority to participate in countywide emergency management plans	This section has been amended to reflect that the City is located in two counties.
22-25	Emergency management director	• This section has been amended:

		• to reflect that the powers formerly enumerated are in addition to any others bestowed on the director pursuant to state or federal law; • to change the term "state of disaster" to "state of local disaster" in order to conform to state law; • to add the authority of the director to request the governor to proclaim a state of emergency pursuant to Tex. Gov't Code §433.001; • to remove the requirement that a local state of disaster be confirmed by the city council at its next meeting, as such is not a requirement of state law; and • to reflect that the City is located in two counties.
22-27	Organization	This section is updated to reference the National Incident Management System, which is the system that the City will use for the organization, titles and terminology in an emergency.
22-29	Expenditure of public funds	This section has been amended to recognize that during a declared disaster or state of emergency, the director may expend and commit funds if necessary to protect health, life or property.
22-30	Oath of certain personnel assigned functions or responsibilities	This section has been amended to more closely track state law concerning who is required to take an oath. Tex. Gov't Code §418.005
22-57	Interlocal agreement adopted	This section has been deleted, as it is not necessary to adopt a portion of state law.
Article III. Assistance to Counties and Other Cities		
22-58	Authority of city officials to furnish assistance	This section has been updated to use "disaster" rather than "civil emergency," as "disaster" is a defined term in this ordinance and is used throughout state law.
22-59	Rights and duties of officers	This section has been amended to update the reference the state law, to which agreements related to law enforcement officers are subject. Tex. Loc. Gov't Code §362.003.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. Ordinance - Emergency Management

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, AMENDING CHAPTER 2 "CIVIL EMERGENCIES," ARTICLE I "IN GENERAL," SECTION 22-1 "DEFINITIONS"; ARTICLE II "EMERGENCY MANAGEMENT," SECTION 22-24 "AUTHORITY TO PARTICIPATE IN COUNTYWIDE EMERGENCY MANAGEMENT PLAN," SECTION 22-25 "EMERGENCY MANAGEMENT DIRECTOR," SECTION 22-27 "ORGANIZATION," SECTION 22-29 "EXPENDITURE OF PUBLIC FUNDS," AND SECTION 22-30 "OATH OF PERSONNEL ASSIGNED FUNCTIONS OR RESPONSIBILITIES"; AND ARTICLE III "ASSISTANCE TO COUNTIES AND OTHER CITIES," SECTION 22-58 "AUTHORITY OF CITY OFFICIALS TO FURNISH ASSISTANCE," AND SECTION 22-59 "RIGHTS AND DUTIES OF OFFICERS" OF THE FRIENDSWOOD CITY CODE; REPEALING CHAPTER 22 "CIVIL EMERGENCIES," ARTICLE II "EMERGENCY MANAGEMENT," SECTION 22-58 "INTERLOCAL AGREEMENT ADOPTED" OF THE FRIENDSWOOD CITY CODE; TO UPDATE DEFINITIONS, DUTIES, AUTHORITY AND REFERENCES FOR EMERGENCY MANAGEMENT ACTIVITIES; PROVIDING A MAXIMUM PENALTY OF FIVE HUNDRED AND NO/100 DOLLARS (\$500.00); REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY, PUBLICATION AND AN EFFECTIVE DATE.

NOW, THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS:

Section 1. That Chapter 2 "Civil Emergencies," Article I "In General," Section 22-1 "Definitions" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE I. IN GENERAL

Sec. 22-1. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Authorized person means a person directed or commissioned by any official or body of officials to act in a given capacity.

Emergency means an event or condition that is a disaster as defined in V.T.C.A., Government Code §418.004.

Organized volunteer group means an organization such as the American National Red Cross, the Salvation Army, the Civil Air Patrol, the Radio Amateur Civil Emergency Services, a volunteer fire department, a volunteer rescue squad, or other similar organization recognized by federal or state statute, regulation, or memorandum.

Unauthorized person means any person, who is not an authorized person as defined in this section.

Section 2. That Chapter 2 "Civil Emergencies," Article II "Emergency Management," Section 22-24 "Authority to participate in countywide emergency management plans" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE II. EMERGENCY MANAGEMENT

Sec. 22-24. Authority to participate in countywide emergency management plans.

The mayor is hereby authorized to join with the county judges and the mayors of the other cities in each county in which the city is located in the formation of an emergency management council for each county and shall have the authority to cooperate in the preparation of a joint emergency management plans and in the appointment of a joint emergency management coordinators, as well as all powers necessary to participate in a countywide programs of emergency management insofar as such programs may affect the city.

Section 3. That Chapter 2 "Civil Emergencies," Article II "Emergency Management," Section 22-24 "Authority to participate in countywide emergency management plans," Subsections (c) "Powers and duties generally" and (d) "Duties and responsibilities enumerated" of the Friendswood City Code are hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE II. EMERGENCY MANAGEMENT

Sec. 22-25. Emergency management director.

- (c) *Powers and duties generally.* The emergency management director may exercise those powers granted under state and federal law. Such powers shall include an ongoing survey of actual or potential major hazards which threaten life and property within the city, and an ongoing program of identifying and requiring or recommending the implementation of measures which would tend to prevent the occurrence or reduce the impact of such hazards if a disaster did occur. As part of his responsibility in hazard mitigation, the director shall supervise the development of an emergency management plan for the city and shall recommend that plan for adoption by the city council along with any and all mutual aid

plans and agreements which are deemed essential for the implementation of such emergency plan. The powers of the director shall include the authority to declare a state of local disaster and the authority to request the governor proclaim a state of emergency. The duties of the director shall also include the causing of a survey of the availability of existing personnel, equipment, supplies and services which could be used during a disaster, as provided for in this article, as well as a continuing study of the need for amendments and improvements in the emergency management plan.

- (d) *Duties and responsibilities enumerated.* The duties and responsibilities of the emergency management director shall include the following:
- (1) The direction and control of the actual disaster operations of the city emergency management organizations as well as the training of emergency management personnel;
 - (2) The determination of all questions of authority and responsibility that may arise within the emergency management organization of the city;
 - (3) The maintenance of necessary liaison with other municipal, county, district, state, regional, federal or other emergency management organizations;
 - (4) The marshaling, after declaration of a disaster as provided for in subsection (c) of this section, of all necessary personnel, equipment or supplies from any department of the city to aid in the carrying out of the provisions of the emergency management plan;
 - (5) The issuance of all necessary proclamations as to the existence of a disaster and immediate operational effectiveness of the city emergency management plan;
 - (6) The issuance of reasonable rules, regulations or directives which are necessary for the protection of life and property in the city. Such rules and regulations shall be filed in the office of the city secretary and shall receive widespread publicity unless publicity would be of aid and comfort to the enemy;
 - (7) The supervision of the drafting and execution of mutual aid agreements, in cooperation with the representatives of the state and of other local political subdivisions of the state, and the drafting and execution, if deemed desirable, of an agreement with each county in which the city is located and with other municipalities within each such county for the countywide coordination of emergency management efforts;
 - (8) The supervision of and final authorization for the procurement of all necessary supplies and equipment, including acceptance of private contributions which may be offered for the purpose of improving emergency management within the city; and

- (9) The authorizing of agreements, after approval by the city attorney, for use of private property for public shelter and other purposes

Section 4. That Chapter 2 "Civil Emergencies," Article II "Emergency Management," Section 22-27 "Organization" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE II. EMERGENCY MANAGEMENT

Sec. 22-27. Organization.

The operational emergency management organization of the city shall consist of the officers and employees of the city so designated by the emergency management director in the emergency management plan, as well as all organized volunteer groups. The functions and duties of this organization shall be distributed among such officers and employees in accordance with the terms of the emergency management plan. Such plan shall set forth the form of the organization; establish and designate divisions and functions; assign tasks, duties and powers; and designate officers and employees to carry out the provisions of this article. Insofar as possible, the form of organization, titles and terminology shall conform to the national incident management system.

Section 5. That Chapter 2 "Civil Emergencies," Article II "Emergency Management," Section 22-29 "Expenditure of public funds" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE II. EMERGENCY MANAGEMENT

Sec. 22-29. Expenditure of public funds.

No person shall have the right to expend any public funds of the city in carrying out any emergency management activity authorized by this article without prior approval by the city council nor shall any person have any right to bind the city by contract, agreement or otherwise without prior and specific approval of the city council; provided, however, during a declared disaster or state of emergency, the emergency management director may expend and/or commit public funds of the city when deemed prudent and necessary for the protection of health, life or property.

Section 6. That Chapter 2 "Civil Emergencies," Article II "Emergency Management," Section 22-30 "Oath of personnel assigned functions or responsibilities" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE II. EMERGENCY MANAGEMENT

Sec. 22-30. Oath of certain personnel assigned functions or responsibilities.

Each employee or any individual, who has management or supervisory responsibilities and who is assigned a function or responsibility under this article, shall solemnly swear or affirm to support and defend the Constitution of the United States, laws of the state and the ordinances of the city.

Section 7. That Chapter 2 "Civil Emergencies," Article II "Emergency Management," Section 22-58 "Interlocal agreement adopted" of the Friendswood City Code is hereby repealed in its entirety.

Section 8. That Chapter 2 "Civil Emergencies," Article III "Assistance to Counties and Other Cities," Section 22-58 "Authority of city officials to furnish assistance" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE III. ASSISTANCE TO COUNTIES AND OTHER CITIES

Sec. 22-58. Authority of city officials to furnish assistance.

The city, acting by and through its mayor, mayor pro tem or, in their absence or inability to act, the city manager, may send or direct any of its regularly employed law enforcement officers to assist any county or other municipality, when a request is received for assistance from the mayor or other officer authorized to declare a state of disaster in such other municipality or county, representing that there exists in such county or other municipality a need for additional law enforcement officers to protect the health, life and property of such county or other municipality and its inhabitants, and the visitors thereof, by reason of riot, unlawful assembly characterized by the use of force and violence, or threat by three or more persons acting together or without lawful authority, or during a time of natural or manmade calamity.

Section 9. That Chapter 2 "Civil Emergencies," Article "Assistance to Counties and Other Cities," Section 22-59 "Rights and duties of officers" of the Friendswood City Code is hereby amended to read as follows:

CHAPTER 22. CIVIL EMERGENCIES

ARTICLE III. ASSISTANCE TO COUNTIES AND OTHER CITIES

Sec. 22-59. Rights and duties of officers.

When law enforcement officers of the city are sent to another municipality or a county, they shall be in all things subject to V.T.C.A., Local Government Code §362.003. Such officer shall be considered a peace officer of the county or other municipality under the command of the law enforcement officer therein who is in charge in that municipality or county and, as provided by such state law, shall be vested with all the powers of a regular law enforcement officer in the county or other municipality. Such law enforcement officers of the city shall be considered under the terms of such state law and shall be entitled to the same wage, salary, pension and all other compensations while performing police duties outside of the territorial limits of the city as though the same services were being rendered in the city. The city shall pay to the officers such wages, salary, pension and other benefits, together with medical, travel, food, lodging and other expenses incurred on account of performing services outside of the territorial limits of the city, and the city shall be reimbursed by the county or other municipality requesting the services out of which such payments and expenses arose, as is provided by state law.

Section 9. That a person who violates any provision of this ordinance shall be deemed guilty of a misdemeanor and upon conviction, shall be fined in an amount not to exceed FIVE HUNDRED AND NO/100 DOLLARS (\$500.00). Each day of violation shall constitute a separate offense.

Section 10. All ordinances or parts of ordinances in conflict or inconsistent with this ordinance are hereby expressly repealed.

Section 11. In the event any clause phrase, provision, sentence, or part of this ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Friendswood, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

Section 12. The City Secretary shall give notice of the enactment of this ordinance by promptly publishing the caption of this ordinance after final passage in the official newspaper of the City.

Section 13. This ordinance shall become effective from and after its date of passage and its publication, as provided by law.

PASSED and APPROVED on first reading by the affirmative vote of the City Council this 5th day of December, 2022.

MIKE FOREMAN, Mayor

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN HORNER, City Attorney

PASSED, APPROVED and ADOPTED on second and final reading by the affirmative vote of the City Council this 9th day of January, 2023.

MIKE FOREMAN, Mayor

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN HORNER City Attorney

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/30/2022

Prepared by: Karen Horner, City Attorney

Subject: Consider a resolution authorizing the submission of a Community Development Block Grant Mitigation Method of Distribution (CDBG-MIT MOD) application to the Texas General Land Office for infrastructure improvements projects .

Originating Department: City Attorney

Degree of importance:

SUMMARY / ORIGINATING CAUSE

The City desires to seek funding under the Community Development Block Grant Mitigation Method of Distribution (CDBG-MIT MOD) Program to further its efforts to protect against threats to public health, safety and welfare and to develop opportunities principally for persons of low-to-moderate income. As such, this proposed resolution, in general:

1. authorizes the submission of a CDBG-MIT MOD grant application to the Texas General Land Office for infrastructure improvements projects,
2. designates the Mayor and the City Manager as authorized representatives in all matters in connection with the grant, and
3. authorizes GrantWorks, Inc., to complete and submit the grant application on behalf of the City.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. Resolution - Application to GLO

A RESOLUTION OF THE CITY COUNCIL OF FRIENDSWOOD, TEXAS, AUTHORIZING THE SUBMISSION OF A COMMUNITY DEVELOPMENT BLOCK GRANT MITIGATION METHOD OF DISTRIBUTION (CDBG-MIT MOD) APPLICATION TO THE TEXAS GENERAL LAND OFFICE AND AUTHORIZING THE MAYOR AND CITY MANAGER TO ACT AS THE CITY'S EXECUTIVE OFFICERS AND AUTHORIZED REPRESENTATIVES IN ALL MATTERS PERTAINING TO THE CITY'S PARTICIPATION IN THE CDBG-MIT MOD PROGRAM; AND PROVIDING FOR THE EFFECTIVE DATE.

WHEREAS, the City of Friendswood desires to develop a viable community, including decent housing and a suitable living environment and expanding economic opportunities, principally for persons of low-to-moderate income; and

WHEREAS, certain conditions exist related to disastrous events, which represent a threat to the public health, safety and welfare; and

WHEREAS, it is necessary and in the best interests of to apply for funding under the CDBG-MIT MOD Program; NOW THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, STATE OF TEXAS:

Section 1. That the facts and matters set forth in the recitals of this resolution are hereby found to be true and correct.

Section 2. That a CDBG-MIT MOD application is hereby authorized to be filed with the Texas General Land Office for funding consideration under the CDBG-MIT Method of Distribution Funds.

Section 3. That the application be for up to \$4,636,100 of grant funds to provide infrastructure improvements.

Section 4. That the Mayor and City Manager are designated as the Chief Executive Officers and Authorized Representatives to act in all matters in connection with this application and participation in the CDBG-MIT MOD Program.

Section 5. That the Mayor is designated to oversee all grant activities so as to ensure there are no Conflicts of Interest.

Section 6. That the City's grant administrator, GrantWorks, Inc., is authorized to complete and submit the application on behalf of the City.

Section 7. That all funds will be used in accordance with all applicable federal, state, local and programmatic requirements including but not limited to procurement, environmental review, labor standards, real property acquisition, and civil rights requirements.

Section 8. That this resolution shall be effective immediately upon its passage and approval.

PASSED, APPROVED and ADOPTED by the affirmative vote of the City Council of the City of Friendswood on this the 5th day of December, 2022.

MIKE FOREMAN, Mayor

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN HORNER, City Attorney

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/30/2022

Prepared by: Karen Horner, City Attorney

Subject: Consider a resolution adopting both Financial Policies and Procedures along with Procurement Policies and Procedures for the City of Friendswood for Federal Grant Programs.

Originating Department: City Attorney

Degree of importance:

SUMMARY / ORIGINATING CAUSE

This proposed resolution adopts the following in compliance with applicable federal grant requirements:

- Financial Policies and Procedures

The proposed policies and procedures govern the safekeeping and expenditure of the City's finances. In general, they:

- address the City's bank depository, check-signing authority, accounting, audits, and internal controls;
- establish procedures for recordkeeping, invoice review, timely payments, and reconciliations;
- specify procedures for grant payment;
- provide for cash management and disbursements; and
- address advance payment procedures consistent with federal regulations.

