

**CITY OF WIMBERLEY
CENTRAL WASTEWATER SYSTEM
ENGINEERING FEASIBILITY REPORT
AMENDMENT NO. 2**

December 3, 2018



**CITY OF WIMBERLEY
CENTRAL WASTEWATER PROJECT
PRELIMINARY ENGINEERING REPORT
AMENDMENT NO. 2**

INTRODUCTION

This document is intended to amend the Engineering Feasibility Report (EFR) originally dated December 2013 and subsequently Amended in September 2014. The City of Wimberley is pursuing the construction of a wastewater system to serve the wastewater management needs of its citizens in the Central Wimberley area in accordance with the EFR. Construction was started on the project under two separate contracts. The City desires to make changes to the project. The reason for this proposed change is the result of an economic analysis of the cost of the project, sufficiency of funds, operating costs, and customer rates and revenues available to service the revenue bonds.

INITIAL CONSTRUCTION CONTRACTS

The City received bids for two separate construction contracts on April 19, 2017. One contract included the construction of the wastewater collection system, lift station and force main; while the other contract included the construction of a wastewater treatment plant, effluent storage, and irrigation system for Blue Hole Park. The combined bid price for the two projects exceeded the estimate and the budget for the project. The City obtained additional funding and awarded both projects.

Due to the high cost, City leadership continued to evaluate ways to reduce the cost of the project and began discussions with Aqua Texas, the owner and operator of a neighboring wastewater facility. Aqua Texas was considered as an alternative during the EFR phase of the project. At that time, the alternatives of a City-owned treatment plant and sending the wastewater to Aqua Texas had similar projected life-cycle costs. The City opted to proceed with their own treatment plant to maintain control.

With the increased cost of the City treatment plant option and an improved offer negotiated with Aqua Texas, the City determined that the option to send their wastewater to Aqua Texas provides a more cost-effective alternative. The Council voted to cancel the construction contract for the City's wastewater treatment plant and to enter into a contract with Aqua Texas. A draft copy of that agreement is attached as Exhibit A to this Amendment.

REVISED IMPROVEMENT PROJECT

The City intends to make modifications to the wastewater collection system to direct the wastewater to Aqua Texas for treatment. The collection system generally remains unchanged. However, the route of the force main from the lift station will be changed. Instead of turning to the east at the end of Blue Hole Lane, the force main will turn to the west and continue through the park. A line will be installed under Cypress Creek using a directional drill to avoid adversely impacting the creek. The force main will

be connected to the Aqua Texas system on the west side of Cypress Creek. In addition, a smaller force main will be constructed from the existing lift station that serves the park and the Deer Creek Nursing Home. Figure 1 shows the revised collection system. These improvements will be constructed as a Change Order to the existing construction contract for the collection system.

REVISED BUDGET

The revised budget for the Amended project is shown in Table 1. A preliminary opinion of probable cost for the change in the collection system is shown in Table 2. Finally, a revised Form 1201 for the TWDB is shown in Table 3.

REVISED SCHEDULE

The revised schedule is shown in Table 4.

POINT OF CONNECTION
WITH AQUA TEXAS

PROPOSED DIRECTIONAL DRILL
UNDER CREEK TO BE CONSTRUCTED
BY THE CITY OF WIMBERLEY

PROPOSED 6" PVC FM

ORIGINAL 1.5" PVC FM
PROPOSED 6" PVC FM

ORIGINAL 6" PVC FM
PROPOSED 3" PVC FM

ORIGINAL PVC GRAVITY
SIZE VARIES (TYP)

PROPOSED 6" PVC FM

PROPOSED 8" PVC GRAVITY

PROPOSED RANCH
ROAD LIFT STATION

- LEGEND
- CURRENT PROJECT PIPELINE
 - PROPOSED PROJECT PIPELINE
 - - - PROPERTY BOUNDARIES
 - - - EASEMENTS (NOT VISIBLE AT CURRENT SCALE)

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Engineering Feasibility Report
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Figure 1

