

# MEMORANDUM



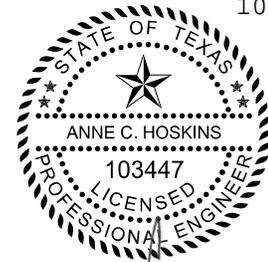
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www.freese.com

10/31/2022

**TO:** Andrea Brinkley and Thomas Hunter, City of Pflugerville  
**FROM:** Anne Hoskins, P.E., Freese and Nichols  
**SUBJECT:** Secondary Colorado River Raw Water Line Schedule and Opinion of Probable Construction Cost  
**DATE:** 10/31/2022  
**PROJECT:** Secondary Colorado River Raw Water Line



FREESE AND NICHOLS, INC.  
TEXAS REGISTERED  
ENGINEERING FIRM  
E-2144

## 1.0 Project Background

Freese and Nichols (FNI) was contracted by the City of Pflugerville (City) in February 2022 to perform design and bid phase services related to the Secondary Colorado River Raw Water Line project. This project includes expansion of the existing Colorado River Intake Pump Station and a new transmission pipeline between the Colorado River and Lake Pflugerville.

## 2.0 Opinion of Probable Construction Cost (OPCC) and Schedule Progression

### 2.1 Project Timeline

A primary goal for the project is to have improvements online by June of 2025 to align with completion of the expanded Surface Water Treatment Plant and meet future water demands. The contract outlines design completion in December 2022 and bid phase completion in March 2023. The current project schedule is included as Attachment A. This schedule shows completion of signed/sealed design documents between October 2022 (Package 1 – Equipment Pre-Purchase) and January 2023 (Packages 2, 3 and 4 – Pump Station Expansion and Pipeline). Following signed/sealed design documents, there is a period of incorporation of City of Austin comments and any final City of Pflugerville comments prior to bid phase. Design delays between contracted and current completion dates are due to right-of-entry delays impacting field investigation. Field investigation is needed to finalize design. Additionally, initiation of bid phase services spans from October 2022 (Package 1) to May 2023 (Packages 2, 3 and 4). Delays in bid phase services are due to anticipated City of Austin permitting timelines. Permitting is currently anticipated to be at least 6 months from the delivery date of signed/sealed design plans, with a strong possibility that it will take longer. Construction notice to proceed can't be given until City of Austin permits are secured. The attached schedule shows expected substantial completion of all project components in April 2025. This completion date may be delayed if City of Austin permitting duration exceeds 6 months or if the City of Pflugerville elects to advertise for bid after City of Austin permits are acquired. The schedule progression is summarized in Table 1.

**Table 1: Schedule Summary**

<b>Deliverable Schedule</b>	<b>Design Completion Date</b>	<b>Notes</b>
Contracted Design Completion	12/2022	
Current Design Completion	01/2023	This date pushed one month from contracted due to delays in right-of-entry and corresponding field investigation.
Current Construction Substantial Completion	03/2025	This date could be delayed if City of Austin permitting extends beyond 6 months.

*2.2 Proactive Actions to Cope with Market Volatility and Supply Chain Disruptions*

FNI and the City looked at multiple alternative delivery methods to achieve the contracted schedule given existing material and equipment delays. Lead times on electrical and mechanical equipment (pumps, motors, variable frequency drives, generators, electrical gear) have increased significantly in the last three years - in many cases by a factor of two or more. FNI and the City advertised a request for proposals for a Construction Manager at Risk (CMAR) to help meet the project schedule and add value to the project. After proposals were received and evaluated, the options presented did not add value to the project, so a CMAR was not selected. The project team elected instead to utilize a pre-purchase package for long-lead equipment including pumps, motors, variable frequency drives, electrical gear and generator. This alternative delivery method will allow the City to procure this equipment in time for installation before the required completion date (based on current lead times) and help protect against supply chain disruptions.

*2.3 Factors Contributing to Cost Escalation*

The following items have contributed to an increase in estimated construction costs for the project since the study phase cost estimate in late 2021:

- Ductile Iron Pipe cost increase:
  - American Ductile Iron Pipe and U.S. pipe material prices have increased
  - In order to be conservative, FNI is now using U.S. Pipe material quotes (instead of an average of quotes) which are between 12% and 20% higher than American Ductile Iron Pipe quotes
  - Bid prices for ductile iron pipe are limited but the few that FNI have access to have shown increased pricing for installed ductile iron pipe
  - Per Engineering News Record (ENR), small diameter (12") ductile iron pipe has increased 0.6% in the last month and 22% over the last year
- Per ENR, construction cost index has increased 5.7% over the last year and building cost index has increased 9.9% over the last year. These increases are related to average general construction costs across 20 U.S. cities as opposed to a single material or city increase.
- Design changes including additional gate valves, additional pipe restraint, miscellaneous design detail changes and additional micro-tunnelling (due to soil conditions) have increased overall construction cost
- Contractors are reporting a shortage of labor that's contributing to higher bid costs and schedule delays
- Contractors and pipe suppliers are reporting an increase in freight prices that are resulting in an increase in material prices

- A general uncertainty of market conditions over the next year suggests that contingency should be left at a higher percentage to better protect the City from higher than anticipated bid prices. This includes inflation in bid prices due to contractors' uncertainty of material costs and labor availability.

### 3.0 General and Key Items Summary of OPCC's through Design Development

#### 3.1 General Summary

FNI is contracted to prepare Opinions of Probable Construction Costs (OPCC) at 30%, 60%, 90% and 100% design completion levels for the project. Additionally, a study phase cost estimate was prepared prior to FNI joining the project team. Currently, the project is almost to a 90% design level. As requested by the City, an additional OPCC between 60% and 90% has been prepared (referred to as revised 60%). OPCCs for study phase (by others), 30%, 60% and revised 60% are included as Attachment B. The OPCC totals (in 2023 dollars) are listed in Table 2.

**Table 2: OPCC Summary**

Date	Project Deliverable	OPCC Estimate* (2023 Dollars)	% Change from Study Phase	Notes
11/2021	Study Phase (provided by others)	\$85,996,938		N/A
04/2022	30% Design	\$107,251,941	25%	Increase in ductile iron pipe prices from the study phase budget, significant increase in pump station expansion costs when project was more fully scoped, increase in pump station equipment costs
07/2022	60% Design	\$102,104,044	19%	Better definition of scope and lowering of contingency
10/2022	Revised 60% Design (between 60% and 90% Design)	\$121,529,446	41%	Ductile iron prices increased, installation prices from comparable bids increased, additional main line valves led to cost increase, contingency remained the same given uncertainty in bidding climate
*FNI estimates assume AACE classifications that define the accuracy range for the estimate depending on the level of project definition. These can range between -20% and +20% depending on the estimate class.				

The increase in OPCC costs can be primarily attributed to the increasing cost of installed ductile iron pipe. It can also to a lesser but still significant percentage be attributed to increasing cost of gate valves, pumps/motors, variable frequency drives (VFDs), electrical switchboards and generator. Table 3 lists progression of these unit costs from study phase (if applicable) to present.

**Table 3: OPCC Material Component Summary**

Component	Study Phase OPCC (by others)	30% OPCC*	60% OPCC*	Revised OPCC*
42-inch Ductile Iron Pipe	\$493.65	\$610	\$630	\$734
Increase from Previous	N/A	23.6%	3.3%	16.5%
42-inch Gate Valves	\$90,150	\$125,000	\$125,000	\$136,639
Increase from Previous	N/A	38.7%	0.0%	9.3%
Pumps/Motors (4)	\$311,937.50	\$410,640	\$537,991.50	\$699,389
Increase from Previous	N/A	31.6%	31.0%	30.0%
VFDs	N/A	\$177,000	\$206,500	\$268,450
Increase from Previous	N/A	N/A	16.6%	30.0%
Switchboard	N/A	N/A	\$318,600	\$414,180
Increase from Previous	N/A	N/A	N/A	30.0%
Generator	\$800,000	\$1,652,000	\$1,711,000	\$1,711,000
Increase from Previous	N/A	106.5%	3.6%	0.0%
*FNI estimates assume AACE classifications that define the accuracy range for the estimate depending on the level of project definition. These can range between -20% and +20% depending on the estimate class.				
**Planning level estimate				

**4.0 Actions of the Design Engineer and Owner’s Representative**

At this point in time, FNI suggests the following strategies to help combat increases in budget for this project:

- Polyurethane coated steel pipe will be bid as an alternative to ductile iron pipe to promote bidding competition. Material prices for steel pipe are currently significantly lower than ductile iron and could lower the overall project bid price by up to 20% (based on today’s material costs). Steel pipe is not preferred due to operational risks – repair of this pipe material can take significantly longer than repair of ductile iron pipe.
- Keep a high level of contingency (no less than 20%) and continuing to monitor bid and material prices through design completion
- If necessary, suggested value engineering items include reduction of main line valves and consideration of alternate pipeline material selection.
- It appears that a large portion of the current FY2023 budget can be moved to FY2024. The current project schedule shows an overlap between permitting and bidding as well as a potentially optimistic permitting schedule for the City of Austin approval. If City of Austin permitting is delayed and bids can’t be advertised until after permits are obtained, this will push the

construction start date to late 2023 or early 2024. This will push all construction dollars for Packages 2, 3 and 4 to FY2024. The only anticipated construction dollars for Package 1 for FY2023 are the payment for approved submittals for long-lead items. The conservative estimate on this amount is \$300,000. This combined with engineering cost lower the FY23 spending amount to an estimated \$5 million.

As stated in Section 2.3, multiple factors contributed to a rising opinion of construction cost on this important project. Though most heavily impacted by the cost of installed ductile iron pipe, anticipated construction cost is also impacted by cost of steel, electrical components and concrete as well as overall labor cost increases. The following figures show the relevant sections from the October 2022 ENR report on Construction Economics as well as the historical OPCCs plotted against increasing material and labor costs per ENR indices.

Figure 1: ENR October 2022 Cost Index Increases

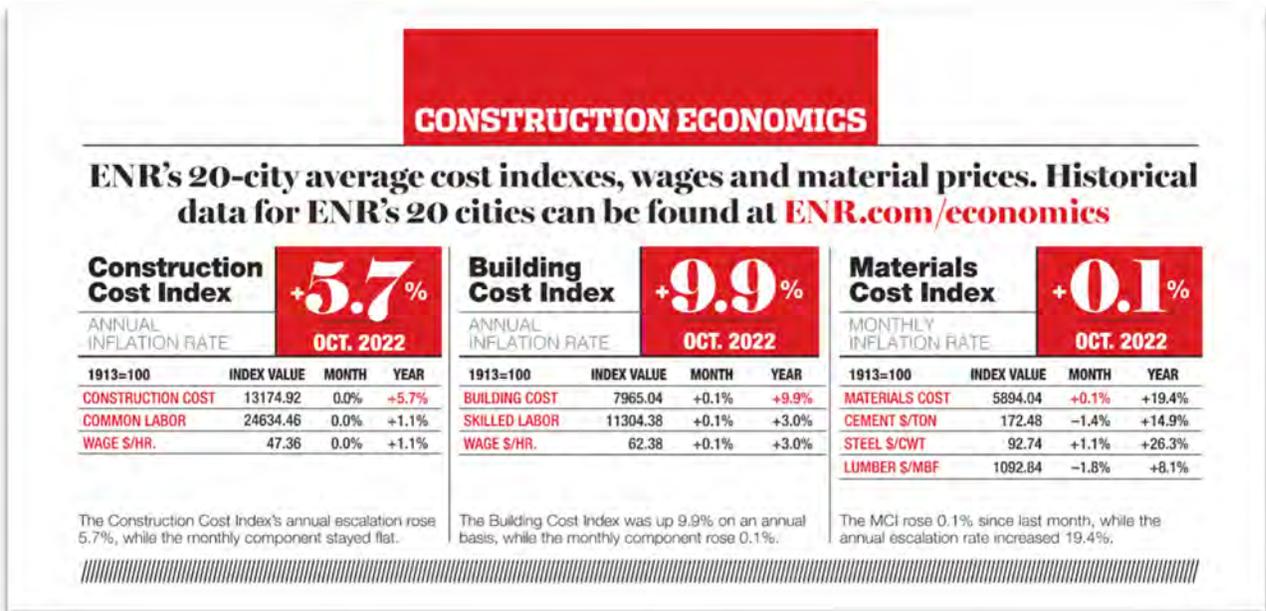


Figure 2: ENR October 2022 Materials Prices Increases

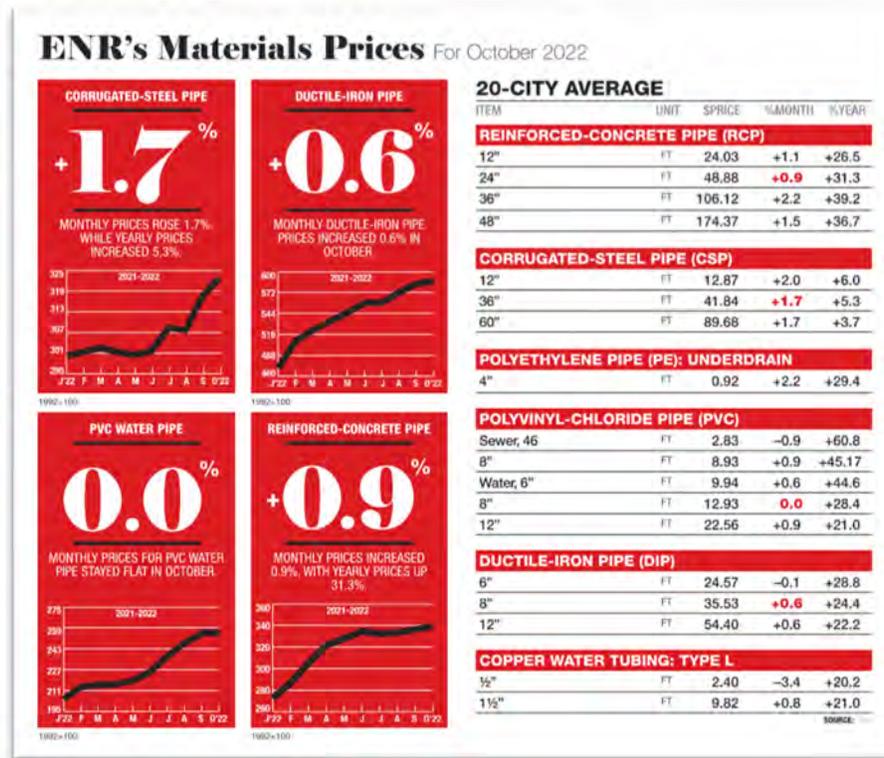
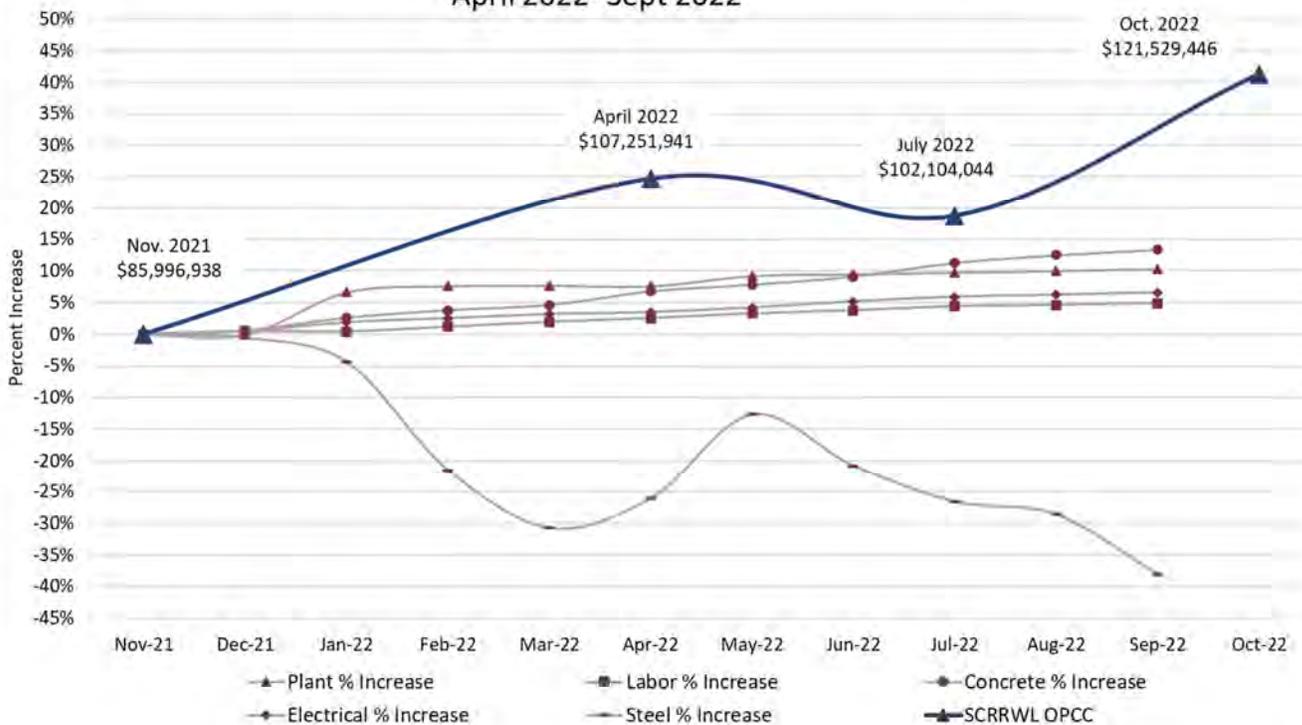


Figure 3:  
ENR Indices Percent Increases - Secondary Colorado River RWL  
April 2022- Sept 2022



10/31/2022

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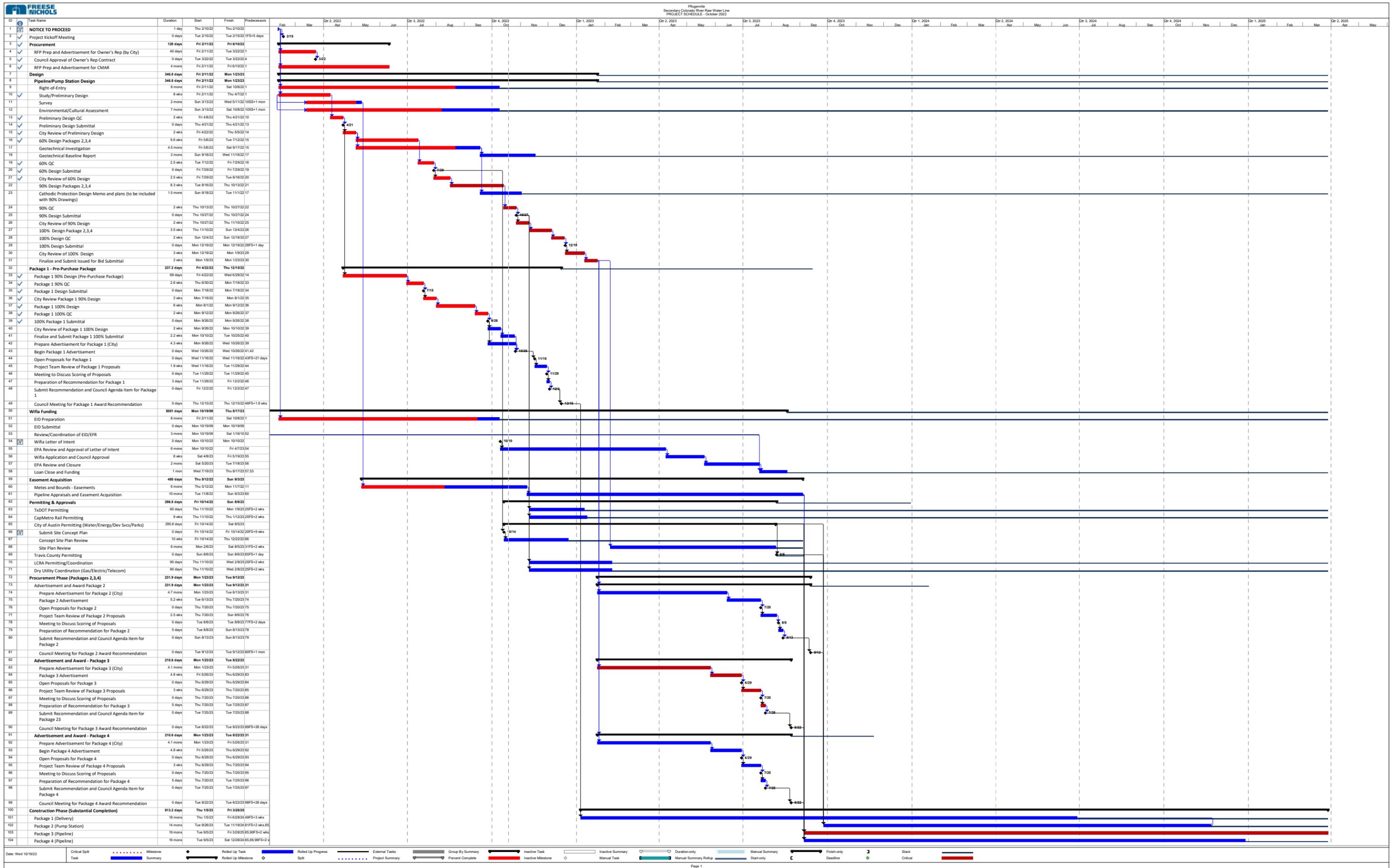
If additional information is needed, please contact project manager Anne Hoskins at [Anne.Hoskins@freese.com](mailto:Anne.Hoskins@freese.com) or 512-617-3125.

Sincerely,

Anne Hoskins, P.E., Freese and Nichols

Cc: Daniel Stoutenburg, P.E., Freese and Nichols, Inc.

# ATTACHMENT A



**Pflugerville Colorado River Intake System Expansion  
Engineer's Opinion of Probable Construction Cost  
42" Ductile Iron**

Item	QTY	Unit	Unit Cost	Cost
<u>Pump Station Rehabilitation</u>				
New Pumps (Including Delivery and Startup)	4	EA	\$ 311,937.50	\$ 1,247,750
Piping/Valving	1	LS	\$ 30,000.00	\$ 30,000
Valve Vault	1	LS	\$ 15,000.00	\$ 15,000
Ultrasonic Flowmeter	1	EA	\$ 15,000.00	\$ 15,000
Intake Screen Improvements	1	LS	\$ 35,000.00	\$ 35,000
New Backup Generator	1	LS	\$ 800,000.00	\$ 800,000
New Transformer	1	LS	\$ 400,000.00	\$ 400,000
Other Electrical Upgrades	1	LS	\$ 300,000.00	\$ 300,000
<u>Pump Station Rehabilitation Subtotal</u>				\$ 2,842,750
Pump Station Rehabilitation Contingency (30%)				\$ 852,825
<b><u>Pump Station Rehabilitation Total</u></b>				\$ 3,695,575
<u>Raw Water Line</u>				
42" DI Raw Water Line (Installed)	78,144	LF	\$ 493.65	\$ 38,575,786
60" Steel Bore Casing	5,030	LF	\$ 550.00	\$ 2,766,500
Fittings (30 ton/mile)	444	ton	\$ 25,000.00	\$ 11,100,000
42" Gate Valve	20	EA	\$ 90,150.00	\$ 1,803,000
Air Release Valve Assembly	25	EA	\$ 15,000.00	\$ 375,000
Outfall Structure	1	LS	\$ 60,000.00	\$ 60,000
<u>Raw Water Line Subtotal</u>				\$ 54,680,286
Raw Water Line Contingency (30%)				\$ 16,404,086
<b><u>Raw Water Line Total</u></b>				\$ 71,084,371
<b>Construction Subtotal</b>				\$ 74,779,946
Engineering (15%)				\$ 11,216,992
<b>Total</b>				\$ 85,996,938

Note: The cost estimates presented above are preliminary in nature (AACE Class 5)  
and meant for budgetary planning purposes only.  
More detailed cost estimates will be developed during design.



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## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Secondary Colorado River RWL - Ductile Iron	DATE	4/26/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	EFR	PM	4/26/2022

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
T WALTZ	RG/DH	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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Pipeline Installation					
1	SWPPP AND CONTROLS	1	LS	\$ 150,000	\$ 150,000
2	TRAFFIC CONTROL	1	LS	\$ 75,000	\$ 75,000
3	42-INCH CLASS 200 DUCTILE IRON PIPE	71,544	LF	\$ 610	\$ 43,641,840
4	42-INCH GATE VALVES	10	EA	\$ 125,000	\$ 1,250,000
5	AIR RELEASE VALVES	60	EA	\$ 30,000	\$ 1,800,000
6	DRAIN VALVES	30	EA	\$ 15,000	\$ 450,000
7	TRENCH SAFETY PROTECTION	71,544	LF	\$ 5	\$ 357,720
8	CLEARING AND GRUBBING	1	EA	\$ 400,000	\$ 400,000
9	PUMP STATION TIE-IN	1	EA	\$ 30,000	\$ 30,000
10	OUTFALL STRUCTURE	1	LS	\$ 100,000	\$ 100,000
11	CATHODIC PROTECTION	78,144	LF	\$ 10	\$ 781,440
12	42" PIG LAUNCHER/RETRIEVAL STATION	2	EA	\$ 560,000	\$ 1,120,000
13	30" PIG LAUNCHER/RETRIEVAL STATION	2	EA	\$ 340,000	\$ 680,000
14	REMOVE 30" BUTTERFLY VALVE AND REPLACE W/ 30" GATE VALVE	2	EA	\$ 100,000.00	\$ 200,000
15	REMOVE 30" CROSS AND REPLACE WITH 30" TEE	1	EA	\$ 80,000.00	\$ 80,000
16	HYDROSTATIC TESTING	78,144	LF	\$ 0.50	\$ 39,072

Surface Restoration					
17	PAVEMENT RESTORATION - TYPE D	7,500	SY	\$ 150	\$ 1,125,000
18	ROCK RIPRAP	135	SY	\$ 200	\$ 27,000
19	SITE RESTORATION	185	AC	\$ 2,000	\$ 370,000

Trenchless Crossings (Assuming Horizontal Auger Boring Method)					
20	42" CLASS 200 DIP CARRIER PIPE IN 60" STEEL CASING	6,200	LF	\$ 2,100	\$ 13,020,000

SUBTOTAL	\$ 65,697,072
CONTINGENCY 30%	\$ 19,709,122
SUBTOTAL	\$ 85,406,194
MOBILIZATION 5%	\$ 4,270,310
SUBTOTAL	\$ 89,676,503

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 89,676,503</b>
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COST ESCALATION FACTOR	9.0%	\$ 8,070,885
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<b>PROJECT TOTAL (2023 COSTS)</b>	<b>\$ 97,747,389</b>
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**NOTES:**

- 1 FNI OPCC classified as an AACE Class 4 Estimate with accuracy range or -20 to + 30.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.



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## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Secondary Colorado River RWL - C200/C303	DATE	4/26/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	EFR	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
T WALTZ	RG/DH	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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Pipeline Installation					
1	SWPPP AND CONTROLS	1	LS	\$ 150,000	\$ 150,000
2	TRAFFIC CONTROL	1	LS	\$ 75,000	\$ 75,000
3	42" PRESSURE CLASS 200 C200 POLYURETHANE COATED STEEL PIPE OR C303 BAR-WRAPPED CONCRETE CYLINDER PIPE	71,944	LF	\$ 450	\$ 32,375,040
4	42-INCH GATE VALVES	10	EA	\$ 125,000	\$ 1,250,000
5	AIR RELEASE VALVES	60	EA	\$ 30,000	\$ 1,800,000
6	DRAIN VALVES	30	EA	\$ 15,000	\$ 450,000
7	TRENCH SAFETY PROTECTION	71,944	LF	\$ 5	\$ 359,720
8	CLEARING AND GRUBBING	1	EA	\$ 400,000	\$ 400,000
9	PUMP STATION TIE-IN	1	EA	\$ 30,000	\$ 30,000
10	OUTFALL STRUCTURE	1	LS	\$ 100,000	\$ 100,000
11	CATHODIC PROTECTION	78,144	LF	\$ 10	\$ 781,440
12	42" PIG LAUNCHER/RETRIEVAL STATION	2	EA	\$ 560,000	\$ 1,120,000
13	30" PIG LAUNCHER/RETRIEVAL STATION	2	EA	\$ 340,000	\$ 680,000
14	REMOVE 30" BUTTERFLY VALVE AND REPLACE W/ 30" GATE VALVE	2	EA	\$ 125,000.00	\$ 250,000
15	REMOVE 30" CROSS AND REPLACE WITH 30" TEE	1	EA	\$ 80,000.00	\$ 80,000
16	HYDROSTATIC TESTING	78,144	LF	\$ 0.50	\$ 39,072

Surface Restoration					
17	PAVEMENT RESTORATION - TYPE D	7,500	SY	\$ 150	\$ 1,125,000
18	ROCK RIPRAP	135	SY	\$ 200	\$ 27,000
19	SITE RESTORATION	185	AC	\$ 2,000	\$ 370,000

Trenchless Crossings (Assuming Horizontal Auger Boring Method)					
20	42" C200 OR C303 CARRIER PIPE IN 60" STEEL CASING	6,200	LF	\$ 2,100	\$ 13,020,000

SUBTOTAL	\$	54,482,272
CONTINGENCY	30%	\$ 16,344,682
SUBTOTAL	\$	70,826,953
MOBILIZATION	5%	\$ 3,541,348
SUBTOTAL	\$	74,368,301

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$</b>	<b>74,368,301</b>
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COST ESCALATION FACTOR	9.0%	\$ 6,693,147
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<b>PROJECT TOTAL (2023 COSTS)</b>	<b>\$</b>	<b>81,061,448</b>
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**NOTES:**

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## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Colorado River Raw Water PS Expansion - 600 HP	DATE	4/26/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	EFR	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Kelly Wood	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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### SITE PLAN AND PIPING

1	30" C200 Ductile Iron Pipe	105	LF	\$ 283.00	\$ 29,715
2	30" Buried Gate Valve and Valve Box	1	EA	\$ 82,600.00	\$ 82,600
3	30" Above Gate Gate Valve, Flg.	1	EA	\$ 47,200.00	\$ 47,200
4	42" C200 Ductile Iron Pipe	135	LF	\$ 610.00	\$ 82,350
5	Generator Pad Installation, 50' x 20' x 2'	74	CY	\$ 826.00	\$ 61,124
6	Fence Removal and Replacement	225	LF	\$ 65.00	\$ 14,625
7	Flow Meter and Concrete Vault, 10' x 10' x 8'	1	LS	\$ 118,000.00	\$ 118,000
8	CMU Building Modifications for 24" Pipe Penetration	1	LS	\$ 17,700.00	\$ 17,700
9	30" Fittings	3.5	ton	\$ 8,850.00	\$ 30,975
10	Miscellaneous Fine Grading	1	LS	\$ 5,900.00	\$ 5,900
11	Hydromulch and Seeding	1	LS	\$ 5,900.00	\$ 5,900
12	Access Gate (20 ft, Double Leaf)	1	LS	\$ 17,700.00	\$ 17,700

### PUMP AND PIPING IMPROVEMENTS

13	Remove existing three (3) Vertical Turbine Pumps	1	LS	\$ 60,000.00	\$ 60,000
14	Install four (4) Vertical Turbine Pumps and Motors	1	LS	\$ 1,968,240.00	\$ 1,968,240
15	14" Ductile Iron Discharge Pipe	20	LF	\$ 200.00	\$ 4,000
16	14" Electrically Actuated Ball Valve	4	EA	\$ 49,560.00	\$ 198,240
17	14" Silent Globe Check Valve	4	EA	\$ 43,793.00	\$ 175,172
18	16"x14" Concentric Reducer, Flg.	4	EA	\$ 2,549.00	\$ 10,196
19	Miscellaneous Concrete Repair	1	LS	\$ 5,900.00	\$ 5,900
20	Remove and salvage existing air compressor	1	LS	\$ 2,950.00	\$ 2,950
21	Copper Ion Chemical System	1	LS	\$ 76,228.00	\$ 76,228

### HVAC

22	Two 7.5 ton HVAC split units including supports, thermostat, refrigerant and condensate drain piping	1	LS	\$ 53,100.00	\$ 53,100
23	Exhaust fans in pump room	2	EA	\$ 7,080.00	\$ 14,160
24	Gravity Backdraft dampers	2	EA	\$ 4,720.00	\$ 9,440
25	Ductwork and Duct Accessories	1	LS	\$ 11,800.00	\$ 11,800

### ELECTRICAL AND INSTRUMENTATION

26	Wiring	1	LS	\$ 113,273.00	\$ 113,273
27	Conduit	1	LS	\$ 67,535.00	\$ 67,535
28	Ductbank	1	LS	\$ 20,159.00	\$ 20,159
29	Instrumentation	1	LS	\$ 14,750.00	\$ 14,750
30	RTU Cabinet	1	EA	\$ 12,980.00	\$ 12,980
31	Switchboard	1	EA	\$ 177,000.00	\$ 177,000
32	VFD #1	1	EA	\$ 200,600.00	\$ 200,600
33	VFD #2	1	EA	\$ 200,600.00	\$ 200,600
34	RVSS #1	1	EA	\$ 118,000.00	\$ 118,000

PROJECT NAME	Colorado River Raw Water PS Expansion - 600 HP	DATE	4/26/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	EFR	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Kelly Wood	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
35	RVSS #2	1	EA	\$ 118,000.00	\$ 118,000
36	ATS	1	EA	\$ 106,200.00	\$ 106,200
37	Generator	1	EA	\$ 2,135,800.00	\$ 2,135,800
SUBTOTAL					\$ 6,388,112
CONTINGENCY 30%					\$ 1,916,434
SUBTOTAL					\$ 8,304,546
MOBILIZATION 5%					\$ 415,227
SUBTOTAL					\$ 8,719,773

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 8,719,773</b>
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COST ESCALATION FACTOR	9.0%	\$ 784,780
<b>PROJECT TOTAL (2023 COSTS)</b>		<b>\$ 9,504,552</b>

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NOTES:

- 1 FNI OPCC classified as an AACE Class 4 Estimate with accuracy range or -20 to + 30.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 All unit costs include 18% Overhead and Profit

## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Colorado River Raw Water PS Expansion - 500 HP	DATE	4/26/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	EFR	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Kelly Wood	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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### SITE PLAN AND PIPING

1	30" C200 Ductile Iron Pipe	105	LF	\$ 283.00	\$ 29,715
2	30" Buried Gate Valve and Valve Box	1	EA	\$ 82,600.00	\$ 82,600
3	30" Above Gate Gate Valve, Flg.	1	EA	\$ 47,200.00	\$ 47,200
4	42" C200 Ductile Iron Pipe	135	LF	\$ 610.00	\$ 82,350
5	Generator Pad Installation, 35' x 12' x 2'	32	CY	\$ 826.00	\$ 26,432
6	Fence Removal and Replacement	225	LF	\$ 65.00	\$ 14,625
7	Flow Meter and Concrete Vault, 10' x 10' x 8'	1	LS	\$ 118,000.00	\$ 118,000
8	CMU Building Modifications for 24" Pipe Penetration	1	LS	\$ 17,700.00	\$ 17,700
9	30" Fittings	3.5	ton	\$ 8,850.00	\$ 30,975
10	Miscellaneous Fine Grading	1	LS	\$ 5,900.00	\$ 5,900
11	Hydromulch and Seeding	1	LS	\$ 5,900.00	\$ 5,900
12	Access Gate (20 ft, Double Leaf)	1	LS	\$ 17,700.00	\$ 17,700

### PUMP AND PIPING IMPROVEMENTS

13	Remove existing three (3) Vertical Turbine Pumps	1	LS	\$ 60,000.00	\$ 60,000
14	Install four (4) Vertical Turbine Pumps and Motors	1	LS	\$ 1,642,560.00	\$ 1,642,560
15	14" Ductile Iron Discharge Pipe	20	LF	\$ 200.00	\$ 4,000
16	14" Electrically Actuated Ball Valve	4	EA	\$ 49,560.00	\$ 198,240
17	14" Silent Globe Check Valve	4	EA	\$ 43,793.00	\$ 175,172
18	16"x14" Concentric Reducer, Flg.	4	EA	\$ 2,549.00	\$ 10,196
19	Miscellaneous Concrete Repair	1	LS	\$ 5,900.00	\$ 5,900
20	Remove and salvage existing air compressor	1	LS	\$ 2,950.00	\$ 2,950
21	Copper Ion Chemical System	1	LS	\$ 76,228.00	\$ 76,228

### HVAC

22	Two 7.5 ton HVAC split units including supports, thermostat, refrigerant and condensate drain piping	1	LS	\$ 53,100.00	\$ 53,100
23	Exhaust fans in pump room	2	EA	\$ 7,080.00	\$ 14,160
24	Gravity Backdraft dampers	2	EA	\$ 4,720.00	\$ 9,440
25	Ductwork and Accessories	1	LS	\$ 2,950.00	\$ 2,950

### ELECTRICAL AND INSTRUMENTATION

26	Wiring	1	LS	\$ 113,273.00	\$ 113,273
27	Conduit	1	LS	\$ 67,535.00	\$ 67,535
28	Ductbank	1	LS	\$ 20,159.00	\$ 20,159
29	Instrumentation	1	LS	\$ 14,750.00	\$ 14,750
30	RTU Cabinet	1	EA	\$ 12,980.00	\$ 12,980
31	VFD #1	1	EA	\$ 177,000.00	\$ 177,000
32	VFD #2	1	EA	\$ 177,000.00	\$ 177,000
33	RVSS #1	1	EA	\$ 100,300.00	\$ 100,300

PROJECT NAME	Colorado River Raw Water PS Expansion - 500 HP	DATE	4/26/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	EFR	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Kelly Wood	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
34	RVSS #2	1	EA	\$ 100,300.00	\$ 100,300
35	ATS	1	EA	\$ 106,200.00	\$ 106,200
36	Generator	1	EA	\$ 1,652,000.00	\$ 1,652,000
SUBTOTAL					\$ 5,275,490
CONTINGENCY 30%					\$ 1,582,647
SUBTOTAL					\$ 6,858,137
MOBILIZATION 5%					\$ 342,907
SUBTOTAL					\$ 7,201,044

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 7,201,044</b>
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COST ESCALATION FACTOR	9.0%	\$ 648,094
<b>PROJECT TOTAL (2023 COSTS)</b>		<b>\$ 7,849,138</b>

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

NOTES:

- 1 FNI OPCC classified as an AACE Class 4 Estimate with accuracy range or -20 to + 30.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 All unit costs include 18% Overhead and Profit

## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Colorado River Raw Water PS Expansion - 500 HP	DATE	7/18/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	60% Design Submittal	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Kelly Wood / Eric Engelskirchen	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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### SITE PLAN AND PIPING

1	Trench Safety	200	LF	\$ 4.00	\$ 800
2	42" C200 Ductile Iron Pipe	230	LF	\$ 630.00	\$ 144,900
3	42" Fittings	10	ton	\$ 17,700.00	\$ 177,000
4	42" Above Grade Butterfly Valve, Flg.	1	EA	\$ 47,200.00	\$ 47,200
5	Concrete Support, 18" Shallow Footing	2	EA	\$ 8,496.00	\$ 16,992
6	Flow Meter and Concrete Vault, 14' x 12' x 10'	1	LS	\$ 136,880.00	\$ 136,880
7	CMU Building Modifications for 24" Pipe Penetration	1	LS	\$ 17,700.00	\$ 17,700
8	Generator Pad Installation, 42'x22'x2'	70	CY	\$ 1,062.00	\$ 74,340
9	Remove Existing Fence	455	LF	\$ 47.00	\$ 21,385
10	Proposed Fence	500	LF	\$ 83.00	\$ 41,500
11	Access Gate (16 ft, Double Leaf, Swing)	1	EA	\$ 14,750.00	\$ 14,750
12	Access Gate (20 ft, Double Leaf, Swing)	1	EA	\$ 17,700.00	\$ 17,700
13	8" Reinforced Concrete Paving, Generator Access and Turnaround	165	SY	\$ 118.00	\$ 19,470
14	8" Flexbase, Generator Access and Turnaround	165	SY	\$ 47.00	\$ 7,755
15	8" Subgrade, Generator Access and Turnaround	165	SY	\$ 12.00	\$ 1,980
16	4' Wide Concrete Sidewalk	124	LF	\$ 59.00	\$ 7,316
17	Miscellaneous Fine Grading	1	LS	\$ 5,900.00	\$ 5,900
18	Hydromulch and Seeding	1	LS	\$ 5,900.00	\$ 5,900
19	Temporary Construction Access Road	1	LS	\$ 59,000.00	\$ 59,000

### E&S CONTROLS AND TREE PROTECTION

20	SWPPP Preparation	1	LS	\$ 5,900.00	\$ 5,900
21	Silt Fence	1155	LF	\$ 6.00	\$ 6,930
22	Stabalized Construction Entrance	230	SY	\$ 35.00	\$ 8,050
23	Concrete Washout	1	EA	\$ 9,440.00	\$ 9,440
24	Tree Protection	698	LF	\$ 4.00	\$ 2,792

### PUMP AND PIPING IMPROVEMENTS

25	Remove existing three (3) Vertical Turbine Pumps	1	LS	\$ 60,000.00	\$ 60,000
26	Install four (4) Vertical Turbine Pumps and Motors	1	LS	\$ 2,151,966.00	\$ 2,151,966
27	14" Ductile Iron Discharge Pipe	20	LF	\$ 236.00	\$ 4,720
28	14" Electrically Actuated Ball Valve	4	EA	\$ 49,560.00	\$ 198,240
29	14" Gate Valve	1	EA	\$ 27,140.00	\$ 27,140
30	14" Thrust Restraint and Coupling	4	EA	\$ 2,549.00	\$ 10,196
31	3" Combination Air Valve	4	EA	\$ 7,080.00	\$ 28,320
32	Pressure Gauge	4	EA	\$ 3,540.00	\$ 14,160
33	Adjustable Pipe Support	4	EA	\$ 14,160.00	\$ 56,640
34	Miscellaneous Concrete Repair	1	LS	\$ 5,900.00	\$ 5,900
35	Remove and salvage existing air compressor	1	LS	\$ 2,950.00	\$ 2,950
36	Copper Ion Chemical System	1	LS	\$ 95,158.00	\$ 95,158

PROJECT NAME	Colorado River Raw Water PS Expansion - 500 HP	DATE	7/18/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	60% Design Submittal	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Kelly Wood / Eric Engelskirchen	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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HVAC					
37	Two 5 ton HVAC split units including supports, thermostat, refrigerant and condensate drain piping	1	LS	\$ 27,730.00	\$ 27,730
38	Exhaust fans in pump room	2	EA	\$ 7,080.00	\$ 14,160
39	Gravity Backdraft dampers	2	EA	\$ 4,720.00	\$ 9,440
40	Ductwork and Accessories	1	LS	\$ 11,800.00	\$ 11,800

ELECTRICAL AND INSTRUMENTATION					
41	Wiring	1	LS	\$ 138,209.00	\$ 138,209
42	Conduit	1	LS	\$ 81,965.00	\$ 81,965
43	Lighting and Receptacles	1	LS	\$ 31,718.00	\$ 31,718
44	Misc. Disconnects, Boxes, and Fittings	1	LS	\$ 7,080.00	\$ 7,080
45	Ductbank	1	LS	\$ 45,213.00	\$ 45,213
46	Grounding	1	LS	\$ 15,751.00	\$ 15,751
47	Instrumentation	1	LS	\$ 35,990.00	\$ 35,990
48	RTU Cabinet	1	EA	\$ 177,000.00	\$ 177,000
49	Switchboard with ATO	1	EA	\$ 318,600.00	\$ 318,600
50	VFD #1	1	EA	\$ 206,500.00	\$ 206,500
51	VFD #2	1	EA	\$ 206,500.00	\$ 206,500
52	RVSS #1	1	EA	\$ 129,800.00	\$ 129,800
53	RVSS #2	1	EA	\$ 129,800.00	\$ 129,800
54	Generator	1	EA	\$ 1,711,000.00	\$ 1,711,000

SUBTOTAL		\$	6,805,226
CONTINGENCY	20%	\$	1,361,045
SUBTOTAL		\$	8,166,271
MOBILIZATION	5%	\$	408,314
SUBTOTAL		\$	8,574,585

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$</b>	<b>8,574,585</b>
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COST ESCALATION FACTOR	9.0%	\$	771,713
<b>PROJECT TOTAL (2023 COSTS)</b>		<b>\$</b>	<b>9,346,297</b>

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NOTES:

- 1 FNI OPCC classified as an AACE Class 2 Estimate with accuracy range or -5 to +15.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 All unit costs include 18% Overhead and Profit



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## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	SCR RWL - BID PACKAGE 3 - DI	DATE	7/27/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	60%	PM	ACH

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
T. Jackson & M. Lafferty	D. Huffines	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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Pipeline Installation					
1	SWPPP AND CONTROLS	1	LS	\$ 285,000	\$ 285,000
2	PREPARING RIGHT OF WAY	1	LS	\$ 448,000	\$ 448,000
3	TRAFFIC CONTROL	1	LS	\$ 75,000	\$ 75,000
4	42-INCH CLASS 200 DUCTILE IRON PIPE	14,587	LF	\$ 630	\$ 9,189,671
5	42-INCH CLASS 150 DUCTILE IRON PIPE	33,039	LF	\$ 610	\$ 20,153,924
6	42" CLASS 200 DIP CARRIER PIPE IN 60" STEEL CASING INSTALLED BY OPEN CUT	141	LF	\$ 1,800	\$ 253,800
7	42-INCH GATE VALVES	10	EA	\$ 125,000	\$ 1,250,000
8	COMBINATION AIR/VACUUM VALVE W/ BOLLARDS	32	EA	\$ 44,100	\$ 1,411,200
9	BLOW OFF VALVE W/ BOLLARDS	31	EA	\$ 31,500	\$ 976,500
10	TRENCH SAFETY PROTECTION	47,767	LF	\$ 5	\$ 238,835
11	PUMP STATION TIE-IN	1	EA	\$ 30,000	\$ 30,000
12	OUTFALL STRUCTURE	1	LS	\$ 100,000	\$ 100,000
13	CATHODIC PROTECTION	51,687	LF	\$ 10	\$ 516,870
14	PIG LAUNCHING STATION	1	LS	\$ 469,426	\$ 469,426
15	REMOVE 30" C303 90-DEG BEND AND REPLACE WITH 30" DI TEE	1	EA	\$ 90,000.00	\$ 90,000
16	REMOVE 30" C303 TEE AND REPLACE WITH 30" DI CROSS	1	EA	\$ 80,000.00	\$ 80,000
17	HYDROSTATIC TESTING	51,687	LF	\$ 0.50	\$ 25,844

Surface Restoration					
18	REMOVE AND REPLACE HMAC PAVEMENT	654	SY	\$ 150	\$ 98,100
19	REMOVE AND REPLACE CONCRETE TRAIL	287	SY	\$ 100	\$ 28,700
20	ROCK RIPRAP	1,745	SY	\$ 200	\$ 349,000
21	SITE RESTORATION	112	AC	\$ 2,500	\$ 280,000
22	STEEL GATE	2	EA	\$ 3,000	\$ 6,000
23	FENCELINE REPAIR (ALL TYPES - MATCH EXIST.)	9,060	LF	\$ 50	\$ 456,624

Trenchless Crossings (Assuming Horizontal Auger Boring Method)					
24	42" CLASS 200 DIP CARRIER PIPE IN 60" STEEL CASING	915	LF	\$ 2,120	\$ 1,939,800
25	42" CLASS 150 DIP CARRIER PIPE IN 60" STEEL CASING	3,005	LF	\$ 2,100	\$ 6,310,500

SUBTOTAL		\$	45,062,794
CONTINGENCY	20%	\$	9,012,559
SUBTOTAL		\$	54,075,352
MOBILIZATION	5%	\$	2,703,768
SUBTOTAL		\$	56,779,120

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 56,779,120</b>
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COST ESCALATION FACTOR	9.0%	\$	5,110,121
<b>PROJECT TOTAL (2023 COSTS)</b>		\$	<b>61,889,241</b>

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**NOTES:**

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## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Secondary Colorado River Raw Water Line	DATE	7/29/2022
CLIENT	City of Pflugerville	GROUP	1150
% SUBMITTAL	60%	PM	REBECCA PETERS

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
NATALIE RODRIGUEZ		PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>Pipeline Installation</b>					
1	SWPPP AND CONTROLS	1	LS	\$ 285,000	\$ 285,000
2	CLEARING AND GRUBBING	1	EA	\$ 448,000	\$ 448,000
3	TRAFFIC CONTROL	1	LS	\$ 75,000	\$ 75,000
4	42-INCH CLASS 150 DUCTILE IRON PIPE	23,390	LF	\$ 610	\$ 14,267,772
5	42-INCH GATE VALVES	7	EA	\$ 125,000	\$ 875,000
6	COMBINATION AIR/VACUUM VALVE W/ BOLLARDS	15	EA	\$ 44,100	\$ 661,500
7	BLOW OFF VALVE W/ BOLLARDS	13	EA	\$ 31,500	\$ 409,500
8	TRENCH SAFETY PROTECTION	23,390	LF	\$ 5	\$ 116,949
9	CONNECTION TO 42-INCH WATER LINE PER BID PACKAGE THREE	1	LS	\$ 30,000	\$ 30,000
10	OUTFALL STRUCTURE	1	LS	\$ 100,000	\$ 100,000
11	CATHODIC PROTECTION	25,415	LF	\$ 10	\$ 254,148
12	PIG RETREIVAL STATION	1	LS	\$ 367,000	\$ 367,000
13	REMOVE 30" C303 45-DEG & 22.5-DEG BEND AND REPLACE WITH 90-DEG BEND	1	EA	\$ 90,000	\$ 90,000
14	REMOVE 30" C303 TEE AND REPLACE WITH 30" CROSS	1	EA	\$ 80,000	\$ 80,000
15	HYDROSTATIC TESTING	25,415	LF	\$ 1	\$ 12,707

<b>Surface Restoration</b>					
16	REMOVE AND REPLANCE CRUSHED GRANITE TRAIL	109	SY	\$ 100	\$ 10,900
17	ROCK RIPRAP	110	SY	\$ 200	\$ 22,000
18	SITE RESTORATION	1	AC	\$ 2,500	\$ 2,500
19	FENCELINE REPAIR (ALL TYPES - MATCH EXIST.)	1,500	LF	\$ 50	\$ 75,000

<b>Jack and Bore (Creek and Road Crossings)</b>					
20	42" CLASS 200 DIP CARRIER PIPE IN 60" STEEL CASING	2,025	LF	\$ 2,120	\$ 4,293,000

SUBTOTAL	\$	22,475,976
CONTINGENCY	20%	\$ 4,495,195
SUBTOTAL	\$	26,971,171
MOBILIZATION	5%	\$ 1,348,559
SUBTOTAL	\$	28,319,730

**PROJECT TOTAL (2022 COSTS) \$ 28,319,730**

COST ESCALATION FACTOR 9.0% \$ 2,548,776

**PROJECT TOTAL (2023 COSTS) \$ 30,868,506**

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**NOTES:**

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- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.

## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Secondary Colorado River PS Expansion - Package 2	DATE	10/19/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	Revised 60%	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Eric Engelskirchen / John Rinacke	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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### SITE PLAN AND PIPING

1	Trench Safety	200	LF	\$ 4.00	\$ 800
2	42" C200 Ductile Iron Pipe	230	LF	\$ 800.00	\$ 184,000
3	42" Fittings	10	ton	\$ 17,700.00	\$ 177,000
4	42" Resilient Wedge Gate Valve, Buried	1	EA	\$ 136,639.00	\$ 136,639
5	Concrete Support, 18" Shallow Footing	4	EA	\$ 8,496.00	\$ 33,984
6	Aerial Pipe Access Platform and Flow Meter	1	LS	\$ 136,880.00	\$ 136,880
7	CMU Building Modifications for 30" Pipe Penetration	1	LS	\$ 17,700.00	\$ 17,700
8	Generator Pad Installation, 38'x23'x2'	70	CY	\$ 1,062.00	\$ 74,340
9	Remove Existing Fence	455	LF	\$ 47.00	\$ 21,385
10	Proposed Fence	500	LF	\$ 83.00	\$ 41,500
11	Access Gate (16 ft, Double Leaf, Swing)	1	EA	\$ 14,750.00	\$ 14,750
12	Access Gate (20 ft, Double Leaf, Swing)	1	EA	\$ 17,700.00	\$ 17,700
13	8" Reinforced Concrete Paving, Generator Access and Turnaround	165	SY	\$ 118.00	\$ 19,470
14	8" Flex base, Generator Access and Turnaround	165	SY	\$ 47.00	\$ 7,755
15	8" Subgrade, Generator Access and Turnaround	165	SY	\$ 12.00	\$ 1,980
16	Natural Gas Service Line and Meter	1	LS	\$ 20,000.00	\$ 20,000
17	Miscellaneous Fine Grading	1	LS	\$ 5,900.00	\$ 5,900
18	Hydromulch and Seeding	1	LS	\$ 5,900.00	\$ 5,900
19	Temporary Construction Access Road	1	LS	\$ 59,000.00	\$ 59,000

### E&S CONTROLS AND TREE PROTECTION

20	SWPPP Preparation	1	LS	\$ 5,900.00	\$ 5,900
21	Silt Fence	1155	LF	\$ 6.00	\$ 6,930
22	Stabilized Construction Entrance	230	SY	\$ 35.00	\$ 8,050
23	Concrete Washout	1	EA	\$ 9,440.00	\$ 9,440
24	Tree Protection	698	LF	\$ 4.00	\$ 2,792

### PUMP AND PIPING IMPROVEMENTS

25	Remove existing three (3) Vertical Turbine Pumps	1	LS	\$ 60,000.00	\$ 60,000
26	Install four (4) Vertical Turbine Pumps and Motors	1	LS	\$ 2,797,556.00	\$ 2,797,556
27	14" Ductile Iron Discharge Pipe	20	LF	\$ 236.00	\$ 4,720
28	14" Electrically Actuated Ball Valve	4	EA	\$ 49,560.00	\$ 198,240
29	14" Gate Valve	1	EA	\$ 27,140.00	\$ 27,140
30	14" Thrust Restraint and Coupling	4	EA	\$ 2,549.00	\$ 10,196
31	3" Combination Air Valve	4	EA	\$ 7,080.00	\$ 28,320
32	Pressure Gauge	4	EA	\$ 3,540.00	\$ 14,160
33	Adjustable Pipe Support	4	EA	\$ 14,160.00	\$ 56,640
34	Miscellaneous Concrete Repair	1	LS	\$ 5,900.00	\$ 5,900
35	Remove and salvage existing air compressor	1	LS	\$ 2,950.00	\$ 2,950
36	Copper Ion Chemical System	1	LS	\$ 138,131.00	\$ 138,131

PROJECT NAME	Secondary Colorado River PS Expansion - Package 2	DATE	10/19/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	Revised 60%	PM	Anne Hoskins

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
Jacqueline McMahon	Eric Engelskirchen / John Rinacke	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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HVAC					
37	Two 5 ton HVAC split units including supports, thermostat, refrigerant and condensate drain piping	1	LS	\$ 27,730.00	\$ 27,730
38	Exhaust fans in pump room	2	EA	\$ 7,080.00	\$ 14,160
39	Gravity Backdraft dampers	2	EA	\$ 4,720.00	\$ 9,440
40	Ductwork and Accessories	1	LS	\$ 11,800.00	\$ 11,800

ELECTRICAL AND INSTRUMENTATION					
41	Wiring	1	LS	\$ 138,209.00	\$ 138,209
42	Conduit	1	LS	\$ 81,965.00	\$ 81,965
43	Lighting and Receptacles	1	LS	\$ 31,718.00	\$ 31,718
44	Misc. Disconnects, Boxes, and Fittings	1	LS	\$ 7,080.00	\$ 7,080
45	Duct bank	1	LS	\$ 45,213.00	\$ 45,213
46	Grounding	1	LS	\$ 15,751.00	\$ 15,751
47	Instrumentation	1	LS	\$ 35,990.00	\$ 35,990
48	UPS for Control Valves	1	LS	\$ 80,000.00	\$ 80,000
49	RTU Cabinet	1	EA	\$ 177,000.00	\$ 177,000
50	Switchboard with ATO	1	EA	\$ 414,180.00	\$ 414,180
51	VFD #1	1	EA	\$ 268,450.00	\$ 268,450
52	VFD #2	1	EA	\$ 268,450.00	\$ 268,450
53	RVSS #1	1	EA	\$ 129,800.00	\$ 129,800
54	RVSS #2	1	EA	\$ 129,800.00	\$ 129,800
55	Generator	1	EA	\$ 1,711,000.00	\$ 1,711,000

SUBTOTAL		\$	7,951,484
CONTINGENCY	20%	\$	1,590,297
SUBTOTAL		\$	9,541,781
MOBILIZATION	5%	\$	477,089
SUBTOTAL		\$	10,018,870

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 10,018,870</b>
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COST ESCALATION FACTOR	9.0%	\$	901,698
<b>PROJECT TOTAL (2023 COSTS)</b>	<b>\$ 10,920,568</b>		

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NOTES:

- 1 FNI OPCC classified as an ACEE Class 2 Estimate with accuracy range or -10 to +20.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 All unit costs include 18% Overhead and Profit



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## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Secondary Colorado River RWL - Package 3	DATE	10/19/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	Revised 60%	PM	ACH

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
T. Jackson & M. Lafferty	ACH	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
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### Pipeline Installation

1	Preparing ROW	117	AC	\$ 4,500.00	\$ 526,500
2	8 in. Subgrade Preparation	227	SY	\$ 8.00	\$ 1,816
3	Flexible Base, 10"	654	SY	\$ 50.00	\$ 32,700
4	Hot Mix Asphaltic Concrete Pavement, 2 in. Type D	654	SY	\$ 50.00	\$ 32,700
5	6 in. Concrete Pavement	227	SY	\$ 100.00	\$ 22,700
6	Traffic Control	1	LS	\$ 75,000.00	\$ 75,000
7	Dry Rock Riprap	873	CY	\$ 220.00	\$ 191,950
8	Rock Berm	120	LF	\$ 100.00	\$ 12,000
9	Topsoil and Seedbed Preparation	117	AC	\$ 2,000.00	\$ 234,000
10	Native Seeding for Erosion Control Method, Hydraulic Planting	117	AC	\$ 6,500.00	\$ 760,500
11	Protective Fencing Type C Other Materials (Limited Application-minimal damage potential)	13,250	LF	\$ 2.50	\$ 33,125
12	Stabilized Construction Entrance	8	EA	\$ 2,500.00	\$ 20,000
13	Silt Fence for Erosion Control	105,150	LF	\$ 3.00	\$ 315,450
14	Prepare and Implement Storm Water Pollution Prevention Plan	1	LS	\$ 20,000.00	\$ 20,000
15	Fence (Removal and Replacement)	9,060	LF	\$ 25.00	\$ 226,500
16	Valves, Gate Valve Type, 42 in. Dia.	10	EA	\$ 136,639.00	\$ 1,366,390
17	Blowoff Valve Assemblies	24	EA	\$ 44,100.00	\$ 1,058,400
18	Automatic Combination Air/Vacuum Release Valve Assembly, 4" Diameter	28	EA	\$ 50,500.00	\$ 1,414,000
19	Automatic Combination Air/Vacuum Release Valve Assembly, 8" Diameter	1	EA	\$ 67,700.00	\$ 67,700
20	Pig Launching Station - Ductile Iron	1	LS	\$ 470,000.00	\$ 470,000
21	Connect to Existing 42" Pipeline - Package 2	1	EA	\$ 40,000.00	\$ 40,000
22	Remove existing 30" AWWA C303 90-deg bend and replace with 30" x 30" DIP Pressure Class 200 Tee, Complete in Place, including all appurtenant work	1	EA	\$ 90,000.00	\$ 90,000
23	Pipe, 30 in. Dia. Ductile Iron Pressure Class 200, by Open Cut (all depths), including Excavation and Backfill.	140	LF	\$ 510.00	\$ 71,400
24	Pipe, 42 in. Dia. Ductile Iron Pressure Class 200, by Open Cut (all depths), including Excavation and Backfill.	14,467	LF	\$ 734.00	\$ 10,618,778
25	Pipe, 42 in. Dia. Ductile Iron Pressure Class 150 by Open Cut (all depths), including Excavation and Backfill.	33,502	LF	\$ 679.00	\$ 22,747,858
26	42-inch Ductile Iron Pressure Class 200 Carrier Pipe and 60-inch Min. Dia. Steel Casing by Open Cut, and Installation Materials	151	LF	\$ 1,800	\$ 271,800
27	Trench Excavation Safety Protective Systems (all depths)	48,260	LF	\$ 3.00	\$ 144,780
28	Hydrostatic Testing	51,866	LF	\$ 0.50	\$ 25,933
29	Cathodic Protection	51,866	LF	\$ 12.00	\$ 622,392

### Trenchless Crossings

30	42-inch Ductile Iron Pressure Class 200 Carrier Pipe and 60-inch Min. Dia. Steel Casing by Microtunnel, and Installation Materials	499	LF	\$ 3,860	\$ 1,926,140
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PROJECT NAME	Secondary Colorado River RWL - Package 3	DATE	10/19/2022
CLIENT	City of Pflugerville	GROUP	1147
% SUBMITTAL	Revised 60%	PM	ACH

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
T. Jackson & M. Lafferty	ACH	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
31	42-inch Ductile Iron Pressure Class 150 Carrier Pipe and 60-inch Min. Dia. Steel Casing by Microtunnel, and Installation Materials	996	LF	\$ 3,800	\$ 3,784,800
32	42-inch Ductile Iron Pressure Class 200 Carrier Pipe and 60-inch Min. Dia. Steel Casing by Trenchless Construction, and Installation Materials	393	LF	\$ 2,160	\$ 848,880
33	42-inch Ductile Iron Carrier Pipe Pressure Class 150 and 60-inch Min. Dia. Steel Casing by Trenchless Construction, and Installation Materials	1,718	LF	\$ 2,100	\$ 3,607,800

SUBTOTAL	\$	51,681,992.00
CONTINGENCY	20%	\$ 10,336,398
SUBTOTAL	\$	62,018,390
MOBILIZATION	5%	\$ 3,100,920
SUBTOTAL	\$	65,119,310

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$</b>	<b>65,119,310</b>
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COST ESCALATION FACTOR	9.0%	\$ 5,860,738
<b>PROJECT TOTAL (2023 COSTS)</b>	<b>\$</b>	<b>70,980,048</b>

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

NOTES:

- 1 FNI OPCC classified as an ACE Class 2 Estimate with accuracy range or -5 to + 20.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.



Innovative approaches  
Practical results  
Outstanding service

## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Secondary Colorado River RWL - Package 4	DATE	10/19/2022
CLIENT	City of Pflugerville	GROUP	1150
% SUBMITTAL	Revised 60%	PM	ACH

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
N. Rodriguez	ACH	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>Pipeline Installation</b>					
1	Preparing ROW	55	AC	\$ 4,000.00	\$ 220,000.00
2	Gravel Driveway (Remove and Replace)	173	SY	\$ 150.00	\$ 25,950.00
3	Gravel Trail (Remove and Replace)	96	SY	\$ 110.00	\$ 10,560.00
4	Dry Rock Riprap	553	CY	\$ 200.00	\$ 110,600.00
5	Rock Berm	35	LF	\$ 100.00	\$ 3,500.00
6	Topsoil and Seedbed Preparation	55	AC	\$ 2,000.00	\$ 110,000.00
7	Native Seeding for Erosion Control Method, Hydraulic Planting	55	AC	\$ 6,500.00	\$ 357,500.00
8	Protective Fencing Type C Other Materials (Limited Application-minimal damage potential)	6,625	LF	\$ 2.50	\$ 16,562.50
9	Stabilized Construction Entrance	6	EA	\$ 2,500.00	\$ 15,000.00
10	Silt Fence for Erosion Control	42,816	LF	\$ 3.00	\$ 128,449.15
11	Prepare and Implement Storm Water Pollution Prevention Plan	1	LS	\$ 20,000.00	\$ 20,000.00
12	Fence (Removal and Replacement)	3,625	LF	\$ 25.00	\$ 90,625.00
13	Valves, Gate Valve Type, 42 in. Dia.	6	EA	\$ 132,250.00	\$ 793,500.00
14	Blowoff Valve Assemblies	9	EA	\$ 44,127.00	\$ 397,143.00
15	Automatic Combination Air/Vacuum Release Valve Assembly, 4" Diameter	14	EA	\$ 50,480.00	\$ 706,720.00
16	Pig Retrieval Station - Ductile Iron	1	LS	\$ 400,000.00	\$ 400,000.00
17	Connection to Existing 42" Pipeline - Package 3	1	LS	\$ 90,000.00	\$ 90,000.00
18	Remove existing 30" C303 45-deg & 22.5-deg bend and replace with 30" DIP Pressure Class 200 90-deg, Complete in Place, including all appurtenant work	1	EA	\$ 80,000.00	\$ 80,000.00
19	Remove existing 30" x 30" C303 Tee and replace with 30" DIP Pressure Class 200 Cross, Complete in Place, including all appurtenant work	1	EA	\$ 95,000.00	\$ 95,000.00
20	30-inch Class 150 Ductile Iron Pipe, by Open Cut (all depths), including Excavation and Backfill.	100	LF	\$ 510.00	\$ 51,000.00
21	42-inch Class 150 Ductile Iron Pipe, by Open Cut (all depths), including Excavation and Backfill	27,033	LF	\$ 679.00	\$ 18,355,407.00
22	42-inch Class 150 Ductile Iron Pipe installed within existing 66 in. Dia. Steel Casing (Wells Branch Parkway Crossing)	431	LF	\$ 725.00	\$ 312,475.00
23	Trench Excavation Safety Protective Systems (all depths)	27,033	LF	\$ 5.00	\$ 135,165.00
24	Hydrostatic Testing	28,711	LF	\$ 0.50	\$ 14,355.50
25	Cathodic Protection	28,711	LF	\$ 12.00	\$ 344,532.00
26	Specialty Shoring for Limited Construction Space	1	LS	\$ 100,000.00	\$ 100,000.00
<b>Trenchless Crossings</b>					
27	42-inch Class 150 Ductile Iron Carrier Pipe and 60-inch Min. Dia. Steel Casing by Trenchless Construction, and Installation Materials	1,247	LF	\$ 3,800.00	\$ 4,738,600.00
28	42-inch Class 150 Ductile Iron Carrier Pipe and 60-inch Min. Dia. Steel Casing by Microtunnel, and Installation Materials	539	LF	\$ 2,100.00	\$ 1,131,900.00

SUBTOTAL	\$ 28,854,544.15
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PROJECT NAME	Secondary Colorado River RWL - Package 4	DATE	10/19/2022
CLIENT	City of Pflugerville	GROUP	1150
% SUBMITTAL	Revised 60%	PM	ACH

ESTIMATED BY	QC CHECKED BY	FNI PROJECT NUMBER
N. Rodriguez	ACH	PFL22216

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
				20%	\$ 5,770,908.83
					\$ 34,625,452.98
				5%	\$ 1,731,272.65
					\$ 36,356,725.63

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 36,356,725.63</b>
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COST ESCALATION FACTOR	9%	\$ 3,272,105.31
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<b>PROJECT TOTAL (2023 COSTS)</b>	<b>\$ 39,628,830.93</b>
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The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

NOTES:

- 1 FNI OPCC classified as an AACE Class 2 Estimate with accuracy range or -5 to +20.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.

**TO:** Andrea Brinkley, Capital Improvements Director; Thomas Hunter, Assistant City Manager

**CC:** Kevin Jaeger, Utility Manager, Kendall King, P.E., Jessica Vassar, P.E.

**FROM:** Coby Gee, P.E.

**SUBJECT:** Central WWTP Expansion Phase II Schedule and OPCC Review

**DATE:** 10/26/2022

**PROJECT:** Central WWTP Expansion Phase II

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In response to an email request from Mr. Kevin Jaeger, Utility Manager for the City of Pflugerville, FNI is providing this memorandum documenting the progression of the project schedule and Opinion of Probable Construction Cost (OPCC) through the life of the Central Wastewater Treatment Plant (WWTP) Expansion Phase II Project.

## **1.0 Project Background**

The Central WWTP Expansion Phase II Project is the second step in the phased expansion of the Central WWTP to 10.0 MGD which began planning and design in 2016. Phase I is currently in construction and will bring the capacity of the Central WWTP to 7.25 MGD with several of the new structures rated for the ultimate capacity of 10.0 MGD. Phase II was planned as primarily a rehabilitation project of the existing plant biological treatment system, which includes rehabilitation and conversion of the existing aeration basins to a biological nutrient removal (BNR) process and complete rehabilitation of the existing final clarifiers. Additionally, the project included construction of a new intermittent use effluent pump station and the addition of a 6<sup>th</sup> influent pump. During progression of the design, a few additional scope items were added to the project at the City's request and all work at the existing aeration basins was removed from the project to reduce costs. These changes are summarized and documented in PSSA #09 and #10 and described further in the following sections. With the currently planned improvements, the Central WWTP capacity will increase to 8.5 MGD.

## **2.0 OPCC and Schedule Progression:**

### *2.1 Project Timeline*

FNI received official Notice to Proceed for the project on 5/10/21 with a contractually estimated deadline to reach completion of design in approximately 13.5 months or the end of June 2022, dependent on City review times of deliverables. The goal was to be able to bid the Phase II project such that it would follow immediately after the completion of Phase I construction at the Central WWTP. In November 2021, FNI completed a schedule evaluation of the project due to the drastic increase in wastewater influent flows the previous 3 years with the goal to reduce the overall completion schedule for the project and avoid future flow exceedance violations from TCEQ. Through this evaluation, FNI compressed the design schedule by several weeks and presented multiple options to expedite project construction. The new design schedule included a target design completion date by the end of May 2022. As the design of Phase II progressed, the construction duration of the Phase I expansion continued to extend and as Phase II was dependent on the completion of Phase I, completion of the Phase II design was no longer the critical path of the project. Additionally, the City asked FNI to include additional scope

items in the design of Phase II (PSSA 09). Accordingly, the design schedule was extended and the 100% documents were submitted to the City on July 1, 2022 with the intention that the project would be bid in the 4<sup>th</sup> Quarter of 2022, once a firm completion date for the Phase I construction project was determined.

In August 2022, FNI conducted a meeting with City staff to consider delaying construction of the Phase II Project entirely until after the construction of the Wilbarger Water Reclamation Facility (WRF). The outcome of that meeting and further discussions with City Staff was that a major portion of the project would be delayed while still constructing the most pressing components, including those that would increase the capacity of the facility to 8.5 MGD. FNI is currently working to modify the previous bid documents to remove portions of the project and add or modify other portions as agreed upon with City Staff as part of PSSA #10. Based upon this latest schedule, the Phase II project is estimated to be fully constructed by the 4<sup>th</sup> Quarter of 2024 with the capacity improvements online by Summer 2023. A summary of the Phase II project schedule is shown below in Table 1.

**Table 1: Schedule Summary**

Deliverable Schedule	Design Completion Date	Notes
Original Contract (PSSA 07)	6/25/2022	Estimated based on City Review Times
Expedited	5/20/2022	FNI reduced schedule to expedite project
Actual (PSSA 09)	7/1/2022	Extended date due to added scope and delay of Phase I
Redesign (PSSA 10)	11/15/2022	Revised schedule to bid revised version of project by end of 2022

### *2.2 Proactive Actions to Cope with Market Volatility and Supply Chain Disruptions*

The Phase II project did not have a high proportion of piping or concrete work as a percentage of the overall project as a large portion of the work is rehabilitation of existing structures. The biggest drivers for project costs are the major equipment costs which account for approximately 30% of the entire project. To address market volatility, the major process equipment for the project was preselected and a contract agreement with the City was signed which would allow for costs to escalate based on specific indices (Produce Price Indices). This allowed the costs to be understood and inflated by a known factor at each level of estimate. However, as the project progressed into the final stages of the design, both the BNR supplier and Clarifier supplier requested adjustments to the contract stating the index adjusted costs deviated too far from their actual costs. The BNR System was ultimately removed from the project (PSSA #10) and negotiations are currently ongoing with the clarifier supplier. To avoid supply chain disruptions, the design team is currently in negotiations to pre-purchase the clarifier equipment which has been indicated as the longest lead time item.

### *2.3 Factors Contributing to Cost Escalation*

A description of the major factors contributing to cost escalation are described below.

- The major process equipment for Phase II had been preselected in Phase I with an escalation clause for how costs would be inflated based on specific indices. Each level of estimate used these escalation factors to determine a firm equipment price. The exception to that was at 90%, the key BNR supplier requested an adjustment to the contract indices. Additionally, during the ongoing 100% redesign, the clarifier supplier stated they can no longer honor the contract escalated pricing as it has deviated too far from the suppliers' actual costs. This is primarily attributed to stainless steel pricing which stems from the war in Ukraine as well as the nickel market crash in March 2022.

- The global chip shortage has contributed to significant lead times for key electronic equipment such as variable frequency drives from suppliers such as Eaton. On recent projects, FNI has been quoted 50-60 week lead times for these drives which increases costs for contractors attempting to secure workarounds for these lead times. To address lead time issues related to electrical equipment and other commodity shortages, FNI has allowed for a “relaxed” project construction schedule to ensure adequate time for these products to be secured.
- Between 30% and 60% the decision was made to remove some paving work from Phase I and add it to Phase II. Additionally, modifications to the existing abandoned filter structure were added to the scope of the project as a bid alternate and included in the OPCC.
- Between 60% and 90% deliverables, scope was added as part of PSSA #09 that included a backup post aeration system and drains at the existing filter basins.
- As part of the revised 100% design (PSSA #10), a major portion of the project was removed which significantly reduced the overall cost of the project. Additionally, scope was added to replace the existing backwash valves at the filters.

### 3.0 General and Key Items Summary

#### 3.1 General Summary

FNI provided a construction budget estimate of \$21.0 million for the Phase II project prior to issuance of NTP on the design. Through design development, OPCCs were provided to the City at each key deliverable and all estimates presented were within 10% of the initial budget estimate to the City. It should also be noted that a 6% inflation factor was used in the estimates to account for material price fluctuations from the time of the estimate to the time the materials would be procured by the General Contractor. This inflation factor tracks closely to the Engineering News Record (ENR) Construction Cost Index over the last year. A graph comparing the escalation of the OPCC costs versus various published indices is included in the appendix. A summary of the OPCC estimates at each deliverable is included in Table 2.

**Table 2: Summary of OPCCs through Design Development**

Date	Project Deliverable	*OPCC Estimate	% Change from Budget	Notes
3/25/2021	CIP Budget Estimate	\$21.00 million		5-year CIP estimate provided to City
8/13/2021	30%	\$18.99 million	-9.57%	
1/14/2022	60%	\$21.70 million	3.33%	Added paving from Phase I Project, added filter demolition, better defined quantities and electrical
4/8/2022	90%	\$22.90 million	9.05%	Added scope: post aeration system and filter drain modifications. Used increased estimate from BNR and clarifier supplier while index adjustment was evaluated.
7/8/2022	100%	\$22.63 million	7.76%	Used contract escalation rates for equipment after City decision.
10/13/2022	Revised 100%	\$14.13 million	N/A	Removed major work items (BNR Retrofit) and added filter valve replacement

\*FNI estimates assume AACE classifications that define the accuracy range for the estimate depending on the level of project definition. These can range between -20% and +20% depending on the estimate class.

**3.1 Key Items Summary**

A summary of cost changes for the key items of the project are shown in Table 3.

**Table 3: Summary of Key Item Costs through Design Development**

Component	30% OPCC	60% OPCC	90% OPCC	100% OPCC	100% Redesign OPCC
<b>Major Process Equipment</b>	\$ 3,276,324	\$ 3,891,421	\$ 4,377,720	\$ 4,239,797	\$ 2,340,001
<i>BNR Equipment</i>	\$ 2,019,193	\$ 2,141,761	\$ 2,410,904	\$ 2,328,870	\$ -
<i>Clarifier Equipment</i>	\$ 693,632	\$ 645,660	\$ 862,816	\$ 760,928	\$ 1,075,000
<i>Vertical Turbine Pumps</i>	\$ 563,499	\$ 1,104,000	\$ 1,104,000	\$ 1,149,999	\$ 1,265,001
% Increase from previous	N/A	19%	12%	-3%	-45%
<b>Cast In Place Concrete</b>	\$ 1,753,433	\$ 2,234,710	\$ 2,346,447	\$ 2,346,447	\$ 437,603
% Increase from previous	N/A	27%	5%	0%	-81%
<b>Yard Piping</b>	\$ 511,200	\$ 545,232	\$ 572,632	\$ 572,632	\$ 359,562
% Increase from previous	N/A	7%	5%	0%	-37%
<b>Electrical and Instrumentation</b>	\$ 1,298,050	\$ 1,982,850	\$ 2,135,850	\$ 2,284,950	\$ 1,461,840
% Increase from previous	N/A	53%	8%	7%	-36%

**4.0 Actions of the Design Engineer and Owner’s Representative**

The major action by the design team to reduce costs for the project was to remove the rehabilitation and improvements to the existing aeration basins as well as other agreed upon scope items as part of PSSA #10. This effort reduced the overall project cost by \$8.5 million from the previous 100% OPCC. Additionally, FNI will continue negotiations with the selected clarifier supplier and potentially rebid the equipment if sufficient justification for the requested cost escalation is not provided. Finally, FNI has allowed for a conservative construction schedule for the major process equipment to reduce overall risk of supply chain concerns for the Contractor. A milestone deadline will be included for the improvements required to increase capacity.

FNI has worked with the City extensively over the past several years to analyze options, adjust schedules, reduce risks, and reduce construction costs to serve the best interest of the City. We will continue to work to serve the best interest of the City in whatever way is needed for the Central WWTP Expansion Phase II project. If any additional information is needed, please contact project manager Coby Gee at or 512-617-3183.

Sincerely,

Coby Gee, P.E., Freese and Nichols, inc.

**Attachments:**

1. Project Schedule
2. Project OPCCs
3. ENR Indices Graph vs. OPCC Cost Increases

ID	Task Name	Duration	Start	Finish	Predecessors	2014	2019	2024	2029
1	<b>Pflugerville Central WWTP Expansion Phase II</b>	<b>850 days</b>	<b>Mon 5/17/21</b>	<b>Fri 8/16/24</b>					
2	Notice to Proceed	0 days	Mon 5/17/21	Mon 5/17/21			◆ 5/17		
3	<b>Design Phase</b>	<b>412 days</b>	<b>Mon 5/17/21</b>	<b>Tue 12/13/22</b>					
4	<b>30% Design</b>	<b>80 days</b>	<b>Mon 5/17/21</b>	<b>Fri 9/3/21</b>					
14	<b>60% Design</b>	<b>100 days</b>	<b>Mon 9/6/21</b>	<b>Fri 1/21/22</b>					
24	<b>90% Design</b>	<b>75 days</b>	<b>Mon 1/24/22</b>	<b>Fri 5/6/22</b>					
33	<b>100% Design</b>	<b>40 days</b>	<b>Mon 5/9/22</b>	<b>Fri 7/1/22</b>					
37	<b>Revised 100% Design</b>	<b>71 days</b>	<b>Tue 9/6/22</b>	<b>Tue 12/13/22</b>					
38	NTP from City	1 day	Tue 9/6/22	Tue 9/6/22					
39	Pework (fee estimates, OPCC, subconsultant coordination)	6 days	Wed 9/7/22	Wed 9/14/22	38				
40	Revise Plans and Specifications	5 wks	Thu 9/15/22	Wed 10/19/22	39				
41	Internal Quality Control	2 wks	Thu 10/20/22	Wed 11/2/22	40				
42	Finalize 100% Plans and Specifications	1 wk	Thu 11/3/22	Wed 11/9/22	41				
43	Compile 100% and Submit to City	4 days	Thu 11/10/22	Tue 11/15/22	42				
44	<b>Deliverable: Submit 100% Revised Documents to City</b>	0 days	Tue 11/15/22	Tue 11/15/22	43		◆ 11/15		
45	City Review Revised 100%	3 wks	Wed 11/23/22	Tue 12/13/22	44				
46	<b>Bid Phase (Not Scoped)</b>	<b>78 days</b>	<b>Wed 12/14/22</b>	<b>Fri 3/31/23</b>					
47	Advertise RFP	1 day	Wed 12/14/22	Wed 12/14/22	45				
48	Pre-Proposal Conference	1 day	Fri 1/13/23	Fri 1/13/23	47FS+21 days				
49	Submission of Proposals	1 day	Fri 2/3/23	Fri 2/3/23	48FS+14 days				
50	Evaluate Proposals and Submit Recommendation for Award	10 days	Mon 2/6/23	Fri 2/17/23	49				
51	Prepare Contract Docs and Council Agenda	12 days	Mon 2/20/23	Tue 3/7/23	50				
52	<b>Deadline for Council Agenda</b>	0 days	Tue 3/7/23	Tue 3/7/23	53FS-6 days		◆ 3/7		
53	City Council Meeting	1 day	Tue 3/14/23	Tue 3/14/23					
54	Execute Contract	13 days	Wed 3/15/23	Fri 3/31/23	53				
55	<i>Phase I Substantial Completion</i>	<i>1 day</i>	<i>Fri 12/30/22</i>	<i>Fri 12/30/22</i>					
56	<i>Phase I Final Completion</i>	<i>60 days</i>	<i>Fri 12/30/22</i>	<i>Thu 3/23/23</i>	55				
57	<b>Construction Phase (Not Scoped)</b>	<b>18 mons</b>	<b>Mon 4/3/23</b>	<b>Fri 8/16/24</b>	54				
58	Structural Condition Assessments	4 wks	Mon 1/30/23	Fri 2/24/23	55FS+1 mon				
59	<b>Special Services</b>	<b>80 days</b>	<b>Mon 5/17/21</b>	<b>Fri 9/3/21</b>					

Project: Phase II Design Schedu Date: Thu 10/20/22	Task		Project Summary		Manual Task		Start-only		Deadline	
	Split		Inactive Task		Duration-only		Finish-only		Progress	
	Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
	Summary		Inactive Summary		Manual Summary		External Milestone			

## OPINION OF PROBABLE CONSTRUCTION COST

<b>PROJECT NAME</b>	Pflugerville Central WWTP Phase II Improvements	<b>DATE</b>	10/13/2022		
<b>CLIENT</b>	City of Pflugerville	<b>GROUP</b>	1147		
<b>% SUBMITTAL</b>	Revised 100% Design Submittal	<b>PM</b>	Coby Gee		
<b>ESTIMATED BY</b>		<b>QC CHECKED BY</b>		<b>FNI PROJECT NUMBER</b>	
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607	
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>
<b>STORMWATER, CIVIL/SITE WORK, AND ROADWAY</b>					
1	Site Restoration and Paving Repair due to Construction Activity	1	LS	\$ 30,000	\$ 30,000
2	Revegetation/Hydromulching	1.2	ACRE	\$ 3,000	\$ 3,660
3	Trench Safety	504	LF	\$ 10	\$ 5,040
4	SWPPP Controls	1	LS	\$ 10,000	\$ 10,000
5	Raising South Plant Road Elevation (Near EPS), Including Paving	470	SY	\$ 120	\$ 56,400
6	Concrete Paving - Not Elevated	2,300	SY	\$ 80	\$ 184,000
7	Concrete Pavement and Modifications for Plant Road (Ph1)	125	SY	\$ 75	\$ 9,375
8	Fence Additions - 6-foot Galvanized Chain Link with Three-Strand 45-Degree Barbed Wire	417	LF	\$ 90	\$ 37,530
<b>INFLUENT LIFT STATION</b>					
9	16" Ductile Iron Pipe	17	LF	\$ 250	\$ 4,250
10	16" Ductile Iron Fittings	2	EA	\$ 6,607	\$ 13,214
11	16" Blind Flange	1	EA	\$ 7,000	\$ 7,000
12	4" HDGP Air Vent Piping	1	EA	\$ 400	\$ 400
13	16" Horizontal Pipe Support	1	EA	\$ 1,000	\$ 1,000
14	16" Vertical Pipe Support	2	EA	\$ 1,500	\$ 3,000
15	Influent Lift Station Pump	1	EA	\$ 100,000	\$ 100,000
16	Startup and Testing	1	LS	\$ 5,000	\$ 5,000
<b>REHABILITATE EXISTING SECONDARY CLARIFIERS</b>					
17	Demolish Existing Equipment, Weirs, Baffles, and Clean	2	EA	\$ 25,000	\$ 50,000
18	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000
19	Concrete Crack Repair/Spalding Repairs	13,440	SF	\$ 10	\$ 134,400
20	Grout Clarifier Floor	193	CY	\$ 110	\$ 21,230
21	New Clarifier Equipment (SS) - 115 ft Dia.	2	EA	\$ 537,500	\$ 1,075,000
22	FRP Effluent Trough Single Side Includes Supports - 115 ft Dia. FRP Weir & Scum Baffle Panels.	2	EA	\$ 336,210	\$ 672,420
23	FRP Density Baffle 115 ft Dia.	2	EA	\$ 27,768	\$ 55,536
24	Algae Control	2	EA	\$ 10,000	\$ 20,000
25	Sludge Blanket Sensors	2	EA	\$ 10,706	\$ 21,412
26	8" DI Scum Pipe	115	LF	\$ 185	\$ 21,275
27	Aluminum Guardrail (2-Rail with Toe Board)	230	LF	\$ 185	\$ 42,550
28	Access Stairs	100	LF	\$ 75	\$ 7,500
29	Utility Station	2	EA	\$ 5,000	\$ 10,000
30	2" PVC SCH 40 Pipe	380	LF	\$ 25	\$ 9,500
31	Startup and Testing	2	EA	\$ 13,875	\$ 27,750
<b>EFFLUENT FILTERS</b>					
32	6" SS Mud Valve with Stem and Handwheel Operator	6	EA	\$ 5,280	\$ 31,680
33	6" D-DI by Open Cut	150	LF	\$ 138	\$ 20,700
34	6" D-DI by Tunneling	90	LF	\$ 240	\$ 21,600
35	6" Plug Valve	6	EA	\$ 2,600	\$ 15,600
36	Grit and Debris Removal	6	EA	\$ 1,500	\$ 9,000
37	Connect to Existing Piping	4	EA	\$ 2,000	\$ 8,400
38	Removing Existing Filters and Piping	6	EA	\$ 1,500	\$ 9,000
39	Installing Existing Filters and Piping	6	EA	\$ 2,430	\$ 14,580
40	Fittings DI	1	LS	\$ 8,000	\$ 8,000

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	10/13/2022			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	Revised 100% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
41	Core Slab	6	EA	\$ 1,200	\$ 7,200	
42	Flowable Fill	27	CY	\$ 160	\$ 4,320	
43	Tie in	6	EA	\$ 7,500	\$ 45,000	
44	Filter Valve Replacement	1	LS	\$ 550,000	\$ 550,000	
<b>EFFLUENT PUMP STATION</b>						
45	Excavation	2,300	CY	\$ 25	\$ 57,500	
46	Backfill (Select Fill)	80	CY	\$ 35	\$ 2,800	
47	Shoring and Groundwater Removal	1	LS	\$ 150,000	\$ 150,000	
48	Effluent Pump Station Concrete - Vertical Walls	310	CY	\$ 1,063	\$ 329,264	
49	Effluent Pump Station Concrete - Floor Slab	116	CY	\$ 938	\$ 108,339	
50	Aluminum Grating	923	SF	\$ 78	\$ 71,994	
51	Galvanized Steel Beams	2.0	TON	\$ 26,910	\$ 53,820	
52	Grouting	110	CY	\$ 5,000	\$ 550,000	
53	Submersible Sump Pump	1	EA	\$ 16,227	\$ 16,227	
54	Fabricated Gates SS (3.5'x4')	2	EA	\$ 51,700	\$ 103,400	
55	Fabricated Gate SS (1'x1')	1	EA	\$ 16,500	\$ 16,500	
56	Electric Actuator for Fabricated Gate	1	EA	\$ 10,000	\$ 10,000	
57	Isolation Gate Supports	2	EA	\$ 500	\$ 1,000	
58	316 Stainless Steel Overflow Weir Plate (1'x26.5'x0.25')	1	EA	\$ 11,000	\$ 11,000	
59	17.5 MGD Vertical Turbine Pumps	3	EA	\$ 421,667	\$ 1,265,001	
60	24" Ductile Iron Discharge Piping	45	LF	\$ 300	\$ 13,500	
61	Hot Dipped Galvanized 24" Pipe Supports	3	EA	\$ 750	\$ 2,250	
62	60" RCP Effluent Pipe Tie-in Connection	1	LS	\$ 2,000	\$ 2,000	
63	60" RCP Hydrophylic Water Stop, Cast in Place Wall Penetration	2	EA	\$ 800	\$ 1,600	
64	Utility Station	3	EA	\$ 5,000	\$ 15,000	
65	2" PVC SCH 40 Pipe	20	LF	\$ 25	\$ 500	
66	Ductile Iron Fittings	3.6	TON	\$ 34,500	\$ 124,200	
67	Aluminum Guardrail (2-Rail with Toe Board)	300	LF	\$ 185	\$ 55,500	
68	Stair Case with Concrete Pad	2	EA	\$ 1,750	\$ 3,500	
69	Sidewalk	40	SY	\$ 80	\$ 3,200	
70	Startup and Testing	1	LS	\$ 10,000	\$ 10,000	
<b>YARD PIPING</b>						
71	Ninety Degree Fitting, 24" DI	1	EA	\$ 17,500	\$ 17,500	
72	24" X 12" Tee	1	EA	\$ 21,500	\$ 21,500	
73	24"x30" Reducer, DI	1	EA	\$ 20,000	\$ 20,000	
74	Ninety Degree Fitting, 30" DI	1	EA	\$ 11,750	\$ 11,750	
75	30" C900 PVC Pipe - DR25	176	LF	\$ 600	\$ 105,600	
76	24" C900 PVC Pipe - DR25	35	LF	\$ 480	\$ 16,800	
77	12" C900 PVC Pipe - DR25	23	LF	\$ 240	\$ 5,520	
78	Concrete Pipe Plugs, 30"	4	EA	\$ 7,500	\$ 30,000	
79	2" NPW PVC	279	LF	\$ 50	\$ 13,965	
80	Tie-in to Existing NPW System	1	LS	\$ 2,000	\$ 2,000	
81	Tie-in to Existing 24-RS-PVC and 12-RAS-PVC	2	EA	\$ 5,000	\$ 10,000	
82	Tie-in New 30"-RS to Existing 30"-RS	1	LS	\$ 7,500	\$ 7,500	
83	Pipe Fittings, Valves, and Appurtenances (20%)	1	LS	\$ 52,427	\$ 52,427	
84	Yard Piping Hydrostatic Testing	1	LS	\$ 15,000	\$ 15,000	
85	Epoxy Coating of Above-Grade Piping (ILS, EPS)	1	LS	\$ 30,000	\$ 30,000	
<b>ELECTRICAL</b>						
86	Wiring	1	LS	\$ 246,304	\$ 246,304	
87	Conduit	1	LS	\$ 130,711	\$ 130,711	
88	Ductbank and Manholes	1	LS	\$ 74,471	\$ 74,471	
89	Clarifier Control Station	2	EA	\$ 15,000	\$ 30,000	
90	Sump Pump Control Panel	1	EA	\$ 12,000	\$ 12,000	
91	Demolition	1	LS	\$ 60,000	\$ 60,000	
92	MCC-1E & MCC-2E Modification	1	LS	\$ 34,000	\$ 34,000	

<b>PROJECT NAME</b>	Pflugerville Central WWTP Phase II Improvements	<b>DATE</b>	10/13/2022			
<b>CLIENT</b>	City of Pflugerville	<b>GROUP</b>	1147			
<b>% SUBMITTAL</b>	Revised 100% Design Submittal	<b>PM</b>	Coby Gee			
<b>ESTIMATED BY</b>		<b>QC CHECKED BY</b>		<b>FNI PROJECT NUMBER</b>		
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
93	MCC-UV-A and MCC-UV-B Modification	1	LS	\$ 175,000	\$ 175,000	
94	SWBD-HW Modification	1	LS	\$ 10,000	\$ 10,000	
95	Grounding System	1	EA	\$ 37,895	\$ 37,895	
96	Lift Station 60HP VFD	1	EA	\$ 81,250	\$ 81,250	
97	Lighting and Receptacles	1	LS	\$ 41,584	\$ 41,584	
98	Misc. Disconnects, Boxes, and Fittings	1	LS	\$ 26,575	\$ 26,575	
99	Misc. Electrical	1	LS	\$ 200,000	\$ 200,000	
100	Power Distribution System Study	1	LS	\$ 10,000	\$ 10,000	
101	Startup and Testing	1	LS	\$ 60,000	\$ 60,000	
<b>INSTRUMENTATION AND CONTROL</b>						
102	16" Magnetic Flow Meter Transmitter and Element (ILS)	1	EA	\$ 12,500	\$ 12,500	
103	Wet Well Level Transmitter - EPS	1	EA	\$ 6,000	\$ 6,000	
104	Pressure Gauges	4	EA	\$ 400	\$ 1,600	
105	Pressure Switches - EPS	2	EA	\$ 7,000	\$ 14,000	
106	RAS/WAS PS Pressure Gauge	1	EA	\$ 450	\$ 450	
107	Wet Well Level Float Switches - EPS (LSH, SLM & LSL and Parshall Flume Surcharge)	5	EA	\$ 500	\$ 2,500	
108	LLRP-EPS/NEMA12/Painted Steel/Wall Mtn	1	EA	\$ 5,000	\$ 5,000	
109	PLC Programming - ILS	1	LS	\$ 15,000	\$ 15,000	
110	HMI Programming (Graphics/Database Comms) - ILS	1	LS	\$ 10,000	\$ 10,000	
111	PLC Programming - EPS	1	LS	\$ 75,000	\$ 75,000	
112	HMI Programming (Graphics/Database Comms) - EPS	1	LS	\$ 65,000	\$ 65,000	
113	PLC Programming - EB4	1	LS	\$ 10,000	\$ 10,000	
114	HMI Programming EB4 (Graphics/Database Comms) - BNR	1	LS	\$ 15,000	\$ 15,000	
<b>DEMOLITION AND SUPPLEMENTARY ITEMS</b>						
115	Maintenance of Plant Operations	1	LS	\$ 50,000	\$ 50,000	
116	Bypass Pumping and Pipe Plugs	1	LS	\$ 75,000	\$ 75,000	
117	Hydrostatic Testing for New Structures	1	LS	\$ 15,000	\$ 15,000	
118	Coating of Miscellaneous Items, Including Coating Repair as Required	1	LS	\$ 20,000	\$ 20,000	
<b>CHLORINE CONTACT CHAMBER DEMOLITION ADD-ALTERNATE ITEMS I-01</b>						
119	Concrete Demolition/Removal	130	CY	\$ 600	\$ 78,000	
120	Backfill (Select Fill) for Chlorine Contact Basin	1,255	CY	\$ 35	\$ 43,925	
121	Metal/Equipment Removal for Chlorine Contact Basin	1	LS	\$ 30,000	\$ 30,000	
<b>HEADWORKS DEMOLITION ADD-ALTERNATE ITEMS I-02</b>						
122	Concrete Demolition/Removal	352	CY	\$ 600	\$ 211,117	
123	Backfill (Select Fill) for Headworks	403	CY	\$ 35	\$ 14,101	
124	Metal/Equipment Removal for Headworks	1	LS	\$ 30,000	\$ 30,000	
125	Fill Voids of Headworks Below EL. 620.00' with Flowable Fill	138	LF	\$ 160	\$ 22,027	
126	Yard Piping Demolition	672	LF	\$ 50	\$ 33,600	
127	Concrete Pipe Plugs up to 14"	6	EA	\$ 3,000	\$ 18,000	
128	Concrete Pipe Plugs 16" to 36"	4	EA	\$ 7,500	\$ 30,000	
<b>FILTERS DEMOLITION AND MODIFICATION ADD-ALTERNATE ITEMS I-03</b>						
129	Equipment, Piping and Electrical Demolition/Removal	1	LS	\$ 10,000	\$ 10,000	
130	Concrete Demolition/Removal	11	CY	\$ 600	\$ 6,306	
131	Fill Voids of Filter Basins with Sand	399	CY	\$ 35	\$ 13,951	
132	Concrete Slab	35	CY	\$ 938	\$ 32,569	
133	Concrete Ramp	8	CY	\$ 1,063	\$ 8,233	
134	Earth Fill Under Ramp	13	CY	\$ 35	\$ 467	
135	Concrete Pipe Plugs up to 14"	3	EA	\$ 3,000	\$ 9,000	
136	Concrete Pipe Plugs 48" to 60"	2	EA	\$ 10,000	\$ 20,000	
137	Install Removable Guardrail	8	LF	\$ 200	\$ 1,600	

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	10/13/2022
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% SUBMITTAL	Revised 100% Design Submittal	PM	Coby Gee
ESTIMATED BY		QC CHECKED BY	
Renee Raines, Chris Callahan		John Rinacke, Coby Gee	
FNI PROJECT NUMBER			
PFL16607			
ITEM	DESCRIPTION	QUANTITY	UNIT
		UNIT PRICE	TOTAL
			\$ 8,966,000
		20%	\$ 1,793,200
			\$ 10,759,200
		5%	\$ 538,000
			\$ 11,297,200
		18%	\$ 2,033,500

<b>PROJECT TOTAL (2022 COSTS)</b>	<b>\$ 13,330,700</b>
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COST ESCALATION FACTOR	6.0%	\$ 799,900
<b>PROJECT TOTAL (2023 COSTS)</b>		<b>\$ 14,130,600</b>
<b>AACE CLASS 1 LOWER RANGE (-10%)</b>		<b>\$ 12,717,540</b>
<b>AACE CLASS 1 UPPER RANGE (+15%)</b>		<b>\$ 16,250,190</b>

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

NOTES:

- 1 FNI OPCC classified as an AACE Class 1 Estimate with accuracy range or -10 to + 15.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 Unit prices included in the OPCC are based on current conditions. The OPCC cannot account for severe changes in material pricing or delivery schedule due to supply chain shortages resulting from the COVID-19 pandemic or international conflicts.

## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	8/13/2021			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	30% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Raines, Coker, Callahan		Jesus Gonzalez, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
<b>STORMWATER, CIVIL/SITE WORK, AND ROADWAY</b>						
1	Site Restoration and Paving Repair	1	LS	\$ 30,000	\$ 30,000	
2	Hydrostatic Testing Allowance	1	LS	\$ 15,000	\$ 15,000	
3	Trench Safety	1,370	LF	\$ 2	\$ 2,740	
4	SWPPP Controls	1	LS	\$ 10,000	\$ 10,000	
5	Raising and Paving Existing Road	470	SY	\$ 55	\$ 25,850	
6	Concrete Access Road and Driveway to Effluent Pump Station	550	SY	\$ 50	\$ 27,500	
7	Fence Modifications	1	LS	\$ 3,750	\$ 3,750	
<b>INFLUENT LIFT STATION</b>						
8	Piping Modifications	1	LS	\$ 1,500	\$ 1,500	
9	Influent Lift Station Pump	1	LS	\$ 163,000	\$ 163,000	
10	Startup and Testing	1	LS	\$ 5,000	\$ 5,000	
<b>RETROFIT AERATION BASINS TO BNR</b>						
11	Demolish Existing Influent Lift Station and Headworks	1	LS	\$ 200,000	\$ 200,000	
12	Excavation	6,640	CY	\$ 25	\$ 166,000	
13	Backfill	561	CY	\$ 25	\$ 14,025	
14	Demolish Existing Concrete Walls for IR Channel and Inclusion of Anaerobic/Anoxic Basins (3 ft)	22	CY	\$ 625	\$ 14,000	
15	Anaerobic/Anoxic Basins Concrete - Vertical Walls	1,022	CY	\$ 938	\$ 958,448	
16	Anaerobic/Anoxic Basins Concrete - Slab	553	CY	\$ 650	\$ 359,185	
17	Concrete Walkways and Bridges	88	CY	\$ 938	\$ 82,900	
18	Access Stairs	270	SF	\$ 50	\$ 13,500	
19	18" Plug Valves	2	EA	\$ 25,000	\$ 50,000	
20	Foam Control	1	LS	\$ 10,000	\$ 10,000	
21	Jib Cranes	4	EA	\$ 11,250	\$ 45,000	
22	Demolish Existing Equipment (2 Basins)	1	LS	\$ 50,000	\$ 50,000	
23	Demolition and Extension of Effluent Gate Structures	1	LS	\$ 20,000	\$ 20,000	
24	Miscellaneous Concrete Repair	18,608	SF	\$ 10	\$ 186,080	
25	Raise Concrete Wall for Freeboard	38	CY	\$ 500	\$ 18,900	
26	Reinforcement of Center Wall	1	LS	\$ 12,500	\$ 12,500	
27	New BNR Equipment	1	LS	\$ 2,019,193	\$ 2,019,193	
28	Fabricated Effluent Weir Gates SS (15')	4	EA	\$ 67,500	\$ 270,000	
29	Aluminum Handrails (2-Rail)	680	LF	\$ 147	\$ 99,960	
30	Fiberglass Cover Replacement	6,592	SF	\$ 31	\$ 204,364	
31	Misc. Materials (10%)	1	LS	\$ 201,919	\$ 201,919	
32	Startup and Testing	1	LS	\$ 80,000	\$ 80,000	
<b>REHABILITATE EXISTING SECONDARY CLARIFIERS</b>						
33	Demolish Existing Equipment, Weirs, and Baffles	2	EA	\$ 20,000	\$ 40,000	
34	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000	
35	Concrete Crack Repair/Spalding Repairs	13,440	SF	\$ 15	\$ 201,596	
36	New Clarifier Equipment (SS) - 115 ft Dia.	2	EA	\$ 346,816	\$ 693,632	
37	FRP Effluent Trough Single Side Includes Supports - 115 ft Dia. FRP Weir & Scum Baffle Panels.	2	EA	\$ 336,210	\$ 672,420	

PROJECT NAME		Pflugerville Central WWTP Phase II Improvements		DATE		8/13/2021	
CLIENT		City of Pflugerville		GROUP		1147	
% SUBMITTAL		30% Design Submittal		PM		Coby Gee	
ESTIMATED BY			QC CHECKED BY			FNI PROJECT NUMBER	
Raines, Coker, Callahan			Jesus Gonzalez, Coby Gee			PFL16607	
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
38	FRP Density Baffle 115 ft Dia.	2	EA	\$ 25,244	\$ 50,488		
39	Algae Control	2	EA	\$ 10,000	\$ 20,000		
40	8" DI Scum Pipe	115	LF	\$ 107	\$ 12,305		
41	Aluminum Handrails (2-Rail)	230	LF	\$ 185	\$ 42,550		
42	Access Stairs	100	LF	\$ 75	\$ 7,500		
43	Startup and Testing	2	EA	\$ 13,875	\$ 27,750		
<b>EFFLUENT PUMP STATION</b>							
44	Excavation	2,300	CY	\$ 25	\$ 57,500		
45	Backfill (Select Fill)	80	CY	\$ 35	\$ 2,800		
46	Shoring and Groundwater Removal	1	LS	\$ 150,000	\$ 150,000		
47	Submersible Sump Pump	1	EA	\$ 16,230	\$ 16,230		
48	Effluent Pump Station Concrete - Vertical Walls	300	CY	\$ 938	\$ 281,400		
49	Effluent Pump Station Concrete - Floor Slab	110	CY	\$ 650	\$ 71,500		
50	Aluminum Grating	400	SF	\$ 60	\$ 24,000		
51	Grouting	110	CY	\$ 5,000	\$ 550,000		
52	Fabricated Gates SS (3'x4')	2	EA	\$ 40,150	\$ 80,300		
53	Electric Actuator for Fabricated Gate	1	EA	\$ 10,000	\$ 10,000		
54	Isolation Gate Supports	2	EA	\$ 500	\$ 1,000		
55	Overflow Weir Plate	1	EA	\$ 1,000	\$ 1,000		
56	17.5 MGD Vertical Turbine Pumps	3	EA	\$ 187,833	\$ 563,499		
57	24" Ductile Iron Discharge Piping	15	LF	\$ 250	\$ 3,750		
58	24" Pipe Supports	3	EA	\$ 750	\$ 2,250		
59	60" RCP Effluent Pipe Tie-in Connection	1	LS	\$ 1,500	\$ 1,500		
60	60" RCP Hydrophylic Water Stop, Cast in Place Wall Penetration	2	EA	\$ 75	\$ 150		
61	Utility Station	3	EA	\$ 5,000	\$ 15,000		
62	8" Ductile Iron Pipe	20	LF	\$ 150	\$ 3,000		
63	Ductile Iron Fittings	3.6	TON	\$ 5,000	\$ 18,000		
64	Guardrail	200	LF	\$ 12	\$ 2,400		
65	Stair Case with Concrete Pad	2	EA	\$ 1,750	\$ 3,500		
66	Sidewalk	40	SY	\$ 80	\$ 3,200		
67	Startup and Testing	1	LS	\$ 10,000	\$ 10,000		
<b>YARD PIPING</b>							
68	Yard and BNR Piping Demolition	334	LF	\$ 50	\$ 16,700		
69	Ninety Degree Fitting, 24"	2	EA	\$ 2,500	\$ 5,000		
70	24" X 18" Tee	1	EA	\$ 3,000	\$ 3,000		
71	Ninety Degree Fitting, 18"	7	EA	\$ 2,000	\$ 14,000		
72	18" Tee	2	EA	\$ 2,300	\$ 4,600		
73	Ninety Degree Fitting, 12"	4	EA	\$ 800	\$ 3,200		
74	24" C900 PVC Pipe - DR41	140	LF	\$ 270	\$ 37,800		
75	18" C900 PVC Pipe - DR41	553	LF	\$ 180	\$ 99,540		
76	12" C900 PVC Pipe - DR41	332	LF	\$ 140	\$ 46,480		
77	8" C900 PVC Pipe - DR41	612	LF	\$ 120	\$ 73,440		
78	2" NPW PVC	100	LF	\$ 50	\$ 5,000		
79	1" NPW PVC	100	LF	\$ 45	\$ 4,500		
80	Piping Tie-Ins, Miscellaneous	1	LS	\$ 75,000	\$ 75,000		
81	Tie-in to Existing Sodium Hychlorite and NPW Systems	1	LS	\$ 10,000	\$ 10,000		
82	Tie-in to Plant Drains	1	LS	\$ 20,000	\$ 20,000		
83	Pipe Fittings, Valves, and Appurtenances (25%)	1	LS	\$ 92,940	\$ 92,940		
<b>ELECTRICAL</b>							
84	30A Fusible Disconnect (480V, 3 phase, NEMA 4X 316SS)	16	EA	\$ 900	\$ 14,400		
85	Misc. Electrical (Grounding, Lights, Receptacles, etc.)	1	LS	\$ 110,000	\$ 110,000		

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	8/13/2021			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	30% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Raines, Coker, Callahan		Jesus Gonzalez, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
86	Cable and Conduit	1	LS	\$ 350,000	\$ 350,000	
87	Electrical Pullboxes	24	EA	\$ 800	\$ 19,200	
88	Electrical Manholes	4	EA	\$ 25,000	\$ 100,000	
89	Ductbank & Grounding	1	LS	\$ 120,000	\$ 120,000	
90	Power System Study	1	LS	\$ 15,000	\$ 15,000	
91	Misc. MCC Modifications	1	LS	\$ 88,000	\$ 88,000	
92	Misc. MCC Modifications	1	LS	\$ 8,000	\$ 8,000	
93	Automatic Transfer Switch	1	EA	\$ 30,000	\$ 30,000	
	<i>Effluent Pump Station</i>				\$ -	
94	Cable and Conduit	1	LS	\$ 110,000	\$ 110,000	
95	100A Disconnect (480V, 3 Phase, NEMA 4X 316 SS)	3	EA	\$ 2,700	\$ 8,100	
96	Ductbank and Grounding	1	LS	\$ 65,000	\$ 65,000	
97	Misc. Electrical Lights, Receptacles, etc.	1	LS	\$ 45,000	\$ 45,000	
98	Misc. MCC Modifications	1	EA	\$ 36,000	\$ 36,000	
<b>INSTRUMENTATION AND CONTROL</b>						
99	16" Magnetic Flow Meter Transmitter and Element (ILS)	1	EA	\$ 12,500	\$ 12,500	
100	Wet Well Level Transmitter - EPS	1	EA	\$ 6,000	\$ 6,000	
101	Pressure Gauges	4	EA	\$ 400	\$ 1,600	
102	Pressure Switches - EPS	4	EA	\$ 450	\$ 1,800	
103	RAS/WAS PS Pressure Gauge	1	EA	\$ 450	\$ 450	
104	Wet Well Level Float Switches - EPS (LSH, SLM & LSL and Parshall Flume Surge)	4	EA	\$ 500	\$ 2,000	
105	LLRP-EPS/NEMA12/Painted Steel/Wall Mtn	1	EA	\$ 5,000	\$ 5,000	
106	PLC Programming - EPS	1	LS	\$ 60,000	\$ 60,000	
107	HMI Programming (Graphics/Database Comms) - EPS	1	LS	\$ 90,000	\$ 90,000	
<b>SUPPLEMENTARY ITEMS</b>						
108	Concrete Demolition/Removal for Chlorine Contact Basin	130	CY	\$ 600	\$ 78,000	
109	Backfill (Select Fill) for Chlorine Contact Basin	1,255	CY	\$ 35	\$ 43,925	
110	Metal/Equipment Removal for Chlorine Contact Basin	1	LS	\$ 30,000	\$ 30,000	
111	Maintenance of Plant Operations	1	LS	\$ 150,000	\$ 150,000	
				SUBTOTAL	\$	11,121,709
				CONTINGENCY	30%	\$ 3,336,513
				SUBTOTAL	\$	14,458,222
				MOBILIZATION	5%	\$ 722,911
				SUBTOTAL	\$	15,181,133
				OH&P	18%	\$ 2,732,604

**PROJECT TOTAL (2021 COSTS) \$ 17,913,737**

COST ESCALATION FACTOR 6.0% \$ 1,074,824

**PROJECT TOTAL (2022 COSTS) \$ 18,988,561**

**AACE CLASS 3 LOWER RANGE (-15%) \$ 16,140,277**

**AACE CLASS 3 UPPER RANGE (+20%) \$ 22,786,273**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

NOTES:

- 1 FNI OPCC classified as an AACE Class 3 Estimate with accuracy range or -15 to + 20.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.



Innovative approaches  
Practical results  
Outstanding service

## OPINION OF PROBABLE CONSTRUCTION COST

<b>PROJECT NAME</b>		Pflugerville Central WWTP Phase II Improvements		<b>DATE</b>		1/14/2022	
<b>CLIENT</b>		City of Pflugerville		<b>GROUP</b>		1147	
<b>% SUBMITTAL</b>		60% Design Submittal		<b>PM</b>		Coby Gee	
<b>ESTIMATED BY</b>			<b>QC CHECKED BY</b>			<b>FNI PROJECT NUMBER</b>	
Raines, Coker, Callahan			John Rinacke, Coby Gee			PFL16607	
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>		
<b>STORMWATER, CIVIL/SITE WORK, AND ROADWAY</b>							
1	Site Restoration and Paving Repair due to Construction Activity	1	LS	\$ 30,000	\$ 30,000		
2	Revegetation/Hydromulching	1.2	ACRE	\$ 2,000	\$ 2,440		
3	Trench Safety	1,370	LF	\$ 5	\$ 6,850		
4	SWPPP Controls	1	LS	\$ 10,000	\$ 10,000		
5	Raising South Plant Road Elevation (Near EPS), Including Paving	470	SY	\$ 120	\$ 56,400		
6	Concrete Access Road and Driveway to Effluent Pump Station	550	SY	\$ 75	\$ 41,250		
7	Concrete Pavement and Modifications for Plant Road (Ph1)	4,800	SY	\$ 75	\$ 360,000		
8	Concrete Pilot Channel in Drainage Swale (4" Thickness)	35	SY	\$ 40	\$ 1,400		
9	Fence Additions - 6-foot Galvanized Chain Link with Three-Strand 45-Degree Barbed Wire	417	LF	\$ 90	\$ 37,530		
<b>INFLUENT LIFT STATION</b>							
10	16" Ductile Iron Pipe	17	LF	\$ 795	\$ 13,515		
11	16" Ductile Iron Fittings	2	EA	\$ 6,607	\$ 13,214		
12	4" HDGP Air Vent Piping	1	EA	\$ 400	\$ 400		
13	16" Horizontal Pipe Support	1	EA	\$ 1,000	\$ 1,000		
14	16" Vertical Pipe Support	2	EA	\$ 1,500	\$ 3,000		
15	Influent Lift Station Pump	1	EA	\$ 80,500	\$ 80,500		
16	Startup and Testing	1	LS	\$ 5,000	\$ 5,000		
<b>RETROFIT AERATION BASINS TO BNR<sup>3</sup></b>							
17	Excavation	3,822	CY	\$ 25	\$ 95,550		
18	Backfill - General	1,746	CY	\$ 25	\$ 43,650		
19	Backfill - Flowable Fill in Excavation Below Abandoned ILS	130	CY	\$ 160	\$ 20,800		
20	Backfill - Select Fill Below New Slab and in Voids between Aeration Basins and New BNRs	532	CY	\$ 35	\$ 18,620		
21	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000		
22	Demolition of Existing Walls of Aeration Basins for Tie-in of BNR Additions	109	CY	\$ 625	\$ 68,125		
23	Anaerobic/Anoxic Basins Concrete - Vertical Walls	1,025	CY	\$ 938	\$ 961,450		
24	Anaerobic/Anoxic Basins Concrete - Slab	1,351	CY	\$ 650	\$ 878,150		
25	Shoring of Existing Aeration Basin Walls, 6-10 Foot Depth	2,800	SF	\$ 52	\$ 145,600		
26	Anaerobic/Anoxic Concrete Walkways and Bridges	50	CY	\$ 938	\$ 46,900		
27	Access Stairs	270	SF	\$ 50	\$ 13,500		
28	18" Plug Valves	2	EA	\$ 25,000	\$ 50,000		
29	Foam Control	1	LS	\$ 10,000	\$ 10,000		
30	Demolish Existing Equipment (2 Basins)	1	LS	\$ 50,000	\$ 50,000		
31	Demolition and Extension of Effluent Gate Structures (Concrete)	1	LS	\$ 20,000	\$ 20,000		
32	Miscellaneous Concrete Repair	18,608	SF	\$ 10	\$ 186,080		
33	Raise Existing Concrete Wall for Freeboard	41	CY	\$ 1,000	\$ 41,000		
34	Reinforcement of Center Wall	1	LS	\$ 12,500	\$ 12,500		
35	New Ovivo BNR Equipment - Aerators, Mixers, IR Gates, Probes, Etc.	1	LS	\$ 2,141,761	\$ 2,141,761		
36	Fabricated Effluent Weir Gates SS (15')	4	EA	\$ 67,500	\$ 270,000		
37	Aluminum Handrails (2-Rail)	819	LF	\$ 147	\$ 120,393		
38	Aluminum Grating Over Effluent Boxes	466	SF	\$ 147	\$ 68,502		
39	Fiberglass Cover Replacement	6,593	SF	\$ 31	\$ 204,383		
40	10" Stainless Steel Mudvalves w/Handwheel	4	EA	\$ 10,000	\$ 40,000		
41	Misc. Materials (10%)	1	LS	\$ 214,176	\$ 214,176		
42	Startup and Testing	1	EA	\$ 40,000	\$ 40,000		

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	1/14/2022			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	60% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Raines, Coker, Callahan		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
<b>REHABILITATE EXISTING SECONDARY CLARIFIERS<sup>3</sup></b>						
43	Demolish Existing Equipment, Weirs, and Baffles	2	EA	\$ 20,000	\$ 40,000	
44	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000	
45	Concrete Crack Repair/Spalding Repairs	13,440	SF	\$ 10	\$ 134,400	
46	New Clarifier Equipment (SS) - 115 ft Dia.	2	EA	\$ 322,830	\$ 645,660	
47	FRP Effluent Trough Single Side Includes Supports - 115 ft Dia. FRP Weir & Scum Baffle Panels.	2	EA	\$ 336,210	\$ 672,420	
48	FRP Density Baffle 115 ft Dia.	2	EA	\$ 25,244	\$ 50,488	
49	Algae Control	2	EA	\$ 10,000	\$ 20,000	
50	8" DI Scum Pipe	115	LF	\$ 107	\$ 12,305	
51	Aluminum Guardrail (2-Rail with Toe Board)	230	LF	\$ 185	\$ 42,550	
52	Access Stairs	100	LF	\$ 75	\$ 7,500	
53	Startup and Testing	2	EA	\$ 13,875	\$ 27,750	
<b>EFFLUENT PUMP STATION</b>						
54	Excavation	2,300	CY	\$ 25	\$ 57,500	
55	Backfill (Select Fill)	80	CY	\$ 35	\$ 2,800	
56	Shoring and Groundwater Removal	1	LS	\$ 150,000	\$ 150,000	
57	Effluent Pump Station Concrete - Vertical Walls	295	CY	\$ 938	\$ 276,710	
58	Effluent Pump Station Concrete - Floor Slab	110	CY	\$ 650	\$ 71,500	
59	Aluminum Grating	400	SF	\$ 60	\$ 24,000	
60	Grouting	110	CY	\$ 5,000	\$ 550,000	
61	Submersible Sump Pump	1	EA	\$ 16,227	\$ 16,227	
62	Fabricated Gates SS (3.5'x4')	2	EA	\$ 47,000	\$ 94,000	
63	Electric Actuator for Fabricated Gate	1	EA	\$ 10,000	\$ 10,000	
64	Isolation Gate Supports	2	EA	\$ 500	\$ 1,000	
65	316 Stainless Steel Overflow Weir Plate (1'x26.5'x0.25')	1	EA	\$ 10,000	\$ 10,000	
66	17.5 MGD Vertical Turbine Pumps	3	EA	\$ 368,000	\$ 1,104,000	
67	24" Ductile Iron Discharge Piping	45	LF	\$ 250	\$ 11,250	
68	Hot Dipped Galvanized 24" Pipe Supports	3	EA	\$ 750	\$ 2,250	
69	60" RCP Effluent Pipe Tie-in Connection	1	LS	\$ 2,000	\$ 2,000	
70	60" RCP Hydrophylic Water Stop, Cast in Place Wall Penetration	2	EA	\$ 800	\$ 1,600	
71	Utility Station	3	EA	\$ 5,000	\$ 15,000	
72	2" PVC SCH 40 Pipe	20	LF	\$ 25	\$ 500	
73	Ductile Iron Fittings	3.6	TON	\$ 10,000	\$ 36,000	
74	Aluminum Guardrail (2-Rail with Toe Board)	300	LF	\$ 185	\$ 55,500	
75	Stair Case with Concrete Pad	2	EA	\$ 1,750	\$ 3,500	
76	Sidewalk	40	SY	\$ 80	\$ 3,200	
77	Startup and Testing	1	LS	\$ 10,000	\$ 10,000	
<b>YARD PIPING</b>						
78	Yard and BNR Piping Demolition	334	LF	\$ 50	\$ 16,700	
79	Ninety Degree Fitting, 24" DI	2	EA	\$ 14,000	\$ 28,000	
80	24" X 18" Tee	1	EA	\$ 17,000	\$ 17,000	
81	Ninety Degree Fitting, 18" DI	7	EA	\$ 6,500	\$ 45,500	
82	18" Tee	2	EA	\$ 9,600	\$ 19,200	
83	Ninety Degree Fitting, 12" DI	4	EA	\$ 2,000	\$ 8,000	
84	24" C900 PVC Pipe - DR25	140	LF	\$ 270	\$ 37,800	
85	18" C900 PVC Pipe - DR25	553	LF	\$ 180	\$ 99,540	
86	12" C900 PVC Pipe - DR25	332	LF	\$ 140	\$ 46,480	
87	8" C900 PVC Pipe - DR25	612	LF	\$ 120	\$ 73,440	
88	10" ASTM 3034 PVC Pipe - SDR 26	180	LF	\$ 80	\$ 14,400	
89	10" x 10" Tee, DI	1	EA	\$ 2,400	\$ 2,400	
90	Fourty-Five Degree Fitting, 10" DI	2	EA	\$ 1,200	\$ 2,400	
91	10" x 10" Wye, DI	2	EA	\$ 3,200	\$ 6,400	
92	2" NPW PVC	100	LF	\$ 50	\$ 5,000	
93	1" NPW PVC	100	LF	\$ 45	\$ 4,500	

<b>PROJECT NAME</b>	Pflugerville Central WWTP Phase II Improvements	<b>DATE</b>	1/14/2022		
<b>CLIENT</b>	City of Pflugerville	<b>GROUP</b>	1147		
<b>% SUBMITTAL</b>	60% Design Submittal	<b>PM</b>	Coby Gee		
<b>ESTIMATED BY</b>		<b>QC CHECKED BY</b>		<b>FNI PROJECT NUMBER</b>	
Raines, Coker, Callahan		John Rinacke, Coby Gee		PFL16607	
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>
94	Tie-in to Existing Sodium Hychlorite and NPW Systems	1	LS	\$ 5,000	\$ 5,000
95	Tie-in 10" BNR Drain to 36" Plant Drain	1	LS	\$ 7,500	\$ 7,500
96	Pipe Fittings, Valves, and Appurtenances (20%)	1	LS	\$ 60,972	\$ 60,972
97	Yard Piping Hydrostatic Testing	1	LS	\$ 15,000	\$ 15,000
98	Epoxy Coating of Above-Grade Piping (BNR, EPS, Headworks)	1	LS	\$ 30,000	\$ 30,000
<b>ELECTRICAL</b>					
99	30A Fusible Disconnect (480V, 3 phase, NEMA 4X 316SS)	20	EA	\$ 3,200	\$ 64,000
100	200A Disconnect (480V, 3 phase, NEMA 4X 316SS)	3	EA	\$ 8,000.00	\$ 24,000
101	Misc. Electrical	1	LS	\$ 175,000	\$ 175,000
102	Lightning Protection System	1	LS	\$ 7,000	\$ 20,000
103	Cable and Conduit	1	LS	\$ 615,000	\$ 615,000
104	Electrical Pullboxes	24	EA	\$ 1,000	\$ 24,000
105	Electrical Manholes	3	EA	\$ 25,000	\$ 75,000
106	Ductbank System	1	LS	\$ 285,000	\$ 285,000
107	Power System Study	1	LS	\$ 15,000	\$ 15,000
108	Misc. MCC Modifications (MCC-UV)	1	LS	\$ 88,000	\$ 88,000
109	Misc. SWBD Modifications (SWB-HW)	1	LS	\$ 8,000	\$ 8,000
110	Grounding System	1	EA	\$ 65,000	\$ 65,000
111	Lift Station VFD	1	LS	\$ 140,000	\$ 140,000
112	Misc. Electrical Lights, Receptacles, etc.	1	LS	\$ 45,000	\$ 45,000
113	MCC-1C	1	EA	\$ 86,000	\$ 86,000
<b>INSTRUMENTATION AND CONTROL</b>					
114	16" Magnetic Flow Meter Transmitter and Element (ILS)	1	EA	\$ 12,500	\$ 12,500
115	Wet Well Level Transmitter - EPS	1	EA	\$ 6,000	\$ 6,000
116	Pressure Gauges	4	EA	\$ 400	\$ 1,600
117	Pressure Switches - EPS	4	EA	\$ 450	\$ 1,800
118	RAS/WAS PS Pressure Gauge	1	EA	\$ 450	\$ 450
119	Wet Well Level Float Switches - EPS (LSH, SLM & LSL and Parshall Flume Surcharge)	5	EA	\$ 500	\$ 2,500
120	LLRP-EPS/NEMA12/Painted Steel/Wall Mtn	1	EA	\$ 5,000	\$ 5,000
121	PLC Programming - EPS	1	LS	\$ 60,000	\$ 60,000
122	HMI Programming (Graphics/Database Comms) - EPS	1	LS	\$ 90,000	\$ 90,000
123	PLC Programming - EB4	1	LS	\$ 24,000	\$ 24,000
124	HMI Programming (Graphics/Database Comms) -BNR	1	LS	\$ 50,000	\$ 50,000
<b>DEMOLITION AND SUPPLEMENTARY ITEMS</b>					
125	Concrete Demolition/Removal for Chlorine Contact Basin	130	CY	\$ 600	\$ 78,000
126	Backfill (Select Fill) for Chlorine Contact Basin	1,255	CY	\$ 35	\$ 43,925
127	Metal/Equipment Removal for Chlorine Contact Basin	1	LS	\$ 30,000	\$ 30,000
128	Demolish Existing Influent Lift Station and Headworks	1	LS	\$ 230,000	\$ 230,000
129	Fill Abandoned ILS Pipes with Flowable Fill	20	LF	\$ 50	\$ 1,000
130	Demolish Two Manholes	1	LS	\$ 10,000	\$ 10,000
131	Maintenance of Plant Operations	1	LS	\$ 100,000	\$ 100,000
132	Bypass Pumping	1	LS	\$ 75,000	\$ 75,000
133	Hydrostatic Testing for New Structures	1	LS	\$ 15,000	\$ 15,000
134	Coating of Miscellaneous Items, Including Coating Repair as Required	1	LS	\$ 20,000	\$ 20,000
<b>ADD-ALTERNATE ITEMS</b>					
134	Filter Demolition and Modifications	1	LS	\$ 60,000	\$ 60,000
				<b>SUBTOTAL</b>	\$ 13,796,300
				<b>CONTINGENCY 20%</b>	\$ 2,759,300
				<b>SUBTOTAL</b>	\$ 16,555,600
				<b>MOBILIZATION 5%</b>	\$ 827,800
				<b>SUBTOTAL</b>	\$ 17,383,400
				<b>OH&amp;P 18%</b>	\$ 3,129,100
<b>PROJECT TOTAL (2022 COSTS)</b>					<b>\$ 20,512,500</b>

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	1/14/2022		
CLIENT	City of Pflugerville	GROUP	1147		
% SUBMITTAL	60% Design Submittal	PM	Coby Gee		
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER	
Raines, Coker, Callahan		John Rinacke, Coby Gee		PFL16607	
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
COST ESCALATION FACTOR				6.0%	\$ 1,230,800
<b>PROJECT TOTAL (2023 COSTS)</b>					<b>\$ 21,743,300</b>
<b>AACE CLASS 2 LOWER RANGE (-15%)</b>					<b>\$ 18,481,805</b>
<b>AACE CLASS 2 UPPER RANGE (+20%)</b>					<b>\$ 26,091,960</b>

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

NOTES:

- 1 FNI OPCC classified as an AACE Class 2 Estimate with accuracy range or -15 to + 20.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 Clarifier and BNR Unit Prices are based on equipment preselection contracts using price escalation dictated by specified indices.
- 4 Unit prices included in the OPCC are based on current conditions. The OPCC cannot account for severe changes in material pricing or delivery schedule due to supply chain shortages resulting from the COVID-19 pandemic.



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## OPINION OF PROBABLE CONSTRUCTION COST

<b>PROJECT NAME</b>	Pflugerville Central WWTP Phase II Improvements	<b>DATE</b>	4/8/2022		
<b>CLIENT</b>	City of Pflugerville	<b>GROUP</b>	1147		
<b>% SUBMITTAL</b>	90% Design Submittal	<b>PM</b>	Coby Gee		
<b>ESTIMATED BY</b>		<b>QC CHECKED BY</b>		<b>FNI PROJECT NUMBER</b>	
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607	
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>
<b>STORMWATER, CIVIL/SITE WORK, AND ROADWAY</b>					
1	Site Restoration and Paving Repair due to Construction Activity	1	LS	\$ 30,000	\$ 30,000
2	Revegetation/Hydromulching	1.2	ACRE	\$ 3,000	\$ 3,660
3	Trench Safety	1,370	LF	\$ 5	\$ 6,850
4	SWPPP Controls	1	LS	\$ 10,000	\$ 10,000
5	Raising South Plant Road Elevation (Near EPS), Including Paving	470	SY	\$ 120	\$ 56,400
6	Concrete Access Road and Driveway to Effluent Pump Station	550	SY	\$ 75	\$ 41,250
7	Concrete Pavement and Modifications for Plant Road (Ph1)	4,800	SY	\$ 75	\$ 360,000
8	Concrete Pilot Channel in Drainage Swale (4" Thickness)	35	SY	\$ 40	\$ 1,400
9	Fence Additions - 6-foot Galvanized Chain Link with Three-Strand 45-Degree Barbed Wire	417	LF	\$ 90	\$ 37,530
<b>INFLUENT LIFT STATION</b>					
10	16" Ductile Iron Pipe	17	LF	\$ 795	\$ 13,515
11	16" Ductile Iron Fittings	2	EA	\$ 6,607	\$ 13,214
12	4" HDGP Air Vent Piping	1	EA	\$ 400	\$ 400
13	16" Horizontal Pipe Support	1	EA	\$ 1,000	\$ 1,000
14	16" Vertical Pipe Support	2	EA	\$ 1,500	\$ 3,000
15	Influent Lift Station Pump	2	EA	\$ 100,000	\$ 200,000
16	Startup and Testing	1	LS	\$ 5,000	\$ 5,000
<b>RETROFIT AERATION BASINS TO BNR</b>					
17	Excavation	3,822	CY	\$ 25	\$ 95,550
18	Backfill - General	1,746	CY	\$ 25	\$ 43,650
19	Backfill - Select Fill Below New Slab and in Voids between Aeration Basins and New BNRs	532	CY	\$ 35	\$ 18,620
20	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000
21	Demolition of Existing Walls of Aeration Basins for Tie-in of BNR Additions	109	CY	\$ 625	\$ 68,125
22	Anaerobic/Anoxic Basins Concrete - Vertical Walls	1,076	CY	\$ 938	\$ 1,009,523
23	Anaerobic/Anoxic Basins Concrete - Slab	1,419	CY	\$ 650	\$ 922,058
24	Shoring of Existing Aeration Basin Walls, 6-10 Foot Depth	2,800	SF	\$ 52	\$ 145,600
25	Anaerobic/Anoxic Concrete Walkways and Bridges	53	CY	\$ 938	\$ 49,245
26	Access Stairs	270	SF	\$ 50	\$ 13,500
27	18" Plug Valves	2	EA	\$ 25,000	\$ 50,000
28	Foam Control	1	LS	\$ 10,000	\$ 10,000
29	Demolish Existing Equipment (2 Basins)	1	LS	\$ 50,000	\$ 50,000
30	Demolition and Extension of Effluent Gate Structures (Concrete)	1	LS	\$ 20,000	\$ 20,000
31	Miscellaneous Concrete Repair	18,608	SF	\$ 10	\$ 186,080
32	Raise Existing Concrete Wall for Freeboard	41	CY	\$ 1,000	\$ 41,000
33	Reinforcement of Center Wall	1	LS	\$ 12,500	\$ 12,500
34	New Ovivo BNR Equipment - Aerators, Mixers, IR Gates, Probes, Etc.	1	LS	\$ 2,410,904	\$ 2,410,904
35	Fabricated Effluent Weir Gates SS (15')	4	EA	\$ 67,500	\$ 270,000
36	Aluminum Handrails (2-Rail)	1,767	LF	\$ 147	\$ 259,749
37	Aluminum Grating Over Effluent Boxes	466	SF	\$ 147	\$ 68,502
38	Fiberglass Cover Replacement	8,348	SF	\$ 76	\$ 634,448
39	Aluminum Beams	0.5	TON	\$ 26,910	\$ 13,455
40	10" Stainless Steel Mudvalves w/Handwheel	4	EA	\$ 10,000	\$ 40,000
41	Misc. Materials (10%)	1	LS	\$ 241,090	\$ 241,090

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	4/8/2022			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	90% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
42	Startup and Testing	1	EA	\$ 40,000	\$ 40,000	
<b>REHABILITATE EXISTING SECONDARY CLARIFIERS</b>						
43	Demolish Existing Equipment, Weirs, and Baffles	2	EA	\$ 20,000	\$ 40,000	
44	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000	
45	Concrete Crack Repair/Spalding Repairs	13,440	SF	\$ 10	\$ 134,400	
46	New Clarifier Equipment (SS) - 115 ft Dia.	2	EA	\$ 431,408	\$ 862,816	
47	FRP Effluent Trough Single Side Includes Supports - 115 ft Dia. FRP Weir & Scum Baffle Panels.	2	EA	\$ 336,210	\$ 672,420	
48	FRP Density Baffle 115 ft Dia.	2	EA	\$ 25,244	\$ 50,488	
49	Algae Control	2	EA	\$ 10,000	\$ 20,000	
50	Sludge Blanket Sensors	2	EA	\$ 10,706	\$ 21,412	
51	8" DI Scum Pipe	115	LF	\$ 107	\$ 12,305	
52	Aluminum Guardrail (2-Rail with Toe Board)	230	LF	\$ 185	\$ 42,550	
53	Access Stairs	100	LF	\$ 75	\$ 7,500	
54	Utility Station	2	EA	\$ 5,000	\$ 10,000	
55	2" PVC SCH 40 Pipe	380	LF	\$ 25	\$ 9,500	
56	Startup and Testing	2	EA	\$ 13,875	\$ 27,750	
<b>EFFLUENT FILTERS</b>						
57	6" SS Mud Valve with Stem and Handwheel Operator	6	EA	\$ 3,200	\$ 19,200	
58	6" D-DI by Open Cut	150	LF	\$ 40	\$ 6,000	
59	6" D-DI by Trenchless	90	LF	\$ 120	\$ 10,800	
60	6" Plug Valve	6	EA	\$ 2,600	\$ 15,600	
61	Mobilization of Directional Drilling Subcontractor	1	LS	\$ 5,000	\$ 5,250	
62	Connect to Existing Piping	4	EA	\$ 2,000	\$ 8,400	
63	Removing Existing Filters and Piping	6	EA	\$ 1,500	\$ 9,000	
64	Installing Existing Filters and Piping	6	EA	\$ 1,800	\$ 10,800	
65	Fittings DI	1	LS	\$ 8,000	\$ 8,000	
66	Core Slab	6	EA	\$ 1,200	\$ 7,200	
67	Flowable Fill	27	CY	\$ 160	\$ 4,320	
68	Mud Valve Tie in	6	EA	\$ 7,500	\$ 45,000	
<b>EFFLUENT PUMP STATION</b>						
69	Excavation	2,300	CY	\$ 25	\$ 57,500	
70	Backfill (Select Fill)	80	CY	\$ 35	\$ 2,800	
71	Shoring and Groundwater Removal	1	LS	\$ 150,000	\$ 150,000	
72	Effluent Pump Station Concrete - Vertical Walls	310	CY	\$ 938	\$ 290,546	
73	Effluent Pump Station Concrete - Floor Slab	116	CY	\$ 650	\$ 75,075	
74	Aluminum Grating	923	SF	\$ 78	\$ 71,994	
75	Galvanized Steel Beams	2.0	TON	\$ 26,910	\$ 53,820	
76	Grouting	110	CY	\$ 5,000	\$ 550,000	
77	Submersible Sump Pump	1	EA	\$ 16,227	\$ 16,227	
78	Fabricated Gates SS (3.5'x4')	2	EA	\$ 47,000	\$ 94,000	
79	Electric Actuator for Fabricated Gate	1	EA	\$ 10,000	\$ 10,000	
80	Isolation Gate Supports	2	EA	\$ 500	\$ 1,000	
81	316 Stainless Steel Overflow Weir Plate (1'x26.5'x0.25')	1	EA	\$ 10,000	\$ 10,000	
82	17.5 MGD Vertical Turbine Pumps	3	EA	\$ 368,000	\$ 1,104,000	
83	24" Ductile Iron Discharge Piping	45	LF	\$ 250	\$ 11,250	
84	Hot Dipped Galvanized 24" Pipe Supports	3	EA	\$ 750	\$ 2,250	
85	60" RCP Effluent Pipe Tie-in Connection	1	LS	\$ 2,000	\$ 2,000	
86	60" RCP Hydrophylic Water Stop, Cast in Place Wall Penetration	2	EA	\$ 800	\$ 1,600	
87	Retrievable Membrane Diffuser System	1	EA	\$ 79,000	\$ 79,000	
88	DO probe	1	EA	\$ 3,125	\$ 3,125	
89	Hot Dipped Galvanized 8" SCH10 Pipe	70	LF	\$ 115	\$ 8,050	
90	Positive Displacement Blower	2	EA	\$ 50,000	\$ 100,000	

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	4/8/2022			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	90% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
91	Concrete Pad (For Blowers)	2	CY	\$ 750	\$ 1,500	
92	Aluminum Canopy	40	SF	\$ 50	\$ 2,000	
93	Utility Station	3	EA	\$ 5,000	\$ 15,000	
94	2" PVC SCH 40 Pipe	20	LF	\$ 25	\$ 500	
95	Ductile Iron Fittings	3.6	TON	\$ 15,000	\$ 54,000	
96	Aluminum Guardrail (2-Rail with Toe Board)	300	LF	\$ 185	\$ 55,500	
97	Stair Case with Concrete Pad	2	EA	\$ 1,750	\$ 3,500	
98	Sidewalk	40	SY	\$ 80	\$ 3,200	
99	Startup and Testing	1	LS	\$ 10,000	\$ 10,000	
100	Misc Mechanical Equipment (15%)	1	LS	\$ 8,099	\$ 8,099	
<b>YARD PIPING</b>						
101	Yard and BNR Piping Demolition	334	LF	\$ 50	\$ 16,700	
102	Ninety Degree Fitting, 24" DI	2	EA	\$ 17,500	\$ 35,000	
103	24" X 18" Tee	1	EA	\$ 21,500	\$ 21,500	
104	Ninety Degree Fitting, 18" DI	7	EA	\$ 8,000	\$ 56,000	
105	18" Tee	2	EA	\$ 11,500	\$ 23,000	
106	Ninety Degree Fitting, 12" DI	4	EA	\$ 2,400	\$ 9,600	
107	24" C900 PVC Pipe - DR25	140	LF	\$ 270	\$ 37,800	
108	18" C900 PVC Pipe - DR25	553	LF	\$ 180	\$ 99,540	
109	12" C900 PVC Pipe - DR25	332	LF	\$ 140	\$ 46,480	
110	8" C900 PVC Pipe - DR25	612	LF	\$ 120	\$ 73,440	
111	10" ASTM 3034 PVC Pipe - SDR 26	180	LF	\$ 80	\$ 14,400	
112	10" x 10" Tee, DI	1	EA	\$ 2,400	\$ 2,400	
113	Fourty-Five Degree Fitting, 10" DI	2	EA	\$ 1,200	\$ 2,400	
114	10" x 10" Wye, DI	2	EA	\$ 3,200	\$ 6,400	
115	2" NPW PVC	100	LF	\$ 50	\$ 5,000	
116	1" NPW PVC	100	LF	\$ 45	\$ 4,500	
117	Tie-in to Existing Sodium Hychlorite and NPW Systems	1	LS	\$ 5,000	\$ 5,000	
118	Tie-in 10" BNR Drain to 36" Plant Drain	1	LS	\$ 7,500	\$ 7,500	
119	Pipe Fittings, Valves, and Appurtenances (20%)	1	LS	\$ 60,972	\$ 60,972	
120	Yard Piping Hydrostatic Testing	1	LS	\$ 15,000	\$ 15,000	
121	Epoxy Coating of Above-Grade Piping (BNR, EPS, Headworks)	1	LS	\$ 30,000	\$ 30,000	
<b>ELECTRICAL</b>						
122	30A Fusible Disconnect (480V, 3 phase, NEMA 4X 316SS)	20	EA	\$ 3,200	\$ 64,000	
123	200A Disconnect (480V, 3 phase, NEMA 4X 316SS)	3	EA	\$ 8,000.00	\$ 24,000	
124	400A Disconnect (480V, 3 phase, NEMA 4X 316SS)	8	EA	\$ 6,500.00	\$ 52,000	
125	Lightning Protection System	1	LS	\$ 20,000	\$ 20,000	
126	Cable and Conduit	1	LS	\$ 735,000	\$ 735,000	
127	Electrical Pullboxes	24	EA	\$ 1,000	\$ 24,000	
128	Electrical Manholes	3	EA	\$ 25,000	\$ 75,000	
129	Ductbank System	1	LS	\$ 285,000	\$ 285,000	
130	Power System Study	1	LS	\$ 25,000	\$ 25,000	
131	Misc. MCC Modifications (MCC-UV)	1	LS	\$ 145,000	\$ 145,000	
132	Misc. SWBD Modifications (SWB-HW)	1	LS	\$ 8,000	\$ 8,000	
133	Grounding System	1	EA	\$ 65,000	\$ 65,000	
134	Lift Station VFD	1	LS	\$ 140,000	\$ 140,000	
135	Misc. Electrical Lights, Receptacles, etc.	1	LS	\$ 65,000	\$ 65,000	
136	Misc. Electrical	1	LS	\$ 175,000	\$ 175,000	
<b>INSTRUMENTATION AND CONTROL</b>						
137	16" Magnetic Flow Meter Transmitter and Element (ILS)	1	EA	\$ 12,500	\$ 12,500	
138	Wet Well Level Transmitter - EPS	1	EA	\$ 6,000	\$ 6,000	
139	Pressure Gauges	4	EA	\$ 400	\$ 1,600	
140	Pressure Switches - EPS	4	EA	\$ 450	\$ 1,800	
141	RAS/WAS PS Pressure Gauge	1	EA	\$ 450	\$ 450	

<b>PROJECT NAME</b>	Pflugerville Central WWTP Phase II Improvements	<b>DATE</b>	4/8/2022		
<b>CLIENT</b>	City of Pflugerville	<b>GROUP</b>	1147		
<b>% SUBMITTAL</b>	90% Design Submittal	<b>PM</b>	Coby Gee		
<b>ESTIMATED BY</b>		<b>QC CHECKED BY</b>		<b>FNI PROJECT NUMBER</b>	
Renee Raines, Chris Callahan		John Rinacke, Coby Gee		PFL16607	
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>
142	Wet Well Level Float Switches - EPS (LSH, SLM & LSL and Parshall Flume Surcharge)	5	EA	\$ 500	\$ 2,500
143	LLRP-EPS/NEMA12/Painted Steel/Wall Mtn	1	EA	\$ 5,000	\$ 5,000
144	PLC Programming - EPS	1	LS	\$ 60,000	\$ 60,000
145	HMI Programming (Graphics/Database Comms) - EPS	1	LS	\$ 60,000	\$ 60,000
146	PLC Programming - EB4	1	LS	\$ 24,000	\$ 24,000
147	HMI Programming (Graphics/Database Comms) -BNR	1	LS	\$ 60,000	\$ 60,000
<b>DEMOLITION AND SUPPLEMENTARY ITEMS</b>					
148	Concrete Demolition/Removal for Chlorine Contact Basin	130	CY	\$ 600	\$ 78,000
149	Backfill (Select Fill) for Chlorine Contact Basin	1,255	CY	\$ 35	\$ 43,925
150	Metal/Equipment Removal for Chlorine Contact Basin	1	LS	\$ 30,000	\$ 30,000
151	Concrete Demolition/Removal for Headworks	352	CY	\$ 600	\$ 211,117
152	Backfill (Select Fill) for Headworks	403	CY	\$ 35	\$ 14,101
153	Metal/Equipment Removal for Headworks	1	LS	\$ 30,000	\$ 30,000
154	Fill Voids of Headworks Below EL. 620.00' with Flowable Fill	138	LF	\$ 160	\$ 22,027
155	Demolish Two Manholes	1	LS	\$ 10,000	\$ 10,000
156	Maintenance of Plant Operations	1	LS	\$ 100,000	\$ 100,000
157	Bypass Pumping	1	LS	\$ 75,000	\$ 75,000
158	Hydrostatic Testing for New Structures	1	LS	\$ 15,000	\$ 15,000
159	Coating of Miscellaneous Items, Including Coating Repair as Required	1	LS	\$ 20,000	\$ 20,000
<b>ADD-ALTERNATE ITEMS</b>					
160	Filter Demolition and Modifications	1	LS	\$ 60,000	\$ 60,000
				<b>SUBTOTAL</b>	\$ 15,842,800
				<b>CONTINGENCY 10%</b>	\$ 1,584,300
				<b>SUBTOTAL</b>	\$ 17,427,100
				<b>MOBILIZATION 5%</b>	\$ 871,400
				<b>SUBTOTAL</b>	\$ 18,298,500
				<b>OH&amp;P 18%</b>	\$ 3,293,800

**PROJECT TOTAL (2022 COSTS) \$ 21,592,300**

<b>COST ESCALATION FACTOR</b>	6.0%	\$ 1,295,600
<b>PROJECT TOTAL (2023 COSTS)</b>		<b>\$ 22,887,900</b>
<b>AACE CLASS 2 LOWER RANGE (-15%)</b>		<b>\$ 19,454,715</b>
<b>AACE CLASS 2 UPPER RANGE (+20%)</b>		<b>\$ 27,465,480</b>

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

**NOTES:**

- 1 FNI OPCC classified as an AACE Class 1 Estimate with accuracy range or -10 to + 15.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 Clarifier and BNR Unit Prices are based on equipment preselection contracts using price escalation dictated by specified indices.
- 4 Unit prices included in the OPCC are based on current conditions. The OPCC cannot account for severe changes in material pricing or delivery schedule due to supply chain shortages resulting from the COVID-19 pandemic.



Innovative approaches  
Practical results  
Outstanding service

## OPINION OF PROBABLE CONSTRUCTION COST

<b>PROJECT NAME</b>	Pflugerville Central WWTP Phase II Improvements	<b>DATE</b>	7/8/2022		
<b>CLIENT</b>	City of Pflugerville	<b>GROUP</b>	1147		
<b>% SUBMITTAL</b>	100% Design Submittal	<b>PM</b>	Coby Gee		
<b>ESTIMATED BY</b>		<b>QC CHECKED BY</b>		<b>FNI PROJECT NUMBER</b>	
Renee Raines, Chris Callahan, Justas Rutkauskas		John Rinacke, Coby Gee		PFL16607	
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>
<b>STORMWATER, CIVIL/SITE WORK, AND ROADWAY</b>					
1	Site Restoration and Paving Repair due to Construction Activity	1	LS	\$ 30,000	\$ 30,000
2	Revegetation/Hydromulching	1.2	ACRE	\$ 3,000	\$ 3,660
3	Trench Safety	1,370	LF	\$ 5	\$ 6,850
4	SWPPP Controls	1	LS	\$ 10,000	\$ 10,000
5	Raising South Plant Road Elevation (Near EPS), Including Paving	470	SY	\$ 120	\$ 56,400
6	Concrete Access Road and Driveway to Effluent Pump Station	728	SY	\$ 75	\$ 54,600
7	Concrete Pavement and Modifications for Plant Road (Ph1)	2,400	SY	\$ 75	\$ 180,000
8	Concrete Pilot Channel in Drainage Swale (4" Thickness)	35	SY	\$ 40	\$ 1,400
9	Fence Additions - 6-foot Galvanized Chain Link with Three-Strand 45-Degree Barbed Wire	417	LF	\$ 90	\$ 37,530
<b>INFLUENT LIFT STATION</b>					
10	16" Ductile Iron Pipe	17	LF	\$ 795	\$ 13,515
11	16" Ductile Iron Fittings	2	EA	\$ 6,607	\$ 13,214
12	4" HDGP Air Vent Piping	1	EA	\$ 400	\$ 400
13	16" Horizontal Pipe Support	1	EA	\$ 1,000	\$ 1,000
14	16" Vertical Pipe Support	2	EA	\$ 1,500	\$ 3,000
15	Influent Lift Station Pump	2	EA	\$ 100,000	\$ 200,000
16	Startup and Testing	1	LS	\$ 5,000	\$ 5,000
<b>RETROFIT AERATION BASINS TO BNR</b>					
17	Excavation	3,822	CY	\$ 25	\$ 95,550
18	Backfill - General	1,746	CY	\$ 25	\$ 43,650
19	Backfill - Select Fill Below New Slab and in Voids between Aeration Basins and New BNRs	532	CY	\$ 35	\$ 18,620
20	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000
21	Demolition of Existing Walls of Aeration Basins for Tie-in of BNR Additions	109	CY	\$ 625	\$ 68,125
22	Anaerobic/Anoxic Basins Concrete - Vertical Walls	1,076	CY	\$ 938	\$ 1,009,523
23	Anaerobic/Anoxic Basins Concrete - Slab	1,419	CY	\$ 650	\$ 922,058
24	Shoring of Existing Aeration Basin Walls, 6-10 Foot Depth	2,800	SF	\$ 52	\$ 145,600
25	Anaerobic/Anoxic Concrete Walkways and Bridges	53	CY	\$ 938	\$ 49,245
26	Access Stairs	270	SF	\$ 50	\$ 13,500
27	18" Plug Valves	2	EA	\$ 25,000	\$ 50,000
28	Foam Control	1	LS	\$ 10,000	\$ 10,000
29	Demolish Existing Equipment (2 Basins)	1	LS	\$ 50,000	\$ 50,000
30	Demolition and Extension of Effluent Gate Structures (Concrete)	1	LS	\$ 20,000	\$ 20,000
31	Miscellaneous Concrete Repair	18,608	SF	\$ 10	\$ 186,080
32	Raise Existing Concrete Wall for Freeboard	41	CY	\$ 1,000	\$ 41,000
33	Reinforcement of Center Wall	1	LS	\$ 12,500	\$ 12,500
34	New Ovivo BNR Equipment - Aerators, Mixers, IR Gates, Probes, Etc.	1	LS	\$ 2,328,870	\$ 2,328,870
35	Fabricated Effluent Weir Gates SS (15')	4	EA	\$ 67,500	\$ 270,000
36	Aluminum Handrails (2-Rail)	1,767	LF	\$ 147	\$ 259,749
37	Aluminum Grating Over Effluent Boxes	466	SF	\$ 147	\$ 68,502
38	Fiberglass Cover Replacement	8,348	SF	\$ 76	\$ 634,448
39	Aluminum Beams	0.5	TON	\$ 26,910	\$ 13,455
40	10" Stainless Steel Mudvalves w/Handwheel	4	EA	\$ 10,000	\$ 40,000
41	Misc. Materials (10%)	1	LS	\$ 232,887	\$ 232,887

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	7/8/2022			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	100% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Renee Raines, Chris Callahan, Justas Rutkauskas		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
42	Startup and Testing	1	EA	\$ 40,000	\$ 40,000	
<b>REHABILITATE EXISTING SECONDARY CLARIFIERS</b>						
43	Demolish Existing Equipment, Weirs, and Baffles	2	EA	\$ 20,000	\$ 40,000	
44	Remove Grit and Debris in Basin	200	CY	\$ 50	\$ 10,000	
45	Concrete Crack Repair/Spalding Repairs	13,440	SF	\$ 10	\$ 134,400	
46	New Clarifier Equipment (SS) - 115 ft Dia.	2	EA	\$ 380,464	\$ 760,928	
47	FRP Effluent Trough Single Side Includes Supports - 115 ft Dia. FRP Weir & Scum Baffle Panels.	2	EA	\$ 336,210	\$ 672,420	
48	FRP Density Baffle 115 ft Dia.	2	EA	\$ 25,244	\$ 50,488	
49	Algae Control	2	EA	\$ 10,000	\$ 20,000	
50	Sludge Blanket Sensors	2	EA	\$ 10,706	\$ 21,412	
51	8" DI Scum Pipe	115	LF	\$ 107	\$ 12,305	
52	Aluminum Guardrail (2-Rail with Toe Board)	230	LF	\$ 185	\$ 42,550	
53	Access Stairs	100	LF	\$ 75	\$ 7,500	
54	Utility Station	2	EA	\$ 5,000	\$ 10,000	
55	2" PVC SCH 40 Pipe	380	LF	\$ 25	\$ 9,500	
56	Startup and Testing	2	EA	\$ 13,875	\$ 27,750	
<b>EFFLUENT FILTERS</b>						
57	6" SS Mud Valve with Stem and Handwheel Operator	6	EA	\$ 4,800	\$ 28,800	
58	6" D-DI by Open Cut	150	LF	\$ 40	\$ 6,000	
59	6" D-DI by Tunneling	90	LF	\$ 120	\$ 10,800	
60	6" Plug Valve	6	EA	\$ 2,600	\$ 15,600	
61	Grit and Debris Removal	6	EA	\$ 1,500	\$ 9,000	
62	Connect to Existing Piping	4	EA	\$ 2,000	\$ 8,400	
63	Removing Existing Filters and Piping	6	EA	\$ 1,500	\$ 9,000	
64	Installing Existing Filters and Piping	6	EA	\$ 2,430	\$ 14,580	
65	Fittings DI	1	LS	\$ 8,000	\$ 8,000	
66	Core Slab	6	EA	\$ 1,200	\$ 7,200	
67	Flowable Fill	27	CY	\$ 160	\$ 4,320	
68	Mud Valve Tie in	6	EA	\$ 7,500	\$ 45,000	
<b>EFFLUENT PUMP STATION and POST AERATION</b>						
69	Excavation	2,300	CY	\$ 25	\$ 57,500	
70	Backfill (Select Fill)	80	CY	\$ 35	\$ 2,800	
71	Shoring and Groundwater Removal	1	LS	\$ 150,000	\$ 150,000	
72	Effluent Pump Station Concrete - Vertical Walls	310	CY	\$ 938	\$ 290,546	
73	Effluent Pump Station Concrete - Floor Slab	116	CY	\$ 650	\$ 75,075	
74	Aluminum Grating	923	SF	\$ 78	\$ 71,994	
75	Galvanized Steel Beams	2.0	TON	\$ 26,910	\$ 53,820	
76	Grouting	110	CY	\$ 5,000	\$ 550,000	
77	Submersible Sump Pump	1	EA	\$ 16,227	\$ 16,227	
78	Fabricated Gates SS (3.5'x4')	2	EA	\$ 47,000	\$ 94,000	
79	Fabricated Gate SS (1'x1')	1	EA	\$ 15,000	\$ 15,000	
80	Electric Actuator for Fabricated Gate	1	EA	\$ 10,000	\$ 10,000	
81	Isolation Gate Supports	2	EA	\$ 500	\$ 1,000	
82	316 Stainless Steel Overflow Weir Plate (1'x26.5'x0.25')	1	EA	\$ 10,000	\$ 10,000	
83	17.5 MGD Vertical Turbine Pumps	3	EA	\$ 383,333	\$ 1,149,999	
84	24" Ductile Iron Discharge Piping	45	LF	\$ 250	\$ 11,250	
85	Hot Dipped Galvanized 24" Pipe Supports	3	EA	\$ 750	\$ 2,250	
86	60" RCP Effluent Pipe Tie-in Connection	1	LS	\$ 2,000	\$ 2,000	
87	60" RCP Hydrophylic Water Stop, Cast in Place Wall Penetration	2	EA	\$ 800	\$ 1,600	
88	Retrievable Membrane Diffuser System	1	EA	\$ 41,100	\$ 41,100	
89	DO probe	1	EA	\$ 3,125	\$ 3,125	
90	304 Stainless Steel 4" Pipe	60	LF	\$ 125	\$ 7,500	
91	Positive Displacement Blower Package	2	EA	\$ 50,000	\$ 100,000	

PROJECT NAME	Pflugerville Central WWTP Phase II Improvements	DATE	7/8/2022			
CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	100% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Renee Raines, Chris Callahan, Justas Rutkauskas		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
92	FRP Blower Building Concrete Pad	8	CY	\$ 750	\$ 6,000	
93	Prefabricated FRP Building	1	EA	\$ 41,175	\$ 41,175	
94	Utility Station	3	EA	\$ 5,000	\$ 15,000	
95	2" PVC SCH 40 Pipe	20	LF	\$ 25	\$ 500	
96	Ductile Iron Fittings	3.6	TON	\$ 15,000	\$ 54,000	
97	Aluminum Guardrail (2-Rail with Toe Board)	300	LF	\$ 185	\$ 55,500	
98	Stair Case with Concrete Pad	2	EA	\$ 1,750	\$ 3,500	
99	Sidewalk	40	SY	\$ 80	\$ 3,200	
100	Startup and Testing	1	LS	\$ 10,000	\$ 10,000	
101	Misc Mechanical Equipment (15%)	1	LS	\$ 8,100	\$ 8,100	
<b>YARD PIPING</b>						
102	Yard and BNR Piping Demolition	334	LF	\$ 50	\$ 16,700	
103	Ninety Degree Fitting, 24" DI	2	EA	\$ 17,500	\$ 35,000	
104	24" X 18" Tee	1	EA	\$ 21,500	\$ 21,500	
105	Ninety Degree Fitting, 18" DI	7	EA	\$ 8,000	\$ 56,000	
106	18" Tee	2	EA	\$ 11,500	\$ 23,000	
107	Ninety Degree Fitting, 12" DI	4	EA	\$ 2,400	\$ 9,600	
108	24" C900 PVC Pipe - DR25	140	LF	\$ 270	\$ 37,800	
109	18" C900 PVC Pipe - DR25	553	LF	\$ 180	\$ 99,540	
110	12" C900 PVC Pipe - DR25	332	LF	\$ 140	\$ 46,480	
111	8" C900 PVC Pipe - DR25	612	LF	\$ 120	\$ 73,440	
112	10" ASTM 3034 PVC Pipe - SDR 26	180	LF	\$ 80	\$ 14,400	
113	10" x 10" Tee, DI	1	EA	\$ 2,400	\$ 2,400	
114	Fourty-Five Degree Fitting, 10" DI	2	EA	\$ 1,200	\$ 2,400	
115	10" x 10" Wye, DI	2	EA	\$ 3,200	\$ 6,400	
116	2" NPW PVC	100	LF	\$ 50	\$ 5,000	
117	1" NPW PVC	100	LF	\$ 45	\$ 4,500	
118	Tie-in to Existing Sodium Hychlorite and NPW Systems	1	LS	\$ 5,000	\$ 5,000	
119	Tie-in 10" BNR Drain to 36" Plant Drain	1	LS	\$ 7,500	\$ 7,500	
120	Pipe Fittings, Valves, and Appurtenances (20%)	1	LS	\$ 60,972	\$ 60,972	
121	Yard Piping Hydrostatic Testing	1	LS	\$ 15,000	\$ 15,000	
122	Epoxy Coating of Above-Grade Piping (BNR, EPS, Headworks)	1	LS	\$ 30,000	\$ 30,000	
<b>ELECTRICAL</b>						
123	30A Fusible Disconnect (480V, 3 Phase, NEMA 4X 316SS)	22	EA	\$ 3,200	\$ 70,400	
124	200A Disconnect (480V, 3 Phase, NEMA 4X 316SS)	3	EA	\$ 6,500	\$ 19,500	
125	400A Disconnect (480V, 3 Phase, NEMA 4X 316SS)	8	EA	\$ 8,000	\$ 64,000	
126	Lightning Protection System	1	LS	\$ 20,000	\$ 20,000	
127	Cable and Conduit	1	LS	\$ 750,000	\$ 750,000	
128	Electrical Pullboxes	32	EA	\$ 1,250	\$ 40,000	
129	Electrical Manholes	2	EA	\$ 25,000	\$ 50,000	
130	Ductbank System	1	LS	\$ 295,000	\$ 295,000	
131	Power System Study	1	LS	\$ 25,000	\$ 25,000	
132	Misc. MCC Modifications (MCC-UV)	1	LS	\$ 175,000	\$ 175,000	
133	Misc. SWBD Modifications (SWB-HW)	1	LS	\$ 15,000	\$ 15,000	
134	Grounding System	1	EA	\$ 80,000	\$ 80,000	
135	Lift Station VFD	2	EA	\$ 65,000	\$ 130,000	
136	Misc. Electrical Lights, Receptacles, etc.	1	LS	\$ 85,000	\$ 85,000	
137	Misc. Electrical	1	LS	\$ 175,000	\$ 175,000	
<b>INSTRUMENTATION AND CONTROL</b>						
138	16" Magnetic Flow Meter Transmitter and Element (ILS)	1	EA	\$ 12,500	\$ 12,500	
139	Wet Well Level Transmitter - EPS	1	EA	\$ 6,000	\$ 6,000	
140	Pressure Gauges	4	EA	\$ 400	\$ 1,600	
141	Pressure Switches - EPS	2	EA	\$ 7,000	\$ 14,000	
142	RAS/WAS PS Pressure Gauge	1	EA	\$ 450	\$ 450	

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CLIENT	City of Pflugerville	GROUP	1147			
% SUBMITTAL	100% Design Submittal	PM	Coby Gee			
ESTIMATED BY		QC CHECKED BY		FNI PROJECT NUMBER		
Renee Raines, Chris Callahan, Justas Rutkauskas		John Rinacke, Coby Gee		PFL16607		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
143	Wet Well Level Float Switches - EPS (LSH, SLM & LSL and Parshall Flume Surcharge)	5	EA	\$ 500	\$ 2,500	
144	LLRP-EPS/NEMA12/Painted Steel/Wall Mtn	1	EA	\$ 5,000	\$ 5,000	
145	PLC Programming - ILS	1	LS	\$ 15,000	\$ 15,000	
146	HMI Programming (Graphics/Database Comms) - ILS	1	LS	\$ 10,000	\$ 10,000	
147	PLC Programming - EPS	1	LS	\$ 75,000	\$ 75,000	
148	HMI Programming (Graphics/Database Comms) - EPS	1	LS	\$ 65,000	\$ 65,000	
149	PLC Programming - EB4	1	LS	\$ 24,000	\$ 24,000	
150	HMI Programming EB4 (Graphics/Database Comms) - BNR	1	LS	\$ 60,000	\$ 60,000	
<b>DEMOLITION AND SUPPLEMENTARY ITEMS</b>						
151	Concrete Demolition/Removal for Chlorine Contact Basin	130	CY	\$ 600	\$ 78,000	
152	Backfill (Select Fill) for Chlorine Contact Basin	1,255	CY	\$ 35	\$ 43,925	
153	Metal/Equipment Removal for Chlorine Contact Basin	1	LS	\$ 30,000	\$ 30,000	
154	Concrete Demolition/Removal for Headworks	352	CY	\$ 600	\$ 211,117	
155	Backfill (Select Fill) for Headworks	403	CY	\$ 35	\$ 14,101	
156	Metal/Equipment Removal for Headworks	1	LS	\$ 30,000	\$ 30,000	
157	Fill Voids of Headworks Below EL. 620.00' with Flowable Fill	138	LF	\$ 160	\$ 22,027	
158	Demolish Two Manholes	1	LS	\$ 10,000	\$ 10,000	
159	Maintenance of Plant Operations	1	LS	\$ 50,000	\$ 50,000	
160	Bypass Pumping and Pipe Plugs	1	LS	\$ 75,000	\$ 75,000	
161	Hydrostatic Testing for New Structures	1	LS	\$ 15,000	\$ 15,000	
162	Coating of Miscellaneous Items, Including Coating Repair as Required	1	LS	\$ 20,000	\$ 20,000	
<b>ADD-ALTERNATE ITEMS</b>						
163	Filter Demolition and Modifications	1	LS	\$ 60,000	\$ 60,000	
				SUBTOTAL	\$ 15,666,400	
				CONTINGENCY	10%	\$ 1,566,700
				SUBTOTAL	\$ 17,233,100	
				MOBILIZATION	5%	\$ 861,700
				SUBTOTAL	\$ 18,094,800	
				OH&P	18%	\$ 3,257,100

**PROJECT TOTAL (2022 COSTS) \$ 21,351,900**

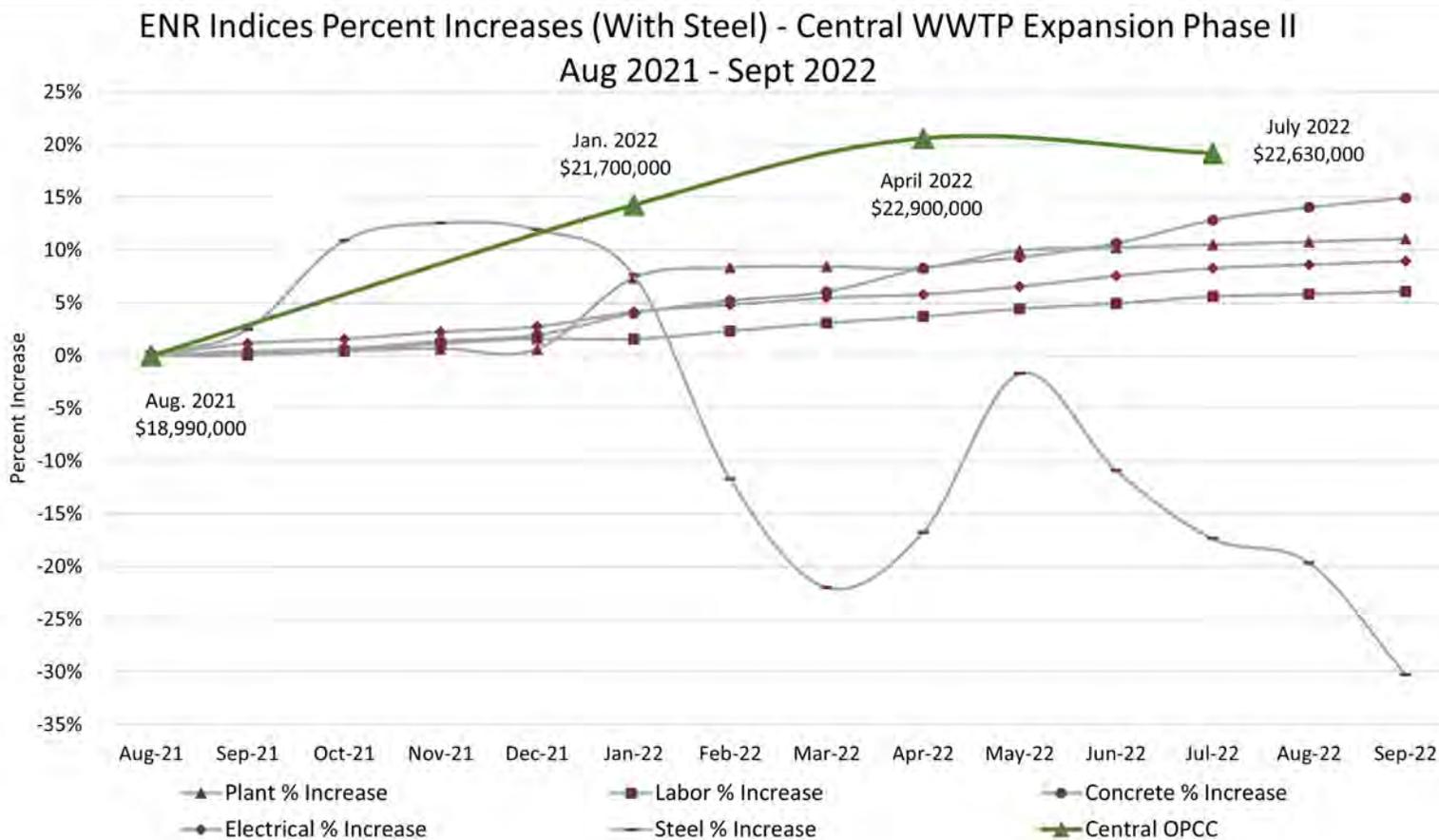
COST ESCALATION FACTOR	6.0%	\$ 1,281,200
<b>PROJECT TOTAL (2023 COSTS)</b>		<b>\$ 22,633,100</b>
<b>AACE CLASS 1 LOWER RANGE (-10%)</b>		<b>\$ 20,369,790</b>
<b>AACE CLASS 1 UPPER RANGE (+15%)</b>		<b>\$ 26,028,065</b>

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

**NOTES:**

- 1 FNI OPCC classified as an AACE Class 1 Estimate with accuracy range or -10 to + 15.
- 2 FNI OPCC does not include costs associated with engineering fees, permits, surveying, etc.
- 3 Clarifier and BNR Unit Prices are based on equipment preselection contracts using price escalation dictated by specified indices.
- 4 Unit prices included in the OPCC are based on current conditions. The OPCC cannot account for severe changes in material pricing or delivery schedule due to supply chain shortages resulting from the COVID-19 pandemic.

ENR INDICES VERSUS CENTRAL WWTP PHASE II OPCCS (30% TO INITIAL 100%)



## ENR's 20-city average cost indexes, wages and material prices. Historical data for ENR's 20 cities can be found at [ENR.com/economics](https://enr.com/economics)

### Construction Cost Index

**+5.7%**  
OCT. 2022

ANNUAL INFLATION RATE

1913=100	INDEX VALUE	MONTH	YEAR
CONSTRUCTION COST	13174.92	0.0%	+5.7%
COMMON LABOR	24634.46	0.0%	+1.1%
WAGE \$/HR.	47.36	0.0%	+1.1%

### Building Cost Index

**+9.9%**  
OCT. 2022

ANNUAL INFLATION RATE

1913=100	INDEX VALUE	MONTH	YEAR
BUILDING COST	7965.04	+0.1%	+9.9%
SKILLED LABOR	11304.38	+0.1%	+3.0%
WAGE \$/HR.	62.38	+0.1%	+3.0%

### Materials Cost Index

**+0.1%**  
OCT. 2022

MONTHLY INFLATION RATE

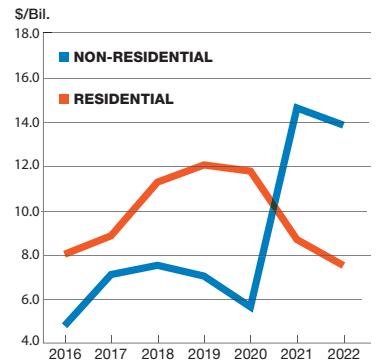
1913=100	INDEX VALUE	MONTH	YEAR
MATERIALS COST	5894.04	+0.1%	+19.4%
CEMENT \$/TON	172.48	-1.4%	+14.9%
STEEL \$/CWT	92.74	+1.1%	+26.3%
LUMBER \$/MBF	1092.84	-1.8%	+8.1%

The Construction Cost Index's annual escalation rose 5.7%, while the monthly component stayed flat.

The Building Cost Index was up 9.9% on an annual basis, while the monthly component rose 0.1%.

The MCI rose 0.1% since last month, while the annual escalation rate increased 19.4%.

**Construction starts in the Birmingham, Ala., metro area are expected to fall 8.4% in 2023, to \$2.2 billion, according to Dodge Data & Analytics. Dodge predicts a 5.3% decrease in non-residential construction, while residential work is expected to decline 13.5%. Office and single-family construction are expected to see the largest decreases, while education work is predicted to rise.**



SOURCE: DODGE DATA & ANALYTICS

## ENR's Cost Indexes by City

1913=100  
1967=100  
R=REVISED

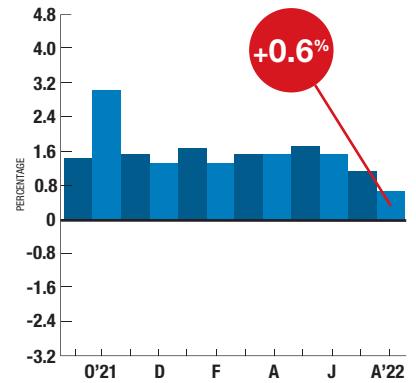
	CONSTRUCTION COST		BUILDING COST		COMMON LABOR		SKILLED LABOR		MATERIALS	
	OCT '22: 1913	% CHG. YEAR	OCT '22: 1913	% CHG. YEAR	OCT '22: 1967	% CHG. YEAR	OCT '22: 1967	% CHG. YEAR	OCT '22: 1967	% CHG. YEAR
<b>ATLANTA</b>	8556.39	+8.9	6575.83	+13.9	825.83	0.0	759.18	+4.1	1505.23	+20.8
<b>BALTIMORE</b>	11246.72	+11.5	7854.34	+21.5	1214.52	0.0	967.32	+7.2	1544.26	+35.2
<b>BIRMINGHAM</b>	<b>8859.35</b>	<b>+7.4</b>	<b>6199.66</b>	<b>+13.2</b>	<b>978.68</b>	<b>0.0</b>	<b>860.63</b>	<b>+4.4</b>	<b>1222.63</b>	<b>+20.8</b>
<b>BOSTON</b>	17909.78	+7.6	10210.66	+11.4	1756.25	+3.4	1569.14	+4.2	1375.99	+24.0
<b>CHICAGO</b>	18365.27	+3.4	9675.01	+7.7	1690.57	0.0	1479.83	+1.6	1091.30	+19.6
<b>CINCINNATI</b>	12058.37	+6.3	7030.07	+13.7	1077.82	0.0	943.51	+4.0	1246.20	+24.5
<b>CLEVELAND</b>	13731.58	+4.5	7385.17	+7.4	1095.01	+0.8	972.70	0.0	1130.76	+17.5
<b>DALLAS</b>	7754.95	+10.2	6365.58	+12.8	742.23	0.0	738.52	+0.1	1319.63	+21.8
<b>DENVER</b>	8660.78	+5.3	6561.13	+12.5	818.18	0.0	939.56	+9.9	1099.72	+15.3
<b>DETROIT</b>	13464.27	+4.3	7706.33	+6.9	1078.49	+1.0	1028.13	+0.7	1055.24	+15.6
<b>KANSAS CITY</b>	13152.48	+4.8	7714.82	+7.4	1340.17	+1.2	1268.23	+0.9	1110.20	+16.5
<b>LOS ANGELES</b>	13278.44	+4.5	7575.69	+8.2	1111.66	0.0	1053.90	0.0	1135.92	+20.6
<b>MINNEAPOLIS</b>	14194.30	+3.1	8045.08	+7.3	1339.26	0.0	1340.22	+2.5	1073.05	+14.8
<b>NEW ORLEANS</b>	8157.14	+10.4	6698.30	+15.3	749.82	0.0	828.03	+4.7	1418.42	+23.5
<b>NEW YORK CITY</b>	21902.22	+3.1	11067.06	+5.6	1663.39	+1.3	1512.60	+2.3	1162.79	+14.6
<b>PHILADELPHIA</b>	15533.02	+4.2	8816.37	+6.9	1637.07	+2.0	1402.99	+3.4	1178.84	+13.6
<b>PITTSBURGH</b>	12576.91	+2.3	7630.66	+4.8	1178.28	0.0	1050.34	+1.5	1044.54	+9.1
<b>ST. LOUIS</b>	13757.08	+4.5	7726.51	+8.4	1112.34	+1.2	1067.87	+3.0	1226.07	+15.8
<b>SAN FRANCISCO</b>	15141.40	+4.8	9847.88	+7.5	1046.50	0.0	1091.49	0.0	1675.51	+16.1
<b>SEATTLE</b>	15197.93	+12.0	8614.69	+14.9	1314.48	+8.6	1302.87	+9.0	1453.10	+23.5

**Prices for PVC pipe products rose 0.6% in August after increasing 1.1% in July**, according to the Bureau of Labor Statistics' producer price index for plastic construction products, which consists largely of PVC pipe. The annual escalation sits at 20% for the month. ENR's 20-city average price for both types of copper water tubing experienced yearly increases in October, as did all types of corrugated steel pipe. Monthly prices for 6-in. ductile-iron pipe experienced a drop of 0.1%, while yearly prices increased 28.8% since October 2021.

## PRODUCER PRICE INDEX

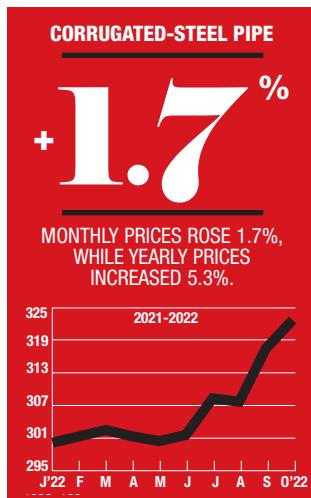
### PVC PIPE

Monthly percent change

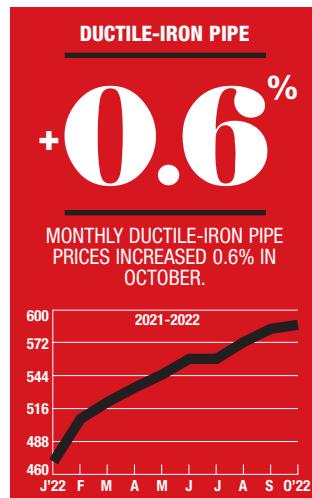


SOURCE: BUREAU OF LABOR STATISTICS

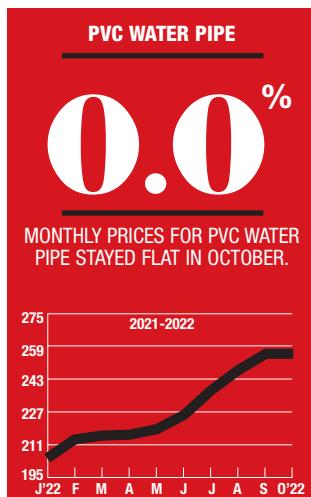
## ENR's Materials Prices For October 2022



1992=100



1992=100



1992=100



1992=100

## 20-CITY AVERAGE

ITEM	UNIT	\$PRICE	%MONTH	%YEAR
<b>REINFORCED-CONCRETE PIPE (RCP)</b>				
12"	FT	24.03	+1.1	+26.5
24"	FT	48.88	<b>+0.9</b>	+31.3
36"	FT	106.12	+2.2	+39.2
48"	FT	174.37	+1.5	+36.7

<b>CORRUGATED-STEEL PIPE (CSP)</b>				
12"	FT	12.87	+2.0	+6.0
36"	FT	41.84	<b>+1.7</b>	+5.3
60"	FT	89.68	+1.7	+3.7

<b>POLYETHYLENE PIPE (PE): UNDERDRAIN</b>				
4"	FT	0.92	+2.2	+29.4

<b>POLYVINYL-CHLORIDE PIPE (PVC)</b>				
Sewer, 46"	FT	2.83	-0.9	+60.8
8"	FT	8.93	+0.9	+45.17
Water, 6"	FT	9.94	+0.6	+44.6
8"	FT	12.93	<b>0.0</b>	+28.4
12"	FT	22.56	+0.9	+21.0

<b>DUCTILE-IRON PIPE (DIP)</b>				
6"	FT	24.57	-0.1	+28.8
8"	FT	35.53	<b>+0.6</b>	+24.4
12"	FT	54.40	+0.6	+22.2

<b>COPPER WATER TUBING: TYPE L</b>				
1/2"	FT	2.40	-3.4	+20.2
1 1/2"	FT	9.82	+0.8	+21.0

SOURCE: ENR

## Sewer, Water and Drain Pipe For October 2022

City prices reflect quotes from single sources and can be volatile. They are not meant to be the prevailing price for a city. Data are a mix of list and transaction prices and may include ENR estimates. Do not compare prices between locations. Use city information to analyze national trends.

ITEM	UNIT	ATLANTA	BALTIMORE	BIRMINGHAM	BOSTON	CHICAGO	CINCINNATI	CLEVELAND	DALLAS	DENVER	DETROIT
<b>REINFORCED-CONCRETE PIPE (RCP)</b>											
12"	FT	+24.05	23.10	+19.79	25.87	23.60	23.95	23.95	24.13	22.65	23.95
24"	FT	+47.90	53.50	+36.52	57.05	48.11	55.55	55.55	51.25	45.21	55.55
36"	FT	+100.43	119.00	+84.98	119.63	95	124.20	124.20	112.70	+102.50	124.20
48"	FT	+167.17	193.00	+150.43	178.12	174.73	197.50	197.50	185.98	+176.95	197.50
<b>CORRUGATED-STEEL PIPE (CSP)</b>											
12"	FT	12.10	+13.10	11.07	12.05	+12.39	+12.40	12.95	14.12	+12.08	+11.80
36"	FT	38.89	38.75	34.91	38.00	+42.47	+37.10	40.00	38.55	+44.76	41.75
60"	FT	89.62	+78.50	81.24	85.65	+89.00	+74.30	+76.20	82.90	+88.25	85.55
<b>POLYETHYLENE PIPE (PE): UNDERDRAIN</b>											
4"	FT	0.83	+1.26	+0.70	+0.97	0.79	+0.75	0.78	0.82	0.92	+0.77
<b>POLYVINYL-CHLORIDE PIPE (PVC)</b>											
SEWER, 4"	FT	2.35	2.60	+2.46	+2.60	2.84	+3.07	+3.10	2.56	2.17	+2.90
8"	FT	7.98	8.90	+7.54	+8.05	8.29	+9.20	+9.15	7.23	7.20	+8.92
WATER, 6"	FT	8.10	11.20	+8.67	+9.00	8.61	11.80	11.70	+8.95	7.85	11.05
8"	FT	12.05	13.55	+11.11	+11.89	10.95	13.40	13.10	11.52	11.68	12.68
12"	FT	22.17	20.16	+21.30	+21.63	21.74	20.60	+19.50	22.56	20.47	22.66
<b>DUCTILE-IRON PIPE (DIP)</b>											
6"	FT	21.15	27.90	+20.52	26.00	24.86	28.95	+26.80	23.44	+22.35	25.20
8"	FT	32.83	38.40	+31.25	38.00	36.79	41.67	+38.90	33.62	+33.86	36.50
12"	FT	55.21	63.20	+49.03	56.00	52.05	61.10	+59.50	49.78	+54.10	57.40
<b>COPPER WATER TUBING: TYPE L</b>											
½"	FT	+2.26	-2.49	+2.15	2.47	2.31	-2.38	-2.36	+2.40	2.20	-2.34
1½"	FT	+9.31	-10.40	+8.08	9.95	8.70	-10.49	-10.39	+8.89	8.72	-10.50

ITEM	UNIT	KANSAS CITY	LOS ANGELES	MINNEAPOLIS	NEW ORLEANS	NEW YORK	PHILADELPHIA	PITTSBURGH	ST. LOUIS	SAN FRANCISCO	SEATTLE
<b>REINFORCED-CONCRETE PIPE (RCP)</b>											
12"	FT	21.10	29.00	20.30	+24.09	23.74	25.38	20.90	+22.20	34.00	+24.77
24"	FT	52.50	40.00	53.00	+48.65	41.83	44.56	55.60	51.00	37.30	+46.89
36"	FT	+120.00	80.00	118.50	+92.87	85.15	90.00	121.00	+118.50	87.02	+102.53
48"	FT	+190.00	130.00	191.50	+159.32	140.61	157.49	192.00	+188.00	148.84	+170.68
<b>CORRUGATED-STEEL PIPE (CSP)</b>											
12"	FT	13.50	15.76	+12.60	12.72	12.05	12.32	+11.85	+11.50	19.00	12.11
36"	FT	44.50	56.04	+41.10	38.65	38.91	40.09	+38.50	+42.40	63.53	38.00
60"	FT	+79.70	138.36	92.18	87.00	84.56	84.68	75.00	+73.20	163.17	84.49
<b>POLYETHYLENE PIPE (PE): UNDERDRAIN</b>											
4"	FT	-0.76	1.38	0.79	0.84	+0.90	+0.98	+1.28	0.80	1.20	0.84
<b>POLYVINYL-CHLORIDE PIPE (PVC)</b>											
SEWER, 4"	FT	+2.75	-3.60	2.82	2.09	+2.53	+2.41	-2.80	-2.65	5.99	2.30
8"	FT	+8.80	-8.65	8.95	6.47	+7.86	+8.05	-9.65	8.84	20.87	8.02
WATER, 6"	FT	10.75	-8.10	11.20	8.08	8.90	+9.12	11.50	10.96	13.60	9.56
8"	FT	14.50	-12.60	14.00	11.16	12.05	+11.92	13.70	13.00	19.95	13.80
12"	FT	+18.76	-22.35	21.25	21.74	21.86	+22.60	20.75	+22.00	37.25	31.79
<b>DUCTILE-IRON PIPE (DIP)</b>											
6"	FT	23.50	-22.76	24.60	21.03	24.50	22.75	25.90	+25.20	28.27	+26.17
8"	FT	33.10	-29.97	34.96	31.45	37.02	35.64	38.45	+37.20	37.24	33.72
12"	FT	53.10	-45.94	56.20	50.28	53.00	52.82	55.50	+56.40	57.07	50.33
<b>COPPER WATER TUBING: TYPE L</b>											
½"	FT	-2.40	-2.32	-2.42	2.09	+2.40	2.36	-2.50	-2.46	3.56	2.19
1½"	FT	-10.20	+10.35	-10.35	8.03	+8.49	+9.20	-10.44	-10.30	14.72	8.98

+ OR - DENOTES PRICE HAS RISEN OR FALLEN SINCE PREVIOUS REPORT; QUOTES ARE DELIVERED PRICES. SOME PRICES MAY INCLUDE TAXES OR DISCOUNTS. PRODUCT SPECIFICATION MAY VARY, DEPENDING ON WHAT IS MOST COMMONLY USED OR MOST ACCESSIBLE IN A CITY. QUANTITIES ARE GENERALLY TRUCKLOADS. RCP PIPE IS ASTM C76; 12 IN. AND 24 IN. ARE RUBBER-GASKET JOINTED, OTHERS ARE NON-CORRUGATED. CORRUGATED STEEL PIPE IS PLAIN GALVANIZED; 12 IN. IS 16 GAUGE, 36 IN. IS 14 GAUGE, 60 IN. IS 12 GAUGE. PE PIPE IS M252, PERFORATED AND CORRUGATED. PVC SEWER PIPE IS ASTM D-3034, SDR-35. PVC WATER PIPE IS C900, CL 150. DIP PIPE IS CL 150 WITH A PUSH-ON JOINT. COPPER WATER TUBING PIPE IS HARD AND INTERIOR DIAMETER, TYPE L.



Global Supply Chain and Escalation Update  
March 8, 2022

To our Valued Customers,

Once again, we find ourselves facing unprecedented market conditions driving up the cost of raw materials critical to our business. Commodities such as carbon steel, stainless steel, aluminum, petroleum and petroleum-based plastics and resins continue to be impacted. Increased demand, combined with reduced production capacity and record low inventories have combined to drive speculation and some panic buying in global commodities markets, leading to significant upward pressure on prices.

The market price for nickel has more than quadrupled in just over the last week, and “the London Metal Exchange (LME) suspended nickel trading after “unprecedented” increases in the benchmark price, which surged above \$100,000/t overnight. Trading was suspended as of 08:15 GMT today, and the exchange cancelled all nickel transactions that took place after 00:00 GMT. The LME said in its latest notice that it needs to establish “operational procedures to effect a safe re-opening” and explore the possibility of “netting-off” long and short positions before reopening nickel trading, tasks it does not expect to be completed before 11 March.”

<https://www.argusmedia.com/en/news/2309683-lme-nickel-trading-unlikely-to-resume-before-11-march?backToResults=true>

Stainless steel inventories are nonexistent or at record lows and all distributors and suppliers are currently unwilling to quote prices. *As a result of the volatile nickel market, WesTech has implemented a temporary moratorium on bidding any jobs that require stainless steel fabrication.* Only time will tell when we will be able to again quote jobs in stainless steel. We recommend that customers currently bidding jobs that require stainless steel postpone their projects 60-90 days.

Please know that WesTech is doing our best to mitigate the impact of this market volatility. However, despite our best efforts, in many cases prices will increase and delivery times will be extended.

We are available to answer any questions or concerns that you may have, and we encourage you to contact your WesTech representative directly with inquiries regarding your specific project.

Best regards,  
WesTech Engineering, LLC

James R. Hanson  
Executive Vice President





3755 S. Capital of Texas Highway  
Suite 325  
Austin, TX 78704  
TEL 512.485.0009  
FAX 512.485.0010  
[www.GarverUSA.com](http://www.GarverUSA.com)

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## **Pflugerville Wilbarger Creek RWWTF OPCC Evaluation**

Date: October 25, 2022  
To: City of Pflugerville  
Attn: Andrea Brinkley  
From: Garver  
RE: Pflugerville Wilbarger RWWTF Expansion OPCC Evaluation (90%) - Draft

### **1.0 Project Background**

Planning for this facility began more than a decade ago when the 2008 Wastewater Master Plan identified the need for a new regional wastewater treatment facility to serve the City's projected growth. The City purchased a 159-acre tract of land on the west side of Wilbarger Creek and north of Gregg Lane and acquired a Texas Pollutant Discharge Elimination System (TPDES) discharge permit for the future treatment plant. The new Wilbarger Creek RWWTF was initially permitted in three phases and will augment the existing Central Wastewater Treatment Plant (WWTP).

Three Central / Wilbarger flow transfer alternatives were evaluated in a March 2021 Flow Transfer Evaluation Technical Memorandum (TM) to determine the proposed initial capacity of the Wilbarger Creek RWWTF. Ultimately, the recommended alternative was for a Wilbarger Creek RWWTF initial phase of construction of 6.0 million gallons per day (MGD) with expansion build-out to 15.75 MGD. Potential buildout to 24.0 MGD will be maintained to afford the City flexibility in management of future wastewater flows from the Cottonwood Basin. Figure 1-1 shows the City's three sewer basins. Wilbarger Creek RWWTF (WCRWWTF) will serve the Wilbarger and Cottonwood Basins.

During the conceptual phase of the project phasing and facility layouts were developed and project O&M costs were estimated to help with financial planning. The conceptual O&M costs are presented in Figure 1-2. The facility phasing plan for WCRWWTF is included in Figure 1-3.

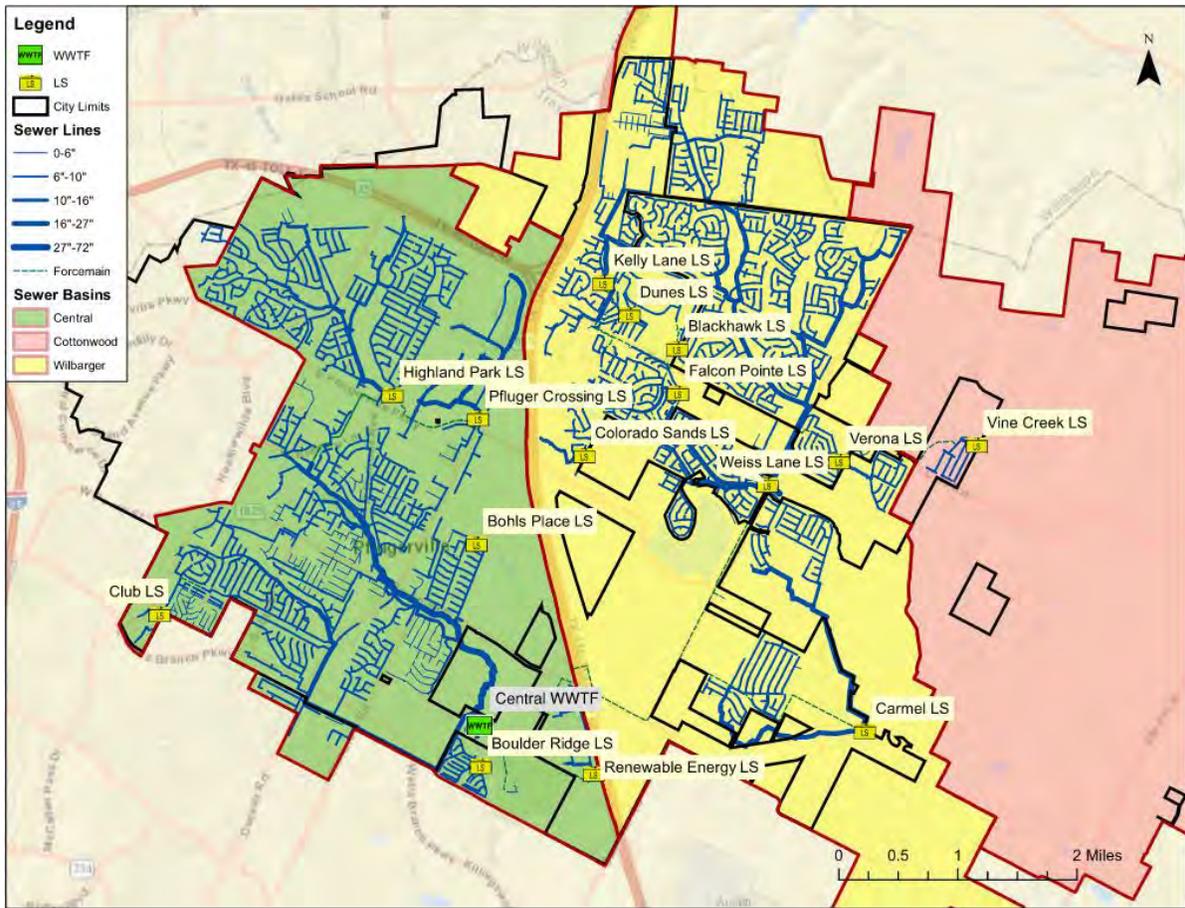


Figure 1-1: City of Pflugerville Sewer Basin Overview Map

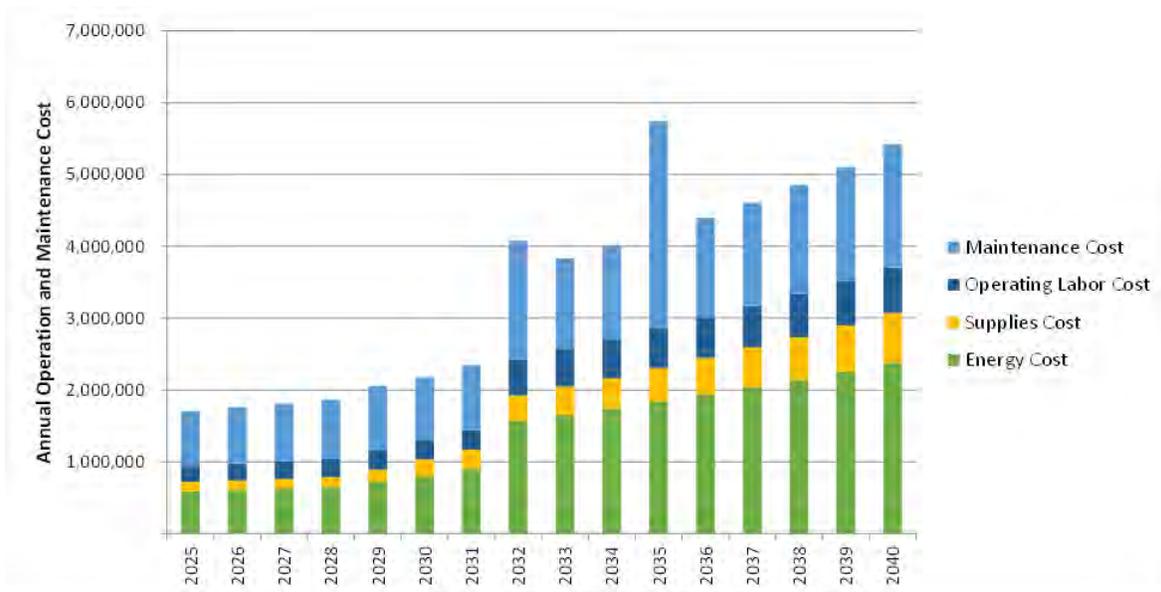


Figure 1-2: Wilbarger Creek RWWTF Operation and Maintenance Cost Projection

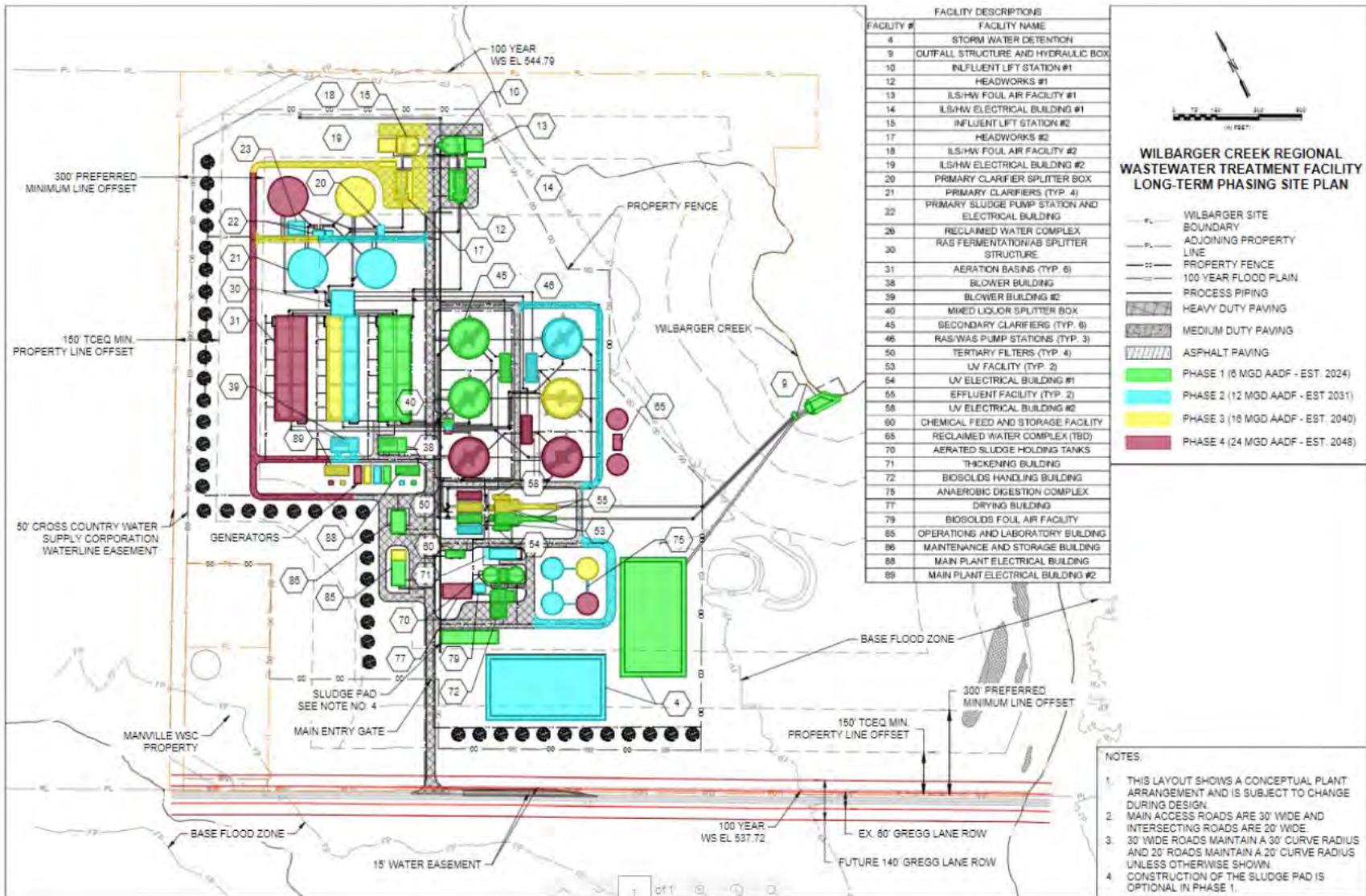


Figure 1-3: Wilbarger Creek RWWTF Phasing Plan

## 2.0 OPCC AND SCHEDULE PROGRESSION

The Opinion of Probable Construction Costs and Project Schedule have been continuously refined during the WCRWWTF design project. This project has been accelerated since the start of design. The key reason for the acceleration was the projected rapid rate of growth in the area. The need for a fast-paced expansion project was identified in the 2020 master planning by Freese and Nichols and Confirmed by Garver during Conceptual Design. The anticipated population and average day flows are summarized in Table 2-1.

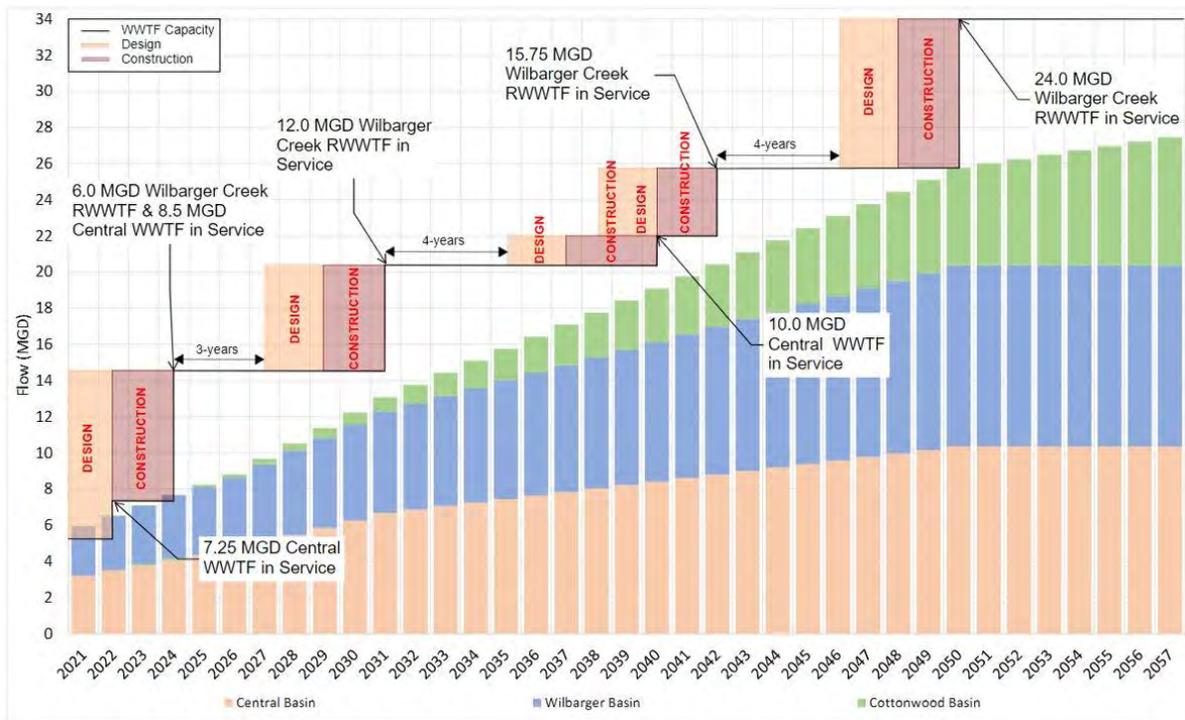
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2026	100,256	33,870	260	8.81
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Buildout	398,066	133,744	260	34.77

\*Provided by FNI from 2020 Master Planning efforts. The updated projections were provided to Garver in December 2020.