- Procurement Policies and Procedures

The proposed policies and procedures are consistent with the procurement standards required when expending federal funds. In general, they:

- specify general standards, provides for competitive procurement opportunities;
- detail various procurement methods;
- establish standards for small and minority businesses as well as women's business enterprises, and labor surplus area firms;
- set forth domestic preferences for procurements;
- provide for bonding requirements; and
- require contracts to contain the applicable provisions in Appendix II to Part 200 "Contract Provisions for Non-Federal Entity Contracts under Federal Awards."

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. Resolution - Financial and Purchasing Policies and Procedures for Federal Grant Programs

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD,
TEXAS, ADOPTING FINANCIAL POLICIES AND PROCEDURES ALONG WITH
PROCUREMENT POLICIES AND PROCEDURES FOR FEDERAL GRANT
PROGRAMS AND PROVIDING FOR THE EFFECTIVE DATE.

WHEREAS, the City of Friendswood, in consideration for the receipt and acceptance of federal funding, agrees to comply with all federal rules and regulations, including those rules and regulations governing procurement and fiscal management; and

WHEREAS, in furtherance of such commitment, the City Council desires to approve the policies enumerated herein in conformance with federal grant program requirements; NOW THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD,
STATE OF TEXAS:

Section 1. That facts and matters set forth in the preamble of this resolution are hereby found to be true and correct.

Section 2. That the City Council of the City of Friendswood, Texas, hereby adopts the following policies and procedures in accordance with federal grant program requirements:

Exhibit	Name
A	Financial Policies and Procedures for Federal Grant Programs
B	Procurement Policies and Procedures for Federal Grant Programs

Exhibits "A" and "B" are attached hereto and incorporated herein for all intents and purposes.

Section 3. That this resolution shall take effect immediately upon its passage.

PASSED, APPROVED, and ADOPTED, by the affirmative vote of the City Council of the City of Friendswood this the 5th day of December, 2022.

MIKE FOREMAN, Mayor

ATTEST:

LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

KAREN HORNER, City Attorney

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Exhibit "A"



CITY OF FRIENDSWOOD

Financial Policies and Procedures for Federal Grant Programs

INTRODUCTION

The purpose of financial management policies and procedures are to provide sound guidelines in planning the City's financial future. The City of Friendswood considers the expenditure of funds to be an important responsibility and requires all persons involved with the purchase of goods or services to exercise good judgment in spending taxpayers' money.

SCOPE OF AUTHORITY

The City Council along with the City Manager are responsible for the expenditure of all City funds.

FINANCIALS

1. **Bank Depository**
The City maintains funds in a Bank, designated as its depository for banking services. The City Council reviews the selection every two years with up option to extend three additional years unless circumstances deem otherwise.
2. **Accounts Payable**
Two (2) individuals are authorized to sign checks written on the bank depository account: City Manager and Director of Administrative Services. All checks require two authorized signatures, no exceptions.
3. **Accounting**
The Director of Administrative Services is responsible for establishing the structure for the City Chart of Accounts and for assuring that procedures are in place to properly record financial transactions and report the City's financial position. The Director of Administrative Services shall provide financial reports to the City Manager, Mayor, and City Council monthly.
4. **Audit of Accounts**
An independent audit of the City accounts is performed annually. The Auditor is retained by and is accountable directly to the City Council. The City Council reviews the selection every five years unless circumstances deem otherwise.
5. **Internal Controls**
Whenever possible, written procedures will be established, maintained, and assessed per 2 CFR 200.303 by the Director of Administrative Services for all functions involving cash handling and/or accounting throughout the City. These procedures will embrace the general concepts of fiscal responsibility set forth in this policy statement.

Whenever possible, the City ensures duties and responsibilities are segregated so that no one individual has complete authority over a financial transaction.

PROCEDURES

1. **Input Invoice into Record Keeping System**
Invoices are recorded in the City's enterprise resource planning (ERP) system, Tyler Technologies Incode 10, accounts payable and general ledger modules. Purchase orders are issued for payment of invoices.
2. **Review of Invoice**
Administrative Services Department Finance staff and the City Department, which is in direct receipt of the goods, services, or the project management team for capital improvement project, are responsible for reviewing invoices and recommending payment. Prior to payment, the City of Friendswood purchase order and corresponding invoice and/or receipt are required.
3. **Timeline for Payment**
The City of Friendswood operates within a net 30-day payment issuance schedule.
4. **Issue Payment**
Paper checks or ACH transactions are processed by the City's Administrative Services Department's Finance Division staff member (Accounts Payable Accounting Assistant) with City Manager and Director of Administrative Services signatures. Two signatures are required. Council does not individually approve each payment although it authorizes expenditures in the City's budget.
5. **Payment Reconciliation**
The City's bank statements and payments are reconciled by the Administrative Services Department's Finance Division staff members (Accountant and Accounting Manager).
6. **Record Keeping**
The City's Administrative Services Department Finance division documents all expenditures and maintains the records in the enterprise resource planning software system (Tyler Technologies Incode 10).

PROCEDURES FOR GRANT PAYMENTS

1. Invoice is received and, if necessary, a request for payment is prepared by grant consultant and proper signatures obtained from City Manager and Director of Administrative Services as authorized in original grant approval. Auditor's office reviews the invoice and compares it to the grant budget.
2. Invoice must be approved by a City official involved in the grant implementation or the County Judge/Mayor. Approval is acknowledged by initialing the original invoice or through Council/Court action.
3. Once grant funds are received and invoice approval acknowledged by signature on the original invoice, a payment request is entered into the City of Friendswood's ERP system, then check is printed or ACH payment is generated and disbursed by the City's Administrative Services Department Finance division. Both, City Manager and Director of Administrative Services, signatures appear on the approved checks and ACH transaction detail. Payments are then disbursed to the appropriate vendors. The Director of Administrative Services is responsible for ensuring that checks are signed and disbursed within thirty (30) calendar days for the Texas Department of

Agriculture and twenty (20) calendar days for the Texas General Land Office of receiving grant funds.

4. Copies of the request for payment, invoice, canceled check copy and bank statement showing receipt of grant money is retained in the grant file in the Administrative Services Department.

The City Manager/Other Assigned individual and Director of Administrative Services authorize payments and issues of checks. Two signatures are required on each check, City Manager or Director of Administrative Services. The Administrative Services Department Finance division staff members (Accountant) is responsible for reconciling the monthly bank statements.

CASH MANAGEMENT AND DISBURSEMENT - TIMELY EXPENDITURES

The City shall make timely payments to vendors and minimize the time between transferring funds from the State Treasury and disbursement of funds to vendors in compliance with the terms and conditions of the federal contract, grant, regulation, or statute.

To ensure vendor compliance, invoices/pay applications/pay estimates will be reviewed for accuracy for such items but not limited to change order approvals, outstanding lien/payments to subcontractors, labor standards, and verification of work completed as invoiced prior to disbursement or request for funds from State Agency. The City shall notify a vendor of an error in an invoice submitted for payment by such vendor.

ADVANCE PAYMENT PROCEDURES

All advanced payments using federal grant funds will be disbursed within five (5) business days from the date of the transfer of funds in accordance with 2 CFR 200.305(b), and in accordance with the provisions in the contract with the vendor.

Advance payments of federal grant funds will be deposited and maintained in a separate insured account. The City will maintain advance payments of federal awards in interest-bearing accounts, unless one or more of the following apply: City receives less than \$120,000 in Federal awards per year; the City is not expected to earn interest in excess of \$500 per year on Federal cash balances; or the depository would require an average or minimum balance so high that it would not be feasible within the expected Federal and non-Federal cash resources. (2 CFR 200.302(b)(6) and 200.305)

These Policies and Procedures are implemented through of the City of Friendswood's administrative team of the City Manager, Assistant City Manager and Director of Administrative Services.

MIKE FOREMAN, Mayor (Date)

Exhibit "B"



CITY OF FRIENDSWOOD

Procurement Policies and Procedures for Federal Grant Programs

The City of Friendswood follows the procurement standards in 2 CFR 200.317 – 2CFR 200.327 and Appendix II to Part 200 for procurement actions to be funded with Federal funds. All attempts are made to adhere to these policies and procedures and updates are made as needed. The entirety of the language found in 2 CFR 200.317 – 2 CFR 200.327 may not be applicable in all instances, programs, and/or situations. This document contains the most current 2 CFR 200.317 – 2 CFR 200.327 language available at the adoption of these policies and procedures.

§200.317 Procurements by states.

When procuring property and services under a Federal award, a State must follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will comply with §§200.321, 200.322, and 200.323 and ensure that every purchase order or other contract includes any clauses required by §200.327. All other non-Federal entities, including subrecipients of a State, must follow the procurement standards in §§200.318 through 200.327.

§200.318 General procurement standards.

(a) The non-Federal entity must have and use documented procurement procedures, consistent with State, local, and tribal laws and regulations and the standards of this section, for the acquisition of property or services required under a Federal award or subaward. The non-Federal entity's documented procurement procedures must conform to the procurement standards identified in §§200.317 through 200.327.

(b) Non-Federal entities must maintain oversight to ensure that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(c)(1) The non-Federal entity must maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award and administration of contracts. No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a Federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract. The officers, employees, and agents of the non-Federal entity may neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. However, non-Federal entities may set standards for situations in which the financial interest is not substantial or the gift is an unsolicited item of nominal value. The standards of conduct must provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the non-Federal entity.

(2) If the non-Federal entity has a parent, affiliate, or subsidiary organization that is not a State, local government, or Indian tribe, the non-Federal entity must also maintain written standards of conduct covering organizational conflicts of interest. Organizational conflicts of interest means that because of relationships with a parent company, affiliate, or subsidiary organization, the non-Federal entity is unable or appears to be unable to be impartial in conducting a procurement action involving a related organization.

(d) The non-Federal entity's procedures must avoid acquisition of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(e) To foster greater economy and efficiency, and in accordance with efforts to promote cost-effective use of shared services across the Federal Government, the non-Federal entity is encouraged to enter into state and local intergovernmental agreements or inter-entity agreements where appropriate for procurement or use of common or shared goods and services. Competition requirements will be met with documented procurement actions using strategic sourcing, shared services, and other similar procurement arrangements.

(f) The non-Federal entity is encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(g) The non-Federal entity is encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(h) The non-Federal entity must award contracts only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources. See also §200.214.

(i) The non-Federal entity must maintain records sufficient to detail the history of procurement. These records will include, but are not necessarily limited to, the following: Rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(j)(1) The non-Federal entity may use a time-and-materials type contract only after a determination that no other contract is suitable and if the contract includes a ceiling price that the contractor exceeds at its own risk. Time-and-materials type contract means a contract whose cost to a non-Federal entity is the sum of:

(i) The actual cost of materials; and

(ii) Direct labor hours charged at fixed hourly rates that reflect wages, general and administrative expenses, and profit.

(2) Since this formula generates an open-ended contract price, a time-and-materials contract provides no positive profit incentive to the contractor for cost control or labor efficiency. Therefore, each contract must set a ceiling price that the contractor exceeds at its own risk. Further, the non-Federal entity awarding such a contract must assert a high degree of oversight in order to obtain reasonable assurance that the contractor is using efficient methods and effective cost controls.

(k) The non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the non-Federal entity of any contractual responsibilities under its contracts. The Federal awarding agency will not substitute its judgment for that of the non-Federal entity unless the matter is primarily a Federal concern. Violations of law will be referred to the local, state, or Federal authority having proper jurisdiction.

[85 FR 49543, Aug. 13, 2020, as amended at 86 FR 10440, Feb. 22, 2021]

§200.319 Competition.

(a) All procurement transactions for the acquisition of property or services required under a Federal award must be conducted in a manner providing full and open competition consistent with the standards of this section and §200.320.

(b) In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals must be excluded from competing for such procurements. Some of the situations considered to be restrictive of competition include but are not limited to:

(1) Placing unreasonable requirements on firms in order for them to qualify to do business;

(2) Requiring unnecessary experience and excessive bonding;

(3) Noncompetitive pricing practices between firms or between affiliated companies;

(4) Noncompetitive contracts to consultants that are on retainer contracts;

(5) Organizational conflicts of interest;

(6) Specifying only a “brand name” product instead of allowing “an equal” product to be offered and describing the performance or other relevant requirements of the procurement; and

(7) Any arbitrary action in the procurement process.

(c) The non-Federal entity must conduct procurements in a manner that prohibits the use of statutorily or administratively imposed state, local, or tribal geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts state licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criterion provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(d) The non-Federal entity must have written procedures for procurement transactions. These procedures must ensure that all solicitations:

(1) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description must not, in competitive procurements, contain features which

unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, must set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a “brand name or equivalent” description may be used as a means to define the performance or other salient requirements of procurement. The specific features of the named brand which must be met by offers must be clearly stated; and

(2) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(e) The non-Federal entity must ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, the non-Federal entity must not preclude potential bidders from qualifying during the solicitation period.

(f) Noncompetitive procurements can only be awarded in accordance with §200.320(c).

§200.320 Methods of procurement to be followed.

The non-Federal entity must have and use documented procurement procedures, consistent with the standards of this section and §§200.317, 200.318, and 200.319 for any of the following methods of procurement used for the acquisition of property or services required under a Federal award or sub-award.

(a) *Informal procurement methods.* When the value of the procurement for property or services under a Federal award does not exceed the *simplified acquisition threshold (SAT)*, as defined in §200.1, or a lower threshold established by a non-Federal entity, formal procurement methods are not required. The non-Federal entity may use informal procurement methods to expedite the completion of its transactions and minimize the associated administrative burden and cost. The informal methods used for procurement of property or services at or below the SAT include:

(1) *Micro-purchases—(i) Distribution.* The acquisition of supplies or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (See the definition of *micro-purchase* in §200.1). To the maximum extent practicable, the non-Federal entity should distribute micro-purchases equitably among qualified suppliers.

(ii) *Micro-purchase awards.* Micro-purchases may be awarded without soliciting competitive price or rate quotations if the non-Federal entity considers the price to be reasonable based on research, experience, purchase history or other information and documents it files accordingly. Purchase cards can be used for micro-purchases if procedures are documented and approved by the non-Federal entity.

(iii) *Micro-purchase thresholds.* The non-Federal entity is responsible for determining and documenting an appropriate micro-purchase threshold based on internal controls, an evaluation of risk, and its documented procurement procedures. The micro-purchase threshold used by the non-Federal entity must be authorized or not prohibited under State, local, or tribal laws or regulations. Non-Federal entities may establish a threshold higher than the Federal threshold established in the Federal Acquisition Regulations (FAR) in accordance with paragraphs (a)(1)(iv) and (v) of this section.

(iv) *Non-Federal entity increase to the micro-purchase threshold up to \$50,000.* Non-Federal entities may establish a threshold higher than the micro-purchase threshold identified in the FAR in accordance

with the requirements of this section. The non-Federal entity may self-certify a threshold up to \$50,000 on an annual basis and must maintain documentation to be made available to the Federal awarding agency and auditors in accordance with §200.334. The self-certification must include a justification, clear identification of the threshold, and supporting documentation of any of the following:

(A) A qualification as a low-risk auditee, in accordance with the criteria in §200.520 for the most recent audit;

(B) An annual internal institutional risk assessment to identify, mitigate, and manage financial risks; or,

(C) For public institutions, a higher threshold consistent with State law.

(v) *Non-Federal entity increase to the micro-purchase threshold over \$50,000.* Micro-purchase thresholds higher than \$50,000 must be approved by the cognizant agency for indirect costs. The non-Federal entity must submit a request with the requirements included in paragraph (a)(1)(iv) of this section. The increased threshold is valid until there is a change in status in which the justification was approved.

(2) *Small purchases*—(i) *Small purchase procedures.* The acquisition of property or services, the aggregate dollar amount of which is higher than the micro-purchase threshold but does not exceed the simplified acquisition threshold. If small purchase procedures are used, price or rate quotations must be obtained from an adequate number of qualified sources as determined appropriate by the non-Federal entity.

(ii) *Simplified acquisition thresholds.* The non-Federal entity is responsible for determining an appropriate simplified acquisition threshold based on internal controls, an evaluation of risk and its documented procurement procedures which must not exceed the threshold established in the FAR. When applicable, a lower simplified acquisition threshold used by the non-Federal entity must be authorized or not prohibited under State, local, or tribal laws or regulations.