**CITY OF WIMBERLEY
ENGINEERING FEASIBILITY REPORT
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TABLE 1**

	ITEM DESCRIPTION	ORIGINAL CONTRACT QUANTITY	UNIT	\$ UNIT PRICE	ORIGINAL CONTRACT \$ AMOUNT	TOTAL QTY TO FINAL	TOTAL TO FINAL \$	QTY OVER/UNDER	\$ OVER/UNDER	% OVER/UNDER
GRAVITY ITEMS										
	PIPE 6" DIA. PVC TY ALL DEPTHS INC EXC & BKF	6650	LF	\$140.00	\$931,000.00	5330	\$746,200.00	1320	\$184,800.00	20%
	PIPE 8" DIA. PVC TY ALL DEPTHS INC EXC & BKF	4050	LF	\$190.00	\$769,500.00	4588	\$871,720.00	-538	-\$102,220.00	-13%
	TRENCH EXCAVATION SAFETY PROTECTIVE SYSTEMS	12300	LF	\$2.20	\$27,060.00	12347	\$27,163.40	-47	-\$103.40	-0.4%
	STANDARD PRECAST MANHOLE W/PRECAST	45	EA	\$8,500.00	\$382,500.00	41	\$348,500.00	4	\$34,000.00	9%
	EXTRA DEPTH OF MAHOLE 4' DIA.	233	VF	\$440.00	\$102,520.00	91.4	\$40,216.00	141.6	\$62,304.00	61%
	DROP MANHOLE W/PRECAST BASE 4' DIA.	12	EA	\$6,600.00	\$79,200.00	9	\$59,400.00	3	\$19,800.00	25%
	EXTRA DEPTH OF DROP MANHOLE 4' DIA.	80	VF	\$275.00	\$22,000.00	26.5	\$7,287.50	53.5	\$14,712.50	67%
	CEMENT STABILIZED BACKFILL 6" DIA.	65	LF	\$66.00	\$4,290.00	0	\$0.00	65	\$4,290.00	100%
	CEMENT STABILIZED BACKFILL 8" DIA.	30	LF	\$66.00	\$1,980.00	0	\$0.00	30	\$1,980.00	100%
	CEMENT STABILIZED BACKFILL 4' DIA. MANHOLE	10	EA	\$7,700.00	\$77,000.00	8	\$61,600.00	2	\$15,400.00	20%
	150 PSI PRESSURE CL PIPE 6" DIA.	375	LF	\$82.00	\$30,750.00	2329	\$190,978.00	-1954	-\$160,228.00	-521%
	150 PSI PRESSURE CL PIPE 9" DIA.	1050	LF	\$92.00	\$96,600.00	0	\$0.00	1050	\$96,600.00	100%
	4" DIA. SHORT SANITARY SEWER CONNECTION (1'-100')	39	EA	\$1,900.00	\$74,100.00	135	\$256,500.00	-96	-\$182,400.00	-246%
	4" DIA. MEDIUM SANITARY SEWER CONNECTION (101-200')	69	EA	\$2,300.00	\$158,700.00	8	\$18,400.00	61	\$140,300.00	88%
	4" DIA. LONG SANITARY SEWER CONNECTION (201'-300')	11	EA	\$2,900.00	\$31,900.00	0	\$0.00	11	\$31,900.00	100%
FORCE MAIN										
	RANCH RD PUMP STATION, VALVE VAULT & ELECTRICAL	1	LS	\$360,000.00	\$360,000.00	1	\$360,000.00	0	\$0.00	0%
	VALVES, GATE VALVE 6" DIA.	3	EA	\$2,750.00	\$8,250.00	3	\$8,250.00	0	\$0.00	0%
	PIPE 6" DIA. PVC TY ALL DEPTHS INCL EXC & BKFL	4100	LF	\$77.00	\$315,700.00	4100	\$315,700.00	0	\$0.00	0%
	TRENCH EXCAVATION SAFETY PROTECTIVE SYSTEMS	3900	LF	\$2.20	\$8,580.00	3900	\$8,580.00	0	\$0.00	0%
	PIPE 1.5" DIA. TY ALL DEPTHS INCL EXC & BKFL	1000	LF	\$27.50	\$27,500.00	1000	\$27,500.00	0	\$0.00	0%
	1.25' DIA. SANITARY SEWER LATERAL	7	EA	\$1,100.00	\$7,700.00	7	\$7,700.00	0	\$0.00	0%
	RESIDENTIAL GRINDER PUMP STATION	7	EA	\$12,000.00	\$84,000.00	7	\$84,000.00	0	\$0.00	0%
	GRINDER PUMP STATION ELECTRICAL ALLOWANCE \$2K	7	EA	\$2,200.00	\$15,400.00	7	\$15,400.00	0	\$0.00	0%
CHANGE ORDERS										
	Testing (CMR-01)	0	LS	\$21,884.00	0	1	\$21,884.00	-1	-\$21,884.00	
	CSB (CMR-02)	0	CY	\$81.22	0	1101	\$89,423.22	-1101	-\$89,423.22	
					\$3,616,230.00		\$3,566,402.12		\$49,827.88	

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TABLE 2**

Bid Item	Unit	Description	Change in		
			Quantity	Unit Price	Amount
510-AR 6" Dia.	LF	Pipe 6" Dia. PVC Type (all depths), including excavation and backfill	-560	\$ 77	\$ (43,120)
New Item	LF	Pipe 3" Dia. PVC Type (all depths), including excavation and backfill	1350	\$ 50	\$ 67,500
New Item	LF	Pipe 6" Dia. HDPE Directional Drill	600	\$ 200	\$ 120,000
					\$ 144,380