## 2.1 Project Timeline

The population and flow projections shown in Table 2-1 informed the phasing plan shown in Figure 2-1.



**Figure 2-1: City of Pflugerville Wastewater Construction Phasing Plan**

The need for additional treatment capacity was identified during the conceptual design phase and can be seen in projected capacity shortage as the Central WWTP plant expansion nears completion in 2022 and

then again potentially in 2024 as the first phase of the WCRWWTF is brought online in 2024. Throughout the life of the project, growth has been rapid in Pflugerville.

The design team has held the original schedule, which is summarized in Figure 2-2.



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As the project moved from conceptual design in January 2021 to 30% completion in November of 2021, the OPCC increased to approximately \$102 million dollars (Δ~10.4%). At this time, it became apparent that covid related impacts were affecting construction projects in a few ways:

- Temporary short-term disruptions of certain materials and goods that would be needed for the WCRWWTF construction.
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During the 30% design, Garver prepared the first draft of Design Information Manual (DIM) 25: Opinion of Probable Construction Costs. The different versions of this memo are provided in Appendix A, Appendix B and Appendix C. The full OPCCs (30%, 60% and 90%) are provided in Appendix D, Appendix E and Appendix F.

The 30% DIM identified the criticality of cost savings reductions and recent fluctuating trends in plant pricing. Key 30% cost optimization/control areas included:

- Grading and Paving: A focus on paving and road materials, including proposed use of gravel roads, was anticipated to save approximately \$500K.

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The design is currently at the 90% milestone (September 2022) and the 90% OPCC was submitted with a total anticipated cost of \$204M (total of \$247M with all allowances, escalation, and contingency). During 90% OPCC development, Garver observed that all materials and goods had experienced recent and substantial cost escalation. Based on the design workshops held in October 2022, Garver has been focused on cost optimization. These items will be discussed in greater detail in Section 4 of this memo.

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- Bay City WWTP, Bay City, TX

Both projects bid substantially higher than the 100% OPCC. These projects bid at the time of the 90% design submittal for the WCRWWTF. Value engineering and cost savings efforts on each project helped identify the following critical factors that had contributed to the higher costs:

- Material shortages including and especially concrete shortages were significantly impacting the projects.
- Lack of labor: With the number of projects bidding, finding key resources in Texas is difficult and Contractors are factoring per-diem into their labor cost estimates for most of the project schedule.
- High cost of gas and lack of skilled labor are impacting transportation. The high cost of fuel makes site work significantly more expensive and the lack of transportation factors into increasing costs and impacting schedule.

The significant cost increase at the 90% milestone was a critical issue for the project and as a result many cost savings items were identified. Garver met with and interviewed general contractors and reevaluated unit costs used in the original 90% OPCC. Garver has developed a memo summarizing civil and structural cost impacts of items identified through those meetings. The civil and structural cost summary memo is included in Appendix H. The impact of the unit cost reductions and cost savings/optimization changes was a net reduction in the OPCC of roughly \$38,000,000, resulting in the current OPCC of \$209,000,000. The current 90% Design plus Cost Savings Ideas OPCC is included in Appendix G.

A summary of the OPCCs for each project deliverable is presented in Table 2-2.

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90% Design	September 2022	\$247,000,000	+61%
90% Design + Cost Savings Ideas	October 2022	\$209,000,000	+36%

### 3.0 GENERAL AND KEY ITEMS SUMMARY

The City requested summary tables identifying key items and critical cost components. General Summary Items are presented in Table 3-1, and Key Items are described in Table 3-2.

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Electrical Component Shortages	90% Design Package	+\$16M	+21%	Shortages of subcomponents including programming chips. Increase identified is from the current OPCC, which includes cost optimization items.

**Table 3-2: Key Items Table**

Key Item	Description	CDR	30%	%Δ	60%	%Δ	90% w/Cost Optimization	%Δ
		Jan-2021	Nov-2021		May-2022		Sept-2022	
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Aeration Basins	Largest concrete user.	\$10,762,000	\$12,322,000	+14%	\$14,663,000	+19%	\$26,362,000	+80%
Secondary Clarifiers	Large concrete user	\$6,415,000	\$6,143,000	-4%	\$10,830,000	+76%	\$15,062,000	+40%
Biosolids Building	Equipment and building costs	\$6,342,000	\$7,208,000	+14%	\$9,269,000	+29%	\$12,538,000	+35%

#### 4.0 DESIGN ENGINEER AND OWNERS' REPRESENTATIVE ACTIONS

Garver and CP&Y have been working together to help identify the root cause of observed cost escalation and to find innovation solutions to help control project pricing. Initially, the costs were compared to standard industry indexes and appeared to be tracking with cost information provided by the Federal Reserve Economic Data (FRED) including the indices for Ready Mix Concrete, Industrial Buildings and Cold Rolled Steel. However, local costs have been increasing at a higher pace and recent effort has focused on understanding more about the local economy in central Texas as related to project costs. The cost indices and estimated OPCC are illustrated in Figure 4-1.

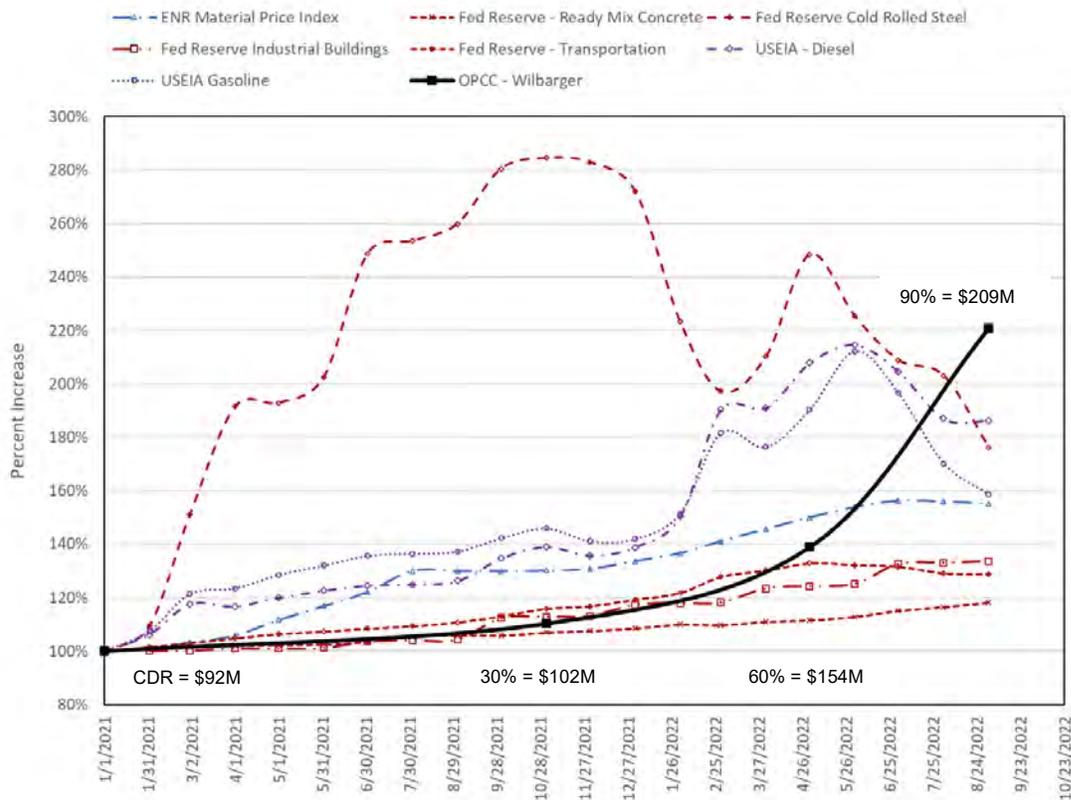


Figure 4-1: WCRWWTF OPCC and Cost Indices Trends

#### 4.1 Cost Savings Items

During and after the 90% design review workshop, Garver worked with the OR team and City to identify scope reduction items. Identified items and identified cost reductions are summarized in Table 4-1.

**Table 4-1: Summarized Cost Savings Options**

<b>Cost Savings Option</b>	<b>Description</b>	<b>Estimated Savings (w/o Mark-up)</b>
Odor Control Changes	<b>Bid Alternate</b> – Provide exhaust fans and duct work, eliminate bio scrubbers. Replace with dispersion fan. Plan to implement odor control at a future date when flows/odor load are more stable.	\$1,400,000
Pier Design Optimization	<b>Design Change</b> – Additional geotechnical testing can justify more aggressive pier design resulting in concrete material reductions.	\$1,400,000
Aeration Basin Structural Optimization	<b>Design Change</b> – Reduction in freeboard and redesign of wall thicknesses reduces concrete requirements.	\$1,700,000
Post Aeration Optimization	<b>Removal</b> – Remove post aeration blowers and diffusers.	\$350,000
Biological Process Optimization	<b>Bid Alternate</b> – Modify biological process from A2O to AO process. Eliminate internal mixed liquor recycle and modify diffuser design. Design for future conversion to A2O in future if total nitrogen treatment is required.	\$1,600,000
Site Fencing Optimization	<b>Design Change</b> – Maintain masonry fence along primary access side of plant and change to 6-foot chain link fence along the other three perimeter boundaries. Requires City permitting waiver.	\$500,000
Chemical Feed System Optimization	<b>Design Change</b> – Relocate alum and hypochlorite chemical feed to bulk storage and fiberglass enclosures near the point of injection.	\$1,100,000
Miscellaneous Electrical Modifications	<b>Design Change</b> – Deletion deferment of transformers, MCC, switchgear. Omitting Spares and other minor reductions.	\$800,000
<b>Subtotal of Cost Savings Options</b>		<b>\$12,800,000</b>

**4.2 Contractor Interviews**

During the design progression of the project Garver conducted a Contractor Informational meeting. In addition, after the 90% design package submittal, Garver focused on contractor interviews to help assess current market conditions. General Contractors interviewed by Garver included:

- Thalle
- McCarthy
- Archer Western
- MWH

These Contractors discussed the relationship between labor, transportation, steel availability for rebar and concrete mix materials. Key findings are discussed in Appendix H. These findings helped Garver build a concrete cost based on the component parts of placed concrete, which showed a lower cost for slabs, a somewhat lower cost for walls and a somewhat higher cost for elevated slabs than had been previously estimated and presented with the 90% design package OPCC. Because a large volume of the concrete used on the WCRWWTF is in slabs and walls, a substantial cost savings (order of magnitude approximately \$15 million) is anticipated.

Contractors also highlighted the impact of skilled labor by providing recent costs and market assumptions. The labor shortages affect accelerated schedules like the WTP and WCRWWTF projects to a great extent

because so many resources are needed, and the construction duration is relatively short. Contractors are assuming that a significant number of their workers will be imported from other markets, requiring per-diem, and reducing team efficiency. For these reasons, efforts to extend the contract duration will have very meaningful cost reductions. One of the contractors indicated that labor is typically 25 to 30% of construction costs and that a \$3 to \$10 million savings in labor may be attainable if the contract duration were extended by 6 months.

For comparison, a conceptual schedule summarizing the current project schedule (high risk condition) and lower risk schedules are provided in Table 4-2.

**Table 4-2: Pflugerville WCRWWTF Potential Schedules**

Milestone	Milestone	High Risk	Medium Risk	Lower Risk
		Electrical Procurement	Yes	Yes
	NTP to Seeding Raw WW - Assumption (Months)	21.4	27.0	30.0
-1	Electrical Submittal NTP	ASAP	January 1, 2023	May 25, 2023
0	Contractor NTP	March 1, 2023	March 1, 2023	May 25, 2023
1	Submittal Long Lead Item Submittal Requirement	April 30, 2023	April 30, 2023	July 24, 2023
2	Plant Electrical Feed Established	March 30, 2024	July 14, 2024	December 5, 2024
3	Operations and Laboratory Building Owner Occupancy	October 21, 2024	April 17, 2025	October 11, 2025
4*	Seeding and Raw Wastewater Flow	December 10, 2024	June 1, 2025	November 25, 2025
5	Liquids Train Service Date	January 24, 2025	July 16, 2025	January 9, 2026
6	Solids Train Service Date	March 25, 2025	September 14, 2025	March 10, 2026
7	WCRWWTF Substantial Completion	July 3, 2025	December 23, 2025	June 18, 2026
8	Weiss Lane Lift Station Decommissioning	February 28, 2025	August 15, 2025	February 8, 2026
9	Completion of Construction Contract / Final Acceptance	August 31, 2025	February 21, 2026	August 17, 2026
10	End of Equipment Warranty Period	August 31, 2027	February 21, 2028	August 16, 2028
11	End of Plant Correction Period (Overall Warranty)	August 31, 2027	February 21, 2028	August 16, 2028

## **5.0 Appendices**

Appendix A – 30% DIM 25: Opinion of Probable Construction Cost Memo

Appendix B – 60% DIM 25: Opinion of Probable Construction Cost Memo

Appendix C – 90% DIM 25: Opinion of Probable Construction Cost Memo

Appendix D – 30% Opinion of Probable Construction Cost

Appendix E – 60% Opinion of Probable Construction Cost

Appendix F – 90% Opinion of Probable Construction Cost

Appendix G – 90%+ Opinion of Probable Construction Cost

Appendix H – WCRWWTF OPCC Cost Justification Memo



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## **Pflugerville Wilbarger Creek RWWTF OPCC Evaluation**

Date: October 25, 2022  
To: City of Pflugerville  
Attn: Andrea Brinkley  
From: Garver  
RE: Pflugerville Wilbarger RWWTF Expansion OPCC Evaluation (90%) - Draft

### **1.0 Project Background**

Planning for this facility began more than a decade ago when the 2008 Wastewater Master Plan identified the need for a new regional wastewater treatment facility to serve the City's projected growth. The City purchased a 159-acre tract of land on the west side of Wilbarger Creek and north of Gregg Lane and acquired a Texas Pollutant Discharge Elimination System (TPDES) discharge permit for the future treatment plant. The new Wilbarger Creek RWWTF was initially permitted in three phases and will augment the existing Central Wastewater Treatment Plant (WWTP).

Three Central / Wilbarger flow transfer alternatives were evaluated in a March 2021 Flow Transfer Evaluation Technical Memorandum (TM) to determine the proposed initial capacity of the Wilbarger Creek RWWTF. Ultimately, the recommended alternative was for a Wilbarger Creek RWWTF initial phase of construction of 6.0 million gallons per day (MGD) with expansion build-out to 15.75 MGD. Potential buildout to 24.0 MGD will be maintained to afford the City flexibility in management of future wastewater flows from the Cottonwood Basin. Figure 1-1 shows the City's three sewer basins. Wilbarger Creek RWWTF (WCRWWTF) will serve the Wilbarger and Cottonwood Basins.

During the conceptual phase of the project phasing and facility layouts were developed and project O&M costs were estimated to help with financial planning. The conceptual O&M costs are presented in Figure 1-2. The facility phasing plan for WCRWWTF is included in Figure 1-3.

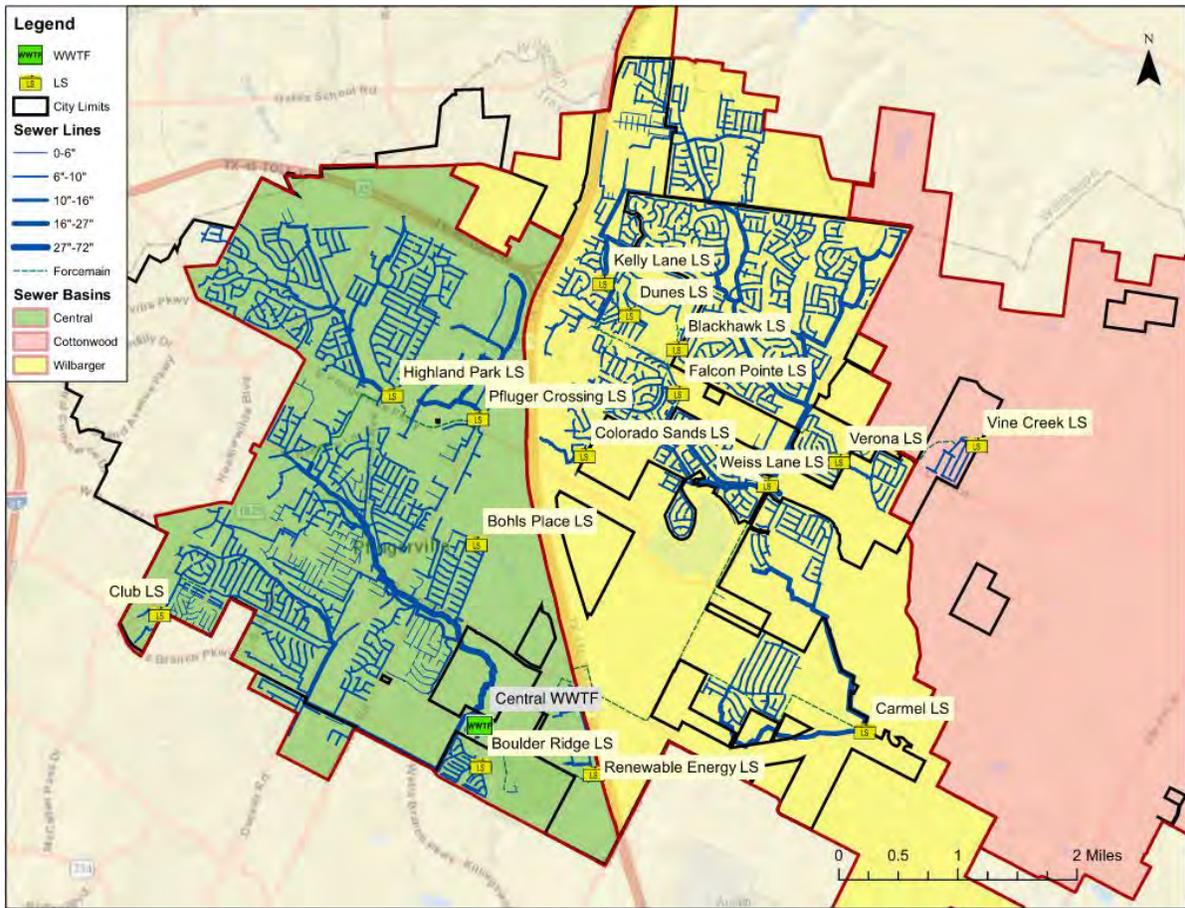


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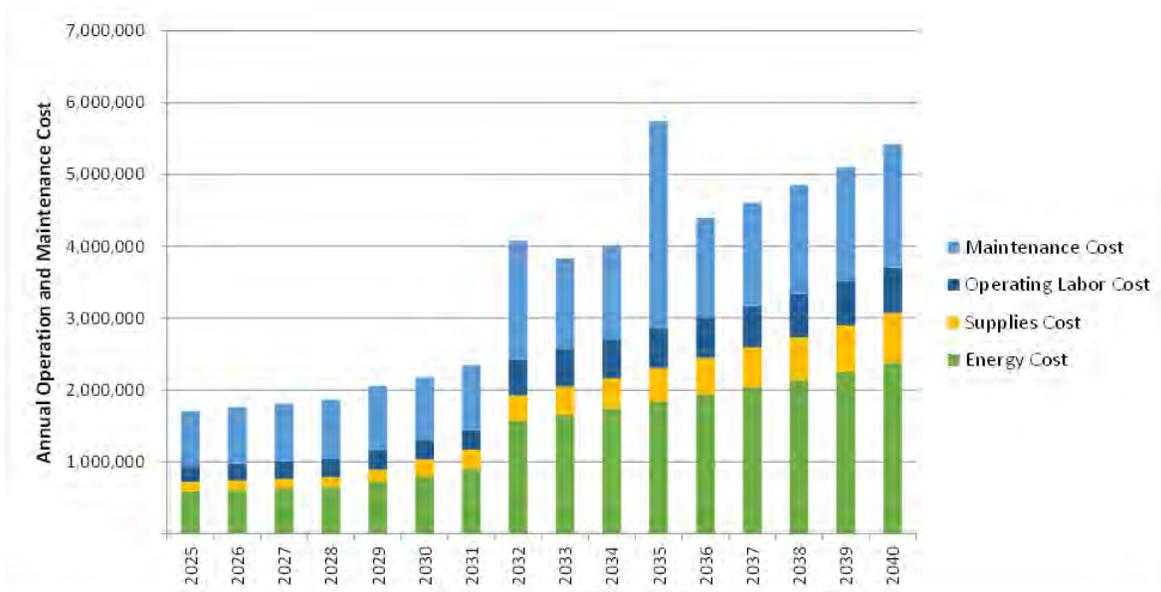


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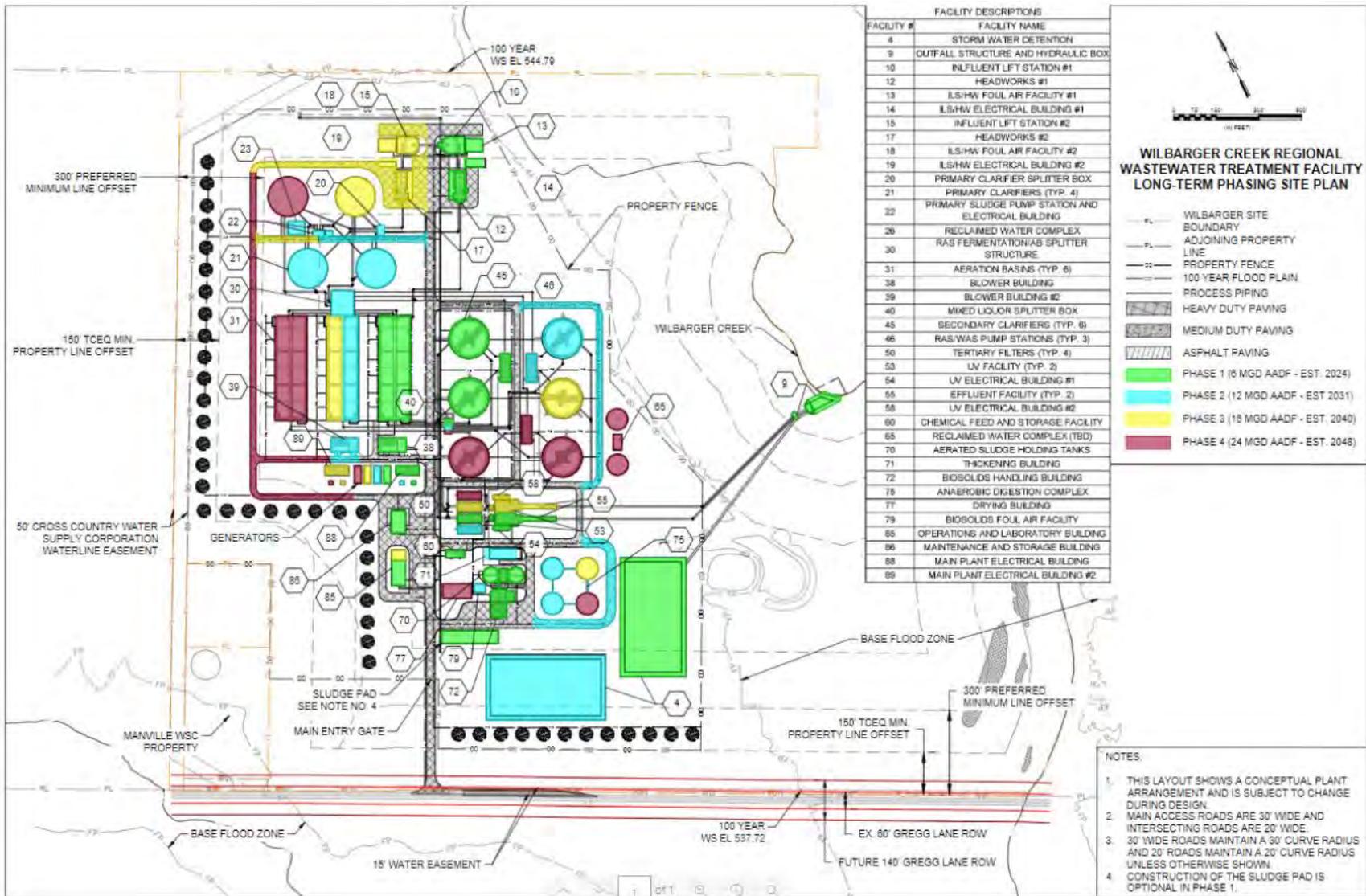


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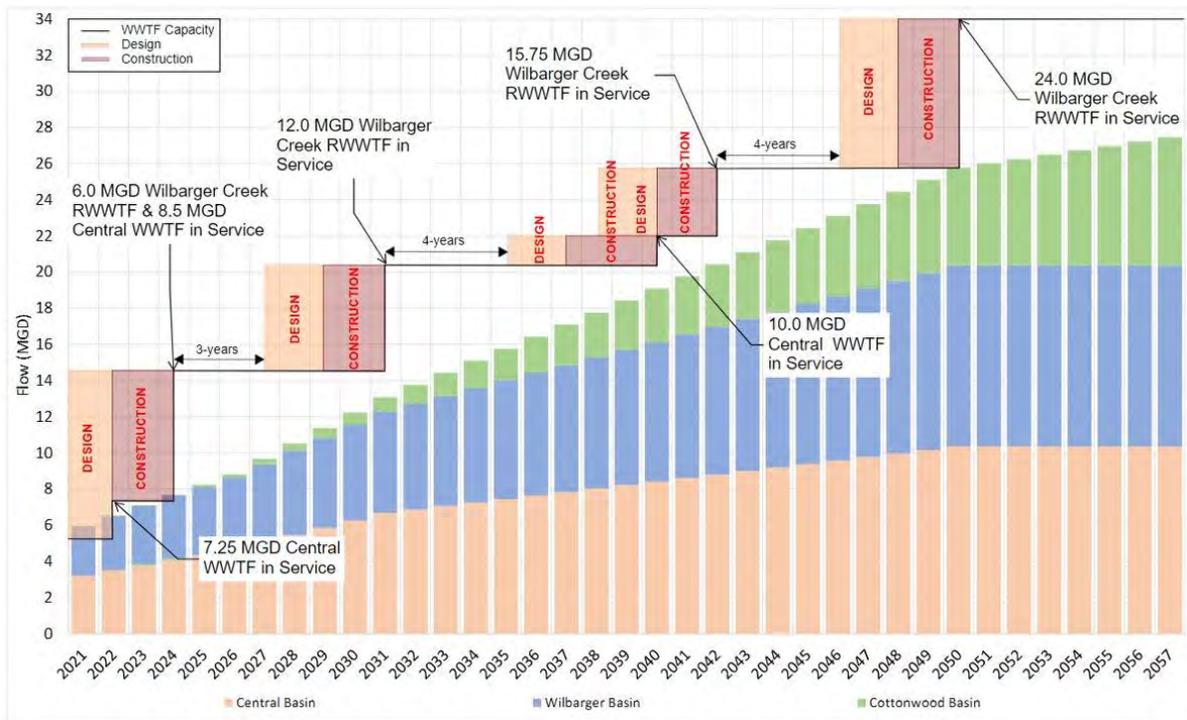
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Garver and CP&Y have been working together to help identify the root cause of observed cost escalation and to find innovation solutions to help control project pricing. Initially, the costs were compared to standard industry indexes and appeared to be tracking with cost information provided by the Federal Reserve Economic Data (FRED) including the indices for Ready Mix Concrete, Industrial Buildings and Cold Rolled Steel. However, local costs have been increasing at a higher pace and recent effort has focused on understanding more about the local economy in central Texas as related to project costs. The cost indices and estimated OPCC are illustrated in Figure 4-1.

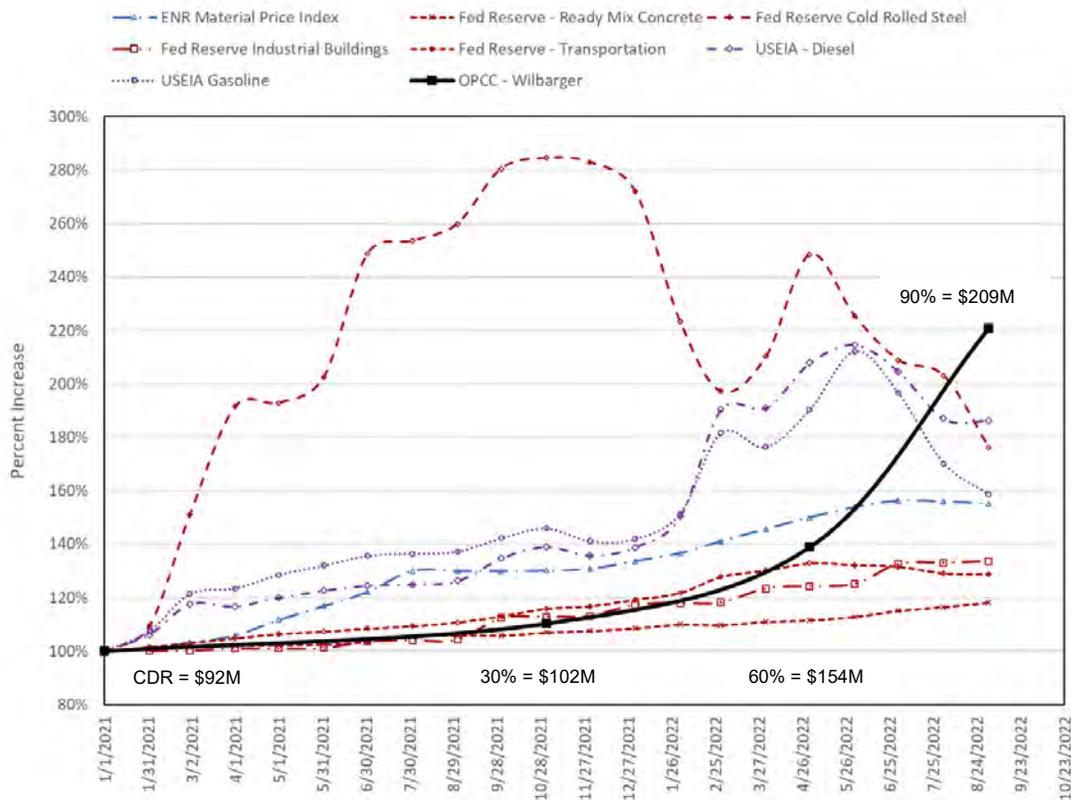


Figure 4-1: WCRWWTF OPCC and Cost Indices Trends

#### 4.1 Cost Savings Items

During and after the 90% design review workshop, Garver worked with the OR team and City to identify scope reduction items. Identified items and identified cost reductions are summarized in Table 4-1.

**Table 4-1: Summarized Cost Savings Options**

<b>Cost Savings Option</b>	<b>Description</b>	<b>Estimated Savings (w/o Mark-up)</b>
Odor Control Changes	<b>Bid Alternate</b> – Provide exhaust fans and duct work, eliminate bio scrubbers. Replace with dispersion fan. Plan to implement odor control at a future date when flows/odor load are more stable.	\$1,400,000
Pier Design Optimization	<b>Design Change</b> – Additional geotechnical testing can justify more aggressive pier design resulting in concrete material reductions.	\$1,400,000
Aeration Basin Structural Optimization	<b>Design Change</b> – Reduction in freeboard and redesign of wall thicknesses reduces concrete requirements.	\$1,700,000
Post Aeration Optimization	<b>Removal</b> – Remove post aeration blowers and diffusers.	\$350,000
Biological Process Optimization	<b>Bid Alternate</b> – Modify biological process from A2O to AO process. Eliminate internal mixed liquor recycle and modify diffuser design. Design for future conversion to A2O in future if total nitrogen treatment is required.	\$1,600,000
Site Fencing Optimization	<b>Design Change</b> – Maintain masonry fence along primary access side of plant and change to 6-foot chain link fence along the other three perimeter boundaries. Requires City permitting waiver.	\$500,000
Chemical Feed System Optimization	<b>Design Change</b> – Relocate alum and hypochlorite chemical feed to bulk storage and fiberglass enclosures near the point of injection.	\$1,100,000
Miscellaneous Electrical Modifications	<b>Design Change</b> – Deletion deferment of transformers, MCC, switchgear. Omitting Spares and other minor reductions.	\$800,000
<b>Subtotal of Cost Savings Options</b>		<b>\$12,800,000</b>

#### 4.2 Contractor Interviews

During the design progression of the project Garver conducted a Contractor Informational meeting. In addition, after the 90% design package submittal, Garver focused on contractor interviews to help assess current market conditions. General Contractors interviewed by Garver included:

- Thalle
- McCarthy
- Archer Western
- MWH

These Contractors discussed the relationship between labor, transportation, steel availability for rebar and concrete mix materials. Key findings are discussed in Appendix H. These findings helped Garver build a concrete cost based on the component parts of placed concrete, which showed a lower cost for slabs, a somewhat lower cost for walls and a somewhat higher cost for elevated slabs than had been previously estimated and presented with the 90% design package OPCC. Because a large volume of the concrete used on the WCRWWTF is in slabs and walls, a substantial cost savings (order of magnitude approximately \$15 million) is anticipated.

Contractors also highlighted the impact of skilled labor by providing recent costs and market assumptions. The labor shortages affect accelerated schedules like the WTP and WCRWWTF projects to a great extent

because so many resources are needed, and the construction duration is relatively short. Contractors are assuming that a significant number of their workers will be imported from other markets, requiring per-diem, and reducing team efficiency. For these reasons, efforts to extend the contract duration will have very meaningful cost reductions. One of the contractors indicated that labor is typically 25 to 30% of construction costs and that a \$3 to \$10 million savings in labor may be attainable if the contract duration were extended by 6 months.

For comparison, a conceptual schedule summarizing the current project schedule (high risk condition) and lower risk schedules are provided in Table 4-2.

**Table 4-2: Pflugerville WCRWWTF Potential Schedules**

Milestone	Milestone	High Risk	Medium Risk	Lower Risk
		Electrical Procurement	Yes	Yes
	NTP to Seeding Raw WW - Assumption (Months)	21.4	27.0	30.0
-1	Electrical Submittal NTP	ASAP	January 1, 2023	May 25, 2023
0	Contractor NTP	March 1, 2023	March 1, 2023	May 25, 2023
1	Submittal Long Lead Item Submittal Requirement	April 30, 2023	April 30, 2023	July 24, 2023
2	Plant Electrical Feed Established	March 30, 2024	July 14, 2024	December 5, 2024
3	Operations and Laboratory Building Owner Occupancy	October 21, 2024	April 17, 2025	October 11, 2025
4*	Seeding and Raw Wastewater Flow	December 10, 2024	June 1, 2025	November 25, 2025
5	Liquids Train Service Date	January 24, 2025	July 16, 2025	January 9, 2026
6	Solids Train Service Date	March 25, 2025	September 14, 2025	March 10, 2026
7	WCRWWTF Substantial Completion	July 3, 2025	December 23, 2025	June 18, 2026
8	Weiss Lane Lift Station Decommissioning	February 28, 2025	August 15, 2025	February 8, 2026
9	Completion of Construction Contract / Final Acceptance	August 31, 2025	February 21, 2026	August 17, 2026
10	End of Equipment Warranty Period	August 31, 2027	February 21, 2028	August 16, 2028
11	End of Plant Correction Period (Overall Warranty)	August 31, 2027	February 21, 2028	August 16, 2028

## 5.0 Appendices

Appendix A – 30% DIM 25: Opinion of Probable Construction Cost Memo

Appendix B – 60% DIM 25: Opinion of Probable Construction Cost Memo

Appendix C – 90% DIM 25: Opinion of Probable Construction Cost Memo

Appendix D – 30% Opinion of Probable Construction Cost

Appendix E – 60% Opinion of Probable Construction Cost

Appendix F – 90% Opinion of Probable Construction Cost

Appendix G – 90%+ Opinion of Probable Construction Cost

Appendix H – WCRWWTF OPCC Cost Justification Memo

## 5.0 Appendices

Appendix A – 30% DIM 25: Opinion of Probable Construction Cost Memo

Appendix B – 60% DIM 25: Opinion of Probable Construction Cost Memo

Appendix C – 90% DIM 25: Opinion of Probable Construction Cost Memo

Appendix D – 30% Opinion of Probable Construction Cost

Appendix E – 60% Opinion of Probable Construction Cost

Appendix F – 90% Opinion of Probable Construction Cost

Appendix G – Cost Optimization Memo

# GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design

19W07191 City of Pflugerville

November 22, 2021

1. Lump Sum Work (Facilities or Areas)	\$ Total
<a href="#">03</a> Demolition and Erosion Control	\$167,000
<a href="#">04</a> Grading and Paving	\$5,241,000
<a href="#">05</a> Yard Piping	\$10,545,000
<a href="#">06</a> Site Electrical	\$1,983,000
<a href="#">07</a> Landscaping and Irrigation	\$427,000
<a href="#">09</a> Civil Yard Structures	\$689,000
<a href="#">10</a> Influent Lift Station	\$7,592,000
<a href="#">12</a> Headworks	\$6,846,000
<a href="#">18</a> Odor Control - Influent Lift Station	\$1,724,000
<a href="#">19</a> Odor Control - Headworks	\$636,000
<a href="#">30</a> Aeration Basin Splitter Box	(removed)
<a href="#">31</a> Aeration Basins	\$12,322,000
<a href="#">38</a> Blower Facility	\$6,316,000
<a href="#">40</a> Mixed Liquor Splitter Box	\$504,000
<a href="#">45</a> Secondary Clarifiers	\$6,143,000
<a href="#">46</a> RAS/WAS Pump Station	\$2,361,000
<a href="#">50</a> Filters	\$5,225,000
<a href="#">53</a> UV Disinfection	\$5,286,000
<a href="#">55</a> Effluent Facility	\$954,000
<a href="#">56</a> Non-Potable Water System	\$987,000
<a href="#">60</a> Chemical Feed Facility	\$1,133,000
<a href="#">70</a> Aerated Sludge Storage and Mixing	\$2,462,000
<a href="#">72</a> Biosolids Handling Building	\$7,208,000
<a href="#">85</a> Operations & Laboratory Building	\$2,030,000
<a href="#">86</a> Maintenance and Storage Building	\$1,874,000
<a href="#">88</a> Main Plant Electrical Building	\$4,820,000
<a href="#">90</a> General Electrical	\$4,296,000
<a href="#">95</a> SCADA	\$2,173,000
<b>Total Estimated Lump Sum Work</b>	<b>\$101,944,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 3**  
**Facility Description: Demolition and Erosion Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Demolition	1	LS	\$ -	\$ 50,000.00	\$ 50,000
Erosion Control	1	LS	\$ 50,000.00		\$ 50,000
					\$ -
					\$ -
					\$ -
					\$ -
Miscellaneous	5%				\$ 5,000
Subtotal Division 2					<b>\$ 105,000</b>
<b>Subtotal This Facility</b>					<b>\$ 105,000</b>
Contingency				30%	\$ 39,000
Mobilization				3%	\$ 4,000
Contractor's Overhead and Profit				18%	\$ 19,000
<b>Total Estimated Facility Costs</b>					<b>\$ 167,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 4**  
**Facility Description: Grading and Paving**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	6,000	CY		\$ 15.00	\$ 90,000
Fill	8,500	CY	\$ 20.00		\$ 170,000
Subgrade Preparation	15,810	SY		\$ 25.00	\$ 395,250
Base Material	5,839	CY	\$ 69.00		\$ 402,891
<i>Miscellaneous</i>	5%				\$ 52,907
			Subtotal Division 31		\$ <b>1,111,048</b>
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching (Moved to F07)					
Heavy Duty Reinforced Concrete Pavement (8")	21,650	SY	\$ 50.00		\$ 1,082,500
Medium Duty Reinforced Concrete Pavement (6")	5,944	SY	\$ 80.00		\$ 475,547
Asphalt Concrete Pavement (4")	1063	SY	\$ 54.00		\$ 57,376
Chain Link Fence and Gate	7,505	LF	\$ 60.00		\$ 450,307
Concrete Sidewalk (5")	881	SY	\$ 55.00		\$ 48,455
<i>Miscellaneous</i>	5%				\$ 105,709
			Subtotal Division 32		\$ <b>2,219,894</b>
<b>Subtotal This Facility</b>					\$ <b>3,330,942</b>
<b>Contingency</b>				<b>30%</b>	\$ <b>1,210,000</b>
<b>Mobilization</b>				<b>3%</b>	\$ <b>100,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	\$ <b>600,000</b>
<b>Total Estimated Facility Costs</b>					\$ <b>5,241,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 33 - Utilities</b>					
<b>Potable Water System</b>					
8" Fire Hydrant Assembly	2	EA	\$ 5,500.00		\$ 11,000
8" DI Pipe	1910	LF	\$ 60.00		\$ 114,600
8" Gate Valve	2	EA	\$ 1,600.00		\$ 3,200
8" 90 Bend	1	EA	\$ 300.00		\$ 300
8" RPZ Backflow Preventer	1	EA	\$ 6,550.00		\$ 6,550
8" x 2" Tapping Sleeve	5	EA	\$ 1,264.00		\$ 6,320
2" SCH 80 Pipe	606	LF	\$ 15.00		\$ 9,090
2" Gate Valve	5	EA	\$ 418.00		\$ 2,090
<b>Non Potable Water System</b>					
12" DI Pipe	121	LF	\$ 90.00		\$ 10,890
12" x 8" Reducer	1	EA	\$ 288.00		\$ 288
Yard Hydrant Assembly	1	EA	\$ 170.00		\$ 170
8" DI Pipe	1560	LF	\$ 60.00		\$ 93,600
8" Tee	2	EA	\$ 349.00		\$ 698
8" x 8" x 4" Tee	1	EA	\$ 294.00		\$ 294
8" x 8" x 6" Tee	1	EA	\$ 242.00		\$ 242
8" x 6" Reducer	1	EA	\$ 143.00		\$ 143
8" x 2" Reducer	1	EA	\$ 115.00		\$ 115
8" 90 Bend	1	EA	\$ 303.00		\$ 303
8" Gate Valve	1	EA	\$ 1,600.00		\$ 1,600
8" x 2" Tapping Sleeve	1	EA	\$ 1,264.00		\$ 1,264
Yard Hydrant Assembly	2	EA	\$ 170.00		\$ 340
6" DI Pipe	1505	LF	\$ 45.00		\$ 67,725
6" Tee	1	EA	\$ 235.00		\$ 235
6" x 2" Reducer	1	EA	\$ 100.00		\$ 100
6" 90 Bend	1	EA	\$ 163.00		\$ 163
6" Gate Valve	3	EA	\$ 1,200.00		\$ 3,600
4" DI Pipe	150	LF	\$ 30.00		\$ 4,500
4" Tee	1	EA	\$ 138.00		\$ 138
4" x 2" Reducer	1	EA	\$ 75.00		\$ 75
Yard Hydrant Assembly	2	EA	\$ 170.00		\$ 340
2" SCH 80 PVC Pipe	580	LF	\$ 15.00		\$ 8,700
2" 90 Bend	1	EA	\$ 100.00		\$ 100
2" Gate Valve	2	EA	\$ 800.00		\$ 1,600
<b>Plant Drain System</b>					
30" DI Pipe	1760	LF	\$ 320.00		\$ 563,200
Process Unit Drain Connection	19	EA	\$ 10,900.00		\$ 207,100
8" DI Pipe	3377	LF	\$ 60.00		\$ 202,620
6" DI Pipe	183	LF	\$ 45.00		\$ 8,235
6" x 4" Reducer	7	EA	\$ 106.00		\$ 742
4" DI Pipe	936	LF	\$ 30.00		\$ 28,080
72" Manhole	9	EA	\$ 11,830.00		\$ 106,470
96" Scum Manhole	1	EA	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 17,519
Subtotal Division 33					<b>\$ 1,509,339</b>
<b>Division 40 - Process Integration</b>					
<b>Interceptor to Influent Lift Stations</b>					
48" DI Pipe	697	LF	\$ 650.00		\$ 453,050
96" Manhole	2	EA	\$ 25,000.00		\$ 50,000

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Influent Lift Stations to Headworks</u></b>					
36" DI Pipe	450	LF	\$ 420.00		\$ 189,000
36" 90 Bend	1	EA	\$ 11,990.00		\$ 11,990
<b><u>Headworks to Aeration Basin</u></b>					
36" DI Pipe	631	LF	\$ 420.00		\$ 265,020
36" 90 Bend	3	EA	\$ 11,990.00		\$ 35,970
<b><u>Aeration Basins to MLSS Splitter Box</u></b>					
42" DI Pipe	870	LF	\$ 510.00		\$ 443,700
42" 90 Bend	4	EA	\$ 21,476.00		\$ 85,904
<b><u>MLSS Splitter Box to Secondary Clarifiers 1 &amp; 2</u></b>					
36" DI Pipe	259	LF	\$ 420.00		\$ 108,780
36" 45 Bend	2	EA	\$ 9,387.00		\$ 18,774
36" 22.5 Bend	2	EA	\$ 7,939.00		\$ 15,878
36" 90 Bend	1	EA	\$ 11,990.00		\$ 11,990
<b><u>Secondary Clarifiers 1 &amp; 2 to Pump Station</u></b>					
16" DI Pipe	97	LF	\$ 120.00		\$ 11,640
16" 45 Bend	2	EA	\$ 1,049.00		\$ 2,098
<b><u>Pump Station to Aeration Basins</u></b>					
36" DI Pipe	21	LF	\$ 420.00		\$ 8,820
16" DI Pipe	400	LF	\$ 120.00		\$ 48,000
16" 90 Bend	3	EA	\$ 1,049.00		\$ 3,147
16" Isolation Valve	2	EA	\$ 1,200.00		\$ 2,400
36" x 16" 45 Tee	1	EA	\$ 22,609.00		\$ 22,609
36" x 16" Reducer	1	EA	\$ 14,334.00		\$ 14,334
<b><u>Pump Station to ASHT</u></b>					
10" DI Pipe	601	LF	\$ 75.00		\$ 45,075
10" 90 Bend	6	EA	\$ 413.00		\$ 2,478
<b><u>Secondary Clarifier 1 &amp; 2 to Filter</u></b>					
36" DI Pipe	120	LF	\$ 420.00		\$ 50,400
48" Pipe	351	LF	\$ 650.00		\$ 228,150
48" x 36" 45 Tee	2	EA	\$ 35,916.00		\$ 71,832
48" 90 Bend	1	EA	\$ 28,637.00		\$ 28,637
48" Isolation Valves	2	EA	\$ 4,500.00		\$ 9,000
<b><u>UV to Flow Measure</u></b>					
36" DI Pipe	50	LF	\$ 420.00		\$ 21,000
<b><u>UV to Outfall</u></b>					
48" DI Pipe	1060	LF	\$ 650.00		\$ 689,000
48" 45 Bend	2	EA	\$ 34,450.00		\$ 68,900
<b><u>Stormwater Collection System</u></b>					
78" DI Pipe	725	LF	\$ 2,100.00		\$ 1,522,500
Stormwater Inlets	10	EA	\$ 3,600.00		\$ 36,000
Stormwater Junction Boxes	5	EA	\$ 6,000.00		\$ 30,000
<b><u>Filters to UV Disinfection</u></b>					
36" DI Pipe	45	LF	\$ 420.00		\$ 18,900
96" Manhole	2	EA	\$ 25,000.00		\$ 50,000
Miscellaneous	5%				\$ 247,229
Subtotal Division 40					<b>\$ 5,191,805</b>

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					<b>\$ 6,701,143</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 2,434,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 202,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 1,207,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 10,545,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
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**Facility Number: 6**  
**Facility Description: Site Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
TX1A/B 5kV Feeders (Main Elec Bldg) DB	150	EA	\$150		\$ 22,500
TX2A/B 5kV Feeders (Influent Lift Station) DB	1700	EA	\$150		\$ 255,000
TX3A/B 5kV Feeders (Blower Bldg) DB	550	EA	\$150		\$ 82,500
TX4A/B 5kV Feeders (RAS/WAS) DB	1100	EA	\$150		\$ 165,000
TX4A/B 5kV Feeders (Solids) DB	300	EA	\$150		\$ 45,000
Bluebonnet Transformer Secondary Fdrs DB	150	EA	\$400		\$ 60,000
Manholes Power	10	EA	\$15,000		\$ 150,000
Misc Site Lighting 30 fixtures at 5000 each	1	LS	\$150,000		\$ 150,000
Communication Manholes	10	LS	\$12,000		\$ 120,000
Fiber Ductbank	1	LS	\$100,000		\$ 100,000
Security Conduit	1	LS	\$60,000		\$ 60,000
Lightning Protection	1	LS	\$50,000		\$ 50,000
<b>Subtotal This Facility</b>					
					\$ 1,260,000
<b>Contingency</b>				30%	\$ 458,000
<b>Mobilization</b>				3%	\$ 38,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 227,000
<b>Total Estimated Facility Costs</b>					\$ 1,983,000

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**Facility Number: 7**  
**Facility Description: Landscaping and Irrigation**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching	160	AC	\$ 300.00		\$ 48,000
Landscape Irrigation System Piping	3200	LF	\$ 35.00	\$ 10.50	\$ 145,600
Fittings	1	LS	\$ 14,560.00	\$ 4,368.00	\$ 18,928
Trees	48	EA	\$ 700.00	\$ 210.00	\$ 43,680
Miscellaneous	5%				\$ 12,810
	Subtotal Division 32				\$ 269,018
<b>Subtotal This Facility</b>					\$ 269,018
<b>Contingency</b>				30%	\$ 99,000
<b>Mobilization</b>				3%	\$ 9,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 49,000
<b>Total Estimated Facility Costs</b>					\$ 427,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
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**19W07191**

**Facility Number: 9**  
**Facility Description: Civil Yard Structures**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
<b>Outfall Structure &amp; Effluent Discharge Drop Box</b>					
Excavation	900	CY		\$ 15.00	\$ 13,500
Fill	550	CY	\$ 20.00		\$ 11,000
Allowance for Groundwater Control at Effluent Box Structure	1	LS	\$ 75,000.00		\$ 75,000
<b>Flowmeter Vault</b>					
Excavation	80	CY		\$ 15.00	\$ 1,200
Fill	30	CY	\$ 20.00		\$ 600
<i>Miscellaneous</i>	5%				\$ 5,065
Subtotal Division 31					<b>\$ 106,365</b>
<b>Division 32 - Exterior Improvements</b>					
<b>Outfall Structure &amp; Effluent Discharge Drop Box</b>					
Concrete Base Slab	56	CY	\$ 400.00		\$ 22,400
Concrete Wall	356	CY	\$ 800.00		\$ 284,800
<b>Flowmeter Vault</b>					
Concrete Base Slab	5	CY	\$ 400.00		\$ 2,000
Concrete Wall	2	CY	\$ 800.00		\$ 1,600
Concrete Elevated Slab	3	CY	\$ 1,200.00		\$ 3,600
<i>Miscellaneous</i>	5%				\$ 15,720
Subtotal Division 32					<b>\$ 330,120</b>
<b>Subtotal This Facility</b>					<b>\$ 436,485</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 159,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 14,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 79,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 689,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
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**Facility Number: 10**  
**Facility Description: Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Lift Station</b>					
Concrete Base Slab	300	CY	\$ 400.00		\$ 120,000
Concrete Freestanding Wall	1250	CY	\$ 800.00		\$ 1,000,000
Concrete Elevated Slab	86	CY	\$ 1,200.00		\$ 103,200
Controlled Low Strength Matieral Fill		CY	\$ 80.00		\$ -
<b>Electrical Housing Building</b>					
Concrete Base Slab	61	CY	\$ 400.00		\$ 24,400
<b>Electrical Building Deep Foundation</b>					
Drilled Shaft Deep Foundation	320	LF	\$ 100.00		\$ 32,000
Miscellaneous	5%				\$ 63,980
Subtotal Division 3					\$ 1,343,580
<b>Division 4 - Masonry</b>					
<b>Electrical Housing Building</b>					
CMU Masonry Walls	2325	SF	\$ 35.00		\$ 81,375
Miscellaneous	5%				\$ 4,069
Subtotal Division 4					\$ 85,444
<b>Division 5 - Metals</b>					
<b>Electrical Housing Building</b>					
Metal Roofing Panels	1000	SF	\$ 15.00		\$ 15,000
Steel Roof Trusses	13	EA	\$ 290.00		\$ 3,770
<b>Lift Station</b>					
Pump Guide Rails	260	LF	\$100	\$ 30.00	\$ 33,800
Access Ladder	1	LS	\$ 2,000.00		\$ 2,000
Access Hatches	8	EA	\$3,000		\$ 24,000
Monorail Framing (Galvanized Steel)	4000	LB	\$ 4.00	\$ 1.20	\$ 20,800
Miscellaneous	5%				\$ 4,969
Subtotal Division 5					\$ 104,339
<b>Division 8 - Openings</b>					
Double Door	3	EA	\$ 4,500.00		\$ 13,500
Miscellaneous	5%				\$ 675
Subtotal Division 8					\$ 14,175
<b>Division 9 - Finishes</b>					
Piping Coatings	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Miscellaneous	5%				\$ 1,300
Subtotal Division 9					\$ 27,300
<b>Division 11 - Equipment</b>					
Monorail Crane - 5 ton	1	EA	\$ 37,000.00	\$ 11,100.00	\$ 48,100
Miscellaneous	5%				\$ 2,405
Subtotal Division 11					\$ 50,505
<b>Division 23 - HVAC</b>					
10-ton AC unit	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
Corrosive Air Scrubber	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Ductwork+accessories	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250

**Facility Number: 10**  
**Facility Description: Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 3,933
			Subtotal Division 23		\$ 82,583
<b>Division 26 - Electrical</b>					
SWBD-1	1	EA	\$ 150,000.00	\$ 40,000.00	\$ 190,000
18 pulse VFDs	5	EA	\$ 60,000.00	\$ 100,000.00	\$ 400,000
2000 kVA Pad Mounted Transformers	2	EA	\$ 80,000.00	\$ 50,000.00	\$ 210,000
Wire and Conduit from Transformer to Switchboard	2	EA	\$ 50,000.00	\$ 10,000.00	\$ 60,000
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 100,000.00	\$ 20,000.00	\$ 120,000
Conduit Total	1	LS	\$ 150,000.00	\$ 30,000.00	\$ 180,000
Lighting	30	EA	\$ 300.00	\$ 4,500.00	\$ 13,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 10,000.00	\$ 40,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 20,000.00	\$ 40,000
Grounding Total	1	LS	\$ 20,000.00	\$ 7,500.00	\$ 27,500
Miscellaneous	1	LS	\$ 20,000.00	\$ -	\$ 20,000
High level Float	2	EA	\$ 200.00	\$ 140.00	\$ 540
Radar Level Transmitter	2	EA	\$ 3,500.00	\$ 2,450.00	\$ 9,450
Pressure indicator	5	EA	\$ 500.00	\$ 875.00	\$ 3,375
Strap-On Ultrasonic Flow Meter	5	EA	\$ 5,000.00	\$ 8,750.00	\$ 33,750
Pressure Transmitters	2	EA	\$ 2,500.00	\$ 1,750.00	\$ 6,750
Level Indicator	2	EA	\$ 250.00	\$ 175.00	\$ 675
PLC/Network Hardware/Enclosures	1	LS	\$ 100,000.00	\$ 35,000.00	\$ 135,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
Programming/Testing					
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
			Subtotal Division 26		\$ 1,557,540
<b>Division 31 - Earthwork</b>					
<u>Lift Station</u>					
Open Cut Excavation	9284	CY		\$ 15.00	\$ 139,260
Shored Excavation	3906	CY		\$ 30.00	\$ 117,180
Fill	6940	CY	\$ 20.00		\$ 138,800
<u>Electrical Housing Building</u>					
Open Cut Excavation	200	CY		\$ 15.00	\$ 3,000
Fill	51	CY	\$ 20.00		\$ 1,020
Miscellaneous	5%				\$ 19,963
			Subtotal Division 31		\$ 419,223
<b>Division 40 - Process Integration</b>					
Influent Lift Pumps - 6 MGD	2	EA	\$ 62,000.00	\$ 18,600.00	\$ 161,200
Influent Lift Pumps - 12 MGD	2	EA	\$ 86,000.00	\$ 25,800.00	\$ 223,600
Influent Jockey Pumps	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Pump Discharge Piping	1	LS	\$350,000		\$ 350,000
Pump Discharge Check Valves	6	LS	\$ 24,000.00		\$ 144,000
Pump Discharge Isolation Valves	6	EA	\$ 13,000.00		\$ 78,000
Pump Discharge ARVs	7	EA	\$ 5,000.00		\$ 35,000
Piping Supports	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 54,340
			Subtotal Division 40		\$ 1,141,140
<b>Subtotal This Facility</b>					<b>\$ 4,825,828</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 1,752,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 145,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 869,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 7,592,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 12**  
**Facility Description: Headworks**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 1 - General Requirements</b>					
System 19	7000	SF	\$ 7.00		\$ 49,000
Miscellaneous	5%				\$ 2,450
	Subtotal Division 1				\$ 51,450
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Headworks Concrete</u>					
Concrete Base Slab	470	CY	\$ 400.00		\$ 188,000
Concrete Support Columns	40	CY	\$ 800.00		\$ 32,000
Inlet Box Walls	180	CY	\$ 800.00		\$ 144,000
Effluent Box Walls	110	CY	\$ 800.00		\$ 88,000
Channel Area Elevated Slab	160	CY	\$ 1,200.00		\$ 192,000
U Channel Elevated Flat Slab on Bypass	10	CY	\$ 1,200.00		\$ 12,000
Grit Area Elevated Slab	100	CY	\$ 1,200.00		\$ 120,000
Screenings Channel Walls	150	CY	\$ 800.00		\$ 120,000
Grit Channel Walls	140	CY	\$ 800.00		\$ 112,000
Grit Lower Cone Concrete	20	CY	\$ 801.00		\$ 16,020
Screen area elevated Walkways between Channels	50	CY	\$ 1,200.00		\$ 60,000
Grit Area Elevated Walkways between channels; mixer motor access and support	20	CY	\$ 1,200.00		\$ 24,000
Upper Level Parapet Walls (42" tall around structure)	30	CY	\$ 800.00		\$ 24,000
Equipment Pads at Grit Pumps	40	CY	\$ 400.00		\$ 16,000
Equipment Pad at Grit Washer/Classifier	30	CY	\$ 400.00		\$ 12,000
<u>Headworks Deep Foundation</u>					
Drilled Shaft Deep Foundation	1200	LF	\$ 100.00		\$ 120,000
<u>Electrical Housing Building</u>					
Concrete Base Slab	30	CY	\$ 400.00		\$ 12,000
<u>Electrical Building Deep Foundation</u>					
Drilled Shaft Deep Foundation	160	LF	\$ 100.00		\$ 16,000
Miscellaneous	5%				\$ 64,001
	Subtotal Division 3				\$ 1,372,021
<b>Division 4 - Masonry</b>					
<u>Electrical Housing Building</u>					
CMU Masonry Walls	1750	SF	\$ 35.00		\$ 61,250
Miscellaneous	5%				\$ 3,063
	Subtotal Division 4				\$ 64,313
<b>Division 5 - Metals</b>					
Stairs	1	LS	\$ 75,000.00	\$ 22,500.00	\$ 97,500
Aluminum channel covers	2265	SF	\$ 60.00	\$ 18.00	\$ 176,670
<u>Electrical Housing Building</u>					
Metal Truss Framing	10	EA	\$ 290.00		\$ 2,900
Metal Roofing Panels	973	SF	\$ 15.00		\$ 14,595
<u>Metal Canopy</u>					
Metal Canopy (over upper level channels)	2400	SF	\$ 75.00		\$ 180,000
Bollards	36	EA	\$ 500.00		\$ 18,000
Miscellaneous	5%				\$ 23,583
	Subtotal Division 5				\$ 513,248

**Facility Number: 12**  
**Facility Description: Headworks**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 8 - Openings</b>					
Double Door	3	EA	\$ 4,500.00		\$ 13,500
Miscellaneous	5%				\$ 675
Subtotal Division 8					<b>\$ 14,175</b>
<b>Division 9 - Coatings</b>					
Channel - Heavy Corrosion Lining	1	LS	\$ 75,000.00		\$ 75,000
Allowance for Piping Coatings	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 5,250
Subtotal Division 8					<b>\$ 110,250</b>
<b>Division 23 - HVAC</b>					
6-ton AC unit	2	EA	\$ 8,400.00	\$ 2,520.00	\$ 21,840
Corrosive Air Scrubber	1	EA	\$ 17,500.00	\$ 5,250.00	\$ 22,750
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 2,652
Subtotal Division 11					<b>\$ 55,692</b>
<b>Division 26 - Electrical</b>					
Feeder 400A 2 ssets approximate 200"	1	EA	\$40,000	\$0	\$ 40,000
Panelboard	2	EA	\$30,000	\$20,000	\$ 80,000
Wiring Total	1	LS	\$60,000	\$30,000	\$ 90,000
Conduit Total	1	LS	\$70,000	\$40,000	\$ 110,000
Lighting and Receptacles Total	1	LS	\$25,000	\$5,000	\$ 30,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$10,000	\$5,000	\$ 15,000
Cable Tray Total	1	LS	\$0	\$0	\$ -
Grounding Total	1	LS	\$15,000	\$5,000	\$ 20,000
Instrumentation Related Electrical	1	LS	\$20,000	\$0	\$ 20,000
Radar Level Transmitter	2	EA	\$3,500	\$2,450	\$ 9,450
Solenoid Valve	6	EA	\$500	\$1,050	\$ 4,050
Pressure Indicator	2	EA	\$500	\$350	\$ 1,350
PLC/ Network Hardware / Enclosures	1	EA	\$35,000	\$5,000	\$ 40,000
UPS	1	EA	\$5,000	\$2,500	\$ 7,500
Programming / Testing	0	LS			\$ -
Subtotal Division 26					<b>\$ 467,350</b>
<b>Division 31 - Earthwork</b>					
Excavation	1560	CY	\$	15.00	
Fill	1004	CY	\$ 20.00		
<b>Electrical Building Earthwork</b>					
Excavation	168	CY	\$	15.00	\$ 2,520
Backfill	94	CY	\$ 20.00		\$ 1,880
Miscellaneous	5%				\$ 220
Subtotal Division 31					<b>\$ 4,620</b>
<b>Division 40 - Process Integration</b>					
Screen Package (2 Screens, 2 compactors, 4 Panels)	1	LS	\$ 460,000.00	\$ 138,000.00	\$ 598,000
SS 316 Custom Drop Chutes for Screenings	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Manual Bar Screen	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Grit System (1 vortex system, 2 pumps, 1 classifier, 1 concentrator, plc panel)	1	LS	\$ 310,000.00	\$ 93,000.00	\$ 403,000
Stainless steel slide gates w/ Electric actuators	8	EA	\$ 21,000.00	\$ 6,300.00	\$ 218,400
Downward Opening Weir gates w/ electric actuators	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
<b>Allowance for piping &amp; Valves</b>					
Influent and Effluent Piping Allowance (36" Inlet x2 (one capped), 12" Inlet x1, 30" Outlet, 48" Outlet-capped)	1	LS	\$ 30,000.00		\$ 30,000
Allowance for Drain Piping + Valves	1	LS	\$ 65,000.00		\$ 65,000
Allowance for Grit Piping (Glass Lined)	1	LS	\$ 50,000.00		\$ 50,000
Allowance for NPW Piping	1	LS	\$ 15,000.00		\$ 15,000
NPW Wash Hose Station (2 at upper level, 2 at lower level)	4	EA	\$ 1,500.00		\$ 6,000
Weir plates at Bypass Channel	3	EA	\$ 2,500.00		\$ 7,500

**Facility Number: 12**  
**Facility Description: Headworks**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Odor Control Duct Work	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 80,825
Subtotal Division 40					\$ 1,697,325
<b>Subtotal This Facility</b>					\$ 4,350,444
<b>Contingency</b>				30%	\$ 1,580,000
<b>Mobilization</b>				3%	\$ 131,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 784,000
<b>Total Estimated Facility Costs</b>					\$ 6,846,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 18**  
**Facility Description: Odor Control - Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
ILS Odor Control Unit					
Concrete Base Slab	80	CY	\$ 400.00		\$ 32,000
Concrete Equipment Pad	21	CY	\$ 400.00		\$ 8,400
Odor Control Deep Foundation					
Drilled Shaft Deep Foundation	360	LF	\$ 100.00		\$ 36,000
Miscellaneous	5%				\$ 1,800
	Subtotal Division 3				\$ 78,200
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Electrical Allowance	1	LS	\$30,000		\$ 30,000
Miscellaneous	5%				\$ 1,500
	Subtotal Division 26				\$ 31,500
<b>Division 31 - Earthwork</b>					
ILS Odor Control Unit					
Excavation		CY		\$ 15.00	\$ -
Select Fill		CY	\$ 20.00		\$ -
Miscellaneous	5%				\$ -
	Subtotal Division 31				\$ -
<b>Division 40 - Process Integration</b>					
ILS Odor Control Unit					
FRP duct works	1	LS	\$ 40,000.00		\$ 40,000
NPW piping	1	LS	\$ 15,000.00		\$ 15,000
Miscellaneous	5%				\$ 2,750
	Subtotal Division 40				\$ 57,750
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biotrickling filter (quoted package by Bioair)	1	LS	\$ 881,300.00	\$ 88,130.00	\$ 969,430
Miscellaneous	5%				\$ 48,472
	Subtotal Division 44				\$ 1,017,902

**Facility Number: 18**  
**Facility Description: Odor Control - Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 1,185,352
Contingency				20%	\$ 288,000
Mobilization				3%	\$ 36,000
Contractor's Overhead and Profit				18%	\$ 214,000
<b>Total Estimated Facility Costs</b>					\$ 1,724,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 19**  
**Facility Description: Headworks - Odor Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<b>Headworks Odor Control Unit</b>					
Concrete Base Slab	33	CY	\$ 400.00		\$ 13,200
Concrete Equipment Pad	6	CY	\$ 400.00		\$ 2,400
<b>Odor Control Deep Foundation</b>					
Drilled Shaft Deep Foundation	270	LF	\$ 100.00		\$ 27,000
Miscellaneous	5%				\$ 1,350
	Subtotal Division 3				\$ 43,950
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Electrical Allowance	1	LS	\$30,000		\$ 30,000
Miscellaneous	5%				\$ 1,500
	Subtotal Division 26				\$ 31,500
<b>Division 31 - Earthwork</b>					
<b>Headworks Odor Control Unit</b>					
Excavation		CY		\$ 15.00	\$ -
Select Fill		CY	\$ 20.00		\$ -
Miscellaneous	5%				\$ -
	Subtotal Division 31				\$ -
<b>Division 40 - Process Integration</b>					
<b>Headworks Odor Control Unit</b>					
FRP duct works	1	LS	\$ 20,000.00		\$ 20,000
NPW piping	1	LS	\$ 20,000.00		\$ 20,000
Miscellaneous	5%				\$ 2,000
	Subtotal Division 40				\$ 42,000
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biotrickling filter (quoted package by Bioair)	1	LS	\$ 275,900.00	\$ 27,590.00	\$ 303,490
Miscellaneous	5%				\$ 15,175
	Subtotal Division 44				\$ 318,665
<b>Subtotal This Facility</b>					<b>\$ 436,115</b>

**Facility Number: 19**  
**Facility Description: Headworks - Odor Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Contingency				20%	\$ 106,000
Mobilization				3%	\$ 14,000
Contractor's Overhead and Profit				18%	\$ 79,000
<b>Total Estimated Facility Costs</b>					<b>\$ 636,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**

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**Facility Number: 30**  
**Facility Description: Aeration Basin Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Aeration Basin Splitter Box Concrete</u>					
Concrete Base Slab	20	CY	\$ 400.00		\$ 8,000
Concrete Freestanding Wall	30	CY	\$ 800.00		\$ 24,000
Concrete Elevated Slab	1	CY	\$ 1,200.00		\$ 1,200
<u>Aeration Basin Splitter Box</u>					
Drilled Shaft Deep Foundation	80	LF	\$ 100.00		\$ 8,000
Miscellaneous	5%				\$ 2,060
	Subtotal Division 3				\$ <b>43,260</b>
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 26				\$ -

<b>Division 31 - Earthwork</b>				
Excavation	352	CY	\$ 15.00	\$ 5,280
Backfill	321	CY	\$ 20.00	\$ 6,420
Miscellaneous	5%			\$ 585
Subtotal Division 31				<b>\$ 12,285</b>
<b>Division 40 - Process Integration</b>				
Gate	2	EA	\$15,000	\$ 30,000
<b>Headworks to AB Splitter Box</b>				
36" DI Pipe (Stephen to update length)	159	LF	\$ 420.00	\$ 66,780
Fittings	1	LS	\$ 7,560.00	\$ 7,560
<b>AB Splitter Box to Aeration Basins</b>				
42" DI Pipe	310	LF	\$ 650.00	\$ 201,500
Fittings	1	LS	\$ 30,225.00	\$ 30,225
Miscellaneous	5%			\$ 16,803
Subtotal Division 40				<b>\$ 352,868</b>
<b>Subtotal This Facility</b>				<b>\$ 408,413</b>
<b>Contingency</b>			<b>30%</b>	<b>\$ 149,000</b>
<b>Mobilization</b>			<b>3%</b>	<b>\$ 13,000</b>
<b>Contractor's Overhead and Profit</b>			<b>18%</b>	<b>\$ 74,000</b>
<b>Total Estimated Facility Costs</b>				<b>\$ 645,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 31**  
**Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Aeration Basins Concrete</b>					
Concrete Base Slab	3065	CY	\$ 400.00		\$ 1,226,000
Concrete Freestanding Wall	2740	CY	\$ 800.00		\$ 2,192,000
Elevated MLR Channels	476	CY	\$ 800.00		\$ 380,729
Concrete Elevated Slab	221	CY	\$ 1,200.00		\$ 265,200
<b>Aeration Basin Deep Foundations</b>					
Drilled Shaft Deep Foundation	7360	LF	\$ 100.00		\$ 736,000
Miscellaneous	5%				\$ 239,996
Subtotal Division 3					\$ 5,039,925
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
Subtotal Division 4					\$ -
<b>Division 5 - Metals</b>					
Aluminum Guardrail	2630	LF	\$ 60.00	\$ 18.00	\$ 205,140
Stairs	3	EA	\$30,000		\$ 90,000
Miscellaneous	5%				\$ 14,757
Subtotal Division 5					\$ 309,897
<b>Division 11 - Equipment</b>					
Miscellaneous	5%	EA			\$ -
Subtotal Division 11					\$ -
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 70,000.00	\$ 15,000.00	\$ 85,000
Conduit Total	1	LS	\$ 90,000.00	\$ 20,000.00	\$ 110,000
Lighting and Receptacles Total	1	LS	\$ 50,000.00	\$ 30,000.00	\$ 80,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 20,000.00	\$ 50,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 10,000.00	\$ 30,000
Grounding Total	1	LS	\$ 30,000.00	\$ 10,000.00	\$ 40,000
Thermalmass Flowmeter	2	EA	\$ 5,000.00	\$ 17,500.00	\$ 45,000
Analyzer Transmitter (OPR)	0	EA	\$ 5,000.00	\$ 3,500.00	\$ -
Analyzer Transmitter (Ammonia)	2	EA	\$ 5,000.00	\$ 7,000.00	\$ 24,000
Analyzer Transmitter (DO)	2	EA	\$ 5,000.00	\$ 14,000.00	\$ 38,000
Analyzer Transmitter (Solids)	0	EA	\$ 8,000.00	\$ 5,600.00	\$ -
Magmeter	0	EA	\$ 40,000.00	\$ 28,000.00	\$ -
Pressure Transmitters	2	EA	\$ 500.00	\$ 350.00	\$ 1,700
PLC/ Network Hardware					
UPS					
Programming / Testing					
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
Weir Level Instrument (channel instrument on IMLR lines)	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
Miscellaneous	0%				\$ -
Subtotal Division 26					\$ 518,900
<b>Division 31 - Earthwork</b>					
Excavation	25431	CY		\$ 15.00	\$ 381,465
Backfill	8306	CY	\$ 20.00		\$ 166,120
Miscellaneous	5%				\$ 27,379
Subtotal Division 31					\$ 574,964

**Facility Number: 31**  
**Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Aeration Basin Influent Structure Motorized 304 St Steel Slide Gates (1 per Aeration Basin)	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Air Piping 36" Flanged, Sch 10S, 304 St Steel	35	LF	\$ 648.00	\$ 194.40	\$ 29,484
Air Piping 30" Flanged, Sch 10S, 304 St Steel	20	LF	\$ 540.00	\$ 162.00	\$ 14,040
Air Piping 20" Flanged, Sch 10S, 304 St Steel	460	LF	\$ 360.00	\$ 108.00	\$ 215,280
Air Piping 12" Flanged, Sch 10S, 304 St Steel	120	LF	\$ 216.00	\$ 64.80	\$ 33,696
IMLR piping, 30-inch, Sch 10S	80	LF	\$ 500.00	\$ 150.00	\$ 52,000
IMLR pipe discharge check valves (2 per Aeration Basin)	4	EA	\$ 5,000.00	\$ 1,500.00	\$ 26,000
FRP Cutthroat Flume	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
Allowance for Ductile Iron Drain Piping and Mud Valves	8	EA	\$ 20,000.00	\$ 6,000.00	\$ 208,000
18-inch Aeration Basin Air Flow Control Valve w Electro-Hydraulic Actuator (1 per aeration basin)	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
12-inch Aerated Zone Control Valve w Electro-Hydraulic Actuator (4 per aeration basin)		EA	\$ 3,000.00	\$ 900.00	\$ -
Fittings (tees, elbows & reducers)	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
St Steel Bellows Expansion Cplg (6 each Aeration Basin)	12	EA	\$ 3,000.00	\$ 900.00	\$ 46,800
Allowance for Pipe Supports	1	LS	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Miscellaneous	5%				\$ 42,575
Subtotal Division 40					<b>\$ 894,075</b>
<b>Division 43 - Process Gas and Liquid Handling, Purification, and Storage</b>					
Internal Recycle Pumps w. guide rails and davit cranes(2 per Aeration Basin)	4	EA	\$ 60,000.00	\$ 18,000.00	\$ 312,000
Miscellaneous	5%				\$ 15,600
Subtotal Division 44					<b>\$ 327,600</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
Submersible Mixers w. portable davit crane (2- Anaerobic, 2- Anoxic per Aeration Basin)	8	EA	\$ 25,000.00	\$ 7,500.00	\$ 260,000
Diffuser Package (1 per Aeration Basin)	2	EA	\$ 150,000.00	\$ 45,000.00	\$ 390,000
Jib Crane	1	EA	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 39,000
Subtotal Division 46					<b>\$ 819,000</b>
<b>Subtotal This Facility</b>					<b>\$ 8,484,362</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 2,054,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 255,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 1,528,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 12,322,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Blower Facility Concrete</u>					
Concrete Base Slab	350	CY	\$ 400.00		\$ 140,000
Concrete Equipment Pads	9	CY	\$ 400.00		\$ 3,600
<u>Blower Facility Deep Foundations</u>					
Drilled Shaft Deep Foundation	1600	LF	\$ 100.00		\$ 160,000
Miscellaneous	5%				\$ 15,180
	Subtotal Division 3				\$ 318,780
<b>Division 4 - Masonry</b>					
<u>Blower Building Masonry</u>					
CMU Walls	8,500	SF	\$ 35.00		\$ 297,500
Miscellaneous	5%				\$ 14,875
	Subtotal Division 4				\$ 312,375
<b>Division 5 - Metals</b>					
<u>Blower Building Metals</u>					
Metal Roofing Panels	5,000	SF	\$ 15.00		\$ 75,000
Steel Roof Trusses	24	EA	\$ 290.00		\$ 6,960
Bridge Crane Framing	4,000	LB	\$ 4.00	\$ 1.20	\$ 20,800
Miscellaneous	5%				\$ 5,138
	Subtotal Division 5				\$ 107,898
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	280	LF	\$ 9.20	\$ 2.76	\$ 3,349
Miscellaneous	5%				\$ 167
	Subtotal Division 7				\$ 3,516
<b>Division 8 - Openings</b>					
<u>Blower Building Openings</u>					
Exterior Doors-Single	2	EA	\$ 2,500.00		\$ 5,000
Exterior Doors-Double	1	EA	\$ 4,500.00		\$ 4,500
Exterior Overhead Door	1	EA	\$ 6,000.00		\$ 6,000
Miscellaneous	5%				\$ 775
	Subtotal Division 8				\$ 16,275
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 13 - Special Construction</b>					
Metal Canopy (over blowers) - removed		SF	\$ 75.00		\$ -
Miscellaneous	5%				\$ -
			Subtotal Division 13		\$ -
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
5-ton AC unit	2	EA	\$ 7,000.00	\$ 2,100.00	\$ 18,200
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Blower Room</b>					
Exhaust Fans	3	EA	\$ 5,000.00	\$ 1,500.00	\$ 19,500
Louvers	3	EA	\$ 3,000.00	\$ 900.00	\$ 11,700
Unit Heaters	6	EA	\$ 2,500.00	\$ 750.00	\$ 19,500
Miscellaneous	5%				\$ 3,868
			Subtotal Division 26		\$ 81,218
<b>Division 26 - Electrical</b>					
SWBD-2	1	EA	\$165,000	\$80,000	\$ 245,000
MCC-3	1	EA	\$135,000	\$50,000	\$ 185,000
6 pulse VFDs	12	EA	\$10,000	\$24,000	\$ 144,000
2000 kVA Pad Mounted Transformers	2	EA	\$80,000	\$50,000	\$ 210,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$50,000	\$10,000	\$ 60,000
ATS	1	EA	\$10,000	\$5,000	\$ 15,000
45 kVA XFMR	1	EA	\$5,000	\$2,000	\$ 7,000
Panelboard	1	EA	\$10,000	\$5,000	\$ 15,000
Wiring Total	1	LS	\$150,000	\$30,000	\$ 180,000
Conduit Total	1	LS	\$75,000	\$15,000	\$ 90,000
Lighting and Receptacles Total	1	LS	\$50,000	\$30,000	\$ 80,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$30,000	\$20,000	\$ 50,000
Cable Tray Total	1	LS	\$20,000	\$10,000	\$ 30,000
Grounding Total	1	LS	\$30,000	\$10,000	\$ 40,000
Pressure Transmitters	1	EA	\$ 500.00	\$ 350.00	\$ 850
Thermalmass Flowmeter	1	EA	\$ 5,000.00	\$ 17,500.00	\$ 22,500
PLC/ Network Hardware	1	LS	\$ 90,000.00	\$ 20,000.00	\$ 110,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
			Subtotal Division 26		\$ 1,504,350
<b>Division 31 - Earthwork</b>					
<b>Blower Building Earthwork</b>					
Excavation	764	CY		\$ 15.00	\$ 11,460
Backfill	57	CY	\$ 20.00		\$ 1,147
Miscellaneous	5%				\$ 630
			Subtotal Division 31		\$ 13,237
<b>Division 40 - Process Integration</b>					
Aeration Blowers w. PLC Panels & instruments (Integrally-Geared Single Stage Centrifugal, 6,000 scfm @ 11.0 psig each)	0	EA	\$ 380,000.00	\$ 114,000.00	\$ -
Aeration Blowers w. PLC Panels & instruments (Integrally-Geared Single Stage Centrifugal, 2,900 scfm @ 11.0 psig each)	0	EA	\$ 270,000.00	\$ 81,000.00	\$ -
Complete Aeration Blower Package Quote	1	EA	\$ 1,170,000.00	\$ 351,000.00	\$ 1,521,000
16-inch Sch 10S, 304 St Steel Air Piping	80	LF	\$ 288.00	\$ 86.40	\$ 29,952
36-inch Sch 10S, 304 St Steel Air Piping	65	LF	\$ 648.00	\$ 194.40	\$ 54,756
16-inch Discharge Check Valves (part of Blower Package)	0	EA	\$ 15,000.00	\$ 4,500.00	\$ -
16-inch Discharge Butterfly Valves	4	EA	\$ 4,000.00	\$ 1,200.00	\$ 20,800
36-inch St Steel Bellows Expansion Cplg	8	EA	\$ 3,000.00	\$ 900.00	\$ 31,200
Allowance for Pipe Supports	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Main air header blow-off control valve w electro-hydraulic actuator	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Main air header Pressure Transmitter	1	EA	\$ 5,000.00	\$ 1,500.00	\$ 6,500
Manual air header butterfly valve	1	EA	\$ 8,000.00	\$ 2,400.00	\$ 10,400
Miscellaneous	5%				\$ 88,280
			Subtotal Division 40		\$ 1,853,888

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 41 - Material Processing and Handling Equipment</b>					
Bridge crane	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 6,500
			Subtotal Division 41		\$ 136,500
<b>Subtotal This Facility</b>					\$ 4,348,037
<b>Contingency</b>				20%	\$ 1,053,000
<b>Mobilization</b>				3%	\$ 131,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 783,000
<b>Total Estimated Facility Costs</b>					\$ 6,316,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 40**  
**Facility Description: Mixed Liquor Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Mixed Liquor Splitter Box Concrete</u>					
Concrete Base Slab	88	CY	\$ 400.00		\$ 35,200
Concrete Freestanding Wall	168	CY	\$ 800.00		\$ 134,400
Concrete Elevated Slab	5	CY	\$ 1,200.00		\$ 6,000
<u>Mixed Liquor Splitter Box Deep Foundations</u>					
Drilled Shaft Deep Foundation	20	LF	\$ 100.00		\$ 2,000
Miscellaneous	5%				\$ 8,880
	Subtotal Division 3				\$ 186,480
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Aluminum Guardrail	72	LF	\$ 60.00		\$ 4,320
Stairs	2	EA	\$ 30,000.00		\$ 60,000
Misc. Aluminum Framing	250	LB	\$ 9.00	\$ 2.70	\$ 2,925
Aluminum Grating	240	SF	\$ 60.00		\$ 14,400
Miscellaneous	5%				\$ 4,082
	Subtotal Division 5				\$ 85,727
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Misc. Electrical costs (fixture+light switch) per GAI Coordination 10/11/21	1	LS	\$15,000		\$ 15,000
Miscellaneous	5%				\$ 750
	Subtotal Division 26				\$ 15,750
<b>Division 31 - Earthwork</b>					
Excavation	900	CY		\$ 15.00	\$ 13,500
Backfill	563	CY	\$ 20.00		\$ 11,260
Miscellaneous	5%				\$ 1,238
	Subtotal Division 31				\$ 25,998
<b>Division 46 - Water and Wastewater Equipment</b>					
Gate	2	EA	\$15,000		\$ 30,000
Miscellaneous	5%				\$ 1,500
	Subtotal Division 40				\$ 31,500
<b>Subtotal This Facility</b>					<b>\$ 345,455</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 84,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 11,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 63,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 504,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 45**  
**Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<b>Secondary Clarifiers Concrete</b>					
Concrete Base Slab	3503	CY	\$ 400.00	\$	807,200
Concrete Freestanding Wall	720	CY	\$ 800.00	\$	345,600
Concrete Launderers	200	CY	\$ 600.00	\$	46,800
Concrete Walkway/Elevated Slab	56	CY	\$ 1,200.00	\$	21,600
<b>Secondary Clarifiers Deep Foundations</b>					
Drilled Shaft Deep Foundation	5680	LF	\$ 100.00	\$	488,000
Miscellaneous	5%			\$	85,460
	Subtotal Division 3				\$ 1,794,660
<b>Division 4 - Masonry</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 11				\$ -
<b>Division 23 - HVAC</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 23				\$ -
<b>Division 26 - Electrical</b>					
Panels	0	LS			
Wire Conduit	1	LS	\$25,000	\$ 7,500.00	\$ 32,500
Light/Receptacles	1	LS	\$17,500	\$ 5,250.00	\$ 22,750
Misc.	1	LS	\$7,500	\$ 2,250.00	\$ 9,750
Cable Tray	0	LS		\$ -	\$ -
Grounding	1	LS	\$25,000	\$ 7,500.00	\$ 32,500
Miscellaneous	0%			\$	-
	Subtotal Division 26				\$ 97,500

**Facility Number: 45**  
**Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	5700	CY		\$ 15.00	\$ 85,500
Backfill	2150	CY	\$ 20.00		\$ 43,000
Dewatering	1	LS	\$ 300,000.00		\$ 300,000
Miscellaneous	5%				\$ 21,425
Subtotal Division 31					<b>\$ 449,925</b>
<b>Division 40 - Process Integration</b>					
Piping Allowance	2	EA	\$ 50,000.00		\$ 100,000
Miscellaneous	5%				\$ 5,000
Subtotal Division 40					<b>\$ 105,000</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
135' SC Mechanism	2	EA	\$ 423,500.00	\$ 127,050.00	\$ 1,101,100
SS 304 Adder	2	EA	\$ 160,400.00		\$ 320,800
FRP Weirs and Scum Baffles	2	EA	\$ 24,000.00	\$ 7,200.00	\$ 62,400
FRP Density Current Baffles	2	EA	\$ 47,000.00	\$ 14,100.00	\$ 122,200
Local Control Panel from Manufacturer	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Allowance for scum flushing system	2	EA	\$ 15,000.00		\$ 30,000
Allowance for algae control system (chlorine drip)	2	EA	\$ 15,000.00		\$ 30,000
Miscellaneous	5%				\$ 84,885
Subtotal Division 46					<b>\$ 1,782,585</b>
<b>Subtotal This Facility</b>					<b>\$ 4,229,670</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 1,024,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 127,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 762,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,143,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<u>CMU Building</u> Concrete Base Slab	33	CY	\$ 400.00		\$ 13,200
<u>CMU Building Deep Foundations</u> Drilled Shaft Deep Foundation	160	LF	\$ 100.00		\$ 16,000
<u>Pre-Engineering Metal Building</u> Concrete Base Slab	131	CY	\$ 400.00		\$ 52,400
<u>Pre-Engineering Deep Foundations</u> Drilled Shaft Deep Foundation	320	LF	\$ 100.00		\$ 32,000
Miscellaneous	5%				\$ 5,680
Subtotal Division 3					\$ 119,280
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	1728	SF	\$ 35.00		\$ 60,480
Miscellaneous	5%				\$ 3,024
Subtotal Division 4					\$ 63,504
<b>Division 5 - Metals</b>					
<u>CMU Building</u> Metal Roof Panels	610	SF	\$ 15.00		\$ 9,150
Metal Roof Trusses	9	EA	\$ 290.00		\$ 2,610
<u>Metal Canopy</u> Pre-Engineered Metal Canopy	1800	SF	\$ 75.00		\$ 135,000
Miscellaneous	5%				\$ 7,338
Subtotal Division 5					\$ 154,098
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	120	LF	\$9.20	\$ 2.76	\$ 1,435
Miscellaneous	5%				\$ 72
Subtotal Division 7					\$ 1,507
<b>Division 8 - Openings</b>					
Double Exterior Door	3	EA	\$4,500.00		\$ 13,500
Miscellaneous	5%				\$ 675
Subtotal Division 8					\$ 14,175
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 23 - HVAC</b>					
5-ton split system AC unit	2	EA	\$ 7,000.00	\$ 2,100.00	\$ 18,200
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,333
Subtotal Division 23					\$ 27,983
<b>Division 26 - Electrical</b>					
MCC-4					
6 pulse VFDs	7	EA	\$12,500.00	\$3,750.00	\$ 113,750
Wiring Total	1	LS	\$60,000.00	\$25,000.00	\$ 85,000
Conduit Total	1	LS	\$50,000.00	\$15,000.00	\$ 65,000
Lighting and Receptacles Total	1	LS	\$25,000.00		\$ 25,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$15,000.00		\$ 15,000
Grounding Total	1	LS	\$10,000.00		\$ 10,000

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Pressure Indicator	14	EA	\$500.00	\$1,050.00	\$ 8,050
Pressure Switch	7	EA	\$500.00	\$1,050.00	\$ 4,550
8" Clamp-on Ultrasonic Meter	1	EA	\$10,000.00	\$3,500.00	\$ 13,500
14" Clamp-on Ultrasonic Meter	2	EA	\$18,000.00	\$6,300.00	\$ 42,300
PLC/ Network Hardware / Enclosures	1	LS	\$100,000.00	\$20,000.00	\$ 120,000
UPS	1	EA	\$15,000.00	\$5,000.00	\$ 20,000
Miscellaneous	1	LS	\$10,000.00		\$ 10,000
			Subtotal Division 26		\$ 313,750
<b>Division 31 - Earthwork</b>					
<b>CMU Building</b>					
Excavation	121	CY		\$ 15.00	\$ 1,815
Fill	62	CY	\$ 20.00		\$ 1,240
<b>Metal Canopy</b>					
Excavation	353	CY		\$ 15.00	\$ 5,295
Fill	223	CY	\$ 20.00		\$ 4,460
Miscellaneous	5%				\$ 641
			Subtotal Division 31		\$ 13,451
<b>Division 40 - Process Integration</b>					
Pipe Supports	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
<b>RAS/WAS Suction</b>					
18" DI Pipe	48	LF	\$ 100.00	\$ 30.00	\$ 6,175
18" Plug Valve	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
18" Tee	9	EA	\$ 6,000.00	\$ 1,800.00	\$ 70,200
18" Blind Flange	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
18" Elbow	4	EA	\$ 5,000.00	\$ 1,500.00	\$ 26,000
18" Sampling Port	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
14" DI Pipe	18	LF	\$ 70.00	\$ 21.00	\$ 1,593
14" Plug Valve	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
14" Check Valve	5	EA	\$ 3,000.00	\$ 900.00	\$ 19,500
14" to 10" Reducer	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
6" DI Pipe	10	LF	\$ 40.00	\$ 12.00	\$ 520
6" Plug Valve	2	EA	\$ 1,750.00	\$ 525.00	\$ 4,550
<b>RAS Discharge</b>					
18" DI Pipe	75	LF	\$ 100.00	\$ 30.00	\$ 9,750
18" Elbow	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
18" to 14" Reducer	2	EA	\$ 3,000.00	\$ 900.00	\$ 7,800
14" DI Pipe	46	LF	\$ 70.00	\$ 21.00	\$ 4,186
14" Elbow	7	EA	\$ 4,000.00	\$ 1,200.00	\$ 36,400
14" Tee	5	EA	\$ 4,000.00	\$ 1,200.00	\$ 26,000
14" Plug Valve	6	EA	\$ 6,000.00	\$ 1,800.00	\$ 46,800
14" Check Valve	5	EA	\$ 3,000.00	\$ 900.00	\$ 19,500
14" to 10" Reducer	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
14" Clamp-on Flow Meter	2	EA	\$ 15,000.00	\$ 4,500.00	\$ 39,000
2" ARV	5	EA	\$ 1,000.00	\$ 300.00	\$ 6,500
<b>WAS Discharge</b>					
6" DI Pipe	85	LF	\$ 40.00	\$ 12.00	\$ 4,420
6" Elbow	8	EA	\$ 350.00	\$ 105.00	\$ 3,640
6" Plug Valve	2	EA	\$ 1,750.00	\$ 525.00	\$ 4,550
6" Check Valve	2	EA	\$ 1,150.00	\$ 345.00	\$ 2,990
6" Tee	1	EA	\$ 400.00	\$ 120.00	\$ 520
6" Clamp-on Flow Meter	1	EA	\$ 7,500.00	\$ 2,250.00	\$ 9,750
2" ARV	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Miscellaneous	5%				\$ 23,367
			Subtotal Division 40		\$ 490,711
<b>Division 43 - Process Gas &amp; Liquid Handling</b>					
3.0 MGD RAS Pumps with VFD	3	EA	\$ 40,000.00	\$ 12,000.00	\$ 156,000
1.5 MGD RAS Pumps with VFD	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
500 gpm WAS Pumps with VFD	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Miscellaneous	5%				\$ 14,950
			Subtotal Division 43		\$ 313,950

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 46 - Water and Wastewater Equipment</b>					
<i>Miscellaneous</i>					\$ -
			5%		
			Subtotal Division 46		\$ -
<b>Subtotal This Facility</b>					\$ 1,624,408
<b>Contingency</b>				20%	\$ 394,000
<b>Mobilization</b>				3%	\$ 49,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 293,000
<b>Total Estimated Facility Costs</b>					\$ 2,361,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 50**  
**Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Filters Concrete</b>					
Concrete Wall	297	CY	\$ 800.00		\$ 237,600
Concrete Base Slab	143	CY	\$ 400.00		\$ 57,200
Elevated Slab	30	CY	\$ 1,200.00		\$ 36,000
<b>Filters Deep Foundations</b>					
Drilled Shaft Deep Foundation	480	LF	\$ 100.00		\$ 48,000
CLSM	66	CY	\$ 85.00		\$ 5,610
Miscellaneous	5%				\$ 7,341
Subtotal Division 3					\$ 154,151
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
Subtotal Division 4					\$ -
<b>Division 5 - Metals</b>					
Canopy Framing	3060	SF	\$ 75.00		\$ 229,500
Roof Panel	0	SF	\$ 15.00		\$ -
Aluminum Guardrail	150	LF	\$ 60.00		\$ 9,000
Aluminum Grating	882	SF	\$ 60.00		\$ 52,920
Monorail Framing (Galvanized Steel)	5470	LB	\$ 4.00	\$ 1.20	\$ 28,444
Miscellaneous	5%				\$ 15,993
Subtotal Division 5					\$ 335,857
<b>Division 9 - Finishes</b>					
Protective Coatings	1	LS	\$9,000	\$ 2,700.00	\$ 11,700
Miscellaneous	5%				\$ 585
Subtotal Division 9					\$ 12,285
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 26 - Electrical</b>					
Filter Electrical Allowance	1	LS	\$145,000		\$ 145,000
Pressure Transmitter	4	EA	\$ 2,500.00	\$ 3,500.00	\$ 13,500
BW Probe	4	EA	\$ 5,000.00	\$ 7,000.00	\$ 27,000
Pressure Indicator	9	EA	\$ 500.00	\$ 1,575.00	\$ 6,075
Flow Switch	2	EA	\$ 500.00	\$ 350.00	\$ 1,350
Analyzer Transmitter (Phosp)	0	EA	\$ 10,000.00		\$ -
Analyzer Transmitter (Turbidity)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Miscellaneous	0%				\$ -
Subtotal Division 26					\$ 199,675
<b>Division 31 - Earthwork</b>					
Excavation	3565	CY		\$ 15.00	\$ 53,475
Fill	2132	CY	\$ 20.00		\$ 42,640
Miscellaneous	5%				\$ 4,806
Subtotal Division 31					\$ 100,921

**Facility Number: 50**  
**Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Filter, Cloth Media, 8 MGD	4	EA	\$ 395,000.00	\$ 118,500.00	\$ 2,054,000
Piping Allowance	1	LS	\$ 125,000.00		\$ 125,000
Slide Gates	4	EA	\$13,000.00	\$ 1,950.00	\$ 59,800
<i>Miscellaneous</i>	5%				\$ 111,940
	Subtotal Division 40				<b>\$ 2,350,740</b>
<b>Division 41 - Material Processing and Handling</b>					
Monorail Trolley System	1	EA	\$35,000	\$ 10,500.00	\$ 45,500
<i>Miscellaneous</i>	5%				\$ 2,275
	Subtotal Division 41				<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 3,320,203</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 1,206,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 100,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 598,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,225,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<u>UV Disinfection Concrete</u>					
Concrete Base Slab	80	CY	\$ 400.00	\$ 120.00	\$ 41,600
Concrete Freestanding Wall	140	CY	\$ 800.00	\$ 240.00	\$ 145,600
Concrete Elevated Slab	70	CY	\$ 1,200.00	\$ 360.00	\$ 109,200
New Concrete Sidewalk	65	SY	\$ 35.00	\$ 10.50	\$ 2,958
<u>UV Disinfection Deep Foundation</u>					
Drilled Shaft Deep Foundation	360	LF	\$ 100.00	\$ 30.00	\$ 46,800
<u>Electrical Building Foundation</u>					
CMU Building Foundation	26	CY	\$ 400.00		\$ 10,400
<u>Electrical Building Deep Foundation</u>					
Drilled Shaft Deep Foundations	160	LF	\$ 100.00		\$ 16,000
Miscellaneous	5%				\$ 18,628
Subtotal Division 3					\$ 391,185
<b>Division 4 - Masonry</b>					
Masonry Walls	2070	SF	\$ 35.00		\$ 72,450
Miscellaneous	5%				\$ 3,623
Subtotal Division 4					\$ 76,073
<b>Division 5 - Metals</b>					
<u>Aluminum Guardrail - Two Rail W/ Posts</u>					
Aluminum Grating	1070	SF	\$ 60.00	\$ 18.00	\$ 83,460
Checker Plating	500	SF	\$ 150.00	\$ 45.00	\$ 97,500
Pre-Engineered Metal Building Canopy	2,000	SF	\$ 75.00	\$ 22.50	\$ 195,000
Aluminum Beams	1,200	LB	\$ 10.00	\$ 3.00	\$ 15,600
<u>Electrical Building Metals</u>					
Metal Roof Paneling	684	SF	\$ 15.00		\$ 10,260
Steel Roof Trusses	13	EA	\$ 290.00		\$ 3,770
Miscellaneous	5%				\$ 20,280
Subtotal Division 5					\$ 425,870
<b>Division 6 - Wood &amp; Plastics</b>					
FRP Finger Weirs (includes support)	1	LS	\$ 60,000.00	\$ 18,000.00	\$ 78,000
Misc. Lumber for Building Eaves	1	LS	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 4,095
Subtotal Division 6					\$ 85,995
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3500	SF	\$ 3.80	\$ 1.14	\$ 17,290
Building Roof Insulation	1200	SF	\$ 1.75	\$ 0.53	\$ 2,730
Metal Standing Seam Roofing	1200	SF	\$ 4.25	\$ 1.28	\$ 6,630
Metal Soffits	113	SF	\$ 4.25	\$ 1.28	\$ 624
Metal Eave Trim and Gutters	126	LF	\$ 10.00	\$ 3.00	\$ 1,638
Miscellaneous	5%				\$ 1,446
Subtotal Division 7					\$ 30,358

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 8 - Openings</b>					
Exterior Doors - Single	1	EA	\$ 2,500.00	\$ 750.00	\$ 3,250
Exterior Doors - Double	1	EA	\$ 4,500.00	\$ 1,350.00	\$ 5,850
Miscellaneous	5%				\$ 455
Subtotal Division 8					\$ 9,555
<b>Division 9 - Finishes</b>					
Dampproofing	1825	SF	\$ 3.00	\$ 0.90	\$ 7,118
Masonry Water Resistant Coating	3500	SF	\$ 1.50	\$ 0.45	\$ 6,825
Miscellaneous	5%				\$ 697
Subtotal Division 9					\$ 14,640
<b>Division 23 - HVAC</b>					
7.5-ton AC unit	2	EA	\$ 10,500.00	\$ 3,150.00	\$ 27,300
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,788
Subtotal Division 23					\$ 37,538
<b>Division 26 - Electrical</b>					
UV Electrical Distribution	1	LS	\$375,000		\$ 375,000
Misc. Electrical	1	LS	\$442,000		\$ 442,000
Strap on Flow Meter	1	EA	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Analyzer Transmitter (UVT)	1	EA	\$ 5,000.00	\$ -	\$ 5,000
Level Switch	1	EA	\$ 200.00	\$ 70.00	\$ 270
Analyzer Transmitter (DO)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
PLC/ Network Hardware /Enclosure	1	LS	\$ 60,000.00	\$ 20,000.00	\$ 80,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
Miscellaneous	0%				\$ -
Subtotal Division 26					\$ 972,770
<b>Division 31 - Earthwork</b>					
Disinfection Area					
Fill	665	CY	\$ 20.00		\$ 13,300
Excavation	1347	CY		\$ 15.00	\$ 20,205
Electrical Building					
Fill	90	CY	\$ 20.00		\$ 1,800
Excavation	153	CY		\$ 15.00	\$ 2,295
Miscellaneous	5%				\$ 1,880
Subtotal Division 31					\$ 39,480
<b>Division 40 - Process Integration</b>					
8" DIP (PD)	450	LF	\$ 50.00	\$ 15.00	\$ 29,250
8" Fittings	9	EA	\$ 235.00	\$ 70.50	\$ 2,750
Yard Piping Tie-In Fittings / Connections	6	EA	\$ 1,500.00	\$ 450.00	\$ 11,700
Yard Hydrants	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Miscellaneous	5%				\$ 2,380
Subtotal Division 40					\$ 49,979
<b>Division 44 - Pollution Control Equipment</b>					
86" x 72" Motorized Slide Gates	2	EA	\$ 30,000.00	\$ 9,000.00	\$ 78,000
Miscellaneous	5%				\$ 3,900
Subtotal Division 44					\$ 81,900
<b>Division 46 - Water and Wastewater Equipment</b>					
UV Equipment	1	LS	\$ 823,000.00	\$ 246,900.00	\$ 1,069,900
36" Ultrasonic Flowmeter	1	LS	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Miscellaneous	5%				\$ 54,470
Subtotal Division 46					\$ 1,143,870