(b) *Formal procurement methods.* When the value of the procurement for property or services under a Federal financial assistance award exceeds the SAT, or a lower threshold established by a non-Federal entity, formal procurement methods are required. Formal procurement methods require following documented procedures. Formal procurement methods also require public advertising unless a non-competitive procurement can be used in accordance with §200.319 or paragraph (c) of this section. The following formal methods of procurement are used for procurement of property or services above the simplified acquisition threshold or a value below the simplified acquisition threshold the non-Federal entity determines to be appropriate:

(1) *Sealed bids.* A procurement method in which bids are publicly solicited and a firm fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bids method is the preferred method for procuring construction, if the conditions.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) Bids must be solicited from an adequate number of qualified sources, providing them sufficient response time prior to the date set for opening the bids, for local, and tribal governments, the invitation for bids must be publicly advertised;

(B) The invitation for bids, which will include any specifications and pertinent attachments, must define the items or services in order for the bidder to properly respond;

(C) All bids will be opened at the time and place prescribed in the invitation for bids, and for local and tribal governments, the bids must be opened publicly;

(D) A firm fixed price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs must be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(2) *Proposals.* A procurement method in which either a fixed price or cost-reimbursement type contract is awarded. Proposals are generally used when conditions are not appropriate for the use of sealed bids. They are awarded in accordance with the following requirements:

(i) Requests for proposals must be publicized and identify all evaluation factors and their relative importance. Proposals must be solicited from an adequate number of qualified offerors. Any response to publicized requests for proposals must be considered to the maximum extent practical;

(ii) The non-Federal entity must have a written method for conducting technical evaluations of the proposals received and making selections;

(iii) Contracts must be awarded to the responsible offeror whose proposal is most advantageous to the non-Federal entity, with price and other factors considered; and

(iv) The non-Federal entity may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby offeror's qualifications are evaluated and the most qualified offeror is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms that are a potential source to perform the proposed effort.

(c) *Noncompetitive procurement.* There are specific circumstances in which noncompetitive procurement can be used. Noncompetitive procurement can only be awarded if one or more of the following circumstances apply:

(1) The acquisition of property or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (see paragraph (a)(1) of this section);

(2) The item is available only from a single source;

(3) The public exigency or emergency for the requirement will not permit a delay resulting from publicizing a competitive solicitation;

(4) The Federal awarding agency or pass-through entity expressly authorizes a noncompetitive procurement in response to a written request from the non-Federal entity; or

(5) After solicitation of a number of sources, competition is determined inadequate.

§200.321 Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms.

(a) The non-Federal entity must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

(b) Affirmative steps must include:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and

(6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (b)(1) through (5) of this section.

§200.322 Domestic preferences for procurements.

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

§200.323 Procurement of recovered materials.

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

§200.324 Contract cost and price.

(a) The non-Federal entity must perform a cost or price analysis in connection with every procurement action in excess of the Simplified Acquisition Threshold including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, the non-Federal entity must make independent estimates before receiving bids or proposals.

(b) The non-Federal entity must negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration must be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(c) Costs or prices based on estimated costs for contracts under the Federal award are allowable only to the extent that costs incurred or cost estimates included in negotiated prices would be allowable for the non-Federal entity under subpart E of this part. The non-Federal entity may reference its own cost principles that comply with the Federal cost principles.

(d) The cost plus a percentage of cost and percentage of construction cost methods of contracting must not be used.

§200.325 Federal awarding agency or pass-through entity review.

(a) The non-Federal entity must make available, upon request of the Federal awarding agency or pass-through entity, technical specifications on proposed procurements where the Federal awarding agency or pass-through entity believes such review is needed to ensure that the item or service specified is the one being proposed for acquisition. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the non-Federal entity desires to have the review accomplished after a solicitation has been developed, the Federal awarding agency or pass-through entity may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(b) The non-Federal entity must make available upon request, for the Federal awarding agency or pass-through entity pre-procurement review, procurement documents, such as requests for proposals or invitations for bids, or independent cost estimates, when:

(1) The non-Federal entity's procurement procedures or operation fails to comply with the procurement standards in this part;

(2) The procurement is expected to exceed the Simplified Acquisition Threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation;

(3) The procurement, which is expected to exceed the Simplified Acquisition Threshold, specifies a "brand name" product;

(4) The proposed contract is more than the Simplified Acquisition Threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or

(5) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the Simplified Acquisition Threshold.

(c) The non-Federal entity is exempt from the pre-procurement review in paragraph (b) of this section if the Federal awarding agency or pass-through entity determines that its procurement systems comply with the standards of this part.

(1) The non-Federal entity may request that its procurement system be reviewed by the Federal awarding agency or pass-through entity to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews must occur where there is continuous high-dollar funding, and third-party contracts are awarded on a regular basis;

(2) The non-Federal entity may self-certify its procurement system. Such self-certification must not limit the Federal awarding agency's right to survey the system. Under a self-certification procedure, the Federal awarding agency may rely on written assurances from the non-Federal entity that it is complying with these standards. The non-Federal entity must cite specific policies, procedures, regulations, or standards as being in compliance with these requirements and have its system available for review.

§200.326 Bonding requirements.

For construction or facility improvement contracts or subcontracts exceeding the Simplified Acquisition Threshold, the Federal awarding agency or pass-through entity may accept the bonding policy and requirements of the non-Federal entity provided that the Federal awarding agency or pass-through entity has made a determination that the Federal interest is adequately protected. If such a determination has not been made, the minimum requirements must be as follows:

(a) A bid guarantee from each bidder equivalent to five percent of the bid price. The "bid guarantee" must consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.

(b) A performance bond on the part of the contractor for 100 percent of the contract price. A “performance bond” is one executed in connection with a contract to secure fulfillment of all the contractor's requirements under such contract.

(c) A payment bond on the part of the contractor for 100 percent of the contract price. A “payment bond” is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

§200.327 Contract provisions.

The non-Federal entity's contracts must contain the applicable provisions described in Appendix II to this part.

Appendix II to Part 200 - Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

(A) Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.

(C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3,

“Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended - Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(H) Debarment and Suspension (Executive Orders 12549 and 12689) - A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352) - Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See § 200.323*

(K) See § 200.216**

(L) See § 200.322***

***§ 200.323 Procurement of recovered materials.**

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

****§ 200.216 Prohibition on certain telecommunications and video surveillance services or equipment.**

(a) Recipients and sub recipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(b) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) See Public Law 115-232, section 889 for additional information.

(d) See also § 200.471.

*****§ 200.322 Domestic preferences for procurements.**

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

MIKE FOREMAN, Mayor (Date)

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/19/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider accepting the City of Friendswood's FY2021-2022 Asphalt Street Maintenance Program, and the commencement of the contractor's one-year maintenance period.

Originating Department: Engineering

Degree of importance: Significant

SUMMARY / ORIGINATING CAUSE

Work associated with the City of Friendswood's 2021-2022 Asphalt Street Maintenance Program has been completed. This year's Asphalt Street Maintenance Program included reclamation and overlay of Cowards Creek Drive, Garden Drive, Murphy Lane, and Sedora Drive. Funding for this project was provided through the 21/22 FY General Fund allocation for street maintenance and the Street Improvement - Additional Sales Tax Fund.

City Staff has inspected the aforementioned infrastructure and found it to be built in compliance with City specifications.

The City has received a one-year maintenance bond from the contractor, Pavecon Ltd. Co., to correct any work found deficient during this one-year period.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

Staff recommends approval.

ATTACHMENTS

1. One-Year Maintenance Bond
2. 00620 - Notice of Final Completion

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/23/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider approving a banner permit application for The Harbor (Friendswood Community Church) to advertise its annual "Christmas Eve Church Services."

Originating Department: Public Works

Degree of importance: Elective

SUMMARY / ORIGINATING CAUSE

Friendswood Community Church "The Harbor" is requesting to hang a street banner. The banner will advertise its annual church services on Christmas Eve. Per the permitted 7 day grace period, the banner will be displayed between the dates of December 19, 2022 through December 26, 2022. The wording on the banner will state "Christmas Eve at The Harbor 3:00 P.M., 5:00 P.M., 7:00 P.M."

All required paperwork has been properly filled out and all other requirements have been met.

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

Via the outreach channel of visibility from vehicular traffic on FM 518 in front of Stevenson Park, the Friendswood Community will be able to be informed of the event.

RECOMMENDATIONS

Staff seeks consideration of approval from Mayor & City Council for the hanging of the new street banner.

ATTACHMENTS

1. Street Banner License Agreement
2. COI The Harbor
3. TxDot Back Up

STREET BANNER LICENSE AGREEMENT

STATE OF TEXAS §
 §
COUNTY OF GALVESTON §

This Street Banner License Agreement (this "Agreement") is made and entered into this 5th day of December, 2022, by and between the City of Friendswood, Texas, a home-rule municipal corporation located in Harris and Galveston Counties, Texas (the "City") and The Harbor, a non-commercial, charitable, nonprofit organization, having a principal place of business located at 2821 W. Parkwood Avenue, Friendswood, Texas (the "Licensee"). The City and the Licensee are each hereinafter referred to as "Party" and are collectively referred to as the "Parties."

For and in consideration of the promises, covenants, terms and provisions contained herein, the Parties hereby agree as follows:

1. City's Obligations.

- 1.01 Subject to Texas Department of Transportation written approval, the City agrees to permit the Licensee to use that portion of the S. Friendswood Drive right-of-way adjacent to Stevenson Park and depicted in Exhibit "A," which is attached hereto and incorporated herein for all intents and purposes, for the purpose of placing a banner over S. Friendswood Drive for a period of seven (7) days from December 19th, 2022 to December 26th, 2022.
- 1.02 Upon The Licensee's payment of all applicable fees, the City shall install a banner over S. Friendswood Drive on or before December 19th, 2022 and shall remove the same on December 26th, 2022, unless earlier removed in order to protect the public health, safety, and welfare.

2. The Licensee's Obligations

- 2.01 The Licensee shall pay to the City a non-refundable fee of TWENTY-FIVE AND NO/100 DOLLARS (\$25.00). All fees required hereunder shall be paid prior to the installation of the banner. Payment to City hereunder shall be by check, certified or cashier's check or by personal check if drawn on banks for which verification of funds may be obtained.
- 2.02 The Licensee shall conduct its activities so as not to endanger any person or property. The Licensee understand and agrees that should the banner pose a risk of danger to persons or property, the City may remove the banner without advance notice to the Licensee without liability.
- 2.03 The Licensee agrees that the placement, installation and removal of the banner shall be in accordance with all applicable laws, rules and regulations, including, but not limited to, Resolution Nos. R92-8 and R2004-27 of the City of Friendswood.
- 2.04 The Licensee agrees that the banner placed pursuant to the Agreement will be removed by the City upon the expiration of the license term specified in Section 3 below, unless required to be removed earlier for the protection of the public health, safety, and welfare. The Licensee shall be responsible for any and all damage to (i) the right-of-way, including any structure or facility located in, on, over, or under the right-of-way, and/or (ii) any other personal or real property, which damage is caused by the placement, removal or display of the banner. The Licensee shall pick up the banner before 5:00 p.m.

on the Monday following the banner's removal. Should the Licensee fail to do so, the banner shall be considered abandoned and the City may keep or dispose of it as it sees fit.

- 2.05 Notwithstanding any other provision in this Agreement, it is further agreed that the City shall not be responsible to any party or parties whatsoever for any claims, demands, losses, suits, judgments for damages or injuries to persons or property by reason of the installation, maintenance, inspection, or use of the banner belonging to the Licensee and constructed, installed or placed on or over public right-of-way.

THE LICENSEE SHALL INDEMNIFY, HOLD HARMLESS, AND DEFEND THE CITY, ITS OFFICERS, AGENTS, AND EMPLOYEES (COLLECTIVELY IN THIS PARAGRAPH THE "CITY") FROM AND AGAINST ANY AND ALL CLAIMS, LOSSES, DAMAGES, CAUSES OF ACTION, SUITS AND LIABILITIES OF EVERY KIND FOR ANY INJURY, DEATH, OR DAMAGE ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, THE BANNER CONTEMPLATED HEREIN, OR IN THE PERFORMANCE OF ANY ACT OR ANY OMISSION UNDERTAKEN PURSUANT TO OR IN ANY MANNER RELATED TO THE LICENSE GRANTED HEREBY, WHERE SUCH INJURIES, DEATH OR DAMAGES ARE CAUSED BY THE SOLE OR JOINT NEGLIGENCE OF THE LICENSEE, ITS OFFICERS, AGENTS, CONTRACTORS, OR EMPLOYEES (COLLECTIVELY AS USED HEREIN "THE LICENSEE") OR THE JOINT NEGLIGENCE OF THE CITY AND ANY OTHER PERSON OR ENTITY. IT IS THE EXPRESS INTENTION OF THE PARTIES HERETO, BOTH THE LICENSEE AND THE CITY, THAT THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH IS AN INDEMNITY BY THE LICENSEE TO INDEMNIFY, PROTECT AND DEFEND THE CITY FROM THE CONSEQUENCES OF THE CITY'S OWN NEGLIGENCE, WHERE THAT NEGLIGENCE IS A CONCURRING CAUSE OF THE INJURY, DEATH OR DAMAGE AND FROM THE CONSEQUENCES OF THE LICENSEE'S OWN NEGLIGENCE, WHERE THAT NEGLIGENCE IS THE SOLE OR CONCURRING CAUSE OF THE INJURY, DEATH, OR DAMAGE. FURTHERMORE, THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL HAVE NO APPLICATION TO THE CITY FOR ANY CLAIM, LOSS, DAMAGE, CAUSE OF ACTION, SUIT AND LIABILITY WHERE THE INJURY, DEATH OR DAMAGE RESULTS FROM THE SOLE NEGLIGENCE OF THE CITY, UNMIXED WITH THE FAULT OF ANY OTHER PERSON OR ENTITY. IN THE EVENT THAT ANY ACTION OR PROCEEDING IS BROUGHT AGAINST THE OWNER BY REASON OF ANY OF THE INDEMNITIES PROVIDED FOR HEREIN, INCLUDING, BUT NOT LIMITED TO, THOSE INCLUDED ELSEWHERE IN THIS CONTRACT, THE CONTRACTOR FURTHER AGREES AND

**COVENANTS TO DEFEND THE ACTION OR PROCEEDING BY
LEGAL COUNSEL ACCEPTABLE TO THE OWNER.**

The indemnities provided for herein, including, but not limited to, those elsewhere in this Contract, will survive the expiration or termination of this Agreement.

- 2.06 The Licensee shall maintain throughout the term of this Agreement the following coverages, written by a carrier that is licensed and admitted to do business in the State of Texas and having an A.M. Best Rating of A:VII or higher.

Commercial General Liability Policy;

- General aggregate of \$1,000,000.
- Minimum of \$500,000 per occurrence.
- Coverage shall be broad form.
- No coverage shall be deleted from the standard policy without notification of individual exclusions being attached for review and acceptance.
- Waiver of subrogation in favor of the City
- City, its officers, agents and employees shall be listed as additional insureds

Prior to the execution of this Agreement and thereafter upon request, The Licensee shall provide certificates of insurance to the City evidencing the coverages required herein.

3. Term

Except as otherwise provided herein, the term of this Agreement shall begin on the date signed by the City Manager and shall continue in full force and effect until the Banner is removed and the right-of-way is restored; provided that Sections 2.04 – 2.06 shall not expire but shall remain in full force and effect.

4. General Conditions

- 4.01 Neither the City nor the Licensee shall sell, assign, or transfer any of its rights or obligations under this Agreement in whole or in part during the term hereof.
- 4.02 Failure of either Party hereto to insist on the strict performance of any of the agreements herein or to exercise any rights or remedies accruing thereunder upon default or failure of performance shall not be considered a waiver of the right to insist on and to enforce, by an appropriate remedy, strict compliance with any other obligation hereunder or to exercise any right or remedy occurring as a result of any future default or failure of performance.
- 4.03 This Agreement shall in all respects be interpreted and construed in accordance with and governed by the laws of the State of Texas, regardless of the place of its execution or performance. The place of making and the place of performance for all purposes shall be Friendswood, Galveston County, Texas.
- 4.04 All Parties agree that should any provision of this Agreement be determined to be invalid or unenforceable, such determination shall not affect any other term of this Agreement, which shall continue in full force and effect.
- 4.05 In the event of any ambiguity in any of the terms of this Agreement, it shall not be construed for or against any Party hereto on the basis that such Party did or did not author the same.