City of Wimberley - Project # 73653 - Part D2					
Uses	TWDB Funds L1000152	TWDB Funds L1000394	TWDB Total	City Funds	Total Cost
Construction					
Wastewater Plant CID 01	\$0	\$345,072	\$345,072	\$0	\$345,072
Collection System CID 02	\$0	\$3,710,782	\$3,710,782	\$0	\$3,710,782
Subtotal Construction	\$0	\$4,055,854	\$4,055,854	\$0	\$4,055,854
Basic Engineering Fees					
Planning +	\$141,000	\$0	\$141,000	\$0	\$141,000
Design	\$346,821	\$5,157	\$351,978	\$0	\$351,978
Construction Engineering	\$0	\$77,575	\$77,575	\$0	\$77,575
Basic Engineering Other **	\$0	\$0	\$0	\$0	\$0
Subtotal Basic Engineering Fees	\$487,821	\$82,732	\$570,553	\$0	\$570,553
Special Services					
Application	\$0	\$0	\$0	\$0	\$0
Environmental	\$15,000	\$0	\$15,000	\$0	\$15,000
Water Conservation Plan	\$0	\$0	\$0	\$0	\$0
I/I Studies/Sewer Evaluation	\$0	\$0	\$0	\$0	\$0
Surveying	\$55,000	\$0	\$55,000	\$0	\$55,000
Geotechnical	\$37,500	\$0	\$37,500	\$0	\$37,500
Testing	\$0	\$0	\$0	\$0	\$0
Permits	\$36,261	\$0	\$36,261	\$0	\$36,261
Inspection	\$0	\$0	\$0	\$0	\$0
O&M Manual	\$0	\$0	\$0	\$0	\$0
Project Management (by engineer)	\$0	\$175,000	\$175,000	\$0	\$175,000
Pilot Testing	\$0	\$0	\$0	\$0	\$0
Water Distribution Modeling	\$0	\$0	\$0	\$0	\$0
Special Services Other **	\$0	\$0	\$0	\$0	\$0
Subtotal Special Services	\$143,761	\$175,000	\$318,761	\$0	\$318,761
Other					
Administration	\$6,611	\$0	\$6,611	\$0	\$6,611
Land/Easements Acquisition	\$0	\$0	\$0	\$44,000	\$44,000
Water Rights Purchase (If Applicable)	\$0	\$0	\$0	\$0	\$0
Capacity Buy-In (If Applicable)	\$0	\$300,000	\$300,000	\$0	\$300,000
Project Legal Expenses	\$0	\$0	\$0	\$0	\$0
Other **	\$0	\$0	\$0	\$0	\$0
Subtotal Other Services	\$6,611	\$300,000	\$306,611	\$44,000	\$350,611
Fiscal Services					
Financial Advisor	\$0	\$0	\$0	\$38,690	\$38,690
Bond Counsel	\$0	\$0	\$0	\$40,760	\$40,760
Issuance Cost	\$0	\$1,200	\$1,200	\$0	\$1,200
Bond Insurance/Surety	\$0	\$0	\$0	\$0	\$0
Fiscal/Legal	\$0	\$0	\$0	\$0	\$0
Capitalized Interest	\$0	\$170,847	\$170,847	\$0	\$170,847
Bond Reserve Fund	\$0	\$0	\$0	\$0	\$0
Loan Origination Fee	\$11,807	\$95,452	\$107,259	\$0	\$107,259
Debt Reserve	\$0	\$237,902	\$237,902	\$0	\$237,902
Subtotal Fiscal Services	\$11,807	\$505,401	\$517,208	\$79,450	\$596,658
Subtotal Before Contingency	\$650,000	\$5,118,987	\$5,768,987	\$123,450	\$5,892,437
Contingency					
Contingency	\$0	\$136,013	\$136,013	\$0	\$136,013
Subtotal Contingency	\$0	\$136,013	\$136,013	\$0	\$136,013
TOTAL COSTS	\$650,000	\$5,255,000	\$5,905,000	\$123,450	\$6,028,450

Other ** description must be entered

+ For Planning applications under the EDAP Program, please break down Planning costs as follows:

Category A				0
Category B				0
Category C				0
Category D				0
Total Planning Costs			0	0

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TABLE 4**

Phase	Start Date	End Date
Collection System	4/5/2018	4/5/2019
Directional Drill Design	12/15/2018	1/31/2019
Directional Drill	2/15/2019	4/15/2019
Initiate Aqua Service	4/30/2019	