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 3,359,212
Contingency				30%	\$ 1,220,000
Mobilization				3%	\$ 101,000
Contractor's Overhead and Profit				18%	\$ 605,000
<b>Total Estimated Facility Costs</b>					\$ 5,286,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 55**  
**Facility Description: Effluent Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Effluent Facility Concrete</u>					
Concrete Base Slab	140	CY	\$ 400.00		\$ 56,000
Concrete Walls	110	CY	\$ 800.00		\$ 88,000
Baffle Blocks	5	CY	\$ 1,500.00		\$ 7,500
<u>Effluent Facility Deep Foundations</u>					
Drilled Shaft Deep Foundation	440	LF	\$ 100.00		\$ 44,000
					\$ -
Miscellaneous	5%				\$ 9,775
	Subtotal Division 3				\$ 205,275
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
		EA			\$ -
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Misc Electrical	1	EA	\$ 25,000.00		\$ 25,000
Autosampler equipment	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Ultrasonic Level Transmitter	1	EA	\$ 2,500.00	\$ 875.00	\$ 3,375
Analyzer Transmitter (DO)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Miscellaneous	5%				\$ 5,006
	Subtotal Division 26				\$ 105,131
<b>Division 31 - Earthwork</b>					
Excavation	1078	CY		\$ 15.00	\$ 16,170
Fill	1138	CY	\$ 20.00		\$ 22,760
Miscellaneous	5%				\$ 1,947
	Subtotal Division 31				\$ 40,877

**Facility Number: 55**  
**Facility Description: Effluent Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Flume	1	LS	\$ 35,875.00	\$ 10,762.50	\$ 46,638
Mechanical Aerator	2	EA	\$ 75,000.00	\$ 22,500.00	\$ 195,000
Miscellaneous	5%				\$ 12,082
			Subtotal Division 40		\$ 253,719
<b>Subtotal This Facility</b>					\$ 605,002
<b>Contingency</b>				30%	\$ 220,000
<b>Mobilization</b>				3%	\$ 19,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 109,000
<b>Total Estimated Facility Costs</b>					\$ 954,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 56**  
**Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Non-Potable Water System</b>					
Concrete Base Slab	21	CY	\$ 400.00		\$ 8,400
Concrete Freestanding Wall	63	CY	\$ 800.00		\$ 50,400
Concrete Elevated Slab	4	CY	\$ 1,200.00		\$ 4,800
<b>Non-Potable Water System Deep Foundations</b>					
Drilled Shaft Deep Foundations	80	LF	\$ 100.00		\$ 8,000
Miscellaneous	5%				\$ 3,580
Subtotal Division 3					\$ 75,180
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
Subtotal Division 4					\$ -
<b>Division 5 - Metals</b>					
Aluminum Guardrail	50	LF	\$ 60.00		\$ 3,000
Aluminum Grating	225	SF	\$ 60.00		\$ 13,500
Galvanized Steel Framing	9144	LB	\$ 4.00	\$ 1.20	\$ 47,549
Aluminum Stairs	0	Riser	\$ 600.00		\$ -
Miscellaneous	5%				\$ 3,202
Subtotal Division 5					\$ 67,251
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 26 - Electrical</b>					
Disconnect Switches	1	LS	\$ 26,000.00		\$ 26,000
Misc. Electrical	1	LS	\$ 15,000.00		\$ 15,000
Submersible Level Transmitter	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Pressure Indicator	3	EA	\$ 500.00	\$ 525.00	\$ 3,075
Magmeter	1	EA	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Pressure Transmitter	1	EA	\$ 2,500.00	\$ 875.00	\$ 3,375
Analyzer Transmitter (CL2)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Miscellaneous	0%				\$ -
Subtotal Division 26					\$ 94,700
<b>Division 31 - Earthwork</b>					
Excavation	523	CY	\$ 15.00		\$ 7,845
Backfill	463	CY	\$ 20.00		\$ 9,260
Miscellaneous	5%				\$ 855
Subtotal Division 31					\$ 17,960
<b>Division 40 - Process Integration</b>					
8" Pressure control valve	1	LS	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Control systems	1	LS	\$ 7,500.00	\$ 2,250.00	\$ 9,750
Hydropneumatic Tank	0	LS	\$ 35,000.00	\$ 10,500.00	\$ -
Chlorine Analyzer	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500

**Facility Number: 56**  
**Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 1,788
				Subtotal Division 40	\$ 37,538
<b>Division 43 - Process Gas &amp; Liquid Handling</b>					
Non-Potable Supply Pumps & Motors Including VFDs	4	EA	\$ 45,000.00	\$ 13,500.00	\$ 234,000
Local piping	1	LS	\$ 23,400.00	\$ 7,020.00	\$ 30,420
4" Plug Valves	4	EA	\$ 1,500.00	\$ 450.00	\$ 7,800
4" Check Valves	4	EA	\$ 1,000.00	\$ 300.00	\$ 5,200
6" Clamp-on Flow Meter	1	EA	\$ 9,000.00	\$ 2,700.00	\$ 11,700
8" Filter	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Miscellaneous	5%				\$ 14,586
				Subtotal Division 43	\$ 306,306
<b>Division 44 - Pollution Control Equipment</b>					
18" Motorized Butterfly Valve	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Miscellaneous	5%				\$ 1,300
				Subtotal Division 44	\$ 27,300
<b>Subtotal This Facility</b>					<b>\$ 626,235</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 228,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 19,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 113,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 987,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<u>Chemical Feed Facility Deep Foundations</u>					
Drilled Shaft Deep Foundation	630	LF	\$ 100.00		\$ 63,000
<u>Chemical Building</u>					
Concrete Freestanding Wall	5	CY	\$ 800.00		\$ 4,000
Building Base Slab	23	CY	\$ 400.00		\$ 9,200
Equipment Pad	3	CY	\$ 400.00		\$ 1,200
<u>Tank Shelter</u>					
Concrete Tank Pad	45	CY	\$ 400.00		\$ 18,000
Concrete Base Slab	38	CY	\$ 400.00		\$ 15,200
Concrete Stairs	1	CY	\$ 800.00		\$ 800
Concrete Freestanding Walls	14	CY	\$ 800.00		\$ 11,200
Miscellaneous	5%				\$ 6,130
Subtotal Division 3					\$ 128,730
<b>Division 4 - Masonry</b>					
CMU Walls	1930	SF	\$ 35.00		\$ 67,550
Miscellaneous	5%				\$ 3,378
Subtotal Division 4					\$ 70,928
<b>Division 5 - Metals</b>					
<u>Chemical Building</u>					
Sump Pit Covers	1	EA	\$ 500.00		\$ 500
Joists	1	TON	\$ 2,725.00		\$ 2,725
Metal Roof Paneling	616	SF	\$ 15.00		\$ 9,240
Aluminum Grating	105	SF	\$ 60.00		\$ 6,300
<u>Tank Shelter</u>					
Sump Pit Covers	1	EA	\$ 500.00		\$ 500
Pre-Engineering Metal Canopy	880	SF	\$ 60.00		\$ 52,800
Aluminum Ladder	12	LF	\$ 75.50		\$ 906
Aluminum Guardrail	110	LF	\$ 60.00		\$ 6,600
Aluminum Grating	120	SF	\$ 60.00		\$ 7,200
Miscellaneous	5%				\$ 4,339
Subtotal Division 5					\$ 91,110
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	1930	SF	\$ 3.80		\$ 7,334
Building Roof Insulation	616	SF	\$ 1.75		\$ 1,078
Miscellaneous	5%				\$ 421
Subtotal Division 7					\$ 8,833
<b>Division 8 - Openings</b>					
Single Door	3	EA	\$ 2,500.00		\$ 7,500
Double Door	1	EA	\$ 4,500.00		\$ 4,500
Exterior Overhead Door	1	EA	\$ 6,000.00		\$ 6,000
Miscellaneous	5%				\$ 600
Subtotal Division 8					\$ 18,600
<b>Division 9 - Finishes</b>					
Chemical Resistant Floor Primer	1500	SF	\$ 3.00		\$ 4,500
Masonry Water Resistant Coating	1422	SF	\$ 1.50		\$ 2,133

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 332
					Subtotal Division 9
					\$ 6,965
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
					Subtotal Division 11
					\$ -
<b>Division 22 - Plumbing</b>					
Tepid Water System (105 gal water heater, mixing valve, showers)	1	LS	\$ 11,000.00	\$ 3,300.00	\$ 14,300
Piping allowance	1	LS	\$ 2,000.00	\$ 600.00	\$ 2,600
Miscellaneous	5%				\$ 845
					Subtotal Division 22
					\$ 17,745
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 4,200.00	\$ 1,260.00	\$ 5,460
<b>Sodium Hypo Room</b>					
Mini-split system AC 1-ton	1	EA	\$ 1,400.00	\$ 420.00	\$ 1,820
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Aluminum Sulfate Room</b>					
Mini-split system AC 1-ton	1	EA	\$ 1,400.00	\$ 420.00	\$ 1,820
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
Miscellaneous	5%				\$ 1,365
					Subtotal Division 23
					\$ 28,665
<b>Division 26 - Electrical</b>					
Misc. Equipment Electrical cost	1	LS	\$ 80,000.00	\$ 24,000.00	\$ 104,000
Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
Ultrasonic Level Transmitter	1	EA	\$ 2,500.00	\$ 875.00	\$ 3,375
PLC/ Network Hardware / Enclosures	1	LS	\$ 35,000.00	\$ 10,000.00	\$ 45,000
UPS	1	EA	\$ 7,500.00	\$ 1,000.00	\$ 8,500
Programming / Testing	1	LS			\$ -
Miscellaneous	1	LS	\$ 5,000.00		\$ 5,000
Miscellaneous	5%				\$ 8,969
					Subtotal Division 26
					\$ 188,344
<b>Division 31 - Earthwork</b>					
Excavation	572	CY		\$ 15.00	\$ 8,580
Fill	373	CY	\$ 20.00		\$ 7,460
Miscellaneous	5%				\$ 802
					Subtotal Division 31
					\$ 16,842
<b>Division 40 - Process Integration</b>					
<b>Sodium Hypochlorite</b>					
Chemical Feed Pump Package	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
Room Piping	1	LS	\$ 1,560.00	\$ 468.00	\$ 2,028
Chemical Storage Tanks	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
<b>Alum (Phosphate Polishing)</b>					
Chemical Feed Pump Package	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
Room Piping	1	LS	\$ 1,040.00	\$ 312.00	\$ 1,352
Chemical Storage Tanks	1	EA	\$ 52,900.00	\$ 15,870.00	\$ 68,770
Eyewash/Safety Shower	3	EA	\$ 2,000.00	\$ 600.00	\$ 7,800
Miscellaneous	5%				\$ 6,728

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
			Subtotal Division 40		\$ 141,278
<b>Subtotal This Facility</b>					\$ 718,038
Contingency				30%	\$ 262,000
Mobilization				3%	\$ 22,000
Contractor's Overhead and Profit				18%	\$ 130,000
<b>Total Estimated Facility Costs</b>					\$ 1,133,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Aerated Sludge Storage and Mixing</u>					
Concrete Base Slab	261	CY	\$ 400.00		\$ 104,400
Concrete Freestanding Wall	273	CY	\$ 800.00		\$ 218,400
Concrete Elevated Slab	0	CY	\$ 1,200.00		\$ -
<u>Piping Area</u>					
Concrete Base Slab	52	CY	\$ 400.00		\$ 20,800
Concrete Equipment Pads	5	CY	\$ 400.00		\$ 2,000
<u>Aluminum Walkway Between ASHT and Solids Building</u>					
Concrete Base Slab	3	CY	\$ 400.00		\$ 1,200
<u>Aerated Sludge Storage and Mixing Deep Foundations</u>					
Drilled Shaft Deep Foundation	1120	LF	\$ 100.00		\$ 112,000
Miscellaneous	5%				\$ 22,940
	Subtotal Division 3				\$ 481,740
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
<u>ASHT Metals</u>					
Aluminum Framing	1660	LB	\$ 6.50	\$ 1.95	\$ 14,027
Aluminum Guardrail	97	LF	\$ 60.00		\$ 5,820
Air Piping Supports	8	EA	\$ 350.00	\$ 105.00	\$ 3,640
Aluminum Bar Grating	200	SF	\$ 60.00		\$ 12,000
<u>Aluminum Walkway Between ASHT and Solids Building</u>					
Aluminum Framing	1000	LB	\$ 6.50	\$ 1.95	\$ 8,450
Aluminum Guardrail	46	LF	\$ 60.00		\$ 2,760
Aluminum Bar Grating	92	SF	\$ 60.00		\$ 5,520
Miscellaneous	5%				\$ 2,611
	Subtotal Division 5				\$ 54,828
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 30,000.00		\$ 30,000
Conduit Total	1	LS	\$ 10,000.00		\$ 10,000
Lighting and Receptacles Total	1	LS	\$ 15,000.00		\$ 15,000
Mis. Disconnects, Boxes, and Fittings	1	LS	\$ 10,000.00		\$ 10,000
Cable Tray Total	1	LS			\$ -
Grounding Total	1	LS	\$ 5,000.00		\$ 5,000
<u>Aerated Sludge Holding Tanks + Solids</u>					
Ultrasonic Level Transmitter	2	EA	\$ 2,500.00	\$ 1,750.00	\$ 8,500
<u>Sludge Recirculation Pump Station</u>					
Pressure Indicator	3	EA	\$ 500.00	\$ 525.00	\$ 3,075
Pressure Switch	3	EA	\$ 500.00	\$ 525.00	\$ 3,075
<u>Sludge Feed Pumps</u>					
Pressure Switch	2	EA	\$ 500.00	\$ 350.00	\$ 1,700
Miscellaneous	5%				\$ 4,318
	Subtotal Division 26				\$ 90,668
<b>Division 31 - Earthwork</b>					
Excavation	1083	CY		\$ 15.00	\$ 16,245
Fill	632	CY	\$ 20.00		\$ 12,640

Facility Number: 70					
Facility Description: Aerated Sludge Storage and Mixing					
Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 1,444
Subtotal Division 31					\$ 30,329
<b>Division 40 - Process Integration</b>					
<u>Air Piping</u>					
6" SS Pipe	260	LF	\$125	\$ 37.50	\$ 42,250
6" Tee	2	EA	\$655	\$ 196.50	\$ 1,703
6" 90 Bend	15	EA	\$ 470.00	\$ 141.00	\$ 9,165
6" Expansion Joint	0	EA	\$ 750.00	\$ 225.00	\$ -
6" Butterfly Isolation Valve	5	EA	\$ 400.00	\$ 120.00	\$ 2,600
Pressure Gauge and Switch	2	EA	\$ 1,400.00	\$ 420.00	\$ 3,640
<u>Recirculation Pump Piping</u>					
16" DI Pipe	55	LF	\$ 120.00	\$ 36.00	\$ 8,580
16" Tee, FL x FL	3	EA	\$ 6,129.00	\$ 1,838.70	\$ 23,903
16" Plug Valve	7	EA	\$ 9,248.00	\$ 2,774.40	\$ 84,157
12" DI Pipe	70	LF	\$90.00	\$ 27.00	\$ 8,190
12" Tee	3	EA	\$2,408.00	\$ 722.40	\$ 9,391
12" Plug Valve	7	EA	\$5,313.00	\$ 1,593.90	\$ 48,348
<u>Decant</u>					
4" Telescoping Valve <i>Includes bracket, offset pedestal, and handwheel operator</i>	2	EA	\$ 9,750.00	\$ 2,925.00	\$ 25,350
<u>Drain</u>					
8" Mud Valves <i>Includes extension stems, stem guides, floor stands, operator</i>	2	EA	\$3,300.00	\$ 990.00	\$ 8,580
<u>Centrifuge Feed Pumps</u>					
Centrifuge Feed Piping Allowance	1	LS	\$140,000		\$ 140,000
Miscellaneous	5%				\$ 20,793
Subtotal Division 40					\$ 436,650
<b>Division 46 - Water and Wastewater Equipment</b>					
<u>Jet Aeration/Mixing System</u>					
Jet Aeration/Mixing System <i>Includes in-tank FRP manifold and dry-pit horizontal non-clog pump</i>	2	EA	\$82,500	\$ 24,750.00	\$ 214,500
Blowers - Rotary Lobe	3	EA	\$30,000	\$ 9,000.00	\$ 117,000
Redundant Mixing Pump	1	EA	\$35,000	\$ 10,500.00	\$ 45,500
<u>Centrifuge Feed Pumps</u>					
Centrifuge Feed Pumps	2	EA	\$50,000	\$ 15,000.00	\$ 130,000
Miscellaneous	5%				\$ 25,350
Subtotal Division 46					\$ 532,350
<b>Subtotal This Facility</b>					<b>\$ 1,626,565</b>
<b>Contingency</b>				<b>25%</b>	<b>\$ 493,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 49,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 293,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,462,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Solids Processing Building Concrete</b>					
Concrete Base Slab	453	CY	\$ 400.00		\$ 181,200
Concrete Equipment Pads	5	CY	\$ 400.00		\$ 2,000
Concrete Walls	99	CY	\$ 800.00		\$ 79,200
Concrete Elevated Slab	168	CY	\$ 1,200.00		\$ 201,600
<b>Solids Processing Building Deep Foundations</b>					
Drilled Shaft Deep Foundation	1120	LF	\$ 100.00		\$ 112,000
Miscellaneous	5%				\$ 28,800
Subtotal Division 3					\$ 604,800
<b>Division 4 - Masonry</b>					
CMU Block Walls	5040	SF	\$ 35.00		\$ 176,400
Miscellaneous	5%				\$ 8,820
Subtotal Division 4					\$ 185,220
<b>Division 5 - Metals</b>					
Steel Monorail framing	8000	LB	\$ 4.00		\$ 32,000
Pre-Fabricated Metal Building Canopy (Eliminated)		SF	\$ 75.00		\$ -
Metal Roof Paneling	3000	SF	\$ 15.00		\$ 45,000
Aluminum Stairs	30	Riser	\$ 600.00		\$ 18,000
Aluminum Walkway Framing	2000	LB	\$ 6.50	\$ 1.95	\$ 16,900
Aluminum Guardrail	63	LF	\$ 60.00		\$ 3,780
Aluminum Grating	240	SF	\$ 60.00		\$ 14,400
Miscellaneous	5%				\$ 6,504
Subtotal Division 5					\$ 136,584
<b>Division 8 - Openings</b>					
Single Door	7	EA	\$ 2,500.00		\$ 17,500
Exterior Overhead Doors	1	EA	\$ 6,000.00		\$ 6,000
Oversized Double Door	1	EA	\$ 6,000.00		\$ 6,000
Double Door	2	EA	\$ 4,500.00		\$ 9,000
Miscellaneous	5%				\$ 1,925
Subtotal Division 8					\$ 40,425
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 23 - HVAC</b>					
<b>Dewatering Electrical Room</b>					
6-ton split system AC unit	2	EA	\$ 8,400.00	\$ 2,520.00	\$ 21,840
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Solids Handling Electrical/Control Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 4,200.00	\$ 1,260.00	\$ 5,460
<b>Misc. Room between Electrical Room and Bulk Polymer Storage Room</b>					
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	2	LS	\$ 2,500.00	\$ 750.00	\$ 6,500
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Polymer Storage Room</b>					

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	2	LS	\$ 2,500.00	\$ 750.00	\$ 6,500
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Centrifuge Room</b>					
Makeup Air Unit	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Exhaust Fan (summer ventilation)	2	EA	\$ 4,000.00	\$ 1,200.00	\$ 10,400
Louvers (summer ventilation)	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
Controls	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
Miscellaneous	5%				\$ 5,428
Subtotal Division 23					<b>\$ 113,978</b>

<b>Division 26 - Electrical</b>					
MCC-5	1	EA	\$ 150,000.00	\$ 45,000.00	\$ 195,000
Install MFR Centrifuge VFDs	1	LS	\$ -	\$ 20,000.00	\$ 20,000
1000 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 40,000.00	\$ 130,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$ 30,000.00	\$ 20,000.00	\$ 50,000
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 150,000.00	\$ 30,000.00	\$ 180,000
Conduit Total	1	LS	\$ 80,000.00	\$ 40,000.00	\$ 120,000
Lighting and Receptacles Total	1	LS	\$ 40,000.00		\$ 40,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00		\$ 30,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 10,000.00	\$ 30,000
Grounding Total	1	LS	\$ 20,000.00		\$ 20,000
<b>Polymer Blending Units</b>					
Polymer Tote Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
<b>Centrifuge</b>					
6" Magmeter	2	EA	\$ 8,000.00	\$ 5,600.00	\$ 21,600
PLC/ Network Hardware / Enclosures	1	LS	\$ 100,000.00	\$ 20,000.00	\$ 120,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
Programming / Testing		LS			\$ -
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
Subtotal Division 26					<b>\$ 1,037,100</b>

<b>Division 31 - Earthwork</b>					
Excavation	1000	CY		\$ 15.00	\$ 15,000
Fill	86	CY	\$ 20.00		\$ 1,720
Miscellaneous	5%				\$ 836
Subtotal Division 31					<b>\$ 17,556</b>

<b>Division 40 - Process Integration</b>					
Centrifuges	2	EA	\$ 750,000.00	\$ 150,000.00	\$ 1,800,000
Polymer Transfer Pumps	2	EA	\$ 6,000.00	\$ 1,000.00	\$ 14,000
Polymer Blending Unit	2	EA	\$ 50,000.00	\$ 15,000.00	\$ 130,000
Polymer Tanks	1	LS	\$ 12,500.00	\$ 1,500.00	\$ 14,000
Centrifuge Building Piping Allowance	1	LS	\$ 325,000.00		\$ 325,000
Miscellaneous	5%				\$ 114,150
Subtotal Division 40					<b>\$ 2,397,150</b>

<b>Division 41 - Material Processing and Handling Equipment</b>					
Monorail	1	LS	\$ 35,000.00	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>

<b>Subtotal This Facility</b>					<b>\$ 4,580,588</b>
<b>Contingency</b>	30%				<b>\$ 1,664,000</b>
<b>Mobilization</b>	3%				<b>\$ 138,000</b>
<b>Contractor's Overhead and Profit</b>	18%				<b>\$ 825,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 7,208,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Operations &amp; Laboratory Building Concrete</u> Concrete Base Slab	175	CY	\$ 400.00		\$ 70,000
<u>Operations &amp; Laboratory Building Deep Foundations</u> Drilled Shaft Deep Foundation	0	LF	\$ 100.00		\$ -
Miscellaneous	5%				\$ 3,500
	Subtotal Division 3				\$ 73,500
<b>Division 4 - Masonry</b>					
Concrete Masonry Walls - 8"	5200	SF	\$ 7.00	\$ 6.00	\$ 67,600
Concrete Masonry Walls - 4"	2600	SF	\$ 6.50	\$ 6.00	\$ 32,500
Miscellaneous	5%				\$ 5,005
	Subtotal Division 4				\$ 105,105
<b>Division 5 - Metals</b>					
Metal Studs - 16ft x 6.00 in, 12ga, 16" o.c.	500	LF	\$ 40.00	\$ 25.00	\$ 32,500
Metal Roof Framing	4720	SF	\$ 14.00	\$ 0.50	\$ 68,440
Metal Roof Deck	4720	SF	\$ 3.50	\$ 0.50	\$ 18,880
Miscellaneous	5%				\$ 5,991
	Subtotal Division 5				\$ 125,811
<b>Division 6 - Wood &amp; Plastics</b>					
Rough Carpentry	1	LS	\$ 10,000.00	\$ 10,000.00	\$ 20,000
Gypsum Sheathing - 5/8" glass mat	4000	SF	\$ 0.77	\$ 0.77	\$ 6,160
Miscellaneous	5%				\$ 1,308
	Subtotal Division 6				\$ 27,468
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Roof Panels	4720	SF	\$ 5.10	\$ 1.75	\$ 32,332
Metal Wall Panels	2600	SF	\$ 3.00	\$ 5.00	\$ 20,800
Metal Soffit Panels	4720	SF	\$ 5.10	\$ 1.75	\$ 32,332
Air Barrier-Wall	5200	SF	\$ 0.16	\$ 0.12	\$ 1,456
Wall Sound Insulation - 3.5" R-13 15"W	8500	SF	\$ 0.31	\$ 0.28	\$ 5,015
Wall-Open-Cell Foam Insulation (Spray applied) - 3.0" R-15	7100	SF	\$ 1.58	\$ 0.80	\$ 16,898
Roof-Polyisocyanurate Rigid Insulation - R-30 (6" +)	4720	SF	\$ 1.35	\$ 0.30	\$ 7,788
Wall-Polyisocyanurate Rigid Insulation - R-11 (2"+)	5200	SF	\$ 0.90	\$ 0.25	\$ 5,980
Sealants	1	LS	\$ 600.00	\$ 1,000.00	\$ 1,600
Miscellaneous	5%				\$ 6,210
	Subtotal Division 7				\$ 130,411
<b>Division 8 - Openings</b>					
Interior Man Doors - SCW/ALUM 3'x7'	11	EA	\$ 850.00	\$ 360.00	\$ 13,310
Exterior Man Doors - Alum 3'x7'	5	SF	\$ 1,875.00	\$ 800.00	\$ 13,375
Interior ALUM Storefront - Office	375	SF	\$ 28.00	\$ 5.50	\$ 12,563
Interior Glazing - Single	375	SF	\$ 5.75		\$ 2,156
Exterior Windows - 1": Insulated Glazing	210	SF	\$ 22.00	\$ 6.00	\$ 5,880
ALUM Storefront - Vestibule	64	SF	\$ 28.00	\$ 5.50	\$ 2,144
Exterior Glazing - Insulated	64	SF	\$ 5.75		\$ 368
Mirrors - Toilet; Frameless	115	SF	\$ 10.00	\$ 5.25	\$ 1,754
Miscellaneous	5%				\$ 2,577
	Subtotal Division 8				\$ 54,127
<b>Division 9 - Finishes</b>					
Walls - Gypsum Board - 5/8" -Tape & Float	16000	SF	\$ 0.70	\$ 0.95	\$ 26,400
Ceiling - Gypsum Board - 5/8" -Tape & Float	265	SF	\$ 0.70	\$ 0.95	\$ 437
Walls - Cementitious Backing Board- 5/8" -Tape & Float	2600	SF	\$ 1.10	\$ 4.75	\$ 15,210
Paint - Walls Gypsum Board - Prep, Primer & Fins Coat	16000	SF	\$ 0.12	\$ 0.36	\$ 7,680
Paint - Ceiling Gypsum Board - Prep, Primer & Fins Coat	265	SF	\$ 0.12	\$ 0.36	\$ 127

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Acoustic Ceiling Tile, 15/16" grid, 24x24	3500	SF	\$ 2.57	\$ 1.06	\$ 12,705
Sealed Concrete - Floor	2400	SF	\$ 0.46	\$ 0.23	\$ 1,656
Carpet Tile - Floor -OFC/Training	1000	SF	\$ 8.50	\$ 5.00	\$ 13,500
Base - Wall - 6" Resilient	1000	LF	\$ 1.50	\$ 1.25	\$ 2,750
Base - Wall - 6" Resilient Corners	100	EA	\$ 3.00	\$ 1.25	\$ 425
Interior Wall Tile - Large Format - 12" x 24"	2500	SF	\$ 9.50	\$ 4.50	\$ 35,000
Base - Wall - 6"x12" Cove Tile	375	LF	\$ 7.85	\$ 7.25	\$ 5,663
Miscellaneous	5%				\$ 6,078
<b>Subtotal Division 9</b>					<b>\$ 127,631</b>
<b>Division 10 - Specialties</b>					
Building Sign - 36" x 12" - Aluminum	2	EA	\$ 210.00	\$ 25.00	\$ 470
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 50.00	\$ 15.00	\$ 260
Fire Extinguisher - Cabinet	4	EA	\$ 110.00	\$ 95.00	\$ 820
Toilet Partitions - Stainless Steel	2	EA	\$ 1,500.00	\$ 200.00	\$ 3,400
San Napkin Disposal	1	EA	\$ 25.00	\$ 16.00	\$ 41
Waste Receptacle	3	EA	\$ 100.00	\$ 36.00	\$ 408
Toilet Paper Dispenser	3	EA	\$ 25.00	\$ 16.00	\$ 123
Grab Bars - ADA 36"	3	EA	\$ 40.00	\$ 22.00	\$ 186
Grab Bars - ADA 42"	3	EA	\$ 50.00	\$ 40.00	\$ 270
Hand Dryer	3	EA	\$ 800.00	\$ 100.00	\$ 2,700
Lockers - 12"x18"x72"	16	EA	\$ 540.00	\$ 20.00	\$ 8,960
Shower Enclosures - ADA & Standard	2	EA	\$ 1,000.00	\$ 110.00	\$ 2,220
Corner Guards-Stainless Steel (3"x3"x48"L)	12	EA	\$ 110.00	\$ 20.00	\$ 1,560
Door/Wall Signs - 8"x 8" acrylic	24	EA	\$ 40.00	\$ 10.00	\$ 1,200
Miscellaneous	5%				\$ 1,131
<b>Subtotal Division 10</b>					<b>\$ 23,749</b>
<b>Division 11 - Equipment</b>					
Audio/Video Equipment - Conference	1	LS	\$ 5,000.00	\$ 500.00	\$ 5,500
Lab Equipment	1	LS	\$ 100,000.00		\$ 100,000
FF&E - OFC	7	EA	\$ 5,000.00		\$ 35,000
FF&E -Training	1	EA	\$ 10,000.00		\$ 10,000
Miscellaneous	5%				\$ 7,525
<b>Subtotal Division 11</b>					<b>\$ 158,025</b>
<b>Division 22 - Plumbing</b>					
Fire Sprinkler	0	SF	\$ 5.00	\$ 5.00	\$ -
<b>Plumbing Fixtures</b>					\$ -
Water closet, Wall Hung, Manual Flushvalve, Carrier, + Rough-in	3	EA	\$ 2,910.00	\$ 564.00	\$ 10,422
Urinal, Wall Hung, Manual Flushvalve, + Rough-in	0	EA	\$ 1,145.00	\$ 581.00	\$ -
Lavatory, Under Conter Mount, Manual Faucet, + Rough-in	3	EA	\$ 494.50	\$ 574.00	\$ 3,206
Two-compartment Sink, Faucet, + Rough-in	1	EA	\$ 1,281.50	\$ 618.00	\$ 1,900
Electric Drinking Fountain, Recessed, + Rough-in	1	EA	\$ 2,171.00	\$ 242.00	\$ 2,413
Mop Sink, Faucet, + Rough-in	1	EA	\$ 1,063.00	\$ 689.50	\$ 1,753
ADA Shower, Drain, + Rough-in	2	EA	\$ 524.00	\$ 100.00	\$ 1,248
<b>Equipment</b>					\$ -
Reduced Pressure Backflow Preventer, 3"	1	EA	\$ 4,650.00	\$ 188.00	\$ 4,838
Ice Maker Outlet, + Rough-in	1	EA	\$ 120.00	\$ 67.00	\$ 187
Thermostatic Mixing Valve	1	EA	\$ 1,400.00	\$ 48.00	\$ 1,448
ADA Emergency Shower/Eyewash	1	EA	\$ 800.00	\$ 350.00	\$ 1,150
Recirculator Pump	1	EA	\$ 970.00	\$ 141.00	\$ 1,111
Wall hydrant	6	EA	\$ 500.00	\$ 33.50	\$ 3,201
Gas-Fired Water Heater, 100 Gallon, Housekeeping Pad, + Rough-in	1	EA	\$ 8,925.00	\$ 785.00	\$ 9,710
Neutralization Tank, + Rough-in	1	EA	\$ 2,800.00	\$ 117.00	\$ 2,917
<b>Piping</b>					\$ -
Domestic Water, Copper	1	LS	\$ 2,500.00	\$ 1,500.00	\$ 4,000
Sanitary Sewer, PVC, Cleanouts	1	LS	\$ 4,500.00	\$ 2,200.00	\$ 6,700
Acid Waste Piping, PVC, + Lab Sink Rough-in	1	LS	\$ 1,500.00	\$ 1,000.00	\$ 2,500
Natural Gas, Sch. 40 Steel, Service Entrance	1	LS	\$ 2,500.00	\$ 2,000.00	\$ 4,500
Valves	1	LS	\$ 1,000.00	\$ 500.00	\$ 1,500
Miscellaneous	5%				\$ 3,235
<b>Subtotal Division 22</b>					<b>\$ 67,938</b>
<b>Division 23 - HVAC</b>					
HVAC	3700	SF	\$ 13.00	\$ 13.00	\$ 96,200
Miscellaneous	5%				\$ 4,810
<b>Subtotal Division 23</b>					<b>\$ 101,010</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 65,000.00	\$ -	\$ 65,000
Main Service Panel	0	EA	\$ 30,000.00	\$ -	\$ 30,000
Lighting and Branch Circuit Wiring	0	EA	\$ 75,000.00	\$ -	\$ 75,000
Communications and Security	0	EA	\$ 45,000.00	\$ -	\$ 45,000

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Subtotal Division 26					\$ 215,000
<b>Division 31 - Earthwork</b>					
Excavation	2254	CY		\$ 15.00	\$ 33,810
Fill	2080	CY	\$ 20.00		\$ 41,600
Miscellaneous	5%				\$ 3,771
Subtotal Division 31					\$ 79,181
<b>Division 40 - Process Integration</b>					
Miscellaneous	5%				\$ -
Subtotal Division 40					\$ -
<b>Subtotal This Facility</b>					\$ 1,288,955
<b>Contingency</b>				30%	\$ 469,000
<b>Mobilization</b>				3%	\$ 39,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 233,000
<b>Total Estimated Facility Costs</b>					\$ 2,030,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 86**  
**Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
Maintenance and Storage Building Concrete Concrete Base Slab	148	CY	\$ 400.00		\$ 59,200
Mainanence and Storage Building Deep Foundations Concrete Deep Foundation	0	LF	\$ 100.00		\$ -
Miscellaneous	5%				\$ 2,960
Subtotal Division 3					\$ 62,160
<b>Division 4 - Masonry</b>					
Interior Finish Out	350	SF	\$ 150.00	\$ 45.00	\$ 68,250
Miscellaneous	5%				\$ 3,413
Subtotal Division 4					\$ 71,663
<b>Division 5 - Metals</b>					
Prefabricated Metal Building	4038	SF	\$ 115.00	\$ 34.50	\$ 603,681
Metal Roof Panels	4038	SF	\$ 25.00		\$ 100,950
Fencing with gates	50	LF	\$ 60.00		\$ 3,000
Miscellaneous	5%				\$ 35,382
Subtotal Division 5					\$ 743,013
<b>Division 7 - Thermal/Moisture Protection</b>					
Miscellaneous	5%				\$ -
Subtotal Division 7					\$ -
<b>Division 8 - Openings</b>					
Miscellaneous	5%				\$ -
Subtotal Division 8					\$ -
<b>Division 11 - Equipment</b>					
Single Door	6	EA	\$ 2,500.00		\$ 15,000
Double Door	1	EA	\$ 4,500.00		\$ 4,500
Roll-Up Door	3	EA	\$ 10,000.00		\$ 30,000
FF& E Package	1	LS	\$ 20,000.00		\$ 20,000
Miscellaneous	5%				\$ 3,475
Subtotal Division 11					\$ 72,975
<b>Division 23 - HVAC</b>					
HVAC/Plumbing	2,676	SF	\$ 20.00		\$ 53,520
Miscellaneous	5%				\$ 2,676
Subtotal Division 23					\$ 56,196
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 35,000.00	\$ -	\$ 35,000
Main Service Panel	0	EA	\$ 30,000.00	\$ -	\$ 30,000
Lighting and Branch Circuit Wiring	0	EA	\$ 35,000.00	\$ -	\$ 35,000
Communications and Security	0	EA	\$ 15,000.00	\$ -	\$ 15,000
Subtotal Division 26					\$ 115,000
<b>Division 31 - Earthwork</b>					

**Facility Number: 86**  
**Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Excavation	1956	CY		\$ 15.00	\$ 29,340
Fill	1807	CY	\$ 20.00		\$ 36,140
Miscellaneous	5%				\$ 3,274
Subtotal Division 31					\$ 68,754
<b>Division 40 - Process Integration</b>					
Miscellaneous	5%				\$ -
Subtotal Division 40					\$ -
<b>Subtotal This Facility</b>					\$ 1,189,760
<b>Contingency</b>				30%	\$ 433,000
<b>Mobilization</b>				3%	\$ 36,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 215,000
<b>Total Estimated Facility Costs</b>					\$ 1,874,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 88**  
**Facility Description: Main Plant Electrical Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Main Plant Electrical Building					
Concrete Base Slab	185	CY	\$ 400.00		\$ 74,000
Concrete Deep Foundation	920	LF	\$ 100.00		\$ 92,000
Concrete Equipment Pads	12	CY	\$ 400.00		\$ 4,800
Miscellaneous	5%				\$ 8,540
					<b>Subtotal Division 3</b>
					<b>\$ 179,340</b>
<b>Division 4 - Masonry</b>					
Masonry Walls	3000	SF	\$ 35.00		\$ 105,000
Miscellaneous	5%				\$ 5,250
					<b>Subtotal Division 4</b>
					<b>\$ 110,250</b>
<b>Division 5 - Metals</b>					
Metal Roof Framing	3000	SF	\$ 15.00		\$ 45,000
Miscellaneous	5%				\$ 2,250
					<b>Subtotal Division 5</b>
					<b>\$ 47,250</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3000	SF	\$ 3.80	\$ 1.14	\$ 14,820
Building Roof Insulation	3000	SF	\$ 1.75	\$ 1.92	\$ 11,010
Miscellaneous	5%				\$ 1,292
					<b>Subtotal Division 7</b>
					<b>\$ 27,122</b>
<b>Division 8 - Openings</b>					
Single Door	2	EA	\$ 2,500.00		\$ 5,000
Double Door	2	EA	\$ 4,500.00		\$ 9,000
Miscellaneous	5%				\$ 700
					<b>Subtotal Division 8</b>
					<b>\$ 14,700</b>
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
					<b>Subtotal Division 11</b>
					<b>\$ -</b>
<b>Division 21 - Fire Protection</b>					
Allowance for fire protection system	1	LS	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 1,250
					<b>Subtotal Division 21</b>
					<b>\$ 26,250</b>
<b>Division 23 - HVAC</b>					
6-ton AC unit	2	EA	\$ 8,400.00	\$ 2,520.00	\$ 21,840
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,515
					<b>Subtotal Division 23</b>
					<b>\$ 31,805</b>
<b>Division 26 - Electrical</b>					
MV SWGR 1A & 1B	2	EA	\$ 800,000.00	\$ 160,000.00	\$ 1,760,000
Transfer Control Cabinet	1	EA	\$ 100,000.00	\$ 30,000.00	\$ 130,000
MCC-1	1	EA	\$ 85,000.00	\$ 20,000.00	\$ 105,000
500 kVA Pad Mounted Transformers	2	EA	\$ 30,000.00	\$ 40,000.00	\$ 100,000
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 90,000.00	\$ -	\$ 90,000
Conduit Total	1	LS	\$ 150,000.00	\$ -	\$ 150,000
Lighting and Receptacles Total	2200	EA	\$ 15.00	\$ -	\$ 33,000



**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 90**  
**Facility Description: General Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
2750 KW GEN SET	1	EA	\$1,500,000.00	\$200,000.00	\$ 1,700,000
Load Bank	1	EA	\$200,000.00	\$30,000.00	\$ 230,000
TX1A/B 5kV Feeders (Main Elec Bldg)	1	LS	\$20,000.00	\$10,000.00	\$ 30,000
TX2A/B 5kV Feeders (Influent Lift Station)	1	LS	\$190,000.00	\$40,000.00	\$ 230,000
TX3A/B 5kV Feeders (Blower Bldg)	1	LS	\$60,000.00	\$20,000.00	\$ 80,000
TX4A/B 5kV Feeders (RAS/WAS)	1	LS	\$125,000.00	\$30,000.00	\$ 155,000
TX5A/B 5kV Feeders (Solids)	1	LS	\$35,000.00	\$10,000.00	\$ 45,000
Bluebonnet Transformer Secondary Fdrs DB	150	EA	\$400.00	\$0.00	\$ 60,000
Bluebonnect Contribution in Aid of Construction	1	LS	\$200,000.00	\$0.00	\$ 200,000
			Subtotal Division 26		\$ 2,730,000
<b>Subtotal This Facility</b>					<b>\$ 2,730,000</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 992,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 82,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 492,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,296,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 95**  
**Facility Description: SCADA**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
<b>Control Room</b>					
Servers	3	EA	\$ 20,000.00	\$ 10,000.00	\$ 70,000
Software	1	LS	\$ 100,000.00	\$ 10,000.00	\$ 110,000
Work Stations	2	EA	\$ 20,000.00	\$ 5,000.00	\$ 45,000
Network Enclosure	1	EA	\$ 30,000.00	\$ 10,000.00	\$ 40,000
UPS	1	EA	\$ 25,000.00	\$ 5,000.00	\$ 30,000
PLC	1	EA	\$ 20,000.00	\$ 10,000.00	\$ 30,000
Testing	1	EA		\$ 40,000.00	\$ 40,000
Spare Parts	1	EA	\$ 20,000.00		\$ 20,000
Training	1	LS	\$ 15,000.00		\$ 15,000
Miscellaneous	1	EA	\$ 10,000.00		\$ 10,000
Fiber 24 strand	5000		\$ 4.00	\$ 20,000.00	\$ 40,000
Miscellaneous	0%				\$ -
Subtotal Division 26					<b>\$ 450,000</b>
<b>Division 27 - Communication</b>					
Fiber loop allowance	0	LS	\$ 250,000.00		\$ -
Main PLCs (Operations, Main Elec, ILS, Blower, RAS/WAS, UV, Dewatering)	0	EA	\$ 50,000.00		\$ -
Miscellaneous	5%				\$ -
Subtotal Division 27					<b>\$ -</b>
<b>Division 28 - Electronic Safety &amp; Security</b>					
Allowance for site security, access, etc.	1	LS	\$ 400,000.00		\$ 400,000
Allowance for cameras, controls, etc.	1	LS	\$ 150,000.00		\$ 150,000
Miscellaneous	0%				\$ -
Subtotal Division 28					<b>\$ 550,000</b>
<b>Division 40 - Process Integration</b>					
System Integration/Programming	1	LS		\$380,000	\$ 380,000
Miscellaneous	0%				\$ -
Subtotal Division 40					<b>\$ 380,000</b>
<b>Subtotal This Facility</b>					<b>\$ 1,380,000</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 502,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 42,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 249,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,173,000</b>

# GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design

City of Pflugerville

19W07191

10/24/2022

## 1. Lump Sum Work (Facilities or Areas)

\$ Total

<a href="#">03</a> Demolition and Erosion Control	\$168,000
<a href="#">04</a> Grading, Paving, Storm Water Detention	\$6,806,000
<a href="#">05</a> Yard Piping	\$11,813,000
<a href="#">06</a> Site Electrical	\$5,746,000
<a href="#">07</a> Landscaping and Irrigation	\$959,000
<a href="#">09</a> Civil Yard Structures	\$731,000
<a href="#">10</a> Influent Lift Station #1	\$7,784,000
<a href="#">12</a> Headworks #1	\$6,849,000
<a href="#">13</a> Influent Foul Air Facility #1	\$1,488,000
<a href="#">14</a> ILS/HW Electrical Building #1	\$3,964,000
<a href="#">30</a> Aeration Basin Splitter Box	(removed)
<a href="#">31</a> Aeration Basins	\$14,738,000
<a href="#">38</a> Blower Facility #1	\$8,040,000
<a href="#">40</a> Mixed Liquor Splitter Box	\$794,000
<a href="#">45</a> Secondary Clarifiers	\$10,830,000
<a href="#">46</a> RAS/WAS Pump Station	\$4,206,000
<a href="#">50</a> Filters	\$5,512,000
<a href="#">53</a> UV Disinfection	\$4,092,000
<a href="#">54</a> UV Electrical Building #1	\$1,926,000
<a href="#">55</a> Effluent Facility	\$1,920,000
<a href="#">56</a> Non-Potable Water System	\$821,000
<a href="#">60</a> Chemical Feed Facility	\$1,857,000
<a href="#">70</a> Aerated Sludge Storage and Mixing	\$3,191,000
<a href="#">72</a> Biosolids Handling Building	\$9,269,000
<a href="#">85</a> Operations & Laboratory Building	\$2,058,000
<a href="#">86</a> Maintenance and Storage Building	\$1,054,000
<a href="#">88</a> Main Plant Electrical Building #1	\$5,183,000
<a href="#">90</a> General Electrical	\$3,898,000
<a href="#">95</a> SCADA	\$2,490,000

Total Estimated Lump Sum Work \$128,187,000

## 2. Additive and Deductive Alternates

\$ Total

Subtotal Estimated Deductive Alternatives

\$0

3. Cash Allowances for Products & Services		\$ Total
Cash Allowance for Construction Changes	3%	\$3,850,000
Subtotal for Cash Allowance Items		\$3,850,000
4. Allowance for Project Escalation		\$ Total
Escalation of Cost to Midpoint Construction (May 2022 now; 9 Months to Bidding, 50% of 2.5 yr construction midpoint)	Basis of Escalation 2 Years @ 7.0%	\$128,187,000 \$18,570,000
5. Costs Independent of Construction Contract		\$ Total
3-Phase Power Establishment to Site		\$1,400,000
Building Furnishings		\$130,000
Equipment and Tools		\$520,000
Allowance for Independent Testing during Construction		TBD
Allowances for Water Procurement		TBD
Allowances for Startup Chemicals		TBD
Weiss Lift Station and Sewer Interceptor		TBD
Subtotal for Costs Independent of Construction Contract		\$3,000,000
Construction Contract Costs, Complete with Facilities, Alternates, Cash Allowances, and Escalation	(1 + 2 + 3 + 4)	\$150,600,000
Complete Project, with Alternates, Allowance, Escalation, and Costs Independent of Contract	(1 + 2 + 3 + 4 + 5)	\$153,600,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 3**  
**Facility Description: Demolition and Erosion Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Demolition	1	LS	\$ -	\$ 52,500.00	\$ 52,500
Erosion Control	1	LS	\$ 52,500.00	\$ -	\$ 52,500
Miscellaneous	5%			\$	5,250
Subtotal Division 2					<b>\$ 110,250</b>
<b>Subtotal This Facility</b>					<b>\$ 110,250</b>
Contingency				20%	\$ 28,000
Mobilization				5%	\$ 6,000
Contractor's Overhead and Profit				20%	\$ 23,000
<b>Total Estimated Facility Costs</b>					<b>\$ 168,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 4**  
**Facility Description: Grading, Paving, Storm Water Detention**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	68,756	CY		\$ 8.00	\$ 550,048
Fill	50,725	CY		\$ 12.00	\$ 608,700
Subgrade Preparation	27,496	SY		\$ 25.00	\$ 687,400
Base Material	4,705	CY	\$ 69.00		\$ 324,645
Miscellaneous	5%				\$ 108,540
Subtotal Division 31					<b>\$ 2,279,333</b>
<b>Division 32 - Exterior Improvements</b>					
Heavy Duty Reinforced Concrete Pavement (8")	21,266	SY	\$ 50.00		\$ 1,063,300
Medium Duty Reinforced Concrete Pavement (6")	6,230	SY	\$ 110.00		\$ 685,300
Asphalt Concrete Pavement (4")	759	SY	\$ 54.00		\$ 40,986
Chain Link Fence and Gate	7,600	LF	\$ 40.00		\$ 304,000
Sliding Entrance Gate	1	EA	\$ 10,000.00		\$ 10,000
Concrete Sidewalk (5")	700	SY	\$ 65.00		\$ 45,500
Miscellaneous	5%				\$ 107,454
Subtotal Division 32					<b>\$ 2,256,540</b>
<b>Subtotal This Facility</b>					<b>\$ 4,535,873</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 1,135,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 227,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 908,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,806,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 33 - Utilities</b>					
<b>Potable Water System</b>					
12" DI Pipe	2040	LF	\$ 112.63	\$ 33.79	\$ 298,695
12" x 4" Tee	1	EA	\$ 549.00	\$ 164.70	\$ 714
12" x 6" Reducer	0	EA	\$ 358.00	\$ 107.40	\$ -
12" x 6" Tee	2	EA	\$ 608.00	\$ 182.40	\$ 1,581
12" 45 Bend	5	EA	\$ 523.00	\$ 156.90	\$ 3,400
Tapping Sleeve with Valve	0	EA	\$ 11,331.00	\$ 3,399.30	\$ -
12" Blind Flange	1	EA			
6" DI Pipe	195	LF	\$ 59.00	\$ 17.70	\$ 14,957
4" DI Pipe	845	LF	\$ 68.00	\$ 20.40	\$ 74,698
4" x 2" Tee	2	EA	\$ 150.00	\$ 45.00	\$ 390
4" x 4" Tee	0	EA	\$ 152.00	\$ 45.60	\$ -
4" x 2" Reducer	1	EA	\$ 100.00	\$ 30.00	\$ 130
4" 90 Bend	1	EA	\$ 114.00	\$ 34.20	\$ 148
4" 45 Bend	2	EA			
4" x 3" Reducer	2	EA			
4" x 3" Tee	1	EA			
2" SCH 80 Pipe	305	LF	\$ 20.00	\$ 6.00	\$ 7,930
2" 45 Bend	2	EA	\$ 100.00	\$ 30.00	\$ 260
2" 90 Bend	2	EA	\$ 100.00	\$ 30.00	\$ 260
2" x 2" Tee	0	EA	\$ 100.00	\$ 30.00	\$ -
Fire Hydrant Assembly	3	EA	\$ 8,000.00	\$ 2,400.00	\$ 31,200
3" --- Pipe	295	LF			
3" x 2" Tee	1	EA			
2" Plug	1	EA			
6" --- Valve	1	EA			
2" Gate Valve	1	EA			
<b>Non Potable Water System</b>					
Yard Hydrant Assembly	0	EA	\$ 170.00	\$ 51.00	\$ -
8" DI Pipe	1875	LF	\$ 75.69	\$ 22.71	\$ 184,494
8" Tee	3	EA	\$ 384.00	\$ 115.20	\$ 1,498
8" x 4" Tee	2	EA	\$ 267.00	\$ 80.10	\$ 694
8" x 6" Tee	5	EA	\$ 324.00	\$ 97.20	\$ 2,106
8" x 6" Reducer	1	EA	\$ 172.00	\$ 51.60	\$ 224
8" x 4" Reducer	3	EA	\$ 161.00	\$ 48.30	\$ 628
8" 90 Bend	1	EA	\$ 262.00	\$ 78.60	\$ 341
8" 45 Bend	12	EA	\$ 209.00	\$ 62.70	\$ 3,260
8" Gate Valve	2	EA	\$ 2,602.00	\$ 780.60	\$ 6,765
8" x 2" Tapping Sleeve	0	EA	\$ 1,600.00	\$ 480.00	\$ -
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 51.00	\$ 221
6" DI Pipe	1380	LF	\$ 58.90	\$ 17.67	\$ 105,667
6" x 2" Tapping Saddle	1	EA	\$ 1,300.00	\$ 390.00	\$ 1,690
6" 90 Bend	6	EA	\$ 180.00	\$ 54.00	\$ 1,404
6" 45 Bend	6	EA	\$ 148.00	\$ 44.40	\$ 1,154
6" Gate Valve	1	EA	\$ 1,608.00	\$ 482.40	\$ 2,090
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 51.00	\$ 221
4" DI Pipe	1630	LF	\$ 67.28	\$ 20.18	\$ 142,566
4" Tee	5	EA	\$ 152.00	\$ 45.60	\$ 988
4" x 2" Tapping Saddle	0	EA	\$ 1,000.00	\$ 300.00	\$ -
4" 90 Bend	3	EA	\$ 114.00	\$ 34.20	\$ 445
4" Gate Valve	1	EA	\$ 897.00	\$ 269.10	\$ 1,166
4" Cap	1	EA	\$ 54.00	\$ 16.20	\$ 70
Yard Hydrant Assembly	5	EA	\$ 170.00	\$ 51.00	\$ 1,105
2" SCH 80 PVC Pipe	2010	LF	\$ 15.00	\$ 4.50	\$ 39,195

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
2" 90 Bend	9	EA	\$ 100.00	\$ 30.00	\$ 1,170
2" 45 Bend	9	EA	\$ 86.00	\$ 25.80	\$ 1,006
2" 11.25 Bend	2	EA	\$ 50.00	\$ 15.00	\$ 130
2" Gate Valve	5	EA	\$ 430.00	\$ 129.00	\$ 2,795
6" Tee	1	EA			
6" x 2" Tee	3	EA			
2" Tee	11	EA			
6" Gate Valve	1	EA			
8" x 2" Tee	7	EA			
2" Check Valve	1	EA			
8" 22.5 Bend	2	EA			
2" 22.5 Bend	2	EA			
6" x 1" Tapping Sleeve	1	EA			
6" Isolation Valve	1	EA			
6" 22.5 Bend	2	EA			
4" x 2" Reducer	2	EA			
4" Butterfly Valve	1	EA			
4" x 2" Tee	2	EA			
4" 45 Bend	4	EA			

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Plant Drain System</b>					
30" DI Pipe	1775	LF	\$ 465.35	\$ 139.61	\$ 1,073,795
30" x 12" Tee	4	EA	\$ 7,930.00	\$ 2,379.00	\$ 41,236
30" x 8" Tee	2	EA	\$ 6,667.00	\$ 2,000.10	\$ 17,334
30" x 6" Tee	1	EA	\$ 5,966.00	\$ 1,789.80	\$ 7,756
30" x 4" Tee	2	EA	\$ 5,265.00	\$ 1,579.50	\$ 13,689
30" x 8" WYE	0	EA	\$ 14,000.00	\$ 4,200.00	\$ -
Process Unit Drain Connection	2	EA	\$ 10,900.00	\$ 3,270.00	\$ 28,340
18" DI Pipe	770	LF	\$ 199.76	\$ 59.93	\$ 199,960
18" x 12" Tee	2	EA	\$ 2,188.00	\$ 656.40	\$ 5,689
18" x 8" Tee	4	EA			
18" x 6" Tee	4	EA			
12" DI Pipe	1230	LF	\$ 75.69	\$ 656.40	\$ 5,689
12" x 12" Tee	1	EA			
12" x 8" Tee	5	EA			
12" x 4" Tee	2	EA			
12" x 12" WYE	12	EA			
12" 45 Bend	3	EA			
8" DI Pipe	760	LF	\$ 75.69	\$ 22.71	\$ 74,782
8" x 8" Tee	0	EA	\$ 384.00	\$ 115.20	\$ -
8" x 8" WYE	0	EA	\$ 680.00	\$ 204.00	\$ -
8" 90 Bend	0	EA	\$ 262.00	\$ 78.60	\$ -
8" 45 Bend	0	EA	\$ 209.00	\$ 62.70	\$ -
Cleanout	13	EA	\$ 1,680.00	\$ 504.00	\$ 28,392
6" DI Pipe	420	LF	\$ 58.90	\$ 17.67	\$ 32,159
6" x 6" WYE	7	EA			
6" 90 Bend	1	EA	\$ 180.00	\$ 54.00	\$ 234
6" 22.5 Bend	2	EA	\$ 135.00	\$ 40.50	\$ 351
6" 11.25 Bend	2	EA			
4" DI Pipe	710	LF	\$ 67.28	\$ 20.18	\$ 62,099
4" x 4" Tee	2	EA	\$ 152.00	\$ 45.60	\$ 395
4" 90 Bend	1	EA	\$ 114.00	\$ 34.20	\$ 148
4" 45 Bend	1	EA			
4" 11.25 Bend	2	EA			
96" Manhole	8	EA	\$ 25,000.00	\$ 7,500.00	\$ 260,000
48" Manhole	6	EA	\$ 6,000.00	\$ 1,800.00	\$ 46,800
<b>Chemical</b>					
2" CPVC	850	LF	\$ 10.00	\$ 3.00	\$ 11,050
2" 90 Bend	3	EA	\$ 100.00	\$ 30.00	\$ 390
2" 11.25 Bend	2	EA	\$ 100.00	\$ 30.00	\$ 260
2" Tee	1	EA	\$ 100.00	\$ 30.00	\$ 130
1/2" CPVC	310	LF	\$ 2.00	\$ 0.60	\$ 806
1/2" 90 Bend	5	EA	\$ 75.00	\$ 22.50	\$ 488
4" PVC	735	LF			
2" PVC	310	LF			
3/4" CPVC	235	LF			
1" CPVC	500	LF			
Miscellaneous	5%				\$ 142,471
Subtotal Division 33					<b>\$ 2,991,898</b>

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
<b><u>Interceptor to Influent Lift Stations</u></b>					
78" FRP Pipe	85	LF	\$ 1,024.00	\$ 307.20	\$ 113,152
<b><u>Headworks to Aeration Basin</u></b>					
30" DI Pipe	565	LF	\$ 465.35	\$ 139.61	\$ 341,800
30" 90 Bend	2	EA	\$ 8,885.00	\$ 2,665.50	\$ 23,101
30" 45 Bend	2	EA	\$ 7,049.00	\$ 2,114.70	\$ 18,327
30" 11.25 Bend	2	EA	\$ 5,417.00	\$ 1,625.10	\$ 14,084
30"x18" Tee	1	EA	\$ 9,226.50	\$ 2,767.95	\$ 11,994
<b><u>Aeration Basin to MLSS Splitter Box</u></b>					
42" DI Pipe	145	LF	\$ 755.20	\$ 226.56	\$ 142,355
42" 90 Bend	1	EA	\$ 23,624.00	\$ 7,087.20	\$ 30,711
36" DI Pipe	45	LF	\$ 603.89	\$ 181.17	\$ 35,328
36" 90 Bend	1	EA	\$ 13,189.00	\$ 3,956.70	\$ 17,146
36" Blind Flange	1	EA	\$ 9,303.00	\$ 2,790.90	\$ 12,094
<b><u>MLSS Splitter Box to Secondary Clarifiers 1 &amp; 2</u></b>					
36" DI Pipe	470	LF	\$ 603.89	\$ 181.17	\$ 368,977
36" 90 Bend	1	EA	\$ 13,189.00	\$ 3,956.70	\$ 17,146
36" 45 Bend	5	EA	\$ 10,843.00	\$ 3,252.90	\$ 70,480
36" 22.5 Bend	2	EA	\$ 9,170.00	\$ 2,751.00	\$ 23,842
<b><u>Secondary Clarifiers 1 &amp; 2 to Pump Station</u></b>					
18" DI Pipe	115	LF	\$ 199.76	\$ 59.93	\$ 29,864
18" 45 Bend	3	EA	\$ 1,523.00	\$ 456.90	\$ 5,940
18" 90 Bend	2	EA	\$ 2,051.00	\$ 615.30	\$ 5,333
<b><u>Pump Station to Aeration Basin</u></b>					
18" DI Pipe	480	LF	\$ 199.76	\$ 59.93	\$ 124,650
18" 45 Bend	5	EA	\$ 1,523.00	\$ 456.90	\$ 9,900
18" 22.5 Bend	2	EA	\$ 1,660.00	\$ 498.00	\$ 4,316
18" Isolation Valve	1	EA	\$ 9,900.00	\$ 2,970.00	\$ 12,870
36" x 18" Tee	1	EA	\$ 13,925.00	\$ 4,177.50	\$ 18,103
18" x 18" Tee	1	EA	\$ 3,731.00	\$ 1,119.30	\$ 4,850
<b><u>Pump Station to ASHT</u></b>					
6" DI Pipe	835	LF	\$ 58.90	\$ 17.67	\$ 63,936
6" Tee	1	EA	\$ 259.00	\$ 77.70	\$ 337
6" 90 Bend	1	EA	\$ 180.00	\$ 54.00	\$ 234
6" 45 Bend	7	EA	\$ 148.00	\$ 44.40	\$ 1,347
6" 22.5 Bend	3	EA	\$ 135.00		
<b><u>Secondary Clarifier 1 &amp; 2 to Filter</u></b>					
36" DI Pipe	290	LF	\$ 603.99	\$ 181.20	\$ 227,704
36" 22.5 Bend	0	EA	\$ 9,170.00	\$ 2,751.00	\$ -
36" 45 Bend	2	EA	\$ 10,843.00	\$ 3,252.90	\$ 28,192
36" Tee	1	EA	\$ 58,094.00	\$ 17,428.20	\$ 75,522
48" x 36" Reducer	1	EA	\$ 35,790.00	\$ 10,737.00	\$ 46,527
48" Pipe	485	LF	\$ 1,023.26	\$ 306.98	\$ 645,165
48" 90 Bend	1	EA	\$ 31,501.00	\$ 9,450.30	\$ 40,951
48" 45 Bend	2	EA	\$ 21,788.00	\$ 6,536.40	\$ 56,649
48" Isolation Valves	0	EA	\$ 60,000.00	\$ 18,000.00	\$ -
<b><u>Filters to UV Disinfection</u></b>					
36" DI Pipe	45	LF	\$ 603.89	\$ 181.17	\$ 35,328
<b><u>UV to Outfall</u></b>					
48" DI Pipe	1025	LF	\$ 1,023.26	\$ 306.98	\$ 1,363,494
48" 45 Bend	1	EA	\$ 21,788.00	\$ 6,536.40	\$ 28,324

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Stormwater Collection System</u></b>					
42" RCP	1310	LF	\$ 160.00	\$ 48.00	\$ 272,480
36" RCP	470	LF			
30" RCP	260	LF			
24" RCP	765	LF			
Stormwater Inlet	12	EA	\$ 8,774.12	\$ 2,632.24	\$ 136,876
Stormwater Junction Boxes	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
<b><u>Stormwater Pond to Outfall</u></b>					
42" RCP	785	LF	\$ 160.00	\$ 48.00	\$ 163,280
96" Manhole	0	EA	\$ 25,000.00	\$ 7,500.00	\$ -
Miscellaneous	5%				\$ 232,525
			Subtotal Division 40		\$ <b>4,883,033</b>
<b>Subtotal This Facility</b>					\$ <b>7,874,931</b>
<b>Contingency</b>				<b>20%</b>	\$ <b>1,969,000</b>
<b>Mobilization</b>				<b>5%</b>	\$ <b>394,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	\$ <b>1,575,000</b>
<b>Total Estimated Facility Costs</b>					\$ <b>11,813,000</b>

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**Facility Number: 6**  
**Facility Description: Site Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
TX1A/B 5kV Feeders (Main Elec Bldg)	1	EA	\$20,000.00	\$4,000	\$ 24,000
TX2A/B 5kV Feeders (Influent Lift Station)	1	EA	\$240,000.00	\$48,000	\$ 288,000
TX3A/B 5kV Feeders (Blower Bldg)	1	EA	\$55,000.00	\$11,000	\$ 66,000
TX4A/B 5kV Feeders (RAS/WAS)	1	EA	\$125,000.00	\$25,000	\$ 150,000
TX5A/B 5kV Feeders (UV/ Filters)	1	EA	\$35,000.00	\$7,000	\$ 42,000
TX6A/B 5kV Feeders (Solids)	1	EA	\$85,000.00	\$17,000	\$ 102,000
Site Lighting	40	EA	\$6,400	\$1,280	\$ 307,200
5KV Manholes	19	LS	\$25,000	\$5,000	\$ 570,000
480V Manholes	8	LS	\$20,000	\$4,000	\$ 192,000
Communication Manholes	16	LS	\$15,000	\$3,000	\$ 288,000
Fiber Ductbank	1	LS	\$275,000	\$55,000	\$ 330,000
Security Conduit	1	LS	\$340,000	\$68,000	\$ 408,000
480V Ductbank	1	LS	\$350,000	\$70,000	\$ 420,000
5KV Ductbank	1	LS	\$535,000	\$107,000	\$ 642,000
<b>Subtotal This Facility</b>					<b>\$ 3,829,200</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 958,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 192,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 766,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,746,000</b>

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**Facility Number: 7**  
**Facility Description: Landscaping and Irrigation**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching	160	AC	\$ 2,500.00		\$ 400,000
Landscape Irrigation System Piping	3200	LF	\$ 35.00	\$ 10.50	\$ 145,600
Fittings	1	LS	\$ 14,560.00	\$ 4,368.00	\$ 18,928
Trees	48	EA	\$ 700.00	\$ 210.00	\$ 43,680
<i>Miscellaneous</i>	5%				\$ 30,410
			Subtotal Division 32		<b>\$ 638,618</b>
<b>Subtotal This Facility</b>					<b>\$ 638,618</b>
<b>Contingency</b>					<b>20% \$ 160,000</b>
<b>Mobilization</b>					<b>5% \$ 32,000</b>
<b>Contractor's Overhead and Profit</b>					<b>20% \$ 128,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 959,000</b>

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**Facility Number: 9**  
**Facility Description: Civil Yard Structures**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Outfall Discharge Headwall Structure</u></b>					
Concrete Base Slab	44	CY	\$ 400.00		\$ 17,600
Concrete Freestanding Wall	30	CY	\$ 800.00		\$ 24,000
<b><u>Flowmeter Vault</u></b>					
Concrete Base Slab	14	CY	\$ 400.00		\$ 5,600
Concrete Freestanding Wall	16	CY	\$ 800.00		\$ 12,800
Concrete Elevated Slab	3	CY	\$ 1,200.00		\$ 3,600
Concrete Deep Foundations	160	LF	\$ 100.00		\$ 16,000
Void Forms	182	SF	\$ 15.00		\$ 2,730
<b><u>Hydraulic Drop Box</u></b>					
Concrete Base Slab	53	CY	\$ 400.00		\$ 21,200
Concrete Freestanding Wall	61	CY	\$ 800.00		\$ 48,800
Concrete Elevated Slab	12	CY	\$ 1,200.00		\$ 14,400
Concrete Deep Foundations	200	LF	\$ 100.00		\$ 20,000
Void Forms	404	SF	\$ 15.00		\$ 6,060
<b><u>Stormwater Detention Box</u></b>					
Concrete Base Slab	5	CY	\$ 400.00		\$ 2,000
Concrete Freestanding Wall	12	CY	\$ 800.00		\$ 9,600
Concrete Elevated Slab	4	CY	\$ 1,200.00		\$ 4,800
Concrete Deep Foundations	40	LF	\$ 100.00		\$ 4,000
Void Forms	81	SF	\$ 15.00		\$ 1,215
Miscellaneous	5%				\$ 8,640
Subtotal Division 3					<b>\$ 223,045</b>
<b>Division 31 - Earthwork</b>					
<b><u>Hydraulic Drop Box</u></b>					
Excavation	3,020	CY		\$ 15.00	\$ 45,300
Fill	2,660	CY	\$ 20.00		\$ 53,200
<b><u>Outfall Structure &amp; Effluent Discharge Drop Box</u></b>					
Excavation	1,291	CY		\$ 15.00	\$ 19,365
Fill	940	CY	\$ 20.00		\$ 18,800
Allowance for Groundwater Control at Effluent Box Structure	1	LS	\$ 75,000.00		\$ 75,000
<b><u>Flowmeter Vault</u></b>					
Excavation	728	CY		\$ 15.00	\$ 10,920
Fill	645	CY	\$ 20.00		\$ 12,900
<b><u>Stormwater Detention Box</u></b>					
Excavation	430	CY		\$ 15.00	\$ 6,450
Fill	402	CY	\$ 20.00		\$ 8,040
Miscellaneous	5%				\$ 12,499
Subtotal Division 31					<b>\$ 262,474</b>

**Facility Number: 9**  
**Facility Description: Civil Yard Structures**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					<b>\$ 485,519</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 122,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 25,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 98,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 731,000</b>

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**Facility Number: 10**  
**Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	300	CY	\$ 400.00		\$ 119,881
Concrete Freestanding Wall	1197	CY	\$ 800.00		\$ 957,956
Concrete Elevated Slab	137	CY	\$ 1,200.00		\$ 164,489
Drilled Shaft Deep Foundation	840	LF	\$ 100.00		\$ 84,000
Void Forms	2100	SF	\$ 15.00		\$ 31,500
Grade Beams	57	CY	\$ 400.00		\$ 22,607
Miscellaneous	5%				\$ 69,022
			Subtotal Division 3		\$ <b>1,449,455</b>
<b>Division 5 - Metals</b>					
Pump Guide Rails	660	LF	\$30	\$ 30	\$ 39,600
Access Hatches	13	EA	\$3,000		\$ 39,000
Steel Monorail Framing	9450	LB	\$ 3.00	\$ 0.90	\$ 36,855
Galvanizing	9450	LB	\$ 1.00	\$ 0.30	\$ 12,285
Miscellaneous	5%				\$ 6,387
			Subtotal Division 5		\$ <b>134,127</b>
<b>Division 9 - Finishes</b>					
Piping Coatings	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Miscellaneous	5%				\$ 1,950
			Subtotal Division 9		\$ <b>40,950</b>
<b>Division 11 - Equipment</b>					
Monorail Crane - 5 ton	1	EA	\$ 37,000.00	\$ 11,100.00	\$ 48,100
Miscellaneous	5%				\$ 2,405
			Subtotal Division 11		\$ <b>50,505</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 180,000.00	\$ 36,000.00	\$ 216,000
Conduit Total	1	LS	\$ 80,000.00	\$ 16,000.00	\$ 96,000
Lighting	1	EA	\$ 35,000.00	\$ 7,000.00	\$ 42,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 19,000.00	\$ 114,000
Grounding Total	1	LS	\$ 35,000.00	\$ 7,000.00	\$ 42,000
<b>Instruments</b>					
Magnetic Flow Meters 36"	2	EA	\$ 25,000	\$ 10,000	\$ 60,000
Magnetic Flow Meters 12"	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
LSH Floats	2	EA	\$ 600	\$ 240	\$ 1,440
Submersible Level Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Pressure Indicator	10	EA	\$ 2,500	\$ 5,000	\$ 30,000
Level Indicator	2	EA	\$ 1,500	\$ 600	\$ 3,600
Annular Diaphragms	4	EA	\$ 1,000	\$ 800	\$ 4,800
Miscellaneous	5%				\$ 31,812
			Subtotal Division 26		\$ <b>668,052</b>

Facility Number: 10						
Facility Description: Influent Lift Station #1						
Description	Qty	Unit	Unit Cost	Labor	Total Cost	
<b>Division 31 - Earthwork</b>						
Shored Excavation	5066	SF	\$ 50.00		\$	253,300
Excavation	12300	CY		\$ 15.00	\$	184,500
Fill	5100	CY	\$ 20.00		\$	102,000
Miscellaneous	5%				\$	26,990
			Subtotal Division 31		\$	<b>566,790</b>
<b>Division 40 - Process Integration</b>						
Influent Lift Pumps - 3 MGD	2	EA	\$ 120,000	\$ 18,000.00	\$	276,000
Influent Lift Pumps - 12 MGD	3	EA	\$ 240,000	\$ 36,000.00	\$	828,000
Pump Discharge Piping	1	LS	\$550,000		\$	550,000
Pump Discharge Check Valves (12")	2	LS	\$ 11,000.00		\$	22,000
Pump Discharge Check Valves (24")	3	LS	\$ 30,000.00		\$	90,000
Pump Discharge Isolation Valves (12")	3	EA	\$ 6,000.00		\$	18,000
Pump Discharge Isolation Valves (24")	3	EA	\$ 24,000.00		\$	72,000
Sludge Gates	1	LS	\$ 210,000		\$	210,000
Pump Discharge ARVs	8	EA	\$ 5,000.00		\$	40,000
Piping Supports	1	LS	\$ 30,000		\$	30,000
Odor Control Duct Work	170	LF	\$ 145.00	\$ 43.50	\$	32,045
Odor Control Dampers	5	EA	\$ 220.00	\$ 66.00	\$	1,430
Miscellaneous	5%				\$	108,474
			Subtotal Division 40		\$	<b>2,277,949</b>
<b>Subtotal This Facility</b>					\$	<b>5,187,828</b>
<b>Contingency</b>				<b>20%</b>	\$	<b>1,298,000</b>
<b>Mobilization</b>				<b>5%</b>	\$	<b>260,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	\$	<b>1,038,000</b>
<b>Total Estimated Facility Costs</b>					\$	<b>7,784,000</b>

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**Facility Number: 12**  
**Facility Description: Headworks #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Headworks Concrete</b>					
Concrete Base Slab	470	CY	\$ 400.00		\$ 187,956
Concrete Support Columns	35	CY	\$ 800.00		\$ 28,000
Inlet Box Walls	134	CY	\$ 800.00		\$ 107,407
Effluent Box Walls	82	CY	\$ 800.00		\$ 65,837
Channel Area Elevated Slab	165	CY	\$ 1,200.00		\$ 198,222
U Channel Elevated Flat Slab on Bypass	2	CY	\$ 1,200.00		\$ 2,667
Grit Area Elevated Slab	108	CY	\$ 1,200.00		\$ 129,022
Screenings Channel Walls	159	CY	\$ 800.00		\$ 127,496
Grit Channel Walls	109	CY	\$ 800.00		\$ 87,556
Vortex Chamber Walls	59	CY	\$ 800.00		\$ 47,141
Screen area elevated Walkways between Channels	35	CY	\$ 1,200.00		\$ 42,267
Grit Area Elevated Walkways between channels; mixer motor access and support	9	CY	\$ 1,200.00		\$ 10,400
Controlled Low Strength Matierial Fill	5	CY	\$ 85.00		\$ 447
Grout	6	CY	\$ 200.00		\$ 1,289
Compacted Sand	252	CY	\$ 30.00		\$ 7,567
Upper Level Parapet Walls (42" tall around structure)	28	CY	\$ 800.00		\$ 22,015
Equipment Pads at Grit Pumps	21	CY	\$ 400.00		\$ 8,474
Equipment Pad at Grit Washer/Classifier	13	CY	\$ 400.00		\$ 5,081
Void Forms	6160	SF	\$ 15.00		\$ 92,400
Grade Beams	103	CY	\$ 400.00		\$ 41,037
<b>Headworks Deep Foundation</b>					
Drilled Shaft Deep Foundation	1400	LF	\$ 100.00		\$ 140,000
Miscellaneous	5%				\$ 67,614
Subtotal Division 3					<b>\$ 1,419,895</b>
<b>Division 5 - Metals</b>					
<b>Stairs</b>					
Stairs	50	Riser	\$ 600.00	\$ 180.00	\$ 39,000
Aluminum channel covers	2177	SF	\$ 60.00	\$ 18.00	\$ 169,806
Aluminum Plate Supports	2415	LF	\$ 10.00	\$ 3.00	\$ 31,400
<b>Metal Canopy</b>					
Roof Deck	2560	SF	\$ 15.00	\$ 4.50	\$ 49,920
Metal Wall	1681	SF	\$ 15.00	\$ 4.50	\$ 32,780
Steel Framing	16806	LF	\$ 3.00	\$ 0.90	\$ 65,543
Galvanizing	16806	LF	\$ 1.00	\$ 0.30	\$ 21,848
Bollards	36	EA	\$ 500.00		\$ 18,000
Miscellaneous	5%				\$ 20,515
Subtotal Division 5					<b>\$ 448,811</b>
<b>Division 9 - Coatings</b>					
Channel - Heavy Corrosion Lining	1	LS	\$ 75,000.00		\$ 75,000
System 19	7000	SF	\$ 7.00		\$ 49,000
Allowance for Piping Coatings	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 7,700
Subtotal Division 9					<b>\$ 161,700</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 145,000.00	\$ 29,000.00	\$ 174,000
Conduit Total	1	LS	\$ 88,000.00	\$ 17,600.00	\$ 105,600
Lighting	1	EA	\$ 120,000.00	\$ 24,000.00	\$ 144,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 12,000.00	\$ 72,000
Grounding Total	1	LS	\$ 40,000.00	\$ 8,000.00	\$ 48,000
Miscellaneous	5%				\$ 27,180
Subtotal Division 26					<b>\$ 570,780</b>

**Facility Number: 12**  
**Facility Description: Headworks #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	2520	CY		\$ 15.00	\$ 37,800
Fill	2036	CY	\$ 20.00		\$ 40,720
Miscellaneous	5%				\$ 3,926
Subtotal Division 31					<b>\$ 82,446</b>
<b>Division 40 - Process Integration</b>					
Screen Package (2 Screens, 2 compactors, 4 Panels)	1	LS	\$ 540,000.00	\$ 162,000.00	\$ 702,000
SS 316 Custom Drop Chutes for Screenings	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Manual Bar Screen	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Grit System (1 vortex system, 2 pumps, 1 washer, 1 concentrator, plc panel)	1	LS	\$ 310,000.00	\$ 93,000.00	\$ 403,000
Stainless steel slide gates	10	EA	\$ 22,000.00	\$ 6,600.00	\$ 286,000
Isolation valves (36")	2	EA	\$ 38,000.00		\$ 76,000
Isolation valve (12")	1	EA	\$ 5,844.00	\$ 1,753.20	\$ 7,597
<b>Allowance for piping &amp; Valves</b>					
Influent and Effluent Piping Allowance (36" Inlet x2 (one capped), 12" Inlet x1, 30" Outlet, 48" Outlet-capped)	1	LS	\$ 30,000.00		\$ 30,000
Allowance for Drain Piping + Valves	1	LS	\$ 65,000.00		\$ 65,000
Allowance for Grit Piping (Glass Lined)	1	LS	\$ 50,000.00		\$ 50,000
Allowance for NPW Piping	1	LS	\$ 15,000.00		\$ 15,000
NPW Wash Hose Station (2 at upper level, 2 at lower level)	4	EA	\$ 1,500.00		\$ 6,000
Weir plates at Bypass Channel	3	EA	\$ 2,500.00		\$ 7,500
Odor Control Duct Work	450	LF	\$ 145.00	\$ 43.50	\$ 84,825
Odor Control Dampers	11	EA	\$ 100.00	\$ 30.00	\$ 1,430
Miscellaneous	5%				\$ 89,578
Subtotal Division 40					<b>\$ 1,881,130</b>
<b>Subtotal This Facility</b>					<b>\$ 4,564,762</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 1,142,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 229,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 913,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,849,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 13**  
**Facility Description: Influent Foul Air Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>ILS Odor Control Unit Main Basin</b>					
Concrete Base Slab	133	CY	\$ 400.00		\$ 53,200
Concrete Grade Beam	39	CY	\$ 400.00		\$ 15,600
Concrete Freestanding Walls	95	CY	\$ 800.00		\$ 76,000
Concrete Elevated Slab	7	CY	\$ 1,200.00		\$ 8,400
Drilled Pier Deep Foundation	640	LF	\$ 100.00		\$ 64,000
Void Forms	2,208	SF	\$ 15.00		\$ 33,120
<b>ILS Odor Control Unit Blower Pad</b>					
Concrete Base Slab	24	CY	\$ 400.00		\$ 9,600
Concrete Equipment Pad	15	CY	\$ 400.00		\$ 6,000
Concrete Grade Beam	15	CY	\$ 400.00		\$ 6,000
Drilled Pier Deep Foundation	240	LF	\$ 100.00		\$ 24,000
Void Forms	542	SF	\$ 15.00		\$ 8,130
Miscellaneous	5%				\$ 15,203
Subtotal Division 3					<b>\$ 319,253</b>
<b>Division 31 - Earthwork</b>					
<b>ILS Odor Control Unit Main Basin</b>					
Excavation	2157	CY		\$ 15.00	\$ 32,355
Fill	1278	CY	\$ 20.00		\$ 25,560
<b>ILS Odor Control Unit Blower Pad</b>					
Excavation	138	CY		\$ 15.00	\$ 2,070
Fill	108	CY	\$ 20.00		\$ 2,160
Miscellaneous	5%				\$ 3,107
Subtotal Division 31					<b>\$ 65,252</b>
<b>Division 44 - Pollution Control Equipment</b>					
<p>Odor Control Biofilter (quoted package by Biorem)</p> <ol style="list-style-type: none"> <li>Concrete biofilter vessel structural design, supply and installation by others.</li> <li>Biofilter media support flooring. Material of construction to be FRP grating and I-beams.</li> <li>Humidification spray lance to be installed in the inlet ductwork.</li> <li>Engineered biofilter media, provided in loose bulk.</li> <li>Composite media support flooring.</li> <li>(1) lot of inlet ductwork between the fan and biofilter plenum, including expansion joint, damper.</li> <li>(1) 50 HP centrifugal FRP exhaust fan rated for 20,000 CFM at 8 in WC with TEFC motor. Fan static pressure allows for 2 inWC pressure loss through external ductwork.</li> <li>(1) Schedule 80 PVC manifold with matched precipitation rate nozzles for optimized coverage of biofilter media.</li> <li>(1) Control Panel</li> <li>(1) Waterbox</li> <li>Instrumentation and fluid control valves external to waterbox</li> <li>Winterization system</li> <li>Engineering submittal packages</li> <li>Operation and Maintenance manuals</li> <li>Field services</li> <li>Redundant Blower</li> </ol>					
	1	LS	\$ 485,000.00	\$ 48,500.00	\$ 533,500
	1	LS	\$ 40,000.00	\$ 4,000.00	\$ 44,000
Miscellaneous	5%				\$ 28,875
Subtotal Division 44					<b>\$ 606,375</b>
<b>Subtotal This Facility</b>					<b>\$ 990,880</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 248,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 50,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 199,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,488,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 14**  
**Facility Description: ILS/HW Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	65	CY	\$ 400.00		\$ 25,852
Concrete Housekeeping Pads	8	CY	\$ 400.00		\$ 3,323
Void Forms	1745	SF	\$ 15.00		\$ 26,175
Grade Beams	34	CY	\$ 400.00		\$ 13,467
Drilled Shaft Deep Foundation	600	LF	\$ 100.00		\$ 60,000
Miscellaneous	5%				\$ 6,441
Subtotal Division 3					\$ 135,257
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2535	SF	\$ 20.00		\$ 50,700
Veneer	2535	SF	\$ 15.00		\$ 38,025
Miscellaneous	5%				\$ 4,436
Subtotal Division 4					\$ 93,161
<b>Division 5 - Metals</b>					
Metal Deck	1615	SF	\$ 15.00		\$ 24,225
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 1,406
Subtotal Division 5					\$ 29,531
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	120	LF	\$ 9.20	\$ 2.76	\$ 1,435
Wall Insulation	2535	SF	\$ 1.20	\$ 0.50	\$ 4,310
Roof Insulation	1615	SF	\$ 2.25	\$ 0.65	\$ 4,684
Miscellaneous	5%				\$ 521
Subtotal Division 7					\$ 10,950
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,000
Subtotal Division 8					\$ 21,000
<b>Division 23 - HVAC</b>					
12.5 Ton Packaged AC Unit	2	EA	\$ 17,500.00	\$ 5,250.00	\$ 45,500
Ductwork+accessories	1	LS	\$ 5,444.00	\$ 1,633.20	\$ 7,077
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Modular Chemical Scrubber	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Miscellaneous	5%				\$ 4,416
Subtotal Division 23					\$ 92,744
<b>Division 26 - Electrical</b>					
SWBD-2	1	EA	\$ 230,000.00	\$ 46,000.00	\$ 276,000
MCC-2	1	EA	\$ 150,000.00	\$ 30,000.00	\$ 180,000
18 pulse 300HP VFDs	4	EA	\$ 85,000.00	\$ 17,000.00	\$ 408,000
18 pulse 300HP VFDs	2	EA	\$ 70,000.00	\$ 14,000.00	\$ 168,000
2000 kVA Pad Mounted Transformers	2	EA	\$ 110,000.00	\$ 22,000.00	\$ 264,000
Wire and Conduit from Transformer to Switchboard	2	EA	\$ 80,000.00	\$ 16,000.00	\$ 192,000
ATS	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000
Panelboard	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
Wiring Total	1	LS	\$ 128,000.00	\$ 25,600.00	\$ 153,600
Conduit Total	1	LS	\$ 80,000.00	\$ 16,000.00	\$ 96,000
Lighting	1	EA	\$ 35,000.00	\$ 7,000.00	\$ 42,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 6,000.00	\$ 36,000
Cable Tray Total	1	LS	\$ 30,000.00	\$ 6,000.00	\$ 36,000
Grounding Total	1	LS	\$ 25,000.00	\$ 5,000.00	\$ 30,000
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<b>ILS/HW Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-ILS1)</b>					
Enclosure (NET-ILS1) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000	\$ 7,000
Miscellaneous for NET-ILS1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000

<b>SCADA ILS1 Enclosure (PLC-ILS1)</b>									
Enclosure (PLC-ILS1) (72"H x 48"W x 24"D )	1	EA	\$	30,000	\$	6,000	\$	36,000	
17 slot ControlLogix Chassis	1	EA	\$	1,500	\$	300	\$	1,800	
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$	1,500	\$	300	\$	1,800	
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$	4,000	\$	800	\$	4,800	
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$	13,000	\$	2,600	\$	15,600	
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$	3,000	\$	1,200	\$	7,200	
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$	3,500	\$	700	\$	4,200	
Digital Input Module, 10-31 vdc, 16pts	3	EA	\$	700	\$	420	\$	2,520	
Digital Output Module, N.O Isolated Relay Output, 16pts	1	EA	\$	1,000	\$	200	\$	1,200	
Miscellaneous	1	LOT	\$	20,000	\$	4,000	\$	24,000	
Programming (65x\$450 Hard + 43x\$350 Soft)	1	LOT	\$	-	\$	50,000	\$	50,000	
Miscellaneous				5%			\$	106,386	
								Subtotal Division 26	
							\$	<b>2,234,106</b>	
<b>Division 31 - Earthwork</b>									
Open Cut Excavation	688	CY			\$	15.00	\$	10,320	
Fill	634	CY	\$	20.00			\$	12,680	
Miscellaneous				5%			\$	1,150	
								Subtotal Division 31	
							\$	<b>24,150</b>	
<b>Subtotal This Facility</b>							\$	<b>2,640,899</b>	
<b>Contingency</b>							20%	\$	<b>661,000</b>
<b>Mobilization</b>							5%	\$	<b>133,000</b>
<b>Contractor's Overhead and Profit</b>							20%	\$	<b>529,000</b>
<b>Total Estimated Facility Costs</b>								\$	<b>3,964,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 31**  
**Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Aeration Basins Concrete</b>					
Concrete Base Slab	3268	CY	\$ 400.00		\$ 1,307,393
Concrete Freestanding Wall	2550	CY	\$ 800.00		\$ 2,040,207
Elevated MLR Channels	193	CY	\$ 800.00		\$ 154,193
Concrete Elevated Slab	377	CY	\$ 1,200.00		\$ 452,222
Drop Panels	185	CY	\$ 400.00		\$ 74,163
Void Forms	40103	SF	\$ 15.00		\$ 601,545
<b>Aeration Basin Deep Foundations</b>					
Drilled Shaft Deep Foundation	15380	LF	\$ 100.00		\$ 1,538,000
Miscellaneous	5%				\$ 308,386
Subtotal Division 3					<b>\$ 6,476,109</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	2887	LF	\$ 60.00	\$ 18.00	\$ 225,186
Stairs	60	Riser	\$ 600.00	\$ 180.00	\$ 46,800
Metal Grating	3156	SF	\$ 60.00		\$ 189,360
Miscellaneous	5%				\$ 23,067
Subtotal Division 5					<b>\$ 484,413</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 90,000.00	\$ 18,000.00	\$ 108,000
Conduit Total	1	LS	\$ 70,000.00	\$ 14,000.00	\$ 84,000
Lighting and Receptacles Total	1	LS	\$ 50,000.00	\$ 10,000.00	\$ 60,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 6,000.00	\$ 36,000
Grounding Total	1	LS	\$ 30,000.00	\$ 6,000.00	\$ 36,000
Miscellaneous	5%				\$ 16,200
Subtotal Division 26					<b>\$ 340,200</b>
<b>Division 31 - Earthwork</b>					
Excavation	25431	CY		\$ 15.00	\$ 381,465
Backfill	8306	CY	\$ 20.00		\$ 166,120
Miscellaneous	5%				\$ 27,379
Subtotal Division 31					<b>\$ 574,964</b>
<b>Division 40 - Process Integration</b>					
Aeration Basin Manual, Type 304 St Steel Slide Gates ( per Aeration Basin)	6	EA	\$ 18,000.00	\$ 5,400.00	\$ 140,400
Air Piping 36" Flanged, Sch 10S, 304 St Steel	35	LF	\$ 648.00	\$ 194.40	\$ 29,484
Air Piping 30" Flanged, Sch 10S, 304 St Steel	20	LF	\$ 540.00	\$ 162.00	\$ 14,040
Air Piping 20" Flanged, Sch 10S, 304 St Steel	460	LF	\$ 360.00	\$ 108.00	\$ 215,280
Air Piping 8" Flanged, Sch 10S, 304 St Steel	120	LF	\$ 180.00	\$ 54.00	\$ 28,080
Vertical IMLR piping, 30-inch, Sch 10S	80	LF	\$ 540.00	\$ 162.00	\$ 56,160
IMLR pipe discharge elastomer check valves (2 per Aeration Basin)	4	EA	\$ 5,000.00	\$ 1,500.00	\$ 26,000
FRP, 36-inch Cutthroat Flume	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	8	EA	\$ 20,000.00	\$ 6,000.00	\$ 208,000
18-inch Aeration Basin Air Flow Control Valve w Electro-Hydraulic Actuator (1 per aeration basin)	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
12-inch Aerated Zone Control Valve w Electro-Hydraulic Actuator (4 per aeration basin)		EA	\$ 3,000.00	\$ 900.00	\$ -
Fittings (tees, elbows & reducers)	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
St Steel Bellows Expansion Cplg (6 each Aeration Basin)	12	EA	\$ 3,000.00	\$ 900.00	\$ 46,800
Allowance for Pipe Supports	1	LS	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Miscellaneous	5%				\$ 46,272
Subtotal Division 40					<b>\$ 971,716</b>
<b>Division 43 - Process Gas and Liquid Handling, Purification, and Storage</b>					
Internal Recycle Pumps w. guide rails and davit cranes(2 per Aeration Basin)	4	EA	\$ 60,000.00	\$ 18,000.00	\$ 312,000
Miscellaneous	5%				\$ 15,600
Subtotal Division 44					<b>\$ 327,600</b>

**Facility Number: 31**  
**Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 46 - Water and Wastewater Equipment</b>					
Submersible Mixers w. portable davit crane (1- Anaerobic mixer, 2- Anoxic mixers per Aeration Basin)	6	EA	\$ 25,000.00	\$ 7,500.00	\$ 195,000
Fine bubble diffuser package (1 per Aeration Basin)	2	EA	\$ 150,000.00	\$ 45,000.00	\$ 390,000
Manual Jib Crane w. hoist, 1000-lb capacity	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Miscellaneous	5%				\$ 30,875
			Subtotal Division 46		\$ 648,375
<b>Subtotal This Facility</b>					\$ 9,823,378
<b>Contingency</b>				20%	\$ 2,457,000
<b>Mobilization</b>				5%	\$ 492,000
<b>Contractor's Overhead and Profit</b>				20%	\$ 1,965,000
<b>Total Estimated Facility Costs</b>					\$ 14,738,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Blower Facility Concrete</b>					
Concrete Base Slab	398	CY	\$ 400.00		\$ 159,141
Concrete Equipment Pads	11	CY	\$ 400.00		\$ 4,370
Void Forms	5371	SF	\$ 15.00		\$ 80,565
Grade Beams	60	CY	\$ 400.00		\$ 23,911
<b>Blower Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	1240	LF	\$ 100.00		\$ 124,000
Miscellaneous	5%				\$ 19,599
Subtotal Division 3					<b>\$ 411,587</b>
<b>Division 4 - Masonry</b>					
CMU Walls	9,699	SF	\$ 20.00		\$ 193,980
Masonry Veneer	8,463	SF	\$ 15.00		\$ 126,945
Masonry Pilaster	36	SF	\$ 35.00		\$ 1,276
Miscellaneous	5%				\$ 16,110
Subtotal Division 4					<b>\$ 338,311</b>
<b>Division 5 - Metals</b>					
Roof Deck	5,204	SF	\$ 15.00		\$ 78,060
Steel Joists	3	TON	\$ 3,000.00		\$ 9,998
Steel Framing	4,488	LB	\$ 3.00	\$ 0.90	\$ 17,503
Galvanizing	4,488	LB	\$ 1.00	\$ 0.30	\$ 5,834
Miscellaneous	5%				\$ 5,570
Subtotal Division 5					<b>\$ 116,965</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	280	LF	\$ 9.20	\$ 2.76	\$ 3,349
Wall Insulation	6605	SF	\$ 1.20	\$ 0.50	\$ 11,229
Roof Insulation	5204	SF	\$ 2.25	\$ 0.65	\$ 15,092
Miscellaneous	5%				\$ 1,483
Subtotal Division 7					<b>\$ 31,153</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
FRP Overhead Door	1	EA	\$ 16,000.00		\$ 6,000
Miscellaneous	5%				\$ 2,100
Subtotal Division 8					<b>\$ 44,100</b>
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
12.5-ton AC unit	2	EA	\$ 17,500.00	\$ 5,250.00	\$ 45,500
Ductwork+accessories	1	LS	\$ 6,660.00	\$ 1,998.00	\$ 8,658
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Blower Room</b>					
Louvers	5	EA	\$ 1,419.00	\$ 425.70	\$ 9,224
Miscellaneous	5%				\$ 3,332
Subtotal Division 26					<b>\$ 69,963</b>

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-3	1	EA	\$220,000	\$44,000	\$ 264,000
MCC-3	1	EA	\$165,000	\$33,000	\$ 198,000
18 pulse 300 VFDs	5	EA	\$85,000	\$17,000	\$ 510,000
2000 kVA Pad Mounted Transformers	2	EA	\$110,000	\$22,000	\$ 264,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$80,000	\$16,000	\$ 96,000
ATS	1	EA	\$10,000	\$2,000	\$ 12,000
45 kVA XFMR	1	EA	\$5,000	\$1,000	\$ 6,000
Panelboard	1	EA	\$10,000	\$2,000	\$ 12,000
Wiring Total	1	LS	\$250,000	\$50,000	\$ 300,000
Conduit Total	1	LS	\$75,000	\$15,000	\$ 90,000
Lighting and Receptacles Total	1	LS	\$40,000	\$8,000	\$ 48,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$30,000	\$6,000	\$ 36,000
Cable Tray Total	1	LS	\$20,000	\$4,000	\$ 24,000
Grounding Total	1	LS	\$40,000	\$8,000	\$ 48,000
<b>Blower Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-BLR)</b>					
Enclosure (NET-BLR) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	-	\$ 7,000	\$ 7,000
Miscellaneous for NET-BLR	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Main Electrical Enclosure (PLC-MAIN)</b>					
Enclosure (PLC-BLR) (72"H x 48"W x 24"D)	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	2	EA	\$ 1,500	\$ 600	\$ 3,600
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	2	EA	\$ 1,500	\$ 600	\$ 3,600
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	6	EA	\$ 3,000	\$ 3,600	\$ 21,600
Analog Out Module, 8 Isolated point, current, and voltage 36pin	3	EA	\$ 3,500	\$ 2,100	\$ 12,600
Digital Input Module, 10-31 vdc, 16pts	6	EA	\$ 700	\$ 840	\$ 5,040
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 25,000	\$ 5,000	\$ 30,000
Programming (150x\$450 Hard + 122x\$350 Soft)	1	LOT	-	\$ 115,000	\$ 115,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000.00	\$ 400	\$ 2,400.00
Dissolved Oxygen	2	EA	\$ 3,500	\$ 1,400	\$ 8,400.00
NH3	1	EA	\$ 4,000	\$ 800	\$ 4,800.00
LE/FIT for Parshall Flume	1	EA	\$ 5,000	\$ 1,000	\$ 6,000.00
MLSS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000.00
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200.00
ThermalMass Flow Meter	10	EA	\$ 7,000	\$ 14,000	\$ 84,000.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000.00
Miscellaneous	5%				\$ 117,082
Subtotal Division 26					\$ 2,458,722
<b>Division 31 - Earthwork</b>					
<b>Blower Building Earthwork</b>					
Excavation	2109	CY		\$ 15.00	\$ 31,635
Backfill	1724	CY	\$ 20.00		\$ 34,480
Miscellaneous	5%				\$ 3,306
Subtotal Division 31					\$ 69,421
<b>Division 40 - Process Integration</b>					
Multi-Stage Centrifugal Blowers w 5x2,950 SCFM blowers, Disch BFVs, Disch check valves, 5xPLC pane	1	EA	\$ 1,050,000.00	\$ 315,000.00	\$ 1,365,000
16-inch Sch 10S, 304 St Steel Air Piping	80	LF	\$ 288.00	\$ 86.40	\$ 29,952
36-inch Sch 10S, 304 St Steel Air Piping	65	LF	\$ 648.00	\$ 194.40	\$ 54,756
16-inch Discharge Check Valves (part of Blower Package)	0	EA	\$ 15,000.00	\$ 4,500.00	\$ -
16-inch Discharge Butterfly Valves	4	EA	\$ 4,000.00	\$ 1,200.00	\$ 20,800
36-inch St Steel Bellows Expansion Cplg	8	EA	\$ 3,000.00	\$ 900.00	\$ 31,200
Allowance for Pipe Supports	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Main air header blow-off control valve w electro-hydraulic actuator	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Manual air header butterfly valve	1	EA	\$ 8,000.00	\$ 2,400.00	\$ 10,400
Miscellaneous	5%				\$ 80,155
Subtotal Division 40					\$ 1,683,263