4.06 This Agreement, together with Resolution Nos. R92-8 and R2004-27 of the City of Friendswood, contains all the agreements of the Parties relating to the subject matter hereof and is the full and final expression of the agreement between the Parties. This Agreement shall not be amended or modified without the express written consent of both Parties hereto.

Executed in duplicate originals, this the ____ day of December, 2022.

CITY OF FRIENDSWOOD, TEXAS

MORAD KABIRI, City Manager (Date)

ATTEST:

LETTIE BRYSCH, City Secretary

THE LICENSEE:

(Signature) (Date)

(Printed Name)

(Title)

Friendswood, Texas

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/07/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider approving the ad valorem tax report for October 2022.

Originating Department: City Manager

Degree of importance:

SUMMARY / ORIGINATING CAUSE

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

ATTACHMENTS

1. Gal CO Tax Oct2022



Cheryl E. Johnson, PCC
Assessor and Collector of Taxes
County of Galveston
722 Moody Avenue, Galveston, Texas 77550
Toll Free (877) 766-2284 Fax: (409) 766-2479
Email: galcotax@co.galveston.tx.us



November 8, 2022

The Governmental Entities of the Galveston County Tax Assessor/Collector's Office:

I, Cheryl E. Johnson, Tax Assessor and Collector of the County of Galveston do solemnly swear that this statement of collections made by me and the disposition thereof during the month of October, 2022 is true and correct.

Under my hand and seal this 8th day of November, 2022.

Cheryl E. Johnson, PCC
Galveston County Tax Assessor/Collector

cc: Randall Rice, County Auditor
Linebarger, Goggan, Blair, & Simpson
Perdue, Brandon, Fielder, Collins, & Mott
Assessment & Collection Partners:

City of Bayou Vista
City of Clear Lake Shores (delinquent)
City of Dickinson
City of Friendswood
City of Galveston
City of Hitchcock
City of Jamaica Beach
City of Kemah
City La Marque
City of League City
City of Santa Fe
City of Texas City
City of Tiki Island
Dickinson Independent School District
Galveston Independent School District
High Island Independent School District
Hitchcock Independent School District
College of the Mainland

Galveston Community College
GC Drainage District No. 1
GC Drainage District No. 2
GC Emergency Services Dist. No. 1
GC Emergency Services Dist. No. 2
GC Fresh Water Supply Dist. No. 6
Bacliff MUD
Bayview MUD
Galveston County MUD No. 12
Galveston County MUD No. 13
Galveston County MUD No. 44
San Leon MUD
Tara Glen MUD
GC Navigation District No. 1
WCID No. 1
WCID No. 12
WCID No. 19
Westwood Management District

11/01/2022 14:42:55 4124106
TC298-D SELECTION: DEPOSIT
RECEIPT DATE: ALL
LOCATION: ALL

TAX COLLECTION SYSTEM
DEPOSIT DISTRIBUTION
FROM: 10/01/2022 THRU 10/31/2022
JURISDICTION: 0337 FRIENDWD CITY

PAGE: 31
INCLUDES AG ROLLBACK

YEAR	FUND	TAX RATE	LEVY PAID	DISCOUNT GIVEN	PENALTY INTEREST	TIF AMOUNT	DISBURSE TOTAL	ATTORNEY	OTHER FEES	REFUND AMOUNT	PAYMENT AMOUNT
2022	M & O	.388560	297,943.89	.00	.00	.00	297,943.89	.00	.00	.00	297,943.89
	I & S	.098754	75,723.44	.00	.00	.00	75,723.44	.00	.00	.00	75,723.44
	TOTAL	.487314	373,667.33	.00	.00	.00	373,667.33	.00	.00	.00	373,667.33
2021	M & O	.385147	4,221.00-	.00	3,302.21	.00	918.79-	4,040.43	.00	.00	3,121.64
	I & S	.102167	1,119.72-	.00	876.03	.00	243.69-	.00	.00	.00	243.69-
	TOTAL	.487314	5,340.72-	.00	4,178.24	.00	1,162.48-	4,040.43	.00	.00	2,877.95
2020	M & O	.392153	5,133.08-	.00	436.29	.00	4,696.79-	425.50	.00	.00	4,271.29-
	I & S	.095161	1,245.62-	.00	105.86	.00	1,139.76-	.00	.00	.00	1,139.76-
	TOTAL	.487314	6,378.70-	.00	542.15	.00	5,836.55-	425.50	.00	.00	5,411.05-
2019	M & O	.432160	2,691.45-	.00	49.25	.00	2,642.20-	40.27	.00	.00	2,601.93-
	I & S	.089279	556.02-	.00	10.17	.00	545.85-	.00	.00	.00	545.85-
	TOTAL	.521439	3,247.47-	.00	59.42	.00	3,188.05-	40.27	.00	.00	3,147.78-
2018	M & O	.437173	584.09	.00	332.35	.00	916.44	223.20	.00	.00	1,139.64
	I & S	.095218	127.23	.00	72.38	.00	199.61	.00	.00	.00	199.61
	TOTAL	.532391	711.32	.00	404.73	.00	1,116.05	223.20	.00	.00	1,339.25
2006	M & O	.512000	236.85	.00	299.62	.00	536.47	65.17	.00	.00	601.64
	I & S	.070100	32.43	.00	41.02	.00	73.45	.00	.00	.00	73.45
	TOTAL	.582100	269.28	.00	340.64	.00	609.92	65.17	.00	.00	675.09
2005	M & O	.524300	111.11	.00	153.89	.00	265.00	34.05	.00	.00	299.05
	I & S	.079700	16.89	.00	23.39	.00	40.28	.00	.00	.00	40.28
	TOTAL	.604000	128.00	.00	177.28	.00	305.28	34.05	.00	.00	339.33
ALL	M & O		286,830.41	.00	4,573.61	.00	291,404.02	4,828.62	.00	.00	296,232.64
ALL	I & S		72,978.63	.00	1,128.85	.00	74,107.48	.00	.00	.00	74,107.48
ALL	TOTAL		359,809.04	.00	5,702.46	.00	365,511.50	4,828.62	.00	.00	370,340.12
DLQ	M & O		11,113.48-	.00	4,573.61	.00	6,539.87-	4,828.62	.00	.00	1,711.25-
DLQ	I & S		2,744.81-	.00	1,128.85	.00	1,615.96-	.00	.00	.00	1,615.96-
DLQ	TOTAL		13,858.29-	.00	5,702.46	.00	8,155.83-	4,828.62	.00	.00	3,327.21-
CURR	M & O		297,943.89	.00	.00	.00	297,943.89	.00	.00	.00	297,943.89
CURR	I & S		75,723.44	.00	.00	.00	75,723.44	.00	.00	.00	75,723.44
CURR	TOTAL		373,667.33	.00	.00	.00	373,667.33	.00	.00	.00	373,667.33

11/01/2022 14:41:38
TC298-N SELECTION: DEPOSIT

4124106

TAX COLLECTION SYSTEM
DEPOSIT DISTRIBUTION
SUMMARY OF PAYMENTS AND REVERSALS
FROM: 10/01/2022 THRU 10/31/2022
JURISDICTION: 337 FRIENDMD CITY

PAGE: 20
INCLUDES AG ROLLBACK

YEAR DEPOSIT	ACCOUNT NUMBER	EFF YR/MO	LEVY PAID	DISCOUNT GIVEN	PENALTY INTEREST	ATTORNEY CAUSE /REV	REFUND AMOUNT	PAYMENT AMOUNT
2005 TOTAL			128.00	0.00	177.28	34.05	0.00	339.33
2006 TOTAL			269.28	0.00	340.64	65.17	0.00	675.09
2018 TOTAL			711.32	0.00	404.73	223.20	0.00	1,339.25
2019 TOTAL			141.89	0.00	59.42	40.27	0.00	241.58
2020 TOTAL			1,720.31	0.00	542.42	425.72	0.00	2,688.45
2021 TOTAL			23,014.15	0.00	4,294.29	4,109.77	0.00	31,418.21
2022 TOTAL			373,667.33	0.00	0.00	0.00	0.00	373,667.33
TOTAL PAYMENTS			399,652.28	0.00	5,818.78	4,898.18	0.00	410,369.24
2019 TOTAL			3,389.36-	0.00	0.00	0.00	0.00	3,389.36-
2020 TOTAL			8,099.01-	0.00	0.27-	0.22-	0.00	8,099.50-
2021 TOTAL			28,354.87-	0.00	116.05-	69.34-	0.00	28,540.26-
TOTAL REVERSALS			39,843.24-	0.00	116.32-	69.56-	0.00	40,029.12-
TOTAL FOR UNIT			359,809.04	0.00	5,702.46	4,828.62	0.00	370,340.12

YEAR	DEPOSIT	ACCOUNT NUMBER	EFF YR/MO	LEVY PAID	DISCOUNT GIVEN	PENALTY INTEREST	ATTORNEY CAUSE /REV	REFUND AMOUNT	PAYMENT AMOUNT CAT
2019	RF221018	H330520000003	202001	3,389.36-	0.00	0.00	0.00 HK38	3,389.36	0.00 RF
2019	RF221018	H330520000003	202001	0.00	0.00	0.00	0.00 HK38	3,389.36-	3,389.36-RF
2019 TOTAL				3,389.36-	0.00	0.00	0.00	0.00	3,389.36-
2020	RF221018	10439700000019	202101	5,210.08-	0.00	0.00	0.00 HK26	5,210.08	0.00 RF
2020	RF221018	10439700000019	202101	0.00	0.00	0.00	0.00 HK26	5,210.08-	5,210.08-RF
2020	RF221018	10632200000013	202012	0.00	0.00	0.00	0.00 HK26	173.56-	173.56-RF
2020	RF221018	10632200000013	202012	173.56-	0.00	0.00	0.00 HK26	173.56	0.00 RF
2020	RF221018	10847300000002	202012	0.00	0.00	0.00	0.00 HK26	24.36-	24.36-RF
2020	RF221018	10847300000002	202012	0.00	0.00	0.00	0.00 HK26	24.36-	24.36-RF
2020	RF221018	10847300000002	202012	24.36-	0.00	0.00	0.00 HK26	24.36	0.00 RF
2020	RF221018	11988300100001	202101	0.00	0.00	0.00	0.00 HK26	206.82-	206.82-RF
2020	RF221018	11988300100001	202101	206.82-	0.00	0.00	0.00 HK26	206.82	0.00 RF
2020	RF221018	11988300200001	202101	2,199.61-	0.00	0.00	0.00 HK26	2,199.61	0.00 RF
2020	RF221018	11988300200001	202101	0.00	0.00	0.00	0.00 HK26	2,199.61-	2,199.61-RF
2020	RF221018	11988300200001	202101	0.00	0.00	0.00	0.00 HK26	283.75	0.00 RF
2020	RF221018	12002700100010	202101	283.75-	0.00	0.00	0.00 HK26	283.75-	283.75-RF
2020	RF221018	12002700100010	202101	0.00	0.00	0.00	0.00 HK26	283.75-	283.75-RF
2020	924101822PHC	H0882161	202210	0.83-	0.00	0.27-	0.22-CERT	0.00	1.32-TR
2020 TOTAL				8,099.01-	0.00	0.27-	0.22-	0.00	8,099.50-
2021	RF221018	10041000000010	202112	658.31-	0.00	0.00	0.00 HK14	658.31	0.00 RF
2021	RF221018	10041000000010	202112	0.00	0.00	0.00	0.00 HK14	658.31-	658.31-RF
2021	RF221018	10223600000008	202112	88.11-	0.00	0.00	0.00 HK14	88.11	0.00 RF
2021	RF221018	10223600000008	202112	0.00	0.00	0.00	0.00 HK14	88.11-	88.11-RF
2021	RF221018	10439700000019	202201	15,041.30-	0.00	0.00	0.00 HK14	15,041.30	0.00 RF
2021	RF221018	10439700000019	202201	0.00	0.00	0.00	0.00 HK14	15,041.30-	15,041.30-RF
2021	RF221018	10632200000013	202112	0.00	0.00	0.00	0.00 HK14	221.81-	221.81-RF
2021	RF221018	10632200000013	202112	221.81-	0.00	0.00	0.00 HK14	221.81	0.00 RF
2021	RF221018	11988300100001	202201	0.00	0.00	0.00	0.00 HK14	196.46-	196.46-RF
2021	RF221018	11988300100001	202201	196.46-	0.00	0.00	0.00 HK14	196.46	0.00 RF
2021	RF221018	11988300200001	202201	0.00	0.00	0.00	0.00 HK14	2,117.42-	2,117.42-RF
2021	RF221018	11988300200001	202201	2,117.42-	0.00	0.00	0.00 HK14	2,117.42	0.00 RF
2021	RF221018	12002700100010	202201	371.90-	0.00	0.00	0.00 HK14	371.90	0.00 RF
2021	RF221018	12002700100010	202201	0.00	0.00	0.00	0.00 HK14	371.90-	371.90-RF
2021	902101322T	186282	202210	123.06-	0.00	11.08-	0.00 CERT	0.00	134.14-TR
2021	902101322T	186282	202210	140.53-	0.00	15.46-	0.00 CERT	0.00	155.99-TR
2021	902101322T	186282	202210	135.85-	0.00	17.66-	30.70-CERT	0.00	184.21-TR
2021	902101322T	200730	202210	78.21-	0.00	7.04-	0.00 CERT	0.00	85.25-TR
2021	902101322T	200730	202210	78.23-	0.00	8.61-	0.00 CERT	0.00	86.84-TR
2021	902101322T	200730	202210	70.48-	0.00	9.16-	15.93-CERT	0.00	95.57-TR
2021	902101322T	203442	202210	106.45-	0.00	9.58-	0.00 CERT	0.00	116.03-TR
2021	902101322T	203442	202210	106.47-	0.00	11.71-	0.00 CERT	0.00	118.18-TR

11/01/2022 14:41:38
TC298-M SELECTION: DEPOSIT

4124106

TAX COLLECTION SYSTEM
DEPOSIT DISTRIBUTION
REVERSALS DETAIL SCHEDULE
FROM: 10/01/2022 THRU 10/31/2022
JURISDICTION: 337 FRIENDMD CITY

PAGE: 40
INCLUDES AG ROLLBACK

YEAR DEPOSIT	ACCOUNT NUMBER	EFF YR/MO	LEVY PAID	DISCOUNT GIVEN	PENALTY INTEREST	ATTORNEY CAUSE /REV	REFUND AMOUNT	PAYMENT AMOUNT CAT
2021 902101322T	203442	202210	100.48-	0.00	13.06-	22.71-CERT	0.00	136.25-TR
2021 924101822PHC	218861	202209	84.60-	0.00	12.69-	0.00 CERT	0.00	97.29-RT
2021 RF221012	608898	202201	0.00	0.00	0.00	0.00 CERT	8,635.20-	8,635.20-RF
2021 RF221012	608898	202201	8,635.20-	0.00	0.00	0.00 CERT	8,635.20	0.00 RF
2021 TOTAL			28,354.87-	0.00	116.05-	69.34-	0.00	28,540.26-
TOTAL REVERSALS			39,843.24-	0.00	116.32-	69.56-	0.00	40,029.12-

11/02/2022 09:54:3 4124766
TC168

TAX COLLECTION SYSTEM
TAX COLLECTOR MONTHLY REPORT
FROM 08/01/2022 TO 10/31/2022

INCLUDES AG ROLLBACK

PAGE: 19

FISCAL START: 08/01/2022 END: 07/31/2023 JURISDICTION: 0337 FRIENDWD CITY

	CERT TAXABLE VALUE	ADJUSTMENTS	ADJ TAX VALUE	TAX RATE	TAX LEVY	PAID ACCTS
CURRENT YEAR	4,778,686,394	108,101,181	4,886,787,575	00.487314	22,734,661.05	1,551