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 41 - Material Processing and Handling Equipment</b>					
5-ton bridge crane	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 6,500
			Subtotal Division 41		\$ 136,500
<b>Subtotal This Facility</b>					\$ 5,359,985
<b>Contingency</b>				20%	\$ 1,340,000
<b>Mobilization</b>				5%	\$ 268,000
<b>Contractor's Overhead and Profit</b>				20%	\$ 1,072,000
<b>Total Estimated Facility Costs</b>					\$ 8,040,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 40**  
**Facility Description: Mixed Liquor Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Mixed Liquor Splitter Box Concrete</b>					
Concrete Base Slab	101	CY	\$ 400.00		\$ 40,400
Concrete Freestanding Wall	194	CY	\$ 800.00		\$ 155,230
Concrete Elevated Slab	21	CY	\$ 1,200.00		\$ 25,289
Void Forms	2094	SF	\$ 15.00		\$ 31,410
Grade Beams	79	CY	\$ 400.00		\$ 31,674
<b>Mixed Liquor Splitter Box Deep Foundations</b>					
Drilled Shaft Deep Foundation	600	LF	\$ 100.00		\$ 60,000
Miscellaneous	5%				\$ 17,200
Subtotal Division 3					<b>\$ 361,203</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	220	LF	\$ 60.00		\$ 13,200
Stairs	30	Riser	\$ 600.00	\$ 180.00	\$ 23,400
Aluminum Grating Support	732	LB	\$ 10.00	\$ 3.00	\$ 9,516
Aluminum Grating	410	SF	\$ 60.00		\$ 24,600
Miscellaneous	5%				\$ 3,536
Subtotal Division 5					<b>\$ 74,252</b>
<b>Division 26 - Electrical</b>					
Misc. Electrical costs (fixture+light switch)	1	LS	\$15,000		\$ 15,000
Miscellaneous	5%				\$ 750
Subtotal Division 26					<b>\$ 15,750</b>
<b>Division 31 - Earthwork</b>					
Excavation	800	CY		\$ 15.00	\$ 12,000
Backfill	700	CY	\$ 20.00		\$ 14,000
Miscellaneous	5%				\$ 1,300
Subtotal Division 31					<b>\$ 27,300</b>
<b>Division 44 - Pollution Control Equipment</b>					
48" x 60" Slide Gate	2	EA	\$18,000	\$ 5,400.00	\$ 46,800
Miscellaneous	5%				\$ 2,340
Subtotal Division 40					<b>\$ 49,140</b>
<b>Subtotal This Facility</b>					<b>\$ 527,645</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 133,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 27,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 106,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 794,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 45**  
**Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Secondary Clarifiers Concrete</b>					
Concrete Base Slab	4224	CY	\$ 400.00		\$ 1,689,558
Concrete Freestanding Wall	747	CY	\$ 800.00		\$ 597,600
Concrete Walkway/Elevated Slab	165	CY	\$ 1,200.00		\$ 198,000
Void Forms	31525	SF	\$ 15.00		\$ 472,877
<b>Secondary Clarifiers Deep Foundations</b>					
Drilled Shaft Deep Foundation	7360	LF	\$ 100.00		\$ 736,000
Miscellaneous	5%				\$ 184,702
Subtotal Division 3					<b>\$ 3,878,737</b>
<b>Division 5 - Metals</b>					
Aluminum Stairs	92	Riser	\$ 600.00	\$ 180.00	\$ 71,760
Aluminum Guardrail	890	LF	\$ 60.00	\$ 18.00	\$ 69,429
Miscellaneous	5%				\$ 7,059
Subtotal Division 5					<b>\$ 148,249</b>
<b>Division 26 - Electrical</b>					
Wire Conduit	2	LS	\$65,000	\$ 13,000.00	\$ 156,000
Light/Receptacles	1	LS	\$17,500	\$ 3,500.00	\$ 21,000
Misc.	1	LS	\$25,000	\$ 5,000.00	\$ 30,000
Grounding	1	LS	\$65,000	\$ 13,000.00	\$ 78,000
Miscellaneous	5%				\$ 14,250
Subtotal Division 26					<b>\$ 299,250</b>
<b>Division 31 - Earthwork</b>					
Excavation	13250	CY		\$ 15.00	\$ 198,750
Backfill	4493	CY	\$ 20.00		\$ 89,860
Dewatering	1	LS	\$ 300,000.00		\$ 300,000
Miscellaneous	5%				\$ 29,431
Subtotal Division 31					<b>\$ 618,041</b>
<b>Division 40 - Process Integration</b>					
36" DI Pipe - Influent MLSS	140	LF	\$ 604.00		\$ 84,560
18" DI Pipe - Effluent RAS/WAS	140	LF	\$ 200.00		\$ 28,000
12" DI Pipe - Drain Piping	140	LF	\$ 113.00		\$ 15,820
Miscellaneous	5%				\$ 6,419
Subtotal Division 40					<b>\$ 134,799</b>
<b>Division 44 - Pollution Control Equipment</b>					
135' SC Mechanism including FRP Weirs, Scum Baffles, Density Current Baffles, and LCP	2	EA	\$ 618,750.00	\$ 185,625.00	\$ 1,608,750
SS 304 Adder	2	EA	\$ 213,000.00		\$ 426,000
<b>Algae Control System</b>					
2" PVC Pipe	200	LF	\$ 10.00	\$ 3.00	\$ 2,600
2" PVC Ball Valve	1	EA	\$ 13.00	\$ 3.90	\$ 17
2" PVC Elbow	8	EA	\$ 4.50	\$ 1.35	\$ 47

**Facility Number: 45**  
**Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Scum Flushing and Control</b>					
1" PVC Pipe	150	EA	\$ 3.49	\$ 1.05	\$ 681
1" PVC Ball Valve	2	EA	\$ 11.00	\$ 3.30	\$ 29
1" PVC Elbow	10	EA	\$ 1.50	\$ 0.45	\$ 20
1" PVC Tee	26	EA	\$ 2.00	\$ 0.60	\$ 68
1" PVC Pressure Reducing Valve	1	EA	\$ 100.00	\$ 30.00	\$ 130
Spray Nozzles	25	EA	\$ 5.00	\$ 1.50	\$ 163
<i>Miscellaneous</i>	5%				\$ 101,925
			Subtotal Division 46		\$ 2,140,428
<b>Subtotal This Facility</b>					\$ 7,219,503
<b>Contingency</b>				<b>20%</b>	\$ 1,805,000
<b>Mobilization</b>				<b>5%</b>	\$ 361,000
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	\$ 1,444,000
<b>Total Estimated Facility Costs</b>					\$ 10,830,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building</b>					
Concrete Base Slab	27	CY	\$ 400.00		\$ 10,703
Drilled Shaft Deep Foundation	320	LF	\$ 100.00		\$ 32,000
Grade Beams	28	CY	\$ 400.00		\$ 11,022
Void Forms	626	SF	\$ 15.00		\$ 9,387
<b>RAS/WAS Pump Station</b>					
Concrete Base Slab	91	CY	\$ 400.00		\$ 36,520
Drilled Shaft Deep Foundation	480	LF	\$ 100.00		\$ 48,000
Grade Beams	49	CY	\$ 400.00		\$ 19,674
Equipment Pads	6	CY	\$ 600.00		\$ 3,334
Void Forms	2240	SF	\$ 15.00		\$ 33,602
Miscellaneous	5%				\$ 10,212
Subtotal Division 3					<b>\$ 214,453</b>
<b>Division 4 - Masonry</b>					
<b>Electrical Building</b>					
CMU Masonry Walls	1527	SF	\$ 20.00		\$ 30,533
Masonry Veneer	1527	SF	\$ 15.00		\$ 22,900
Miscellaneous	5%				\$ 2,672
Subtotal Division 4					<b>\$ 56,105</b>
<b>Division 5 - Metals</b>					
<b>Electrical Building</b>					
Roof Deck	628	SF	\$ 15.00		\$ 9,419
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
<b>RAS/WAS Pump Station</b>					
Roof Deck	1937	SF	\$ 15.00		\$ 29,048
Structural Steel Framing	20451	LB	\$ 3.00	\$ 0.90	\$ 79,760
Steel Galvanizing	20451	LB	\$ 1.00	\$ 0.30	\$ 26,587
Steel Joists	2	TON	\$ 3,000.00	\$ 900.00	\$ 7,800
Miscellaneous	5%				\$ 7,826
Subtotal Division 5					<b>\$ 164,339</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
<b>Electrical Building</b>					
Rain Gutters and Downspouts	85.5001	LF	\$9.20	\$ 2.76	\$ 1,023
Wall Insulation	1527	SF	\$1.20	\$ 0.50	\$ 2,595
Roof Insulation	628	SF	\$2.25	\$ 0.65	\$ 1,821
Awning	1	QTY	\$500.00	\$ 150.00	\$ 650
<b>RAS/WAS Pump Station</b>					
Rain Gutters and Downspouts	165	LF	\$9.20	\$ 2.76	\$ 1,971
Miscellaneous	5%				\$ 403
Subtotal Division 7					<b>\$ 8,463</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$8,000.00		\$ 24,000
Miscellaneous	5%				\$ 1,200
Subtotal Division 8					<b>\$ 25,200</b>
<b>Division 23 - HVAC</b>					
4-ton packaged AC unit	2	EA	\$ 5,600.00	\$ 1,680.00	\$ 14,560
Ductwork+accessories	1	LS	\$ 1,955.00	\$ 586.50	\$ 2,542
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,018
Subtotal Division 23					<b>\$ 21,369</b>
<b>Division 26 - Electrical</b>					
MCC-4	1	EA	\$ 130,000.00	\$ 26,000.00	\$ 156,000
750 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 9,000.00	\$ 108,000
6 pulse VFDs	7	EA	\$ 24,000.00	\$ 4,800.00	\$ 201,600
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 75,000.00	\$ 15,000.00	\$ 90,000
Conduit Total	1	LS	\$ 22,000.00	\$ 4,400.00	\$ 26,400
Lighting and Receptacles Total	1	LS	\$ 25,000.00	\$ 5,000.00	\$ 30,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 35,000.00	\$ 7,000.00	\$ 42,000
Grounding Total	1	LS	\$ 10,000.00	\$ 2,000.00	\$ 12,000

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Cable Tray Total	1	LS	\$ 10,000.00	\$ 2,000.00	\$ 12,000
<b>RAS/WAS Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-RAS/WAS)</b>					
Enclosure (NET-RAS/WAS) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000	\$ 7,000
Miscellaneous for NET-RAS/WAS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA RAS/WAS Enclosure (PLC-RAS/WAS)</b>					
Enclosure (PLC-ILS1) (72"H x 48"W x 24"D)	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	4	EA	\$ 700	\$ 560	\$ 3,360
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (87x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 40,000	\$ 40,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Magnetic Flow Meters 12"	2	EA	\$ 10,000	\$ 4,000	\$ 24,000
Magnetic Flow Meters 6"	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Sludge Blanket Level Transmitters	2	EA	\$ 8,000	\$ 3,200	\$ 19,200
Submersible Level Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Pressure Indicating Transmitter with Annular Diaphragm 16"	2	EA	\$ 7,000	\$ 2,800	\$ 16,800
Pressure Indicating Transmitter with Annular Diaphragm 18"	2	EA	\$ 8,000	\$ 3,200	\$ 19,200
PI/PSH/Annular Diaphragm 6"	2	EA	\$ 5,000	\$ 2,000	\$ 12,000
PI/PSH/Annular Diaphragm 12"	5	EA	\$ 8,000	\$ 8,000	\$ 48,000
PSL/Annular Diaphragm 6"	2	EA	\$ 4,500	\$ 1,800	\$ 10,800
PSL/Annular Diaphragm 12"	5	EA	\$ 7,500	\$ 7,500	\$ 45,000
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 57,498
Subtotal Division 26					\$ 1,207,458
<b>Division 31 - Earthwork</b>					
<b>Electrical Building</b>					
Excavation	494	CY	\$	\$ 15.00	\$ 7,412
Fill	448	CY	\$ 20.00		\$ 8,955
<b>RAS/WAS Pump Station</b>					
Excavation	1148	CY	\$	\$ 15.00	\$ 17,215
Fill	982	CY	\$ 20.00		\$ 19,635
Miscellaneous	5%				\$ 2,661
Subtotal Division 31					\$ 55,877
<b>Division 40 - Process Integration</b>					
Pipe Supports	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
<b>RAS/WAS Suction</b>					
18" DI Pipe	48	LF	\$ 200.00	\$ 60.00	\$ 12,350
18" Plug Valve	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
18" Tee	9	EA	\$ 8,000.00	\$ 2,400.00	\$ 93,600
18" Blind Flange	2	EA	\$ 1,200.00	\$ 360.00	\$ 3,120
18" Elbow	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
18" Sampling Port	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
18" to 12" Reducer	5	EA	\$ 3,000.00	\$ 900.00	\$ 19,500
18" to 6" Reducer	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
12" DI Pipe	18	LF	\$ 113.00	\$ 33.90	\$ 2,571
12" Plug Valve	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
12" Check Valve	5	EA	\$ 8,600.00	\$ 2,580.00	\$ 55,900
12" to 10" Reducer	5	EA	\$ 1,200.00	\$ 360.00	\$ 7,800
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>RAS Discharge</b>					
18" DI Pipe	75	LF	\$ 200.00	\$ 60.00	\$ 19,500
18" Elbow	2	EA	\$ 6,000.00	\$ 1,800.00	\$ 15,600
18" to 12" Reducer	2	EA	\$ 3,000.00	\$ 900.00	\$ 7,800
12" DI Pipe	46	LF	\$ 113.00	\$ 33.90	\$ 6,757
12" Elbow	7	EA	\$ 1,500.00	\$ 450.00	\$ 13,650
12" Tee	5	EA	\$ 2,500.00	\$ 750.00	\$ 16,250
12" Plug Valve	6	EA	\$ 6,000.00	\$ 1,800.00	\$ 46,800
12" Check Valve	5	EA	\$ 8,600.00	\$ 2,580.00	\$ 55,900
12" Pinch Valve	2	EA	\$ 6,000.00	\$ 1,800.00	\$ 15,600
12" to 10" Reducer	5	EA	\$ 1,200.00	\$ 360.00	\$ 7,800
2" ARV	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
<b>WAS Discharge</b>					
6" DI Pipe	85	LF	\$ 60.00	\$ 18.00	\$ 6,630
6" Elbow	8	EA	\$ 350.00	\$ 105.00	\$ 3,640
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Check Valve	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
6" Tee	1	EA	\$ 500.00	\$ 150.00	\$ 650
2" ARV	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Miscellaneous	5%				\$ 28,202
Subtotal Division 40					<b>\$ 592,240</b>
<b>Division 44 - Pollution Control Equipment</b>					
3.0 MGD RAS Pumps and VFDs	3	EA	\$ 52,500.00	\$ 15,750.00	\$ 204,750
1.5 MGD RAS Pumps and VFDs	2	EA	\$ 50,600.00	\$ 15,180.00	\$ 131,560
500 gpm WAS Pumps and VFDs	2	EA	\$ 38,000.00	\$ 11,400.00	\$ 98,800
Miscellaneous	5%				\$ 21,756
Subtotal Division 43					<b>\$ 456,866</b>
<b>Subtotal This Facility</b>					<b>\$ 2,802,370</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 701,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 141,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 561,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,206,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 50**  
**Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Filters Concrete</b>					
Concrete Wall	239	CY	\$ 800.00		\$ 191,200
Concrete Base Slab	121	CY	\$ 400.00		\$ 48,296
Elevated Slab	3	CY	\$ 1,200.00		\$ 3,511
Grade Beams	40	CY	\$ 400.00		\$ 16,000
Void Forms	3260	SF	\$ 15.00		\$ 48,900
Drilled Shaft Deep Foundation	720	LF	\$ 100.00		\$ 72,000
Miscellaneous	5%				\$ 9,435
Subtotal Division 3					<b>\$ 389,343</b>
<b>Division 5 - Metals</b>					
Roof Deck	2,795	SF	\$ 15.00		\$ 41,925
Aluminum Guardrail	235	LF	\$ 60.00		\$ 14,100
Aluminum Grating	632	SF	\$ 60.00		\$ 37,920
Steel Joists	2	TON	\$ 3,000.00		\$ 7,079
Steel Framing	9,068	LB	\$ 3.00	\$ 0.90	\$ 35,365
Galvanizing	9,068	LB	\$ 1.00	\$ 0.30	\$ 11,788
Stairs	50	Riser	\$ 600.00	\$ 180.00	\$ 39,000
Miscellaneous	5%				\$ 9,359
Subtotal Division 5					<b>\$ 196,537</b>
<b>Division 9 - Finishes</b>					
Protective Coatings	1	LS	\$9,000	\$ 2,700.00	\$ 11,700
Miscellaneous	5%				\$ 585
Subtotal Division 9					<b>\$ 12,285</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$105,000.00	\$21,000.00	\$ 126,000
Conduit Total	1	LS	\$65,000.00	\$13,000.00	\$ 78,000
Lighting and Receptacles Total	1	LS	\$50,000.00	\$10,000.00	\$ 60,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$25,000.00	\$5,000.00	\$ 30,000
Grounding Total	1	LS	\$30,000.00	\$6,000.00	\$ 36,000
<b>Filter Complex (SCADA)</b>					
<b>Network Enclosure (NET-FC1)</b>					
Enclosure (NET-FC1) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-FC1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Flow Switch (FSL)	4	EA	\$ 1,000.00	\$ 800.00	\$ 4,800
Pressure Indicators	2	EA	\$ 3,000.00	\$ 1,200.00	\$ 7,200
Combined Turbidity Instrument	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000
Miscellaneous	5%				\$ 19,080
Subtotal Division 26					<b>\$ 400,680</b>
<b>Division 31 - Earthwork</b>					
Excavation	3125	CY		\$ 15.00	\$ 46,875
Fill	2240	CY	\$ 20.00		\$ 44,800
Miscellaneous	5%				\$ 4,584
Subtotal Division 31					<b>\$ 96,259</b>

**Facility Number: 50**  
**Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Filter, Cloth Media, 12 MGD	3	EA	\$ 575,000.00	\$ 115,000.00	\$ 2,070,000
Filter Backwash Piping	1	LS	\$ 168,000.00	\$ 33,600.00	\$ 201,600
Basin Drain Piping and Mud Valves	1	LS	\$ 37,000.00	\$ 7,400.00	\$ 44,400
Pump Vault Drain Piping	1	LS	\$ 10,000.00	\$ 2,000.00	\$ 12,000
Hose Station Piping	1	LS	\$ 3,600.00	\$ 720.00	\$ 4,320
Slide Gates	3	EA	\$22,000.00	\$ 3,300.00	\$ 75,900
NPW Wash Hose Station	3	EA	\$ 400.00	\$ 300.00	\$ 2,100
Miscellaneous	5%				\$ 120,516
Subtotal Division 40					<b>\$ 2,530,836</b>
<b>Division 41 - Material Processing and Handling</b>					
Monorail Trolley System	1	EA	\$35,000	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 3,673,714</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 919,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 184,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 735,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,512,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>UV Disinfection Concrete</b>					
Concrete Base Slab	76	CY	\$ 400.00	\$ 120.00	\$ 39,462
Concrete Freestanding Wall	208	CY	\$ 800.00	\$ 240.00	\$ 216,243
Concrete Elevated Slab	129	CY	\$ 1,200.00	\$ 360.00	\$ 201,847
Void Forms	679	SF	\$ 15.00		\$ 10,185
<b>UV Disinfection Deep Foundation</b>					
Drilled Shaft Deep Foundation	1280	LF	\$ 100.00	\$ 30.00	\$ 166,400
Miscellaneous	5%				\$ 31,707
Subtotal Division 3					<b>\$ 665,844</b>
<b>Division 5 - Metals</b>					
Aluminum Grating	404	SF	\$ 60.00	\$ 18.00	\$ 31,512
Checker Plating	570	SF	\$ 150.00	\$ 45.00	\$ 111,150
Roof Deck	2,000	SF	\$ 15.00		\$ 30,000
Steel Framing	6,237	LB	\$ 4.00	\$ 1.20	\$ 32,432
Miscellaneous	5%				\$ 10,255
Subtotal Division 5					<b>\$ 215,349</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Misc. Lumber for Building Eaves	1	LS	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 195
Subtotal Division 6					<b>\$ 4,095</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$115,000.00	\$23,000.00	\$ 138,000
Conduit Total	1	LS	\$65,000.00	\$13,000.00	\$ 78,000
Lighting and Receptacles Total	1	LS	\$50,000.00	\$10,000.00	\$ 60,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$45,000.00	\$9,000.00	\$ 54,000
Grounding Total	1	LS	\$40,000.00	\$8,000.00	\$ 48,000
<b>UV Complex (SCADA)</b>					
<b>Network Enclosure (NET-UV2)</b>					
Enclosure (NET-UV2) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-UV2	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Transit Time Strap-on Flow Meter for 36"	1	EA	\$ 3,500.00	\$ 700.00	\$ 4,200
Miscellaneous	5%				\$ 20,790
Subtotal Division 26					<b>\$ 436,590</b>
<b>Division 31 - Earthwork</b>					
<b>Disinfection Area</b>					
Fill	2400	CY	\$ 20.00		\$ 48,000
Excavation	3060	CY		\$ 15.00	\$ 45,900
Miscellaneous	5%				\$ 4,695
Subtotal Division 31					<b>\$ 98,595</b>
<b>Division 40 - Process Integration</b>					
Allowance for Influent Piping (36" Inlet, 36" Outlet (capped))	1	LS	\$ 15,000.00		\$ 15,000
Allowance for Drain Piping + Valves	1	LS	\$ 20,000.00		\$ 20,000
Yard Piping Tie-In Fittings / Connections	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Yard Hydrants	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Fabricated Stainless Steel Slide Gate (Motorized, 60" x 108")	2	EA	\$ 32,850.00	\$ 9,855.00	\$ 85,410
36" Ultrasonic Flowmeter	1	EA	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Miscellaneous	5%				\$ 6,441
Subtotal Division 40					<b>\$ 150,251</b>

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
UV Equipment	1	LS	\$ 809,700.00	\$ 242,910.00	\$ 1,052,610
FRP Finger Weirs (includes support)	1	LS	\$ 37,200.00	\$ 11,160.00	\$ 48,360
Miscellaneous	5%				\$ 55,049
			Subtotal Division 44		\$ 1,156,019
<b>Subtotal This Facility</b>					
					\$ 2,726,742
<b>Contingency</b>				20%	\$ 682,000
<b>Mobilization</b>				5%	\$ 137,000
<b>Contractor's Overhead and Profit</b>				20%	\$ 546,000
<b>Total Estimated Facility Costs</b>					\$ 4,092,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 54**  
**Facility Description: UV Electrical Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building Foundation</b>					
CMU Building Foundation	56	CY	\$ 400.00		\$ 22,504
Concrete Housekeeping Pads	7	CY	\$ 400.00		\$ 2,741
Void Forms	1564	SF	\$ 15.00		\$ 23,460
Grade Beams	32	CY	\$ 400.00		\$ 12,622
<b>Electrical Building Deep Foundation</b>					
Drilled Shaft Deep Foundations	600	LF	\$ 100.00		\$ 60,000
Miscellaneous		5%			\$ 6,066
Subtotal Division 3					<b>\$ 127,393</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2141	SF	\$ 20.00		\$ 42,820
Veneer	2141	SF	\$ 15.00		\$ 32,115
Miscellaneous		5%			\$ 3,747
Subtotal Division 4					<b>\$ 78,682</b>
<b>Division 5 - Metals</b>					
Metal Roof Paneling	1,056	SF	\$ 15.00		\$ 15,840
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous		5%			\$ 987
Subtotal Division 5					<b>\$ 20,727</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	2141	SF	\$ 1.20	\$ 0.50	\$ 3,640
Building Roof Insulation	2141	SF	\$ 2.25	\$ 0.65	\$ 6,209
Metal Standing Seam Roofing	1200	SF	\$ 4.25	\$ 1.28	\$ 6,630
Metal Soffits	113	SF	\$ 4.25	\$ 1.28	\$ 624
Rain Gutters and Downspouts	87	LF	\$ 9.20	\$ 2.76	\$ 1,041
Miscellaneous		5%			\$ 907
Subtotal Division 7					<b>\$ 19,051</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous		5%			\$ 1,000
Subtotal Division 8					<b>\$ 21,000</b>
<b>Division 9 - Finishes</b>					
Dampproofing	1825	SF	\$ 3.00	\$ 0.90	\$ 7,118
Masonry Water Resistant Coating	3500	SF	\$ 1.50	\$ 0.45	\$ 6,825
Miscellaneous		5%			\$ 697
Subtotal Division 9					<b>\$ 14,640</b>
<b>Division 23 - HVAC</b>					
8.5-ton AC unit	2	EA	\$ 11,900.00	\$ 3,570.00	\$ 30,940
Ductwork+accessories	1	LS	\$ 5,761.00	\$ 1,728.30	\$ 7,489
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous		5%			\$ 2,084
Subtotal Division 23					<b>\$ 43,763</b>
<b>Division 26 - Electrical</b>					
MCC-5	1	EA	\$ 175,000.00	\$ 35,000.00	\$ 210,000.00
1000 kVA Pad Mounted Transformers	2	EA	\$ 85,000.00	\$ 34,000.00	\$ 204,000.00
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000.00
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000.00
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000.00
Wiring Total	1	LS	\$ 75,000.00	\$ 15,000.00	\$ 90,000.00
Conduit Total	1	LS	\$ 45,000.00	\$ 9,000.00	\$ 54,000.00
Lighting and Receptacles Total	1	LS	\$ 25,000.00	\$ 5,000.00	\$ 30,000.00
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 5,000.00	\$ 30,000.00
Grounding Total	1	LS	\$ 15,000.00	\$ 3,000.00	\$ 18,000.00
Cable Tray Total	1	LS	\$ 15,000.00	\$ 3,000.00	\$ 18,000.00

<b>UV Electrical Building (SCADA)</b>						
<b>Network Enclosure (NET-UV)</b>						
Enclosure (NET-UV) (48"H x 36"W x 16"D)	1	EA	\$ 8,000.00	\$ 1,600.00	\$	9,600.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$	12,000.00
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000.00	\$	7,000.00
Miscellaneous for NET-UV	1	EA	\$ 5,000.00	\$ 1,000.00	\$	6,000.00
<b>SCADA UV Enclosure (PLC-UV)</b>						
Enclosure (PLC-UV) (72"H x 36"W x 24"D)	1	EA	\$ 25,000.00	\$ 5,000.00	\$	30,000.00
17 slot ControlLogix Chassis	1	EA	\$ 1,500.00	\$ 300.00	\$	1,800.00
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500.00	\$ 300.00	\$	1,800.00
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000.00	\$ 800.00	\$	4,800.00
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000.00	\$ 2,600.00	\$	15,600.00
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000.00	\$ 1,200.00	\$	7,200.00
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$ 3,500.00	\$ 700.00	\$	4,200.00
Digital Input Module, 10-31 vdc, 16pts	3	EA	\$ 700.00	\$ 420.00	\$	2,520.00
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000.00	\$ 400.00	\$	2,400.00
Miscellaneous	1	LOT	\$ 20,000.00	\$ 4,000.00	\$	24,000.00
Programming (65x\$450 Hard + 37x\$350 Soft)	1	LOT	\$ -	\$ 43,000.00	\$	43,000.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000.00	\$ 5,000.00	\$	30,000.00
Miscellaneous					\$	44,646
						5%
						Subtotal Division 26
					\$	937,566
<b>Division 31 - Earthwork</b>						
Fill	541	CY	\$ 20.00		\$	10,820
Excavation	501	CY		\$ 15.00	\$	7,515
Miscellaneous					\$	917
						5%
						Subtotal Division 31
					\$	19,252
<b>Subtotal This Facility</b>					\$	<b>1,282,073</b>
<b>Contingency</b>					20%	\$ <b>321,000</b>
<b>Mobilization</b>					5%	\$ <b>65,000</b>
<b>Contractor's Overhead and Profit</b>					20%	\$ <b>257,000</b>
<b>Total Estimated Facility Costs</b>					\$	<b>1,926,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

Facility Number: 55  
Facility Description: Effluent Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Effluent Facility Concrete</b>					
Concrete Base Slab	266	CY	\$ 400.00		\$ 106,289
Concrete Walls	309	CY	\$ 800.00		\$ 247,259
Cast-in-place stair	34	CY	\$ 1,200.00		\$ 40,533
Equipment Pads	4	CY	\$ 400.00		\$ 1,481
Concrete Elevated Slab	14	CY	\$ 1,200.00		\$ 17,243
Void Forms	100	SF	\$ 15.00		\$ 1,500
<b>Effluent Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	1,320	LF	\$ 100.00		\$ 132,000
<i>Miscellaneous</i>	5%				\$ 28,005
<b>Subtotal Division 3</b>					<b>\$ 588,111</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	392	LF	\$ 60.00		\$ 23,520
<i>Miscellaneous</i>	5%				\$ 1,176
<b>Subtotal Division 5</b>					<b>\$ 24,696</b>
<b>Division 26 - Electrical</b>					
Misc Electrical	1	EA	\$ 25,000.00		\$ 25,000
LE/FIT for Parshall Flume (Flow Meter)	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Dissolved Oxygen Transmitter	1	EA	\$ 3,500	\$ 700	\$ 4,200
LSH Floats	1	EA	\$ 600	\$ 120	\$ 720
Refrigerated Autosampler and Pump	1	EA	\$ 50,000	\$ -	\$ 50,000
<i>Miscellaneous</i>	5%				\$ 4,296
<b>Subtotal Division 26</b>					<b>\$ 90,216</b>
<b>Division 31 - Earthwork</b>					
Excavation	7300	CY	\$ 15.00		\$ 109,500
Fill	5600	CY	\$ 20.00		\$ 112,000
<i>Miscellaneous</i>	5%				\$ 11,075
<b>Subtotal Division 31</b>					<b>\$ 232,575</b>
<b>Division 40 - Process Integration</b>					
Allowance for Effluent Piping (48" Outlet)	1	LS	\$ 10,000.00		\$ 10,000
Allowance for Drain Piping + Valves	1	LS	\$ 12,000.00		\$ 12,000
Air Piping 4" Flanged, Sch 10S, 304 St Steel	150	LF	\$ 125.00	\$ 37.50	\$ 24,375
Allowance for Pipe Supports	1	LS	\$ 10,000.00		\$ 10,000
Nested Parshall Flume (36" Nested Inside 72")	1	LS	\$ 49,065.00	\$ 14,719.50	\$ 63,785
Fabricated Stainless Steel Slide Gate (Manual, 60" x 84")	3	EA	\$ 21,300.00	\$ 6,390.00	\$ 83,070
<i>Miscellaneous</i>	5%				\$ 10,161
<b>Subtotal Division 40</b>					<b>\$ 213,391</b>
<b>Division 44 - Pollution Control Equipment</b>					
Positive Displacement Blowers (40 hp, 710 scfm @ 8.0 psig each)	2	EA	\$ 37,350.00	\$ 11,205.00	\$ 97,110
Coarse Bubble Diffusers (Single Drop) and Piping	1	LS	\$ 21,000.00	\$ 6,300.00	\$ 27,300
<i>Miscellaneous</i>	5%				\$ 6,221
<b>Subtotal Division 44</b>					<b>\$ 130,631</b>
<b>Subtotal This Facility</b>					<b>\$ 1,279,619</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 320,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 64,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 256,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,920,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 56**  
**Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Non-Potable Water System</b>					
Concrete Base Slab	15	CY	\$ 400.00		\$ 6,089
Concrete Freestanding Wall	29	CY	\$ 800.00		\$ 23,230
Concrete Elevated Slab	12	CY	\$ 1,200.00		\$ 14,073
Void Forms	100	SF	\$ 15.00		\$ 1,500
<b>Non-Potable Water System Deep Foundations</b>					
Drilled Shaft Deep Foundations	120	LF	\$ 100.00		\$ 12,000
Miscellaneous	5%				\$ 2,845
Subtotal Division 3					<b>\$ 59,736</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	50	LF	\$ 60.00		\$ 3,000
Aluminum Grating	225	SF	\$ 60.00		\$ 13,500
Galvanized Steel Framing	9144	LB	\$ 4.00	\$ 1.20	\$ 47,549
Aluminum Stairs	0	Riser	\$ 600.00		\$ -
Miscellaneous	5%				\$ 3,202
Subtotal Division 5					<b>\$ 67,251</b>
<b>Division 26 - Electrical</b>					
Disconnect Switches	1	LS	\$ 26,000.00		\$ 26,000
Misc. Electrical	1	LS	\$ 15,000.00		\$ 15,000
LSLL Float	1	EA	\$ 600	\$ 120	\$ 720
Submersible Level Transmitters	1	EA	\$ 3,000	\$ 600	\$ 3,600
Magnetic Flow Meter 8"	1	EA	\$ 9,000	\$ 1,800	\$ 10,800
Pressure Indicator	5	EA	\$ 2,500	\$ 2,500	\$ 15,000
PSH	4	EA	\$ 1,500	\$ 1,200	\$ 7,200
Miscellaneous	5%				\$ 3,916
Subtotal Division 26					<b>\$ 82,236</b>
<b>Division 31 - Earthwork</b>					
Excavation	1,000	CY		\$ 15.00	\$ 15,000
Backfill	720	CY	\$ 20.00		\$ 14,400
Miscellaneous	5%				\$ 1,470
Subtotal Division 31					<b>\$ 30,870</b>
<b>Division 40 - Process Integration</b>					
3'x3' Slide Gate	1	EA	\$ 12,500.00	\$ 3,750.00	\$ 16,250
<b>Pumping Set-up</b>					
6"x4" Reducer	1	EA	\$ 350.00	\$ 105.00	\$ 455
4" Pressure Reducing Valve	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
6" Butterfly Valves	4	EA	\$ 1,500.00	\$ 450.00	\$ 7,800
6" Swing Check Valves - V608	4	EA	\$ 2,500.00	\$ 750.00	\$ 13,000
6" DI Pipe	30	LF	\$ 60.00	\$ 18.00	\$ 2,340
6" Tee	4	EA	\$ 500.00	\$ 150.00	\$ 2,600
6" 90 deg. Elbow	5	EA	\$ 350.00	\$ 105.00	\$ 2,275
8" x 6" Reducer	1	EA	\$ 500.00	\$ 150.00	\$ 650
<b>Flow meter Bypass</b>					
6" Butterfly Valve	3	EA	\$ 1,500.00	\$ 450.00	\$ 5,850
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Tee	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
6" 90 deg. Elbow	2	EA	\$ 350.00	\$ 105.00	\$ 910
<b>Filter Bypass</b>					
6" Butterfly Valve	3	EA	\$ 1,500.00	\$ 450.00	\$ 5,850
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Tee	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
6" 90 deg. Elbow	2	EA	\$ 350.00	\$ 105.00	\$ 910

**Facility Number: 56**  
**Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Chlorine Injection</b>					
1/2" Chlorine Injection Quill	1	EA	\$ 135.00	\$ 40.50	\$ 176
1/2" PVC Pipe	15	LF	\$ 3.00	\$ 0.90	\$ 59
1/2" Elbow	3	EA	\$ 0.70	\$ 0.21	\$ 3
1/2" Ball Valve	2	EA	\$ 3.00	\$ 0.90	\$ 8
1/2" Pressure Control Valve	1	EA	\$ 65.00	\$ 19.50	\$ 85
1-1/2" PVC Carrier Pipe	10	LF	\$ 5.22	\$ 1.57	\$ 68
1-1/2" PVC Elbow	2	EA	\$ 1.00	\$ 0.30	\$ 3
<b>Future Re-use</b>					
18" Plug	1	EA	\$ 1,200.00	\$ 360.00	\$ 1,560
18" DI Pipe	5	LF	\$ 200.00	\$ 60.00	\$ 1,300
Miscellaneous	5%				\$ 3,432
Subtotal Division 40					<b>\$ 74,942</b>
<b>Division 44 - Pollution Control Equipment</b>					
Non-Potable Supply Pumps & Motors including VFDs	4	EA	\$ 36,000.00	\$ 10,800.00	\$ 187,200
Bag Filter and SS304 Housing	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Miscellaneous	5%				\$ 10,985
Subtotal Division 43					<b>\$ 230,685</b>
<b>Subtotal This Facility</b>					<b>\$ 545,720</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 137,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 28,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 110,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 821,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Chemical Building</b>					
Drilled Shaft Deep Foundation	240	LF	\$ 100.00		\$ 24,000
Grade Beams	26	CY	\$ 400.00		\$ 10,311
Concrete Freestanding Wall	9	CY	\$ 800.00		\$ 7,210
Building Base Slab	25	CY	\$ 400.00		\$ 9,976
Void Forms	1034	SF	\$ 15.00		\$ 15,503
<b>Tank Shelter</b>					
Drilled Shaft Deep Foundation	400	LF	\$ 100.00		\$ 40,000
Grade Beams	28	CY	\$ 400.00		\$ 11,378
Concrete Tank Pad	44	CY	\$ 400.00		\$ 17,611
Concrete Base Slab	39	CY	\$ 400.00		\$ 15,638
Concrete Freestanding Walls	15	CY	\$ 800.00		\$ 12,313
Void Forms	671	SF	\$ 15.00		\$ 10,068
Miscellaneous	5%				\$ 8,700
Subtotal Division 3					<b>\$ 182,708</b>
<b>Division 4 - Masonry</b>					
<b>Chemical Building</b>					
CMU Masonry Walls	2060	SF	\$ 20.00		\$ 41,198
Masonry Veneer	1548	SF	\$ 15.00		\$ 23,225
Miscellaneous	5%				\$ 3,221
Subtotal Division 4					<b>\$ 67,645</b>
<b>Division 5 - Metals</b>					
<b>Chemical Building</b>					
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Metal Deck	645	SF	\$ 15.00		\$ 9,680
Aluminum Grating	69	SF	\$ 60.00		\$ 4,167
<b>Tank Shelter</b>					
Structural Steel Framing	6944	LB	\$ 3.00	\$ 0.90	\$ 20,831
Aluminum Stairs	12	EA	\$ 600.00	\$ 180.00	\$ 9,360
Aluminum Guardrail	111	LF	\$ 60.00		\$ 6,670
Aluminum Grating	111	SF	\$ 60.00		\$ 6,683
Miscellaneous	5%				\$ 3,065
Subtotal Division 5					<b>\$ 64,355</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
<b>Chemical Building</b>					
Wall Insulation	1548	SF	\$ 1.20	\$ 0.50	\$ 2,632
Roof Insulation	645	SF	\$ 2.25	\$ 0.65	\$ 1,871
Rain Gutters and Downspouts	64	LF	\$ 9.20	\$ 2.76	\$ 765
<b>Tank Shelter</b>					
Rain Gutters and Downspouts	95	LF	\$ 9.20	\$ 2.76	\$ 1,130
Miscellaneous	5%				\$ 320
Subtotal Division 7					<b>\$ 6,719</b>
<b>Division 8 - Openings</b>					
<b>Chemical Building</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
FRP Exterior Overhead Door	1	EA	\$ 16,000.00		\$ 16,000
Miscellaneous	5%				\$ 2,600
Subtotal Division 8					<b>\$ 54,600</b>

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 9 - Finishes</b>					
Chemical Resistant Floor Primer	1500	SF	\$ 3.00		\$ 4,500
Masonry Water Resistant Coating	1422	SF	\$ 1.50		\$ 2,133
Miscellaneous	5%				\$ 332
Subtotal Division 9					<b>\$ 6,965</b>
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	2	EA	\$ 1,071.00	\$ 321.30	\$ 2,785
Eye/Face Wash with Heat Trace	1	LS	\$ 5,328.40	\$ 1,598.52	\$ 6,927
105 gal Water Heater	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Backflow Preventer - 1 1/2"	1	EA	\$ 705.18	\$ 211.55	\$ 917
Emergency Mixing Valve - 1"	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
1" PVC Pipe	20	LF	\$ 3.49	\$ 1.05	\$ 91
1-1/2" PVC Pipe	20	LF	\$ 5.22	\$ 1.57	\$ 136
1" CPVC Pipe	10	LF	\$ 5.70	\$ 1.71	\$ 74
1-1/4" CPVC Pipe	50	LF	\$ 6.34	\$ 1.90	\$ 412
1" PVC Fittings	1	LS	\$ 6.98	\$ 2.09	\$ 9
1-1/2" PVC Fittings	1	LS	\$ 10.44	\$ 3.13	\$ 14
1" CPVC Fittings	1	LS	\$ 5.70	\$ 1.71	\$ 7
1-1/4" CPVC Fittings	1	LS	\$ 31.70	\$ 9.51	\$ 41
1" PVC Ball Valve	3	EA	\$ 54.16	\$ 16.25	\$ 211
1-1/2" PVC Ball Valve	3	EA	\$ 85.26	\$ 25.58	\$ 333
1" CPVC Ball Valve	2	EA	\$ 89.77	\$ 26.93	\$ 233
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185
Hose Station	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Floor Drain - Wade 1100-A	1	EA	\$ 750.00	\$ 225.00	\$ 975
Expansion Tank	1	EA	\$ 100.00	\$ 30.00	\$ 130
Miscellaneous	5%				\$ 1,259
Subtotal Division 22					<b>\$ 26,438</b>
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
<b>Sodium Hypo Room</b>					
Exhaust Fan	1	EA	\$ 839.00	\$ 251.70	\$ 1,091
Intake Louver	1	EA	\$ 607.00	\$ 182.10	\$ 789
Ductwork	1	LS	\$ 32.00	\$ 9.60	\$ 42
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Aluminum Sulfate Room</b>					
Exhaust Fan	1	EA	\$ 790.00	\$ 237.00	\$ 1,027
Intake Louver	1	EA	\$ 549.00	\$ 164.70	\$ 714
Ductwork	1	LS	\$ 25.00	\$ 7.50	\$ 33
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
Miscellaneous	5%				\$ 1,030
Subtotal Division 23					<b>\$ 21,624</b>
<b>Division 26 - Electrical</b>					
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
15 kVA XFMR	1	EA	\$ 2,000.00	\$ 2,000.00	\$ 4,000
Panelboard	1	EA	\$ 20,000.00	\$ 5,000.00	\$ 25,000
Wiring Total	1	LS	\$55,000.00	\$11,000.00	\$ 66,000
Conduit Total	1	LS	\$35,000.00	\$7,000.00	\$ 42,000
Lighting and Receptacles Total	1	LS	\$55,000.00	\$11,000.00	\$ 66,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$25,000.00	\$5,000.00	\$ 30,000
Grounding Total	1	LS	\$20,000.00	\$4,000.00	\$ 24,000
<b>Chemical Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-CHEM)</b>					
Enclosure (NET-CHEM) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000	\$ 7,000
Miscellaneous for NET-CHEM	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Chemical Enclosure (PLC-CHEM)</b>					
Enclosure (PLC-CHEM) (72"H x 36"W x 24"D )	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$ 3,500	\$ 700	\$ 4,200
Digital Input Module, 10-31 vdc, 16pts	2	EA	\$ 700	\$ 280	\$ 1,680
Digital Output Module, N.O Isolated Relay Output, 16pts	1	EA	\$ 1,000	\$ 200	\$ 1,200
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (38x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 20,000	\$ 20,000
<b>Instruments</b>					

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Magnetic Flow Meters 1/2"	3	EA	\$ 2,500	\$ 1,500	\$ 9,000
Magnetic Flow Meters 2"	2	EA	\$ 5,000	\$ 2,000	\$ 12,000
PE/LIT Indicating Transmitters with Flange Tank Mounting Equip	2	EA	\$ 6,000	\$ 2,400	\$ 14,400
LSH Floats	2	EA	\$ 600	\$ 240	\$ 1,440
Chlorine Analyzer	1	EA	\$ 6,000	\$ 1,200	\$ 7,200
PI/PSH with Isolation Diaphragm	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 27,646
Subtotal Division 26					<b>\$ 580,566</b>

**Division 31 - Earthwork**

<b>Chemical Building</b>					
Excavation	525	CY		\$ 15.00	\$ 7,876
Fill	468	CY	\$ 20.00		\$ 9,364
<b>Tank Shelter</b>					
Excavation	617	CY		\$ 15.00	\$ 9,261
Fill	544	CY	\$ 20.00		\$ 10,884
Miscellaneous	5%				\$ 1,869
Subtotal Division 31					<b>\$ 39,254</b>

**Division 40 - Process Integration**

<b>Sodium Hypochlorite Piping</b>					
1/2" Tee	35	EA	\$ 0.50	\$ 0.15	\$ 23
1/2" Elbow	36	EA	\$ 0.70	\$ 0.21	\$ 33
1/2" 45 Bend	6	EA	\$ 1.30	\$ 0.39	\$ 10
2" Tee	6	EA	\$ 5.00	\$ 1.50	\$ 39
2" Elbow	6	EA	\$ 4.50	\$ 1.35	\$ 35
2" 45 Bend	1	EA	\$ 4.50	\$ 1.35	\$ 6
1/2" Ball Valve (w/ union)	30	EA	\$ 3.00	\$ 0.90	\$ 117
1/2" Auto Air Vent	7	EA	\$ 160.00	\$ 48.00	\$ 1,456
1/2" Pressure Control Valve	5	EA	\$ 65.00	\$ 19.50	\$ 423
1 1/2" Ball Valve (V300)	4	EA	\$ 12.00	\$ 3.60	\$ 62
2" Ball Valve ( w/ union)	3	EA	\$ 13.00	\$ 3.90	\$ 51
1/2" Ball Valve (w/ union V300)	4	EA	\$ 3.00	\$ 0.90	\$ 16
1/4" Ball Valve (V300)	1	EA	\$ 3.00	\$ 0.90	\$ 4
1/2" PVC Pipe	50	LF	\$ 3.00	\$ 0.90	\$ 195
1/2" Y strainer	1	EA	\$ 115.00	\$ 34.50	\$ 150
Calibration Column	4	EA	\$ 100.00	\$ 30.00	\$ 520
<b>Aluminum Sulfate Piping</b>					
1" Elbow	17	EA	\$ 1.50	\$ 0.45	\$ 33
1" Tee	20	EA	\$ 2.00	\$ 0.60	\$ 52
1 1/2" Elbow	5	EA	\$ 1.00	\$ 0.30	\$ 7
1 1/2" Tee	2	EA	\$ 2.00	\$ 0.60	\$ 5
1 to 1/2" Reducer	2	EA	\$ 2.00	\$ 0.60	\$ 5
2" Ball Valve (w/ union V300)	22	EA	\$ 13.00	\$ 3.90	\$ 372
1 1/2" Ball Valve (w/ union V300)	2	EA	\$ 12.00	\$ 3.60	\$ 31
1 1/4" Ball Valve	2	EA	\$ 140.00	\$ 42.00	\$ 364
1" Ball Valve (w/ union V300)	1	EA	\$ 12.00	\$ 3.60	\$ 16
3/4" Ball Valve (w/ union V300)	1	EA	\$ 3.50	\$ 1.05	\$ 5
1/2" Auto Air Vent	4	EA	\$ 160.00	\$ 48.00	\$ 832
1/2" Pressure Control Valve	2	EA	\$ 65.00	\$ 19.50	\$ 169
1" PVC Pipe	25	LF	\$ 3.79	\$ 1.14	\$ 123
Pressure Release Valve	1	EA	\$ 245.00	\$ 73.50	\$ 319
Calibration Column	2	EA	\$ 100.00	\$ 30.00	\$ 260
Miscellaneous	5%				\$ 287
Subtotal Division 40					<b>\$ 6,017</b>

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
<b><u>Sodium Hypochlorite</u></b>					
500 Gallon FRP Tank	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Pump	1	LS	\$ 31,150.00	\$ 9,345.00	\$ 40,495
Injection Quill	2	EA	\$ 400.00	\$ 120.00	\$ 1,040
<b><u>Aluminum Sulfate</u></b>					
10,000 Gallon FRP Tank	1	EA	\$ 52,900.00	\$ 15,870.00	\$ 68,770
Pump	1	LS	\$ 26,200.00	\$ 7,860.00	\$ 34,060
Injection Quill	1	EA	\$ 400.00	\$ 120.00	\$ 520
<i>Miscellaneous</i>	5%				\$ 8,544
Subtotal Division 40					<b>\$ 179,429</b>
<b>Subtotal This Facility</b>					<b>\$ 1,236,321</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 310,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 62,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 248,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,857,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 70**  
**Facility Description: Aerated Sludge Storage and Mixing**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Concrete Base Slab	324	CY	\$ 400.00		\$ 129,600
Concrete Freestanding Wall	284	CY	\$ 800.00		\$ 227,200
Void Forms	4694	SF	\$ 15.00		\$ 70,410
<b><u>Piping Area</u></b>					
Concrete Base Slab	75	CY	\$ 400.00		\$ 30,000
Concrete Equipment Pads	22	CY	\$ 400.00		\$ 8,800
Void Forms	1390	SF	\$ 15.00		\$ 20,850
<b><u>Aerated Sludge Storage and Mixing Deep Foundations</u></b>					
Drilled Shaft Deep Foundation	1920	LF	\$ 100.00		\$ 192,000
<i>Miscellaneous</i>	5%				\$ 33,943
					<b>Subtotal Division 3</b>
					<b>\$ 712,803</b>
<b>Division 5 - Metals</b>					
<b><u>ASHT Metals</u></b>					
Walkway Column Supports	2500	LB	\$ 4.00	\$ 1.20	\$ 13,000
Aluminum Guardrail	0	LF	\$ 60.00		\$ -
Air Piping Supports	1	LS	\$ 8,000.00	\$ 2,400.00	\$ 10,400
Walkway Aluminum Bar Grating	650	SF	\$ 60.00		\$ 39,000
Truss Walkway Framing	5388	LB	\$ 10.00	\$ 3.00	\$ 70,039
<i>Miscellaneous</i>	5%				\$ 6,622
					<b>Subtotal Division 5</b>
					<b>\$ 139,061</b>
<b>Division 14 - Conveyance</b>					
1-Ton Electric Trolley and Hoist for Blowers	1	EA	\$15,000	\$ 4,500.00	\$ 19,500
<i>Miscellaneous</i>	5%				\$ 975
					<b>Subtotal Division 11</b>
					<b>\$ 20,475</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 30,000.00		\$ 30,000
Conduit Total	1	LS	\$ 10,000.00		\$ 10,000
Lighting and Receptacles Total	1	LS	\$ 15,000.00		\$ 15,000
Mis. Disconnects, Boxes, and Fittings	1	LS	\$ 10,000.00		\$ 10,000
Cable Tray Total	1	LS			\$ -
Grounding Total	1	LS	\$ 5,000.00		\$ 5,000
<b><u>Aerated Sludge Holding Tanks + Solids</u></b>					
Radar Level Transmitters	2	EA	\$ 4,500	\$ 1,800	\$ 10,800
LSH Floats for ASHTs	4	EA	\$ 600	\$ 480	\$ 2,880
<b><u>Sludge Recirculation Pump Station</u></b>					
PI/PSH and PI/PSL with 12" Isolation Diaphragm	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
<b><u>Sludge Feed Pumps</u></b>					
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Pressure Indicator	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
<i>Miscellaneous</i>	5%				\$ 7,724
					<b>Subtotal Division 26</b>
					<b>\$ 162,204</b>

**Facility Number: 70**  
**Facility Description: Aerated Sludge Storage and Mixing**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Excavation	750	CY		\$ 15.00	\$ 11,250
Fill	490	CY	\$ 20.00		\$ 9,800
<b><u>Piping Area</u></b>					
Excavation	155	CY		\$ 15.00	\$ 2,325
Fill	103	CY	\$ 20.00		\$ 2,060
Miscellaneous	5%				\$ 1,272
Subtotal Division 31					<b>\$ 26,707</b>
<b>Division 40 - Process Integration</b>					
<b><u>WAS Piping</u></b>					
6" DI Pipe	139	LF	\$ 58.90	\$ 17.67	\$ 10,643
6" Tee, MJ x MJ	1	EA	\$ 259.00	\$ 77.70	\$ 337
6" 90 Bend, FL x FL	4	EA	\$ 312.00	\$ 93.60	\$ 1,622
6" 90 Bend, MJ x MJ	3	EA	\$ 180.00	\$ 54.00	\$ 702
6" Plug Valve, motor acutated	2	EA	\$ 6,699.00	\$ 2,009.70	\$ 17,417
<b><u>Air Piping</u></b>					
6" Sch 10S 304L SST Pipe	183	LF	\$ 65	\$ 19.50	\$ 15,464
6" Tee	1	EA	\$ 350	\$ 105.00	\$ 455
6" 90 Bend	13	EA	\$ 410	\$ 123.00	\$ 6,929
6" SST Expansion Joint	4	EA	\$ 850	\$ 255.00	\$ 4,420
6" Butterfly Isolation Valve	2	EA	\$ 809	\$ 242.70	\$ 2,103
6" x 4" Tee	2	EA	\$ 350	\$ 105.00	\$ 910
4" Sch 10S 304L SST Pipe	5	LF	\$ 60	\$ 18.00	\$ 390
4" Tee	3	EA	\$ 300	\$ 90.00	\$ 1,170
4" 90 Bend	3	EA	\$ 360	\$ 108.00	\$ 1,404
4" Butterfly Isolation Valve	3	EA	\$ 503	\$ 150.90	\$ 1,962
<b><u>Recirculation Pump Piping</u></b>					
16" DI Pipe	25	LF	\$ 148.46	\$ 44.54	\$ 4,825
16" Tee, FL x FL	3	EA	\$ 6,129	\$ 1,838.70	\$ 23,903
16" 90 Bend, FL x FLARE	2	EA	\$ 7,057	\$ 2,117.10	\$ 18,348
16" Flexible Coupling Adapter	3	EA	\$ 600	\$ 180.00	\$ 2,340
16" Plug Valve	7	EA	\$ 10,000	\$ 3,000.00	\$ 91,000
			\$	\$	\$
12" DI Pipe	42	LF	\$ 103.35	\$ 31.01	\$ 5,643
12" Tee, FL x FL	3	EA	\$ 2,408	\$ 722.40	\$ 9,391
12" Flexible Coupling Adapter	3	EA	\$ 500	\$ 150.00	\$ 1,950
12" Swing Check Valve	3	EA	\$ 8,600	\$ 2,580.00	\$ 33,540
12" Plug Valve	7	EA	\$ 6,000	\$ 1,800.00	\$ 54,600
<b><u>Drain</u></b>					
6" Telescoping Valve	2	EA	\$ 4,000	\$ 1,200.00	\$ 10,400
<i>Includes bracket, offset pedestal, and handwheel operator</i>					
12" DI	54	LF	\$ 112.63	\$ 33.79	\$ 7,907
12" x 8" Tee, MJ x MJ	2	EA	\$ 583	\$ 174.90	\$ 1,516
12" x 8" Reducer, MJ x MJ	1	EA	\$ 305.00	\$ 91.50	\$ 397
8" DI	264	LF	\$ 75.69	\$ 22.71	\$ 25,977
8" Tee, MJ x MJ	3	EA	\$ 349	\$ 104.70	\$ 1,361
8" Plug Valve w/ nut and stem	2	EA	\$ 2,857	\$ 857.10	\$ 7,428
8" x 4" Reducer, MJ x MJ	1	EA	\$ 146.00	\$ 43.80	\$ 190
12" x 6" Tee, MJ x MJ	2	EA	\$ 552	\$ 165.60	\$ 1,435
6" DI	56	LF	\$ 58.90	\$ 17.67	\$ 4,288
4" DI	7	LF	\$ 67.28	\$ 20.18	\$ 612
4" 45 Bend, MJ x MJ	2	EA	\$ 86.00	\$ 25.80	\$ 224
<b><u>Centrifuge Feed Piping</u></b>					
8" DI Pipe	110	LF	\$75.69	\$ 22.71	\$ 10,824
8" Tee, FL x FL	3	EA	\$1,098	\$ 329.40	\$ 4,282
8" Flexible Coupling Adapter	3	EA	\$400	\$ 120.00	\$ 1,560
8" 90 Bend, FL x FL	6	EA	\$569	\$ 170.70	\$ 4,438

**Facility Number: 70**  
**Facility Description: Aerated Sludge Storage and Mixing**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
8" 90 Bend, MJ x MJ	5	EA	\$238	\$ 71.40	\$ 1,547
8" 11.25 Bend, MJ x MJ	1	EA	\$170	\$ 51.00	\$ 221
8" Plug Valve	8	EA	\$3,220	\$ 966.00	\$ 33,488
Miscellaneous	5%				\$ 21,478
Subtotal Division 40					<b>\$ 451,041</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
<b>Jet Aeration/Mixing System</b>					
Jet Aeration/Mixing System <i>Includes in-tank FRP manifold and dry-pit horizontal chopper pump</i>	2	EA	\$105,000	\$ 31,500.00	\$ 273,000
Blowers - Rotary Lobe <i>Includes check valve, pressure relief valve, and rubber bellows</i>	3	EA	\$33,000	\$ 9,900.00	\$ 128,700
Redundant Mixing Pump	1	EA	\$40,000	\$ 12,000.00	\$ 52,000
<b>Centrifuge Feed Pumps</b>					
Centrifuge Feed Pumps	2	EA	\$50,000	\$ 15,000.00	\$ 130,000
Miscellaneous	5%				\$ 29,185
Subtotal Division 46					<b>\$ 612,885</b>
<b>Subtotal This Facility</b>					<b>\$ 2,125,175</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 532,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 107,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 426,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 3,191,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	1440	LF	\$ 100.00		\$ 144,000
Grade Beams	143	CY	\$ 400.00		\$ 57,356
Concrete Base Slab	464	CY	\$ 400.00		\$ 185,585
Concrete Equipment Pads	64	CY	\$ 400.00		\$ 25,570
Concrete Walls	195	CY	\$ 800.00		\$ 155,975
Concrete Elevated Slab	177	CY	\$ 1,200.00		\$ 211,894
Concrete Columns	28	CY	\$ 800.00		\$ 22,105
Concrete Beams	37	CY	\$ 1,200.00		\$ 44,317
Void Forms	5775	SF	\$ 15.00		\$ 86,630
Miscellaneous	5%				\$ 46,672
Subtotal Division 3					<b>\$ 980,103</b>
<b>Division 4 - Masonry</b>					
CMU Block Walls	6964	SF	\$ 20.00		\$ 139,289
Masonry Veneer	5518	SF	\$ 15.00		\$ 82,775
Masonry Pilasters	1440	SF	\$ 35.00		\$ 50,400
Miscellaneous	5%				\$ 13,623
Subtotal Division 4					<b>\$ 286,087</b>
<b>Division 5 - Metals</b>					
Steel Monorail	4713	LB	\$ 4.00		\$ 18,853
Steel Joists	13	TON	\$ 3,000.00		\$ 39,000
Metal Deck	5837	SF	\$ 15.00		\$ 87,552
Aluminum Stairs	68	Riser	\$ 600.00		\$ 40,800
Aluminum Walkway Framing	665	LB	\$ 10.00	\$ 3.00	\$ 8,648
Aluminum Guardrail	257	LF	\$ 60.00		\$ 15,390
Aluminum Grating	151	SF	\$ 60.00		\$ 9,067
Stainless Steel Tread Plate	780	SF	\$ 100.00	\$ 30.00	\$ 101,400
Stainless Steel Angles	2783	LB	\$ 10.00	\$ 3.00	\$ 36,182
Miscellaneous	5%				\$ 17,845
Subtotal Division 5					<b>\$ 374,737</b>
<b>Division 8 - Openings</b>					
FRP Single Door	7	EA	\$ 8,000.00		\$ 56,000
FRP Exterior Overhead Doors	1	EA	\$ 16,000.00		\$ 16,000
FRP Oversized Double Door	1	EA	\$ 14,000.00		\$ 14,000
FRP Double Door	2	EA	\$ 12,000.00		\$ 24,000
Exterior Windows	120	SF	\$ 22.00	\$ 6.00	\$ 3,360
Miscellaneous	5%				\$ 5,668
Subtotal Division 8					<b>\$ 119,028</b>
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	2	EA	\$ 1,071.00	\$ 321.30	\$ 2,785
105 gal Water Heater	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Backflow Preventer - 1-1/2"	1	EA	\$ 704.18	\$ 211.25	\$ 915
Backflow Preventer - 2-1/2" Reduced Pressure	1	EA	\$ 3,800.00	\$ 1,140.00	\$ 4,940
Emergency Mixing Valve - 1"	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
1" PVC Pipe	100	LF	\$ 3.49	\$ 1.05	\$ 454
1-1/2" PVC Pipe	20	LF	\$ 5.22	\$ 1.57	\$ 136
2" PVC Pipe	20	LF	\$ 4.83	\$ 1.45	\$ 126
3" PVC Pipe	30	LF	\$ 10.77	\$ 3.23	\$ 420
1-1/4" CPVC Pipe	80	LF	\$ 6.34	\$ 1.90	\$ 659
1" PVC Fittings	1	LS	\$ 34.90	\$ 10.47	\$ 45
1-1/2" PVC Fittings	1	LS	\$ 10.44	\$ 3.13	\$ 14
2" PVC Fittings	1	LS	\$ 9.66	\$ 2.90	\$ 13
3" PVC Fittings	1	LS	\$ 32.31	\$ 9.69	\$ 42
1-1/4" CPVC Fittings	1	LS	\$ 50.72	\$ 15.22	\$ 66
1" PVC Ball Valve	2	EA	\$ 54.16	\$ 16.25	\$ 141
1-1/2" PVC Ball Valve	2	EA	\$ 85.26	\$ 25.58	\$ 222
2" PVC Ball Valve	3	EA	\$ 134.40	\$ 40.32	\$ 524
3" PVC Ball Valve	2	EA	\$ 272.82	\$ 81.85	\$ 709
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Floor Drain - Wade 1100-A	8	EA	\$ 750.00	\$ 225.00	\$ 7,800
Expansion Tank	1	EA	\$ 100.00	\$ 30.00	\$ 130
Heavy Duty Floor Drains	8	EA	\$ 1,500.00	\$ 450.00	\$ 15,600
4" Floor Drain PVC Pipe	450	LF	\$ 17.94	\$ 5.38	\$ 10,495
4" Floor Drain PVC Fittings	1	LS	\$ 14.24	\$ 4.27	\$ 19
Miscellaneous	5%				\$ 2,777
Subtotal Division 11					\$ 58,315
<b>Division 23 - HVAC</b>					
<b>Dewatering Electrical Room</b>					
Makeup Air Unit	1	EA	\$ 21,281.40	\$ 6,384.42	\$ 27,666
Exhaust Fan	1	EA	\$ 1,378.00	\$ 413.40	\$ 1,791
Ductwork+accessories	1	LS	\$ 2,423.00	\$ 726.90	\$ 3,150
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Electrical Room</b>					
7.5 ton packaged AC	2	EA	\$ 10,500.00	\$ 3,150.00	\$ 27,300
Ductwork	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Blower Room</b>					
Intake Louver	1	EA	\$ 994.00	\$ 298.20	\$ 1,292
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Chemical Room</b>					
Exhaust Fan	1	EA	\$ 1,254.00	\$ 376.20	\$ 1,630
Intake Louver	1	EA	\$ 841.00	\$ 252.30	\$ 1,093
Unit Heater	3	LS	\$ 2,500.00	\$ 750.00	\$ 9,750
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Operations Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Controls	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
			\$ -	\$ -	\$ -
Miscellaneous	5%				\$ 4,951
Subtotal Division 23					\$ 103,974
<b>Division 26 - Electrical</b>					
SWBD-5	1	EA	\$ 210,000.00	\$ 42,000.00	\$ 252,000
MCC-5	1	EA	\$ 175,000.00	\$ 35,000.00	\$ 210,000
Install MFR Centrifuge VFDs	1	LS	\$ 45,000.00	\$ 9,000.00	\$ 54,000
1000 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 9,000.00	\$ 99,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$ 30,000.00	\$ 6,000.00	\$ 36,000
ATS	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000
Panelboard	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
Wiring Total	1	LS	\$ 150,000.00	\$ 30,000.00	\$ 180,000
Conduit Total	1	LS	\$ 80,000.00	\$ 16,000.00	\$ 96,000
Lighting and Receptacles Total	1	LS	\$ 40,000.00	\$ 8,000.00	\$ 48,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 6,000.00	\$ 36,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 4,000.00	\$ 24,000
Grounding Total	1	LS	\$ 20,000.00	\$ 4,000.00	\$ 24,000
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Polymer Blending Units</b>					
Polymer Tote Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Centrifuge</b>					
6" Magmeter	2	EA	\$ 8,000.00	\$ 5,600.00	\$ 21,600
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Solids Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-SOLIDS)</b>					
Enclosure (NET-SOLIDS) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000	\$ 7,000
Miscellaneous for NET-SOLIDS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Solids Enclosure (PLC-SOLIDS)</b>					
Enclosure (PLC-SOLIDS) (72"H x 36"W x 24"D )	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	1	EA	\$ 3,000	\$ 600	\$ 3,600
Digital Input Module, 10-31 vdc, 16pts	3	EA	\$ 700	\$ 420	\$ 2,520
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (74x\$450 Hard + 150x\$350 Soft)	1	LOT	\$ -	\$ 90,000	\$ 90,000
<b>SCADA ASHT Level Alarm Panel (LLRP-ASHT)</b>					
Enclosure (LLRP-ASHT) (12"H x 12"W x 8"D )	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Miscellaneous	1	LOT	\$ 6,000	\$ 1,200	\$ 7,200

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Radar Level Transmitters	1	EA	\$ 4,500	\$ 900	\$ 5,400
LSH Floats Chem Areas	1	EA	\$ 600	\$ 120	\$ 720
PI/PSH and PI/PSL with 12" Isolation Diaphragm	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
PI/PSH with 1.5" Isolation Diaphragm	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Weight Scales for Polymer Day Tanks	2	EA	\$ 6,000	\$ 2,400	\$ 14,400
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 74,387
Subtotal Division 26					<b>\$ 1,562,127</b>
<b>Division 31 - Earthwork</b>					
Excavation	2825	CY		\$ 15.00	\$ 42,368
Fill	2261	CY	\$ 20.00		\$ 45,210
Miscellaneous	5%				\$ 4,379
Subtotal Division 31					<b>\$ 91,956</b>
<b>Division 40 - Process Integration</b>					
Centrifuges	2	EA	\$ 753,000.00	\$ 150,600.00	\$ 1,807,200
Polymer Transfer Pumps	2	EA	\$ 6,000.00	\$ 1,000.00	\$ 14,000
Polymer Blending Unit	2	EA	\$ 50,000.00	\$ 15,000.00	\$ 130,000
Polymer Tanks	1	LS	\$ 12,500.00	\$ 2,000.00	\$ 14,500
Centrifuge Building Piping Allowance	1	LS	\$ 354,000.00	\$ 113,500.00	\$ 467,500
Miscellaneous	5%				\$ 121,660
Subtotal Division 40					<b>\$ 2,554,860</b>
<b>Division 41 - Material Processing and Handling Equipment</b>					
Monorail	1	LS	\$ 35,000.00	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 6,178,963</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 1,545,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 309,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 1,236,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 9,269,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Operations &amp; Laboratory Building Concrete</b>					
Concrete Base Slab	195	CY	\$ 400.00		\$ 78,000
Void Forms	4000	SF	\$ 15.00		\$ 60,000
Grade Beams	43	CY	\$ 400.00		\$ 17,304
<b>Operations &amp; Laboratory Building Deep Foundations</b>					
Drilled Shaft Deep Foundation	1200	LF	\$ 100.00		\$ 120,000
Miscellaneous	5%				\$ 13,765
Subtotal Division 3					<b>\$ 289,069</b>
<b>Division 4 - Masonry</b>					
Concrete Masonry Walls - 8"	5200	SF	\$ 7.00	\$ 6.00	\$ 67,600
Concrete Masonry Walls - 4"	2000	SF	\$ 6.50	\$ 6.00	\$ 25,000
Miscellaneous	5%				\$ 4,630
Subtotal Division 4					<b>\$ 97,230</b>
<b>Division 5 - Metals</b>					
Metal Studs - 16ft x 6.00 in, 12ga, 16" o.c.	500	LF	\$ 40.00	\$ 25.00	\$ 32,500
Metal Roof Framing (Steel Joists)	4735	SF	\$ 14.00	\$ 0.50	\$ 68,658
Metal Roof Deck	4735	SF	\$ 3.50	\$ 0.50	\$ 18,940
Miscellaneous	5%				\$ 6,005
Subtotal Division 5					<b>\$ 126,102</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Rough Carpentry	1	LS	\$ 10,000.00	\$ 10,000.00	\$ 20,000
Gypsum Sheathing - 5/8" glass mat	4000	SF	\$ 0.77	\$ 0.77	\$ 6,160
Miscellaneous	5%				\$ 1,308
Subtotal Division 6					<b>\$ 27,468</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Roof Panels	4720	SF	\$ 5.10	\$ 1.75	\$ 32,332
Metal Wall Panels	3450	SF	\$ 3.00	\$ 5.00	\$ 27,600
Metal Soffit Panels	1000	SF	\$ 5.10	\$ 1.75	\$ 6,850
Air Barrier-Wall	10000	SF	\$ 0.16	\$ 0.12	\$ 2,800
Wall Sound Insulation - 3.5" R-13 15"W	8500	SF	\$ 0.31	\$ 0.28	\$ 5,015
Wall-Open-Cell Foam Insulation (Spray applied) - 3.0" R-15	5200	SF	\$ 1.58	\$ 0.80	\$ 12,376
Roof-Polyisocyanurate Rigid Insulation - R-30 (6" +)	4720	SF	\$ 1.35	\$ 0.30	\$ 7,788
Wall-Polyisocyanurate Rigid Insulation - R-11 (2"+)	5200	SF	\$ 0.90	\$ 0.25	\$ 5,980
Sealants	1	LS	\$ 600.00	\$ 1,000.00	\$ 1,600
Miscellaneous	5%				\$ 5,117
Subtotal Division 7					<b>\$ 107,458</b>
<b>Division 8 - Openings</b>					
Interior Man Doors - SCW/ALUM 3'x7'	10	EA	\$ 850.00	\$ 360.00	\$ 12,100
Exterior Man Doors - Alum 3'x7'	5	SF	\$ 1,875.00	\$ 800.00	\$ 13,375
Interior ALUM Storefront - Office	462	SF	\$ 28.00	\$ 5.50	\$ 15,477
Interior Glazing - Single	462	SF	\$ 5.75	-	\$ 2,657
Exterior Windows - 1": Insulated Glazing	210	SF	\$ 22.00	\$ 6.00	\$ 5,880
ALUM Storefront - Vestibule	112	SF	\$ 28.00	\$ 5.50	\$ 3,752
Exterior Glazing - Insulated	188	SF	\$ 5.75	-	\$ 1,081
Mirrors - Toilet; Frameless	50	SF	\$ 10.00	\$ 5.25	\$ 763
Miscellaneous	5%				\$ 2,754
Subtotal Division 8					<b>\$ 57,838</b>
<b>Division 9 - Finishes</b>					
Walls - Gypsum Board - 5/8" -Tape & Float	12000	SF	\$ 0.70	\$ 0.95	\$ 19,800
Ceiling - Gypsum Board - 5/8" -Tape & Float	478	SF	\$ 0.70	\$ 0.95	\$ 789
Walls - Cementitious Backing Board- 5/8" -Tape & Float	3744	SF	\$ 1.10	\$ 4.75	\$ 21,902
Paint - Walls Gypsum Board - Prep, Primer & Fins Coat	12000	SF	\$ 0.12	\$ 0.36	\$ 5,760
Paint - Ceiling Gypsum Board - Prep, Primer & Fins Coat	478	SF	\$ 0.12	\$ 0.36	\$ 229
Acoustic Ceiling Tile, 15/16" grid, 24x24	3400	SF	\$ 2.57	\$ 1.06	\$ 12,342
Sealed Concrete - Floor	2730	SF	\$ 0.46	\$ 0.23	\$ 1,884
Carpet Tile - Floor -OFC/Training	1000	SF	\$ 8.50	\$ 5.00	\$ 13,500
Base - Wall - 6" Resilient	1000	LF	\$ 1.50	\$ 1.25	\$ 2,750
Base - Wall - 6" Resilient Corners	100	EA	\$ 3.00	\$ 1.25	\$ 425
Interior Wall Tile - Large Format - 12" x 24"	2500	SF	\$ 9.50	\$ 4.50	\$ 35,000
Base - Wall - 6"x12" Cove Tile	375	LF	\$ 7.85	\$ 7.25	\$ 5,663
Miscellaneous	5%				\$ 6,002
Subtotal Division 9					<b>\$ 126,046</b>

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 10 - Specialties</b>					
Building Sign - 36" x 12" - Aluminum	2	EA	\$ 210.00	\$ 25.00	\$ 470
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 50.00	\$ 15.00	\$ 260
Fire Extinguisher - Cabinet	4	EA	\$ 110.00	\$ 95.00	\$ 820
Toilet Partitions - Stainless Steel	3	EA	\$ 1,500.00	\$ 200.00	\$ 5,100
San Napkin Disposal	2	EA	\$ 25.00	\$ 16.00	\$ 82
Waste Recepticle	3	EA	\$ 100.00	\$ 36.00	\$ 408
Toilet Paper Dispenser	3	EA	\$ 25.00	\$ 16.00	\$ 123
Grab Bars - ADA 36"	2	EA	\$ 40.00	\$ 22.00	\$ 124
Grab Bars - ADA 42"	2	EA	\$ 50.00	\$ 40.00	\$ 180
Hand Dryer	2	EA	\$ 800.00	\$ 100.00	\$ 1,800
Lockers - 12"x18"x72"	11	EA	\$ 540.00	\$ 20.00	\$ 6,160
Shower Enclosures - ADA & Standard	2	EA	\$ 1,000.00	\$ 110.00	\$ 2,220
Corner Guards-Stainless Steel (3"x3"x48"L)	12	EA	\$ 110.00	\$ 20.00	\$ 1,560
Door/Wall Signs - 8"x 8" acrylic	24	EA	\$ 40.00	\$ 10.00	\$ 1,200
Miscellaneous	5%				\$ 1,025
Subtotal Division 10					<b>\$ 21,532</b>
<b>Division 11 - Equipment</b>					
Audio/Video Equipment - Conference	1	LS	\$ 5,000.00	\$ 500.00	\$ 5,500
Lab Equipment	1	LS	\$ 100,000.00		\$ 100,000
FF&E - OFC	7	EA	\$ 5,000.00		\$ 35,000
FF&E -Training	1	EA	\$ 10,000.00		\$ 10,000
Miscellaneous	5%				\$ 7,525
Subtotal Division 11					<b>\$ 158,025</b>
<b>Division 12 - Furnishings</b>					
Blinds	462	SF	\$ 5.50	\$ 1.20	\$ 3,095
Millwork - Base Cabinet - 24" D - Plastic Laminate	36	LF	\$ 150.00	\$ 9.25	\$ 5,733
Millwork - Overhead Cabinet - 12" D - Plastic Laminate	38	LF	\$ 90.00	\$ 7.25	\$ 3,696
Solid Surface Countertops	36	LF	\$ 85.00	\$ 34.00	\$ 4,284
Miscellaneous	5%				\$ 840
Subtotal Division 12					<b>\$ 17,648</b>
<b>Division 22 - Plumbing</b>					
INSTANT WATER HEATER, ELECTRIC	1 EACH		\$ 408.00	\$ 320.00	\$ 728
STORAGE WATER HEATER, ELECTRIC	1 EACH		\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1 EACH		\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1 EACH		\$ 1,980.00	\$ 640.00	\$ 2,620
ICEMAKER OUTLET CONNECTION	2 EACH		\$ 60.00	\$ 80.00	\$ 280
HOT WATER CIRCULATION PUMP WITH CONTROLS	1 EACH		\$ 1,880.00	\$ 480.00	\$ 2,360
HOSE BIB	1 EACH		\$ 40.00	\$ 40.00	\$ 80
FREEZEPROOF WALL HYDRANT	3 EACH		\$ 90.00	\$ 80.00	\$ 510
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	3 EACH		\$ 520.00	\$ 160.00	\$ 2,040
URINAL, MANUAL FLUSH VALVE	1 EACH		\$ 520.00	\$ 160.00	\$ 680
5 FT HANDWASH BASIN, MANUAL FAUCETS	2 EACH		\$ 3,400.00	\$ 320.00	\$ 7,440
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	1 EACH		\$ 1,740.00	\$ 320.00	\$ 2,060
ACRYLIC SHOWER, WITH SHOWER VALVE	2 EACH		\$ 3,900.00	\$ 1,280.00	\$ 10,360
STAINLESS STEEL KITCHEN SINK, MANUAL FAUCET	1 EACH		\$ 440.00	\$ 320.00	\$ 760
SERVICE SINK, WALL FAUCET	1 EACH		\$ 660.00	\$ 320.00	\$ 980
EMERGENCY EYEWASH	1 EACH		\$ 220.00	\$ 320.00	\$ 540
DOMESTIC WATER PIPING	1 LS		\$ 16,000.00	\$ 16,000.00	\$ 32,000
SANITARY SEWER PIPING	1 LS		\$ 16,000.00	\$ 16,000.00	\$ 32,000
Miscellaneous	5%				\$ 5,056
Subtotal Division 22					<b>\$ 106,184</b>
<b>Division 23 - HVAC</b>					
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 3-TON	2 EACH		\$ 10,000.00	\$ 9,000.00	\$ 38,000
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 1.5-TON	1 EACH		\$ 6,500.00	\$ 6,500.00	\$ 13,000
DUCTLESS MINI-SPLIT SYSTEM, WALL MOUNT, THERMOSTAT	2 EACH		\$ 2,800.00	\$ 2,800.00	\$ 11,200
STATIC PLAT ENERGY RECOVERY UNIT, DUCTWORK, 1,000 CFM	1 EACH		\$ 4,500.00	\$ 4,500.00	\$ 9,000

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
FIXED LOUVER	1	EACH	\$ 200.00	\$ 200.00	\$ 400
ROOF INTAKE HOOD, 16" DIA	1	EACH	\$ 800.00	\$ 480.00	\$ 1,280
MOTORIZED DAMPER	1	EACH	\$ 280.00	\$ 80.00	\$ 360
Miscellaneous	5%				\$ 3,662
Subtotal Division 23					<b>\$ 76,902</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4735	SF	\$ 18.00	\$ -	\$ 85,230
Communications and Security	4735	SF	\$ 9.00	\$ -	\$ 42,615
Subtotal Division 26					<b>\$ 143,845</b>
<b>Division 31 - Earthwork</b>					
Excavation	507	CY		\$ 15.00	\$ 7,605
Fill	359	CY	\$ 20.00		\$ 7,180
Miscellaneous	5%				\$ 739
Subtotal Division 31					<b>\$ 15,524</b>
<b>Subtotal This Facility</b>					<b>\$ 1,370,873</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 343,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 69,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 275,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,058,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 86**  
**Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	480	LF	\$ 100.00		\$ 48,000
Grade Beams	56	CY	\$ 400.00		\$ 22,593
Concrete Base Slab	151	CY	\$ 400.00		\$ 60,513
Void Forms	4053	SF	\$ 15.00		\$ 60,789
Miscellaneous	5%				\$ 9,595
Subtotal Division 3					<b>\$ 201,490</b>
<b>Division 4 - Masonry</b>					
CMU - 8"	5089	SF	\$ 7.00	\$ 6.00	\$ 66,157
Misc- Reinforcing, etc.	1				\$ 3,308
Miscellaneous	5%				\$ 3,308
Subtotal Division 4					<b>\$ 69,465</b>
<b>Division 5 - Metals</b>					
Prefabricated Metal Building	4038	SF	\$ 17.75	\$ 6.50	\$ 97,922
Fencing with gates - 12'-0"H	35	LF	\$ 45.00	\$ 25.00	\$ 2,450
Miscellaneous	5%				\$ 5,019
Subtotal Division 5					<b>\$ 105,390</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Wall Panels - Insulated	200	SF	\$ 12.50	\$ 4.00	\$ 3,300
Metal Roof Panels - Insulated	4591	SF	\$ 10.25	\$ 6.00	\$ 74,604
Sealants	1	LS	\$ 400.00	\$ 250.00	\$ 650
Miscellaneous	5%				\$ 3,928
Subtotal Division 7					<b>\$ 82,481</b>
<b>Division 8 - Openings</b>					
Exterior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	5	EA	\$ 1,875.00	\$ 850.00	\$ 13,625
Interior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	1	EA	\$ 1,150.00	\$ 300.00	\$ 1,450
Overhead Insulating Coiling Door - 10'W x 8'H	1	EA	\$ 1,200.00	\$ 600.00	\$ 1,800
Overhead Insulating Coiling Door - 10'W x 14'H	2	EA	\$ 2,100.00	\$ 1,050.00	\$ 6,300
Miscellaneous	5%				\$ 1,159
Subtotal Division 8					<b>\$ 24,334</b>
<b>Division 9 - Finishes</b>					
Paint - Walls CMU - Prep, Primer & Fins Coat	1100	SF	\$ 0.25	\$ 0.45	\$ 770
Paint - Ceiling - Prep, Primer & Fins Coat	80	SF	\$ 0.25	\$ 0.45	\$ 56
Miscellaneous	5%				\$ 41
Subtotal Division 8					<b>\$ 867</b>
<b>Division 10 - Specialities</b>					
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 50.00	\$ 15.00	\$ 260
Waste Recepticle	1	EA	\$ 100.00	\$ 36.00	\$ 136
Toilet Paper Dispenser	1	EA	\$ 10.00	\$ 10.00	\$ 20
Grab Bars - ADA 36"	1	EA	\$ 40.00	\$ 22.00	\$ 62
Grab Bars - ADA 42"	1	EA	\$ 50.00	\$ 22.00	\$ 72
Hand Dryer	1	EA	\$ 800.00	\$ 100.00	\$ 900
Door/Wall Signs - 8"x8" acrylic	8	EA	\$ 40.00	\$ 10.00	\$ 400
Exterior Wall Signs - 12"x36" Aluminum Sign/Painted Letter	2	EA	\$ 100.00	\$ 40.00	\$ 280
Miscellaneous	5%				\$ 107
Subtotal Division 8					<b>\$ 2,237</b>
<b>Division 11 - Equipment</b>					
FF& E Package	1	LS	\$ 20,000.00		\$ 20,000
Miscellaneous	5%				\$ 1,000
Subtotal Division 11					<b>\$ 21,000</b>

**Facility Number: 86**  
**Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
Fire Sprinkler (not required)	0	SF	\$ 5.00	\$ 5.00	\$ -
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
HOSE BIB	2	EACH	\$ 40.00	\$ 40.00	\$ 160
FREEZEPROOF WALL HYDRANT	2	EACH	\$ 90.00	\$ 80.00	\$ 340
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
HANDWASH SINK, FOOT CONTROLS	2	EACH	\$ 1,850.00	\$ 320.00	\$ 4,340
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	0	EACH	\$ 1,740.00	\$ 320.00	\$ -
EMERGENCY SHOWER	1	EACH	\$ 660.00	\$ 320.00	\$ 980
AIR COMPRESSOR, 120 GALLONS	1	EACH	\$ 7,500.00	\$ 660.00	\$ 8,160
COMPRESSED AIR PIPING	1	LS	\$ 2,200.00	\$ 2,200.00	\$ 4,400
DOMESTIC WATER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
SANITARY SEWER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
Miscellaneous	5%				\$ -
<b>Subtotal Division 22</b>					<b>\$ 40,570</b>
<b>Division 23 - HVAC</b>					
ELECTRIC UNIT HEATER, CORROSION RESISTANT	2	EA	\$ 3,800.00	\$ 700.00	\$ 9,000
EXHAUST FAN, TOILET	1	EA	\$ 280.00	\$ 280.00	\$ 560
EXHAUST FAN, 5,000 CFM	1	EA	\$ 1,200.00	\$ 1,200.00	\$ 2,400
BIG ASS FAN	1	EA	\$ 6,200.00	\$ 1,200.00	\$ 7,400
Miscellaneous	5%				\$ 968
<b>Subtotal Division 23</b>					<b>\$ 20,328</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4038	SF	\$ 9.00	\$ -	\$ 36,342
Communications and Security	4038	SF	\$ 5.00	\$ -	\$ 20,190
Miscellaneous	5%				\$ 3,627
<b>Subtotal Division 26</b>					<b>\$ 76,159</b>
<b>Division 31 - Earthwork</b>					
Excavation	1706	CY	\$ -	\$ 15.00	\$ 25,592
Fill	1406	CY	\$ 20.00	\$ -	\$ 28,118
Miscellaneous	5%				\$ 2,686
<b>Subtotal Division 31</b>					<b>\$ 56,396</b>
<b>Subtotal This Facility</b>					<b>\$ 700,716</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 176,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 36,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 141,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,054,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
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**Facility Number: 88**  
**Facility Description: Main Plant Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Main Plant Electrical Building</b>					
Concrete Base Slab	109	CY	\$ 400.00		\$ 43,511
Void Forms	2937	SF	\$ 15.00		\$ 44,055
Grade Beams	53	CY	\$ 400.00		\$ 21,137
Drilled Shaft Deep Foundation	1000	LF	\$ 100.00		\$ 100,000
Concrete Housekeeping Pads	3	CY	\$ 400.00		\$ 1,319
Miscellaneous	5%				\$ 10,501
Subtotal Division 3					<b>\$ 220,522</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	3492	SF	\$ 20.00		\$ 69,840
Veneer	3492	SF	\$ 15.00		\$ 52,380
Miscellaneous	5%				\$ 6,111
Subtotal Division 4					<b>\$ 128,331</b>
<b>Division 5 - Metals</b>					
Metal Roofing Panels	2637	SF	\$ 15.00		\$ 39,555
Steel Roof Joists	2	TON	\$3,000.00	\$900.00	\$ 7,800
Miscellaneous	5%				\$ 2,368
Subtotal Division 5					<b>\$ 49,723</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3492	SF	\$ 3.80	\$ 1.14	\$ 17,250
Building Roof Insulation	2637	SF	\$ 1.75	\$ 1.92	\$ 9,678
Rain Gutters and Downspouts	173	LF	\$ 9.20	\$ 2.76	\$ 1,435
Miscellaneous	5%				\$ 1,418
Subtotal Division 7					<b>\$ 29,782</b>
<b>Division 8 - Openings</b>					
FRP Single Door	2	EA	\$ 8,000.00		\$ 16,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,400
Subtotal Division 8					<b>\$ 29,400</b>
<b>Division 21 - Fire Protection</b>					
Allowance for fire protection system	1	LS	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 1,250
Subtotal Division 21					<b>\$ 26,250</b>
<b>Division 23 - HVAC</b>					
10-ton AC unit	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
Ductwork+accessories	1	LS	\$ 7,862.00	\$ 2,358.60	\$ 10,221
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 2,494
Subtotal Division 23					<b>\$ 52,364</b>
<b>Division 26 - Electrical</b>					
MV SWGR 1A & 1B	2	EA	\$ 800,000.00	\$ 160,000.00	\$ 1,760,000
Transfer Control Cabinet	1	EA	\$ 85,000.00	\$ 17,000.00	\$ 102,000
MCC-1	1	EA	\$ 75,000.00	\$ 15,000.00	\$ 90,000
500 kVA Pad Mounted Transformers	2	EA	\$ 40,000.00	\$ 8,000.00	\$ 88,000
ATS	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000
Panelboard	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
Wiring Total	1	LS	\$ 150,000.00	\$ 30,000.00	\$ 180,000
Conduit Total	1	LS	\$ 110,000.00	\$ 22,000.00	\$ 132,000
Lighting and Receptacles Total	1	EA	\$ 55,000.00	\$ 11,000.00	\$ 66,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 34,000.00	\$ 6,800.00	\$ 40,800
Cable Tray Total	1	LS	\$ 45,000.00	\$ 9,000.00	\$ 54,000
Grounding Total	1	LS	\$ 35,000.00	\$ 7,000.00	\$ 42,000
					\$ -
					\$ -
					\$ -
<b>Main Plant Electrical Building #1 (SCADA)</b>					\$ -
Room Temperature Transmitters	1	EA	\$ 2,000.00	\$ 400	\$ 2,400

**Facility Number: 88**  
**Facility Description: Main Plant Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Network Enclosure (NET-MAIN)</b>					
Enclosure (NET-MAIN) (48"H x 36"W x 16"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000	\$ 7,000
Miscellaneous for NET-MAIN	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Main Electrical Enclosure (PLC-MAIN)</b>					
Enclosure (PLC-MAIN) (72"H x 36"W x 24"D)	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	1	EA	\$ 3,000	\$ 600	\$ 3,600
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$ 3,500	\$ 700	\$ 4,200
Digital Input Module, 10-31 vdc, 16pts	1	EA	\$ 700	\$ 140	\$ 840
Digital Output Module, N.O Isolated Relay Output, 16pts	1	EA	\$ 1,000	\$ 200	\$ 1,200
Miscellaneous	1	LOT	\$ 15,000	\$ -	\$ 15,000
Programming	1	LOT	\$ -	\$ 15,000	\$ 15,000
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 137,282
			Subtotal Division 26		\$ 2,882,922
<b>Division 31 - Earthwork</b>					
Excavation	1015	CY	\$	15.00	\$ 15,225
Fill	923	CY	\$ 20.00		\$ 18,460
Miscellaneous	5%				\$ 1,684
			Subtotal Division 31		\$ 35,369
<b>Subtotal This Facility</b>					\$ 3,454,663
<b>Contingency</b>				20%	\$ 864,000
<b>Mobilization</b>				5%	\$ 173,000
<b>Contractor's Overhead and Profit</b>				20%	\$ 691,000
<b>Total Estimated Facility Costs</b>					\$ 5,183,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
**City of Pflugerville**  
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**Facility Number: 90**  
**Facility Description: General Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
2750 KW GEN SET	1	EA	\$1,750,000.00	\$350,000.00	\$ 2,100,000
Load Bank Connection Box	1	EA	\$50,000.00	\$10,000.00	\$ 60,000
Generator & Load Bank Feeders	1	LS	\$40,000.00	\$8,000.00	\$ 48,000
Incoming Power 15KV Ductbank	1	LS	\$10,000	\$2,000.00	\$ 12,000
Incoming Power 5kV Ductbank	1	LS	\$120,000	\$24,000.00	\$ 144,000
Incoming 5KV Manholes	4	EA	\$25,000	\$5,000.00	\$ 120,000
Incoming Power 5kV Cable	1	LS	\$95,000	\$19,000.00	\$ 114,000
Bluebonnet Transformer Secondary Fdrs DB (Non-Contractor Cost -- see elsewhere)	0	LS	\$950,000.00	\$0.00	\$ -
Subtotal Division 26					\$ 2,598,000
<b>Subtotal This Facility</b>					\$ 2,598,000
<b>Contingency</b>				20%	\$ 650,000
<b>Mobilization</b>				5%	\$ 130,000
<b>Contractor's Overhead and Profit</b>				20%	\$ 520,000
<b>Total Estimated Facility Costs</b>					\$ 3,898,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
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**Facility Number: 95**  
**Facility Description: SCADA**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
<b>SCADA Room</b>					
Servers	3	EA	\$ 40,000	\$ 24,000	\$ 144,000
Software (HMI)	1	LS	\$ 100,000	\$ 20,000	\$ 120,000
19-inch Racks	4	EA	\$ 30,000	\$ 24,000	\$ 144,000
Ethernet Switches	2	EA	\$ 30,000	\$ 12,000	\$ 72,000
UPS	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<b>SCADA Room</b>					
Work Stations with Monitors	2	EA	\$ 20,000	\$ 8,000	\$ 48,000
Overall startup Testing	1	LOT		\$ 100,000	\$ 100,000
Spare Parts	1	EA	\$ 50,000		\$ 50,000
Training	1	LS	\$ -	\$ 30,000	\$ 30,000
Miscellaneous	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Miscellaneous	5%				\$ 37,500
Subtotal Division 26					<b>\$ 787,500</b>
<b>Division 27 - Communication</b>					
FOC-01 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-02 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-03 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-04 (Include Fiber and Installation)	1500	FT	\$ 6.00	\$ 1,350	\$ 10,350
FOC-05 (Include Fiber and Installation)	1200	FT	\$ 6.00	\$ 1,080	\$ 8,280
FOC-06 (Include Fiber and Installation)	1000	FT	\$ 6.00	\$ 900	\$ 6,900
FOC-07 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-08 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-09 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-10 (Include Fiber and Installation)	500	FT	\$ 6.00	\$ 450	\$ 3,450
FOC-11 (Include Fiber and Installation)	700	FT	\$ 6.00	\$ 630	\$ 4,830
TOTAL Fiber Connectors, Includes Connector and Installation	456	Unit	\$ 80	\$ -	\$ 36,480
Testing of each Fiber Strand	228	Strand	\$ 100	\$ -	\$ 22,800
FOPPs	11	Unit	\$ 4,000	\$ 6,600	\$ 50,600
Miscellaneous Fiber Items	1	LOT	\$ 10,000	\$ -	\$ 10,000
Miscellaneous	5%				\$ 8,202
Subtotal Division 27					<b>\$ 172,242</b>
<b>Division 28 - Electronic Safety &amp; Security</b>					
Allowance for site security, access, etc.	1	LS	\$ 400,000		\$ 400,000
Allowance for cameras, controls, etc.	1	LS	\$ 150,000		\$ 150,000
Miscellaneous	0%				\$ -
Subtotal Division 28					<b>\$ 550,000</b>
<b>Division 40 - Process Integration (SCADA)</b>					
Configuration of HMI (submittals, graphics, database, WFT only, mtgs, etc.)	1	LS		\$150,000	\$ 150,000
Miscellaneous	0%				\$ -
Subtotal Division 40					<b>\$ 150,000</b>
<b>Subtotal This Facility</b>					<b>\$ 1,659,742</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 415,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 83,000</b>
<b>Contractor's Overhead and Profit</b>				<b>20%</b>	<b>\$ 332,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,490,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 60% Design**  
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**Facility Number: Independent Contract**  
**Facility Description: Costs Outside of Project Scope**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Part 1 - Electrical to Site</b>					
Bluebonnet Transformer Secondary Fdrs DB - Primary Feed	1	LS	\$ 950,000.00	\$ -	\$ 950,000
Bluebonnet Transformer Secondary Fdrs DB - Secondary Feed	1	LS	\$ 450,000.00	\$ -	\$ 450,000
Miscellaneous	0%				\$ -
Subtotal Electrical to Site					<b>\$ 1,400,000</b>
<b>Part 2 - Furnishings</b>					
Operations and Lab Building Furnishings	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Maintenance Building Furnishings	1	LS	\$ 15,000.00	\$ -	\$ 15,000
Solids Control Room Building Furnishings	1	LS	\$ 10,000.00	\$ -	\$ 10,000
Miscellaneous	0%				\$ -
Subtotal Furnishings					<b>\$ 130,000</b>
<b>Part 3 - Equipment and Tools</b>					
Maintenance Building Tools	1	LS	\$ 65,000.00	\$ -	\$ 65,000
UTV - Site Access Equipment	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Misc. Trucks and Vehicles	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Mower Units	2	EA	\$ 35,000.00	\$ -	\$ 70,000
Backhoe and Solids Handling Equipment	2	EA	\$ 75,000.00	\$ -	\$ 150,000
Forklift	1	EA	\$ 35,000.00	\$ -	\$ 35,000
Miscellaneous	0%				\$ -
Subtotal Equipment and Tools					<b>\$ 520,000</b>
<b>Part 4 - Testing</b>					
Independent Testing during Construction (Final cost TBD)	1	LS	\$ 200,000.00	\$ -	\$ 200,000
Miscellaneous	0%				\$ -
Subtotal Testing					<b>\$ 200,000</b>
<b>Part 5 - Water Procurement</b>					
Watertightness Testing Water (Final cost TBD)	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Startup Testing Water (Final cost TBD)	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Miscellaneous	0%				\$ -
Subtotal Water Procurement					<b>\$ 200,000</b>
<b>Part 6 - Chemical Procurement</b>					
Chemicals for Startup and Testing (Final cost TBD)	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Miscellaneous	0%				\$ -
Subtotal Chemical Procurement					<b>\$ 100,000</b>
<b>Part 7 - Other</b>					
Decommissioning of Weiss Lift Station (Final cost TBD)	1	LS	\$ 200,000.00	\$ -	\$ 200,000
Offsite Sewer Interceptors (Final cost TBD)	1	LS	\$ 250,000.00	\$ -	\$ 250,000
Miscellaneous	0%				\$ -
Subtotal Other					<b>\$ 450,000</b>
<b>Subtotal This Facility</b>					<b>\$ 2,997,500</b>
<b>Contingency</b>				<b>0%</b>	
<b>Mobilization</b>				<b>0%</b>	
<b>Contractor's Overhead and Profit</b>				<b>0%</b>	
<b>Escalation</b>	<b>0 Years @</b>		<b>7.%</b>	<b>0%</b>	
<b>Total Estimated Facility Costs</b>					<b>\$ 2,998,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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9/30/2022

**1. Lump Sum Work (Facilities or Areas)**

**\$ Total**

<a href="#">03</a> Demolition and Erosion Control	\$435,000
<a href="#">04</a> Grading, Paving, Storm Water Detention	\$8,535,000
<a href="#">05</a> Yard Piping	\$15,646,000
<a href="#">06</a> Site Electrical	\$9,632,000
<a href="#">07</a> Landscaping and Irrigation	\$1,211,000
<a href="#">09</a> Civil Yard Structures	\$1,030,000
<a href="#">10</a> Influent Lift Station #1	\$15,735,000
<a href="#">12</a> Headworks #1	\$10,438,000
<a href="#">13</a> Influent Foul Air Facility #1	\$2,323,000
<a href="#">14</a> ILS/HW Electrical Building #1	\$5,081,000
<a href="#">31</a> Aeration Basins	\$37,321,000
<a href="#">38</a> Blower Facility #1	\$10,576,000
<a href="#">40</a> Mixed Liquor Splitter Box	\$2,090,000
<a href="#">45</a> Secondary Clarifiers	\$18,589,000
<a href="#">46</a> RAS/WAS Pump Station	\$4,935,000
<a href="#">50</a> Filters	\$7,183,000
<a href="#">53</a> UV Disinfection	\$4,246,000
<a href="#">54</a> UV Electrical Building #1	\$2,703,000
<a href="#">55</a> Effluent Facility	\$3,662,000
<a href="#">56</a> Non-Potable Water System	\$1,038,000
<a href="#">60</a> Chemical Feed Facility	\$2,704,000
<a href="#">70</a> Aerated Sludge Storage and Mixing	\$5,914,000
<a href="#">72</a> Biosolids Handling Building	\$13,223,000
<a href="#">85</a> Operations & Laboratory Building	\$2,869,000
<a href="#">86</a> Maintenance and Storage Building	\$1,735,000
<a href="#">88</a> Main Plant Electrical Building #1	\$6,238,000
<a href="#">89</a> Generator and Transformer Pad	\$359,000
<a href="#">90</a> General Electrical	\$5,270,000
<a href="#">95</a> SCADA	\$2,563,000
<a href="#">99</a> Weiss Lift Station (estimate per Kimley Horn)	\$255,000

**Total Estimated Lump Sum Work      \$204,000,000**

All numbers above include the following base Assumptions:

Mobilization	5%
Contractor Overhead and Profit	22%
Contingency for Unidentified Scope	18%

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**2. Additive and Deductive Alternates**

**\$ Total**

Subtotal Estimated Deductive Alternatives

\$0

**3. Cash Allowances for Construction Changes**

**\$ Total**

1

Cash Allowance for Construction Changes

Basis of Cash Allowance  
Allowance Rate 5%

\$204,000,000

\$10,200,000

Subtotal for Construction Changes

\$10,200,000

**4. Allowance for Project Escalation**

**\$ Total**

Escalation of Cost to Midpoint Construction (Sept 2022  
now; 6 Months to NTP, 50% of 3 yr construction  
midpoint)

Basis of Escalation  
2 Years @ 7.0%

\$204,000,000

\$29,600,000

**5. Costs for Contingency Allowance Items or Costs Independent of Construction**

**\$ Total**

**Contract**

Contingency Allowances (through Contractor)

2 Contractor's Coordination with Utility for Power to Site (Contingency  
Allowance)

\$500,000

3 Commissioning, Startup, and Equipment Testing (Contingency Allowance)

\$300,000

5 Construction Trailer Outfitting Allowance (Contingency Allowance)

\$100,000

6 Building Furnishings (Contingency Allowance)

\$300,000

Other City-Paid Costs

3-Phase Power Establishment to Site (Independent Payment)

\$1,000,000

4 Allowances for Water Procurement (Ex. MWSC Contract)

\$200,000

Equipment and Tools (Operations Purchase)

\$600,000

Allowances for Startup Chemicals (Operations Purchase)

\$100,000

Subtotal for Costs Independent of Construction Contract

\$3,100,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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<b>Construction Contract Costs, Complete with Facilities, Alternates, Cash Allowances, and Escalation</b>	<b>(1 + 2 + 3 + 4)</b>	<b>\$244,000,000</b>
<b>Complete Project, with Alternates, Allowance, Escalation, and Costs Independent of Contract</b>	<b>(1 + 2 + 3 + 4 + 5)</b>	<b>\$247,000,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 3**

**Facility Description: Demolition and Erosion Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Demolition	1	LS	\$ -	\$ 75,000.00	\$ 75,000
Erosion Control	1	LS	\$ 200,000.00	\$ -	\$ 200,000
Miscellaneous	5%				\$ 13,750
Subtotal Division 2					<b>\$ 288,750</b>
<b>Subtotal This Facility</b>					<b>\$ 288,750</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 67,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 15,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 64,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 435,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 4**

**Facility Description: Grading, Paving, and Storm Detention**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	34,380	CY	\$	15.00	\$ 515,700
Fill	58,805	CY	\$ -	\$ 18.00	\$ 1,058,490
Subgrade Preparation	27,496	SY	\$	25.00	\$ 687,400
Base Material	4,705	CY	\$ 69.00		\$ 324,645
<i>Miscellaneous</i>	5%				\$ 129,312
Subtotal Division 31					<b>\$ 2,715,547</b>
<b>Division 32 - Exterior Improvements</b>					
Heavy Duty Reinforced Concrete Pavement (8")	21,266	SY	\$ 50.00		\$ 1,063,300
Medium Duty Reinforced Concrete Pavement (6")	6,230	SY	\$ 110.00		\$ 685,300
Asphalt Concrete Pavement (4")	759	SY	\$ 54.00		\$ 40,986
Chain Link Fence and Gate	5,510	LF	\$ 40.00		\$ 220,400
Column Fence with Wrought Iron Bars	2,600	LF	\$ 250.00		\$ 650,000
Sliding Entrance Gate	1	EA	\$ 25,000.00		\$ 25,000
Concrete Sidewalk (5")	2,335	SY	\$ 65.00		\$ 151,775
<i>Miscellaneous</i>	5%				\$ 141,838
Subtotal Division 32					<b>\$ 2,978,599</b>
<b>Subtotal This Facility</b>					<b>\$ 5,694,146</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,302,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 285,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,253,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 8,535,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 33 - Utilities</b>					
<b><u>Potable Water System</u></b>					
12" DI Pipe	2040	LF	\$ 121.30	\$ 60.65	\$ 371,178
12" x 4" Tee	1	EA	\$ 395.00	\$ 197.50	\$ 593
12" x 6" Tee	2	EA	\$ 395.00	\$ 197.50	\$ 1,185
12" 45 Bend	5	EA	\$ 346.00	\$ 173.00	\$ 2,595
12" Blind Flange	1	EA	\$ 383.00	\$ 191.50	\$ 575
6" DI Pipe	195	LF	\$ 63.43	\$ 31.72	\$ 18,553
6" DI Valve	1	EA	\$ 1,462.00	\$ 731.00	\$ 2,193
4" DI Pipe	845	LF	\$ 72.45	\$ 36.23	\$ 91,830
4" x 2" Tee	2	EA	\$ 163.00	\$ 81.50	\$ 489
4" x 2" Reducer	1	EA	\$ 133.00	\$ 66.50	\$ 200
4" 90 Bend	1	EA	\$ 83.00	\$ 41.50	\$ 125
4" 45 Bend	2	EA	\$ 95.00	\$ 47.50	\$ 285
4" x 3" Reducer	2	EA	\$ 105.00	\$ 52.50	\$ 315
4" x 3" Tee	1	EA	\$ 152.00	\$ 76.00	\$ 228
3" DI Pipe	295	LF	\$ 65.00	\$ 32.50	\$ 28,763
3" x 2" Tee	1	EA	\$ 150.00	\$ 75.00	\$ 225
2" SCH 80 Pipe	305	LF	\$ 18.00	\$ 9.00	\$ 8,235
2" 90 Bend	2	EA	\$ 100.00	\$ 50.00	\$ 300
2" 45 Bend	2	EA	\$ 100.00	\$ 50.00	\$ 300
2" Plug	1	EA	\$ 65.00	\$ 32.50	\$ 98
2" Gate Valve	1	EA	\$ 391.00	\$ 195.50	\$ 587
Fire Hydrant Assembly	3	EA	\$ 10,000.00	\$ 5,000.00	\$ 45,000
<b><u>Non Potable Water System</u></b>					
8" DI Pipe	1875	LF	\$ 81.51	\$ 40.76	\$ 229,247
8" Tee	3	EA	\$ 292.00	\$ 146.00	\$ 1,314
8" x 4" Tee	2	EA	\$ 211.00	\$ 105.50	\$ 633
8" x 6" Tee	5	EA	\$ 241.00	\$ 120.50	\$ 1,808
8" x 2" Tee	7	EA	\$ 205.00	\$ 102.50	\$ 2,153
8" x 6" Reducer	1	EA	\$ 115.00	\$ 57.50	\$ 173
8" x 4" Reducer	3	EA	\$ 107.00	\$ 53.50	\$ 482
8" 90 Bend	1	EA	\$ 196.00	\$ 98.00	\$ 294
8" 45 Bend	12	EA	\$ 160.00	\$ 80.00	\$ 2,880
8" 22.5 Bend	2	EA	\$ 150.00	\$ 75.00	\$ 450
8" Gate Valve	2	EA	\$ 2,365.00	\$ 1,182.50	\$ 7,095
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 85.00	\$ 255
6" DI Pipe	1380	LF	\$ 63.43	\$ 31.72	\$ 131,300
6" Tee	1	EA	\$ 195.00	\$ 97.50	\$ 293
6" x 2" Tee	3	EA	\$ 230.00	\$ 115.00	\$ 1,035
6" x 2" Tapping Saddle	1	EA	\$ 1,300.00	\$ 650.00	\$ 1,950
6" x 1" Tapping Sleeve	1	EA	\$ 1,300.00	\$ 650.00	\$ 1,950
6" 90 Bend	6	EA	\$ 136.00	\$ 68.00	\$ 1,224
6" 45 Bend	6	EA	\$ 110.00	\$ 55.00	\$ 990
6" 22.5 Bend	2	EA	\$ 100.00	\$ 50.00	\$ 300
6" Gate Valve	2	EA	\$ 1,462.00	\$ 731.00	\$ 4,386
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 85.00	\$ 255
4" DI Pipe	1630	LF	\$ 72.45	\$ 36.23	\$ 177,140
4" Tee	5	EA	\$ 109.00	\$ 54.50	\$ 818
4" x 2" Tee	2	EA	\$ 163.00	\$ 81.50	\$ 489
4" x 2" Reducer	2	EA	\$ 133.00	\$ 66.50	\$ 399
4" 90 Bend	3	EA	\$ 83.00	\$ 41.50	\$ 374
4" 45 Bend	4	EA	\$ 95.00	\$ 47.50	\$ 570
4" Gate Valve	1	EA	\$ 879.00	\$ 439.50	\$ 1,319

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
4" Butterfly Valve	1	EA	\$ 949.00	\$ 474.50	\$ 1,424
4" Cap	1	EA	\$ 31.00	\$ 15.50	\$ 47
Yard Hydrant Assembly	5	EA	\$ 170.00	\$ 85.00	\$ 1,275
2" SCH 80 PVC Pipe	2010	LF	\$ 15.00	\$ 7.50	\$ 45,225
2" Tee	11	EA	\$ 150.00	\$ 75.00	\$ 2,475
2" 90 Bend	9	EA	\$ 100.00	\$ 50.00	\$ 1,350
2" 45 Bend	9	EA	\$ 110.00	\$ 55.00	\$ 1,485
2" 22.5 Bend	2	EA	\$ 95.00	\$ 47.50	\$ 285
2" 11.25 Bend	2	EA	\$ 85.00	\$ 42.50	\$ 255
2" Gate Valve	5	EA	\$ 391.00	\$ 195.50	\$ 2,933
2" Check Valve	1	EA	\$ 3,049.00	\$ 1,524.50	\$ 4,574
<b><u>Plant Drain System</u></b>					
30" DI Pipe	1775	LF	\$ 501.14	\$ 250.57	\$ 1,334,285
30" x 12" Tee	4	EA	\$ 3,444.00	\$ 1,722.00	\$ 20,664
30" x 8" Tee	2	EA	\$ 3,067.00	\$ 1,533.50	\$ 9,201
30" x 6" Tee	1	EA	\$ 2,718.00	\$ 1,359.00	\$ 4,077
30" x 4" Tee	2	EA	\$ 4,191.00	\$ 2,095.50	\$ 12,573
Process Unit Drain Connection	2	EA	\$ 10,900.00	\$ 5,450.00	\$ 32,700
18" DI Pipe	770	LF	\$ 215.12	\$ 107.56	\$ 248,464
18" x 12" Tee	2	EA	\$ 2,188.00	\$ 1,094.00	\$ 6,564
18" x 8" Tee	4	EA	\$ 1,282.00	\$ 641.00	\$ 7,692
18" x 6" Tee	4	EA	\$ 2,026.00	\$ 1,013.00	\$ 12,156
12" DI Pipe	1230	LF	\$ 121.30	\$ 60.65	\$ 223,799
12" x 12" Tee	1	EA	\$ 846.00	\$ 423.00	\$ 1,269
12" x 8" Tee	5	EA	\$ 642.00	\$ 321.00	\$ 4,815
12" x 4" Tee	2	EA	\$ 394.00	\$ 197.00	\$ 1,182
12" x 12" WYE	12	EA	\$ 1,292.00	\$ 646.00	\$ 23,256
12" 45 Bend	3	EA	\$ 346.00	\$ 173.00	\$ 1,557
8" DI Pipe	760	LF	\$ 81.51	\$ 40.76	\$ 92,921
Cleanout	13	EA	\$ 1,680.00	\$ 840.00	\$ 32,760
6" DI Pipe	420	LF	\$ 63.43	\$ 31.72	\$ 39,961
6" x 6" WYE	7	EA	\$ 341.00	\$ 170.50	\$ 3,581
6" 90 Bend	1	EA	\$ 136.00	\$ 68.00	\$ 204
6" 22.5 Bend	2	EA	\$ 135.00	\$ 67.50	\$ 405
6" 11.25 Bend	2	EA	\$ 139.00	\$ 69.50	\$ 417
4" DI Pipe	710	LF	\$ 72.45	\$ 36.23	\$ 77,159
4" x 4" Tee	2	EA	\$ 109.00	\$ 54.50	\$ 327
4" 90 Bend	1	EA	\$ 83.00	\$ 41.50	\$ 125
4" 45 Bend	1	EA	\$ 95.00	\$ 47.50	\$ 143
4" 11.25 Bend	2	EA	\$ 83.00	\$ 41.50	\$ 249
96" Manhole	8	EA	\$ 30,000.00	\$ 15,000.00	\$ 360,000
48" Manhole	6	EA	\$ 8,000.00	\$ 4,000.00	\$ 72,000
<b><u>Chemical</u></b>					
2" CPVC	850	LF	\$ 18.00	\$ 9.00	\$ 22,950
2" 90 Bend	3	EA	\$ 100.00	\$ 50.00	\$ 450
2" 11.25 Bend	2	EA	\$ 85.00	\$ 42.50	\$ 255
2" Tee	1	EA	\$ 150.00	\$ 75.00	\$ 225
1/2" CPVC	310	LF	\$ 2.00	\$ 1.00	\$ 930
1/2" 90 Bend	5	EA	\$ 75.00	\$ 37.50	\$ 563
4" PVC	735	LF	\$ 40.00	\$ 20.00	\$ 44,100
2" PVC	310	LF	\$ 18.00	\$ 9.00	\$ 8,370

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 5  
Facility Description: Yard Piping

Description	Qty	Unit	Unit Cost	Labor	Total Cost
3/4" CPVC	235	LF	\$ 10.00	\$ 5.00	\$ 3,525
1" CPVC	500	LF	\$ 12.00	\$ 6.00	\$ 9,000
Miscellaneous	5%				\$ 196,081
Subtotal Division 33					<b>\$ 4,117,700</b>

**Division 40 - Process Integration**

**Interceptor to Influent Lift Stations**

78" CCFRMP (Hobas) Pipe	85	LF	\$ 2,400.00	\$ 1,200.00	\$ 306,000
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**Headworks to Aeration Basin**

30" DI Pipe	575	LF	\$ 501.14	\$ 250.57	\$ 432,233
30" 90 Bend	3	EA	\$ 3,922.00	\$ 1,961.00	\$ 17,649
30" 45 Bend	2	EA	\$ 3,296.00	\$ 1,648.00	\$ 9,888
30"x18" Tee	1	EA	\$ 5,925.00	\$ 2,962.50	\$ 8,888

**Aeration Basin to MLSS Splitter Box**

42" DI Pipe	140	LF	\$ 813.29	\$ 406.65	\$ 170,791
42" 90 Bend	1	EA	\$ 10,513.00	\$ 5,256.50	\$ 15,770
36" DI Pipe	155	LF	\$ 650.34	\$ 325.17	\$ 151,204
36" 90 Bend	1	EA	\$ 6,131.00	\$ 3,065.50	\$ 9,197

**MLSS Splitter Box to Secondary Clarifiers 1 & 2**

36" DI Pipe	470	LF	\$ 650.34	\$ 325.17	\$ 458,490
36" 90 Bend	4	EA	\$ 6,131.00	\$ 3,065.50	\$ 36,786
36" 45 Bend	2	EA	\$ 4,818.00	\$ 2,409.00	\$ 14,454

**Secondary Clarifiers 1 & 2 to Pump Station**

18" DI Pipe	120	LF	\$ 215.12	\$ 107.56	\$ 38,722
18" 45 Bend	2	EA	\$ 1,001.00	\$ 500.50	\$ 3,003
18" 22.5 Bend	2	EA	\$ 785.00	\$ 392.50	\$ 2,355

**Pump Station to Aeration Basin**

18" DI Pipe	510	LF	\$ 215.12	\$ 107.56	\$ 164,567
18" 45 Bend	2	EA	\$ 1,001.00	\$ 500.50	\$ 3,003
18" 22.5 Bend	2	EA	\$ 785.00	\$ 392.50	\$ 2,355
18" Isolation Valve	1	EA	\$ 9,900.00	\$ 4,950.00	\$ 14,850
36" x 18" Tee	1	EA	\$ 9,117.00	\$ 4,558.50	\$ 13,676
18" x 18" Tee	1	EA	\$ 1,979.00	\$ 989.50	\$ 2,969
18" WYE	1	EA	\$ 4,000.00	\$ 2,000.00	\$ 6,000
18" 90 Bend	1	EA	\$ 1,175.00	\$ 587.50	\$ 1,763

**Pump Station to ASHT**

6" DI Pipe	985	LF	\$ 63.50	\$ 31.75	\$ 93,821
6" Tee	1	EA	\$ 195.00	\$ 97.50	\$ 293
6" 90 Bend	1	EA	\$ 136.00	\$ 68.00	\$ 204
6" 45 Bend	7	EA	\$ 110.00	\$ 55.00	\$ 1,155
6" 22.5 Bend	3	EA	\$ 100.00	\$ 50.00	\$ 450

**Secondary Clarifier 1 & 2 to Filter**

36" DI Pipe	290	LF	\$ 650.34	\$ 325.17	\$ 282,898
36" 45 Bend	2	EA	\$ 4,818.00	\$ 2,409.00	\$ 14,454
36" Tee	1	EA	\$ 58,094.00	\$ 29,047.00	\$ 87,141
48" x 36" Reducer	1	EA	\$ 7,205.00	\$ 3,602.50	\$ 10,808
48" DI Pipe	485	LF	\$ 1,101.97	\$ 550.99	\$ 801,683
48" 90 Bend	1	EA	\$ 14,016.00	\$ 7,008.00	\$ 21,024
48" 45 Bend	2	EA	\$ 9,696.00	\$ 4,848.00	\$ 29,088

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Filters to UV Disinfection</u></b>					
36" DI Pipe	45	LF	\$ 650.34	\$ 325.17	\$ 43,898
<b><u>UV to Outfall</u></b>					
48" DI Pipe	1025	LF	\$ 1,101.97	\$ 550.99	\$ 1,694,279
48" 45 Bend	1	EA	\$ 9,696.00	\$ 4,848.00	\$ 14,544
<b><u>Stormwater Collection System</u></b>					
42" RCP	1310	LF	\$ 180.00	\$ 90.00	\$ 353,700
36" RCP	470	LF	\$ 176.25	\$ 88.13	\$ 124,256
30" RCP	260	LF	\$ 138.75	\$ 69.38	\$ 54,113
24" RCP	765	LF	\$ 108.38	\$ 54.19	\$ 124,360
Stormwater Inlet	12	EA	\$ 9,000.00	\$ 4,500.00	\$ 162,000
Stormwater Junction Boxes	1	EA	\$ 7,000.00	\$ 3,500.00	\$ 10,500
<b><u>Stormwater Pond to Outfall</u></b>					
42" RCP	785	LF	\$ 180.00	\$ 90.00	\$ 211,950
<i>Miscellaneous</i>	5%				\$ 301,061
Subtotal Division 40					<b>\$ 6,322,289</b>
<b>Subtotal This Facility</b>					<b>\$ 10,439,989</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,387,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 522,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,297,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 15,646,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 6**

**Facility Description: Site Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
TX1A/B 5kV Feeders (Main Elec Bldg)	1	EA	\$20,000.00	\$7,000	\$ 27,000
TX2A/B 5kV Feeders (Influent Lift Station)	1	EA	\$240,000.00	\$84,000	\$ 324,000
TX3A/B 5kV Feeders (Blower Bldg)	1	EA	\$55,000.00	\$19,250	\$ 74,250
TX4A/B 5kV Feeders (RAS/WAS)	1	EA	\$125,000.00	\$43,750	\$ 168,750
TX5A/B 5kV Feeders (UV/ Filters)	1	EA	\$35,000.00	\$12,250	\$ 47,250
TX6A/B 5kV Feeders (Solids)	1	EA	\$85,000.00	\$29,750	\$ 114,750
Site Lighting	40	EA	\$8,500	\$2,975	\$ 459,000
5KV Manholes	19	LS	\$25,000	\$8,750	\$ 641,250
480V Manholes	8	LS	\$20,000	\$7,000	\$ 216,000
Communication Manholes	18	LS	\$15,000	\$5,250	\$ 364,500
Fiber Ductbank	1	LS	\$515,000	\$180,250	\$ 695,250
Security Conduit	1	LS	\$340,000	\$119,000	\$ 459,000
480V Ductbank	1	LS	\$825,000	\$288,750	\$ 1,113,750
5KV Ductbank	1	LS	\$1,275,000	\$446,250	\$ 1,721,250
<b>Subtotal This Facility</b>					<b>\$ 6,426,000</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,470,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 322,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,414,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 9,632,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 7

Facility Description: Landscaping and Irrigation

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching	160	AC	\$ 2,500.00		\$ 400,000
Landscape Irrigation System Piping	4420	LF	\$ 50.00	\$ 15.00	\$ 287,300
Fittings	1	LS	\$ 28,730.00	\$ 8,619.00	\$ 37,349
Trees	48	EA	\$ 700.00	\$ 210.00	\$ 43,680
<i>Miscellaneous</i>	5%				\$ 38,416
Subtotal Division 32					<b>\$ 806,745</b>
<b>Subtotal This Facility</b>					
					<b>\$ 806,745</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 185,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 41,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 178,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,211,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 9**

**Facility Description: Civil Yard Structures**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Outfall Discharge Headwall Structure</u></b>					
Concrete Base Slab	26	CY	\$ 1,500.00	\$	39,394
Concrete Freestanding Wall	87	CY	\$ 1,600.00	\$	139,486
Grade Beams	33	CY	\$ 1,200.00	\$	40,000
<b><u>Flowmeter Vault</u></b>					
Concrete Base Slab	8	CY	\$ 1,500.00	\$	12,000
Concrete Freestanding Wall	16	CY	\$ 1,600.00	\$	25,600
Concrete Elevated Slab	3	CY	\$ 1,600.00	\$	4,800
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00	\$	-
<b><u>Hydraulic Drop Box</u></b>					
Concrete Base Slab	14	CY	\$ 1,500.00	\$	21,111
Concrete Freestanding Wall	41	CY	\$ 1,600.00	\$	65,185
Concrete Elevated Slab	14	CY	\$ 1,600.00	\$	22,400
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00	\$	-
<b><u>Stormwater Detention Box</u></b>					
Concrete Base Slab	5	CY	\$ 1,500.00	\$	8,056
Concrete Freestanding Wall	16	CY	\$ 1,600.00	\$	25,481
Concrete Elevated Slab		CY	\$ 1,600.00	\$	-
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00	\$	-
<i>Miscellaneous</i>	5%			\$	20,176
<b>Subtotal Division 3</b>					<b>\$ 423,689</b>
<b>Division 31 - Earthwork</b>					
<b><u>Hydraulic Drop Box</u></b>					
Excavation	3,020	CY	\$	15.00	\$ 45,300
Fill	2,660	CY	\$ 20.00		\$ 53,200
<b><u>Outfall Structure &amp; Effluent Discharge Drop Box</u></b>					
Excavation	1,291	CY	\$	15.00	\$ 19,365
Fill	940	CY	\$ 20.00		\$ 18,800
Allowance for Groundwater Control at Effluent Box Structure	1	LS	\$ 75,000.00		\$ 75,000
<b><u>Flowmeter Vault</u></b>					
Excavation	728	CY	\$	15.00	\$ 10,920
Fill	645	CY	\$ 20.00		\$ 12,900
<b><u>Stormwater Detention Box</u></b>					
Excavation	430	CY	\$	15.00	\$ 6,450
Fill	402	CY	\$ 20.00		\$ 8,040
<i>Miscellaneous</i>	5%			\$	12,499
<b>Subtotal Division 31</b>					<b>\$ 262,474</b>
<b>Subtotal This Facility</b>					<b>\$ 686,163</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 157,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 35,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 151,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,030,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 10  
Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	383	CY	\$ 1,500.00		\$ 573,944
Concrete Freestanding Wall	1925	CY	\$ 1,600.00		\$ 3,080,652
Concrete Elevated Slab	146	CY	\$ 1,600.00		\$ 233,320
Drilled Shaft Deep Foundation	43	CY	\$ 1,400.00		\$ 60,893
Void Forms	2100	SF	14.00		\$ 29,400
Grade Beams	66	CY	\$ 1,200.00		\$ 78,644
Perimeter Beams	252	CY	\$ 1,400.00		\$ 352,230
Beams under Top Slab	4	CY	\$ 1,400.00		\$ 5,496
Pump pads	5	CY	\$ 1,000.00		\$ 4,815
Miscellaneous	5%				\$ 202,843
			Subtotal Division 3		<b>\$ 4,622,237</b>
<b>Division 5 - Metals</b>					
Pump Guide Rails	744	LF	\$ 30.00	\$ 30	\$ 44,640
Access Hatches	13	EA	\$ 2,300.00	\$ 690.00	\$ 38,870
Fabricated Piping Supports	1	LS	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Steel Monorail Framing	18893	LB	\$ 3.00	\$ 0.90	\$ 73,684
Galvanizing	18893	LB	\$ 1.00	\$ 0.30	\$ 24,561
Aluminum Pipe Supports	1102	LB	\$ 10.00	\$ 3.00	\$ 14,331
Miscellaneous	5%				\$ 10,063
			Subtotal Division 5		<b>\$ 225,649</b>
<b>Division 9 - Finishes</b>					
Piping Coatings	1	LS	\$ 14,000.00	\$ 85,000.00	\$ 99,000
Wet Well Coatings	20,300	SF	\$ 10.00	\$ 30.00	\$ 812,000
Miscellaneous	5%				\$ 45,550
			Subtotal Division 9		<b>\$ 956,550</b>
<b>Division 11 - Equipment</b>					
Monorail Crane - 5 ton	1	EA	\$ 37,000.00	\$ 11,100.00	\$ 48,100
Miscellaneous	5%				\$ 2,405
			Subtotal Division 11		<b>\$ 50,505</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 276,000.00	\$ 96,600.00	\$ 372,600
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting	1	EA	\$ 35,000.00	\$ 12,250.00	\$ 47,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 33,250.00	\$ 128,250
Grounding Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250
<b>Instruments</b>					
Transit-Time Ultrasonic Strap-on	3	EA	\$ 15,000	\$ 9,000	\$ 54,000
PSL/PI/Seal	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
PITs w/Block/Bleed	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
LSH Floats	2	EA	\$ 600	\$ 240	\$ 1,440
Submersible Level Transmitters with Stillingwell and JB	2	EA	\$ 5,000	\$ 2,000	\$ 12,000
Pressure Indicator	5	EA	\$ 2,500	\$ 2,500	\$ 15,000
Level Indicator	2	EA	\$ 1,500	\$ 600	\$ 3,600
PSH/PI/Seal	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
Room Temperature (TIT)	1	EA	\$ 2,000	\$ 400	\$ 2,400
Miscellaneous	2	EA	\$ 500	\$ 200	\$ 1,200
Miscellaneous	5%				\$ 43,175
			Subtotal Division 26		<b>\$ 906,665</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 10  
Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Shored Excavation	8058	SF	\$ 50.00		\$ 402,900
Excavation	15500	CY		\$ 15.00	\$ 232,500
Fill	9000	CY	\$ 20.00		\$ 180,000
<i>Miscellaneous</i>	5%				\$ 40,770
Subtotal Division 31					<b>\$ 856,170</b>
<b>Division 40 - Process Integration</b>					
Influent Lift Pumps - 3 MGD	2	EA	\$ 125,000	\$ 37,500.00	\$ 325,000
Influent Lift Pumps - 12 MGD	3	EA	\$ 255,000	\$ 76,500.00	\$ 994,500
Pump Discharge Piping	1	LS	\$ 560,000.00	\$ 168,000.00	\$ 728,000
Pump Discharge Check Valves (12")	2	LS	\$ 9,000.00	\$ 2,700.00	\$ 23,400
Pump Discharge Check Valves (24")	3	LS	\$ 23,000.00	\$ 6,900.00	\$ 89,700
Pump Discharge Isolation Valves (12")	3	EA	\$ 4,500.00	\$ 1,350.00	\$ 17,550
Pump Discharge Isolation Valves (24")	6	EA	\$ 21,000.00	\$ 6,300.00	\$ 163,800
Slide Gates	1	LS	\$ 250,000	\$ 75,000.00	\$ 325,000
Pump Discharge ARVs	8	EA	\$ 2,000.00	\$ 600.00	\$ 20,800
Piping Supports	1	LS	\$ 22,000	\$ 6,600.00	\$ 28,600
<b>Odor Control Ductwork (FRP)</b>					
12" FRP	66	LF	\$ 29.12	\$ 8.74	\$ 2,498
20" FRP	43	LF	\$ 61.47	\$ 18.44	\$ 3,436
30" FRP	100	LF	\$ 99.37	\$ 29.81	\$ 12,918
12" Elbow	1	EA	\$ 189.95	\$ 28.49	\$ 218
12" Tee	1	EA	\$ 179.48	\$ 26.92	\$ 206
12" Control Damper	2	EA	\$ 82.20	\$ 12.33	\$ 189
20" Elbow	3	EA	\$ 390.80	\$ 58.62	\$ 1,348
20" Control Damper	2	EA	\$ 143.65	\$ 21.55	\$ 330
32" Elbow	3	EA	\$ 801.98	\$ 120.30	\$ 2,767
32" Tee	2	EA	\$ 700.15	\$ 105.02	\$ 1,610
32" Reducer	5	EA	\$ 533.51	\$ 80.03	\$ 3,068
<i>Miscellaneous</i>	5%				\$ 135,818
Subtotal Division 40					<b>\$ 2,880,758</b>
<b>Subtotal This Facility</b>					<b>\$ 10,498,533</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,401,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 525,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,310,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 15,735,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Headworks Concrete</b>					
Concrete Base Slab	526	CY	\$ 1,500.00		\$ 789,000
Concrete Drop Panel	30	CY	\$ 1,500.00		\$ 45,000
Concrete Support Columns	60	CY	\$ 1,300.00		\$ 78,000
Concrete Equipment Pad	30	CY	\$ 1,000.00		\$ 30,000
Concrete Freestanding Walls	592	CY	\$ 1,600.00		\$ 947,200
Concrete Elevated Slab	270	CY	\$ 1,600.00		\$ 432,000
Grout	10	CY	\$ 200.00		\$ 2,000
Compacted Sand	252	CY	\$ 30.00		\$ 7,567
Void Forms	6992	SF	\$ 14.00		\$ 97,888
<b>Headworks Deep Foundation</b>					
Drilled Shaft Deep Foundation	290	CY	\$ 1,400.00		\$ 405,948
Miscellaneous	5%				\$ 141,730
<b>Subtotal Division 3</b>					<b>\$ 2,976,334</b>
<b>Division 4 - Masonry</b>					
Aluminum channel covers	2000	SF	\$ 60.00	\$ 18.00	\$ 156,000
Aluminum Plate Supports	169	LB	\$ 10.00	\$ 3.00	\$ 2,195
<b>Metal Canopy</b>					
Roof Deck	2589	SF	\$ 15.00	\$ 4.50	\$ 50,486
Metal Wall	0	SF	\$ 15.00	\$ 4.50	\$ -
Steel Roof Framing	18294	LF	\$ 3.00	\$ 0.90	\$ 71,347
Galvanizing	18294	LF	\$ 1.00	\$ 0.30	\$ 23,782
Bollards	37	EA	\$ 500.00		\$ 18,500
Miscellaneous	5%				\$ 17,218
<b>Subtotal Division 5</b>					<b>\$ 380,088</b>
<b>Division 9 - Coatings</b>					
System 19	13500	SF	\$ 27.92		\$ 376,920
Allowance for Piping Coatings	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 20,346
<b>Subtotal Division 9</b>					<b>\$ 427,266</b>
<b>Division 23 - HVAC</b>					
Wiring Total	1	LS	\$ 265,000.00	\$ 92,750.00	\$ 357,750
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting	1	EA	\$ 120,000.00	\$ 42,000.00	\$ 162,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Grounding Total	1	LS	\$ 40,000.00	\$ 14,000.00	\$ 54,000
Miscellaneous	5%				\$ 40,163
<b>Subtotal Division 26</b>					<b>\$ 843,413</b>
<b>Division 31 - Earthwork</b>					
Excavation	1540	CY		\$ 15.00	\$ 23,100
Fill	1304	CY	\$ 20.00		\$ 26,080
Miscellaneous	5%				\$ 2,459
<b>Subtotal Division 31</b>					<b>\$ 51,639</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
SS 316 Custom Drop Chutes for Screenings	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Manual Bar Screen	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Grit System (1 vortex system, 1 washer, plc panel)	1	LS	\$ 247,000.00	\$ 74,100.00	\$ 321,100
			\$ -	\$ -	\$ -
Stainless steel slide gates	12	EA	\$ 22,000.00	\$ 6,600.00	\$ 343,200
Gate Electric Actuators	5	EA	\$ 7,130.00	\$ 2,139.00	\$ 46,345
<b>Allowance for piping &amp; Valves</b>					
Influent and Effluent Piping Allowance (36" Inlet x2 (one capped), 12" Inlet x1, 30" Outlet, 48" Outlet-capped)	0	LS	\$ 30,000.00		\$ -
Allowance for Drain Piping + Valves	0	LS	\$ 65,000.00		\$ -
Allowance for Grit Piping (Glass Lined)	0	LS	\$ 50,000.00		\$ -
Allowance for NPW Piping	0	LS	\$ 15,000.00		\$ -
<b>NPW PVC Piping</b>					
1" PVC	215	LF	\$ 3.49	\$ 1.05	\$ 975
3" PVC	267	LF	\$ 10.77	\$ 3.23	\$ 3,738
1" Elbow	15	EA	\$ 1.50	\$ 0.45	\$ 29
3" Cross	1	EA	\$ 32.31	\$ 9.69	\$ 42
3" Tee	13	EA	\$ 32.31	\$ 9.69	\$ 546
3" Reducer	9	EA	\$ 32.31	\$ 9.69	\$ 378
3" Elbow	9	EA	\$ 32.31	\$ 9.69	\$ 378
<b>Drain DIP Piping</b>					
4" DIP	61	LF	\$ 68.00	\$ 20.40	\$ 5,392
6" DIP	383	LF	\$ 60.00	\$ 18.00	\$ 29,874
8" DIP	92	LF	\$ 75.69	\$ 22.71	\$ 9,053
12" DIP	55	LF	\$ 113.00	\$ 33.90	\$ 8,080
4" 45 bend	6	EA	\$ 86.00	\$ 25.80	\$ 671
4" Wye	3	EA	\$ 109.00	\$ 32.70	\$ 425
4" Elbow	8	EA	\$ 114.00	\$ 34.20	\$ 1,186
6" Tee	7	EA	\$ 500.00	\$ 150.00	\$ 4,550
6" Wye	17	EA	\$ 500.00	\$ 150.00	\$ 11,050
6" Elbow	24	EA	\$ 180.00	\$ 54.00	\$ 5,616
6" 45 Bend	11	EA	\$ 148.00	\$ 44.40	\$ 2,116
6" Plug Valve	6	EA	\$ 2,200.00	\$ 660.00	\$ 17,160
8"x8"x6" Wye	2	EA	\$ 680.00	\$ 204.00	\$ 1,768
8"x8"x4" Wye	2	EA	\$ 680.00	\$ 204.00	\$ 1,768
8" Tee	1	EA	\$ 292.00	\$ 87.60	\$ 380
8" Elbow	1	EA	\$ 262.00	\$ 78.60	\$ 341
12"x12"x6" Wye	3	EA	\$ 895.00	\$ 268.50	\$ 3,491
12" Elbow	1	EA	\$ 1,691.00	\$ 507.30	\$ 2,198
<b>Grit DIP Piping (Glass Lined)</b>					
4" DIP	146	LF	\$ 394.30	\$ 118.29	\$ 74,838
4" Elbow (long radius)	10	EA	\$ 1,018.00	\$ 305.40	\$ 13,234
4" 45 Bend	3	EA	\$ 722.00	\$ 216.60	\$ 2,816
4"x3" Reducer	4	EA	\$ 859.00	\$ 257.70	\$ 4,467
4" Actuated Plug Valve	2	EA	\$ 5,343.00	\$ 1,602.90	\$ 13,892
4" Plug Valve	2	EA	\$ 1,194.00	\$ 358.20	\$ 3,104
4" Wye	5	EA	\$ 1,538.00	\$ 461.40	\$ 9,997
4" Tee	4	EA	\$ 1,030.00	\$ 309.00	\$ 5,356
4" Dismantling Joint	6	EA	\$ 500.00	\$ 150.00	\$ 3,900
<b>Influent and Effluent DIP Piping</b>					
12" DIP	24	LF	\$ 103.35	\$ 31.01	\$ 3,225
30" DIP	5	LF	\$ 465.35	\$ 139.61	\$ 3,025
36" DIP	50	LF	\$ 603.99	\$ 181.20	\$ 39,259
48" DIP	5	LF	\$ 1,023.26	\$ 306.98	\$ 6,651
12" Plug Valve	1	EA	\$ 5,844.00	\$ 1,753.20	\$ 7,597
36" Plug Valve	2	EA	\$ 38,000.00	\$ 11,400.00	\$ 98,800
12" Elbow	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
36" Elbow	3	EA	\$ 13,184.00	\$ 3,955.20	\$ 51,418
30" Flexible Coupling	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
48" Flexible Coupling	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>Odor Control Ductwork (FRP)</b>					
6" FRP	131	LF	\$ 16.57	\$ 4.97	\$ 2,822
8" FRP	28	LF	\$ 20.49	\$ 6.15	\$ 746
10" FRP	54	LF	\$ 24.56	\$ 7.37	\$ 1,724
12" FRP	40	LF	\$ 29.12	\$ 8.74	\$ 1,514

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
14" FRP	109	LF	\$ 42.90	\$ 12.87	\$ 6,079
18" FRP	30	LF	\$ 55.89	\$ 16.77	\$ 2,180
6" Balancing Damper	7	EA	\$ 51.74	\$ 15.52	\$ 471
8" Balancing Damper	2	EA	\$ 61.02	\$ 18.31	\$ 159
6" Elbow	20	EA	\$ 99.07	\$ 29.72	\$ 2,576
8" Elbow	5	EA	\$ 117.02	\$ 35.11	\$ 761
10" Elbow	3	EA	\$ 152.85	\$ 45.86	\$ 596
12" Elbow	4	EA	\$ 189.95	\$ 56.99	\$ 988
14" Elbow	5	EA	\$ 229.89	\$ 68.97	\$ 1,494
18" Elbow	1	EA	\$ 361.01	\$ 108.30	\$ 469
10"x8" Reducer	1	EA	\$ 125.44	\$ 37.63	\$ 163
12"x10" Reducer	1	EA	\$ 150.30	\$ 45.09	\$ 195
14"x12" Reducer	1	EA	\$ 175.77	\$ 52.73	\$ 229
18"x8" Reducer	1	EA	\$ 225.02	\$ 67.51	\$ 293
6" Tee	1	EA	\$ 83.38	\$ 25.01	\$ 108
8" Tee	1	EA	\$ 113.75	\$ 34.13	\$ 148
10" Tee	2	EA	\$ 146.96	\$ 44.09	\$ 382
12" Tee	1	EA	\$ 179.48	\$ 53.84	\$ 233
14" Tee	2	EA	\$ 238.42	\$ 71.53	\$ 620
18" Tee	1	EA	\$ 322.63	\$ 96.79	\$ 419
NPW Wash Hose Station (2 at upper level, 2 at lower level)	4	EA	\$ 1,500.00		\$ 6,000
Weir plates at Bypass Channel	3	EA	\$ 2,500.00		\$ 7,500
Odor Control Duct Work	450	LF	\$ 145.00	\$ 43.50	\$ 84,825
Odor Control Dampers	10	EA	\$ 100.00	\$ 30.00	\$ 1,300
Miscellaneous	5%				\$ 108,804
			Subtotal Division 40		\$ 2,284,884
<b>Subtotal This Facility</b>					<b>\$ 6,963,623</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,593,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 349,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,532,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 10,438,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 13

Facility Description: Influent Foul Air Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	186	CY	\$ 1,500.00		\$ 279,444
Concrete Drop Panels	9	CY	\$ 1,500.00		\$ 13,500
Concrete Freestanding Walls	96	CY	\$ 1,600.00		\$ 154,074
Concrete Elevated Slab	7	CY	\$ 1,600.00		\$ 10,667
Drilled Pier Deep Foundation	43	CY	\$ 1,400.00		\$ 60,148
Void Forms	2,300	SF	\$ 14.00		\$ 32,200
<b><u>ILS Odor Control Unit Blower Pad</u></b>					
Concrete Base Slab	31	CY	\$ 1,500.00		\$ 46,111
Concrete Equipment Pad	11	CY	\$ 1,000.00		\$ 11,111
Concrete Drop Panels	4	CY	\$ 1,500.00		\$ 5,556
Drilled Pier Deep Foundation	12	CY	\$ 1,400.00		\$ 16,333
Void Forms	560	SF	\$ 14.00		\$ 7,840
Miscellaneous	5%				\$ 31,849
Subtotal Division 3					<b>\$ 668,834</b>
<b>Division 4 - Masonry</b>					
Excavation	2157	CY		\$ 15.00	\$ 32,355
Fill	1278	CY	\$ 20.00		\$ 25,560
<b><u>ILS Odor Control Unit Blower Pad</u></b>					
Excavation	138	CY		\$ 15.00	\$ 2,070
Fill	108	CY	\$ 20.00		\$ 2,160
Miscellaneous	5%				\$ 3,107
Subtotal Division 31					<b>\$ 65,252</b>
<b>Division 40 - Process Integration</b>					
<b><u>Drain DIP Piping</u></b>					
4" DIP	178	LF	\$ 68.00	\$ 20.40	\$ 15,735
4" Elbow	16	EA	\$ 114.00	\$ 34.20	\$ 2,371
4" Tee	3	EA	\$ 152.00	\$ 45.60	\$ 593
<b><u>W2</u></b>					
2" PVC	45	LF	\$ 10.00	\$ 3.00	\$ 585
2" Elbow	3	EA	\$ 4.50	\$ 1.35	\$ 18
<b><u>Ductwork to Fans (FRP)</u></b>					
18" FRP	99	LF	\$ 55.89	\$ 16.77	\$ 7,193
36" FRP	33	LF	\$ 110.03	\$ 33.01	\$ 4,720
18" Balancing Damper	1	EA	\$ 361.01	\$ 108.30	\$ 469
36" Balancing Damper	3	EA	\$ 1,055.96	\$ 316.79	\$ 4,118
36" Tee	2	EA	\$ 819.57	\$ 245.87	\$ 2,131
36" Wye	1	EA	\$ 999.88	\$ 299.96	\$ 1,300
36" Expansion Joint	2	EA	\$ 650.00	\$ 195.00	\$ 1,690
Miscellaneous	5%				\$ 2,046
Subtotal Division 40					<b>\$ 42,970</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 13

Facility Description: Influent Foul Air Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biofilter (quoted package by Biorem) 1. Concrete biofilter vessel structural design, supply and installation by others. 2. Biofilter media support flooring. Material of construction to be FRP grating and I-beams. 3. Humidification spray lance to be installed in the inlet ductwork. 4. Engineered biofilter media, provided in loose bulk. 5. Composite media support flooring. 6. (1) lot of inlet ductwork between the fan and biofilter plenum, including expansion joint, damper. 7. (1) 50 HP centrifugal FRP exhaust fan rated for 20,000 CFM at 8 in WC with TEFC motor. Fan static pressure allows for 2 inWC pressure loss through external ductwork. 8. (1) Schedule 80 PVC manifold with matched precipitation rate nozzles for optimized coverage of biofilter media. 9. (1) Control Panel 10. (1) Waterbox 11. Instrumentation and fluid control valves external to waterbox 12. Winterization system 13. Engineering submittal packages 14. Operation and Maintenance manuals 15. Field services Redundant Blower					
	1	LS	\$ 525,000.00	\$ 157,500.00	\$ 682,500
	1	LS	\$ 40,000.00	\$ 12,000.00	\$ 52,000
<i>Miscellaneous</i>	5%				\$ 36,725
	Subtotal Division 44				<b>\$ 771,225</b>
<b>Subtotal This Facility</b>					<b>\$ 1,548,280</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 355,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 78,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 341,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,323,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 14**

**Facility Description: ILS/HW Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	78	CY	\$ 1,500.00		\$ 117,500
Equipment Pads	12	CY	\$ 1,000.00		\$ 11,926
Void Forms	2115	SF	\$ 14.00		\$ 29,610
Grade Beams	44	CY	\$ 1,200.00		\$ 53,111
Drilled Shaft Deep Foundation	46	CY	\$ 1,400.00		\$ 64,711
<i>Miscellaneous</i>	5%				\$ 13,843
	Subtotal Division 3				<b>\$ 290,701</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2580	SF	\$ 20.00		\$ 51,600
Veneer	2580	SF	\$ 15.00		\$ 38,700
<i>Miscellaneous</i>	5%				\$ 4,515
	Subtotal Division 4				<b>\$ 94,815</b>
<b>Division 5 - Metals</b>					
Metal Deck	1425	SF	\$ 15.00		\$ 21,375
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
<i>Miscellaneous</i>	5%				\$ 1,264
	Subtotal Division 5				<b>\$ 26,539</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	120	LF	\$9.20	\$ 2.76	\$ 1,435
Wall Insulation	2580	SF	\$1.20	\$ 0.50	\$ 4,386
Roof Insulation	1425	SF	\$2.25	\$ 0.65	\$ 4,133
<i>Miscellaneous</i>	5%				\$ 498
	Subtotal Division 7				<b>\$ 10,451</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
<i>Miscellaneous</i>	5%				\$ 1,000
	Subtotal Division 8				<b>\$ 21,000</b>
<b>Division 23 - HVAC</b>					
12 Ton Packaged AC Unit	2	EA	\$ 32,000.00	\$ 9,600.00	\$ 83,200
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 5,137.00	\$ 1,541.10	\$ 6,678
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Modular Chemical Scrubber	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 6,531
	Subtotal Division 23				<b>\$ 137,160</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 14**

**Facility Description: ILS/HW Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-2	1	EA	\$ 240,000.00	\$ 84,000.00	\$ 324,000
MCC-2	1	EA	\$ 170,000.00	\$ 59,500.00	\$ 229,500
18 pulse 300HP VFDs	4	EA	\$ 85,000.00	\$ 29,750.00	\$ 459,000
18 pulse 300HP VFDs	2	EA	\$ 70,000.00	\$ 24,500.00	\$ 189,000
2000 kVA Pad Mounted Transformers	2	EA	\$ 110,000.00	\$ 38,500.00	\$ 297,000
Wire and Conduit from Transformer to Switchboard	2	EA	\$ 115,000.00	\$ 40,250.00	\$ 310,500
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 220,000.00	\$ 77,000.00	\$ 297,000
Conduit Total	1	LS	\$ 80,000.00	\$ 28,000.00	\$ 108,000
Lighting	1	EA	\$ 35,000.00	\$ 12,250.00	\$ 47,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Cable Tray Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Grounding Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
			\$	-	
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 700.00	\$ 2,700
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 8,750.00	\$ 33,750
<b>ILS/HW Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-ILS1)</b>					
Enclosure (NET-ILS1) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-ILS1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA ILS1 Enclosure (PLC-ILS1)</b>					
Enclosure (PLC-ILS1) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/1	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, U	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, s	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
Analog Out Module, 8 Isolated point, current, and	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	4	EA	\$ 700	\$ 560	\$ 3,360
Digital Output Module, N.O Isolated Relay Output	3	EA	\$ 1,000	\$ 600	\$ 3,600
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (91x\$450 Hard + 200x\$200 Soft)+3	1	LOT	\$ -	\$ 71,000	\$ 71,000
<i>Miscellaneous</i>	5%				\$ 133,086
			Subtotal Division 26		\$ 2,794,796
<b>Division 31 - Earthwork</b>					
Open Cut Excavation	415	CY		\$ 15.00	\$ 6,225
Fill	350	CY	\$ 20.00		\$ 7,000
<i>Miscellaneous</i>	5%				\$ 661
			Subtotal Division 31		\$ 13,886
<b>Subtotal This Facility</b>					<b>\$ 3,389,347</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 775,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 170,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 746,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,081,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 31  
Facility Description: Aeration Basins

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Aeration Basins Concrete</b>					
Concrete Base Slab	4949	CY	\$ 1,500.00		\$ 7,423,500
Concrete Freestanding Wall	4139	CY	\$ 1,600.00		\$ 6,622,400
Concrete Elevated Slab	390	CY	\$ 1,600.00		\$ 624,000
Drop Panels	0	CY	\$ 1,500.00		\$ -
Void Forms	43059	SF	\$ 14.00		\$ 602,826
<b>Aeration Basin Deep Foundations</b>					
Drilled Shaft Deep Foundation	3000	CY	\$ 1,400.00		\$ 4,200,000
Miscellaneous	5%				\$ 973,636
Subtotal Division 3					<b>\$ 20,446,362</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	2867	LF	\$ 60.00	\$ 18.00	\$ 223,626
Stairs	75	Riser	\$ 600.00	\$ 180.00	\$ 58,500
Metal Grating	200	SF	\$ 60.00		\$ 12,000
Misc. Aluminum Support Framing for Stairs	500	SF	\$ 10.00	\$ 3.00	\$ 6,500
Miscellaneous	5%				\$ 14,706
Subtotal Division 5					<b>\$ 315,332</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500
Conduit Total	1	LS	\$165,000.00	\$ 57,750.00	\$ 222,750
Lighting and Receptacles Total	1	LS	\$ 75,000.00	\$ 26,250.00	\$ 101,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 33,250.00	\$ 128,250
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Miscellaneous	5%				\$ 33,413
Subtotal Division 26					<b>\$ 701,663</b>
<b>Division 31 - Earthwork</b>					
Excavation	25000	CY		\$ 15.00	\$ 375,000
Backfill	8500	CY	\$ 20.00		\$ 170,000
Miscellaneous	5%				\$ 27,250
Subtotal Division 31					<b>\$ 572,250</b>
<b>Division 40 - Process Integration</b>					
Aeration Basin Manual, Type 304 St Steel Slide Gates ( per Aeration Basin)	6	EA	\$ 18,000.00	\$ 5,400.00	\$ 140,400
Air Piping 36" Flanged, Sch 10S, 304 St Steel	35	LF	\$ 1,500.00	\$ 450.00	\$ 68,250
Air Piping 30" Flanged, Sch 10S, 304 St Steel	20	LF	\$ 1,400.00	\$ 420.00	\$ 36,400
Air Piping 20" Flanged, Sch 10S, 304 St Steel	460	LF	\$ 1,000.00	\$ 300.00	\$ 598,000
Air Piping 8" Flanged, Sch 10S, 304 St Steel	120	LF	\$ 750.00	\$ 225.00	\$ 117,000
Allowance for Overhead Air Header Pipe Supports	1	LS	\$ 125,000.00	\$ 37,500.00	\$ 162,500
Vertical IMLR piping, 24-inch, Sch 10S	80	LF	\$ 540.00	\$ 162.00	\$ 56,160
24-inch swing check valves for IMLR pipe (2 per Aeration Basin)	4	EA	\$5,000.00	\$ 1,500.00	\$ 26,000
24-inch IMLR ductile iron pipe and fittings (2 x lengths of 320 LF per basin)	640	LF	\$60.00	\$ 18.00	\$ 49,920
24-inch IMLR ultrasonic flowmeter (1 per aeration basin)	2	EA	\$8,000.00	\$ 2,400.00	\$ 20,800
External IMLR pipe supports	1	LS	\$100,000.00	\$ 30,000.00	\$ 130,000
FRP, 36-inch Cuthroat Flume	0	EA	\$ 8,000.00	\$ 2,400.00	\$ -
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	8	EA	\$ 20,000.00	\$ 6,000.00	\$ 208,000
18-inch Aeration Basin Air Flow Control Valve w Electro-Hydraulic Actuator (1 per aeration basin)	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
12-inch Aerated Zone Control Valve w Electro-Hydraulic Actuator (4 per aeration basin)		EA	\$ 3,000.00	\$ 900.00	\$ -
Fittings (tees, elbows & reducers)	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
St Steel Bellows Expansion Cplg (6 each Aeration Basin)	12	EA	\$ 3,000.00	\$ 900.00	\$ 46,800
Allowance for Aeration Air Pipe Supports	1	LS	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Miscellaneous	5%				\$ 90,032
Subtotal Division 40					<b>\$ 1,890,662</b>
<b>Division 43 - Process Gas and Liquid Handling, Purification, and Storage</b>					
Internal Recycle Pumps w. guide rails and davit cranes(2 per Aeration Basin)	4	EA	\$ 60,000.00	\$ 18,000.00	\$ 312,000
Miscellaneous	5%				\$ 15,600
Subtotal Division 43					<b>\$ 327,600</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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Facility Number: 31  
Facility Description: Aeration Basins

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 46 - Water and Wastewater Equipment</b>					
Submersible Mixers w. portable davit crane (1- Anaerobic mixer, 2- Anoxic mixers per Aeration	6	EA	\$ 25,000.00	\$ 7,500.00	\$ 195,000
Fine bubble diffuser package (1 per Aeration Basin)	2	EA	\$ 150,000.00	\$ 45,000.00	\$ 390,000
Manual Jib Crane w. hoist, 1000-lb capacity	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 30,875
	Subtotal Division 46				<b>\$ 648,375</b>
<b>Subtotal This Facility</b>					<b>\$ 24,902,244</b>
<b>Contingency</b>				18%	<b>\$ 5,693,000</b>
<b>Mobilization</b>				5%	<b>\$ 1,246,000</b>
<b>Contractor's Overhead and Profit</b>				22%	<b>\$ 5,479,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 37,321,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 38  
Facility Description: Blower Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Blower Facility Concrete</b>					
Concrete Base Slab	392	CY	\$ 1,500.00		\$ 588,000
Concrete Equipment Pads	15	CY	\$ 1,000.00		\$ 15,000
Void Forms	5371	SF	\$ 14.00		\$ 75,194
Grade Beams	166	CY	\$ 1,200.00		\$ 199,200
<b>Blower Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	108	CY	\$ 1,400.00		\$ 151,822
Miscellaneous	5%				\$ 51,461
	Subtotal Division 3				<b>\$ 1,080,677</b>
<b>Division 4 - Masonry</b>					
CMU Walls	8,397	SF	\$ 24.00		\$ 201,528
Masonry Veneer	6,994	SF	\$ 15.00		\$ 104,910
Masonry Pilaster	36	SF	\$ 35.00		\$ 1,276
Miscellaneous	5%				\$ 15,386
	Subtotal Division 4				<b>\$ 323,099</b>
<b>Division 5 - Metals</b>					
Roof Deck	5,290	SF	\$ 15.00		\$ 79,350
Steel Joists	6	TON	\$ 3,000.00	\$ 900.00	\$ 21,450
Aluminum framing	3,855	LB	\$ 10.00	\$ 3.00	\$ 50,115
Miscellaneous	5%				\$ 7,546
	Subtotal Division 5				<b>\$ 158,461</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	115	LF	\$ 9.20	\$ 2.76	\$ 1,375
Wall Insulation	3550	SF	\$ 1.20	\$ 0.50	\$ 6,035
Roof Insulation	5290	SF	\$ 2.25	\$ 0.65	\$ 15,341
Miscellaneous	5%				\$ 1,138
	Subtotal Division 7				<b>\$ 23,889</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
FRP Overhead Door	1	EA	\$ 16,000.00		\$ 6,000
Miscellaneous	5%				\$ 2,100
	Subtotal Division 8				<b>\$ 44,100</b>
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
15-ton Pacakged AC Unit	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 5,305.00	\$ 1,591.50	\$ 6,897
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Blower Room</b>					
Louvers	5	EA	\$ 2,128.00	\$ 638.40	\$ 13,832
Exhaust Fans	2	EA	\$ 3,130.00	\$ 939.00	\$ 8,138
Miscellaneous	5%				\$ 6,406
	Subtotal Division 23				<b>\$ 134,522</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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Facility Number: 38  
Facility Description: Blower Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-3	1	EA	\$310,000	\$108,500	\$ 418,500
MCC-3	1	EA	\$190,000	\$66,500	\$ 256,500
18 pulse 300 VFDs	5	EA	\$85,000	\$29,750	\$ 573,750
2000 kVA Pad Mounted Transformers	2	EA	\$110,000	\$38,500	\$ 297,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$80,000	\$28,000	\$ 108,000
ATS	1	EA	\$10,000	\$3,500	\$ 13,500
45 kVA XFMR	1	EA	\$5,000	\$1,750	\$ 6,750
Panelboard	1	EA	\$15,000	\$5,250	\$ 20,250
Wiring Total	1	LS	\$315,000	\$110,250	\$ 425,250
Conduit Total	1	LS	\$115,000	\$40,250	\$ 155,250
Lighting and Receptacles Total	1	LS	\$60,000	\$21,000	\$ 81,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$50,000	\$17,500	\$ 67,500
Cable Tray Total	1	LS	\$50,000	\$17,500	\$ 67,500
Grounding Total	1	LS	\$40,000	\$14,000	\$ 54,000
<b>Blower Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-BLR)</b>					
Enclosure (NET-BLR) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	-	-	-
Miscellaneous for NET-BLR	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Main Electrical Enclosure (PLC-MAIN)</b>					
Enclosure (PLC-BLR) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	2	EA	\$ 1,500	\$ 600	\$ 3,600
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	2	EA	\$ 1,500	\$ 600	\$ 3,600
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	7	EA	\$ 3,000	\$ 4,200	\$ 25,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	3	EA	\$ 3,500	\$ 2,100	\$ 12,600
Digital Input Module, 10-31 vdc, 16pts	7	EA	\$ 700	\$ 980	\$ 5,880
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 25,000	\$ 5,000	\$ 30,000
Programming (197x\$450 Hard + 500x\$100 Soft)+1 Trip @10K	1	LOT	-	\$ 149,000	\$ 149,000
<b>Instruments</b>					
Room Temperature Transmitters (TIT)	1	EA	\$ 2,000.00	\$ 400	\$ 2,400.00
Dissolved Oxygen	2	EA	\$ 6,500	\$ 2,600	\$ 15,600.00
NH3	2	EA	\$ 17,000	\$ 6,800	\$ 40,800.00
Transit-Time Ultrasonic Strap-on	2	EA	\$ 15,000	\$ 6,000	\$ 36,000.00
MLSS	2	EA	\$ 8,000	\$ 3,200	\$ 19,200.00
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200.00
ThermalMass Flow Meter	11	EA	\$ 7,000	\$ 15,400	\$ 92,400.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000.00
Miscellaneous	5%				\$ 155,232
Subtotal Division 26					<b>\$ 3,259,862</b>
<b>Division 31 - Earthwork</b>					
<b>Blower Building Earthwork</b>					
Excavation	856	CY	\$	15.00	\$ 12,840
Backfill	562	CY	\$ 20.00		\$ 11,240
Miscellaneous	5%				\$ 1,204
Subtotal Division 31					<b>\$ 25,284</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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Facility Number: 38  
Facility Description: Blower Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Multi-Stage Centrifugal Blowers w 5x2,950 SCFM blowers, Disch BFVs, Disch check valves, 5xPLC panels, 1xMaster PLC panel	1	EA	\$ 1,050,000.00	\$ 315,000.00	\$ 1,365,000
16-inch Sch 10S, 304 St Steel Air Piping	80	LF	\$ 1,000.00	\$ 300.00	\$ 104,000
36-inch Sch 10S, 304 St Steel Air Piping	65	LF	\$ 1,500.00	\$ 450.00	\$ 126,750
16-inch Discharge Check Valves (part of Blower Package)	0	EA	\$ 15,000.00	\$ 4,500.00	\$ -
16-inch Discharge Butterfly Valves	4	EA	\$ 4,000.00	\$ 1,200.00	\$ 20,800
36-inch St Steel Bellows Expansion Cplg	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
Allowance for Pipe Supports	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Main air header blow-off control valve w electro-hydraulic actuator	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Manual air header butterfly valve	1	EA	\$ 8,000.00	\$ 2,400.00	\$ 10,400
<i>Miscellaneous</i>	5%				\$ 89,018
	Subtotal Division 40				<b>\$ 1,869,368</b>
<b>Division 41 - Material Processing and Handling Equipment</b>					
5-ton bridge crane	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
<i>Miscellaneous</i>	5%				\$ 6,500
	Subtotal Division 46				<b>\$ 136,500</b>
<b>Subtotal This Facility</b>					<b>\$ 7,055,761</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,614,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 353,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,553,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 10,576,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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**Facility Number: 40  
Facility Description: Mixed Liquor Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Mixed Liquor Splitter Box Concrete</b>					
Concrete Base Slab	153	CY	\$ 1,500.00		\$ 229,528
Concrete Freestanding Wall	190	CY	\$ 1,600.00		\$ 304,649
Concrete Beams	8	CY	\$ 1,400.00		\$ 11,459
Concrete Elevated Slab	5	CY	\$ 1,600.00		\$ 8,059
Void Forms	2013	SF	\$ 14.00		\$ 28,182
<b>Mixed Liquor Splitter Box Deep Foundations</b>					
Drilled Shaft Deep Foundation	111	CY	\$ 1,400.00		\$ 154,726
Miscellaneous	5%				\$ 36,830
Subtotal Division 3					<b>\$ 773,433</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	188	LF	\$ 60.00		\$ 11,265
Aluminum Stairs	32	Riser	\$ 600.00	\$ 180.00	\$ 24,960
Aluminum Framing	1951	LB	\$ 10.00	\$ 3.00	\$ 25,368
2" Aluminum Grating	471	SF	\$ 60.00		\$ 28,280
Stainless Steel Removable Plates	18745	LB	\$ 10.00	\$ 3.00	\$ 243,680
Miscellaneous	5%				\$ 16,678
Subtotal Division 5					<b>\$ 350,231</b>
<b>Division 26 - Electrical</b>					
Misc. Electrical costs (fixture+light switch)	1	LS	\$85,000		\$ 85,000
Miscellaneous	5%				\$ 4,250
Subtotal Division 26					<b>\$ 89,250</b>
<b>Division 31 - Earthwork</b>					
Excavation	1515	CY		\$ 15.00	\$ 22,725
Backfill	1143	CY	\$ 20.00		\$ 22,860
Miscellaneous	5%				\$ 2,279
Subtotal Division 31					<b>\$ 47,864</b>
<b>Division 44 - Pollution Control Equipment</b>					
48" x 60" Slide Gate	2	EA	\$14,000	\$ 4,200.00	\$ 36,400
48" x 48" Slide Gate	1	EA	\$36,500	\$ 10,950.00	\$ 47,450
42" x 42" Slide Gate	1	EA	\$32,100	\$ 9,630.00	\$ 41,730
1 1/2" Alum Feed Piping	75	LF	\$10	\$ 3.00	\$ 975
Miscellaneous	5%				\$ 6,328
Subtotal Division 44					<b>\$ 132,883</b>
<b>Subtotal This Facility</b>					<b>\$ 1,393,661</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 319,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 70,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 307,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,090,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 45  
Facility Description: Secondary Clarifiers

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Secondary Clarifiers Concrete</b>					
Concrete Base Slab	3125	CY	\$ 1,500.00		\$ 4,687,085
Concrete Freestanding Wall	608	CY	\$ 1,600.00		\$ 972,949
Concrete Elevated Slab	117	CY	\$ 1,600.00		\$ 187,246
Void Forms	29935	SF	\$ 14.00		\$ 419,089
Grout	176	CY	\$ 200.00		\$ 35,257
<b>Secondary Clarifiers Deep Foundations</b>					
Drilled Shaft Deep Foundation	903	CY	\$ 1,400.00		\$ 1,264,719
Miscellaneous	5%				\$ 378,317
Subtotal Division 3					<b>\$ 7,944,663</b>
<b>Division 5 - Metals</b>					
Aluminum Stairs	46	Riser	\$ 600.00	\$ 180.00	\$ 35,880
Aluminum Guardrail	340	LF	\$ 60.00	\$ 18.00	\$ 26,533
Aluminum Framing	3942	LB	\$ 10.00	\$ 3.00	\$ 51,244
Aluminum Grating	216	SF	\$ 60.00		\$ 12,974
Miscellaneous	5%				\$ 6,332
Subtotal Division 5					<b>\$ 132,963</b>
<b>Division 26 - Electrical</b>					
Wiring Total	2	LS	\$130,000	\$ 45,500.00	\$ 351,000
Conduit Total	1	LS	\$78,000	\$ 27,300.00	\$ 105,300
Light/Receptacles	1	LS	\$45,000	\$ 15,750.00	\$ 60,750
Grounding	1	LS	\$65,000	\$ 22,750.00	\$ 87,750
Miscellaneous	5%				\$ 30,240
Subtotal Division 26					<b>\$ 635,040</b>
<b>Division 31 - Earthwork</b>					
Excavation	17115	CY		\$ 15.00	\$ 256,723
Backfill	7493	CY	\$ 20.00		\$ 149,855
Dewatering	1	LS	\$ 300,000.00		\$ 300,000
Miscellaneous	5%				\$ 35,329
Subtotal Division 31					<b>\$ 741,907</b>
<b>Division 40 - Process Integration</b>					
36" DI Pipe - Influent MLSS	140	LF	\$ 650.34	\$ 195.10	\$ 118,362
18" DI Pipe - Effluent RAS/WAS	140	LF	\$ 215.12	\$ 64.54	\$ 39,152
12" DI Pipe - Drain Piping	140	LF	\$ 121.30	\$ 36.39	\$ 22,077
Miscellaneous	5%				\$ 8,980
Subtotal Division 40					<b>\$ 188,570</b>
<b>Division 44 - Pollution Control Equipment</b>					
135' SC Mechanism including FRP Weirs, Scum Baffles, Density Current Baffles, and LCP	2	EA	\$ 719,650.00	\$ 215,895.00	\$ 1,871,090
SS 304 Adder	2	EA	\$ 333,500.00		\$ 667,000
42" x 42" Slide Gate	2	EA	\$32,000.00	\$ 9,600.00	\$ 83,200
<b>Algae Control System</b>					
2" PVC Pipe	200	LF	\$ 10.00	\$ 3.00	\$ 2,600
2" PVC Ball Valve	2	EA	\$ 13.00	\$ 3.90	\$ 34
2" PVC Elbow	8	EA	\$ 4.50	\$ 1.35	\$ 47
6" 316L Stainless Steel Launder	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 45  
Facility Description: Secondary Clarifiers

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Scum Flushing and Control</b>					
1" PVC Pipe	150	LF	\$ 3.49	\$ 1.05	\$ 681
1" PVC Ball Valve	2	EA	\$ 11.00	\$ 3.30	\$ 29
1" PVC Elbow	10	EA	\$ 1.50	\$ 0.45	\$ 20
1" PVC Tee	26	EA	\$ 2.00	\$ 0.60	\$ 68
1" PVC Pressure Reducing Valve	1	EA	\$ 100.00	\$ 30.00	\$ 130
Spray Nozzles	25	EA	\$ 5.00	\$ 1.50	\$ 163
<i>Miscellaneous</i>	5%				\$ 131,415
			Subtotal Division 44		\$ 2,759,725
<b>Subtotal This Facility</b>					<b>\$ 12,402,868</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,836,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 621,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,729,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 18,589,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building</b>					
Concrete Base Slab	29	CY	\$ 1,500.00		\$ 43,889
Drilled Shaft Deep Foundation	34	CY	\$ 1,400.00		\$ 48,222
Grade Beams	23	CY	\$ 1,200.00		\$ 28,000
Void Forms	810	SF	\$ 14.00		\$ 11,340
<b>RAS/WAS Pump Station</b>					
Concrete Base Slab	74	CY	\$ 1,500.00		\$ 111,667
Drilled Shaft Deep Foundation	92	CY	\$ 1,400.00		\$ 128,644
Grade Beams	122	CY	\$ 1,200.00		\$ 146,667
Equipment Pads	10	CY	\$ 1,000.00		\$ 10,000
Void Forms	2010	SF	\$ 14.00		\$ 28,140
Miscellaneous	5%				\$ 27,828
Subtotal Division 3					<b>\$ 584,397</b>
<b>Division 4 - Masonry</b>					
<b>Electrical Building</b>					
CMU Masonry Walls	1527	SF	\$ 20.00		\$ 30,533
Masonry Veneer	1527	SF	\$ 15.00		\$ 22,900
Miscellaneous	5%				\$ 2,672
Subtotal Division 4					<b>\$ 56,105</b>
<b>Division 5 - Metals</b>					
<b>Electrical Building</b>					
Roof Deck	628	SF	\$ 15.00		\$ 9,419
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
<b>RAS/WAS Pump Station</b>					
Roof Deck	0	SF	\$ 15.00		\$ -
Structural Steel Framing	0	LB	\$ 3.00	\$ 0.90	\$ -
Steel Galvanizing	0	LB	\$ 1.00	\$ 0.30	\$ -
Steel Joists	0	TON	\$ 3,000.00	\$ 900.00	\$ -
Aluminum Framing (Pipe supports.)	450	LB	\$ 10.00	\$ 3.00	\$ 5,850
Miscellaneous	5%				\$ 958
Subtotal Division 5					<b>\$ 20,128</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
<b>Electrical Building</b>					
Rain Gutters and Downspouts	85.5001	LF	\$ 9.20	\$ 2.76	\$ 1,023
Wall Insulation	1527	SF	\$ 1.20	\$ 0.50	\$ 2,595
Roof Insulation	628	SF	\$ 2.25	\$ 0.65	\$ 1,821
Awning	1	QTY	\$ 500.00	\$ 150.00	\$ 650
Miscellaneous	5%				\$ 304
Subtotal Division 7					<b>\$ 6,393</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
Miscellaneous	5%				\$ 1,200
Subtotal Division 8					<b>\$ 25,200</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 23 - HVAC</b>					
5-ton AC Split System	2	EA	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Corrosion Resistant Coatings	1	LS	\$ 2,500.00		\$ 2,500
Ductwork+accessories	1	LS	\$ 533.00	\$ 159.90	\$ 693
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,622
Subtotal Division 23					<b>\$ 34,065</b>
<b>Division 26 - Electrical</b>					
MCC-4	1	EA	\$ 130,000.00	\$ 45,500.00	\$ 175,500
750 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 15,750.00	\$ 121,500
6 pulse VFDs	7	EA	\$ 24,000.00	\$ 8,400.00	\$ 226,800
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 105,000.00	\$ 36,750.00	\$ 141,750
Conduit Total	1	LS	\$ 42,000.00	\$ 14,700.00	\$ 56,700
Lighting and Receptacles Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 65,000.00	\$ 22,750.00	\$ 87,750
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Cable Tray Total	1	LS	\$ 20,000.00	\$ 7,000.00	\$ 27,000
<b>RAS/WAS Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-RAS/WAS)</b>					
Enclosure (NET-RAS/WAS) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-RAS/WAS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA RAS/WAS Enclosure (PLC-RAS/WAS)</b>					
Enclosure (PLC-ILS1) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700	\$ 700	\$ 4,200
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (87x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 40,000	\$ 40,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Transit-Time Ultrasonic FM	3	EA	\$ 15,000	\$ 9,000	\$ 54,000
	0	EA	\$ -	\$ -	\$ -
PIT/Seal	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Sludge Blanket Level Transmitters	2	EA	\$ 10,000	\$ 4,000	\$ 24,000
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
PI/PSH/Seal	7	EA	\$ 4,000	\$ 5,600	\$ 33,600
PI/PSH/Annular Diaphragm 12"	5	EA	\$ 8,000	\$ 8,000	\$ 48,000
PSL/Seal	7	EA	\$ 3,000	\$ 4,200	\$ 25,200
	0	EA	\$ -	\$ -	\$ -
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 67,558
Subtotal Division 26					<b>\$ 1,418,708</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
<b>Electrical Building</b>					
Excavation	460	CY		\$ 15.00	\$ 6,900
Fill	430	CY	\$ 20.00		\$ 8,600
<b>RAS/WAS Pump Station</b>					
Excavation	960	CY		\$ 15.00	\$ 14,400
Fill	870	CY	\$ 20.00		\$ 17,400
Miscellaneous	5%				\$ 2,365
Subtotal Division 31					<b>\$ 49,665</b>

<b>Division 40 - Process Integration</b>					
Pipe Supports	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
<b>RAS/WAS Suction</b>					
18" DI Pipe	51	LF	\$ 240.00	\$ 72.00	\$ 15,912
18" Plug Valve	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
18" Tee	7	EA	\$ 9,071.00	\$ 2,721.30	\$ 82,546
18" x 12" Tee	2	EA	\$ 6,692.00	\$ 2,007.60	\$ 17,399
18" Blind Flange	2	EA	\$ 1,210.00	\$ 363.00	\$ 3,146
18" Elbow	4	EA	\$ 6,057.00	\$ 1,817.10	\$ 31,496
18" Sampling Port	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
18" to 12" Reducer	5	EA	\$ 2,215.00	\$ 664.50	\$ 14,398
12" to 6" Reducer	2	EA	\$ 971.00	\$ 291.30	\$ 2,525
12" DI Pipe	10	LF	\$ 113.00	\$ 33.90	\$ 1,469
12" Plug Valve	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
12" Restrained Flanged Coupling Adapter	5	EA	\$ 1,950.00	\$ 585.00	\$ 12,675
12" to 10" Reducer	3	EA	\$ 1,274.00	\$ 382.20	\$ 4,969
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Restrained Flanged Coupling Adapter	2	EA	\$ 750.00	\$ 225.00	\$ 1,950
<b>RAS Discharge</b>					
18" DI Pipe	20	LF	\$ 240.00	\$ 72.00	\$ 6,240
18" Elbow	1	EA	\$ 6,057.00	\$ 1,817.10	\$ 7,874
18" to 12" Reducer	1	EA	\$ 2,215.00	\$ 664.50	\$ 2,880
12" DI Pipe	95	LF	\$ 113.00	\$ 33.90	\$ 13,956
12" 90 deg. Elbow	13	EA	\$ 1,691.00	\$ 507.30	\$ 28,578
12" 45 deg. Elbow	5	EA	\$ 1,410.00	\$ 423.00	\$ 9,165
12" Tee	5	EA	\$ 2,649.00	\$ 794.70	\$ 17,219
12" Plug Valve	7	EA	\$ 6,000.00	\$ 1,800.00	\$ 54,600
12" Check Valve	5	EA	\$ 8,600.00	\$ 2,580.00	\$ 55,900
12" Restrained Flanged Coupling Adapter	5	EA	\$ 1,950.00	\$ 585.00	\$ 12,675
12" Pinch Valve	2	EA	\$ 10,500.00	\$ 3,150.00	\$ 27,300
12" to 10" Reducer	5	EA	\$ 1,274.00	\$ 382.20	\$ 8,281
12" to 6" Reducer	2	EA	\$ 971.00	\$ 291.30	\$ 2,525
12" Expansion Joint	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
6" Expansion Joint	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
2" ARV	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>WAS Discharge</b>					
6" DI Pipe	85	LF	\$ 60.00	\$ 18.00	\$ 6,630
6" Elbow	8	EA	\$ 345.00	\$ 103.50	\$ 3,588
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Check Valve	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
6" Tee	1	EA	\$ 505.00	\$ 151.50	\$ 657
6" Expansion Joint	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
6" Restrained Flanged Coupling Adapter	2	EA	\$ 750.00	\$ 225.00	\$ 1,950
2" ARV	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
Miscellaneous	5%				\$ 29,179
Subtotal Division 40					<b>\$ 612,749</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 46  
Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
3.0 MGD RAS Pumps and VFDs	3	EA	\$ 40,000.00	\$ 12,000.00	\$ 156,000
1.5 MGD RAS Pumps and VFDs	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
500 gpm WAS Pumps and VFDs	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Subtotal Division 46					<b>\$ 312,000</b>
<b>Subtotal This Facility</b>					<b>\$ 3,291,009</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 753,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 165,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 725,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,935,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 50  
Facility Description: Filters

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Filters Concrete</b>					
Concrete Wall	282	CY	\$ 1,600.00		\$ 451,200
Concrete Base Slab	141	CY	\$ 1,500.00		\$ 211,698
Elevated Slab	13	CY	\$ 1,600.00		\$ 21,452
Grade Beams	116	CY	\$ 1,200.00		\$ 139,778
Void Forms	2858	SF	\$ 14.00		\$ 40,012
Drilled Shaft Deep Foundation	90	CY	\$ 1,400.00		\$ 126,415
Concrete Column	24	CY	\$ 1,300.00		\$ 30,815
<i>Miscellaneous</i>	5%				\$ 51,068
Subtotal Division 3					<b>\$ 1,072,438</b>
<b>Division 5 - Metals</b>					
Roof Deck	2,900	SF	\$ 15.00		\$ 43,500
Aluminum Guardrail	588	LF	\$ 60.00		\$ 35,280
Aluminum Grating	590	SF	\$ 60.00		\$ 35,400
Steel Framing	47,819	LB	\$ 3.00	\$ 0.90	\$ 186,494
Galvanizing	47,819	LB	\$ 1.00	\$ 0.30	\$ 62,165
Stairs	91	Riser	\$ 600.00	\$ 180.00	\$ 70,980
Aluminum Framing	709	LB	\$ 10.00	\$ 3.00	\$ 9,211
<i>Miscellaneous</i>	5%				\$ 22,152
Subtotal Division 5					<b>\$ 465,182</b>
<b>Division 9 - Finishes</b>					
Protective Coatings	1	LS	\$ 9,000.00	\$ 2,700.00	\$ 11,700
Pipe Markings	1	LS	\$ 500.00	\$ 1,500.00	\$ 2,000
<i>Miscellaneous</i>	5%				\$ 685
Subtotal Division 9					<b>\$ 14,385</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 132,000.00	\$ 46,200.00	\$ 178,200
Conduit Total	1	LS	\$ 85,000.00	\$ 29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$ 50,000.00	\$ 17,500.00	\$ 67,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
<b>Filter Complex (SCADA)</b>					
<b>Network Enclosure (NET-FC1)</b>					
Enclosure (NET-FC1) (24"H x 24"W x 25"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-FC1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Enclosure (501-FILTERSPLIT-100) (12"H x 12"W x 8"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
Combined Turbidity Instrument, with sc4500 controller with mounting kit	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
<i>Miscellaneous</i>	5%				\$ 24,735
Subtotal Division 26					<b>\$ 519,435</b>
<b>Division 31 - Earthwork</b>					
Excavation	2600	CY		\$ 15.00	\$ 39,000
Fill	1200	CY	\$ 20.00		\$ 24,000
<i>Miscellaneous</i>	5%				\$ 3,150
Subtotal Division 31					<b>\$ 66,150</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 50  
Facility Description: Filters

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Filter, Cloth Media, 12 MGD	3	EA	\$ 570,000.00	\$ 171,000.00	\$ 2,223,000
48-inch Influent Pipe	1	LS	\$ 13,000.00	\$ 3,900.00	\$ 16,900
36-inch Effluent Pipe	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Filter Backwash Piping	1	LS	\$ 80,000.00	\$ 24,000.00	\$ 104,000
Basin Drain Piping and Mud Valves	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Hose Station Piping	1	LS	\$ 1,000.00	\$ 3,000.00	\$ 4,000
Slide Gates	3	EA	\$ 22,000.00	\$ 6,600.00	\$ 85,800
NPW Wash Hose Station	4	EA	\$ 700.00	\$ 300.00	\$ 4,000
<i>Miscellaneous</i>	5%				\$ 124,095
Subtotal Division 40					<b>\$ 2,605,995</b>
<b>Division 41 - Material Processing and Handling</b>					
Monorail Trolley System	1	EA	\$ 35,000.00	\$ 10,500.00	\$ 45,500
<i>Miscellaneous</i>	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 4,791,360</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,096,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 240,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,055,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 7,183,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 53  
Facility Description: UV Disinfection

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>UV Disinfection Concrete</b>					
Concrete Base Slab	76	CY	\$ 1,500.00		\$ 114,333
Concrete Freestanding Wall	142	CY	\$ 1,600.00		\$ 227,852
Concrete Elevated Slab	89	CY	\$ 1,600.00		\$ 142,064
Void Forms	1372	SF	\$ 14.00		\$ 19,208
<b>UV Disinfection Deep Foundation</b>					
Drilled Shaft Deep Foundation	78	CY	\$ 1,400.00		\$ 109,096
<i>Miscellaneous</i>	5%				\$ 30,628
Subtotal Division 3					<b>\$ 643,181</b>
<b>Division 5 - Metals</b>					
Aluminum Grating	1179	SF	\$ 60.00	\$ 18.00	\$ 91,962
Checker Plating	141	SF	\$ 150.00	\$ 45.00	\$ 27,495
Roof Deck	2,010	SF	\$ 15.00	-	\$ 30,150
Steel Framing	10,547	LB	\$ 4.00	\$ 1.20	\$ 54,846
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 5,801
<i>Miscellaneous</i>	5%				\$ 10,513
Subtotal Division 5					<b>\$ 220,767</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Misc. Lumber for Building Eaves	1	LS	\$ 3,000.00	\$ 900.00	\$ 3,900
<i>Miscellaneous</i>	5%				\$ 195
Subtotal Division 6					<b>\$ 4,095</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$155,000.00	\$54,250.00	\$ 209,250
Conduit Total	1	LS	\$85,000.00	\$29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$80,000.00	\$28,000.00	\$ 108,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$75,000.00	\$26,250.00	\$ 101,250
Grounding Total	1	LS	\$40,000.00	\$14,000.00	\$ 54,000
<b>UV Complex (SCADA)</b>					
<b>Network Enclosure (NET-UV2)</b>					
Enclosure (NET-UV2) (24"H x 24"W x 25"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-UV2	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Enclosure (521-UVSPLIT-100) (12"H x 12"W x 8"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Transit Time Strap-on Flow Meter for 36"	1	EA	\$ 15,000.00	\$ 3,000.00	\$ 18,000
<i>Miscellaneous</i>	5%				\$ 32,663
Subtotal Division 26					<b>\$ 685,913</b>
<b>Division 31 - Earthwork</b>					
<b>Disinfection Area</b>					
Fill	2037	CY	\$ 20.00		\$ 40,740
Excavation	1283	CY		\$ 15.00	\$ 19,245
<i>Miscellaneous</i>	5%				\$ 2,999
Subtotal Division 31					<b>\$ 62,984</b>
<b>Division 40 - Process Integration</b>					
Allowance for Influent Piping (36" Inlet, 36 Inlet (capped), 48" Outlet (capped))	1	LS	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	3	EA	\$ 20,000.00	\$ 6,000.00	\$ 78,000
Yard Piping Tie-In Fittings / Connections	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Yard Hydrants	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Fabricated Stainless Steel Slide Gate (Motorized, 60" x 53")	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
Fabricated Stainless Steel Slide Gate (Manual, 36" x 36")	2	EA	\$ 12,500.00	\$ 3,750.00	\$ 32,500
Fabricated Stainless Steel Slide Gate (Manual, 48" x 48")	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
36" Ultrasonic Flowmeter	1	EA	\$ 15,000.00	\$ 4,500.00	\$ 19,500
<i>Miscellaneous</i>	5%				\$ 9,815
Subtotal Division 40					<b>\$ 238,615</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 53  
Facility Description: UV Disinfection

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
UV Equipment	1	LS	\$ 655,520.00	\$ 196,656.00	\$ 852,176
FRP Finger Weirs (includes support)	1	LS	\$ 59,700.00	\$ 17,910.00	\$ 77,610
<i>Miscellaneous</i>	5%				\$ 46,489
Subtotal Division 44					<b>\$ 976,275</b>
<b>Subtotal This Facility</b>					<b>\$ 2,831,830</b>
<b>Contingency</b>					<b>18% \$ 648,000</b>
<b>Mobilization</b>					<b>5% \$ 142,000</b>
<b>Contractor's Overhead and Profit</b>					<b>22% \$ 624,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,246,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 54  
Facility Description: UV Electrical Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building Foundation</b>					
Concrete Base Slab	62	CY	\$ 1,500.00		\$ 93,557
Concrete Housekeeping Pads	3	CY	\$ 1,000.00		\$ 3,299
Void Forms	1631	SF	\$ 14.00		\$ 22,835
Grade Beams	41	CY	\$ 1,200.00		\$ 49,529
<b>Electrical Building Deep Foundation</b>					
Drilled Shaft Deep Foundations	38	CY	\$ 1,400.00		\$ 52,941
Miscellaneous		5%			\$ 11,108
Subtotal Division 3					<b>\$ 233,268</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2139	SF	\$ 20.00		\$ 42,776
Veneer	2139	SF	\$ 15.00		\$ 32,082
Miscellaneous		5%			\$ 3,743
Subtotal Division 4					<b>\$ 78,601</b>
<b>Division 5 - Metals</b>					
Metal Roof Paneling	1,056	SF	\$ 15.00		\$ 15,841
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous		5%			\$ 987
Subtotal Division 5					<b>\$ 20,728</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	2139	SF	\$ 1.20	\$ 0.50	\$ 3,636
Building Roof Insulation	2139	SF	\$ 2.25	\$ 0.65	\$ 6,202
Metal Standing Seam Roofing	1200	SF	\$ 4.25	\$ 1.28	\$ 6,630
Metal Soffits	113	SF	\$ 4.25	\$ 1.28	\$ 624
Rain Gutters and Downspouts	98	LF	\$ 9.20	\$ 2.76	\$ 1,172
Miscellaneous		5%			\$ 913
Subtotal Division 7					<b>\$ 19,178</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous		5%			\$ 1,000
Subtotal Division 8					<b>\$ 21,000</b>
<b>Division 9 - Finishes</b>					
Dampproofing	1825	SF	\$ 3.00	\$ 0.90	\$ 7,118
Masonry Water Resistant Coating	3500	SF	\$ 1.50	\$ 0.45	\$ 6,825
Miscellaneous		5%			\$ 697
Subtotal Division 9					<b>\$ 14,640</b>
<b>Division 23 - HVAC</b>					
10-ton Packaged AC unit	2	EA	\$ 29,000.00	\$ 8,700.00	\$ 75,400
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 4,931.00	\$ 1,479.30	\$ 6,410
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous		5%			\$ 4,503
Subtotal Division 23					<b>\$ 94,563</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 54  
Facility Description: UV Electrical Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
MCC-5	1	EA	\$ 175,000.00	\$ 61,250.00	\$ 236,250.00
1000 kVA Pad Mounted Transformers	2	EA	\$ 85,000.00	\$ 29,750.00	\$ 199,750.00
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500.00
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750.00
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250.00
Wiring Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500.00
Conduit Total	1	LS	\$ 80,000.00	\$ 28,000.00	\$ 108,000.00
Lighting and Receptacles Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250.00
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750.00
Grounding Total	1	LS	\$ 20,000.00	\$ 7,000.00	\$ 27,000.00
Cable Tray Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750.00
<b>UV Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-UV)</b>					
Enclosure (NET-UV) (24"H x 24"W x 25"D)	1	EA	\$ 8,000.00	\$ 1,600.00	\$ 9,600.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-UV	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000.00
<b>SCADA UV Enclosure (PLC-UV)</b>					
Enclosure (PLC-UV) (72"H x 72"W x 24"D )	1	EA	\$ 30,000.00	\$ 6,000.00	\$ 36,000.00
17 slot ControlLogix Chassis	1	EA	\$ 1,500.00	\$ 300.00	\$ 1,800.00
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500.00	\$ 300.00	\$ 1,800.00
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000.00	\$ 800.00	\$ 4,800.00
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000.00	\$ 2,600.00	\$ 15,600.00
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	3	EA	\$ 3,000.00	\$ 1,800.00	\$ 10,800.00
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500.00	\$ 1,400.00	\$ 8,400.00
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700.00	\$ 700.00	\$ 4,200.00
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000.00	\$ 400.00	\$ 2,400.00
Miscellaneous	1	LOT	\$ 20,000.00	\$ 4,000.00	\$ 24,000.00
Programming (118x\$450 Hard + 300x\$100 + 700x\$100 Soft) + 2trips@10K	1	LOT	\$ -	\$ 173,000.00	\$ 173,000.00
Room Temperature Instrument	1	EA	\$ 2,000.00	\$ 400.00	\$ 2,400.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000.00	\$ 5,000.00	\$ 30,000.00
Miscellaneous	5%				\$ 60,728
Subtotal Division 26					<b>\$ 1,305,278</b>
<b>Division 31 - Earthwork</b>					
Fill	336	CY	\$ 20.00		\$ 8,168
Excavation	408	CY		\$ 15.00	\$ 5,039
Miscellaneous	5%				\$ 660
Subtotal Division 31					<b>\$ 13,868</b>
<b>Subtotal This Facility</b>					<b>\$ 1,801,123</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 413,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 91,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 397,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,703,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 55  
Facility Description: Effluent Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Effluent Facility Concrete</b>					
Concrete Base Slab	202	CY	\$ 1,500.00		\$ 303,000
Concrete Walls	327	CY	\$ 1,600.00		\$ 523,793
Cast-in-place stair	36	CY	\$ 1,600.00		\$ 58,311
Equipment Pads	4	CY	\$ 1,000.00		\$ 3,704
Concrete Elevated Slab	18	CY	\$ 1,600.00		\$ 29,214
Void Forms	3636	SF	\$ 14.00		\$ 50,904
<b>Effluent Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	145	CY	\$ 1,400.00		\$ 202,637
<i>Miscellaneous</i>	5%				\$ 58,578
Subtotal Division 3					<b>\$ 1,230,141</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	362	LF	\$ 60.00		\$ 21,720
Aluminum Grating	106	SF	\$ 60.00		\$ 6,347
<i>Miscellaneous</i>	5%				\$ 1,403
Subtotal Division 5					<b>\$ 29,470</b>
<b>Division 26 - Electrical</b>					
Misc Electrical	1	EA	\$ 210,000.00	\$ 42,000	\$ 252,000
LE/FIT for Parshall Flume (Flow Meter)	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Dissolved Oxygen Probe	1	EA	\$ 6,500	\$ 1,300	\$ 7,800.00
LSH Floats	1	EA	\$ 600	\$ 120	\$ 720
Refrigerated Autosampler and Pump	1	EA	\$ 10,294	\$ 2,059	\$ 12,353
PI/PSH/Block/Bleed	2	EA	\$ 4,000	\$ 1,600	\$ 11,200
<i>Miscellaneous</i>	5%				\$ 14,504
Subtotal Division 26					<b>\$ 304,576</b>
<b>Division 31 - Earthwork</b>					
Excavation	3850	CY		\$ 15.00	\$ 57,750
Fill	2300	CY	\$ 20.00		\$ 46,000
<i>Miscellaneous</i>	5%				\$ 5,188
Subtotal Division 31					<b>\$ 108,938</b>
<b>Division 40 - Process Integration</b>					
Allowance for Effluent Piping (48" Outlet, 48" Outlet (capped), 18" Outlet, 18" Outlet (capped))	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Allowance for Ductile Iron Drain Piping and Plug Valves	2	LS	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Air Piping 10" Flanged, Sch 10S, 304 St Steel	40	LF	\$ 220.00	\$ 66.00	\$ 11,440
Air Piping 6" Flanged, Sch 10S, 304 St Steel	80	LF	\$ 150.00	\$ 45.00	\$ 15,600
Allowance for Pipe Supports	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
Fittings (tees, elbows, reducers, expansion joints)	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
8-inch swing check valve	2	EA	\$ 3,000.00	\$ 900.00	\$ 7,800
Yard Piping Tie-In Fittings / Connections	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Yard Hydrants	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Nested Parshall Flume (36" Nested Inside 72")	1	LS	\$ 68,121.00	\$ 20,436.30	\$ 88,557
Fabricated Stainless Steel Slide Gate (Manual, 96" x 84")	3	EA	\$ 30,000.00	\$ 9,000.00	\$ 117,000
Fabricated Stainless Steel Slide Gate (Manual, 18" x 18")	2	EA	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Fabricated Stainless Steel Slide Gate (Manual, 48" x 48")	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
<i>Miscellaneous</i>	5%				\$ 20,860
Subtotal Division 40					<b>\$ 438,057</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 55  
Facility Description: Effluent Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
Positive Displacement Blowers (60 hp, 1,100 scfm @ 7.5 psig each) and VFDs	2	EA	\$ 66,000.00	\$ 19,800.00	\$ 171,600
Coarse Bubble Diffusers (Single Drop) and Piping	1	LS	\$ 110,000.00	\$ 33,000.00	\$ 143,000
Miscellaneous	5%				\$ 15,730
			Subtotal Division 44		\$ 330,330
<b>Subtotal This Facility</b>					<b>\$ 2,441,512</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 559,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 123,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 538,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 3,662,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 56  
Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Non-Potable Water System</b>					
Concrete Base Slab	15	CY	\$ 1,500.00	\$	22,833
Concrete Freestanding Wall	18	CY	\$ 1,600.00	\$	28,919
Concrete Elevated Slab	18	CY	\$ 1,600.00	\$	29,077
Void Forms	274	SF	\$ 14.00	\$	3,836
<b>Non-Potable Water System Deep Foundations</b>					
Drilled Shaft Deep Foundations	15	CY	\$ 1,400.00	\$	21,363
Miscellaneous	5%			\$	5,301
Subtotal Division 3					<b>\$ 111,329</b>
<b>Division 5 - Metals</b>					
Aluminum Grating	259	SF	\$ 60.00	\$	15,553
Miscellaneous	5%			\$	778
Subtotal Division 5					<b>\$ 16,331</b>
<b>Division 26 - Electrical</b>					
Disconnect Switches	1	LS	\$ 60,000.00	\$ 21,000	\$ 81,000
Misc. Electrical	1	LS	\$ 85,000.00	\$ 29,750	\$ 114,750
LSLL Float	1	EA	\$ 600	\$ 120	\$ 720
Submersible Level Transmitter with Stilling Well	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Transit-time Ultrasonic FM	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Pressure Indicator with seal/Block/Bleed	1	EA	\$ 2,000	\$ 400	\$ 2,400
PI/PSH with Block/Bleed	4	EA	\$ 4,000	\$ 3,200	\$ 19,200
PIT with Block/Bleed	1	EA	\$ 3,000	\$ 600	\$ 3,600
	0	EA	\$ -	\$ -	\$ -
Miscellaneous	5%			\$	12,284
Subtotal Division 26					<b>\$ 257,954</b>
<b>Division 31 - Earthwork</b>					
Excavation	1,000	CY		\$ 15.00	\$ 15,000
Backfill	850	CY	\$ 20.00		\$ 17,000
Miscellaneous	5%			\$	1,600
Subtotal Division 31					<b>\$ 33,600</b>
<b>Division 40 - Process Integration</b>					
3'x3' Slide Gate	1	EA	\$ 10,000.00	\$ 3,000.00	\$ 13,000
<b>Pumping Set-up</b>					
6"x4" Reducer	1	EA	\$ 373.00	\$ 111.90	\$ 485
4" Pressure Reducing Valve	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
6" Butterfly Valves	4	EA	\$ 1,500.00	\$ 450.00	\$ 7,800
6" Swing Check Valves - V608	4	EA	\$ 2,500.00	\$ 750.00	\$ 13,000
6" DI Pipe	30	LF	\$ 60.00	\$ 18.00	\$ 2,340
6" Tee	4	EA	\$ 505.00	\$ 151.50	\$ 2,626
6" 90 deg. Elbow	5	EA	\$ 345.00	\$ 103.50	\$ 2,243
8" x 6" Reducer	1	EA	\$ 576.00	\$ 172.80	\$ 749
2" ARV	1	EA	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Filter Bypass</b>					
6" Butterfly Valve	3	EA	\$ 1,500.00	\$ 450.00	\$ 5,850
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Tee	2	EA	\$ 505.00	\$ 151.50	\$ 1,313
6" 90 deg. Elbow	2	EA	\$ 345.00	\$ 103.50	\$ 897

**Chlorine Injection**

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 56  
Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
1/2" Chlorine Injection Quill	1	EA	\$ 135.00	\$ 40.50	\$ 176
1/2" PVC Pipe	15	LF	\$ 3.00	\$ 0.90	\$ 59
1/2" Elbow	3	EA	\$ 0.70	\$ 0.21	\$ 3
1/2" Ball Valve	2	EA	\$ 3.00	\$ 0.90	\$ 8
1/2" Pressure Control Valve	1	EA	\$ 65.00	\$ 19.50	\$ 85
2" PVC Carrier Pipe	10	LF	\$ 5.22	\$ 1.57	\$ 68
2" PVC Elbow	2	EA	\$ 1.00	\$ 0.30	\$ 3
<i>Miscellaneous</i>	5%				\$ 2,997
Subtotal Division 40					<b>\$ 62,928</b>
<b>Division 44 - Pollution Control Equipment</b>					
Non-Potable Supply Pumps & Motors Including VFDs	4	EA	\$ 32,000.00	\$ 9,600.00	\$ 166,400
Bag Filter and SS304 Housing	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 9,945
Subtotal Division 44					<b>\$ 208,845</b>
<b>Subtotal This Facility</b>					<b>\$ 690,987</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 159,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 35,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 153,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,038,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Chemical Building</b>					
Drilled Shaft Deep Foundation	19	CY	\$ 1,400.00		\$ 26,237
Grade Beams	21	CY	\$ 1,200.00		\$ 25,200
Concrete Freestanding Wall	5	CY	\$ 1,600.00		\$ 8,000
Building Base Slab	34	CY	\$ 1,500.00		\$ 51,000
Void Forms	1034	SF	\$ 14.00		\$ 14,470
<b>Tank Shelter</b>					
Drilled Shaft Deep Foundation	35	CY	\$ 1,400.00		\$ 49,467
Concrete Tank Pad	18	CY	\$ 1,000.00		\$ 18,000
Concrete Base Slab	81	CY	\$ 1,500.00		\$ 121,500
Concrete Freestanding Walls	15	CY	\$ 1,600.00		\$ 24,626
Void Forms	1250	SF	\$ 14.00		\$ 17,500
Miscellaneous	5%				\$ 17,800
Subtotal Division 3					<b>\$ 373,799</b>
<b>Division 4 - Masonry</b>					
<b>Chemical Building</b>					
CMU Masonry Walls	2628	SF	\$ 20.00		\$ 52,560
Masonry Veneer	1885	SF	\$ 15.00		\$ 28,275
Miscellaneous	5%				\$ 4,042
Subtotal Division 4					<b>\$ 84,877</b>
<b>Division 5 - Metals</b>					
<b>Chemical Building</b>					
Steel Joists	0.5	TON	\$ 3,000.00	\$ 900.00	\$ 1,950
Metal Deck	2046	SF	\$ 15.00		\$ 30,690
Aluminum Grating	205	SF	\$ 60.00		\$ 12,300
<b>Tank Shelter</b>					
Galv. Structural Steel Framing	8158	LB	\$ 4.00	\$ 1.20	\$ 32,632
Aluminum Stairs	5	RISER	\$ 600.00	\$ 180.00	\$ 3,900
Aluminum Guardrail	119	LF	\$ 60.00		\$ 7,140
Miscellaneous	5%				\$ 4,431
Subtotal Division 5					<b>\$ 93,043</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Wall Insulation	1885	SF	\$ 1.20	\$ 0.50	\$ 3,205
Roof Insulation	2046	SF	\$ 2.25	\$ 0.65	\$ 5,933
Rain Gutters and Downspouts	96	LF	\$ 9.20	\$ 2.76	\$ 1,148
Miscellaneous	5%				\$ 514
Subtotal Division 7					<b>\$ 10,800</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	2	EA	\$ 12,000.00		\$ 24,000
FRP Exterior Overhead Door	0	EA	\$ 16,000.00		\$ -
Miscellaneous	5%				\$ 2,400
Subtotal Division 8					<b>\$ 50,400</b>
<b>Division 9 - Finishes</b>					
Chemical Resistant Floor Primer	1500	SF	\$ 3.00		\$ 4,500
Masonry Water Resistant Coating	1422	SF	\$ 1.50		\$ 2,133
Miscellaneous	5%				\$ 332
Subtotal Division 9					<b>\$ 6,965</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	2	EA	\$ 1,071.00	\$ 321.30	\$ 2,785
Eye/Face Wash with Heat Trace	1	LS	\$ 5,328.40	\$ 1,598.52	\$ 6,927
105 gal Water Heater	1	EA	\$ 6,326.26	\$ 1,897.88	\$ 8,224
Backflow Preventer - 1 1/2"	1	EA	\$ 705.18	\$ 211.55	\$ 917
Emergency Mixing Valve - 1"	1	EA	\$ 1,008.18	\$ 302.45	\$ 1,311
1" PVC Pipe	24	LF	\$ 3.49	\$ 1.05	\$ 109
1-1/2" PVC Pipe	22	LF	\$ 5.22	\$ 1.57	\$ 149
1" CPVC Pipe	11	LF	\$ 5.70	\$ 1.71	\$ 82
1-1/4" CPVC Pipe	53	LF	\$ 6.34	\$ 1.90	\$ 437
1" PVC Fittings	1	LS	\$ 27.22	\$ 8.17	\$ 35
1-1/2" PVC Fittings	1	LS	\$ 37.32	\$ 11.20	\$ 49
1" CPVC Fittings	1	LS	\$ 20.38	\$ 6.11	\$ 26
1-1/4" CPVC Fittings	1	LS	\$ 109.21	\$ 32.76	\$ 142
1" PVC Ball Valve	3	EA	\$ 54.16	\$ 16.25	\$ 211
1-1/2" PVC Ball Valve	3	EA	\$ 85.26	\$ 25.58	\$ 333
1" CPVC Ball Valve	2	EA	\$ 89.77	\$ 26.93	\$ 233
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185
Hose Station	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Expansion Tank	1	EA	\$ 100.00	\$ 30.00	\$ 130
Miscellaneous	5%				\$ 1,244
Subtotal Division 22					\$ 26,128
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
Split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Corrosion Resistant Coatings	1	LS	\$ 2,400.00	\$ 720.00	\$ 3,120
Ductwork	1	LS	\$ 426.00	\$ 127.80	\$ 554
<b>Sodium Hypo Room</b>					
Exhaust Fan	1	EA	\$ 1,259.00	\$ 377.70	\$ 1,637
Intake Louver	1	EA	\$ 497.00	\$ 149.10	\$ 646
Ductwork	1	LS	\$ 32.00	\$ 9.60	\$ 42
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Aluminum Sulfate Room</b>					
Exhaust Fan	1	EA	\$ 1,184.00	\$ 355.20	\$ 1,539
Intake Louver	1	EA	\$ 432.00	\$ 129.60	\$ 562
Ductwork	1	LS	\$ 25.00	\$ 7.50	\$ 33
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
Miscellaneous	5%				\$ 1,252
Subtotal Division 23					\$ 26,283
<b>Division 26 - Electrical</b>					
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
15 kVA XFMR	1	EA	\$ 2,000.00	\$ 700.00	\$ 2,700
Panelboard	2	EA	\$ 20,000.00	\$ 7,000.00	\$ 47,000
Wiring Total	1	LS	\$95,000.00	\$ 33,250.00	\$ 128,250
Conduit Total	1	LS	\$120,000.00	\$ 42,000.00	\$ 162,000
Lighting and Receptacles Total	1	LS	\$55,000.00	\$ 19,250.00	\$ 74,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$65,000.00	\$ 22,750.00	\$ 87,750
Grounding Total	1	LS	\$20,000.00	\$ 7,000.00	\$ 27,000
<b>Chemical Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-CHEM)</b>					
Enclosure (NET-CHEM) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Miscellaneous for NET-CHEM	0	LOT	\$ -	\$ -	\$ -
	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Chemical Enclosure (PLC-CHEM)</b>					
Enclosure (PLC-CHEM) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$ 3,500	\$ 700	\$ 4,200
Digital Input Module, 10-31 vdc, 16pts	3	EA	\$ 700	\$ 420	\$ 2,520
Digital Output Module, N.O Isolated Relay Output, 16pts	1	EA	\$ 1,000	\$ 200	\$ 1,200
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (77x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 35,000	\$ 35,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
PE/LIT Indicating Transmitters with Flange Tank Mounting Equip	2	EA	\$ 6,000	\$ 2,400	\$ 14,400
LSH Floats	3	EA	\$ 600	\$ 360	\$ 2,160
Chlorine Analyzer	1	EA	\$ 6,000	\$ 1,200	\$ 7,200
PI/PSH/Seal Block/Bleed	8	EA	\$ 8,000	\$ 12,800	\$ 76,800
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 41,857
Subtotal Division 26					<b>\$ 878,987</b>
<b>Division 31 - Earthwork</b>					
Excavation	802	CY		\$ 15.00	\$ 12,030
Fill	467	CY	\$ 20.00		\$ 9,340
Miscellaneous	5%				\$ 1,069
Subtotal Division 31					<b>\$ 22,439</b>
<b>Division 40 - Process Integration</b>					
<b>Sodium Hypochlorite Piping</b>					
1/2" PVC Pipe	90	LF	\$ 3.00	\$ 0.90	\$ 351
1/2" 90 Bend	17	EA	\$ 1.50	\$ 0.45	\$ 33
1/2" 45 Bend	14	EA	\$ 3.00	\$ 0.90	\$ 55
1/2" Tee	17	EA	\$ 4.00	\$ 1.20	\$ 88
1/2" Pressure Gauge	1	EA	\$ 150.00	\$ 45.00	\$ 195
1/2" Pressure Guage and Switch	2	EA	\$ 600.00	\$ 180.00	\$ 1,560
1/2" Ball Valve (w/ union)	21	EA	\$ 55.00	\$ 16.50	\$ 1,502
1/2" Air Release Valve	4	EA	\$ 200.00	\$ 60.00	\$ 1,040
1/2" Pressure Relief Valve	2	EA	\$ 180.00	\$ 54.00	\$ 468
1/2" Back Pressure Regulator	1	EA	\$ 200.00	\$ 60.00	\$ 260
3/4" PVC Pipe	50	LF	\$ 3.50	\$ 1.05	\$ 228
3/4" 90 Bend	13	EA	\$ 2.00	\$ 0.60	\$ 34
3/4" 45 Bend	6	EA	\$ 4.00	\$ 1.20	\$ 31
3/4" Tee	13	EA	\$ 4.50	\$ 1.35	\$ 76
3/4" Pressure Guage and Switch	2	EA	\$ 600.00	\$ 180.00	\$ 1,560
3/4" Ball Valve (w/ union)	10	EA	\$ 60.00	\$ 18.00	\$ 780
3/4" Air Release Valve	3	EA	\$ 225.00	\$ 67.50	\$ 878
3/4" Pressure Relief Valve	2	EA	\$ 250.00	\$ 75.00	\$ 650
1" PVC Pipe	35	LF	\$ 4.00	\$ 1.20	\$ 182
1" 90 Bend	4	EA	\$ 1.50	\$ 0.45	\$ 8
1" Tee	2	EA	\$ 2.00	\$ 0.60	\$ 5
1" Ball Valve (w/ union)	3	EA	\$ 65.00	\$ 19.50	\$ 254
1" Actuated Ball Valve	1	EA	\$ 500.00	\$ 150.00	\$ 650
3" PVC Pipe	12	LF	\$ 20.00	\$ 6.00	\$ 312
3" 90 Bend	3	EA	\$ 65.00	\$ 19.50	\$ 254
3" Tee	1	EA	\$ 50.00	\$ 15.00	\$ 65
3" Wye Strainer	1	EA	\$ 600.00	\$ 180.00	\$ 780
3" Ball Valve (w/ union)	1	EA	\$ 600.00	\$ 180.00	\$ 780
Callibration Column	4	EA	\$ 100.00	\$ 30.00	\$ 520
<b>Aluminum Sulfate Piping</b>					
1/2" Ball Valve (w/ union)	2	EA	\$ 3.00	\$ 0.90	\$ 8
3/4" PVC Pipe	70	LF	\$ 3.50	\$ 1.05	\$ 319
3/4" 90 Bend	12	EA	\$ 2.00	\$ 0.60	\$ 31
3/4" 45 Bend	4	EA	\$ 4.00	\$ 1.20	\$ 47
3/4" Tee	8	EA	\$ 4.50	\$ 1.35	\$ 47
3/4" Ball Valve (w/ union)	7	EA	\$ 60.00	\$ 18.00	\$ 546