YEAR	TAXES DUE	MONTH ADJ	ADJUSTMENT YTD	LEVY PAID	PAID YTD	BALANCE	COLL %	YTD UNCOLL
2022	22,218,569.13	516,091.92	516,091.92	373,667.33	373,667.33	22,360,993.72	1.64	0.00
2021	183,112.68	35,969.67-	35,969.67-	49,606.92	49,606.92	97,536.09	33.71	0.00
2020	40,724.70	24,063.06-	24,063.06-	21,514.93-	21,514.93-	38,176.57	29.13-	0.00
2019	31,463.95	10,298.44-	10,298.44-	5,743.74-	5,743.74-	26,909.25	27.14-	0.00
2018	20,734.77	10.59-	10.59-	3,661.72	3,661.72	17,062.46	17.67	0.00
2017	13,655.17	.00	0.00	12.53	12.53	13,642.64	.09	0.00
2016	12,123.04	.00	0.00	0.00	0.00	12,123.04		0.00
2015	11,833.72	.00	0.00	0.00	0.00	11,833.72		0.00
2014	12,474.54	.00	0.00	0.00	0.00	12,474.54		0.00
2013	9,677.98	.00	0.00	0.00	0.00	9,677.98		0.00
2012	9,566.41	.00	0.00	0.00	0.00	9,566.41		0.00
2011	6,897.31	.00	0.00	0.00	0.00	6,897.31		0.00
2010	3,613.44	.00	0.00	0.00	0.00	3,613.44		0.00
2009	5,164.80	.00	0.00	0.00	0.00	5,164.80		0.00
2008	4,281.97	.00	0.00	0.00	0.00	4,281.97		0.00
2007	1,321.11	.00	0.00	0.00	0.00	1,321.11		0.00
2006	2,707.18	.00	0.00	269.28	269.28	2,437.90	9.95	0.00
2005	1,298.61	.00	0.00	128.00	128.00	1,170.61		0.00
2004	640.47	.00	0.00	0.00	0.00	640.47		0.00
2003	647.12	.00	0.00	0.00	0.00	647.12		0.00
2002	512.76	.00	0.00	0.00	0.00	512.76		0.00
2001	263.32	.00	0.00	0.00	0.00	263.32		0.00
****	22,591,284.18	445,750.16	445,750.16	400,087.11	400,087.11	22,636,947.23		0.00

11/02/2022 09:27:0 4124766
TCL60

ALL PROPERTY

TAX COLLECTION SYSTEM
SUPPLEMENTAL / ADJUSTMENT CONTROL TOTALS
FOR TAX YEAR: 2022
JURISDICTION: 0337 FRIENDWD CITY

PAGE: 206
INCLUDES AG ROLBACK

	CERTIFIED ROLL -----	ROLL AS OF 08/01/2022 -----	SUPPLEMENTALS THIS PERIOD -----	ADJUSTMENTS THIS PERIOD -----	NET CHANGE THIS PERIOD -----	ROLL AS OF 10/31/2022 -----
LAND VALUE	6,593,325,295	6,593,325,295	39,858,899	0	39,858,899	6,633,184,194
AG EXCLUSION	32,486,183	32,486,183	204,746	0	204,746	32,690,929
IMPROVEMENTS	873,775,097	873,775,097	121,398,030	34,740,592-	86,657,438	960,432,535
APPRAISED VALUE	6,593,325,295	6,593,325,295	161,256,929	34,740,592-	126,516,337	6,719,841,632
EXEMPTIONS	1,782,152,718	1,782,152,718	39,073,458	20,658,302-	18,415,156	1,800,567,874
TAXABLE VALUE	4,778,686,394	4,778,686,394	122,183,471	14,082,290-	108,101,181	4,886,787,575
LEVY	22,218,569.13	22,218,569.13	581,828.60	65,736.68-	516,091.92	22,734,661.05
UNCOLLECTIBLE	.00	.00	.00	.00	.00	.00
RECEIVABLE					.00	
EXEMPTION COUNTS:						
HOMESTEADS	10,595	10,595	244	31	31	10,626
OVER 65	3,475	3,475	63	12	12	3,487
DISABLED	180	180	4	0	0	180
VETERAN	253	253	8	1	1	254
TOTAL EXEMPT	84	84	0	0	0	84

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TC160

ALL PROPERTY

TAX COLLECTION SYSTEM
SUPPLEMENTAL / ADJUSTMENT CONTROL TOTALS
FOR TAX YEAR: 2021
JURISDICTION: 0337 FRIENDWD CITY

PAGE: 207
INCLUDES AG ROLLBACK

	CERTIFIED ROLL	ROLL AS OF 08/01/2022	SUPPLEMENTALS THIS PERIOD	ADJUSTMENTS THIS PERIOD	NET CHANGE THIS PERIOD	ROLL AS OF 10/31/2022
LAND VALUE	5,827,810,207	5,827,810,207	0	0	0	5,827,810,207
AG EXCLUSION	33,691,313	33,691,313	0	0	0	33,691,313
IMPROVEMENTS	775,157,465	775,157,465	0	6,525,418-	6,525,418-	768,632,047
APPRAISED VALUE	5,827,810,207	5,827,810,207	0	6,525,418-	6,525,418-	5,821,284,789
EXEMPTIONS	1,579,451,702	1,579,451,702	0	959,191	959,191	1,580,410,893
TAXABLE VALUE	4,214,667,192	4,214,667,192	0	7,484,609-	7,484,609-	4,207,182,583
LEVY	183,112.68	183,112.68	263.66	36,233.33-	35,969.67-	147,143.01
UNCOLLECTIBLE	.00	.00	.00	.00	.00	.00
RECEIVABLE						
EXEMPTION COUNTS:						
HOMESTEADS	10,298	10,298	0	14	14	10,312
OVER 65	3,255	3,255	0	7	7	3,262
DISABLED	181	181	0	0	0	181
VETERAN	240	240	0	1	1	241
TOTAL EXEMPT	84	84	0	0	0	84

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TC160

ALL PROPERTY

TAX COLLECTION SYSTEM
SUPPLEMENTAL / ADJUSTMENT CONTROL TOTALS
FOR TAX YEAR: 2020
JURISDICTION: 0337 FRIENDMD CITY

PAGE: 208
INCLUDES AG ROLLBACK

	CERTIFIED ROLL	ROLL AS OF 08/01/2022	SUPPLEMENTALS THIS PERIOD	ADJUSTMENTS THIS PERIOD	NET CHANGE THIS PERIOD	ROLL AS OF 10/31/2022
LAND VALUE	5,043,274,252	5,043,274,252	0	0	0	5,043,274,252
AG EXCLUSION	27,337,308	27,337,308	0	0	0	27,337,308
IMPROVEMENTS	706,413,340	706,413,340	544,805	4,707,499-	4,162,694-	702,250,646
APPRAISED VALUE	5,043,274,252	5,043,274,252	544,805	4,707,499-	4,162,694-	5,039,111,558
EXEMPTIONS	1,218,139,975	1,218,139,975	491,387	327,988	819,375	1,218,959,350
TAXABLE VALUE	3,797,796,969	3,797,796,969	53,418	5,035,487-	4,982,069-	3,792,814,900
LEVY	40,724.70	40,724.70	260.31	24,323.37-	24,063.06-	16,661.64
UNCOLLECTIBLE	.00	.00	.00	.00	.00	.00
RECEIVABLE					.00	
EXEMPTION COUNTS:						
HOMESTEADS	10,220	10,220	0	7	7	10,227
OVER 65	3,163	3,163	0	4	4	3,167
DISABLED	182	182	0	0	0	182
VETERAN	221	221	0	2	2	223
TOTAL EXEMPT	80	80	0	0	0	80

ALL PROPERTY

TAX COLLECTION SYSTEM
SUPPLEMENTAL / ADJUSTMENT CONTROL TOTALS
FOR TAX YEAR: 2019
JURISDICTION: 0337 FRIENDWD CITY

PAGE: 209
INCLUDES AG ROLLBACK

	CERTIFIED ROLL	ROLL AS OF 08/01/2022	SUPPLEMENTS THIS PERIOD	ADJUSTMENTS THIS PERIOD	NET CHANGE THIS PERIOD	ROLL AS OF 10/31/2022
LAND VALUE	4,537,437,822	4,537,437,822	0	0	0	4,537,437,822
AG EXCLUSION	24,683,691	24,683,691	0	0	0	24,683,691
IMPROVEMENTS	645,931,872	645,931,872	0	2,183,270-	2,183,270-	643,748,602
APPRAISED VALUE	4,537,437,822	4,537,437,822	0	2,183,270-	2,183,270-	4,535,254,552
EXEMPTIONS	1,018,439,121	1,018,439,121	0	111,429-	111,429-	1,018,327,692
TAXABLE VALUE	3,494,315,010	3,494,315,010	0	2,071,841-	2,071,841-	3,492,243,169
LEVY	31,463.95	31,463.95	*00	10,298.44-	10,298.44-	21,165.51
UNCOLLECTIBLE	.00	.00	*00	.00	*00	.00
RECEIVABLE					.00	
EXEMPTION COUNTS:						
HOMESTEADS	10,000	10,000	0	0	0	10,000
OVER 65	2,975	2,975	0	0	0	2,975
DISABLED	181	181	0	0	0	181
VETERAN	205	205	0	0	0	205
TOTAL EXEMPT	74	74	0	0	0	74

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TC160

ALL PROPERTY

TAX COLLECTION SYSTEM
SUPPLEMENTAL / ADJUSTMENT CONTROL TOTALS
FOR TAX YEAR: 2018
JURISDICTION: 0337 FRIENDMD CITY

PAGE: 210
INCLUDES AG ROLLBACK

	CERTIFIED ROLL	ROLL AS OF 08/01/2022	SUPPLEMENTALS THIS PERIOD	ADJUSTMENTS THIS PERIOD	NET CHANGE THIS PERIOD	ROLL AS OF 10/31/2022
LAND VALUE	4,207,374,518	4,207,374,518	0	0	0	4,207,374,518
AG EXCLUSION	23,842,910	23,842,910	0	0	0	23,842,910
IMPROVEMENTS	617,900,409	617,900,409	0	1,990-	1,990-	617,898,419
APPRAISED VALUE	4,207,374,518	4,207,374,518	0	1,990-	1,990-	4,207,372,528
EXEMPTIONS	891,117,422	891,117,422	0	0	0	891,117,422
TAXABLE VALUE	3,292,414,186	3,292,414,186	0	1,990-	1,990-	3,292,412,196
LEVY	20,734.77	20,734.77	.00	10.59-	10.59-	20,724.18
UNCOLLECTIBLE	.00	.00	.00	.00	.00	.00
RECEIVABLE					.00	
EXEMPTION COUNTS:						
HOMESTEADS	10,001	10,001	0	0	0	10,001
OVER 65	2,897	2,897	0	0	0	2,897
DISABLED	0	0	0	0	0	0
VETERAN	204	204	0	0	0	204
TOTAL EXEMPT	0	0	0	0	0	0

Summary of Jurisdiction Remittances Processed Property Tax File

For Remitted Deposit Dates 10/01/2022 thru 10/31/2022 as of 11/02/2022

Report run on: November 2, 2022 5:02 PM

Tax Unit		M & O Total	I & S Total	TIF Levy	TIF Interest	Fee Total	Total
337 FRIENDWD CITY							
ACH 78434	Print Date:10/05/2022						
	Delq	402.15	393.10	0.00	0.00	0.00	795.25
Last Deposit Date	10/04/2022	\$402.15	\$393.10	\$0.00	\$0.00	\$0.00	\$795.25
ACH 78473	Print Date:10/11/2022						
	Current	6,746.76	1,714.64	0.00	0.00	0.00	8,461.40
	Delq	1,717.60	455.63	0.00	0.00	0.00	2,173.23
Last Deposit Date	10/06/2022	\$8,464.36	\$2,170.27	\$0.00	\$0.00	\$0.00	\$10,634.63
ACH 78513	Print Date:10/14/2022						
	Current	18,310.27	4,653.64	0.00	0.00	0.00	22,963.91
	Delq	(5,274.45)	(1,399.17)	0.00	0.00	0.00	(6,673.62)
Last Deposit Date	10/13/2022	\$13,035.82	\$3,254.47	\$0.00	\$0.00	\$0.00	\$16,290.29
ACH 78557	Print Date:10/18/2022						
	Current	10,902.66	2,770.95	0.00	0.00	0.00	13,673.61
	Delq	16.41	3.39	0.00	0.00	0.00	19.80
Last Deposit Date	10/17/2022	\$10,919.07	\$2,774.34	\$0.00	\$0.00	\$0.00	\$13,693.41
ACH 78659	Print Date:10/25/2022						
	Current	20,454.39	5,198.56	0.00	0.00	0.00	25,652.95
	Delq	(13,523.09)	(3,373.96)	0.00	0.00	0.00	(16,897.05)
Last Deposit Date	10/21/2022	\$6,931.30	\$1,824.60	\$0.00	\$0.00	\$0.00	\$8,755.90
ACH 78699	Print Date:10/25/2022						
	Current	23,684.51	6,019.49	0.00	0.00	0.00	29,704.00
	Delq	178.99	47.49	0.00	0.00	0.00	226.48
Last Deposit Date	10/24/2022	\$23,863.50	\$6,066.98	\$0.00	\$0.00	\$0.00	\$29,930.48
ACH 78740	Print Date:10/26/2022						
	Current	18,979.10	4,823.63	0.00	0.00	0.00	23,802.73
	Delq	1,844.47	452.42	0.00	0.00	0.00	2,296.89
Last Deposit Date	10/25/2022	\$20,823.57	\$5,276.05	\$0.00	\$0.00	\$0.00	\$26,099.62
ACH 78783	Print Date:10/27/2022						
	Current	50,283.79	12,779.81	0.00	0.00	0.00	63,063.60
	Delq	3,580.07	910.46	0.00	0.00	0.00	4,490.53
Last Deposit Date	10/26/2022	\$53,863.86	\$13,690.27	\$0.00	\$0.00	\$0.00	\$67,554.13
ACH 78830	Print Date:11/02/2022						
	Current	148,582.41	37,762.72	0.00	0.00	0.00	186,345.13
	Delq	1,421.62	377.12	0.00	0.00	0.00	1,798.74
Last Deposit Date	10/31/2022	\$150,004.03	\$38,139.84	\$0.00	\$0.00	\$0.00	\$188,143.87
Total:		\$288,307.66	\$73,589.92	\$0.00	\$0.00	\$0.00	\$361,897.58

FRIENDSWOOD CITY COUNCIL AGENDA ITEM FORM

This form should be completed and forwarded to the City Manager's Office as soon as possible prior to the first date that the item is expected to be placed on the Friendswood City Council agenda.

Date requested for City Council consideration: December 5, 2022

Date submitted: 11/07/2022

Prepared by: Glenda Faulkner, Executive Secretary

Subject: Consider approving the minutes of the City Council Regular Meeting held on November 7, 2022.

Originating Department: City Secretary

Degree of importance:

SUMMARY / ORIGINATING CAUSE

IMMINENT CONSEQUENCES / BENEFIT TO COMMUNITY

RECOMMENDATIONS

ATTACHMENTS

1. November 11, 2022, CC Meeting Draft Minutes

**MINUTES OF THE REGULAR MEETING OF THE
CITY COUNCIL OF THE CITY OF FRIENDSWOOD
NOVEMBER 7, 2022**

THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD MET IN A REGULAR MEETING ON MONDAY, NOVEMBER 7, 2022, AT 6:00 P.M. IN THE COUNCIL CHAMBERS, FRIENDSWOOD CITY HALL, LOCATED AT 910 S. FRIENDSWOOD DRIVE, FRIENDSWOOD, TEXAS, WITH THE FOLLOWING MEMBERS PRESENT CONSTITUTING A QUORUM:

Trish Hanks	Councilmember
Steve Rockey	Councilmember
Sally Branson	Councilmember
Robert J. Griffon	Councilmember
John Scott	Councilmember
Brent Erenwert	Mayor Pro Tem
Mike Foreman	Mayor
Morad Kabiri	City Manager
Karen Horner	City Attorney
Leticia Brysch	City Secretary

1. CALL TO ORDER

Mayor Foreman called the meeting to order with a quorum present at 6:00 P.M.; all members were present.

2. INVOCATION

The invocation was led by City Manager Morad Kabiri.

3. PLEDGE OF ALLEGIANCE - United States and State of Texas

Mayor Foreman led the Pledge of Allegiance of the United States and the Pledge to the State of Texas.

4. COUNCIL FOR A DAY

A. Consider a proclamation declaring November 8, 2022, as Westwood Elementary School Day in the City of Friendswood.

Mayor Foreman introduced the students and teachers from Westwood Elementary. He noted that the Council for a Day Program allows for second graders from the three elementary schools in Friendswood to “take over” the council dais and sit-in for the council and staff members. The participants included the following:

Position	Student Name	Teacher Name
Councilmember 1 (Rockey)	Hunter Foley	Kelli Rye
Councilmember 2 (Branson)	Robert McRae	Teresa Waltenbaugh

Councilmember 3 (Hanks)	Eisa Khan	Darian Register
Mayor (Foreman)	Kiley Palomo	Melissa Comer
Councilmember 4 (Griffon)	Emma Ydrogo	Madeline Owen
Councilmember 5 (Scott)	Lyla Liufau	Leigha Trahan
Councilmember 6 (Erenwert)	Ryan Inman	Pamela Kutz
City Attorney (Horner)	Gabe Johnson	Lexie Compton

A motion was made by Councilmember Hunter Foley (Steve Rockey) and seconded by Councilmember Robert McRea (Sally Branson) proclaiming November 8, 2022, as Westwood Elementary School Day in the City of Friendswood. The vote was the following:

Ayes: Mayor Kiley Palomo (Mike Foreman), Councilmember Eisa Khan (Trish Hanks), Councilmember Hunter Foley (Steve Rockey), Councilmember Robert McRae (Sally Branson), Councilmember Emma Ydrogo (Robert J. Griffon), Councilmember Lyla Liufau (John Scott) and Mayor Pro Tem Ryan Inman (Brent Erenwert).

Nays: None.

The item passed unanimously.

Mayor Foreman recessed the meeting at 6:12 p.m. for the Council for a Day reception.

Mayor Foreman reconvened the meeting at 6:23 p.m.

5. COUNCIL COMMENTS AND REPORTS

Mayor Foreman thanked Councilmember Hanks and Ms. Gina Hunt, the Friendswood Crime Victim's Liaison for volunteering to serve on the planning committee for Human Trafficking Prevention Event that took place on Friday, November 4, 2022, at the Lonestar Flight Museum at Ellington Airfield. Councilmember Hanks thanked everyone that attended and noted that the City of Houston is one of the worst cities in the country for human trafficking. She stated that the event was well attended and very informative and asked everyone to become aware of the terrible things that are happening in the cities surrounding Friendswood. Councilmember Hanks also reminded everyone of the Fall Haul event scheduled for Saturday, November 12, 2022 at Centennial Park from 8:00 a.m. to 2:00 p.m. This is a yearly event that includes shredding of documents, a garage sale and recycling event.

Councilmember Branson stated that the CEDC will be hosting the FDEDC and Chamber of Commerce in a joint meeting in order for these groups to share ideas and information regarding what each is doing for economic development in the City. She also extended her thanks to the City Secretary's Office and the Library for helping to host a town hall meeting for the 2045 H-GAC Transportation Plan, that was also well attended and gave the public an opportunity to give their input on this very important topic.

Councilmember Rockey stated that at the Library, the Cadenza String Quartet, which is a local area group made up of intermediate students, will play classical music for the patrons on November 17th at 7:00 p.m.

He also noted that the Friends of the Library, will hold its Annual Book Sale, December 1-3, 2022, and all proceeds will go to support the Friends of the Library events. Lastly, Santa will be at the Library on December 5, 2022.

Councilmember Scott reminded everyone that tomorrow is Election Day and encouraged everyone to vote. He stated that the polling locations in the City of Friendswood for Galveston County were going to be at the Green Event Center and Chamber of Commerce.

Councilmember Griffon stated that the Senior Activity Center will be holding a Veteran's Event on November 14th and welcomed everyone to attend.

6. PUBLIC COMMENT

Mr. David Allen requested to speak before the Council regarding his concerns of the country's history and ability to continue self-governance as well as an overview of the Declaration of Independence and its verbiage against slavery.

Mr. Don Johnson requested to speak before the Council regarding the new information packets from the Galveston County Subsidence District which gave a high-level overview of the subsidence district. Mr. Johnson also thanked the City for completing the interlocal agreement for the FM 1959 Detention Basin Project and stated that he would continue to support any endeavor that will help with flooding issues.

Mr. Mike Unbehagen requested to speak before the Council regarding agenda item 9.D. regarding the awarding of the Blackhawk Facility Renovation Project (CSP 2022-17) and noted that he was the lowest bidder and was not selected as the contractor for this project. He noted that as a resident of Friendswood he requested that the Council postpone the vote on this item and allow time for a thorough review of the bids and the selection process.

Mr. Heru El-Bey, formerly known as Brenten Dietrich requested to speak to the Council regarding his recent move from the City of Alvin to the City of Friendswood and noted that as a retired marine, and master plumber, he really loves the city and its amenities. Mr. El-Bey also voiced his concerns regarding the laws and constitution as they relate to his right to travel in the city, the court system, traitors, oath breakers and legal interpretations.

7. WORK SESSION TOPICS

A. Receive and discuss an update regarding utility rates.

Director of Administrative Services Katina Hampton presented the item and stated she would be giving Council an overview of (1) a utility bill comparison to Friendswood's immediate neighboring cities, (2) the City's historical water and sewer revenues and expenditures and the status of the automated meter infrastructure project, each of the comparisons shows a one-inch, the bi-monthly bill would be on a one-inch meter using the city-wide average of about 20,000 gallons on a bi-monthly bill or 10,000 gallons per billing.

We'll begin our comparison with the City of Pearland. Like Friendswood, Pearland rates include a minimum charge, and then also it compares or has a consumption charge based on tiers, and it's per thousand gallons. In comparison were the following:

- For the City of Pearland, if they were on the bi-monthly bill, like Friendswood, their bi-monthly bill would be about \$398.62, so almost \$400 compared to the City of Friendswood's \$226.00 bi-monthly bill, which is almost 76% more.
- As it relates to the City of League City, their bi-monthly bill is about \$278.97, so almost \$280.00 compared to Friendswood's \$226, which is about 23% more.
- For the City of Alvin, their base charge includes a couple of additional fees that Friendswood does not include, such as (1) a groundwater district fee and (2) a TCEQ fee, that's included in their base charge, along with their tiered-consumption break chart per thousand gallons, their bi-monthly bill, would be about \$289 compared to Friendswood's \$226 bill, or 27% more.
- The City of Webster is the only one of the immediate neighboring cities that has a lower utility bill than Friendswood on a bi-monthly bill. Webster has a minimum rate charge that it is based on water meter size with a tiered consumption based on a thousand gallons, per thousand gallons. Their bi-monthly bill would be just under \$200.00 compared to Friendswood's \$226 bill, so, about \$30 dollars less.

Ms. Hampton then looked at the City's historical utility revenues and expenditure and noted that the utility rates charged are enterprise funds, which means they are self-supporting. In other words, the rates charged go to support of the City's utility operations; i.e., salary and wages for staff in the Public Works Department and the Utility Billing Division, along with some administrative transfers to the General Fund budget, along with other utility expenditures such as, utility infrastructure, capital improvements, and the debt service related to utility capital projects.

In looking back six years, the City's water side has had a net gain from FY2016 to the present; however, for the last few years, the City's water utility side has been supplementing the sewer side, which is the reason that after the utility rates study, there was a large increase in the City's utility rates related to the sewer fund. Mayor Foreman asked why there was such a large jump in the number related to sewer operations expenditures in the estimated FY2022, because six million seems much larger than prior years. Ms. Hampton noted that this number includes some prior year encumbrances for some large operational expenditures; such as, an increase in the contracts for the City's wastewater treatment plant as well as the contract to purchase water from the City of Houston. City Manager Morad Kabiri expanded on Ms. Hampton's comments and noted that the City is a part of a regional partnership with three other entities in the Gulf Coast Authority at the Blackhawk Facility on West Bay Area Boulevard. He noted that the City has capacity within that plant of roughly 56% of the plant's capacity; however, the City is billed based on the actual volume of water that goes through the plant and as this is an older system, during heavy rainfall events, the plant is inundated, so even though the City has 56% capacity in the plant, it will still be billed two-thirds of the operational cost for that month, should the City actually send that much water to the system.

Ms. Hampton noted that the automated meter infrastructure project is moving along and as of October 25th, the project is almost 95% complete with the meter installation. She stated that there are less than a thousand meters to go, and the hope is that this project will be completed at the end of December. There

are some issues, which the Public Works Department has and is working through as the project progresses; i.e., meters that have to be moved out of sidewalks and tree roots in meter boxes.

Ms. Hampton noted that the Neptune 360 City Portal is the system that is being used to record meter readings from towers and that will calculate the City's monthly or bi-monthly billing process. So as the data is collected, the staff will generate the bills, which can then be accessed and paid by the end user in the Water-Smart Self-Service Customer Portal. This external facing application will allow customers to login and see their usage, and consumption in real time which can help identify leaks or other issues that need to be addressed. Ms. Hampton stated that the staff has implemented a pilot program for the use of this application with internal staff to test and identify issues prior to being rolled out to the public in December.

Ms. Hampton stated that moving forward the staff will explore the possibility of transitioning from a bi-monthly utility billing to a monthly billing and staff anticipates that there will be savings from the current meter-reading service that could help offset any costs associated with a transition to monthly billing. She noted that the Engineering Department is working on updating the City's Capital Improvement Plan, which will help identify future utility projects and their estimated costs. She estimated that the update would be looking at about \$40 million in projects and \$45 million in projects beyond the five-year window. Lastly, Ms. Hampton noted that as the City nears the end of its current five-year utility rate recommendations from 2018. The last study was completed in 2018 and staff will need to look at undertaking another utility rate study to ensure that the rates are adequate to cover the operational cost, any capital needs, and debt service obligations related to utilities.

Councilmember Rockey commented that the Water-Smart app helped him identify that one of his sprinklers was running way too much and increasing his consumption significantly. The hour-by-hour data from the app is very helpful and worth it.

Councilmember Griffon stated that moving forward, especially with a rate study or anything similar, that staff provide empirical evidence that these digital meters are actually going to be collecting more revenue to meet the estimated revenue amounts adopted in the budget, and the sooner that Council gets that information, the better, so that Council can explore changing the utility rates for the residents. Mr. Kabiri noted that staff will get the requested empirical data; however, it is a little too early, as this has been one of the driest summers in nearly a decade, so a lot of the data collected, even though it's not all on automated meters, is based on people using more water this year than they had in the prior year simply because of how dry it's been. Once the five-year window is completed, there are a multitude of projects in the wings that must be completed to ensure that Friendswood does not become a Flint, Michigan or a Jackson, Mississippi.

Council thanked the staff for the presentation.

B. Receive and discuss an update regarding the Capital Improvement Projects.

Director of Engineering Jil Arias presented the item and presented the following updates on the City's Capital Improvement Projects:

- As it relates to the Fire Station #2 Project, it is at a half-way point, and it looks on target to meet its completion project date of May 2023.
- The Public Safety Building Expansion Project is a little further along than the Fire Station #2 Project as it is three-quarters of the way completed and has an estimated completion date of April 2023.
- The Blackhawk Facility Renovation and Shelter is also moving along with the main facility construction contract setup for approval later on in the meeting and the shelter component is scheduled for bid in the near future. Mr. Arias noted that this project has to be broken into two as Public Works and Engineering currently have offices in the area that will be turned into the shelter, so those offices have to be moved before the shelter can be renovated. City Manager Morad Kabiri noted that the construction of shelter component is being funded by grant from the State (GLO) in the amount of about \$900K and they requested that the shelter area be placed in the area that is currently department offices. Mr. Arias further noted that staff has contact the Harris County Community Offices to discuss the increases in the project costs due to higher rates and inflation, and there is conversation happening with the GLO for an additional \$300,000 in grant funding for this item to help offset some of the City's costs on the shelter component.
- The Street Maintenance Program for this year is complete and the stripping contract is substantially complete. He noted that there are some cross walks remaining that should be completed in the next couple of weeks. Staff is currently looking into the next set of streets that will be repaired as funding becomes available. In response to a question from Councilmember Rockey regarding the quick decline of some streets that have been recently repaired such as Chester and Rustic, Mr. Arias noted that this year, the street repairs were being done differently as staff has added geo-technical engineering to review the roads and make appropriate repair recommendations to optimize renovations. This new process replaces the one size fixes all process that was used in the past, so there will be a higher-level repair versus just reclamation. Councilmember Scott requested that if the City is going to spend any money on the repairs of the roads that the staff makes sure that the repairs are what is needed.
- As it relates to the Blackhawk Blvd., Phase II-B Project, this is a joint effort with Harris County, Precinct 2, in which Commissioner Adrian Garcia contributed \$1.2 million for this project. Mr. Arias noted that the project is well under way of re-packaging the project plans and staff hopes to be out for bid on this item in the next couple of months.
- The TxDOT project overview included:
 - The FM 518 Curb & Ramp Project is taking a little bit longer than originally anticipated. The traffic signals have been installed and wired; however, there is a wait on a change order from contractor in order to connect all of the signals in the downtown area together. Additionally, TxDOT is exploring some options in order to replace the brick pavers that are problematic, and while they don't as of yet have a resolution, they are considering various options to include replacing some pavers and/or using concrete stamping.
 - The FM 518/FM 528 Intersection Improvements were requested from TxDOT back in July 2022, which in turn were submitted to the TxDOT Statewide-District Office for review and support as it moved forward to compete for funding across the state. If this project goes through, the improvement would be coming in sometimes in December or early 2023, which could include double turn lanes, right turn lanes, signalization, etc.

Councilmember Griffon inquired about the potential of having a road expansion project for FM 2351 between FM 518 and Sunset as there is a lot of vehicle congestion in that area. Mr. Kabiri noted that this project is still in the long-term plan for the area; however, it is not in the next 10-year window.

Councilmember Hanks asked if the City's population increased to 50,000, would that change anything in relation to the roads in Friendswood. Mr. Kabiri noted that upon reaching that population milestone, Friendswood would automatically be given a seat at the table for H-GAC and would no longer have to rely on TxDOT for road improvements approvals; however, the issue is that this would also make the City responsible for the funding of those road maintenance and improvements projects.

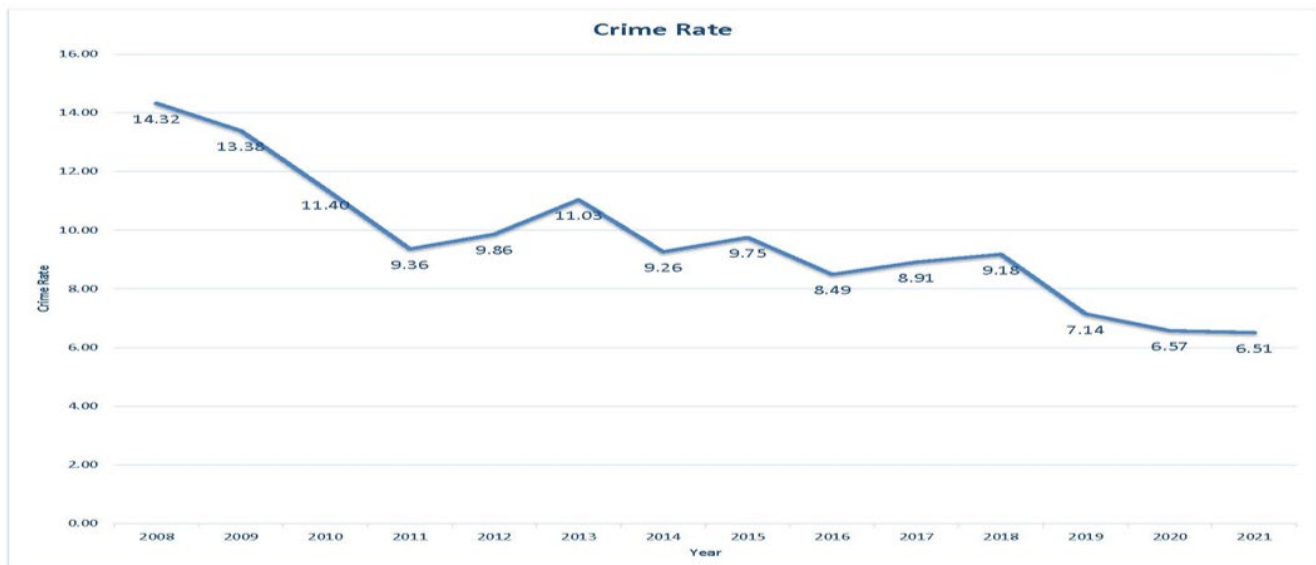
Mayor Foreman thanked Mr. Arias for his report.