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
3/4" Pressure Relief Valve	1	EA	\$ 250.00	\$ 75.00	\$ 325
3/4" Air Release Valve	1	EA	\$ 225.00	\$ 67.50	\$ 293
3/4" Pressure Guage and Switch	1	EA	\$ 600.00	\$ 180.00	\$ 780
1 1/2" PVC Pipe	70	LF	\$ 5.00	\$ 1.50	\$ 455
1 1/2" 90 Bend	12	EA	\$ 4.00	\$ 1.20	\$ 62
1 1/2" 45 Bend	2	EA	\$ 9.00	\$ 2.70	\$ 23
1 1/2" Tee	8	EA	\$ 14.00	\$ 4.20	\$ 146
1 1/2" Ball Valve (w/ union)	7	EA	\$ 12.00	\$ 3.60	\$ 109
1 1/2" Pressure Relief Valve	1	EA	\$ 600.00	\$ 180.00	\$ 780
1 1/2" Air Release Valve	1	EA	\$ 350.00	\$ 105.00	\$ 455
1 1/2" Pressure Guage and Switch	1	EA	\$ 600.00	\$ 180.00	\$ 780
2" PVC Pipe	60	LF	\$ 10.00	\$ 3.00	\$ 780
2" 90 Bend	12	EA	\$ 5.00	\$ 1.50	\$ 78
2" Tee	2	EA	\$ 18.00	\$ 5.40	\$ 47
2" Ball Valve (w/ Union)	3	EA	\$ 150.00	\$ 45.00	\$ 585
2" Actuated Ball Valve	1	EA	\$ 550.00	\$ 165.00	\$ 715
4" PVC Pipe	35	LF	\$ 40.00	\$ 12.00	\$ 1,820
4" 90 Bend	5	EA	\$ 100.00	\$ 30.00	\$ 650
4" Tee	1	EA	\$ 30.00	\$ 9.00	\$ 39
4" Wye Strainer	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
4" Ball Valve (w/ union)	1	EA	\$ 800.00	\$ 240.00	\$ 1,040
Callibration Column	2	EA	\$ 100.00	\$ 30.00	\$ 260
<b>Miscellaneous Piping</b>					
2" PVC Pipe	30	LF	\$ 10.00	\$ 3.00	\$ 390
2" 90 Bend	7	EA	\$ 5.00	\$ 1.50	\$ 46
2" Tee	2	EA	\$ 18.00	\$ 5.40	\$ 47
3" PVC	14	LF	\$ 20.00	\$ 6.00	\$ 364
3" 90 Bends	3	EA	\$ 65.00	\$ 19.50	\$ 254
4" PVC	50	LF	\$ 40.00	\$ 12.00	\$ 2,600
4" 90 Bend	4	EA	\$ 100.00	\$ 30.00	\$ 520
6" PVC	27	LF	\$ 100.00	\$ 30.00	\$ 3,510
6" 90 Bend	3	EA	\$ 150.00	\$ 45.00	\$ 585
6" Mud Valve	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Miscellaneous	5%				\$ 1,914
			Subtotal Division 40		<b>\$ 40,198</b>
<b>Division 44 - Pollution Control Equipment</b>					
<b>Sodium Hypochlorite</b>					
500 Gallon Fiberglass Tank	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Pump	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
Injection Quill	2	EA	\$ 400.00	\$ 120.00	\$ 1,040
<b>Aluminum Sulfate</b>					
10,000 Gallon Fiberglass Tank	1	EA	\$ 52,900.00	\$ 15,870.00	\$ 68,770
Pump	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Injection Quill	1	EA	\$ 400.00	\$ 120.00	\$ 520
Miscellaneous	5%				\$ 8,977
			Subtotal Division 44		<b>\$ 188,507</b>
<b>Subtotal This Facility</b>					<b>\$ 1,802,425</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 413,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 91,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 397,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,704,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Concrete Base Slab	330	CY	\$ 1,500.00		\$ 495,000
Concrete Freestanding Wall	284	CY	\$ 1,600.00		\$ 454,400
Void Forms	4694	SF	\$ 14.00		\$ 65,716
<b><u>Piping Area</u></b>					
Concrete Base Slab	93	CY	\$ 1,500.00		\$ 139,500
Concrete Equipment Pads	10	CY	\$ 1,000.00		\$ 10,000
Void Forms	1581	SF	\$ 14.00		\$ 22,134
<b><u>Aerated Sludge Storage and Mixing Deep Foundations</u></b>					
Drilled Shaft Deep Foundation	54	CY	\$ 1,400.00		\$ 75,756
<i>Miscellaneous</i>	5%				\$ 63,125
Subtotal Division 3					<b>\$ 1,325,631</b>
<b>Division 5 - Metals</b>					
<b><u>ASHT Metals</u></b>					
Walkway Column Supports	1677	LB	\$ 4.00	\$ 1.20	\$ 8,720
Walkway Aluminum Bar Grating	650	SF	\$ 60.00		\$ 39,000
Truss Walkway Framing	14000	LB	\$ 10.00	\$ 3.00	\$ 182,000
<i>Miscellaneous</i>	5%				\$ 11,486
Subtotal Division 5					<b>\$ 241,206</b>
<b>Division 14 - Conveyance</b>					
1-Ton Electric Trolley and Hoist for Blowers	1	EA	\$15,000	\$ 4,500.00	\$ 19,500
<i>Miscellaneous</i>	5%				\$ 975
Subtotal Division 14					<b>\$ 20,475</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 140,000.00	\$ 49,000.00	\$ 189,000
Conduit Total	1	LS	\$ 85,000.00	\$ 29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$ 40,000.00	\$ 14,000.00	\$ 54,000
Mis. Disconnects, Boxes, and Fittings	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Cable Tray Total	1	LS	\$ -	\$ -	\$ -
Grounding Total	1	LS	\$ 55,000.00	\$ 19,250.00	\$ 74,250
<b><u>Aerated Sludge Holding Tanks + Solids</u></b>					
Radar Level Transmitters	2	EA	\$ 4,500	\$ 1,800	\$ 10,800
LSSL/LSHH Capatance Probes with Enclosure and Stilling Well	2	EA	\$ 8,000	\$ 3,200	\$ 19,200
<b><u>Sludge Recirculation Pump Station</u></b>					
PI/PSH and PI/PSL with seal and Block/Bleed	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
<b><u>Sludge Feed Pumps</u></b>					
Pressure Indicating Transmitters	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
PSH with PIT/Seal Block/Bleed	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Pressure Indicator	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
<i>Miscellaneous</i>	5%				\$ 31,050
Subtotal Division 26					<b>\$ 652,050</b>
<b>Division 31 - Earthwork</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Excavation	704	CY		\$ 15.00	\$ 10,560
Fill	300	CY	\$ 20.00		\$ 6,000
<b><u>Piping Area</u></b>					
Excavation	270	CY		\$ 15.00	\$ 4,050
Fill	184	CY	\$ 20.00		\$ 3,680
<i>Miscellaneous</i>	5%				\$ 1,215
Subtotal Division 31					<b>\$ 25,505</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
<b>WAS Piping</b>					
6" DI Pipe	112	LF	\$ 59	\$ 17.67	\$ 8,576
6" Tee, MJ x MJ	1	EA	\$ 259	\$ 77.70	\$ 337
6" 90 Bend, FL x FL	4	EA	\$ 312	\$ 93.60	\$ 1,622
6" 90 Bend, MJ x MJ	2	EA	\$ 180	\$ 54.00	\$ 468
6" 45 Bend, MJ x MJ	2	EA	\$ 148	\$ 44.40	\$ 385
6" Plug Valve, motor acutated	2	EA	\$ 6,699	\$ 2,009.70	\$ 17,417
<b>Air Piping</b>					
6" Sch 10S 304L SST Pipe	216	LF	\$ 65	\$ 19.50	\$ 18,252
6" Tee	1	EA	\$ 350	\$ 105.00	\$ 455
6" 90 Bend	12	EA	\$ 410	\$ 123.00	\$ 6,396
6" 45 Bend	4	EA	\$ 400	\$ 120.00	\$ 2,080
6" 22.5 Bend	2	EA	\$ 390	\$ 117.00	\$ 1,014
6" SST Expansion Joint	4	EA	\$ 850	\$ 255.00	\$ 4,420
6" Butterfly Isolation Valve	2	EA	\$ 809	\$ 242.70	\$ 2,103
6" x 4" Tee	2	EA	\$ 350	\$ 105.00	\$ 910
4" Sch 10S 304L SST Pipe	12	LF	\$ 60	\$ 18.00	\$ 936
4" Tee	3	EA	\$ 300	\$ 90.00	\$ 1,170
4" 90 Bend	3	EA	\$ 360	\$ 108.00	\$ 1,404
4" Butterfly Isolation Valve	3	EA	\$ 503	\$ 150.90	\$ 1,962
<b>Recirculation Pump Piping</b>					
16" DI Pipe	41	LF	\$ 148.46	\$ 44.54	\$ 7,913
16" Tee, FL x FL	3	EA	\$ 6,129	\$ 1,838.70	\$ 23,903
16" 90 Bend, FL x FLARE	2	EA	\$ 7,057	\$ 2,117.10	\$ 18,348
16" Flexible Coupling Adapter	3	EA	\$ 600	\$ 180.00	\$ 2,340
16" Plug Valve	7	EA	\$ 10,000	\$ 3,000.00	\$ 91,000
					\$ -
12" DI Pipe	42	LF	\$ 103.35	\$ 31.01	\$ 5,643
12" Tee, FL x FL	3	EA	\$ 2,408	\$ 722.40	\$ 9,391
12" Flexible Coupling Adapter	3	EA	\$ 500	\$ 150.00	\$ 1,950
12" Swing Check Valve	3	EA	\$ 8,600	\$ 2,580.00	\$ 33,540
12" Plug Valve	7	EA	\$ 6,000	\$ 1,800.00	\$ 54,600
<b>Drain</b>					
8" Telescoping Valve <i>Includes bracket, offset pedestal, and handwheel operator</i>	2	EA	\$ 12,875	\$ 3,862.50	\$ 33,475
12" DI	54	LF	\$ 112.63	\$ 33.79	\$ 7,907
12" x 8" Tee, MJ x MJ	4	EA	\$ 583	\$ 174.90	\$ 3,032
12" x 8" Reducer, MJ x MJ	1	EA	\$ 305.00	\$ 91.50	\$ 397
8" DI	293	LF	\$ 75.69	\$ 22.71	\$ 28,830
8" Tee, MJ x MJ	1	EA	\$ 349	\$ 104.70	\$ 454
8" Plug Valve w/ nut and stem	2	EA	\$ 2,857	\$ 857.10	\$ 7,428
8" x 4" Reducer, MJ x MJ	1	EA	\$ 146.00	\$ 43.80	\$ 190
12" x 4" Tee, MJ x MJ	1	EA	\$ 552	\$ 165.60	\$ 718
4" DI	28	LF	\$ 67.28	\$ 20.18	\$ 2,449
4" 45 Bend, MJ x MJ	2	EA	\$ 86.00	\$ 25.80	\$ 224
<b>Centrifuge Feed Piping</b>					
8" DI Pipe	166	LF	\$75.69	\$ 22.71	\$ 16,334
8" Tee, FL x FL	3	EA	\$1,098	\$ 329.40	\$ 4,282
8" Flexible Coupling Adapter	3	EA	\$400	\$ 120.00	\$ 1,560
8" 90 Bend, FL x FL	6	EA	\$569	\$ 170.70	\$ 4,438
8" 90 Bend, MJ x MJ	4	EA	\$238	\$ 71.40	\$ 1,238
8" 45 Bend, MJ x MJ	4	EA	\$190	\$ 57.00	\$ 988
8" Plug Valve	11	EA	\$3,220	\$ 966.00	\$ 46,046
Miscellaneous	5%				\$ 23,926
Subtotal Division 40					<b>\$ 502,450</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
<b>Jet Aeration/Mixing System</b>					
Jet Aeration/Mixing System <i>Includes in-tank SST manifold, three (3) PD blowers, three (3) dry-pit horizontal chopper pumps, backflush, service, freight</i>	1	LS	\$715,000	\$ 214,500.00	\$ 929,500
<b>Centrifuge Feed Pumps</b>					
Centrifuge Feed Pumps	2	EA	\$50,000	\$ 15,000.00	\$ 130,000
Miscellaneous	5%				\$ 52,975
Subtotal Division 46					<b>\$ 1,112,475</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 3,879,791
<b>Contingency</b>				20%	\$ 986,000
<b>Mobilization</b>				5%	\$ 194,000
<b>Contractor's Overhead and Profit</b>				22%	\$ 854,000
<b>Total Estimated Facility Costs</b>					\$ 5,914,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 72  
Facility Description: Biosolids Handling Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	232	CY	\$ 1,400.00		\$ 324,644
Grade Beams	67	CY	\$ 1,200.00		\$ 80,792
Concrete Base Slab	606	CY	\$ 1,500.00		\$ 908,507
Concrete Equipment Pads	64	CY	\$ 1,000.00		\$ 63,926
Concrete Walls	196	CY	\$ 1,600.00		\$ 313,767
Concrete Elevated Slab	270	CY	\$ 1,600.00		\$ 432,684
Concrete Columns	26	CY	\$ 1,300.00		\$ 33,896
Void Forms	8585	SF	\$ 14.00		\$ 120,195
Miscellaneous	5%				\$ 113,921
Subtotal Division 3					<b>\$ 2,392,333</b>
<b>Division 4 - Masonry</b>					
CMU Block Walls	9422	SF	\$ 20.00		\$ 188,433
Masonry Veneer	19530	SF	\$ 15.00		\$ 292,950
Masonry Pilasters	1440	SF	\$ 35.00		\$ 50,400
Miscellaneous	5%				\$ 26,589
Subtotal Division 4					<b>\$ 558,373</b>
<b>Division 5 - Metals</b>					
Steel Monorail	10738	LB	\$ 4.00		\$ 42,952
Steel Joists	1	TON	\$ 3,000.00		\$ 3,000
Steel Trusses	44086	LB	\$ 4.00		\$ 176,345
Metal Deck	5946	SF	\$ 15.00		\$ 89,193
Aluminum Stairs	62	Riser	\$ 600.00		\$ 37,200
Aluminum Walkway Framing	665	LB	\$ 10.00	\$ 3.00	\$ 8,648
Aluminum Guardrail	194	LF	\$ 60.00		\$ 11,615
Aluminum Grating	21	SF	\$ 60.00		\$ 1,282
Stainless Steel Tread Plate	1035	SF	\$ 100.00	\$ 30.00	\$ 134,550
Stainless Steel Angles	3528	LB	\$ 10.00	\$ 3.00	\$ 45,865
Miscellaneous	5%				\$ 27,532
Subtotal Division 5					<b>\$ 578,182</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	531	LF	\$ 9.20	\$ 2.76	\$ 6,351
Miscellaneous	5%				\$ -
Subtotal Division 7					<b>\$ 6,350.76</b>
<b>Division 8 - Openings</b>					
FRP Single Door	7	EA	\$ 8,000.00		\$ 56,000
FRP Exterior Overhead Doors	1	EA	\$ 16,000.00		\$ 16,000
FRP Oversized Double Door	1	EA	\$ 14,000.00		\$ 14,000
FRP Double Door	2	EA	\$ 12,000.00		\$ 24,000
Exterior Windows	128	SF	\$ 22.00	\$ 6.00	\$ 3,584
Miscellaneous	5%				\$ 5,679
Subtotal Division 8					<b>\$ 119,263</b>
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	3	EA	\$ 1,071.00	\$ 321.30	\$ 4,177
105 gal Water Heater	1	EA	\$ 6,326.26	\$ 1,897.88	\$ 8,224
Backflow Preventer - 1-1/2"	1	EA	\$ 704.18	\$ 211.25	\$ 915
Backflow Preventer - 2-1/2" Reduced Pressure	1	EA	\$ 3,800.00	\$ 1,140.00	\$ 4,940
Emergency Mixing Valve - 1"	1	EA	\$ 1,008.18	\$ 302.45	\$ 1,311
1" PVC Pipe	105	LF	\$ 3.49	\$ 1.05	\$ 476
1-1/2" PVC Pipe	22	LF	\$ 5.22	\$ 1.57	\$ 149
2" PVC Pipe	24	LF	\$ 4.83	\$ 1.45	\$ 151
3" PVC Pipe	32	LF	\$ 10.77	\$ 3.23	\$ 448
1-1/4" CPVC Pipe	81	LF	\$ 6.34	\$ 1.90	\$ 668
1" PVC Fittings	1	LS	\$ 119.10	\$ 35.73	\$ 155
1-1/2" PVC Fittings	1	LS	\$ 37.32	\$ 11.20	\$ 49
2" PVC Fittings	1	LS	\$ 37.67	\$ 11.30	\$ 49
3" PVC Fittings	1	LS	\$ 112.01	\$ 33.60	\$ 146
1-1/4" CPVC Fittings	1	LS	\$ 166.90	\$ 50.07	\$ 217

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 72  
Facility Description: Biosolids Handling Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
1" PVC Ball Valve	2	EA	\$ 54.16	\$ 16.25	\$ 141
1-1/2" PVC Ball Valve	2	EA	\$ 85.26	\$ 25.58	\$ 222
2" PVC Ball Valve	3	EA	\$ 134.40	\$ 40.32	\$ 524
3" PVC Ball Valve	2	EA	\$ 272.82	\$ 81.85	\$ 709
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185
<i>Miscellaneous</i>	5%				\$ 1,193
Subtotal Division 22					<b>\$ 25,048</b>
<b>Division 23 - HVAC</b>					
<b>Dewatering Electrical Room</b>					
Makeup Air Unit	1	EA	\$ 21,281.40	\$ 6,384.42	\$ 27,666
Supply Fan	1	EA	\$ 1,663.00	\$ 498.90	\$ 2,162
Exhaust Fan	3	EA	\$ 1,663.00	\$ 498.90	\$ 6,486
Ductwork+accessories	1	LS	\$ 2,669.00	\$ 800.70	\$ 3,470
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Electrical Room</b>					
10 ton packaged AC	2	EA	\$ 29,000.00	\$ 8,700.00	\$ 75,400
Corrosion Resistant Coatings	1	LS	\$ 5.00	\$ 1.50	\$ 7
Ductwork+accessories	1	LS	\$ 3,168.00	\$ 950.40	\$ 4,118
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Blower Room</b>					
Intake Louver	1	EA	\$ 819.00	\$ 245.70	\$ 1,065
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Chemical Room</b>					
Exhaust Fan	2	EA	\$ 1,362.00	\$ 408.60	\$ 3,541
Intake Louver	1	EA	\$ 1,261.00	\$ 378.30	\$ 1,639
Unit Heater	3	LS	\$ 2,500.00	\$ 750.00	\$ 9,750
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Operations Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Corrosion Resistant Coatings	1	LS	\$ 4,800.00	\$ 1,440.00	\$ 6,240
Ductwork+accessories	1	LS	\$ 456.00	\$ 136.80	\$ 593
Controls	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
			\$ -	\$ -	\$ -
<i>Miscellaneous</i>	5%				\$ 8,212
Subtotal Division 23					<b>\$ 172,448</b>
<b>Division 26 - Electrical</b>					
SWBD-5	1	EA	\$ 280,000.00	\$ 98,000.00	\$ 378,000
MCC-5	1	EA	\$ 175,000.00	\$ 61,250.00	\$ 236,250
Install MFR Centrifuge VFDs	1	LS	\$ 45,000.00	\$ 15,750.00	\$ 60,750
1000 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 15,750.00	\$ 105,750
Wire and Conduit from Transformer to Switchboard	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	3	EA	\$ 5,000.00	\$ 1,750.00	\$ 16,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 275,000.00	\$ 96,250.00	\$ 371,250
Conduit Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500
Lighting and Receptacles Total	1	LS	\$ 70,000.00	\$ 24,500.00	\$ 94,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Cable Tray Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Grounding Total	1	LS	\$ 45,000.00	\$ 15,750.00	\$ 60,750
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Polymer Blending Units</b>					
Polymer Tote Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Centrifuge</b>					
6" Magmeter	2	EA	\$ 8,000.00	\$ 5,600.00	\$ 21,600
			\$ -	\$ -	\$ -
<b>Solids Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-SOLIDS)</b>					
Enclosure (NET-SOLIDS) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-SOLIDS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
			\$ -	\$ -	\$ -
<b>SCADA Solids Enclosure (PLC-SOLIDS)</b>					
Enclosure (PLC-SOLIDS) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 72  
Facility Description: Biosolids Handling Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	1	EA	\$ 3,000	\$ 600	\$ 3,600
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700	\$ 700	\$ 4,200
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (106x\$450 Hard + 700x\$100 Soft)+ 1 trip@10K	1	LOT	\$ -	\$ 127,000	\$ 127,000
<b>SCADA ASHT Level Alarm Panel (LLRP-ASHT)</b>					
Enclosure (LLRP-ASHT) (12"H x 12"W x 8"D )	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Miscellaneous	1	LOT	\$ 6,000	\$ 1,200	\$ 7,200
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Radar Level Transmitters	1	EA	\$ 4,500	\$ 900	\$ 5,400
LSH Floats Chem Areas	1	EA	\$ 600	\$ 120	\$ 720
PI/PSH and PI/PSL with seals & Block/Bleed	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
PIT with Seal & Block/Bleed	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Pressure Gauge with Seal	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Rotometers	4	EA	\$ 1,000	\$ 800	\$ 4,800
Paddlewheel Flow Meter	4	EA	\$ 4,000	\$ 3,200	\$ 19,200
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 106,606
Subtotal Division 26					<b>\$ 2,238,726</b>
<b>Division 31 - Earthwork</b>					
Excavation	2113	CY		\$ 15.00	\$ 31,702
Fill	1743	CY	\$ 20.00		\$ 34,866
Miscellaneous	5%				\$ 3,328
Subtotal Division 31					<b>\$ 69,897</b>
<b>Division 40 - Process Integration</b>					
Centrifuges	2	EA	\$ 725,000.00	\$ 217,500.00	\$ 1,885,000
Polymer Transfer Pumps	2	EA	\$ 5,500.00	\$ 1,650.00	\$ 14,300
Polymer Blending Unit	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Polymer Bulk Tank	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
Polymer Day Tank	2	LS	\$ 2,000.00	\$ 600.00	\$ 5,200
Centrifuge Building Piping Allowance	1	LS	\$ 400,000.00	\$ 120,000.00	\$ 520,000
Miscellaneous	5%				\$ 124,475
Subtotal Division 40					<b>\$ 2,613,975</b>
<b>Division 41 - Material Processing and Handling Equipment</b>					
Monorail	1	LS	\$ 35,000.00	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 8,822,371</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,017,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 442,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,941,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 13,223,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85  
Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<u>Operations &amp; Laboratory Building Concrete</u>					
Concrete Base Slab	153	CY	\$ 1,500.00		\$ 229,778
Void Forms	4136	SF	\$ 14.00		\$ 57,904
Grade Beams	126	CY	\$ 1,200.00		\$ 151,467
<u>Operations &amp; Laboratory Building Deep Foundations</u>					
Drilled Shaft Deep Foundation	93	CY	\$ 1,400.00		\$ 129,681
Miscellaneous	5%				\$ 28,441
Subtotal Division 3					<b>\$ 597,271</b>
<b>Division 4 - Masonry</b>					
Concrete Masonry Walls - 8"	5200	SF	\$ 8.75	\$ 7.50	\$ 84,500
Concrete Masonry Walls - 4"	2000	SF	\$ 8.20	\$ 7.50	\$ 31,400
Miscellaneous	5%				\$ 5,795
Subtotal Division 4					<b>\$ 121,695</b>
<b>Division 5 - Metals</b>					
Metal Studs - 16ft x 6.00 in, 12ga, 16" o.c.	500	LF	\$ 50.00	\$ 18.75	\$ 34,375
Metal Roof Framing (Steel Joists)	4735	SF	\$ 17.50	\$ 5.25	\$ 107,721
Metal Roof Deck	4735	SF	\$ 4.40	\$ 1.32	\$ 27,084
Miscellaneous	5%				\$ 8,459
Subtotal Division 5					<b>\$ 177,639</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Rough Carpentry	1	LS	\$ 18,000.00	\$ 12,000.00	\$ 30,000
Gypsum Sheathing - 5/8" glass mat	4000	SF	\$ 2.50	\$ 1.25	\$ 15,000
Miscellaneous	5%				\$ 2,250
Subtotal Division 6					<b>\$ 47,250</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Roof Panels	4720	SF	\$ 6.50	\$ 2.15	\$ 40,828
Metal Wall Panels	3450	SF	\$ 3.75	\$ 6.00	\$ 33,638
Metal Soffit Panels	1000	SF	\$ 6.40	\$ 2.15	\$ 8,550
Air Barrier-Wall	10000	SF	\$ 0.25	\$ 0.18	\$ 4,300
Wall Sound Insulation - 3.5" R-13 15"W	8500	SF	\$ 0.45	\$ 0.35	\$ 6,800
Wall-Open-Cell Foam Insulation (Spray applied) - 3.0" R-15	5200	SF	\$ 1.58	\$ 0.80	\$ 12,376
Roof-Polyisocyanurate Rigid Insulation - R-30 (6" +/-)	4720	SF	\$ 2.00	\$ 0.42	\$ 11,422
Wall-Polyisocyanurate Rigid Insulation - R-11 (2"+/-)	5200	SF	\$ 1.15	\$ 0.32	\$ 7,644
Sealants	1	LS	\$ 1,600.00	\$ 1,200.00	\$ 2,800
Miscellaneous	5%				\$ 6,418
Subtotal Division 7					<b>\$ 134,776</b>
<b>Division 8 - Openings</b>					
Interior Man Doors - SCW/ALUM 3'x7'	10	EA	\$ 1,075.00	\$ 450.00	\$ 15,250
Exterior Man Doors - Alum 3'x7'	5	SF	\$ 2,343.00	\$ 1,000.00	\$ 16,715
Interior ALUM Storefront - Office	462	SF	\$ 35.00	\$ 6.80	\$ 19,312
Interior Glazing - Single	462	SF	\$ 7.25	\$ 7.50	\$ 6,815
Exterior Windows - 1": Insulated Glazing	210	SF	\$ 27.50	\$ 7.50	\$ 7,350
ALUM Storefront - Vestibule	112	SF	\$ 35.00	\$ 6.80	\$ 4,682
Exterior Glazing - Insulated	188	SF	\$ 7.25	\$ 7.50	\$ 2,773
Mirrors - Toilet; Frameless	50	SF	\$ 12.00	\$ 6.50	\$ 925
Miscellaneous	5%				\$ 3,691
Subtotal Division 8					<b>\$ 77,512</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85  
Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 9 - Finishes</b>					
Walls - Gypsum Board - 5/8" -Tape & Float	12000	SF	\$ 1.10	\$ 1.20	\$ 27,600
Ceiling - Gypsum Board - 5/8" -Tape & Float	478	SF	\$ 0.85	\$ 1.10	\$ 932
Walls - Cementitious Backing Board- 5/8" -Tape & Float	3744	SF	\$ 1.40	\$ 6.00	\$ 27,706
Paint - Walls Gypsum Board - Prep, Primer & Fins Coat	12000	SF	\$ 0.15	\$ 0.45	\$ 7,200
Paint - Ceiling Gypsum Board - Prep, Primer & Fins Coat	478	SF	\$ 0.15	\$ 0.45	\$ 287
Acoustic Ceiling Tile, 15/16" grid, 24x24	3400	SF	\$ 3.25	\$ 1.25	\$ 15,300
Sealed Concrete - Floor	2730	SF	\$ 0.55	\$ 0.30	\$ 2,321
Carpet Tile - Floor -OFC/Training	1000	SF	\$ 10.75	\$ 6.25	\$ 17,000
Base - Wall - 6" Resilient	1000	LF	\$ 1.90	\$ 1.60	\$ 3,500
Base - Wall - 6" Resilient Corners	100	EA	\$ 3.75	\$ 1.60	\$ 535
Interior Wall Tile - Large Format - 12" x 24"	2500	SF	\$ 8.25	\$ 5.60	\$ 34,625
Base - Wall - 6"x12" Cove Tile	375	LF	\$ 9.95	\$ 9.00	\$ 7,106
Miscellaneous	5%				\$ 7,206
Subtotal Division 9					<b>\$ 151,317</b>
<b>Division 10 - Specialties</b>					
Building Sign - 36" x 12" - Aluminum	2	EA	\$ 265.00	\$ 31.25	\$ 593
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 62.50	\$ 18.75	\$ 325
Fire Extinguisher - Cabinet	4	EA	\$ 137.50	\$ 94.00	\$ 926
Toilet Partitions - Stainless Steel	3	EA	\$ 1,875.00	\$ 250.00	\$ 6,375
San Napkin Disposal	2	EA	\$ 31.25	\$ 20.00	\$ 103
Waste Recepticle	3	EA	\$ 120.00	\$ 45.00	\$ 495
Toilet Paper Dispenser	3	EA	\$ 31.25	\$ 20.00	\$ 154
Grab Bars - ADA 36"	2	EA	\$ 48.00	\$ 27.50	\$ 151
Grab Bars - ADA 42"	2	EA	\$ 60.00	\$ 48.00	\$ 216
Hand Dryer	2	EA	\$ 1,000.00	\$ 125.00	\$ 2,250
Lockers - 12"x18"x72"	11	EA	\$ 675.00	\$ 25.00	\$ 7,700
Shower Enclosures - ADA & Standard	2	EA	\$ 1,200.00	\$ 137.50	\$ 2,675
Corner Guards-Stainless Steel (3"x3"x48"L)	12	EA	\$ 137.50	\$ 25.00	\$ 1,950
Door/Wall Signs - 8"x 8" acrylic	24	EA	\$ 48.00	\$ 12.00	\$ 1,440
Miscellaneous	5%				\$ 1,268
Subtotal Division 10					<b>\$ 26,619</b>
<b>Division 11 - Equipment</b>					
Audio/Video Equipment - Conference	1	LS	\$ 7,500.00	\$ 750.00	\$ 8,250
Lab Equipment	1	LS	\$ 125,000.00	\$ 10,000.00	\$ 135,000
FF&E - OFC	7	EA	\$ 6,000.00	\$ 1,000.00	\$ 49,000
FF&E -Training	1	EA	\$ 12,000.00	\$ 1,200.00	\$ 13,200
Miscellaneous	5%				\$ 10,273
Subtotal Division 11					<b>\$ 215,723</b>
<b>Division 12 - Furnishings</b>					
Blinds	462	SF	\$ 6.80	\$ 1.50	\$ 3,835
Millwork - Base Cabinet - 24" D - Plastic Laminate	36	LF	\$ 187.50	\$ 11.50	\$ 7,164
Millwork - Overhead Cabinet - 12" D - Plastic Laminate	38	LF	\$ 112.50	\$ 9.75	\$ 4,646
Soidd Surface Countertops	36	LF	\$ 106.25	\$ 42.50	\$ 5,355
Miscellaneous	5%				\$ 1,050
Subtotal Division 12					<b>\$ 22,049</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85  
Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
INSTANT WATER HEATER, ELECTRIC	1	EACH	\$ 408.00	\$ 320.00	\$ 728
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
ICEMAKER OUTLET CONNECTION	2	EACH	\$ 60.00	\$ 80.00	\$ 280
HOT WATER CIRCULATION PUMP WITH CONTROLS	1	EACH	\$ 1,880.00	\$ 480.00	\$ 2,360
HOSE BIB	1	EACH	\$ 40.00	\$ 40.00	\$ 80
FREEZEPROOF WALL HYDRANT	3	EACH	\$ 90.00	\$ 80.00	\$ 510
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	3	EACH	\$ 520.00	\$ 160.00	\$ 2,040
URINAL, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
5 FT HANDWASH BASIN, MANUAL FAUCETS	2	EACH	\$ 3,400.00	\$ 320.00	\$ 7,440
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	1	EACH	\$ 1,740.00	\$ 320.00	\$ 2,060
ACRYLIC SHOWER, WITH SHOWER VALVE	2	EACH	\$ 3,900.00	\$ 1,280.00	\$ 10,360
STAINLESS STEEL KITCHEN SINK, MANUAL FAUCET	1	EACH	\$ 440.00	\$ 320.00	\$ 760
SERVICE SINK, WALL FAUCET	1	EACH	\$ 660.00	\$ 320.00	\$ 980
EMERGENCY EYEWASH	1	EACH	\$ 220.00	\$ 320.00	\$ 540
DOMESTIC WATER PIPING	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 32,000
SANITARY SEWER PIPING	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 32,000
Miscellaneous	5%				\$ 5,056
Subtotal Division 22					<b>\$ 106,184</b>
<b>Division 23 - HVAC</b>					
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 3-TON	2	EACH	\$ 10,000.00	\$ 9,000.00	\$ 38,000
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 1.5-TON	1	EACH	\$ 6,500.00	\$ 6,500.00	\$ 13,000
DUCTLESS MINI-SPLIT SYSTEM, WALL MOUNT, THERMOSTAT	2	EACH	\$ 2,800.00	\$ 2,800.00	\$ 11,200
STATIC PLAT ENERGY RECOVERY UNIT, DUCTWORK, 1,000 CFM	1	EACH	\$ 4,500.00	\$ 4,500.00	\$ 9,000
FIXED LOUVER	1	EACH	\$ 200.00	\$ 200.00	\$ 400
ROOF INTAKE HOOD, 16" DIA	1	EACH	\$ 800.00	\$ 480.00	\$ 1,280
MOTORIZED DAMPER	1	EACH	\$ 280.00	\$ 80.00	\$ 360
Miscellaneous	5%				\$ 3,662
Subtotal Division 23					<b>\$ 76,902</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4735	SF	\$ 18.00	\$ -	\$ 85,230
Communications and Security	4735	SF	\$ 9.00	\$ -	\$ 42,615
Subtotal Division 26					<b>\$ 143,845</b>
<b>Division 31 - Earthwork</b>					
Excavation	600	CY		\$ 15.00	\$ 9,000
Fill	231	CY	\$ 20.00		\$ 4,620
Miscellaneous	5%				\$ 681
Subtotal Division 31					<b>\$ 14,301</b>
<b>Subtotal This Facility</b>					<b>\$ 1,913,084</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 438,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 96,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 421,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,869,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 86  
Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	68	CY	\$ 1,400.00		\$ 94,785
Grade Beams	130	CY	\$ 1,200.00		\$ 155,556
Void Forms	4256	SF	\$ 14.00		\$ 59,584
Concrete Base Slab	158	CY	\$ 1,500.00		\$ 236,444
Miscellaneous	5%				\$ 27,318
	Subtotal Division 3				<b>\$ 573,688</b>
<b>Division 4 - Masonry</b>					
CMU - 8"	5089	SF	\$ 8.50	\$ 8.00	\$ 83,969
Misc- Reinforcing, etc.	1	LS	\$ 2,500.00	\$ 3,000.00	\$ 5,500
Miscellaneous	5%				\$ 4,473
	Subtotal Division 4				<b>\$ 93,942</b>
<b>Division 5 - Metals</b>					
Prefabricated Metal Building	4038	SF	\$ 22.00	\$ 8.50	\$ 123,159
Fencing with gates - 12'-0"H	35	LF	\$ 54.00	\$ 32.00	\$ 3,010
Miscellaneous	5%				\$ 6,308
	Subtotal Division 5				<b>\$ 132,477</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Wall Panels - Insulated	200	SF	\$ 12.50	\$ 4.00	\$ 3,300
Metal Roof Panels - Insulated	4591	SF	\$ 10.25	\$ 6.00	\$ 74,604
Sealants	1	LS	\$ 400.00	\$ 250.00	\$ 650
Miscellaneous	5%				\$ 3,928
	Subtotal Division 7				<b>\$ 82,481</b>
<b>Division 8 - Openings</b>					
Exterior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	5	EA	\$ 2,343.00	\$ 1,020.00	\$ 16,815
Interior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	1	EA	\$ 1,437.00	\$ 375.00	\$ 1,812
Overhead Insulating Coiling Door - 10'W x 8'H	1	EA	\$ 1,500.00	\$ 720.00	\$ 2,220
Overhead Insulating Coiling Door - 10'W x 14'H	2	EA	\$ 2,625.00	\$ 1,312.00	\$ 7,874
Miscellaneous	5%				\$ 1,436
	Subtotal Division 8				<b>\$ 30,157</b>
<b>Division 9 - Finishes</b>					
Paint - Walls CMU - Prep, Primer & Fins Coat	1100	SF	\$ 0.32	\$ 0.54	\$ 946
Paint - Ceiling - Prep, Primer & Fins Coat	80	SF	\$ 0.32	\$ 0.54	\$ 69
Miscellaneous	5%				\$ 51
	Subtotal Division 9				<b>\$ 1,066</b>
<b>Division 10 - Specialities</b>					
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 62.00	\$ 18.75	\$ 323
Waste Recepticle	1	EA	\$ 120.00	\$ 45.00	\$ 165
Toilet Paper Dispenser	1	EA	\$ 12.00	\$ 12.00	\$ 24
Grab Bars - ADA 36"	1	EA	\$ 50.00	\$ 28.00	\$ 78
Grab Bars - ADA 42"	1	EA	\$ 62.50	\$ 27.50	\$ 90
Hand Dryer	1	EA	\$ 1,000.00	\$ 120.00	\$ 1,120
Door/Wall Signs - 8"x8" acrylic	8	EA	\$ 50.00	\$ 12.00	\$ 496
Exterior Wall Signs - 12"x36" Aluminum Sign/Painted Letter	2	EA	\$ 120.00	\$ 48.00	\$ 336
Miscellaneous	5%				\$ 132
	Subtotal Division 10				<b>\$ 2,764</b>
<b>Division 11 - Equipment</b>					
FF& E Package	1	LS	\$ 28,000.00		\$ 28,000
Miscellaneous	5%				\$ 1,400
	Subtotal Division 11				<b>\$ 29,400</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 86

Facility Description: Maintenance and Storage Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
Fire Sprinkler (not required)	0	SF	\$ 5.00	\$ 5.00	\$ -
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
HOSE BIB	2	EACH	\$ 40.00	\$ 40.00	\$ 160
FREEZEPROOF WALL HYDRANT	2	EACH	\$ 90.00	\$ 80.00	\$ 340
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
HANDWASH SINK, FOOT CONTROLS	2	EACH	\$ 1,850.00	\$ 320.00	\$ 4,340
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	0	EACH	\$ 1,740.00	\$ 320.00	\$ -
EMERGENCY SHOWER	1	EACH	\$ 660.00	\$ 320.00	\$ 980
AIR COMPRESSOR, 120 GALLONS	1	EACH	\$ 7,500.00	\$ 660.00	\$ 8,160
COMPRESSED AIR PIPING	1	LS	\$ 2,200.00	\$ 2,200.00	\$ 4,400
DOMESTIC WATER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
SANITARY SEWER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
Miscellaneous	5%				\$ -
Subtotal Division 22					<b>\$ 40,570</b>
<b>Division 23 - HVAC</b>					
ELECTRIC UNIT HEATER, CORROSION RESISTANT	2	EA	\$ 3,800.00	\$ 700.00	\$ 9,000
EXHAUST FAN, TOILET	1	EA	\$ 280.00	\$ 280.00	\$ 560
EXHAUST FAN, 5,000 CFM	1	EA	\$ 1,200.00	\$ 1,200.00	\$ 2,400
BIG ASS FAN	1	EA	\$ 6,200.00	\$ 1,200.00	\$ 7,400
Miscellaneous	5%				\$ 968
Subtotal Division 23					<b>\$ 20,328</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4038	SF	\$ 9.00	\$ -	\$ 36,342
Communications and Security	4038	SF	\$ 5.00	\$ -	\$ 20,190
<b>Maintenance Building (SCADA) Network Enclosure (NET-MAINT)</b>					
Enclosure (NET-UV) (24"H x 24"W x 25"D) with Fan Package	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
Internal UPS	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000
Miscellaneous for NET-MAINT	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000.00
Miscellaneous	5%				\$ 5,427
Subtotal Division 26					<b>\$ 113,959</b>
<b>Division 31 - Earthwork</b>					
Excavation	1200	CY		\$ 15.00	\$ 18,000
Fill	800	CY	\$ 20.00		\$ 16,000
Miscellaneous	5%				\$ 1,700
Subtotal Division 31					<b>\$ 35,700</b>
<b>Subtotal This Facility</b>					<b>\$ 1,156,531</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 265,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 58,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 255,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,735,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 88

Facility Description: Main Plant Electrical Building #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Main Plant Electrical Building</b>					
Concrete Base Slab	132	CY	\$ 1,500.00		\$ 197,259
Void Forms	3071.37	SF	\$ 14.00		\$ 42,999
Grade Beams	79	CY	\$ 1,200.00		\$ 94,567
Drilled Shaft Deep Foundation	107	CY	\$ 1,400.00		\$ 149,541
Concrete Housekeeping Pads	3	CY	\$ 1,000.00		\$ 3,296
Miscellaneous	5%				\$ 24,383
			Subtotal Division 3		<b>\$ 512,046</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	3492	SF	\$ 20.00		\$ 69,840
Veneer	3492	SF	\$ 15.00		\$ 52,380
Miscellaneous	5%				\$ 6,111
			Subtotal Division 4		<b>\$ 128,331</b>
<b>Division 5 - Metals</b>					
Metal Roofing Panels	2400	SF	\$ 15.00		\$ 36,000
Steel Roof Joists	2	TON	\$3,000.00	\$900.00	\$ 7,800
Miscellaneous	5%				\$ 2,190
			Subtotal Division 5		<b>\$ 45,990</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3492	SF	\$ 3.80	\$ 1.14	\$ 17,250
Building Roof Insulation	2400	SF	\$ 1.75	\$ 1.92	\$ 8,808
Rain Gutters and Downspouts	72	LF	\$ 9.20	\$ 2.76	\$ 861
Miscellaneous	5%				\$ 1,346
			Subtotal Division 7		<b>\$ 28,266</b>
<b>Division 8 - Openings</b>					
FRP Single Door	2	EA	\$ 8,000.00		\$ 16,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,400
			Subtotal Division 8		<b>\$ 29,400</b>
<b>Division 21 - Fire Protection</b>					
Allowance for fire protection system	1	LS	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 1,250
			Subtotal Division 21		<b>\$ 26,250</b>
<b>Division 23 - HVAC</b>					
10-ton AC unit	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Corrosion Resistant Coatings	1	LS	\$ 4,800.00	\$ 1,440.00	\$ 6,240
Ductwork+accessories	1	LS	\$ 7,338.00	\$ 2,201.40	\$ 9,539
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 3,551
			Subtotal Division 23		<b>\$ 74,581</b>



**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 89**

**Facility Description: Generator and Transformer Pad**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	29	CY	\$ 1,400.00		\$ 40,756
Transformer Pads	62	CY	\$ 1,000.00		\$ 62,222
<i>Miscellaneous</i>	5%				\$ 5,149
<b>Subtotal Division 3</b>					<b>\$ 108,127</b>
<b>Division 5 - Metals</b>					
Structural Steel Framing	16300	LB	\$ 3.00	\$ 0.90	\$ 63,570
Steel Galvanizing	16300	LB	\$ 1.00	\$ 0.30	\$ 21,190
2" Grating	260	SF	\$ 60.00	\$ 18.00	\$ 20,280
Handrails	140	LF	\$ 60.00	\$ 18.00	\$ 10,920
Stairs	10	Riser	\$ 600.00	\$ 180.00	\$ 7,800
<i>Miscellaneous</i>	5%				\$ 6,188
<b>Subtotal Division 5</b>					<b>\$ 129,948</b>
<b>Subtotal This Facility</b>					<b>\$ 238,075</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 55,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 12,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 53,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 359,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 90  
Facility Description: General Electrical

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
2750 KW GEN SET	1	EA	\$2,200,000.00	\$770,000.00	\$ 2,970,000
Load Bank Connection Box	1	EA	\$50,000.00	\$17,500.00	\$ 67,500
Generator & Load Bank Feeders	1	LS	\$40,000.00	\$14,000.00	\$ 54,000
Incoming Power 15KV Ductbank	1	LS	\$10,000	\$3,500.00	\$ 13,500
Incoming Power 5kV Ductbank	1	LS	\$120,000	\$42,000.00	\$ 162,000
Incoming 5KV Manholes	4	EA	\$25,000	\$5,000.00	\$ 120,000
Incoming Power 5kV Cable	1	LS	\$95,000	\$33,250.00	\$ 128,250
Bluebonnet Transformer Secondary Fdrs DB (Non-Contractor Cost -- see elsewhere)	0	LS	\$950,000.00	\$0.00	\$ -
Subtotal Division 26					<b>\$ 3,515,250</b>
<b>Subtotal This Facility</b>					<b>\$ 3,515,250</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 804,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 176,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 774,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,270,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 95  
Facility Description: SCADA

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
<b>SCADA Room</b>					
Servers	3	EA	\$ 40,000	\$ 24,000	\$ 144,000
Software (HMI)	1	LS	\$ 100,000	\$ 20,000	\$ 120,000
19-inch Racks	4	EA	\$ 30,000	\$ 24,000	\$ 144,000
Ethernet Switches	2	EA	\$ 30,000	\$ 12,000	\$ 72,000
UPS	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<b>SCADA Room</b>					
Work Stations with Monitors	2	EA	\$ 20,000	\$ 8,000	\$ 48,000
Overall startup Testing	1	LOT		\$ 120,000	\$ 120,000
Spare Parts	1	EA	\$ 50,000		\$ 50,000
Training	1	LS	-	\$ 30,000	\$ 30,000
Miscellaneous	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
<i>Miscellaneous</i>	5%				\$ 38,500
Subtotal Division 26					<b>\$ 808,500</b>
<b>Division 27 - Communication</b>					
FOC-01 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-02 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-03 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-04 (Include Fiber and Installation)	1500	FT	\$ 6.00	\$ 1,350	\$ 10,350
FOC-05 (Include Fiber and Installation)	1200	FT	\$ 6.00	\$ 1,080	\$ 8,280
FOC-06 (Include Fiber and Installation)	1000	FT	\$ 6.00	\$ 900	\$ 6,900
FOC-07 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-08 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-09 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-10 (Include Fiber and Installation)	500	FT	\$ 6.00	\$ 450	\$ 3,450
FOC-11 (Include Fiber and Installation)	700	FT	\$ 6.00	\$ 630	\$ 4,830
FOC-12 (Include Fiber and Installation)	900	FT	\$ 6.00	\$ 810	\$ 6,210
TOTAL Fiber Connectors, Includes Connector and Installation	468	Unit	\$ 100	-	\$ 46,800
Testing of each Fiber Strand	240	Strand	\$ 100	-	\$ 24,000
FOPPs	13	Unit	\$ 4,000	\$ 7,800	\$ 59,800
Miscellaneous Fiber Items	1	LOT	\$ 10,000	-	\$ 10,000
<i>Miscellaneous</i>	5%				\$ 9,549
Subtotal Division 27					<b>\$ 200,519</b>
<b>Division 28 - Electronic Safety &amp; Security</b>					
Allowance for site security, access, etc.	1	LS	\$ 400,000		\$ 400,000
Allowance for cameras, controls, etc.	1	LS	\$ 150,000		\$ 150,000
<i>Miscellaneous</i>	0%				\$ -
Subtotal Division 28					<b>\$ 550,000</b>
<b>Division 40 - Process Integration (SCADA)</b>					
Configuration of HMI (submittals, graphics, database, WFT only, mtgs, etc.)	1	LS		\$ 150,000	\$ 150,000
<i>Miscellaneous</i>	0%				\$ -
Subtotal Division 40					<b>\$ 150,000</b>
<b>Subtotal This Facility</b>					<b>\$ 1,709,019</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 391,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 86,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 376,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,563,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191  
KHA No. 069228913

Facility Number: 99  
Facility Description: Weiss Lane Lift Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Weiss Lane LS</b> Salvage, remove, and convert to City Existing Generator Electrical Cabinets/control panels, PLC, Control I/O, PLC Back Panel, Radio, including associated Labor, Materials, and Equipment per plans and specifications	1	LS	\$ 75,000.00		\$ 75,000
Decommission Existing Weiss Lane LS per plans and specifications	1	LS	\$ 125,000.00		\$ 125,000
<i>Miscellaneous</i>	5%				\$ 6,250
	Subtotal				\$ 131,250
<b>Subtotal This Facility</b>					<b>\$ 168,750</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 39,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 9,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 38,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 255,000</b>

Facility Area	Facilities Include
<b>Facility Loaded Cost (includes</b>	
Civil	02, 03, 04, 05, 07, 09
Electrical and SCADA (Overall Plant)	06, 88, 90, 95
A - ILS/Headworks	10, 12, 13, 14
B - Secondary Treatment	31, 38, 40, 45, 46
C - Tertiary Treatment	50, 53, 54, 55, 56, 60
D - Solids	70, 72
Operations and Lab and Maintenance Buildings	85, 86
<b>Subtotal, Facilities</b>	
Additional Cos	
Additive or Deductive Alternates	
Cash Allowance for Change Orders in Construction	
Costs Independent of Construction Contract	
Escalation to Midpoint of Construction	
<b>Total, All Project</b>	

Without cost adders

**30% Estimate for Facility  
(Nov. 2021)**

Structural	\$27,197,271
Electrical	\$18,297,429
Process	\$20,470,215
HVAC	\$547,447
Just concrete	\$19,083,069
Scope additions	
Scope removal	
Quantity Changes	
Unit Price Changes	

With Cost adders

**30% Estimate for Facility  
(Nov. 2021)**

Structural	\$41,135,872
Electrical	\$27,674,861
Process	\$30,961,201
HVAC	\$828,014
Just concrete	\$28,863,141
Scope removal	
Quantity Changes	
Unit Price Changes	

had to assume>

Since varied

Concrete

Concrete

<b>Cost Adder Calculator</b>	
	<b>60%</b>
<b>Cost before adders</b>	
<b>Contingency</b>	<b>20%</b>
<b>Mobilization</b>	<b>5%</b>
<b>Contractor's Overhead and Profit</b>	<b>20%</b>
<b>Total Estimated Costs</b>	

Phase 2 alt

years

9	36" DI Pipe	115
2	Gate	2
2	blind flange	2

Phase 1 alt

years

2	36" DI Pipe	115
2	Gate	2
2	blind flange	0

doorways

\$396,500

Draft 60% Estimate	30% Estimate for Facility (Nov. 2021)	% Change
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**Mobilization, OH&P, Contingency)**

\$26,900,000	\$20,781,000	29%
\$23,700,000	\$17,317,000	37%
\$33,600,000	\$20,085,000	67%
\$73,500,000	\$38,533,000	91%
\$21,500,000	\$16,089,000	34%
\$19,100,000	\$12,470,000	53%
\$4,600,000	\$3,112,000	48%
<b>\$202,900,000</b>	<b>\$128,387,000</b>	<b>0%</b>

sts/Considerations

\$0		
\$10,200,000		
\$3,100,000		
\$29,600,000		
<b>\$245,800,000</b>		

Draft 60% Estimate	% Change
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\$58,900,972	117%
\$25,094,977	37%
\$24,797,930	21%
\$678,108	24%
\$48,452,764	154%

Delta

\$31,703,701
\$6,797,548
\$4,327,715
\$130,661
\$29,369,695

Draft 60% Estimate	% Change
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\$88,351,458	115%
\$37,642,466	36%
\$37,196,895	20%
\$1,017,163	23%
\$72,679,145	152%

Delta

\$47,215,585
\$9,967,605
\$6,235,694
\$189,148
\$43,816,004

30% adders	60% adders
0.25	0.2

0.03	0.05
0.18	0.2

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		<b>90%</b>
<b>\$ 396,500</b>		<b>Cost before adders</b>
<b>\$ 100,000</b>		<b>Contingency 20%</b>
<b>\$ 20,000</b>		<b>Mobilization 5%</b>
<b>\$ 80,000</b>		<b>Contractor's Overhead 20%</b>
<b>\$ 597,000</b>		<b>Total Estimated Costs</b>
		<b>Difference</b>

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LF	\$	603.89	\$	181.17	\$	90,281.56
EA	\$	18,000.00	\$	5,400.00	\$	46,800.00
EA	\$	9,303.00	\$	2,790.00	\$	24,186.00

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LF	\$	603.89	\$	181.17	\$	90,281.56
EA	\$	18,000.00	\$	5,400.00	\$	46,800.00
EA	\$	9,303.00	\$	2,790.00	\$	-

|

\$418,032

Delta

\$6,119,000

\$6,383,000

\$13,515,000

\$34,967,000

\$5,411,000

\$6,630,000

\$1,488,000

Division

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\$ 24,186
\$ 6,047
\$ 1,209
\$ 4,837
\$ 36,279
\$ (560,721)

0.07

adders	escalation	Total
\$ 135,422.33	<b>\$110,000</b>	\$245,422.33
\$ 70,200.00	<b>\$10,000</b>	\$80,200.00
\$ 36,279.00	<b>\$10,000</b>	\$46,279.00
Total		\$371,901.33

31 - ABs

Division

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adders	escalation	Total
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9

\$	135,422.33	<b>\$20,000</b>	\$155,422.33	11
\$	70,200.00	<b>\$10,000</b>	\$80,200.00	22
\$	-	<b>\$0</b>	\$0.00	23
Total			\$235,622.33	26

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Division

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Division

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72 - Biosolids

Division

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**Division**

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ILS

	60%	90%
Concrete	\$1,449,455	\$4,622,237
Masonry	\$0	\$0
Metals	\$134,127	\$225,649
Thermal/Moisture	\$0	\$0
Openings	\$0	\$0
Finishes	\$40,950	\$956,550
Equipment	\$50,505	\$50,505
Plumbing	\$0	\$0
HVAC	\$0	\$0
Electrical	\$668,052	\$906,665

Earthwork	\$566,790	\$856,170
Process Integration	\$2,277,949	\$2,880,758
Process gas and liquid	\$0	\$0
Pollution Control Equipment	\$0	\$0
W&W Equipment	\$0	\$0
	\$4,825,828	\$10,498,533
<b>Contingency</b>	<b>\$ 1,752,000</b>	<b>\$ 2,401,000</b>
<b>Mobilization</b>	<b>\$ 145,000</b>	<b>\$ 525,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 869,000</b>	<b>\$ 2,310,000</b>
	\$7,591,828	\$15,734,533

20%	18%
5%	5%
20%	22%

	60%	90%
Concrete	\$6,476,109	\$20,446,362
Masonry	\$0	\$0
Metals	\$484,413	\$315,332
Thermal/Moisture	\$0	\$0
Openings	\$0	\$0
Finishes	\$0	\$0

Equipment	\$0	\$0
Plumbing	\$0	\$0
HVAC	\$0	\$0
Electrical	\$340,200	\$701,663
Earthwork	\$574,964	\$572,250
Process Integration	\$971,716	\$1,890,662
Process gas and liquid	\$327,600	\$327,600
Pollution Control Equipment	\$0	\$0
W&W Equipment	\$648,375	\$648,375
	\$9,823,378	\$24,902,244
<b>Contingency</b>	<b>\$ 2,378,000</b>	<b>\$ 6,226,000</b>
<b>Mobilization</b>	<b>\$ 295,000</b>	<b>\$ 1,246,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 1,769,000</b>	<b>\$ 4,981,000</b>
	\$14,265,378	\$37,355,244

20%	20%
3%	5%
18%	20%

RAS/WAS PS

	60%	90%
Concrete	\$214,453	\$584,397
Masonry	\$56,105	\$56,105
Metals	\$164,339	\$20,128

Thermal/Moisture	\$8,463	\$6,393
Openings	\$25,200	\$25,200
Finishes	\$0	\$0
Equipment	\$0	\$0
Plumbing	\$0	\$0
HVAC	\$21,369	\$34,065
Electrical	\$1,207,458	\$1,418,708
Earthwork	\$55,877	\$49,665
Process Integration	\$592,240	\$612,749
Process gas and liquid		\$0
Pollution Control Equipment	\$456,866	\$327,600
W&W Equipment	\$0	\$312,000
	\$2,802,370	\$3,447,009
<b>Contingency</b>	<b>\$ 679,000</b>	<b>\$ 863,000</b>
<b>Mobilization</b>	<b>\$ 85,000</b>	<b>\$ 173,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 505,000</b>	<b>\$ 690,000</b>
	\$4,071,370	\$5,173,009

20%	20%
3%	5%
18%	20%

Effluent Facility	
60%	90%

Concrete	\$588,111	\$1,230,141
Masonry	\$0	\$0
Metals	\$24,696	\$29,470
Thermal/Moisture	\$0	\$0
Openings	\$0	\$0
Finishes	\$0	\$0
Equipment	\$0	\$0
Plumbing	\$0	\$0
HVAC	\$0	\$0
Electrical	\$90,216	\$304,576
Earthwork	\$232,575	\$108,938
Process Integration	\$213,391	\$438,057
Process gas and liquid	\$0	\$0
Pollution Control Equipment	\$130,631	\$330,330
W&W Equipment	\$0	\$0
	\$1,279,619	\$2,441,512
<b>Contingency</b>	<b>\$ 465,000</b>	<b>\$ 611,000</b>
<b>Mobilization</b>	<b>\$ 39,000</b>	<b>\$ 123,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 231,000</b>	<b>\$ 489,000</b>
	\$2,014,619	\$3,664,512

30%	20%
3%	5%
18%	20%



	60%	90%
Concrete	\$980,103	\$2,392,333
Masonry	\$286,087	\$558,373
Metals	\$374,737	\$578,182
Thermal/Moisture	\$0	\$6,351
Openings	\$119,028	\$119,263
Equipment	\$0	\$0
Plumbing	\$58,315	\$25,048
HVAC	\$103,974	\$172,448
Electrical	\$1,562,127	\$2,238,726
Earthwork	\$91,956	\$69,897
Process Integration	\$2,554,860	\$2,613,975
Material and Solids Hand.	\$47,775	\$47,775
Process gas and liquid	\$0	\$0
Pollution Control Equipment	\$0	\$0
W&W Equipment	\$0	\$0
	\$6,178,963	\$8,822,371
<b>Contingency</b>	<b>\$ 2,244,000</b>	<b>\$ 2,206,000</b>
<b>Mobilization</b>	<b>\$ 186,000</b>	<b>\$ 442,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 1,113,000</b>	<b>\$ 1,765,000</b>
	\$9,721,963	\$13,235,371

30%	20%
3%	5%
18%	20%

\$ 34.50  
\$0.00

**90 - misc. Electrical**

	60%	90%
Concrete	\$0	\$0
Masonry	\$0	\$0
Metals	\$0	\$0
Thermal/Moisture	\$0	\$0
Openings	\$0	\$0
Finishes	\$0	\$0
Equipment	\$0	\$0
Plumbing	\$0	\$0
HVAC	\$0	\$0
Electrical	\$2,598,000	\$3,515,250
Earthwork	\$0	\$0
Process Integration	\$0	\$0
Process gas and liquid	\$0	\$0
Pollution Control Equipment	\$0	\$0
W&W Equipment	\$0	\$0
	2730000	\$3,515,250
<b>Contingency</b>	992000 \$	<b>880,000</b>
<b>Mobilization</b>	82000 \$	<b>176,000</b>
<b>Contractor's Overhead and Profit</b>	492000 \$	<b>704,000</b>
	0	
	4296000	\$5,275,250

30%	20%
3%	5%
18%	20%



12 Headworks

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Increase from 60%

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\$3,172,782

\$0

\$91,522

\$0

\$915,600

\$0

\$0

\$238,613

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Division

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3 Concrete

4 Masonry

5 Metals

7 Thermal/Moisture

8 Openings

9 Finishes

11 Equipment

22 Plumbing

23 HVAC

26 Electrical

\$289,380

31 Earthwork

\$602,809

40 Process Integration

43 Process gas and liquid

44 Pollution Control Equipment

46 W&W Equipment

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\$5,672,705

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**Contingency**

**Mobilization**

**Contractor's Overhead and Profit**

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\$8,142,705

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38

Blower

Increase from 60%

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\$13,970,253

Division

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3 Concrete

4 Masonry

5 Metals

7 Thermal/Moisture

8 Openings

9 Finishes

-\$169,081

	11	Equipment
	22	Plumbing
	23	HVAC
\$361,463	26	Electrical
-\$2,714	31	Earthwork
\$918,945	40	Process Integration
\$0	43	Process gas and liquid
	44	Pollution Control Equipment
\$0	46	W&W Equipment
<hr/>		
\$15,078,866		
<hr/>		
		<b>Contingency</b>
		<b>Mobilization</b>
		<b>Contractor's Overhead and Profit</b>
<hr/>		
\$23,089,866		

	50	Filters
		Division
<hr/>		
Increase from 60%	3	Concrete
\$369,944	4	Masonry
\$0	5	Metals
-\$144,212		

- \$2,070	7	Thermal/Moisture
\$0	8	Openings
	9	Finishes
	11	Equipment
	22	Plumbing
\$12,696	23	HVAC
\$211,250	26	Electrical
- \$6,212	31	Earthwork
\$20,508	40	Process Integration
\$0	41	Material Processing
- \$129,266	44	Pollution Control Equipment
	46	W&W Equipment

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\$644,639

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**Contingency**

**Mobilization**

**Contractor's Overhead and Profit**

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\$1,101,639

56

Non-potable water

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Increase from 60%

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Division

\$642,030	3	Concrete
	4	Masonry
\$4,774	5	Metals
	7	Thermal/Moisture
	8	Openings
	9	Finishes
	11	Equipment
	22	Plumbing
	23	HVAC
\$214,360	26	Electrical
-\$123,638	31	Earthwork
\$224,666	40	Process Integration
	43	Process gas and liquid
\$199,700	44	Pollution Control Equipment
	46	W&W Equipment

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\$1,161,893

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**Contingency**

**Mobilization**

**Contractor's Overhead and Profit**

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\$1,649,893



85 Operations

Increase from 60%

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\$1,412,230
\$272,286
\$203,445
\$235
-\$33,267
\$68,474
\$676,599
-\$22,059
\$59,115
\$0

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Division

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3	Concrete
4	Masonry
5	Metals
6	Wood and plastics
7	Thermal/Moisture
8	Openings
9	Finishes
10	Specialties
11	Equipment
12	Furnishings
22	Plumbing
23	HVAC
26	Electrical
31	Earthwork
43	Process gas and liquid

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\$2,643,408

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**Contingency**

**Mobilization**

**Contractor's Overhead and Profit**

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\$3,513,408

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	95 95 - SCADA
Increase from 60%	Division
	3 Concrete
	4 Masonry
	5 Metals
	7 Thermal/Moisture
	8 Openings
	9 Finishes
	11 Equipment
	26 Electrical
	27 Communication
	28 Electronic Safety & Security
	31 Earthwork
	40 Process Integration
	43 Process gas and liquid
	44 Pollution Control Equipment
	46 W&W Equipment
	<b>Contingency</b>
	<b>Mobilization</b>
	<b>Contractor's Overhead and Profit</b>

Increase from 60%

95 95 - SCADA

Division

\$917,250

\$785,250

\$979,250

**Contingency**

**Mobilization**

**Contractor's Overhead and Profit**

60%	90%	Increase from 60%	Division
\$1,419,895	\$2,976,334	\$1,556,439	3
\$0	\$0	\$0	4
\$448,811	\$380,088	-\$68,723	5
\$0	\$0		7
\$0	\$0	\$0	8
\$161,700	\$427,266		9
\$0	\$0		11
\$0	\$0		22
\$0	\$0	\$0	23
\$570,780	\$843,413	\$272,633	26

\$82,446	\$51,639	-\$30,807	31
\$1,881,130	\$2,284,884	\$403,754	40
\$0	\$0		43
\$0	\$0		44
\$0	\$0		46
<hr/>			
\$4,564,762	\$6,963,623	\$2,398,861	
<hr/>			
<b>\$ 1,142,000</b>	<b>\$ 1,593,000</b>		
<b>\$ 229,000</b>	<b>\$ 349,000</b>		
<b>\$ 913,000</b>	<b>\$ 1,532,000</b>		
<hr/>			
\$6,848,762	\$10,437,623	\$3,588,861	

20%	18%
5%	5%
20%	22%

			40
60%	90%	Increase from 60%	Division
<hr/>			
\$411,587	\$1,080,677	\$669,090	3
\$338,311	\$323,099	-\$15,211	4
\$116,965	\$158,461	\$41,495	5
\$31,153	\$23,889	-\$7,264	7
\$44,100	\$44,100	\$0	8
\$0	\$0		9

\$0	\$0		11
\$0	\$0		22
\$69,963	\$134,522	\$64,559	23
\$2,458,722	\$3,259,862	\$801,140	26
\$69,421	\$25,284	-\$44,137	31
\$1,683,263	\$1,869,368	\$186,104	40
\$0	\$0		43
\$0	\$0		44
\$136,500	\$136,500	\$0	46
<hr/>			
\$5,359,985	\$7,055,761	\$1,695,777	
<hr/>			
<b>\$ 1,298,000</b>	<b>\$ 1,765,000</b>		
<b>\$ 161,000</b>	<b>\$ 353,000</b>		
<b>\$ 965,000</b>	<b>\$ 1,412,000</b>		
<hr/>			
\$7,783,985	\$10,585,761	\$2,801,777	

20%	20%
3%	5%
18%	20%

			53
60%	90%	Increase from 60%	Division
<hr/>			
\$389,343	\$1,072,438	\$683,095	3
\$0	\$0		4
\$196,537	\$465,182	\$268,645	5

\$0	\$0		6
\$0	\$0		7
\$12,285	\$14,385	\$2,100	8
\$0	\$0		9
\$0	\$0		22
\$0	\$0		23
\$400,680	\$519,435	\$118,755	26
\$96,259	\$66,150	-\$30,109	31
\$2,530,836	\$2,605,995	\$75,159	40
\$47,775	\$47,775	\$0	43
\$0	\$0		44
\$0	\$0		46
<hr/>			
\$3,673,714	\$4,791,360	\$1,117,645	
<hr/>			
<b>\$ 1,335,000</b>	<b>\$ 1,199,000</b>		
<b>\$ 111,000</b>	<b>\$ 240,000</b>		
<b>\$ 662,000</b>	<b>\$ 959,000</b>		
<hr/>			
\$5,781,714	\$7,189,360	\$1,407,645	

30%	20%
3%	5%
18%	20%

60%	90%	Increase from 60%
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\$59,736	\$111,329	\$51,593	3
\$0	\$0		4
\$67,251	\$16,331	-\$50,920	5
\$0	\$0		7
\$0	\$0		8
\$0	\$0		9
\$0	\$0		11
\$0	\$0		22
\$0	\$0		23
\$82,236	\$257,954	\$175,718	26
\$30,870	\$33,600	\$2,730	31
\$74,942	\$62,928	-\$12,014	40
\$0	\$0	\$0	43
\$230,685	\$208,845	-\$21,840	44
\$0	\$0		46

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\$545,720	\$690,987	\$145,267
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<b>\$ 199,000</b>	<b>\$ 173,000</b>
<b>\$ 17,000</b>	<b>\$ 35,000</b>
<b>\$ 99,000</b>	<b>\$ 139,000</b>

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\$860,720	\$1,037,987	\$177,267
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30%	20%
3%	5%
18%	20%

60%	90%	Increase from 60%	Division
\$289,069	\$597,271	\$308,203	3
\$97,230	\$121,695	\$24,465	4
\$126,102	\$177,639	\$51,537	5
\$27,468	\$47,250	\$19,782	7
\$107,458	\$134,776	\$27,318	8
\$57,838	\$77,512	\$19,674	9
\$126,046	\$151,317	\$25,271	10
\$21,532	\$26,619	\$5,087	11
\$158,025	\$215,723	\$57,698	22
\$17,648	\$22,049	\$4,401	23
\$106,184	\$106,184	\$0	26
\$76,902	\$76,902	\$0	31
\$143,845	\$143,845	\$0	40
\$15,524	\$14,301	-\$1,223	44
\$0	\$0		46
\$1,370,873	\$1,913,084	\$542,211	
<b>\$ 498,000</b>	<b>\$ 479,000</b>		
<b>\$ 42,000</b>	<b>\$ 96,000</b>		
<b>\$ 247,000</b>	<b>\$ 383,000</b>		
\$2,157,873	\$2,871,084	\$713,211	

30%	20%
3%	5%
18%	20%

60%	90%	Increase from 60%
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$0	\$0	
\$787,500	\$808,500	\$21,000
\$172,242	\$200,519	\$28,277
\$550,000	\$550,000	\$0
\$0	\$0	
\$150,000	\$150,000	\$0
\$0	\$0	
\$0	\$0	
\$0	\$0	
830000	\$1,709,019	\$879,019
208000	<b>\$ 428,000</b>	
42000	<b>\$ 86,000</b>	
166000	<b>\$ 342,000</b>	
0		
1246000	\$2,565,019	\$1,319,019

30%	20%
3%	5%
18%	20%

Influent foul air

	60%	90%	Increase from 60%
Concrete	\$319,253	\$668,834	\$349,581
Masonry	\$0	\$0	
Metals	\$0	\$0	
Thermal/Moisture	\$0	\$0	
Openings	\$0	\$0	
Finishes	\$0	\$0	
Equipment	\$0	\$0	
Plumbing	\$0	\$0	
HVAC	\$0	\$0	
Electrical	\$0	\$0	\$0

Earthwork	\$65,252	\$65,252	\$0
Process Integration	\$0	\$42,970	\$42,970
Process gas and liquid	\$0	\$0	
Pollution Control Equipment	\$606,375	\$771,225	\$164,850
W&W Equipment	\$0	\$0	

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	\$990,880	\$1,548,280	\$557,401
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<b>Contingency</b>	<b>\$ 248,000</b>	<b>\$ 355,000</b>
<b>Mobilization</b>	<b>\$ 50,000</b>	<b>\$ 78,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 199,000</b>	<b>\$ 341,000</b>

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	\$1,487,880	\$2,322,280	\$834,401
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20%	18%
5%	5%
20%	22%

### MLSS Splitter

	60%	90%	Increase from 60%
Concrete	\$361,203	\$773,433	\$412,231
Masonry	\$0	\$0	
Metals	\$74,252	\$350,231	\$275,979
Thermal/Moisture	\$0	\$0	
Openings	\$0	\$0	
Finishes	\$0	\$0	

Equipment	\$0	\$0	
Plumbing	\$0	\$0	
HVAC	\$0	\$0	
Electrical	\$15,750	\$89,250	\$73,500
Earthwork	\$27,300	\$47,864	\$20,564
Process Integration	\$0	\$0	
Process gas and liquid	\$0	\$0	
Pollution Control Equipment	\$49,140	\$132,883	\$83,743
W&W Equipment		\$0	\$0
	\$527,645	\$1,393,661	\$866,017
<b>Contingency</b>	<b>\$ 128,000</b>	<b>\$ 349,000</b>	
<b>Mobilization</b>	<b>\$ 16,000</b>	<b>\$ 70,000</b>	
<b>Contractor's Overhead and Profit</b>	<b>\$ 95,000</b>	<b>\$ 279,000</b>	
	\$766,645	\$2,091,661	\$1,325,017

20%	20%
3%	5%
18%	20%

### UV Disinfection

	60%	90%	Increase from 60%
Concrete	\$665,844	\$643,181	-\$22,662
Masonry	\$0	\$0	
Metals	\$215,349	\$220,767	\$5,418

Wood and Plastics	\$4,095	\$4,095	\$0
Thermal/Moisture	\$0	\$0	
Openings	\$0	\$0	
Finishes	\$0	\$0	
Plumbing	\$0	\$0	
HVAC	\$0	\$0	
Electrical	\$436,590	\$685,913	\$249,323
Earthwork	\$98,595	\$62,984	-\$35,611
Process Integration	\$150,251	\$238,615	\$88,365
Process gas and liquid	\$0	\$0	
Pollution Control Equipment	\$1,156,019	\$976,275	-\$179,743
W&W Equipment	\$0	\$0	

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	\$2,726,742	\$2,831,830	\$105,088
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<b>Contingency</b>	<b>\$ 990,000</b>	<b>\$ 709,000</b>
<b>Mobilization</b>	<b>\$ 82,000</b>	<b>\$ 142,000</b>
<b>Contractor's Overhead and Profit</b>	<b>\$ 491,000</b>	<b>\$ 567,000</b>

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	\$4,289,742	\$4,249,830	-\$39,912
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30%	20%
3%	5%
18%	20%

Chemical Feed

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60%	90%	Increase from 60%
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Concrete	\$182,708	\$373,799	\$191,091
Masonry	\$67,645	\$84,877	\$17,232
Metals	\$64,355	\$93,043	\$28,687
Thermal/Moisture	\$6,719	\$10,800	\$4,081
Openings	\$54,600	\$50,400	-\$4,200
Finishes	\$6,965	\$6,965	\$0
Equipment	\$0	\$0	
Plumbing	\$26,438	\$26,128	-\$310
HVAC	\$21,624	\$26,283	\$4,659
Electrical	\$580,566	\$878,987	\$298,421
Earthwork	\$39,254	\$22,439	-\$16,816
Process Integration	\$6,017	\$40,198	\$34,181
Process gas and liquid	\$0	\$0	
Pollution Control Equipment	\$179,429	\$188,507	\$9,077
W&W Equipment	\$0	\$0	
	\$1,236,321	\$1,802,425	\$566,104
<b>Contingency</b>	<b>\$ 450,000</b>	<b>\$ 451,000</b>	
<b>Mobilization</b>	<b>\$ 38,000</b>	<b>\$ 91,000</b>	
<b>Contractor's Overhead and Profit</b>	<b>\$ 223,000</b>	<b>\$ 361,000</b>	
	\$1,947,321	\$2,705,425	\$758,104

30%	20%
3%	5%
18%	20%

## Storage

	60%	90%	Increase from 60%
Concrete	\$201,490	\$573,688	\$372,198
Masonry	\$69,465	\$93,942	\$24,477
Metals	\$105,390	\$132,477	\$27,087
Thermal/Moisture	\$82,481	\$82,481	\$0
Openings	\$24,334	\$30,157	\$5,823
Finishes	\$867	\$1,066	\$199
Specialties	\$2,237	\$2,764	\$527
Equipment	\$21,000	\$29,400	\$8,400
Plumbing	\$40,570	\$40,570	\$0
HVAC	\$20,328	\$20,328	\$0
Electrical	\$76,159	\$113,959	\$37,800
Earthwork	\$56,396	\$35,700	-\$20,696
Process Integration	\$0	\$0	
Pollution Control Equipment	\$0	\$0	
W&W Equipment	\$0	\$0	
	\$700,716	\$1,156,531	\$455,815
<b>Contingency</b>	<b>\$ 255,000</b>	<b>\$ 290,000</b>	
<b>Mobilization</b>	<b>\$ 22,000</b>	<b>\$ 58,000</b>	
<b>Contractor's Overhead and Profit</b>	<b>\$ 127,000</b>	<b>\$ 232,000</b>	
	\$1,104,716	\$1,736,531	\$631,815

30%	20%
3%	5%
18%	20%

14

## ILS/HW Electrical Building No. 1

Division		60%	90%
3	Concrete	\$135,257	\$290,701
4	Masonry	\$93,161	\$94,815
5	Metals	\$29,531	\$26,539
7	Thermal/Moisture	\$10,950	\$10,451
8	Openings	\$21,000	\$21,000
9	Finishes	\$0	\$0
11	Equipment	\$0	\$0
22	Plumbing	\$0	\$0
23	HVAC	\$92,744	\$137,160
26	Electrical	\$2,234,106	\$2,794,796

31	Earthwork	\$24,150	\$13,886
40	Process Integration	\$0	\$0
43	Process gas and liquid	\$0	\$0
44	Pollution Control Equipment	\$0	\$0
46	W&W Equipment	\$0	\$0
		\$2,640,899	\$3,389,347
	<b>Contingency</b>	<b>\$ 661,000</b>	<b>\$ 775,000</b>
	<b>Mobilization</b>	<b>\$ 133,000</b>	<b>\$ 170,000</b>
	<b>Contractor's Overhead and Profit</b>	<b>\$ 529,000</b>	<b>\$ 746,000</b>
		\$3,963,899	\$5,080,347

20%	18%
5%	5%
20%	22%

45 - SC			
Division		60%	90%
3	Concrete	\$3,878,737	\$7,944,663
4	Masonry	\$0	\$0
5	Metals	\$148,249	\$132,963
7	Thermal/Moisture	\$0	\$0
8	Openings	\$0	\$0
9	Finishes	\$0	\$0

11	Equipment	\$0	\$0
22	Plumbing	\$0	\$0
23	HVAC	\$0	\$0
26	Electrical	\$299,250	\$635,040
31	Earthwork	\$618,041	\$741,907
40	Process Integration	\$134,799	\$188,570
43	Process gas and liquid	\$0	\$0
44	Pollution Control Equipment	\$2,140,428	\$2,759,725
46	W&W Equipment		\$0
		<b>\$7,219,503</b>	<b>\$12,402,868</b>
	<b>Contingency</b>	<b>\$ 1,748,000</b>	<b>\$ 3,101,000</b>
	<b>Mobilization</b>	<b>\$ 217,000</b>	<b>\$ 621,000</b>
	<b>Contractor's Overhead and Profit</b>	<b>\$ 1,300,000</b>	<b>\$ 2,481,000</b>
		<b>\$10,484,503</b>	<b>\$18,605,868</b>

20%	20%
3%	5%
18%	20%

Electrical Building			
Division		60%	90%
3	Concrete	\$127,393	\$233,268
4	Masonry	\$78,682	\$78,601
5	Metals	\$20,727	\$20,728

7	Thermal/Moisture	\$19,051	\$19,178
8	Openings	\$21,000	\$21,000
9	Finishes	\$14,640	\$14,640
11	Equipment	\$0	\$0
22	Plumbing	\$0	\$0
23	HVAC	\$43,763	\$94,563
26	Electrical	\$937,566	\$1,305,278
31	Earthwork	\$19,252	\$13,868
40	Process Integration	\$0	\$0
43	Process gas and liquid	\$0	\$0
44	Pollution Control Equipment	\$0	\$0
46	W&W Equipment	\$0	\$0
		\$1,282,073	\$1,801,123
<b>Contingency</b>		<b>\$ 311,000</b>	<b>\$ 451,000</b>
<b>Mobilization</b>		<b>\$ 39,000</b>	<b>\$ 91,000</b>
<b>Contractor's Overhead and Profit</b>		<b>\$ 231,000</b>	<b>\$ 361,000</b>
		\$1,863,073	\$2,704,123

20%	20%
3%	5%
18%	20%

<b>70 - ASHTs</b>		
Division	60%	90%

3	Concrete	\$712,803	\$1,325,631
4	Masonry	\$0	\$0
5	Metals	\$139,061	\$241,206
7	Thermal/Moisture	\$0	\$0
8	Openings	\$0	\$0
9	Finishes	\$0	\$0
14	Conveyance	\$20,475	\$20,475
22	Plumbing	\$0	\$0
23	HVAC	\$0	\$0
26	Electrical	\$162,204	\$652,050
31	Earthwork	\$26,707	\$25,505
40	Process Integration	\$451,041	\$502,450
43	Process gas and liquid	\$0	\$0
44	Pollution Control Equipment	\$0	\$0
46	W&W Equipment	\$612,885	\$1,112,475
		<hr/>	
		\$2,125,175	\$3,879,791
		<hr/>	
	<b>Contingency</b>	<b>\$ 644,000</b>	<b>\$ 970,000</b>
	<b>Mobilization</b>	<b>\$ 64,000</b>	<b>\$ 194,000</b>
	<b>Contractor's Overhead and Profit</b>	<b>\$ 383,000</b>	<b>\$ 776,000</b>
		<hr/>	
		\$3,216,175	\$5,819,791

25%	20%
3%	5%
18%	20%

88 88 - Main plant Electrical

Division		60%	90%
3	Concrete	\$220,522	\$512,046
4	Masonry	\$128,331	\$128,331
5	Metals	\$49,723	\$45,990
7	Thermal/Moisture	\$29,782	\$28,266
8	Openings	\$29,400	\$29,400
9	Finishes	\$0	\$0
11	Equipment	\$0	\$0
21	Fire Protection	\$26,250	\$26,250
23	HVAC	\$52,364	\$74,581
26	Electrical	\$2,882,922	\$3,279,612
31	Earthwork	\$35,369	\$36,517
40	Process Integration	\$0	\$0
43	Process gas and liquid	\$0	\$0
44	Pollution Control Equipment	\$0	\$0
46	W&W Equipment	\$0	\$0
		3106509.5	\$4,160,992
	<b>Contingency</b>	<b>\$ 1,129,000</b>	<b>\$ 1,041,000</b>
	<b>Mobilization</b>	<b>\$ 94,000</b>	<b>\$ 209,000</b>
	<b>Contractor's Overhead and Profit</b>	<b>\$ 560,000</b>	<b>\$ 833,000</b>
		0	
		\$4,889,510	\$6,243,992

30%	20%
3%	5%
18%	20%



Increase from 60%

\$155,444

\$1,654

-\$2,993

-\$498

\$0

\$44,416

\$560,690

-\$10,264

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\$748,449

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\$1,116,449



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Increase from 60%

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\$4,065,926

-\$15,286

\$335,790

\$123,866

\$53,771

\$619,297

\$0

---

\$5,183,365

---

Div 44 mislabeled as Div 46 in 60% facilities 40 and 45

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\$8,121,365

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Increase from 60%

\$105,875

-\$81

\$1

\$127

\$0

\$0

\$50,800

\$367,712

-\$5,384

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\$519,050

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\$841,050



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Increase from 60%

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\$612,828

\$102,146

\$0

\$489,846

-\$1,202

\$51,409

\$499,590

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\$1,754,616

---

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\$2,603,616



Increase from 60%

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\$291,524

\$0

-\$3,733

-\$1,516

\$0

\$0

\$0

\$22,217

\$396,690

\$1,147

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\$1,054,483

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\$1,354,483

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - Final Submittal DRAFT OPCC**  
**City of Pflugerville**  
**19W07191**

Facility Number: Independent Contract  
Facility Description: Costs Outside of Project Scope

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Part 1 - Electrical to Site</b>					
Electrical to Utility Provider	1	LS	\$ 1,000,000.00	\$ -	\$ 1,000,000
Electrical by Contractor via Contingency Allowance	1	LS	\$ 500,000.00	\$ -	\$ 500,000
Miscellaneous	0%				\$ -
Subtotal Electrical to Site					<b>\$ 1,500,000</b>
<b>Part 2 - Furnishings</b>					
Operations and Lab Building Furnishings	1	LS	\$ 250,000.00	\$ -	\$ 250,000
Maintenance Building Furnishings	1	LS	\$ 40,000.00	\$ -	\$ 40,000
Solids Control Room Building Furnishings	1	LS	\$ 10,000.00	\$ -	\$ 10,000
Miscellaneous	0%				\$ -
Subtotal Furnishings					<b>\$ 300,000</b>
<b>Part 3 - Equipment and Tools</b>					
Maintenance Building Tools	1	LS	\$ 65,000.00	\$ -	\$ 65,000
UTV - Site Access Equipment	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Misc. Trucks and Vehicles	1	LS	\$ 180,000.00	\$ -	\$ 180,000
Mower Units	2	EA	\$ 35,000.00	\$ -	\$ 70,000
Backhoe and Solids Handling Equipment	2	EA	\$ 75,000.00	\$ -	\$ 150,000
Forklift	1	EA	\$ 35,000.00	\$ -	\$ 35,000
Miscellaneous	0%				\$ -
Subtotal Equipment and Tools					<b>\$ 600,000</b>
<b>Part 4 - Commissioning, Startup, and Testing</b>					
Commissioning, Startup, and Equipment Testing	1	LS	\$ 300,000.00	\$ -	\$ 300,000
Miscellaneous	0%				\$ -
Subtotal Testing					<b>\$ 300,000</b>
<b>Part 5 - Water Procurement</b>					
Watertightness Testing Water (Final cost TBD)	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Startup Testing Water (Final cost TBD)	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Miscellaneous	0%				\$ -
Subtotal Water Procurement					<b>\$ 200,000</b>
<b>Part 6 - Chemical Procurement</b>					
Chemicals for Startup and Testing (Final cost TBD)	1	LS	\$ 100,000.00	\$ -	\$ 100,000
Miscellaneous	0%				\$ -
Subtotal Chemical Procurement					<b>\$ 100,000</b>
<b>Part 7 - Other</b>					
	1	LS		\$ -	\$ -
	1	LS		\$ -	\$ -
Miscellaneous	0%				\$ -
Subtotal Other					<b>\$ -</b>
<b>Subtotal This Facility</b>					<b>\$ 3,000,000</b>
<b>Contingency</b>				<b>0%</b>	
<b>Mobilization</b>				<b>0%</b>	
<b>Contractor's Overhead and Profit</b>				<b>0%</b>	
<b>Escalation</b>				<b>0%</b>	
<b>Total Estimated Facility Costs</b>			<b>0 Years @ 7.0%</b>		<b>\$ 3,000,000</b>

Pulled from 15.75 MGD OPCC.

Parameter	Unit	A2O With Primary Clarifier	A2O Primary
Primary Clarifiers			
Quantity	-	3	
Diameter	ft	135	
SWD	ft	12	
Anaerobic Basins			
Quantity	-	4	
Volume (each)	MG	0.28	
Depth	ft	18	
Width	ft	50	
Length	ft	45	
Anoxic Basins			
Quantity	-	4	
Volume (each)	MG	0.6	
Depth	ft	18	
Width	ft	50	
Length	ft	85	
Aerobic Basins			
Quantity	-	4	
Volume (each)	MG	1.5	
Depth	ft	18	
Width	ft	50	
Length	ft	225	

Unit Dimensions		50	70	60	80
Total	Width				
Total	Length	355	404	340	457

Inner Dimensions for 1 Bldg		102	142	122	162
	Width				
	Length	359	408	344	461
	Inner Walls				
	Inner Baffles				
2 blgs for each Alternative					
1 Base Slab for each Bldg					

A2O With Primary Clarifier - One Unit	
Depth =	20 ft
Estimated Foundation Thickness =	24 in
Estimated Wall Thickness =	18 in
Concrete Walls (Q = 2) =	233 yd <sup>3</sup>
Concrete Walls (Q = 2) =	804 yd <sup>3</sup>
Foundation =	2781 yd <sup>3</sup>
Full Longitudinal Inner Wall =	399 yd <sup>3</sup>
Full Transverse Inner Wall =	113 yd <sup>3</sup>

Circular

Depth  
14

Rectangular

Depth  
20

Inner Wall Length      4.5    3.985714286    4.016667    4.0625

Perimeter (LF)      922      1100      932      1246

A2O With Primary Clarifier - Quantity = 1		
Total Exterior Walls =	1038 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Inner Walls =	512 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Foundation =	2781 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Top Slab (20%) =	271 yd <sup>3</sup>	1200 \$/yd <sup>3</sup>
Concrete Columns =	544 yd <sup>3</sup>	655 \$/yd <sup>3</sup>
Excavation =	29504 yd <sup>3</sup>	15 \$/yd <sup>3</sup>
Backfill =	5733 yd <sup>3</sup>	20 \$/yd <sup>3</sup>

Partial Length Wall (Q = 2) =	0 yd <sup>3</sup>
Top Slab =	2712 yd <sup>3</sup>
Quantity 2' Diameter Drilled Piers =	167
Depth of Drilled Piers =	28 ft
Diameter of Drilled Piers =	2 ft
Area of Drilled Piers =	3 ft <sup>2</sup>
Volume of Drilled Piers =	544 yd <sup>3</sup>
Excavation Length =	374 ft
Excavation Width =	142 ft
Excavation Depth =	15 ft
Total Excavation =	29504 yd <sup>3</sup>
Backfill Width =	20 ft
Backfill Length Volume =	4156 yd <sup>3</sup>
Backfill Width Volume =	1578 yd <sup>3</sup>

Note: Assuming A20 is Aeration Basin

A20 Without Primary Clarifier - One Unit	
--	--

Depth =	20 ft
Estimated Foundation Thickness =	24 in
Estimated Wall Thickness =	18 in
Concrete Walls (Q = 2) =	322 yd <sup>3</sup>
Concrete Walls (Q = 2) =	913 yd <sup>3</sup>
Foundation =	4373 yd <sup>3</sup>
Full Longitudinal Inner Wall =	453 yd <sup>3</sup>
Full Transverse Inner Wall =	158 yd <sup>3</sup>
Partial Length Wall (Q = 2) =	0 yd <sup>3</sup>
Top Slab =	4292 yd <sup>3</sup>
Quantity 2' Diameter Drilled Piers =	262
Depth of Drilled Piers =	28 ft
Diameter of Drilled Piers =	2 ft
Area of Drilled Piers =	3 ft <sup>2</sup>
Volume of Drilled Piers =	855 yd <sup>3</sup>
Excavation Length =	423 ft
Excavation Width =	182 ft
Excavation Depth =	15 ft
Total Excavation =	42770 yd <sup>3</sup>
Backfill Width =	20 ft
Backfill Length Volume =	4700 yd <sup>3</sup>
Backfill Width Volume =	2022 yd <sup>3</sup>

Extended Aeration with Primary Clarifiers - One Unit	
--	--

Depth =	20 ft
Estimated Foundation Thickness =	24 in
Estimated Wall Thickness =	18 in
Concrete Walls (Q = 2) =	278 yd <sup>3</sup>
Concrete Walls (Q = 2) =	771 yd <sup>3</sup>
Foundation =	3178 yd <sup>3</sup>
Full Longitudinal Inner Wall =	382 yd <sup>3</sup>
Full Transverse Inner Wall =	136 yd <sup>3</sup>
Partial Length Wall (Q = 2) =	536 yd <sup>3</sup>
Top Slab =	2178 yd <sup>3</sup>
Quantity 2' Diameter Drilled Piers =	191
Depth of Drilled Piers =	40 ft
Diameter of Drilled Piers =	2 ft
LF of Drilled Piers =	7640 LF
Area of Drilled Piers =	3 ft <sup>2</sup>
Volume of Drilled Piers =	889 yd <sup>3</sup>

Adjust depth

Total pier length 4672 lf

Handrail  
Assume 2x perimeter + 2x length + 2x wic 2766

A20 Without Primary Clarifier - Quantity = 1		
--	--	--

Total Exterior Walls =	1236 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Inner Walls =	611 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Foundation =	4373 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Top Slab (20%) =	858 yd <sup>3</sup>	1200 \$/yd <sup>3</sup>
Concrete Columns =	855 yd <sup>3</sup>	655 \$/yd <sup>3</sup>
Excavation =	42770 yd <sup>3</sup>	15 \$/yd <sup>3</sup>
Backfill =	6722 yd <sup>3</sup>	20 \$/yd <sup>3</sup>

Extended Aeration with Primary Clarifiers - Quantity = 1		
--	--	--

Total Exterior Walls =	1049 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Inner Walls =	1053 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Foundation =	3178 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Top Slab (50%) =	1089 yd <sup>3</sup>	1200 \$/yd <sup>3</sup>
Concrete Columns =	889 yd <sup>3</sup>	655 \$/yd <sup>3</sup>
Excavation =	32310 yd <sup>3</sup>	15 \$/yd <sup>3</sup>
Backfill =	5789 yd <sup>3</sup>	20 \$/yd <sup>3</sup>
Aluminum Gaurdrail=	932 LF	60 \$/LF

Excavation Length =	359 ft
Excavation Width =	162 ft
Excavation Depth =	15 ft
Total Excavation =	32310 yd <sup>3</sup>
Backfill Width =	20 ft
Backfill Length Volume =	3989 yd <sup>3</sup>
Backfill Width Volume =	1800 yd <sup>3</sup>
Perimeter=	932 ft

**Extended Aeration without Primary Clarifiers - One Unit**

Depth =	20 ft
Estimated Foundation Thickness =	24 in
Estimated Wall Thickness =	18 in
Concrete Walls (Q = 2) =	367 yd <sup>3</sup>
Concrete Walls (Q = 2) =	1031 yd <sup>3</sup>
Foundation =	5625 yd <sup>3</sup>
Full Longitudinal Inner Wall =	512 yd <sup>3</sup>
Full Transverse Inner Wall =	180 yd <sup>3</sup>
Partial Length Wall (Q = 2) =	722 yd <sup>3</sup>
Top Slab =	3900 yd <sup>3</sup>
Quantity 2' Diameter Drilled Piers =	337
Depth of Drilled Piers =	28 ft
Diameter of Drilled Piers =	2 ft
Area of Drilled Piers =	3 ft <sup>2</sup>
Volume of Drilled Piers =	1099 yd <sup>3</sup>
Excavation Length =	476 ft
Excavation Width =	202 ft
Excavation Depth =	15 ft
Total Excavation =	53418 yd <sup>3</sup>
Backfill Width =	20 ft
Backfill Length Volume =	5289 yd <sup>3</sup>
Backfill Width Volume =	2244 yd <sup>3</sup>

**Dome - AZO With Primary Clarifier - One Unit**

Diameter =	135 ft	Verified
Depth =	14 ft	
Estimated Foundation Thickness =	24 in	
Estimated Wall Thickness =	18 in	
Exterior Radius =	68.25 ft	
Interior Radius =	67.5 ft	
Exterior Area =	14634 ft <sup>2</sup>	
Interior Area =	14314 ft <sup>2</sup>	
Net Wall Area =	320 ft <sup>2</sup>	
Total Wall Volume =	166 yd <sup>3</sup>	
Foundation =	1084 yd <sup>3</sup>	
Top Slab =	1084 yd <sup>3</sup>	
Quantity 2' Diameter Drilled Piers =	66	1 Pier for ever 15x15 area
Depth of Drilled Piers =	40 ft	Will be less if PC is partially below grade
Diameter of Drilled Piers =	2 ft	
LF of Drilled Piers=	2640 LF	
Area of Drilled Piers =	3 ft <sup>2</sup>	
Volume of Drilled Piers =	307 yd <sup>3</sup>	
Diameter of Excavation=	150	
Exterior Radius of Excavation =	75.75 ft	
Exterior Area of Excavation=	18027 ft <sup>2</sup>	
Excavation Depth =	10 ft	

**Extended Aeration without Primary Clarifiers - Quantity = 1**

Total Exterior Walls =	1398 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Inner Walls =	1414 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Foundation =	5625 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Top Slab (50%) =	1950 yd <sup>3</sup>	1200 \$/yd <sup>3</sup>
Concrete Columns =	1099 yd <sup>3</sup>	655 \$/yd <sup>3</sup>
Excavation =	53418 yd <sup>3</sup>	15 \$/yd <sup>3</sup>
Backfill =	7533 yd <sup>3</sup>	20 \$/yd <sup>3</sup>

**Primary Clarifier - Quantity = 1**

Wall =	166 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Foundation =	1084 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Concrete Columns =	307 yd <sup>3</sup>	655 \$/yd <sup>3</sup>
Excavation =	6677 yd <sup>3</sup>	15 \$/yd <sup>3</sup>
Backfill =	6369 yd <sup>3</sup>	20 \$/yd <sup>3</sup>
Launder =	40 yd <sup>3</sup>	600 \$/yd <sup>3</sup>
Grout Launder=	11.7155226 yd <sup>3</sup>	
Grout Slab=	530.1437603 yd <sup>3</sup>	
Total Grout	541.8592829 yd <sup>3</sup>	

Scum Box	
Depth=	14 ft
Length/Width =	5 ft
Estimated Foundation Thickness	24 in
Estimated Wall Thickness =	18 in
Net Wall Volume=	11.7 yd <sup>3</sup>
Foundation=	1.9 yd <sup>3</sup>

Total Excavation =	6677 yd <sup>3</sup>	
Total Volume of Drilled Piers =	307 yd <sup>3</sup>	
Total Backfill =	6369 yd <sup>3</sup>	
Laundry OD 1 =	131 ft	Ballpark Estimate
Laundry ID 1 =	129.5 ft	
Laundry Net Area 1 =	307 ft <sup>2</sup>	
Laundry Height 1 =	2 ft	
Laundry Volume 1 =	23 yd <sup>3</sup>	
Laundry OD 2 =	135 ft	
Laundry ID 2 =	133.5 ft	
Laundry Net Area 2 =	316 ft <sup>2</sup>	
Laundry Height 2 =	1.5 ft	
Laundry Volume 2 =	18 yd <sup>3</sup>	

Building: 62'x 44'; 6 Equipment Slabs: 16.5' x 6.25'

Note: Assuming as of now same quantities as primary clarifier.