C. Receive and discuss an update regarding Police Department staffing.

City Manager Morad Kabiri introduced the item and stated that Police Chief Bob Wieners and Deputy Police Chief Josh Rogers would be giving Council an overview of the police officers staffing ratio plan that would assist them moving forward by creating a force at work issue during the budget process, in order to maintain the City's ratio staffing ratio of 1.56 per 1,000 residents.

Chief Wieners noted that his presentation was being given for informational purposes only and he was not going Council for any action. He noted that the PD went live with its new software, and while not everything is in place, the process has started, and the new program will have new mapping and online reporting, which will make reporting a lot more user friendly.

He began by showing a chart showing the City's decline in crime rate from 2008 to the present.



Chief Wieners also noted that the Houston Chronicle reported that the City of Friendswood has the lowest crime rate and SafeWise, an internet venue put City of Friendswood as the 19th safest city in the state. Chief Wieners stated that homicides are in the area, and there have been two homicides in the City in the

last two years, which are related to domestic violence, but that is a trend that is being seen throughout the area.

Chief Wieners went through a Regional Staffing Comparison chart and note that Friendswood falls at the lowers part of the ratios, and the civilian staffing ratio is particularly tight. He noted that all things being considered, Friendswood has the lowest crime rate but for city #2 and #3, and the rest are not even close.

Jurisdiction	Commissioned Personnel	Civilian Personnel	Total	Population	Officers per 1,000 citizens	Index Crimes (2021)	Crime Rate
Friendswood	66	22	88	42,187	1.56	270	6.40
League City	126	67	193	110,518	1.14	1,309	11.84
Pearland	182	67	249	126,111	1.44	1,957	15.52
Deer Park	60	26	86	33,631	1.78	497	14.78
La Porte	81	33	114	35,102	2.31	462	13.16
Alvin	60	22	82	27,015	2.22	760	28.13
Sugar Land	174	50	224	119,671	1.45	1,550	12.95
Rosenberg	78	25	103	39,162	1.99	697	17.80

As it relates to the PD's historical staffing statistics from 2008 to the present, Chief Wieners noted that there has been a plan in place for staffing over the years to ensure that a balance is struck that will keep the community safe. He stated that in 2018, there was a slight increase in staffing after the Santa Fe shooting incident because the school district requested additional officers.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	End of June 2022
Population	37,000	37,733	37,980	38,140	38,750	38,980	39,200	39,700	39,926	40,634	41,075	41,291	41,683	41,951	42,187
No. Sworn Officers-Authorized	56	57	57	57	58	59	61	61	62	64	66	66	64	65	65
Officers/1,000 residents	1.51	1.51	1.50	1.49	1.50	1.51	1.56	1.54	1.55	1.58	1.61	1.60	1.54	1.55	1.54

Deputy Chief Rogers stated that the per capita approach identified the optimum number of officers per person, which for Friendswood is 1.56 per capita. He noted that with the new software, the City has been through some changes from having three policing districts, A, B and C to five new districts with one officer assigned to each district, and one sergeant assigned to each county (Harris and Galveston). Deputy Chief Rogers also noted that this would cover the minimum-staffing requirements that ensures that there is a sufficient number of patrol officers to deploy at any one-time event.

He further noted that effective policing philosophies and strategies have changed over the years, and in response, the PD has implemented an internal crash team, a field support team, worked to create opportunities for education, outreach and proactive approaches to policing in order to help find ways to move and use officers strategically based on the environment and needs. He noted that as crime is not the only concern for the community, their policing strategies include education, outreach, technology, and best practices, which will be reviewed continuously, in order to meet the changing and increasing crime surrounding the City of Friendswood.

Deputy Chief Rogers noted that PD has been thoughtful of adding duties to officers that have not been vetted and approved by the City Manager in order to ensure that staffing levels are appropriate to meet needs. However there are a number of factors that negatively impact their delivery of services and they include, accepting additional tasks, specialization within the department, injuries, FMLA, vacations, resignations, and termination that impact the number of officers on patrol at any given time, an increase in calls for service as the populations continues to grow without a commensurate increase in personnel, and an enormous drop in the desire to be peace officers that has been felt across the nation as well as the pay. Deputy Chief Rogers listed the following as additional factors that impact PD's personnel and services:

- Ability of the community to afford police services,
- General credibility of the police department in the community,
- Community demand for services and community tolerance for criminal activity, slower response times, traffic accidents and general disorder,
- Public safety challenges accepted as being real/valid by the community,
- Staffing levels and growth in adjacent communities that may impact positively or negatively on crime in the community, and
- Effectiveness of judges and prosecutors in addressing matters relating to repeat offenders.

Deputy Chief Rogers also noted that they work hard to get relevant information out to the community via weekly news releases. Facebook, social media, and publications in order to ensure that the community is educated and knowledgeable of what is happening around them. He further noted that Friendswood will continue to be impacted by what is happening around them in neighboring communities and they will have to find ways to deal with an increase in crime; such as, homicides increasing in Harris County by 59%, with 35% of them being related to domestic violence, DWIs, domestic violence, drugs, and mental health issues.

As it related to non-sworn officers, the PD operates a dispatch center for Police, Fire, EMS and Public works, 24/7 as well as an Animal Control unit with four full time personnel. These positions will need to be looked at using the same factors to determine staffing for sworn personnel because sending someone to training, having an employee call in sick, or on vacation has a detrimental impact on service level. This is very evident in the dispatchers, who are critical to the City's first responder operations, their training and duties are such that no one can do what they do, so they are very important to PD's operations.

Council voiced their support and appreciation for the Friendswood Police Department, its leadership, and its services. Mr. Kabiri closed by saying that in the current budget, Council has authorized 66 officer positions, and should the number of officers fall under 66, Council has authorized the positions to maintain

the 1.56 ratio per 1,000 residents, as the budget permits. Future budgets would treat the need for new officers to maintain the 1.56 ratio per 1,000, as a Force at Work. Council concurred with the statement.

8. CITY MANAGER'S REPORT

A. Present an update regarding the City's upcoming holiday events.

City Manager Morad Kabiri presented the item and noted the following events:

- Senior Program Health Fair - Oct 27th
- Senior Program Veteran's Day - Nov 14th
- Holiday Lighted Trail - Thanksgiving thru Christmas
- Senior Program Thanksgiving Potluck - Nov 22nd
- Holidays in the Park - Dec 2nd, 9th, and 16th
- Flap Jack Fun Run - Dec 3rd
- Santa in the Park - Dec 3rd
- Senior Program Breakfast with Santa - Dec 21st

B. Present an update on the upcoming Town hall meeting on the development of the conceptual plan for the Stevenson Park parking lot on November 29, 2022.

City Manager Morad Kabiri presented the item and stated that the City has hosted two of the three scheduled town hall meetings for the development of a conceptual plan for Stevenson Park's parking lot. He noted that the next and final meeting will take place on November 29, 2022, from 6:00 p.m. to 7:00 p.m. in the Friendswood Library. Mr. Kabiri noted that they have had over 300 responses and were happy to see an increase in participation from the younger residents. He encouraged all residents to attend and/or give their input via the online survey.

C. Present an update regarding polling locations.

City Manager Morad Kabiri presented the item and stated that there have been a lot of comments and questions as to why City Hall is not being used as a polling place for this election. He noted that City Hall has not been used as a polling place for over four years now and won't be in the future because the only rooms that can be used are on the second floor, and the building is not setup to handle a line coming down the stairs and out the door. He noted that it stopped being used because of accessibility and safety concerns. He stated that staff is working with the School District and local area churches to see if they are able to serve as a polling location in the future. Mr. Kabiri reminded everyone that the November 8th election is not a city election and ultimately the County decides where the polling locations would be located. Lastly, Mr. Kabiri reminded everyone that the polling location in Friendswood for election day were located at the following:

GALVESTON COUNTY – COUNTYWIDE POLLING LOCATIONS For more or changed countywide polling locations in Galveston County visit: https://www.galvestonvotes.org/voter-information/polling-locations
Friendswood Chamber of Commerce – 1100 S. Friendswood Dr., Friendswood, TX 77546

Jacob White Building – 2000 W. Parkwood Avenue, Friendswood, TX 77546
HARRIS COUNTY - COUNTYWIDE POLLING LOCATIONS For more or changed countywide polling locations in Harris County visit: www.harrisvotes.com
Westbrook Intermediate School – Gym , 302 West El Dorado Blvd., Friendswood, TX 77546
Forest Bend Civic Building, Meeting Room - 4300 Laura Leigh Lane, Friendswood, TX 77546
Clear Brook High School – Gym 3 – 4607 FM 2351, Friendswood, TX 77546

9. BUSINESS ITEMS

A. Consider authorizing an Interlocal Agreement with Galveston County Consolidated Drainage District for drainage improvements at 310 and 301 W. Castlewood and 2 Queens Lane to mitigate future disaster losses within the City.

This item allows the Council to authorize an Interlocal Agreement with Galveston County Consolidated Drainage District (the "District") for the development of drainage improvements at 310 and 301 W. Castlewood and 2 Queens Lane to mitigate future disaster losses within the City. Under the Agreement,

1. the District, at its sole cost and expense, shall:

- create a drainage model,
- design drainage improvements,
- incorporate feedback received from the City concerning the design of the drainage improvements
- construct the drainage improvements,
- restore the property, which is not a part of the drainage improvements, and
- maintain the improvements along with any pilot channels/ancillary drainage components; and

2. the City shall:

- grant the District appropriate easements to allow the District to use the three properties which were acquired through FEMA's Hazard Mitigation Grant Buyout Program for the drainage improvements,
- timely review and comment on the design documents submitted to it by the District, and
- maintain the property, which is not part of the improvements or any pilot channels/ancillary drainage components.

A motion was made by Councilmember Griffon and seconded by Councilmember Rockey to authorize an Interlocal Agreement with Galveston County Consolidated Drainage District (the "District") for the development of drainage improvements at 310 and 301 W. Castlewood and 2 Queens Lane to mitigate future disaster losses within the City. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

B. Consider approving a three-year contract with the Friendswood Chamber of Commerce for economic development services.

This item approves a contract with the Friendswood Chamber of Commerce to provide economic development services, including (i) the dissemination of information to the public and businesses regarding City activities and services, (ii) referral services to appropriate City officials and departments, and (iii) the promotion of economic development within the City. The contract has a three-year term but may be terminated without cause or if monies are not appropriated by the City Council in future budget years. The proposed contract is similar to past contracts with the Chamber but contains the following salient revisions:

- Additional obligations for the Chamber:
 - to provide advance written notice of all meetings at which this agreement is to be considered;
 - to provide the City with tickets for City officials and employees to attend its "State of the City" event "at cost";
 - invoice the City annually for its services; and
 - to provide a certificate of insurance evidencing specified coverages and limits; and
- Revised indemnity/release provisions.

Mayor Pro Tem Erenwert asked what the cost of the tickets to the Chamber of Commerce State of the City event was and how much did the City give the Chamber each year. Mr. Kabiri stated that historically, the City has had a 3-year contract with the Chamber in which the City pays \$20,000 per year. He also noted that the State of the City is a City event in which the information, staffing and main speaker is provided. The City also sends a lot of staff and volunteers to the event, at a cost of \$35.00 per ticket. The City asked in this contract that the Chamber for the tickets "at cost" or give the City some for free. The contract before Council gives the City the tickets "at cost" so it will be less, but the exact amount is not known. Mayor Pro Tem Erenwert stated that if the City's contribution of \$20,000 a year is 10% of the Chamber's Annual budget of \$300,000, the Chamber should provide some level of sponsorship and give the City those tickets for free.

A motion was made by Councilmember Hanks and seconded by Councilmember Griffon approve a three-year contract with the Friendswood Chamber of Commerce for economic development services. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, and Councilmember Robert J. Griffon.

Nays: Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

The item passed.

C. Consider ratifying the Interlocal Agreement with the Harris County Flood Control District, Galveston County, and the Galveston County Consolidated Drainage District for constructing an offline stormwater detention basin, colloquially known as the FM 1959 Detention Basin, located on land parcels owned by the Flood Control District and Harris County adjacent to Dixie Farm Road along the northern bank of Clear Creek, and the Whitcomb Channel Terracing and Stormwater Detention Basin projects located near FM 528 along the northern bank of Clear Creek.

This item ratifies an Interlocal Agreement is for the design and construction of the following:

1. the FM 1959 Detention Basin, an offline stormwater detention basin located on land parcels owned by the Flood Control District and Harris County adjacent to Dixie Farm Road along the northern bank of Clear Creek, and
2. the Whitcomb Channel Terracing and Stormwater Detention Basin Projects, located near FM 528 along the northern bank of Clear Creek.

The Harris County Flood Control District is responsible for the design and the construction of each of the projects and the following details the financial contribution to be made by each party:

Entity	FM 1959 Detention Project	Whitcomb Channel Terracing Project*	Whitcomb Detention Project*
Estimated Project Cost	\$32,453,298.11	\$14,100,000.00	\$12,900,000.00
Harris County Flood Control District	\$13,556,635.00		
City of Friendswood	\$8,000,000.00	\$14,100,000.00	\$12,900,000.00
Galveston County	\$7,500,000.00		
Galveston County Consolidated Drainage District	\$3,500,000.00		

*Contingent upon receiving \$10,000,000 from a State grant.

City Manager Morad Kabiri stated that this is the City's largest investment for this endeavor and wanted to remind the Council that in addition to the capital cost, at the completion of the project, there will be an ongoing maintenance and mowing cost associated with these properties that will impact future budgets.

A motion was made by Councilmember Griffon and seconded by Councilmember Branson to ratify the Interlocal Agreement with the Harris County Flood Control District, Galveston County, and the Galveston County Consolidated Drainage District for constructing an offline stormwater detention basin, colloquially known as the FM 1959 Detention Basin, located on land parcels owned by the Flood Control District and Harris County adjacent to Dixie Farm Road along the northern bank of Clear Creek, and the Whitcomb Channel Terracing and Stormwater Detention Basin projects located near FM 528 along the northern bank of Clear Creek. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

D. Consider awarding the Blackhawk Facility Renovation Project (CSP 2022-17) to Construction Masters of Houston, Inc.

Director of Engineering Jil Arias presented that item and stated that this item was a competitive seal proposal and while there was a small difference on the lowest two submissions, the staff looked at the criteria noted in the proposal of which price was only one criterion, and recommended Construction Masters of Houston, Inc. as the best value to the city.

Councilmember Griffon asked if Construction Masters is a local company. Mr. Arias noted that they are housed out of the City of Pearland. Councilmember Griffon stated that he prefers to hire and contract local businesses. Mr. Arias noted that this preference could be included in future criteria for proposals. Councilmember Griffon asked if any interviews were conducted. Mr. Arias stated that no interviews were conducted, and the review process was done in-house.

Mayor Foreman stated that in his opinion the selection process was fair and stated that he was not opposed to adding the preference for Friendswood resident construction companies for future projects maybe that's a good idea. City Manager Morad Kabiri noted that the process for these competitive sealed proposals was fair and explained that this was not a simple bid that can be compared dollar-to-dollar and noted that if the Council was not comfortable awarding the contract, staff can postpone the item and allow the Engineering Department time to review the proposals and report back to Council as to why Construction Masters was selected based upon the proposal's criteria.

A motion was made by Councilmember Branson and seconded by Mayor Foreman to award the Blackhawk Facility Renovation Project (CSP 2022-17) to Construction Masters of Houston, Inc.

A motion was made by Councilmember Scott and seconded by Mayor Foreman to table the awarding of the Blackhawk Facility Renovation Project (CSP 2022-17) to Construction Masters of Houston, Inc. to give staff time to review the proposal submittals and the selection process. The vote was the following

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

E. Consider authorizing a Grant Administrative Services with GrantWorks, Inc., for the Houston-Galveston Area Council (H-GAC) Council of Governments (COG) Method of Distribution (MOD) Grant (RFP 2022-18).

This item allows the Council to authorize a Grant Administrative Services with GrantWorks, Inc., for the Houston-Galveston Area Council (H-GAC) Council of Governments (COG) Method of Distribution (MOD) Grant (RFP 2022-18).

The Texas General Land Office (GLO) allocated \$488,762,000 to the Houston-Galveston Area Council (H-GAC) to develop a method of distribution (MOD) for the Regional Mitigation Program as part of the State of Texas Community Development Block Grant Mitigation (CDBG-MIT) Action Plan as amended. The City of Friendswood accepted funding in the amount of \$4,636,100 via the H-GAC's distribution method. Due to the CDBG-MIT grant requirements, the state is required to reach a certain threshold tied to benefitting low-and moderate-income (LMI) persons within Friendswood in Galveston County. Therefore, \$2,318,050 of \$4,636,100 must be used for projects that benefit LMI persons.

Councilmember Griffon asked what the actual costs and services were provided in the proposed contract for these services. City Manager Morad Kabiri responded that the MOD requires the project to reach a certain threshold tied to benefitting low-and moderate-income (LMI) persons within Friendswood in Galveston County. The services provided in this contract will assist the City in providing that balance and help comply with the requirements of the State and the MOD. He also stated that under Article 6 of the Contract, that there is a spending limit of 6% for Grant Administration Services and the monies will come out of the grant itself. Councilmember Griffon stated that he felt that the cost of the contract was too high, and staff should find a way to handle the grant in house in order to keep that all the allocation dollars for the project construction.

A motion was made by Councilmember Scott and seconded by Councilmember Branson to authorize a Grant Administrative Services with GrantWorks, Inc., for the Houston-Galveston Area Council (H-GAC) Council of Governments (COG) Method of Distribution (MOD) Grant (RFP 2022-18). The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: Councilmember Robert J. Griffon.

The item passed.

F. Consider authorizing the City Manager to negotiate and enter into a Professional Services Agreement for the 2022 Funding of the Building Resilient Infrastructure and Communities (BRIC) Grant Program and/or Flood Mitigation Assistance (FMA) Grant Program for the City of Friendswood (RFQ 2022-19) with Freese and Nichols, Inc.

This item authorizes the City Manager to negotiate and enter into a Professional Services Agreement for the 2022 Funding of the Building Resilient Infrastructure and Communities (BRIC) Grant Program and/or

Flood Mitigation Assistance (FMA) Grant Program for the City of Friendswood (RFQ 2022-19) with Freese and Nichols, Inc:

Deputy Director of Engineering Samantha Haritos presented the item and stated that staff would like to pursue some flood contract and in order to put in an application, the City must have a lot of preliminary engineering. She further noted that unfortunately, staff does not have the internal capacity needed to handle these types of services and believes that the estimated costs of \$66,000 for this contract will be worth the investment.

A motion was made by Councilmember Branson and seconded by Councilmember Hanks authorizes the City Manager to negotiate and enter into a Professional Services Agreement for the 2022 Funding of the Building Resilient Infrastructure and Communities (BRIC) Grant Program and/or Flood Mitigation Assistance (FMA) Grant Program for the City of Friendswood (RFQ 2022-19) with Freese and Nichols, Inc. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert

Nays: None.

The item passed unanimously.

G. Consider authorizing a Grant Administration Services Agreement with Jeff S. Ward and Associates, Inc., for grant application development and grant management for the 2022 Building Resilient Infrastructure and Communities (BRIC) Grant Program and/or Flood Mitigation Assistance (FMA) Grant Program (RFP 2022-20).

A motion was made by Councilmember Branson and seconded by Mayor Pro Tem Erenwert to authorize a Grant Administration Services Agreement with Jeff S. Ward and Associates, Inc., for grant application development and grant management for the 2022 Building Resilient Infrastructure and Communities (BRIC) Grant Program and/or Flood Mitigation Assistance (FMA) Grant Program (RFP 2022-20). The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

H. Consider authorizing the First Amendment to the School Resource Officer Agreement with Friendswood Independent School District for certain technology improvements for an integrated safety response system.

Chief Robert Wieners presented the item and stated that the amendment to the agreement is to allow the City to create floor plans for each campus to include IP camera addresses, in order to implement a program that will allow those camera feeds to go police vehicles and not just to dispatch. He stated that if this program is as successful as they believe it will be, they hope to migrate same to CCISD schools, day cares and church schools that are in the city limits to allow for greater visibility and better police response.

A motion was made by Councilmember Scott and seconded by Councilmember Hanks to the First Amendment to the School Resource Officer Agreement with Friendswood Independent School District for certain technology improvements for an integrated safety response system. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

10. RESOLUTIONS & ORDINANCES

A. Consider a resolution adopting a Public Art/Display Policy.

Councilmember Rockey requested that the word “tourism” be removed from the policy and requested that KFB’s role in the policy be explained a little more. City Manager Morad Kabiri noted that the KFB, will assist the Parks and Recreation Department to review and make a recommendation to the Council on whether or not to accept any donated art. He noted that as art is subjective, KFB would help vet those donations; however, City Council would have the ultimate decision over the donated art.

A motion was made by Councilmember Hanks and seconded by Councilmember Griffon to approve Resolution No. R2022-34 as submitted. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

RESOLUTION NO. R2022-34

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, ESTABLISHING THE PUBLIC ART/DISPLAY POLICY; PROVIDING A REPEALING CLAUSE , CONTAINING A SAVINGS CLAUSE; AND PROVIDING FOR THE EFFECTIVE DATE.

B. Consider an ordinance amending the City’s General Budget for Fiscal Year 2022-2023 by approving “Budget Amendment I” and providing for supplemental appropriation and/or transfer of certain funds.

The proposed ordinances approve the following budget amendments:

1. Parks & Recreation Department – Donations for Memorial Bench in Stevenson Park, \$300. Appropriate donations received from the Mallory and Stephens families. The donations will go towards the purchase of a dedicated park bench in Stevenson Park. Funds will be appropriated to the Parks Operations division’s operating equipment budget.
2. Forest Bend Detention Pond – Construction Pay Application #1, \$180,088. Appropriate advanced funding for Jerdon Enterprise Pay Application #1 for the construction of the Forest Bend Detention Pond. The City applied for and was awarded a reimbursement grant through the 2017 Community Development Block Grant – Disaster Recovery with Harris County to engineer and construct offline detention in coordination with the Forest Bend Homeowners Association. The funding source will be unassigned general fund balance and will be reimbursed once grant funding has been received from the grantor.
3. Police Department -- Insurance Reimbursement, \$17,338. Appropriate insurance reimbursement received from TML-IRP. Funding will be appropriated to the Police Department Patrol division’s vehicle maintenance account for repairs made to the P416.
4. Police Department – Software Implementation Change Order, \$73,800. Appropriate funding for a change order to the contract with Integrated Computer Systems, Inc. for the implementation of new public safety software. The City of Friendswood and Friendswood ISD will add a mutually beneficial module to the software referenced as Integrated Safety Response. The funding source will be unassigned general fund balance for the additional cost; of which, \$25,000 will be reimbursed by FISD. Also, if received, any prorated refund associated with cancelation of the City’s existing Police Department software maintenance contract will reimburse fund balance for a portion of the change order expense.

A motion was made by Councilmember Scott and seconded by Councilmember Griffon to approve Ordinance No. 2022-26 as submitted. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

ORDINANCE NO. 2022-26

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, AMENDING ORDINANCE NO. 2022-19, PASSED AND APPROVED AUGUST 29, 2022, SAME BEING AN ORDINANCE APPROVING AND ADOPTING THE CITY'S GENERAL BUDGET FOR FISCAL YEAR 2022-23, BY APPROVING "BUDGET AMENDMENT I" THERETO; PROVIDING FOR SUPPLEMENTAL APPROPRIATION AND/OR TRANSFER OF CERTAIN FUNDS; PROVIDING FOR SEVERABILITY; PROVIDING OTHER MATTERS RELATED TO THE SUBJECT; AND PROVIDING FOR THE EFFECTIVE DATE.

11. CONSENT AGENDA

A motion was made by Councilmember Hanks and seconded by Mayor Pro Tem Erenwert to approve the Consent Agenda, Items 11.A. – 11.L. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

- A. Consider an ordinance on the second reading repealing Chapter 2 "Administration," Article II "Boards, Committees and Commissions"; Chapter 10 "Animals," Article VII "Animal Shelter Advisory Committee"; and Chapter 46 "Library," Article II "Friendswood Public Library," Section 46-19 "Board of Trustees" of the Friendswood City Code; amending Chapter 14 "Buildings and Building Regulations," Article I "In General," Section 14-3 "Construction board of adjustment and appeals"; Article II " Building Code," Section 14-24 "Amendments to International Building Code"; " Article III " Electrical Code," Division 2 "Appeals," Section 14-93 "Appeal of decisions by the building official or inspector"; Article IV " Plumbing Code," Section 14-253 "Amendments"; Article V "Mechanical Code," Section 14-275 "Amendments"; Article VI "International Fuel Gas Code," Section 14-300 "Amendments"; and Article X " Residential Code" Section 14-389 "International Residential Code for One-and Two-Family Dwellings adopted," Subsection (b) of the Friendswood City Code; and amending Chapter 2 "Administration" of the Friendswood City Code to add a new article to be numbered and entitled Article II "Boards, Committees, and Commissions" to codify all of the City's boards, committees, and commissions and update the references to such boards, committees and commissions.**

ORDINANCE NO. 2022-27

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, REPEALING CHAPTER 2 "ADMINISTRATION," ARTICLE II "BOARDS, COMMITTEES AND COMMISSIONS"; CHAPTER 10 "ANIMALS," ARTICLE VII "ANIMAL SHELTER ADVISORY COMMITTEE"; AND CHAPTER 46 "LIBRARY," ARTICLE II "FRIENDSWOOD PUBLIC LIBRARY," SECTION 46-19 "BOARD OF TRUSTEES" OF THE FRIENDSWOOD CITY CODE; AMENDING CHAPTER 14 "BUILDINGS AND BUILDING REGULATIONS," ARTICLE I "IN GENERAL," SECTION 14-3 "CONSTRUCTION BOARD OF ADJUSTMENT AND APPEALS"; ARTICLE II "BUILDING CODE," SECTION 14-24 "AMENDMENTS TO INTERNATIONAL BUILDING CODE"; "ARTICLE III "ELECTRICAL CODE," DIVISION 2 "APPEALS," SECTION 14-93 "APPEAL OF DECISIONS BY THE BUILDING OFFICIAL OR INSPECTOR"; ARTICLE IV "PLUMBING CODE," SECTION 14-253 "AMENDMENTS"; ARTICLE V "MECHANICAL CODE," SECTION 14-275 "AMENDMENTS"; ARTICLE VI "INTERNATIONAL FUEL GAS CODE," SECTION 14-300 "AMENDMENTS"; ARTICLE X "RESIDENTIAL CODE" SECTION 14-389 "INTERNATIONAL RESIDENTIAL CODE FOR ONE-AND TWO FAMILY DWELLINGS ADOPTED," SUBSECTION (B) OF THE FRIENDSWOOD CITY CODE; AND AMENDING CHAPTER 2 "ADMINISTRATION" OF THE FRIENDSWOOD CITY CODE TO ADD A NEW ARTICLE TO BE NUMBERED AND ENTITLED ARTICLE II "BOARDS, COMMITTEES, AND COMMISSIONS" IN ORDER TO CODIFY ALL OF THE CITY'S BOARDS, COMMITTEES, AND COMMISSIONS AND UPDATE THE REFERENCES TO SUCH BOARDS, COMMITTEES AND COMMISSIONS; PROVIDING A MAXIMUM PENALTY OF FIVE HUNDRED AND NO/100 DOLLARS (\$500.00); REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY, PUBLICATION AND AN EFFECTIVE DATE.

- B. Consider appointing (i) Thomas McDonald, (ii) Nancy Sims, (iii) Anthony Scarpa, (iv) Rufino Ramirez, (v) Kathy Molinaro, (vi) Larry Sims, (vii) Michelle Bjacek, (viii) Christine Scarpa, (ix) Stephanie Karacostas, and (x) Stacy Scarpa to the Fourth of July Steering Committee for a three-year term beginning immediately and ending on October 31, 2025.**
- C. Consider appointing (i) Patricia Steinke, (ii) Jeff Smith, (iii) Vijal Mahal, (iv) Shawn Potter, (v) Stephanie Reddick, and (vi) Pat Forke to the Keep Friendswood Beautiful Committee for a three-year term beginning immediately and ending October 31, 2025.**
- D. Consider appointing (i) Ethel Zansler, (ii) Doris Ann Ochoa, and (iii) Charlene Mizener to the Senior Citizens Advisory Committee for a three-year term beginning immediately and ending on October 31, 2025, and appointing Carol Tomlinson to complete an unexpired term beginning immediately and ending October 31, 2024.**
- E. Consider appointing (i) Robert Bozka and (ii) Allan Rasmussen to the Investment Committee for a three-year term beginning immediately and ending on October 31, 2025**

- F. Consider a resolution designating the City Manager as the Subrecipient Authorized Representative and granting the City Manager signatory authority for the Federal Emergency Management Agency's 2022 Building Resilient Infrastructure and Communities and Flood Mitigation Assistance Grant Programs.**

RESOLUTION NO. R2022-35

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, DESIGNATING THE CITY MANAGER AS THE SUBRECIPIENT AUTHORIZED REPRESENTATIVE FOR THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S 2022 BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES AND FLOOD MITIGATION ASSISTANCE GRANT PROGRAMS; GRANTING THE SUBRECIPIENT AUTHORIZED REPRESENTATIVE SIGNATORY AUTHORITY FOR SUCH GRANT PROGRAMS; AND PROVIDING FOR THE EFFECTIVE DATE THEREOF.

- G. Consider a resolution designating the City Manager as the Subrecipient Authorized Representative and granting the City Manager signatory authority for the Houston-Galveston Area Council's Regional Mitigation Program - Council of Governments Method of Distribution.**

RESOLUTION NO. R2022-36

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, DESIGNATING THE CITY MANAGER AS THE SUBRECIPIENT AUTHORIZED REPRESENTATIVE FOR THE HOUSTON-GALVESTON AREA COUNCIL'S REGIONAL MITIGATION PROGRAM - COUNCIL OF GOVERNMENTS METHOD OF DISTRIBUTION; GRANTING SUBRECIPIENT AUTHORIZED REPRESENTATIVE SIGNATORY AUTHORITY FOR SUCH PROGRAM; AND PROVIDING FOR THE EFFECTIVE DATE THEREOF.

- H. Consider authorizing a Cooperative Purchasing Agreement with the City of Pearland.**
- I. Consider ratifying an agreement with Friendswood Independent School District for road closures for the Cline Fun Run to be held October 29, 2022.**
- J. Consider approving the ad valorem tax report for September 2022.**
- K. Consider approving the minutes of the City Council Regular Meeting held on October 3, 2022.**
- L. Consider approving the minutes of the City Council Special Meeting held on October 26, 2022**

12. EXECUTIVE SESSION

A. Recess into and convene into an executive session pursuant to Sections 551.071 and 551.087 of the Texas Government Code to deliberate the offer of a financial or other incentive to a business and to seek the advice of the City's attorney on legal matters related thereto.

At 8:11 p.m., Mayor Foreman recessed and convened into an executive session pursuant to Sections 551.071 and 551.087 of the Texas Government Code to deliberate the offer of a financial or other incentive to a business and to seek the advice of the City's attorney on legal matters related thereto.

At 8:18 p.m., Mayor Foreman reconvened the regular meeting and announced that in accordance with Section 551.102 of the Texas Government Code, no action was taken in executive session.

13. BUSINESS ITEM

A. Consider an Economic Development Agreement with Tannos Development Group, LLC, for the construction of a mixed-use development at 408 S. Friendswood Drive.

A motion was made by Councilmember Rockey and seconded by Councilmember Branson to authorize an Economic Development Agreement with Tannos Development Group, LLC, for the construction of a mixed-use development at 408 S. Friendswood Drive. The vote was the following:

Ayes: Mayor Mike Foreman, Councilmember Trish Hanks, Councilmember Steve Rockey, Councilmember Sally Branson, Councilmember Robert J. Griffon, Councilmember John Scott and Mayor Pro Tem Brent Erenwert.

Nays: None.

The item passed unanimously.

12. ADJOURNMENT

With there being no further business, Mayor Foreman adjourned the November 7, 2022, City Council Regular Meeting at 8:19 P.M.

Mike Foreman, Mayor

Attest:

Leticia Brysch, City Secretary