**Dome - A20 With Secondary Clarifier - One Unit**

Diameter =	130 ft	Verified
Depth =	14 ft	
Estimated Foundation Thickness =	24 in	
Estimated Wall Thickness =	18 in	
Exterior Radius =	65.75 ft	
Interior Radius =	65 ft	
Exterior Area =	13581 ft <sup>2</sup>	
Interior Area =	13273 ft <sup>2</sup>	
Net Wall Area =	308 ft <sup>2</sup>	
Total Wall Volume =	160 yd <sup>3</sup>	
Foundation =	1006 yd <sup>3</sup>	
Top Slab =	1006 yd <sup>3</sup>	
Quantity 2' Diameter Drilled Piers =	61	
Depth of Drilled Piers =	40 ft	Adjust depth
Diameter of Drilled Piers =	2 ft	
Area of Drilled Piers =	3 ft <sup>2</sup>	
LF of Drilled Piers =	2440 LF	
Volume of Drilled Piers =	284 yd <sup>3</sup>	
Diameter of Excavation =	145	
Exterior Radius of Excavation =	73.25 ft	
Exterior Area of Excavation =	16856 ft <sup>2</sup>	
Excavation Depth =	8 ft	
Total Excavation =	4994 yd <sup>3</sup>	
Total Volume of Drilled Piers =	284 yd <sup>3</sup>	
Total Backfill =	4711 yd <sup>3</sup>	
Laundry OD 1 =	126 ft	
Laundry ID 1 =	124.5 ft	
Laundry Net Area 1 =	295 ft <sup>2</sup>	
Laundry Height 1 =	2 ft	
Laundry Volume 1 =	22 yd <sup>3</sup>	
Laundry OD 2 =	130 ft	
Laundry ID 2 =	128.5 ft	
Laundry Net Area 2 =	305 ft <sup>2</sup>	
Laundry Height 2 =	1.5 ft	
Laundry Volume 2 =	17 yd <sup>3</sup>	

**Secondary Clarifier - Quantity = 1**

Wall =	160 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Foundation =	1006 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Excavation =	4994 yd <sup>3</sup>	15 \$/yd <sup>3</sup>
Backfill =	4711 yd <sup>3</sup>	20 \$/yd <sup>3</sup>
Laundry =	39 yd <sup>3</sup>	600 \$/yd <sup>3</sup>
Grout Laundry =	0 yd <sup>3</sup>	
Grout Slab =	0 yd <sup>3</sup>	
Total Grout =	0 yd <sup>3</sup>	

**Added Blower Building - One Unit**

Width =	44 ft
Length =	62 ft
Depth =	20 ft
Estimated Foundation Thickness =	24 in

**Added Building - Quantity = 1**

Total Exterior Walls =	236 yd <sup>3</sup>	800 \$/yd <sup>3</sup>
Total Foundation =	218 yd <sup>3</sup>	400 \$/yd <sup>3</sup>
Top Slab =	152 yd <sup>3</sup>	1200 \$/yd <sup>3</sup>

Estimated Wall Thickness = 18 in  
 Concrete Walls (Q = 2) = 98 yd<sup>3</sup>  
 Concrete Walls (Q = 2) = 138 yd<sup>3</sup>  
 Top Slab = 152 yd<sup>3</sup>  
 Foundation = 218 yd<sup>3</sup>

Quantity 2' Diameter Drilled Piers = 13  
 Depth of Drilled Piers = 35 ft  
 Diameter of Drilled Piers = 2 ft  
 Area of Drilled Piers = 3 ft<sup>2</sup>  
 Volume of Drilled Piers = 53 yd<sup>3</sup>  
 Excavation Length = 59 ft  
 Excavation Width = 77 ft  
 Excavation Depth = 5 ft  
 Total Excavation = 841 yd<sup>3</sup>  
 Backfill Width = 20 ft  
 Backfill Length Volume = 219 yd<sup>3</sup>  
 Backfill Width Volume = 285 yd<sup>3</sup>

**Added Electrical Building - One Unit**

Width = 20 ft  
 Length = 40 ft  
 Depth = 20 ft  
 Estimated Foundation Thickness = 24 in  
 Estimated Wall Thickness = 18 in  
 Concrete Walls (Q = 2) = 44 yd<sup>3</sup>  
 Concrete Walls (Q = 2) = 89 yd<sup>3</sup>  
 Top Slab = 152 yd<sup>3</sup>  
 Foundation = 218 yd<sup>3</sup>

Quantity 2' Diameter Drilled Piers = 4  
 Depth of Drilled Piers = 35 ft  
 Diameter of Drilled Piers = 2 ft  
 Area of Drilled Piers = 3 ft<sup>2</sup>  
 Volume of Drilled Piers = 17 yd<sup>3</sup>  
 Excavation Length = 35 ft  
 Excavation Width = 55 ft  
 Excavation Depth = 5 ft  
 Total Excavation = 356 yd<sup>3</sup>  
 Backfill Width = 20 ft  
 Backfill Length Volume = 130 yd<sup>3</sup>  
 Backfill Width Volume = 204 yd<sup>3</sup>

**Added Walkway - A20 With Primary Clarifier - One Unit**

Width = 6 ft  
 Length = 359 ft  
 Depth = 18 in

**Added Walkway - A20 With Primary Clarifier - One Unit**

Width = 6 ft  
 Length = 408 ft

Concrete Columns = 53 yd<sup>3</sup> 655 \$/yd<sup>3</sup>  
 Excavation = 841 yd<sup>3</sup> 15 \$/yd<sup>3</sup>  
 Backfill = 504 yd<sup>3</sup> 20 \$/yd<sup>3</sup>

**Added Building - Quantity = 1**

Total Exterior Walls = 133 yd<sup>3</sup> 800 \$/yd<sup>3</sup>  
 Total Foundation = 218 yd<sup>3</sup> 400 \$/yd<sup>3</sup>  
 Top Slab = 152 yd<sup>3</sup> 1200 \$/yd<sup>3</sup>  
 Concrete Columns = 17 yd<sup>3</sup> 655 \$/yd<sup>3</sup>  
 Excavation = 356 yd<sup>3</sup> 15 \$/yd<sup>3</sup>  
 Backfill = 333 yd<sup>3</sup> 20 \$/yd<sup>3</sup>

**Added Walkway - A20 With Primary Clarifier - Quantity = 1**

Total Walkway = 120 yd<sup>3</sup> 1200 \$/yd<sup>3</sup>

**Added Walkway - A20 without Primary Clarifiers - Quantity = 1**

Total Walkway = 136 yd<sup>3</sup> 1200 \$/yd<sup>3</sup>

Depth = 18 in

**Added Walkway - Extended Aeration with Primary Clarifiers - One Unit**

Width = 3 ft  
Length = 122 ft  
Depth = 18 in  
Quantity = 3

**Added Walkway - Extended Aeration without Primary Clarifiers - One Unit**

Width = 3 ft  
Length = 162 ft  
Depth = 18 in  
Quantity = 3

**Aeration Basin Splitter Box - Phase 1**

Length= 16 ft Calculations done similar to how abole electrical building was done  
Width= 14.6 ft  
Wall Thickness= 12 in  
Estimated Foundation Thickness = 24 in  
Foundation= 17.3 CY  
Height= 20 ft Equal to aeration basin  
# of "Width" Wide Walls= 4  
# of "Length" Wide Walls= 2  
"Width" Wall Volume= 43.3 CY  
"Length" Wall Volume= 23.70 CY  
Dividing Wall Length= 3.5 ft  
Dividing Wall Volume= 2.59 CY  
Total Wall Volume= 69.56 CY

Quantity 2' Diameter Drilled Piers = 4 1 per every 15x15 Edited  
Depth of Drilled Piers = 40 ft  
Diameter of Drilled Piers = 2 ft  
Area of Drilled Piers = 3 SF  
LF of Drilled Piers= 160 LF  
Volume of Drilled Piers = 19 CY  
Excavation Length = 30 ft  
Excavation Width = 31 ft  
Excavation Depth = 10 ft H/2  
Total Excavation = 340 CY  
Backfill Width = 20 ft  
Backfill Length Volume = 219 CY  
Backfill Width Volume = 230 CY  
Total Backfill= 449 CY

Superseded with actual screen design

**Added Walkway - Extended Aeration with Primary Clarifiers - Quantit**

Total Walkway = 61 yd<sup>3</sup> 1200 \$/yd<sup>3</sup>

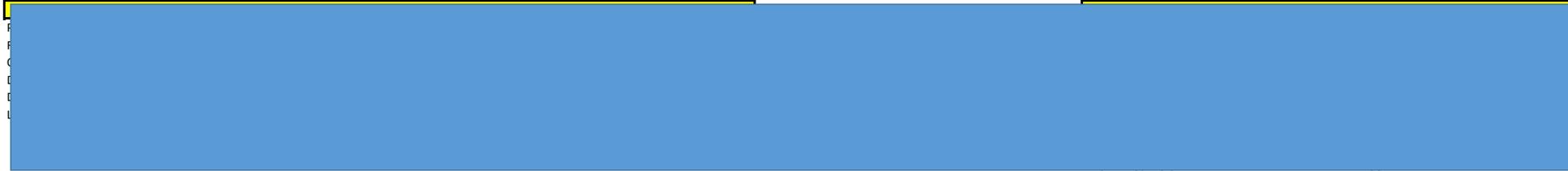
**Added Walkway - Extended Aeration without Primary Clarifiers - Quanti**

Total Walkway = 81 yd<sup>3</sup> 1200 \$/yd<sup>3</sup>

**Splitter Box - Phase 1**

Length= 16 ft Calculations done simi  
Width= 14.6 ft  
Wall Thickness= 12 in  
Estimated Foundation Thickness = 24 in  
Foundation= 17.3 CY  
Height= 13 ft Based on spec  
# of "Width" Wide Walls= 4  
# of "Length" Wide Walls= 2  
"Width" Wall Volume= 28.1 CY  
"Length" Wall Volume= 15.41 CY  
Dividing Wall Length= 3.5 ft  
Dividing Wall Volume= 1.69 CY  
Total Wall Volume= 45.21 CY

Quantity 2' Diameter Drilled Piers = 4 1 per every 15x15  
Depth of Drilled Piers = 40 ft  
Diameter of Drilled Piers = 2 ft  
Area of Drilled Piers = 3 SF  
LF of Drilled Piers= 160 LF  
Volume of Drilled Piers = 19 CY  
Excavation Length = 30 ft  
Excavation Width = 31 ft  
Excavation Depth = 7 ft H/2  
Total Excavation = 221 CY  
Backfill Width = 20 ft  
Backfill Length Volume = 143 CY  
Backfill Width Volume = 149 CY  
Total Backfill= 292 CY



Note SZ- Electrical 1 CMU building with Blower Canopy

**Blower Facility (7 Pumps) - Based on TRA**

Length=	98 FT	Based on TRA, made existing 68' building 20' longer to account for two additional pumps
Width=	40 IN	Same width as TRA
Estimated Foundation Thickness=	24 IN	
Floor Area=	3920 SF	
Foundation=	290 CY	
Height=	15 FT	
Equipment Pad Length=	6.5 FT	
Equipment Pad Width=	16 FT	
Equipment Pad Depth=	3 FT	
(1) Equipment Pad Volume=	11.56 CY	
(7) Equipment Pad Volume=	80.9 CY	
Quantity 2' Diameter Drilled Piers =	18	1 per every 15x15
Depth of Drilled Piers =	40 FT	
Diameter of Drilled Piers =	2 FT	
LF of Drilled Piers=	720 LF	
Excavation Length =	103 FT	
Excavation Width =	45 FT	Assuming 10 Downspouts
Excavation Depth =	8 FT	Slope of 2"-1'0"
Total Excavation =	1288 CY	Dimensions from TRA
Backfill Width =	20 FT	
Backfill Length Volume =	572 CY	
Backfill Width Volume =	250 CY	
Total Backfill=	822 CY	
Rain Gutters & Downspouts	346 LF	
Length of canopy	40.54 FT	
Area of Metal Canopy (over blowers)	1986 SF	

**Electrical Building for Blower Facility - Based on TRA**

Length=	110 FT	Same as TRA
Width=	40 IN	
Estimated Foundation Thickness=	24 IN	
Floor Area=	4400 SF	
Foundation=	326 CY	
Height=	15 FT	
Metal Roofing SF=	4400 SF	
Rain Gutters & Downspouts=	280 LF	
CMU	5100 SF	4 exterior walls, 1 interior
Quantity 2' Diameter Drilled Piers =	20	
Depth of Drilled Piers =	40 FT	
Diameter of Drilled Piers =	2 FT	
LF of Drilled Piers=	800 LF	
Excavation Length =	115 FT	
Excavation Width =	45 FT	
Excavation Depth =	8 FT	
Total Excavation =	1438 CY	
Backfill Width =	20 FT	
Backfill Length Volume =	639 CY	
Backfill Width Volume =	250 CY	
Total Backfill=	889 CY	

**Primary Sludge Pump Station**

Length=	15 FT	
Width=	30 FT	
Wall Thickness=	1 FT	
Top Slab Thickness=	1 FT	
Base Slab Thickness=	2 FT	
Floor Area=	450 SF	
Top Slab Volume=	17 CY	
Base Slab Volume=	33 CY	
Wall Volume=	17 CY	
Height=	5 FT	
Total Concrete Volume=	67 CY	
Quantity 2' Diameter Drilled Piers =	2	45 degree calculation
Depth of Drilled Piers =	40 FT	
LF of Drilled Piers=	80 LF	
Total Excavation =	41 CY	
Total Backfill=	26 CY	
Excavation Length =	17 FT	Calculation process from 15.75MGD
Excavation Width =	32 FT	
Excavation Depth =	2 FT	
Total Excavation =	40 CY	

Backfill Width = 5 FT  
 Backfill Length Volume = 6 CY  
 Backfill Width Volume = 12 CY  
 Total Backfill= 18 CY

Metal Roofing and Support Framing= 450 SF

**Headworks**

Main Length	100				
Main Width	60	Base Slab	444	CY	
Foundation Depth	2 ft				
Peirs					
Number	26.66666667	Total length	400	ft	piers 15' centers
Length	15 ft				
Excavation	None (at grade)				
Net elevated slab		Elevated slab 1	178		
		Elevated slab top	53	30%	231 cy
Screening area Length	52 ft	Screen Length Wall:	485	CY	
Number of walls (length)	6				
Width walls length	22	Screen Width walls	137	CY	
Number of walls width	4				
				Total Wall Volume	1005 CY
Wall Height	28 ft				
Wall thickness	1.5 ft				
Grit area Length	45 ft	Grit Length Walls	280		
Number of walls	4 ft				
Width walls length	22	Grit width walls	103		
Number of grit width walls	3				
Covers		Area	4200	SF	

\_\_\_\_\_

\$	830,222.22
\$	409,777.78
\$	1,112,414.81
\$	325,493.33
\$	356,076.62
\$	442,566.67
\$	114,666.67

\$	988,444.44
\$	488,888.89
\$	1,749,333.33
\$	1,029,973.33
\$	559,950.03
\$	641,550.00
\$	134,444.44

\$	839,111.11
\$	842,666.67
\$	1,271,229.63
\$	1,306,755.56
\$	582,265.11
\$	484,650.00
\$	115,777.78
\$	55,920.00
\$	10,996,751.70

\_\_\_\_\_

\$ 1,118,222.22  
\$ 1,131,555.56  
\$ 2,249,837.04  
\$ 2,340,000.00  
\$ 720,157.95  
\$ 801,266.67  
\$ 150,666.67

\$ 17,023,412.20

\_\_\_\_\_

\$ 132,679.93  
\$ 433,592.15  
\$ 201,201.56  
\$ 100,148.08  
\$ 127,387.22  
\$ 24,183.72

Scum Box Foundation= 1.9  
Scum Box Walls= 11.7



\$	127,793.01
\$	402,408.93
\$	74,917.39
\$	94,211.71
\$	23,267.42



\$	188,444.44
\$	87,229.63
\$	181,866.67

\$ 34,902.03  
\$ 12,619.44  
\$ 10,074.07  
  
\$ 515,136.29  
\$ 188.83 250/sf

                      
\$ 106,666.67  
  
\$ 87,229.63  
\$ 181,866.67  
\$ 10,954.31  
\$ 5,347.22  
\$ 6,666.67

                      
\$ 143,600.00

                      
\$ 163,200.00

y = 3  
\$ 73,200.00

ity = 3  
\$ 97,200.00

ar to how abole electrical building was done

Edited



Originally 40  
Originally 38

ior

	03	04	05	06	07	09	10
Void Forms	\$0	\$0	\$0	\$0	\$0	\$0	\$29,400
FRP Single door	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FRP Double door	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total FRP Door	\$0	\$0	\$0	\$0	\$0	\$0	\$0

12	13	14	31	38	40	45	46	50
\$97,888	\$40,040	\$29,610	\$602,826	\$75,194	\$28,182	\$419,089	\$39,480	\$40,012
\$0	\$0	\$8,000	\$0	\$24,000	\$0	\$0	\$24,000	\$0
\$0	\$0	\$12,000	\$0	\$12,000	\$0	\$0	\$0	\$0
\$0	\$0	\$20,000	\$0	\$36,000	\$0	\$0	\$24,000	\$0

60      15      95  
           30      45

\$26

53	54	55	56	60	70	72	85	86
\$19,208	\$22,835	\$50,904	\$3,836	\$31,970	\$87,850	\$120,195	\$57,904	\$59,584
\$0	\$8,000	\$0	\$0	\$24,000	\$0	\$56,000	\$0	\$0
\$0	\$12,000	\$0	\$0	\$24,000	\$0	\$24,000	\$0	\$0
\$0	\$20,000	\$0	\$0	\$48,000	\$0	\$80,000	\$0	\$0

88	90	95	Sum
\$42,999	\$0	\$0	\$1,899,007
\$16,000	\$0	\$0	\$160,000
\$12,000	\$0	\$0	\$96,000
\$28,000	\$0	\$0	\$256,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - Final Submittal**  
**City of Pflugerville**  
19W07191

**Concrete Cost Estimate Summary**

Facility	Item
09 -	Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Concrete Deep Foundations Void Forms Miscellaneous
10 -	Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Drilled Shaft Deep Foundations Void Forms Grade Beams Miscellaneous
12 -	Concrete Base Slab Concrete Support Columns Inlet Box Walls Effluent Box Walls Channel Area Elevated Slab U Channel Elevated Flat Slab on Bypass Grit Area Elevated Slab Screenings Channel Walls Grit Channel Walls Vortex Chamber Walls Screen area elevated Walkways between Channels Grit Area Elevated Walkways between channels; mixer motor access and support Controlled Low Strength Matieral Fill Grout Compacted Sand Upper Level Parapet Walls (42" tall around structure) Equipment Pads at Grit Pumps Equipment Pad at Grit Washer/Classifier Void Forms

	Grade Beams Miscellaneous
<b>13 -</b>	Concrete Base Slab Concrete Grade Beam Concrete Freestanding Walls Concrete Elevated Slab Drilled Pier Deep Foundation Void Forms Concrete Equipment Pad Miscellaneous
<b>14 -</b>	Concrete Base Slab Concrete Housekeeping Pads Void Forms Grade Beams Drilled Shaft Deep Foundation Miscellaneous
<b>31 -</b>	Concrete Base Slab Concrete Freestanding Wall Elevated MLR Channels Concrete Elevated Slab Drop Panels Void Forms Drilled Shaft Deep Foundation Miscellaneous
<b>38 -</b>	Concrete Base Slab Concrete Equipment Pads Void Forms Grade Beams Drilled Shaft Deep Foundation Miscellaneous
<b>40 -</b>	Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Void Forms Grade Beams Drilled Shaft Deep Foundation Miscellaneous
<b>45 -</b>	Concrete Base Slab Concrete Freestanding Wall Concrete Walkway/Elevated Slab Void Forms

Drilled Shaft Deep Foundation  
Miscellaneous

**46 -**  
Concrete Base Slab  
Drilled Shaft Deep Foundation  
Grade Beams  
Void Forms  
Equipment Pads  
Miscellaneous

**50 -**  
Concrete Wall  
Concrete Base Slab  
Elevated Slab  
Grade Beams  
Void Forms  
Drilled Shaft Deep Foundation  
Miscellaneous

**53 -**  
Concrete Base Slab  
Concrete Freestanding Wall  
Concrete Elevated Slab  
Void Forms  
Drilled Shaft Deep Foundation  
Miscellaneous

**54 -**  
CMU Building Foundation  
Concrete Housekeeping Pads  
Void Forms  
Grade Beams  
Drilled Shaft Deep Foundation  
Miscellaneous

**55 -**  
Concrete Base Slab  
Concrete Walls  
Cast-in-place stair  
Equipment Pads  
Concrete Elevated Slab  
Void Forms  
Drilled Shaft Deep Foundation  
Miscellaneous

**56 -**  
Concrete Base Slab  
Concrete Freestanding Wall  
Concrete Elevated Slab  
Void Forms  
Drilled Shaft Deep Foundation  
Miscellaneous

**60 -** Drilled Shaft Deep Foundation  
Grade Beams  
Concrete Freestanding Wall  
Building Base Slab  
Void Forms  
Concrete Tank Pad  
Miscellaneous

**70 -** Concrete Base Slab  
Concrete Freestanding Wall  
Void Forms  
Concrete Equipment Pads  
Drilled Shaft Deep Foundation  
Miscellaneous

**72 -** Drilled Shaft Deep Foundation  
Grade Beams  
Concrete Base Slab  
Concrete Equipment Pads  
Concrete Walls  
Concrete Elevated Slab  
Concrete Columns  
Concrete Beams  
Void Forms  
Miscellaneous

**85 -** Concrete Base Slab  
Void Forms  
Grade Beams  
Drilled Shaft Deep Foundation  
Miscellaneous

**86 -** Drilled Shaft Deep Foundation  
Grade Beams  
Concrete Base Slab  
Void Forms  
Miscellaneous

**88 -** Concrete Base Slab  
Void Forms  
Grade Beams  
Drilled Shaft Deep Foundation  
Concrete Housekeeping Pads  
Miscellaneous

**DRAFT OPCC**

**Total Concrete Cost  
for Project**

#REF!

Quantity	Unit	Unit Price Cost	Total Cost	Facility Cost
54	CY	\$ 1,500.00	\$ 80,561.11	
160	CY	\$ 1,600.00	\$ 255,752.30	
17	CY	\$ 1,600.00	\$ 27,200.00	\$ 381,689.08
0	LF	\$ -	\$ -	
0	SF	\$ 14.00	\$ -	
5	%		\$ 18,175.67	
383	CY	\$ 1,500.00	\$ 573,944.44	
1925	CY	\$ 1,600.00	\$ 3,080,651.85	
146	CY	\$ 1,600.00	\$ 233,319.70	
43	LF	\$ 1,400.00	\$ 60,892.74	\$ 4,259,695.84
2100	SF	\$ 14.00	\$ 29,400.00	
66	CY	\$ 1,200.00	\$ 78,644.44	
5	%		\$ 202,842.66	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
592	CY	\$ 1,600.00	\$ 947,200.00	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	#REF!
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
10	CY	\$ 200.00	\$ 2,000.00	
252	CY	\$ 30.00	\$ 7,567.40	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
#REF!	CY	#REF!	#REF!	
6992	SF	\$ 14.00	\$ 97,888.00	

#REF!	CY	#REF!	#REF!	#REF!	#REF!
5	%				
217	CY	\$ 1,500.00	\$	325,555.56	
13	CY	\$ 1,500.00	\$	19,055.56	
96	CY	\$ 1,600.00	\$	154,074.07	
7	CY	\$ 1,600.00	\$	10,666.67	
55	LF	\$ 1,400.00	\$	76,481.48	\$ 668,833.67
2,860	SF	\$ 14.00	\$	40,040.00	
11	CY	\$ 1,000.00	\$	11,111.11	
5	%		\$	31,849.22	
78	CY	\$ 1,500.00	\$	117,500.00	
12	CY	\$ 1,000.00	\$	11,925.93	
2115	SF	\$ 14.00	\$	29,610.00	\$ 290,701.06
44	CY	\$ 1,200.00	\$	53,111.11	
46	LF	\$ 1,400.00	\$	64,711.11	
5	%		\$	13,842.91	
4949	CY	\$ 1,500.00	\$	7,423,500.00	
4139	CY	\$ 1,600.00	\$	6,622,400.00	
#REF!	CY	#REF!		#REF!	
390	CY	\$ 1,600.00	\$	624,000.00	#REF!
0	CY	\$ 1,500.00	\$	-	
43059	SF	\$ 14.00	\$	602,826.00	
3000	LF	\$ 1,400.00	\$	4,200,000.00	
5	%			#REF!	
392	CY	\$ 1,500.00	\$	588,000.00	
15	CY	\$ 1,000.00	\$	15,000.00	
5371	SF	\$ 14.00	\$	75,194.00	\$ 1,080,677.03
166	CY	\$ 1,200.00	\$	199,200.00	
108	LF	\$ 1,400.00	\$	151,822.22	
5	%		\$	51,460.81	
153	CY	\$ 1,500.00	\$	229,527.78	
190	CY	\$ 1,600.00	\$	304,648.89	
5	CY	\$ 1,600.00	\$	8,059.26	
2013	SF	\$ 14.00	\$	28,182.00	#REF!
#REF!	CY	#REF!		#REF!	
111	LF	\$ 1,400.00	\$	154,725.93	
5	%			#REF!	
3125	CY	\$ 1,500.00	\$	4,687,084.57	
608	CY	\$ 1,600.00	\$	972,949.33	
117	CY	\$ 1,600.00	\$	187,246.22	\$ 7,907,642.47
29935	SF	\$ 14.00	\$	419,089.42	

903	LF	\$	1,400.00	\$	1,264,718.52	
5	%			\$	376,554.40	
104	CY	\$	1,500.00	\$	155,555.56	
126	LF	\$	1,400.00	\$	176,866.67	
146	CY	\$	1,200.00	\$	174,666.67	\$ 584,397.33
2820	SF	\$	14.00	\$	39,480.00	
10	CY	\$	1,000.00	\$	10,000.00	
5	%			\$	27,828.44	
282	CY	\$	1,600.00	\$	451,200.00	
141	CY	\$	1,500.00	\$	211,698.41	
13	CY	\$	1,600.00	\$	21,451.85	
116	CY	\$	1,200.00	\$	139,777.78	\$ 1,040,082.60
2858	SF	\$	14.00	\$	40,012.00	
90	LF	\$	1,400.00	\$	126,414.81	
5	%			\$	49,527.74	
76	CY	\$	1,500.00	\$	114,333.33	
142	CY	\$	1,600.00	\$	227,851.85	
89	CY	\$	1,600.00	\$	142,064.16	\$ 643,181.33
1372	SF	\$	14.00	\$	19,208.00	
78	LF	\$	1,400.00	\$	109,096.30	
5	%			\$	30,627.68	
62	CY	\$	1,500.00	\$	93,556.67	
3	CY	\$	1,000.00	\$	3,299.26	
1631	SF	\$	14.00	\$	22,834.84	\$ 233,268.42
41	CY	\$	1,200.00	\$	49,528.89	
38	LF	\$	1,400.00	\$	52,940.74	
5	%			\$	11,108.02	
202	CY	\$	1,500.00	\$	303,000.00	
327	CY	\$	1,600.00	\$	523,792.59	
36	CY	\$	1,600.00	\$	58,311.11	
4	CY	\$	1,000.00	\$	3,703.70	\$ 1,230,140.90
18	CY	\$	1,600.00	\$	29,214.31	
3636	SF	\$	14.00	\$	50,904.00	
145	LF	\$	1,400.00	\$	202,637.04	
5	%			\$	58,578.14	
15	CY	\$	1,500.00	\$	22,833.33	
18	CY	\$	1,600.00	\$	28,918.52	
18	CY	\$	1,600.00	\$	29,076.54	\$ 111,328.72
274	SF	\$	14.00	\$	3,836.00	
15	LF	\$	1,400.00	\$	21,362.96	
5	%			\$	5,301.37	

54	LF	\$	1,400.00	\$	75,703.70	
#REF!	CY	\$	1,200.00		#REF!	
20	CY	\$	1,600.00	\$	32,625.78	
115	CY	\$	1,500.00	\$	172,500.00	#REF!
2284	SF	\$	14.00	\$	31,969.84	
18	CY	\$	1,000.00	\$	18,000.00	
5	%				#REF!	
423	CY	\$	1,500.00	\$	634,500.00	
284	CY	\$	1,600.00	\$	454,400.00	
6275	SF	\$	14.00	\$	87,850.00	\$ 1,325,630.83
10	CY	\$	1,000.00	\$	10,000.00	
54	LF	\$	1,400.00	\$	75,755.56	
5	%			\$	63,125.28	
232	LF	\$	1,400.00	\$	324,644.44	
67	CY	\$	1,200.00	\$	80,792.44	
606	CY	\$	1,500.00	\$	908,507.22	
64	CY	\$	1,000.00	\$	63,925.56	
196	CY	\$	1,600.00	\$	313,767.35	#REF!
270	CY	\$	1,600.00	\$	432,683.85	
26	CY	\$	1,300.00	\$	33,896.30	
#REF!	CY	#REF!			#REF!	
8585	SF	\$	14.00	\$	120,195.46	
5	%				#REF!	
153	CY	\$	1,500.00	\$	229,777.78	
4136	SF	\$	14.00	\$	57,904.00	
126	CY	\$	1,200.00	\$	151,466.67	\$ 597,271.42
93	LF	\$	1,400.00	\$	129,681.48	
5	%			\$	28,441.50	
68	LF	\$	1,400.00	\$	94,785.19	
130	CY	\$	1,200.00	\$	155,555.56	
#REF!	CY	#REF!			#REF!	#REF!
4256	SF	\$	14.00	\$	59,584.00	
5	%				#REF!	
132	CY	\$	1,500.00	\$	197,259.44	
3071.37	SF	\$	14.00	\$	42,999.18	
79	CY	\$	1,200.00	\$	94,567.11	\$ 512,045.91
107	LF	\$	1,400.00	\$	149,540.74	
3	CY	\$	1,000.00	\$	3,296.30	
5	%			\$	24,383.14	

Facility	Item	Quantity	Unit
09 - Civil Yard Structures	Concrete Base Slabs	54	CY
	Concrete Freestanding Walls	160	CY
	Concrete Elevated Slabs	17	CY
	Concrete Deep Foundations	0	CY
10 - Influent Lift Station	Concrete Base Slabs	448	CY
	Concrete Freestanding Walls	1925	CY
	Concrete Elevated Slabs	146	CY
	Concrete Deep Foundations	5	CY
12 - Headworks	Concrete Base Slabs	#REF!	CY
	Concrete Freestanding Walls	#REF!	CY
	Concrete Elevated Slabs	#REF!	CY
	Concrete Deep Foundations	34	CY
13 - Influent Foul Air Facility	Concrete Base Slabs	241	CY
	Concrete Freestanding Walls	96	CY
	Concrete Elevated Slabs	7	CY
	Concrete Deep Foundations	6	CY
14 - ILS/HW Electrical Building	Concrete Base Slabs	135	CY
	Concrete Freestanding Walls	0	CY
	Concrete Elevated Slabs	0	CY
	Concrete Deep Foundations	5	CY
31 - Aeration Basin	Concrete Base Slabs	4949	
	Concrete Freestanding Walls	#REF!	
	Concrete Elevated Slabs	390	
	Concrete Deep Foundations	348.8889	
38 - Blower Facility	Concrete Base Slabs	573	
	Concrete Freestanding Walls	0	
	Concrete Elevated Slabs	0	
	Concrete Deep Foundations	12.61169	
40 - Mixed Liquor Splitter Box	Concrete Base Slabs	#REF!	
	Concrete Freestanding Walls	190	
	Concrete Elevated Slabs	5	
	Concrete Deep Foundations	12.85289	
45 - Secondary Clarifiers	Concrete Base Slabs	3125	
	Concrete Freestanding Walls	608	

45 - Secondary Clarifiers	Concrete Elevated Slabs	117
	Concrete Deep Foundations	105.0586
	Concrete Base Slabs	259
46 - RAS/WAS Pump Station	Concrete Freestanding Walls	0
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	14.6921
	Concrete Base Slabs	258
50 - Filters	Concrete Freestanding Walls	282
	Concrete Elevated Slabs	13
	Concrete Deep Foundations	10.50112
	Concrete Base Slabs	76
53 - UV Disinfection	Concrete Freestanding Walls	142
	Concrete Elevated Slabs	89
	Concrete Deep Foundations	9.062497
	Concrete Base Slabs	107
54 - UV Electrical Building	Concrete Freestanding Walls	0
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	4.397723
	Concrete Base Slabs	206
55 - Effluent Facility	Concrete Freestanding Walls	327
	Concrete Elevated Slabs	55
	Concrete Deep Foundations	16.83281
	Concrete Base Slabs	15
56 - Non-Potable Water System	Concrete Freestanding Walls	18
	Concrete Elevated Slabs	18
	Concrete Deep Foundations	1.774595
	Concrete Base Slabs	#REF!
60 - Chemical Feed Facility	Concrete Freestanding Walls	20
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	6.288615
	Concrete Base Slabs	433
70 - Aerated Sludge Storage and Mixing	Concrete Freestanding Walls	284
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	6.292922
	Concrete Base Slabs	737
72 - Biosolids Handling Building	Concrete Freestanding Walls	222
	Concrete Elevated Slabs	#REF!
	Concrete Deep Foundations	26.96782
85 - Operations and Lab Building	Concrete Base Slabs	279
	Concrete Freestanding Walls	0
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	10.77248
86 - Maintenance and Storage Building	Concrete Base Slabs	#REF!
	Concrete Freestanding Walls	0
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	7.87369
	Concrete Base Slabs	214

88 - Main Plant Electrical Building	Concrete Freestanding Walls	0
	Concrete Elevated Slabs	0
	Concrete Deep Foundations	12.42217

Concrete Base Slabs		Concrete Freestanding Walls		Concrete Elevated Slabs
Quantity	Unit	Quantity	Unit	Quantity
#REF!	CY	#REF!	CY	#REF!

#REF!

s	Concrete Deep Foundations	
Unit	Quantity	Unit
CY	658	CY

5656.235556

Referenced in Workbook	90% Concrete Unit Costs		
	Item	Unit	Unit Price
	Drilled Piers	CY	\$ 1,400
	Grade Beams	CY	\$ 1,200
	Base Slabs	CY	\$ 1,500
	Freestanding Walls	CY	\$ 1,600
	Beams	CY	\$ 1,400
	Columns	CY	\$ 1,300
	Equipment Pads	CY	\$ 1,000
	Void Forms	SF	\$ 14
Elevated Slabs	CY	\$ 1,600	

TOH Adjusted to match JRS 9/30/22

90% Concrete Unit Costs - OLD		
Item	Unit	Unit Price
Drilled Piers	CY	\$ 900
Grade Beams	CY	\$ 800
Base Slabs	CY	\$ 400
Freestanding Walls	CY	\$ 800
Beams	CY	\$ 800
Columns	CY	\$ 800
Equipment Pads	CY	\$ 400
Void Forms	SF	\$ 8
Elevated Slabs	CY	\$ 1,200

90% Concrete Unit Costs		
Item	Unit	Unit Price
Drilled Piers	CY	\$ 1,400
Grade Beams	CY	\$ 1,200
Base Slabs	CY	\$ 1,500
Freestanding Walls	CY	\$ 1,600
Beams	CY	\$ 1,400
Columns	CY	\$ 1,300
Equipment Pads	CY	\$ 1,000
Void Forms	SF	\$ 14
Elevated Slabs	CY	\$ 1,600

JRS 09-27-2022

60% Concrete Unit Costs		
Item	Unit	Unit Price
Drilled Piers	LF	\$ 100
Grade Beams	CY	\$ 400
Base Slabs	CY	\$ 400
Freestanding Walls	CY	\$ 800
Beams	CY	\$ 1,200
Columns	CY	\$ 800
Equipment Pads	CY	\$ 400
Void Forms	SF	\$ 15
Elevated Slabs	CY	\$ 1,200

New Concrete Unit Costs		
Item	Unit	Unit Price
Drilled Piers	CY	\$ 1,680
Grade Beams	CY	\$ 1,440
Base Slabs	CY	\$ 1,800
Freestanding Walls	CY	\$ 1,920
Beams	CY	\$ 1,680
Columns	CY	\$ 1,560
Equipment Pads	CY	\$ 1,200
Void Forms	SF	\$ 17
Elevated Slabs	CY	\$ 1,920

New Concrete Unit Costs		
Item	Unit	Unit Price
Drilled Piers	CY	\$ 1,700
Grade Beams	CY	\$ 1,500
Base Slabs	CY	\$ 1,800
Freestanding Walls	CY	\$ 2,000
Beams	CY	\$ 1,700
Columns	CY	\$ 1,600
Equipment Pads	CY	\$ 1,200
Void Forms	SF	\$ 20
Elevated Slabs	CY	\$ 2,000

\$ 1,700  
\$ 1,500  
\$ 1,800  
\$ 2,000  
\$ 1,700  
\$ 1,600  
\$ 1,200  
\$ 20  
\$ 2,000

Facility	Item	60% QTY	90% QTY
09 - Civil Yard Structures	Deep Foundations	47	0
	Grade Beams	0	33
	Base Slabs	116	54
	Freestanding Walls	119	160
	Beams		
	Columns		
	Elevated Slabs Equipment Pads	19	17
10 - Inluent Lift Station	Deep Foundations	98	43
	Grade Beams	57	66
	Base Slabs	300	383
	Freestanding Walls	1197	1925
	Beams	0	256
	Columns		
	Elevated Slabs Equipment Pads	137	146
	0	5	
12 - Headworks	Deep Foundations	163	290
	Grade Beams	103	0
	Base Slabs	470	526
	Freestanding Walls	572	592
	Beams		
	Columns	35	60
	Elevated Slabs Equipment Pads	319	270
	34	30	
13 - Influent Foul Air Facility	Deep Foundations	102	55
	Grade Beams	54	0
	Base Slabs	157	210
	Freestanding Walls	95	96
	Beams		
	Columns		
	Elevated Slabs Equipment Pads	7	7
	15	11	
	Deep Foundations	70	46
	Grade Beams	34	44
	Base Slabs	65	78

14 - ILS Electrical Building	Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	8	12
31 - Aeration Basins	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	1789 3454 2743 377	3000 4949 4139 390
38 - Aeration Blower Facility	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	144 60 398 11	108 166 392 15
40 - MLSS Splitter box	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	70 79 101 194 0 21	111 0 153 190 8 5
45 - Secondary Clarifiers	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	856 4224 747 165	903 3125 608 117
	Deep Foundations Grade Beams	93 77	126 146

46 - RAS/WAS Pump Station	Base Slabs	118	104
	Freestanding Walls		
	Beams		
	Columns		
	Elevated Slabs		
50 - Tertiary Filters	Equipment Pads	6	10
	Deep Foundations	84	90
	Grade Beams	40	116
	Base Slabs	121	141
	Freestanding Walls	239	282
	Beams		
	Columns	0	24
	Elevated Slabs	3	13
53 - UV Disinfection	Equipment Pads		
	Deep Foundations	149	78
	Grade Beams		
	Base Slabs	76	76
	Freestanding Walls	208	142
	Beams		
	Columns		
	Elevated Slabs	129	89
54 - UV Electrical Building	Equipment Pads		
	Deep Foundations	70	38
	Grade Beams	32	41
	Base Slabs	56	62
	Freestanding Walls		
	Beams		
	Columns		
	Elevated Slabs		
55 - Effluent Facility	Equipment Pads	7	3
	Deep Foundations	154	145
	Grade Beams		
	Base Slabs	266	202
	Freestanding Walls	309	327
	Beams		
	Columns		
	Elevated Slabs	48	55
Equipment Pads	4	4	
	Deep Foundations	14	15

56 - Non-Potable Water	Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	15 29 12	15 18 18
60 - Chemical Feed Facility	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	74 54 64 24 44	54 21 115 20 18
70 - Aerated Sludge Holding Tanks	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	223 399 284 22	54 423 284 10
72 - Biosolids Handling Building	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	167 143 464 195 37 28 177 64	232 67 606 196 0 26 270 64
85 - Operations & Laboratory Building	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	140 43 195	93 126 153

86 - Maintenance & Storage Building	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	56 56 151	68 130 158
88 - Main Plant Electrical Building	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	116 53 109     3	107 79 132     3
89 - Generator and Transformer Pad	Deep Foundations Grade Beams Base Slabs Freestanding Walls Beams Columns Elevated Slabs Equipment Pads	0       0	29       62

Change in QTY	Total Change in Qty
-47	-37
33	
-62	
41	
-2	
-54	1035
9	
83	
728	
256	
9	
5	73
127	
-103	
56	
20	
25	
-49	
-4	-52
-48	
-54	
53	
1	
0	-24
-4	
11	
14	

Facility
09 - Civil Yard Structures
10 - Influent Lift Station
12 - Headworks
13 - Influent Foul Air Facility

	4
4	
1211	
1495	
1396	4116
13	
-36	
106	
-6	69
4	
41	
-79	
52	
-4	2
8	
-16	
47	
-1099	
-139	-1239
-48	
33	
69	

14 - ILS Electrical Building
31 - Aeration Basins
38 - Aeration Blower Facility
40 - MLSS Splitter Box

-14	
	92
4	
7	
76	
20	
43	
	181
24	
10	
-71	
0	
-66	
	-177
-41	
-32	
10	
6	
	-20
-4	
-9	
-64	
18	
	-48
7	
0	
1	

45 - Secondary Clarifiers
46 - RAS/WAS Pump Station
50 - Tertiary Filters
53 - UV Disinfection
54 - UV Electrical Building

0	
-11	-3
6	
-20	
-33	
51	
-4	-33
-26	
-169	
24	
0	-157
-12	
64	
-76	
142	
1	
-37	187
-2	
94	
0	
-47	
83	
-42	
	-6

55 - Effluent Facility
56 - Non-Potable Water
60 - Chemical Feed Facility
70 - Aerated Sludge Holding Tanks

12 73 6	91
-9 26 23	39
0	
29	91
62	

72 - Biosolids Handling Building
85 - Operations & Laboratory Building
86 - Maintenance & Storage Building
88 - Main Plant Electrical Building
89 - Generator and Transformer Pad

\*\*\*Negative numbers below are subtractions



## 60% to 90% Comparison

Item	Change in Qty	Unit	Change in Unit Cost	Change in Total Cost
Concrete Deep Foundations	47	CY	-\$540.13	\$40,000
Concrete Base Slab	62	CY	-\$1,100.00	-\$34,161
Concrete Freestanding Wall	-41	CY	-\$800.00	-\$160,552
Concrete Elevated Slab	2	CY	-\$400.00	-\$4,400
Void Forms	667	SF	\$1.00	\$10,005
Grade Beams	-33	CY	-\$1,200.00	-\$40,000
Miscellaneous				-\$9,455
				-\$198,564
Drilled Shaft Deep Foundation	54	CY	-\$540.13	\$23,107
Concrete Base Slab	-83	CY	-\$1,100.00	-\$454,063
Concrete Freestanding Wall	-728	CY	-\$800.00	-\$2,122,696
Concrete Elevated Slab	-9	CY	-\$400.00	-\$68,831
Grade Beams	-9	CY	-\$800.00	-\$56,037
Void Forms	0	SF	\$1.00	\$2,100
Concrete Beams	-256	CY	-\$1,400.00	-\$357,726
Concrete Equipment Pad	-5	CY	-\$1,000.00	-\$4,815
Miscellaneous				-\$133,821
				-\$3,172,782
Drilled Shaft Deep Foundation	-127	CY	-\$540.13	-\$265,948
Concrete Base Slab	-56	CY	-\$1,100.00	-\$601,044
Concrete Columns	-25	CY	-\$500.00	-\$50,000
Concrete Equipment Pad	4	CY	-\$600.00	-\$16,444
Concrete Freestanding Wall	-20	CY	-\$800.00	-\$489,748
Concrete Elevated Slab	49	CY	-\$400.00	-\$49,422
Grade Beams	103	CY	-\$800.00	\$41,037
Void Forms	-832	SF	\$1.00	-\$5,488
Miscellaneous				-\$71,853
				-\$1,508,911
Drilled Pier Deep Foundation	48	CY	-\$540.13	\$11,519
Concrete Base Slab	-53	CY	-\$1,100.00	-\$252,200
Concrete Equipment Pad	4	CY	-\$600.00	-\$5,111
Concrete Freestanding Wall	-1	CY	-\$800.00	-\$78,074
Concrete Elevated Slab	0	CY	-\$400.00	-\$2,267
Grade Beams	54	CY	-\$800.00	\$21,600

Void Forms	-110	SF	\$1.00	\$1,210
Miscellaneous				-\$15,166
				-\$318,490
Drilled Pier Deep Foundation	24	CY	-\$540.13	-\$4,711
Concrete Base Slab	-14	CY	-\$1,100.00	-\$91,648
Concrete Equipment Pad	-4	CY	-\$600.00	-\$8,603
Grade Beams	-11	CY	-\$800.00	-\$39,644
Void Forms	-370	SF	\$1.00	-\$3,435
Miscellaneous				-\$7,402
				-\$155,444
Drilled Pier Deep Foundation	-1211	CY	-\$540.13	-\$2,662,000
Concrete Base Slab	-1495	CY	-\$1,100.00	-\$6,041,944
Concrete Freestanding Wall	-1396	CY	-\$800.00	-\$4,428,000
Concrete Elevated Slab	-13	CY	-\$400.00	-\$171,778
Void Forms	-2956	SF	\$1.00	-\$1,281
Miscellaneous				-\$665,250
				-\$13,970,253
Drilled Shaft Deep Foundation	36	CY	-\$540.13	-\$27,822
Concrete Base Slab	6	CY	-\$1,100.00	-\$428,859
Concrete Equipment Pad	-4	CY	-\$600.00	-\$10,630
Void Forms	0	SF	\$1.00	\$5,371
Grade Beams	-106	CY	-\$800.00	-\$175,289
Miscellaneous				-\$31,861
				-\$669,090
Drilled Shaft Deep Foundation	-41	CY	-\$540.13	-\$94,726
Concrete Base Slab	-52	CY	-\$1,100.00	-\$189,128
Concrete Freestanding Wall	4	CY	-\$800.00	-\$149,419
Concrete Elevated Slab	16	CY	-\$400.00	\$17,230
Void Forms	81	SF	\$1.00	\$3,228
Grade Beams	79	CY	-\$800.00	\$31,674
Concrete Beams	-8	CY	-\$1,400.00	-\$11,459
Miscellaneous		0		-\$19,630
				-\$412,231
Drilled Shaft Deep Foundation	-47	CY	-\$540.13	-\$528,719

Concrete Base Slab	1099	CY	-\$1,100.00	-\$2,997,527
Concrete Freestanding Wall	139	CY	-\$800.00	-\$375,349
Concrete Elevated Slab	48	CY	-\$400.00	\$10,754
Void Forms	1590	SF	\$1.00	\$53,788
Miscellaneous				-\$191,853
				-\$4,028,906
Drilled Shaft Deep Foundation	-33	CY	-\$540.13	-\$96,867
Concrete Base Slab	14	CY	-\$1,100.00	-\$108,333
Concrete Equipment Pad	-4	CY	-\$600.00	-\$7,778
Grade Beams	-69	CY	-\$800.00	-\$143,970
Void Forms	46	SF	\$1.00	\$3,508
Miscellaneous				-\$17,672
				-\$371,111
Drilled Shaft Deep Foundation	-7	CY	-\$540.13	-\$54,415
Concrete Base Slab	-20	CY	-\$1,100.00	-\$163,402
Concrete Freestanding Wall	-43	CY	-\$800.00	-\$260,000
Concrete Elevated Slab	-10	CY	-\$400.00	-\$17,941
Grade Beams	-76	CY	-\$800.00	-\$123,778
Void Forms	402	SF	\$1.00	\$8,888
Concrete Columns	-24	CY	-\$1,300.00	-\$30,815
Miscellaneous				-\$32,073
				-\$673,535
Drilled Shaft Deep Foundation	71	CY	-\$540.13	\$18,904
Concrete Base Slab	0	CY	-\$1,100.00	-\$83,978
Concrete Freestanding Wall	66	CY	-\$800.00	-\$61,511
Concrete Elevated Slab	41	CY	-\$400.00	\$13,203
Void Forms	-693	SF	\$1.00	-\$9,023
Miscellaneous				-\$6,120
				-\$128,526
Drilled Shaft Deep Foundation	32	CY	-\$540.13	\$7,059
Concrete Base Slab	-6	CY	-\$1,100.00	-\$71,053
Concrete Equipment Pad	4	CY	-\$600.00	-\$559
Grade Beams	-10	CY	-\$800.00	-\$36,907
Void Forms	-67	SF	\$1.00	\$625
Miscellaneous				-\$5,042

				-\$105,875
Drilled Shaft Deep Foundation	9	CY	-\$540.13	-\$70,637
Concrete Base Slab	64	CY	-\$1,100.00	-\$196,711
Concrete Equipment Pad	0	CY	-\$600.00	-\$2,222
Concrete Freestanding Wall	-18	CY	-\$800.00	-\$276,533
Concrete Elevated Slab	-7	CY	-\$400.00	-\$29,749
Void Forms	-2716	SF	\$1.00	-\$37,104
Miscellaneous				-\$30,648
				-\$643,605
Drilled Shaft Deep Foundation	-1	CY	-\$540.13	-\$9,363
Concrete Base Slab	0	CY	-\$1,100.00	-\$16,744
Concrete Freestanding Wall	11	CY	-\$800.00	-\$5,689
Concrete Elevated Slab	-6	CY	-\$400.00	-\$15,004
Void Forms	-174	SF	\$1.00	-\$2,336
Miscellaneous				-\$2,457
				-\$51,593
Drilled Shaft Deep Foundation	20	CY	-\$540.13	-\$11,704
Concrete Base Slab	-51	CY	-\$1,100.00	-\$146,886
Concrete Freestanding Wall	4	CY	-\$800.00	-\$13,103
Concrete Equipment Pad	26	CY	-\$600.00	-\$389
Grade Beams	33	CY	-\$800.00	-\$3,511
Void Forms	-579	SF	\$1.00	-\$6,399
Miscellaneous				-\$9,100
				-\$191,091
Drilled Shaft Deep Foundation	169	CY	-\$540.13	\$116,244
Concrete Base Slab	-24	CY	-\$1,100.00	-\$474,900
Concrete Freestanding Wall	0	CY	-\$800.00	-\$227,200
Concrete Equipment Pad	12	CY	-\$600.00	-\$1,200
Void Forms	-191	SF	\$1.00	\$3,410
Miscellaneous				-\$29,182
				-\$612,828
Drilled Shaft Deep Foundation	-64	CY	-\$540.13	-\$180,644
Concrete Base Slab	-142	CY	-\$1,100.00	-\$722,922
Concrete Freestanding Wall	-1	CY	-\$800.00	-\$157,793
Concrete Equipment Pad	0	CY	-\$600.00	-\$38,355

Concrete Columns	2	CY	-\$500.00	-\$11,792
Concrete Beams	37	CY	-\$200.00	\$44,317
Concrete Elevated Slab	-94	CY	-\$400.00	-\$220,790
Grade Beams	76	CY	-\$800.00	-\$23,437
Void Forms	-2810	SF	\$1.00	-\$33,566
Miscellaneous				-\$67,249
				-\$1,412,230
Drilled Shaft Deep Foundation	47	CY	-\$540.13	-\$9,681
Concrete Base Slab	42	CY	-\$1,100.00	-\$151,778
Grade Beams	-83	CY	-\$800.00	-\$134,163
Void Forms	-136	SF	\$1.00	\$2,096
Miscellaneous				-\$14,676
				-\$308,203
Drilled Shaft Deep Foundation	-12	CY	-\$540.13	-\$46,785
Concrete Base Slab	-6	CY	-\$1,100.00	-\$175,931
Grade Beams	-73	CY	-\$800.00	-\$132,963
Void Forms	-203	SF	\$1.00	\$1,205
Miscellaneous				-\$17,724
				-\$372,198
Drilled Shaft Deep Foundation	9	CY	-\$540.13	-\$49,541
Concrete Base Slab	-23	CY	-\$1,100.00	-\$153,748
Concrete Equipment Pad	0	CY	-\$600.00	-\$1,978
Grade Beams	-26	CY	-\$800.00	-\$73,431
Void Forms	-134	SF	\$1.00	\$1,056
Miscellaneous				-\$13,882
				-\$291,524
Drilled Shaft Deep Foundation	-29	CY	-\$540.13	-\$40,756
Concrete Equipment Pad	-62	CY	-\$1,000.00	-\$62,222
Miscellaneous				-\$5,149
				-\$108,127
			Total	-\$29,705,116

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Total Change Due to Concrete Across All Facilities			
Item	Qty	Unit	Total Cost
Concrete Deep Foundations	1,008	CY	\$1,411,073
Concrete Base Slab	738	CY	\$1,107,373
Concrete Freestanding Wall	2,026	CY	\$3,241,104
Concrete Elevated Slab	-17	CY	-\$26,437
Grade Beams	151	CY	\$181,434
Concrete Equipment Pad	30	CY	\$29,817
Concrete Columns	47	CY	\$61,291
Concrete Beams	227	CY	\$317,482
Void Forms	9,186	SF	\$128,598
			\$6,774,323.49

Facility
09 - Civil Yard Structures
10 - Influent Lift Station
12 - Headworks
13 - Influent Foul Air Facility
14 - ILS Electrical Building
31 - Aeration Basins
38 - Aeration Blower Facility
40 - MLSS Splitter Box
45 - Secondary Clarifiers
46 - RAS/WAS Pump Station
50 - Tertiary Filters
53 - UV Disinfection
54 - UV Electrical Building
55 - Effluent Facility
56 - Non-Potable Water
60 - Chemical Feed Facility
70 - Aerated Sludge Holding Tanks
72 - Biosolids Handling Building
85 - Operations & Laboratory Building
86 - Maintenance & Storage Building
88 - Main Plant Electrical Building
89 - Generator and Transformer Pad

Total Change Due to Unit Cost Across All Facilities				
Item	Qty	Unit	60% Unit cost	90% Unit Cost
Concrete Deep Foundations	5,685	CY	\$860	\$1,400
Concrete Base Slab	12,056	CY	\$400	\$1,500
Concrete Freestanding Wall	8,981	CY	\$800	\$1,600

Concrete Elevated Slab	1,397	CY	\$1,200	\$1,600
Grade Beams	1,035	CY	\$400	\$1,200
Concrete Equipment Pad	247	CY	\$400	\$1,000
Concrete Columns	110	CY	\$800	\$1,300
Concrete Beams	264	CY	\$1,200	\$1,400
Void Forms	135,643	SF	\$15	\$14
				Total

\*\*\*Negative number i

Total Change in Qty Concrete	Total Change in Qty Void Forms	% of Total Concrete	% of Total Void Forms
37	667	-0.87%	-7.26%
-1035	0	24.58%	0.00%
-73	-832	1.74%	9.06%
52	-110	-1.23%	1.20%

-4

-370

0.10%

4.03%

-4116

-2956

97.75%

32.18%

-69

0

1.63%

0.00%

-2

81

0.05%

-0.88%

1239

1590

-29.42%

-17.31%

-92

46

2.19%

-0.50%

-181

402

4.29%

-4.38%

177

-693

-4.20%

7.54%

20

-67

-0.47%

0.73%

48

-2716

-1.13%

29.57%

3

-174

-0.08%

1.89%

33

-579

-0.78%

6.30%

157

-191

-3.73%

2.08%

-187	-2810	4.43%	30.59%
6	-136	-0.14%	1.48%
-91	-203	2.17%	2.21%
-39	-134	0.93%	1.46%
-91	0	2.17%	0.00%
-4,210	-9,186		

\$ 2,700,000  
 \$ 2,200,000  
 \$ 6,200,000  
 \$ (100,000)  
 \$ 400,000  
 \$ 100,000  
 \$ 200,000  
 \$ 700,000  
 \$ 300,000  
 \$ 12,700,000

Concrete			Void Forms		
60% Qty	90% Qty	Change in Qty	60% Qty	90% Qty	Change in Qty
301	264	-37	667	0	-667
1,788	2,823	1,035	2100	2100	0
1,695	1,768	73	6160	6992	832
430	379	-52	2,750	2,860	110
176	181	4	1,745	2,115	370
8,362	12,478	4,116	40,103	43,059	2,956
613	681	69	5,371	5,371	0
465	467	2	2,094	2,013	-81
5,992	4,753	-1,239	31,525	29,935	-1,590
293	386	92	2,866	2,820	-46
486	667	181	3,260	2,858	-402
562	385	-177	679	1,372	693
164	145	-20	1,564	1,631	67
780	733	-48	920	3,636	2,716
70	67	-3	100	274	174
261	228	-33	1,705	2,284	579
928	771	-157	6,084	6,275	191
1,275	1,461	187	5,775	8,585	2,810
378	372	-6	4,000	4,136	136
264	355	91	4,053	4,256	203
3,102	3,285	183	2,937	3,071	134
0	91	91	0	0	0
	Total	4,354		Total	9,186

Change in Total Cost

\$3,070,811	\$4,500,000
\$13,261,662	\$19,300,000
\$7,185,116	\$10,500,000

\$558,823	\$900,000
\$828,340	\$1,300,000
\$148,379	\$300,000
\$54,889	\$100,000
\$52,741	\$100,000
-\$135,643	-\$100,000
<b>\$25,025,119</b>	<b>\$36,900,000</b>

Cost Adder Calculator

60%

90%

Raw Cost from OPCC		\$0	Raw Cost from OPCC	
Contingency	20%	\$0	Contingency	20%
Mobilization	5%	\$0	Mobilization	5%
Contractor's OH&P	20%	\$0	Contractor's OH&P	20%
Total		\$0	Total	
			Difference	

Concrete Quantity Updates (memo)

\$	1,713,446
\$	1,978,352
\$	5,874,501
\$	47,917
\$	328,850
\$	51,882
\$	109,381
\$	558,995
\$	266,382
\$	10,929,706

60% OPCC	
Facility	Item
09 - Civil Yard Structures	Concrete Deep Foundations Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Void Forms  Miscellaneous
10 - Influent Lift Station	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Grade Beams Void Forms  Miscellaneous
12 - Headworks	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Columns Concrete Equipment Pad Concrete Freestanding Wall Concrete Elevated Slab Grade Beams Void Forms  Miscellaneous
13 - Influent Foul Air Facility	Drilled Pier Deep Foundation Concrete Base Slab Concrete Equipment Pad Concrete Freestanding Wall Concrete Elevated Slab Grade Beams

	<p>Void Forms</p> <p>Miscellaneous</p>
14 - ILS Electrical Building	<p>Drilled Pier Deep Foundation</p> <p>Concrete Base Slab</p> <p>Concrete Equipment Pad</p> <p>Grade Beams</p> <p>Void Forms</p> <p>Miscellaneous</p>
31 - Aeration Basins	<p>Drilled Pier Deep Foundation</p> <p>Concrete Base Slab</p> <p>Concrete Freestanding Wall</p> <p>Concrete Elevated Slab</p> <p>Void Forms</p> <p>Miscellaneous</p>
38 - Aeration Blower Facility	<p>Drilled Shaft Deep Foundation</p> <p>Concrete Base Slab</p> <p>Concrete Equipment Pad</p> <p>Void Forms</p> <p>Grade Beams</p> <p>Miscellaneous</p>
40 - MLSS Splitter Box	<p>Drilled Shaft Deep Foundation</p> <p>Concrete Base Slab</p> <p>Concrete Freestanding Wall</p> <p>Concrete Elevated Slab</p> <p>Void Forms</p> <p>Grade Beams</p> <p>Miscellaneous</p>
	<p>Drilled Shaft Deep Foundation</p>

45 - Secondary Clarifiers	Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Void Forms  Miscellaneous
46 - RAS/WAS Pump Station	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Equipment Pad Grade Beams Void Forms  Miscellaneous
50 - Tertiary Filters	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Grade Beams Void Forms  Miscellaneous
53 - UV Disinfection	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Void Forms  Miscellaneous
54 - UV Electrical Building	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Equipment Pad Grade Beams Void Forms  Miscellaneous

55 - Effluent Facility	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Equipment Pad Concrete Freestanding Wall Concrete Elevated Slab Void Forms  Miscellaneous
56 - Non-Potable Water	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Elevated Slab Void Forms  Miscellaneous
60 - Chemical Feed Facility	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Equipment Pad Grade Beams Void Forms  Miscellaneous
0 - Aerated Sludge Holding Tank	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Equipment Pad Void Forms  Miscellaneous
	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Freestanding Wall Concrete Equipment Pad

72 - Biosolids Handling Building	Concrete Columns Concrete Beams Concrete Elevated Slab Grade Beams Void Forms  Miscellaneous
- Operations & Laboratory Building	Drilled Shaft Deep Foundation Concrete Base Slab Grade Beams Void Forms  Miscellaneous
Maintenance & Storage Building	Drilled Shaft Deep Foundation Concrete Base Slab Grade Beams Void Forms  Miscellaneous
8 - Main Plant Electrical Building	Drilled Shaft Deep Foundation Concrete Base Slab Concrete Equipment Pad Grade Beams Void Forms  Miscellaneous





Qty	Unit	Unit Cost	Total Cost
400	LF	\$100	\$40,000
116	CY	\$400	\$46,400
119	CY	\$800	\$95,200
19	CY	\$1,200	\$22,800
667	SF	\$15	\$10,005
5%			\$10,720
		<b>Subtotal</b>	<b>\$225,125</b>
840	LF	\$100	\$84,000
300	CY	\$400	\$119,881
1197	CY	\$800	\$957,956
137	CY	\$1,200	\$164,489
57	CY	\$400	\$22,607
2100	SF	\$15	\$31,500
5%			\$69,022
		<b>Subtotal</b>	<b>\$1,449,455</b>
1400	LF	\$100	\$140,000
470	CY	\$400	\$187,956
35	CY	\$800	\$28,000
34	CY	\$400	\$13,556
572	CY	\$800	\$457,452
319	CY	\$1,200	\$382,578
103	CY	\$400	\$41,037
6160	SF	\$15	\$92,400
5%			\$67,149
		<b>Subtotal</b>	<b>\$1,410,127</b>
880	LF	\$100	\$88,000
157	CY	\$400	\$62,800
15	CY	\$400	\$6,000
95	CY	\$800	\$76,000
7	CY	\$1,200	\$8,400
54	CY	\$400	\$21,600

Misc formu

Facility
09 - Civil Yard Structures
10 - Influent Lift Station
12 - Headworks
13 - Influent Foul Air Facility

2,750	SF	\$15	\$41,250
5%			\$15,203
		Subtotal	<b>\$319,253</b>
600	LF	\$100	\$60,000
65	CY	\$400	\$25,852
8	CY	\$400	\$3,323
34	CY	\$400	\$13,467
1,745	SF	\$15	\$26,175
5%			\$6,441
		Subtotal	<b>\$135,257</b>
15,380	LF	\$100	\$1,538,000
3,454	CY	\$400	\$1,381,556
2,743	CY	\$800	\$2,194,400
377	CY	\$1,200	\$452,222
40,103	SF	\$15	\$601,545
5%			\$308,386
		Subtotal	<b>\$6,476,109</b>
1,240	LF	\$100	\$124,000
398	CY	\$400	\$159,141
11	CY	\$400	\$4,370
5,371	SF	\$15	\$80,565
60	CY	\$400	\$23,911
5%			\$19,599
		Subtotal	<b>\$411,587</b>
600	LF	\$100	\$60,000
101	CY	\$400	\$40,400
194	CY	\$800	\$155,230
21	CY	\$1,200	\$25,289
2,094	SF	\$15	\$31,410
79	CY	\$400	\$31,674
5%			\$17,200
		Subtotal	<b>\$361,203</b>
7,360	LF	\$100	\$736,000

14 - ILS Electrical Building
31 - Aeration Basins
38 - Aeration Blower Facility
40 - MLSS Splitter Box

4,224	CY	\$400	\$1,689,558	45 - Secondary Clarifiers
747	CY	\$800	\$597,600	
165	CY	\$1,200	\$198,000	
31,525	SF	\$15	\$472,877	
5%			\$184,702	
		Subtotal	<b>\$3,878,737</b>	
800	LF	\$100	\$80,000	46 - RAS/WAS Pump Station
118	CY	\$400	\$47,223	
6	CY	\$400	\$2,222	
77	CY	\$400	\$30,696	
2,866	SF	\$15	\$42,988	
5%			\$10,156	
		Subtotal	<b>\$213,286</b>	
720	LF	\$100	\$72,000	50 - Tertiary Filters
121	CY	\$400	\$48,296	
239	CY	\$800	\$191,200	
3	CY	\$1,200	\$3,511	
40	CY	\$400	\$16,000	
3,260	SF	\$15	\$48,900	
5%			\$18,995	
		Subtotal	<b>\$398,903</b>	
1,280	LF	\$100	\$128,000	53 - UV Disinfection
76	CY	\$400	\$30,356	
208	CY	\$800	\$166,341	
129	CY	\$1,200	\$155,267	
679	SF	\$15	\$10,185	
5%			\$24,507	
		Subtotal	<b>\$514,655</b>	
600	LF	\$100	\$60,000	54 - UV Electrical Building
56	CY	\$400	\$22,504	
7	CY	\$400	\$2,741	
32	CY	\$400	\$12,622	
1,564	SF	\$15	\$23,460	
5%			\$6,066	

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Labor costs

		Subtotal	<b>\$127,393</b>	
1,320	LF	\$100	\$132,000	Additional
266	CY	\$400	\$106,289	
4	CY	\$400	\$1,481	
309	CY	\$800	\$247,259	
48	CY	\$1,200	\$57,776	
920	SF	\$15	\$13,800	
5%			\$27,930	
		Subtotal	<b>\$586,536</b>	55 - Effluent Facility
120	LF	\$100	\$12,000	56 - Non-Potable Water
15	CY	\$400	\$6,089	
29	CY	\$800	\$23,230	
12	CY	\$1,200	\$14,073	
100	SF	\$15	\$1,500	
5%			\$2,845	
		Subtotal	<b>\$59,736</b>	
640	LF	\$100	\$64,000	60 - Chemical Feed Facility
64	CY	\$400	\$25,614	
24	CY	\$800	\$19,523	
44	CY	\$400	\$17,611	
54	CY	\$400	\$21,689	
1,705	SF	\$15	\$25,571	
5%			\$8,700	
		Subtotal	<b>\$182,708</b>	
1,920	LF	\$100	\$192,000	70 - Aerated Sludge Holding Tanks
399	CY	\$400	\$159,600	
284	CY	\$800	\$227,200	
22	CY	\$400	\$8,800	
6,084	SF	\$15	\$91,260	
5%			\$33,943	
		Subtotal	<b>\$712,803</b>	
1,440	LF	\$100	\$144,000	
464	CY	\$400	\$185,585	
195	CY	\$800	\$155,975	
64	CY	\$400	\$25,570	

28	CY	\$800	\$22,105
37	CY	\$1,200	\$44,317
177	CY	\$1,200	\$211,894
143	CY	\$400	\$57,356
5,775	SF	\$15	\$86,630
5%			\$46,672
		Subtotal	<b>\$980,103</b>
1,200	LF	\$100	\$120,000
195	CY	\$400	\$78,000
43	CY	\$400	\$17,304
4,000	SF	\$15	\$60,000
5%			\$13,765
		Subtotal	<b>\$289,069</b>
480	LF	\$100	\$48,000
151	CY	\$400	\$60,513
56	CY	\$400	\$22,593
4,053	SF	\$15	\$60,789
5%			\$9,595
		Subtotal	<b>\$201,490</b>
1,000	LF	\$100	\$100,000
109	CY	\$400	\$43,511
3	CY	\$400	\$1,319
53	CY	\$400	\$21,137
2,937	SF	\$15	\$44,055
5%			\$10,501
		Subtotal	<b>\$220,522</b>

72 - Biosolids Handling Building

85 - Operations & Laboratory Building

86 - Maintenance & Storage Building

88 - Main Plant Electrical Building

89 - Generator and Transformer Pad

90% OPCC

Item	Qty	Unit	Unit Cost	Total Cost
Concrete Deep Foundations	0	CY	\$1,400	\$0
Concrete Base Slab	54	CY	\$1,500	\$80,561
Concrete Freestanding Wall	160	CY	\$1,600	\$255,752
Concrete Elevated Slab	17	CY	\$1,600	\$27,200
Void Forms	0	SF	\$14	\$0
Grade Beams	33	CY	\$1,200	\$40,000
Miscellaneous	5%			\$20,176
			Subtotal	<b>\$423,689</b>
Drilled Shaft Deep Foundation	43	CY	\$1,400	\$60,893
Concrete Base Slab	383	CY	\$1,500	\$573,944
Concrete Freestanding Wall	1925	CY	\$1,600	\$3,080,652
Concrete Elevated Slab	146	CY	\$1,600	\$233,320
Grade Beams	66	CY	\$1,200	\$78,644
Void Forms	2100	SF	\$14	\$29,400
Concrete Beams	256	CY	\$1,400	\$357,726
Concrete Equipment Pad	5	CY	\$1,000	\$4,815
Miscellaneous	5%			\$202,843
			Subtotal	<b>\$4,622,237</b>
Drilled Shaft Deep Foundation	290	CY	\$1,400	\$405,948
Concrete Base Slab	526	CY	\$1,500	\$789,000
Concrete Columns	60	CY	\$1,300	\$78,000
Concrete Equipment Pad	30	CY	\$1,000	\$30,000
Concrete Freestanding Wall	592	CY	\$1,600	\$947,200
Concrete Elevated Slab	270	CY	\$1,600	\$432,000
Grade Beams	0	CY	\$1,200	\$0
Void Forms	6992	SF	\$14	\$97,888
Miscellaneous	5%			\$139,002
			Subtotal	<b>\$2,919,038</b>
Drilled Pier Deep Foundation	55	CY	\$1,400	\$76,481
Concrete Base Slab	210	CY	\$1,500	\$315,000
Concrete Equipment Pad	11	CY	\$1,000	\$11,111
Concrete Freestanding Wall	96	CY	\$1,600	\$154,074
Concrete Elevated Slab	7	CY	\$1,600	\$10,667
Grade Beams	0	CY	\$1,200	\$0

Void Forms	2,860	SF	\$14	\$40,040
Miscellaneous	5%			\$30,369
			Subtotal	<b>\$637,742</b>
Drilled Pier Deep Foundation	46	CY	\$1,400	\$64,711
Concrete Base Slab	78	CY	\$1,500	\$117,500
Concrete Equipment Pad	12	CY	\$1,000	\$11,926
Grade Beams	44	CY	\$1,200	\$53,111
Void Forms	2,115	SF	\$14	\$29,610
Miscellaneous	5%			\$13,843
			Subtotal	<b>\$290,701</b>
Drilled Pier Deep Foundation	3,000	CY	\$1,400	\$4,200,000
Concrete Base Slab	4,949	CY	\$1,500	\$7,423,500
Concrete Freestanding Wall	4,139	CY	\$1,600	\$6,622,400
Concrete Elevated Slab	390	CY	\$1,600	\$624,000
Void Forms	43,059	SF	\$14	\$602,826
Miscellaneous	5%			\$973,636
			Subtotal	<b>\$20,446,362</b>
Drilled Shaft Deep Foundation	108	CY	\$1,400	\$151,822
Concrete Base Slab	392	CY	\$1,500	\$588,000
Concrete Equipment Pad	15	CY	\$1,000	\$15,000
Void Forms	5,371	SF	\$14	\$75,194
Grade Beams	166	CY	\$1,200	\$199,200
Miscellaneous	5%			\$51,461
			Subtotal	<b>\$1,080,677</b>
Drilled Shaft Deep Foundation	111	CY	\$1,400	\$154,726
Concrete Base Slab	153	CY	\$1,500	\$229,528
Concrete Freestanding Wall	190	CY	\$1,600	\$304,649
Concrete Elevated Slab	5	CY	\$1,600	\$8,059
Void Forms	2,013	SF	\$14	\$28,182
Grade Beams	0	CY	\$1,200	\$0
Concrete Beams	8	CY	\$1,400	\$11,459
Miscellaneous	5%			\$36,830
			Subtotal	<b>\$773,433</b>
Drilled Shaft Deep Foundation	903	CY	\$1,400	\$1,264,719

Concrete Base Slab	3,125	CY	\$1,500	\$4,687,085
Concrete Freestanding Wall	608	CY	\$1,600	\$972,949
Concrete Elevated Slab	117	CY	\$1,600	\$187,246
Void Forms	29,935	SF	\$14	\$419,089
Miscellaneous	5%			\$376,554
			Subtotal	<b>\$7,907,642</b>

Drilled Shaft Deep Foundation	126	CY	\$1,400	\$176,867
Concrete Base Slab	104	CY	\$1,500	\$155,556
Concrete Equipment Pad	10	CY	\$1,000	\$10,000
Grade Beams	146	CY	\$1,200	\$174,667
Void Forms	2,820	SF	\$14	\$39,480
Miscellaneous	5%			\$27,828
			Subtotal	<b>\$584,397</b>

Drilled Shaft Deep Foundation	90	CY	\$1,400	\$126,415
Concrete Base Slab	141	CY	\$1,500	\$211,698
Concrete Freestanding Wall	282	CY	\$1,600	\$451,200
Concrete Elevated Slab	13	CY	\$1,600	\$21,452
Grade Beams	116	CY	\$1,200	\$139,778
Void Forms	2,858	SF	\$14	\$40,012
Concrete Columns	24	CY	\$1,300	\$30,815
Miscellaneous	5%			\$51,068
			Subtotal	<b>\$1,072,438</b>

Drilled Shaft Deep Foundation	78	CY	\$1,400	\$109,096
Concrete Base Slab	76	CY	\$1,500	\$114,333
Concrete Freestanding Wall	142	CY	\$1,600	\$227,852
Concrete Elevated Slab	89	CY	\$1,600	\$142,064
Void Forms	1,372	SF	\$14	\$19,208
Miscellaneous	5%			\$30,628
			Subtotal	<b>\$643,181</b>

Drilled Shaft Deep Foundation	38	CY	\$1,400	\$52,941
Concrete Base Slab	62	CY	\$1,500	\$93,557
Concrete Equipment Pad	3	CY	\$1,000	\$3,299
Grade Beams	41	CY	\$1,200	\$49,529
Void Forms	1,631	SF	\$14	\$22,835
Miscellaneous	5%			\$11,108

			Subtotal	<b>\$233,268</b>
Drilled Shaft Deep Foundation	145	CY	\$1,400	\$202,637
Concrete Base Slab	202	CY	\$1,500	\$303,000
Concrete Equipment Pad	4	CY	\$1,000	\$3,704
Concrete Freestanding Wall	327	CY	\$1,600	\$523,793
Concrete Elevated Slab	55	CY	\$1,600	\$87,525
Void Forms	3,636	SF	\$14	\$50,904
Miscellaneous	5%			\$58,578
			Subtotal	<b>\$1,230,141</b>
Drilled Shaft Deep Foundation	15	CY	\$1,400	\$21,363
Concrete Base Slab	15	CY	\$1,500	\$22,833
Concrete Freestanding Wall	18	CY	\$1,600	\$28,919
Concrete Elevated Slab	18	CY	\$1,600	\$29,077
Void Forms	274	SF	\$14	\$3,836
Miscellaneous	5%			\$5,301
			Subtotal	<b>\$111,329</b>
Drilled Shaft Deep Foundation	54	CY	\$1,400	\$75,704
Concrete Base Slab	115	CY	\$1,500	\$172,500
Concrete Freestanding Wall	20	CY	\$1,600	\$32,626
Concrete Equipment Pad	18	CY	\$1,000	\$18,000
Grade Beams	21	CY	\$1,200	\$25,200
Void Forms	2,284	SF	\$14	\$31,970
Miscellaneous	5%			\$17,800
			Subtotal	<b>\$373,799</b>
Drilled Shaft Deep Foundation	54	CY	\$1,400	\$75,756
Concrete Base Slab	423	CY	\$1,500	\$634,500
Concrete Freestanding Wall	284	CY	\$1,600	\$454,400
Concrete Equipment Pad	10	CY	\$1,000	\$10,000
Void Forms	6,275	SF	\$14	\$87,850
Miscellaneous	5%			\$63,125
			Subtotal	<b>\$1,325,631</b>
Drilled Shaft Deep Foundation	232	CY	\$1,400	\$324,644
Concrete Base Slab	606	CY	\$1,500	\$908,507
Concrete Freestanding Wall	196	CY	\$1,600	\$313,767
Concrete Equipment Pad	64	CY	\$1,000	\$63,926

Concrete Columns	26	CY	\$1,300	\$33,896
Concrete Beams	0	CY	\$1,400	\$0
Concrete Elevated Slab	270	CY	\$1,600	\$432,684
Grade Beams	67	CY	\$1,200	\$80,792
Void Forms	8,585	SF	\$14	\$120,195
Miscellaneous	5%			\$113,921
			Subtotal	<b>\$2,392,333</b>
Drilled Shaft Deep Foundation	93	CY	\$1,400	\$129,681
Concrete Base Slab	153	CY	\$1,500	\$229,778
Grade Beams	126	CY	\$1,200	\$151,467
Void Forms	4,136	SF	\$14	\$57,904
Miscellaneous	5%			\$28,441
			Subtotal	<b>\$597,271</b>
Drilled Shaft Deep Foundation	68	CY	\$1,400	\$94,785
Concrete Base Slab	158	CY	\$1,500	\$236,444
Grade Beams	130	CY	\$1,200	\$155,556
Void Forms	4,256	SF	\$14	\$59,584
Miscellaneous	5%			\$27,318
			Subtotal	<b>\$573,688</b>
Drilled Shaft Deep Foundation	107	CY	\$1,400	\$149,541
Concrete Base Slab	132	CY	\$1,500	\$197,259
Concrete Equipment Pad	3	CY	\$1,000	\$3,296
Grade Beams	79	CY	\$1,200	\$94,567
Void Forms	3,071	SF	\$14	\$42,999
Miscellaneous	5%			\$24,383
			Subtotal	<b>\$512,046</b>
Drilled Shaft Deep Foundation	29	CY	\$1,400	\$40,756
Concrete Equipment Pad	62	CY	\$1,000	\$62,222
Miscellaneous	5%			\$5,149
			Subtotal	<b>\$108,127</b>

	w/ Escalation
Grit Equipment	\$ 456,000
Blowers and Blower Controls	\$ 1,915,200
Filters	\$ 3,123,600
UV Equipment	\$ 1,197,000
Jet Aeration Equipment	\$ 1,311,000
Centrifuge	\$ 2,644,800
Pad-Mounted Transformers: 45-50 Weeks	\$ 1,596,000
480V Switchboards: 40 Weeks	\$ 1,903,800
480V Motor Control Centers: 35-40 weeks	\$ 1,778,400
MV Switchgear: 45 weeks (Not Critical Path)	\$ 2,530,800
Generator	\$ 4,263,600
	<hr/>
	\$ 22,720,200

Raw

\$ 321,100  
\$ 1,365,000  
\$ 2,223,000  
\$ 852,176  
\$ 929,500  
\$ 1,885,000

F6	F14	F38	F46	F54
\$ 1,135,750	\$ 297,000	\$ 297,000	\$ 121,500	\$ 206,500
\$ 1,356,750	\$ 324,000	\$ 418,500		\$ 13,500
\$ 1,262,250	\$ 229,500	\$ 256,500	\$ 175,500	\$ 236,250

\$ 1,135,750  
\$ 1,356,750  
\$ 1,262,250  
\$ 1,800,000  
\$ 3,037,500

\$ 6,665,700.0

F72	F88	F90
\$ 105,750	\$ 108,000	
\$ 391,500	\$ 209,250	
\$ 236,250	\$ 128,250	
	\$ 1,800,000	
		\$ 3,037,500

# Wilbarger Creek Regional Wastewater Treatment Facility Opinion of Probable Construction Cost

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Design Information Memorandum No. 25

City of Pflugerville, Texas



**Prepared by:**



**3755 S Capital of TX Highway  
Austin, TX 78704**

**March 2022**

**Garver Project No.: 19W07191**



**Engineer's Certification**

I hereby certify that this Design Information Memorandum No. 25 – Opinion of Probable Construction Cost for the Wilbarger Creek Regional Wastewater Treatment Facility (RWWTF) project was prepared by Garver under my direct supervision for the City of Pflugerville. This DIM is not to be used for permitting, design, bidding, or construction purposes.

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Garver, LLC  
TBPE Firm Registration No. 5713



Digitally Signed 03/11/2022

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Digitally Signed 03/11/2022





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Appendix A: Detailed Cost Estimates



**List of Acronyms**

<b>Acronym</b>	<b>Phrase</b>
COP	City of Pflugerville
DIM	Design Information Memorandum
OH&P	Overhead and Profit
OPCC	Opinion of Probable Construction Cost
PSG	Paralleling Switchgear
RAS	Return Activated Sludge
WAS	Waste Activated Sludge
RWWTF	Regional Wastewater Treatment Facility
UV	Ultraviolet
WWTP	Wastewater Treatment Plant



## **1.0 Introduction**

The purpose of this Design Information Memorandum (DIM) No. 25 is to present the opinion of probable construction cost (OPCC) for the City of Pflugerville (COP) Wilbarger Creek Regional Wastewater Treatment Facility (RWWTF) at the 30% design phase.

## **2.0 Opinion of Probable Construction Cost**

Table 2-1 presents a compiled 30% Design Phase OPCC for the Wilbarger Creek RWWTF, including current OPCC scope, reference to previous OPCC submittals, and discussion of updates from the past OPCC submittals. All OPCC items presented in this DIM include a 5% miscellaneous unit pricing allowance, 3% for contractor mobilization, and 18% for contractor overhead and profit. Garver has also continued to include a 30% contingency for unidentified scope, though contingency at various specific facilities has been modified where noted. A full detail of the OPCC at each facility is included as Appendix A to this DIM. The OPCC is as presented in the 30% design and does not include updates based on design decisions that have occurred as a component of the 60% design. An updated OPCC will be provided for all facilities at each of the submittal milestones to document design changes as the design progresses.

Electrical building costs for specific processes (for example, the influent lift station electrical building, headworks electrical building, return activated sludge (RAS)/waste activated sludge (WAS) electrical building, UV electrical building, etc.) are included within the process facility cost.

It should be noted that the bid environment in 2021 has been highly dynamic based on labor and unit price fluctuations. This OPCC accounts for a portion of the variations expected to be seen prior to bidding this project in the fourth quarter of 2022. Unit pricing for equipment has been updated based on equipment vendor quotes; however, it is noted by numerous vendors that bid pricing is dynamic and could change frequently. Garver has utilized adjustments for pricing for items such as concrete, excavation, backfill, miscellaneous metals, piping, valving, electrical control panels, etc., but unit prices shown may be more indicative of a stable bid environment. Garver will continue to monitor unit prices as the project bid approaches. The current pricing does not include any allowance for escalation to the midpoint of construction.



Table 2-1: 30% Design Wilbarger Creek RWWTF Opinion of Probable Construction Cost

ID	Line Item <sup>1</sup>	CDR OPCC (As of June 2021)	DIM Package C & F Update OPCC (As of October 2021)	30% OPCC (As of November 2021)	30% OPCC Summary of Scope (As of November 2021)	Summary of Updates from CDR OPCC (from June 2021)	Summary of Updates from DIM Package C&F Submittal OPCC (from October 2021)
03	Demolition and Erosion Control	\$167,000	-	<b>\$167,000</b>	<ul style="list-style-type: none"> <li>Demolition of existing facilities and allowance for site erosion control during construction.</li> </ul>	<ul style="list-style-type: none"> <li>No updates identified as necessary.</li> </ul>	<ul style="list-style-type: none"> <li>No updates identified as necessary.</li> </ul>
04	Grading and Paving	\$4,531,000	\$6,018,000	<b>\$5,241,000</b>	<ul style="list-style-type: none"> <li>Site grading to finished grade throughout the site.</li> <li>Paving, including roadways throughout the site, sidewalks, and other misc. paving.</li> </ul>	<ul style="list-style-type: none"> <li>Additional scope provided/identified.</li> </ul>	<ul style="list-style-type: none"> <li>Updated quantity of heavy duty reinforced concrete pavement.</li> <li>Updated base material price.</li> </ul>
05	Yard Piping	\$9,275,000	\$11,150,000	<b>\$10,545,000</b>	<ul style="list-style-type: none"> <li>Yard piping throughout the site such as major process piping, storm sewers, potable water piping, non-potable water piping, and plant drains.</li> <li>Includes interceptor extension from the Kimley-Horn tie-in point to the proposed ILS location.</li> </ul>	<ul style="list-style-type: none"> <li>Updated yard piping quantities, depths, etc. based on project progression.</li> </ul>	<ul style="list-style-type: none"> <li>Updated yard piping quantities, depths, etc. based on project progression.</li> <li>Addition of SC Scum MH.</li> </ul>
06	Site Electrical	\$827,000	\$1,983,000	<b>\$1,983,000</b>	<ul style="list-style-type: none"> <li>Site electrical distribution, including ductbanks and wiring.</li> </ul>	<ul style="list-style-type: none"> <li>Allocated electrical costs from Facility 90 into the site electrical and updated scope based on design progression.</li> </ul>	<ul style="list-style-type: none"> <li>No updates.</li> </ul>
07	Landscaping and Irrigation	\$346,000	-	<b>\$427,000</b>	<ul style="list-style-type: none"> <li>Landscaping (adjacent to operations and lab building), tree aesthetic barriers, irrigation of landscaping/trees, and establishment of grass throughout the site.</li> </ul>	<ul style="list-style-type: none"> <li>Allocated allowance for grass throughout site.</li> </ul>	<ul style="list-style-type: none"> <li>Allocated allowance for grass throughout site.</li> </ul>
09	Civil Yard Structures	\$1,277,000	-	<b>\$689,000</b>	<ul style="list-style-type: none"> <li>Site civil structures not directly tied to a process area, such as the scum manhole, UV influent flowmeter vault, outfall manhole and drop box, and outfall structure, and storm detention point control structure.</li> </ul>	<ul style="list-style-type: none"> <li>Additional detail for hydraulic box and outfall structures, including groundwater control allowance.</li> <li>Addition of SC Scum MH.</li> <li>Addition of flowmeter vault.</li> </ul>	<ul style="list-style-type: none"> <li>Additional detail for hydraulic box and outfall structures, including groundwater control allowance.</li> <li>Addition of flowmeter vault.</li> </ul>
10	Influent Lift Station	\$4,854,000	\$7,018,000	<b>\$7,592,000</b>	<ul style="list-style-type: none"> <li>Influent lift station structure (sized to handle up to six submersible pumps), pumps, piping, and appurtenances</li> <li>ILS Electrical Building and electrical gear.</li> </ul>	<ul style="list-style-type: none"> <li>Updated scope based on design progression, geotechnical information, equipment pricing, and controls approach.</li> <li>Updated/expanded electrical equipment scoping, including allocation of items previously included under F90.</li> </ul>	<ul style="list-style-type: none"> <li>Updates to ILS Electrical Building, including facility size and HVAC.</li> <li>Updated structural quantities based on current structural design and geotechnical considerations.</li> </ul>
12	Headworks	\$6,203,000	\$6,658,000	<b>\$6,846,000</b>	<ul style="list-style-type: none"> <li>Headworks structure for screening (future coarse screen and fine screen) and grit removal.</li> <li>Headworks electrical building and electrical gear for headworks and future primary sludge pump station.</li> </ul>	<ul style="list-style-type: none"> <li>Updated headworks layout, equipment pricing, and structural quantities per design development.</li> <li>Added headworks electrical building.</li> </ul>	<ul style="list-style-type: none"> <li>Updated facility layout with 4-foot screens and eliminated sluicing system.</li> <li>Added covering/canopy over screening channels.</li> <li>Updates to Electrical Room HVAC.</li> </ul>
18	Odor Control – Influent Lift Station*	\$1,397,000	\$2,186,000	<b>\$1,724,000</b>	<ul style="list-style-type: none"> <li>Odor control system, ductwork, and dispersion fans for influent lift station.</li> </ul>	<ul style="list-style-type: none"> <li>Updated equipment sizing and selection based on increased air change requirements and ILS sizing.</li> <li>Odor control system split into two facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Facility to be combined with F19 as a component of 60% design.</li> <li>Biofilter is the proposed technology.</li> </ul>
19	Odor Control – Headworks*	Included in F18	Included in F18	<b>\$636,000</b>	<ul style="list-style-type: none"> <li>Odor control system, ductwork, and dispersion fans for headworks.</li> </ul>	<ul style="list-style-type: none"> <li>Updated equipment sizing and selection based on increased air change requirements.</li> <li>Odor control system split into two facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Facility to be combined with F18 as a component of 60% design.</li> <li>Biofilter is the proposed technology.</li> </ul>
30	Aeration Basin Splitter Box	\$645,000	\$0	<b>\$0</b>	<ul style="list-style-type: none"> <li>No scope (structure is delayed until future phases).</li> </ul>	<ul style="list-style-type: none"> <li>Flow split between aeration basins is included within F31.</li> </ul>	<ul style="list-style-type: none"> <li>None.</li> </ul>
31	Aeration Basins*	\$10,762,000	\$11,316,000	<b>\$12,322,000</b>	<ul style="list-style-type: none"> <li>Two A<sup>2</sup>O Basins, including basins, mixers, diffusers, air piping, and IMLR pumps/channels.</li> </ul>	<ul style="list-style-type: none"> <li>Added aeration volume, including 2-feet additional basin depth.</li> <li>Added detail for aeration controls.</li> </ul>	<ul style="list-style-type: none"> <li>Minor adjustments due to incorporation of IMLR channels rather than piping and adjustment for control strategy.</li> </ul>





ID	Line Item <sup>1</sup>	CDR OPCC (As of June 2021)	DIM Package C & F Update OPCC (As of October 2021)	30% OPCC (As of November 2021)	30% OPCC Summary of Scope (As of November 2021)	Summary of Updates from CDR OPCC (from June 2021)	Summary of Updates from DIM Package C&F Submittal OPCC (from October 2021)
38	Blower Facility*	\$2,749,000	\$5,861,000	<b>\$6,316,000</b>	<ul style="list-style-type: none"> <li>Blower Building sized for Phase 1 only, including installation of four blowers in enclosed room.</li> <li>Blower Electrical Room and gear for Aeration Basins, Blowers, and electrical distribution to RAS/WAS PS.</li> </ul>	<ul style="list-style-type: none"> <li>Adjusted building size for four blowers rather than seven blowers.</li> <li>Added full enclosure of blower space and overhead bridge.</li> <li>Updated/expanded electrical equipment scoping, including allocation of items previously included under F90.</li> </ul>	<ul style="list-style-type: none"> <li>Adjusted per design progression.</li> <li>Updates to facility HVAC.</li> </ul>
40	Mixed Liquor Splitter Box*	\$128,000	\$504,000	<b>\$504,000</b>	<ul style="list-style-type: none"> <li>MLSS Splitter structure designed for future expansion.</li> </ul>	<ul style="list-style-type: none"> <li>Design progression included additional structural details such as deepening structure and providing foundation.</li> </ul>	<ul style="list-style-type: none"> <li>Addition of debris chute.</li> <li>Addition of electrical outlets/lighting.</li> </ul>
45	Secondary Clarifiers*	\$6,415,000	\$6,098,000	<b>\$6,143,000</b>	<ul style="list-style-type: none"> <li>Two clarifiers at 135-foot diameter and 15-foot sidewater depth.</li> </ul>	<ul style="list-style-type: none"> <li>Update from 130-ft diameter to 135-ft diameter to meet TCEQ and solids loading requirements.</li> <li>Addition of chlorine drip system for algae control.</li> </ul>	<ul style="list-style-type: none"> <li>Addition of chlorine drip system for algae control.</li> </ul>
46	RAS/WAS Pump Station*	\$1,590,000	\$2,408,000	<b>\$2,361,000</b>	<ul style="list-style-type: none"> <li>RAS/WAS Pump Station built at grade with space for up to seven pumps.</li> <li>RAS/WAS electrical building and electrical gear for RAS/WAS PS and secondary clarifiers.</li> </ul>	<ul style="list-style-type: none"> <li>Update from 3 RAS pumps to 5 RAS pumps.</li> <li>Locate pumps on a slab at grade.</li> <li>Inclusion of RAS/WAS electrical building.</li> <li>Updated/expanded electrical equipment scoping, including allocation of items previously included under F90.</li> </ul>	<ul style="list-style-type: none"> <li>Updated pump and piping equipment costs.</li> <li>Reduce electrical building size.</li> <li>Updates to facility HVAC.</li> </ul>
50	Filters	\$6,300,000	\$5,225,000	<b>\$5,225,000</b>	<ul style="list-style-type: none"> <li>Four cloth media filters, filter structure, and shade canopy for up to four filters.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced concrete requirements by assuming modular construction for future phases (rather than empty channels).</li> </ul>	<ul style="list-style-type: none"> <li>Minimal updates since October 2021.</li> </ul>
53	UV Disinfection	\$4,576,000	\$5,789,000	<b>\$5,286,000</b>	<ul style="list-style-type: none"> <li>Construct UV Facility with two UV Channels.</li> <li>Install three banks of UV lamps per channel.</li> <li>UV electrical building and electrical gear for tertiary filters, UV system, and NPW system.</li> </ul>	<ul style="list-style-type: none"> <li>Updated/expanded electrical equipment scoping, including allocation of items previously included under F90.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce electrical building size.</li> <li>Updates to UV facility footprint and geometry.</li> <li>Updates to facility HVAC.</li> </ul>
55	Effluent Facility	\$680,000	\$863,000	<b>\$954,000</b>	<ul style="list-style-type: none"> <li>Cascade aeration structure.</li> <li>Fixed mechanical aeration.</li> <li>Nested Parshall flume.</li> </ul>	<ul style="list-style-type: none"> <li>Increased Parshall flume channel length and fixed mechanical aeration basin footprint.</li> <li>Added fixed mechanical aerator</li> </ul>	<ul style="list-style-type: none"> <li>Increased Parshall flume channel length and basin footprint.</li> <li>Coarse bubble diffusers to be added as a component of 60% design.</li> </ul>
56	Non-Potable Water System	\$515,000	\$1,098,000	<b>\$987,000</b>	<ul style="list-style-type: none"> <li>Pump station located at the UV Disinfection/Effluent Facility to house 4 vertical turbine pumps with VFDs.</li> </ul>	<ul style="list-style-type: none"> <li>Updated from two to four pumps to accommodate anticipated demand pattern and incorporate design progression.</li> </ul>	<ul style="list-style-type: none"> <li>Updated pump and piping equipment costs.</li> <li>Remove stairs.</li> </ul>
60	Chemical Feed Facility	\$1,064,000	\$1,069,000	<b>\$1,133,000</b>	<ul style="list-style-type: none"> <li>Chemical feed and storage building for sodium hypochlorite (500 gal.) and aluminum sulfate (1,000 gal.), including chemical containment, and offloading.</li> <li>Chemical Feed Electrical building.</li> </ul>	<ul style="list-style-type: none"> <li>Updates based on design progression.</li> </ul>	<ul style="list-style-type: none"> <li>Updates to facility HVAC.</li> <li>Replaced two 750-gallon sodium hypochlorite tanks with one 500-gallon tank.</li> <li>Deepened aluminum sulfate containment area.</li> </ul>
70	Aerated Sludge Storage and Mixing**	\$2,011,000	\$2,367,000	<b>\$2,462,000</b>	<ul style="list-style-type: none"> <li>Two, 50-ft ASHTs with associated jet aeration system and decanting/thickening facility.</li> </ul>	<ul style="list-style-type: none"> <li>Incorporated redundancy into design after elimination of primary clarifier as sludge storage.</li> <li>Incorporated jet mixing system to improve future usability of system.</li> </ul>	<ul style="list-style-type: none"> <li>Updates to piping, valving, etc. costs based on design progression.</li> </ul>
72	Biosolids Handling Building	\$6,342,000	\$8,021,000	<b>\$7,208,000</b>	<ul style="list-style-type: none"> <li>Construct Biosolids Handling Building with space for three Centrifuges.</li> <li>Solids electrical room and electrical gear for ASHTs and dewatering.</li> </ul>	<ul style="list-style-type: none"> <li>Modified facility layout to reduce sludge conveyance equipment.</li> <li>Updated/expanded electrical and controls equipment scoping, including allocation of items previously included under F90.</li> </ul>	<ul style="list-style-type: none"> <li>Updated building layout per operations discussions, including elimination of load-out canopy and conveyors.</li> <li>Added control room and additional electrical equipment.</li> </ul>
85	Operations & Laboratory Building	\$2,628,000	\$2,030,000	<b>\$2,030,000</b>	<ul style="list-style-type: none"> <li>Operations and Laboratory building of approximately 3,500 square feet for plant operations/operations staff.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced building footprint assumptions based on architectural programming exercise.</li> </ul>	<ul style="list-style-type: none"> <li>Minimal updates since October 2021.</li> </ul>





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86	Maintenance and Storage Building	\$728,000	\$1,874,000	<b>\$1,874,000</b>	<ul style="list-style-type: none"> <li>Maintenance Facility of approximately 4,000 square feet for plant functions including shop space, indoor storage, outdoor storage, and staff workspaces.</li> </ul>	<ul style="list-style-type: none"> <li>Increased building footprint assumptions based on architectural programming exercise.</li> </ul>	<ul style="list-style-type: none"> <li>Minimal updates since October 2021.</li> </ul>
88	Main Plant Electrical Building	\$6,412,000	\$4,830,000	<b>\$4,820,000</b>	<ul style="list-style-type: none"> <li>Main plant electrical building to house distribution and switchgear to serve electrical loads throughout the plant through Phase 2.</li> </ul>	<ul style="list-style-type: none"> <li>Design progression on electrical scope.</li> <li>Moved items previously scoped under F88 into plant facilities where equipment is to be housed.</li> </ul>	<ul style="list-style-type: none"> <li>Updates to facility HVAC.</li> </ul>
90	Miscellaneous Electrical	\$7,231,000	\$4,296,000	<b>\$4,296,000</b>	<ul style="list-style-type: none"> <li>Miscellaneous electrical items, including establishment of electrical service and in-plant distribution gear/feeders.</li> <li>Emergency generator and load bank.</li> </ul>	<ul style="list-style-type: none"> <li>Moved items previously scoped under F90 into plant facilities where equipment is to be housed.</li> </ul>	<ul style="list-style-type: none"> <li>Minimal updates since October 2021.</li> </ul>
95	SCADA	\$2,727,000	\$3,666,000	<b>\$2,173,000</b>	<ul style="list-style-type: none"> <li>Plant Controls system, including SCADA/fiber loop, main operator control station, PLCs, access cabinet</li> </ul>	<ul style="list-style-type: none"> <li>Design progression on control scope.</li> <li>Allocation of some control allowance to individual facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Corrected miscalculation from Package C &amp; F submittal and reallocated SCADA costs to individual facilities.</li> </ul>
	<b>TOTAL</b>	<b>\$92,379,000</b>	<b>Not Totaled</b>	<b>\$101,944,000</b>			

**Note:**

- Costs for individual facilities include associated electrical building costs.
- \*20% Contingency  
\*\*25% Contingency





### 3.0 Cost Savings Alternatives

The estimates in Section 2.0 present the facilities as depicted in the DIMs, renderings, and current vendor quotations. Garver has identified potential estimate updates, scope modifications, or potential bid alternatives for several facilities as outlined below.

#### 3.1 Facility 04 – Grading and Paving

- Potential cost reduction by modifying the road construction materials in certain areas, such as using compacted gravel base material rather than medium duty concrete paving. Estimated OPCC savings is \$80/sy, which could be as much as ≈\$500k if all medium use road areas are converted.
- Potential cost reduction by refinement of cut/fill volumes and fully optimizing grading through design progression. This could include placement of fill within the site rather than hauling off site and using native fill materials whenever possible. Estimated OPCC savings will vary, and this will be incorporated during the heavy grading development between the 30% and 60% design submittal.

#### 3.2 Facility 05 – Yard Piping

- Potential cost reductions by modifying piping materials from ceramic epoxy lined ductile iron to potentially less expensive materials. For example, PVC piping can be roughly 60% to 80% of the cost of ductile iron piping on a materials basis. Examples of this include the following:
  - i. NPW/PW Piping greater than 4-inch diameter: Estimated OPCC savings is up to ≈\$100k.
  - ii. Drains: Estimated OPCC savings is up to ≈\$50k.
- Potential cost reductions by modifying piping materials from reinforced concrete pipe to potentially less expensive materials such as HDPE or HOBAS. Examples of this include the following:
  - i. Effluent Piping and Stormwater Piping: Estimated OPCC savings is up to ≈\$400k.

#### 3.3 Facility 10 – Influent Lift Station

- Wet well size will be reduced at the 60% design phase based upon an exception obtained to the City of Pflugerville's 60-minute storage requirement.



### 3.4 Facility 31 – Aeration Basins

- Potential added cost to provide additional instrumentation (DO probes in two additional zones per AB, ammonia probe, MLSS probe) and diffuser drop controls (air meter and control valves at each diffuser drop leg) as shown as future in the P&ID and control description. Estimated OPCC added is ≈\$225k for all items.

### 3.5 Facility 46 – RAS/WAS Pump Station

- Potential deductive bid alternative to remove canopy over pump area. Estimated OPCC savings is ≈\$225k.

### 3.6 Facility 53 – UV Disinfection

- Potential cost reduction associated with decrease in structure footprint and lamp number by reducing channel width (depending upon equipment selection). Estimated OPCC savings for construction is ≈\$150k-\$200k.

### 3.7 Facility 60 – Chemical Feed Facility

- Potential added cost to provide a second aluminum sulfate tank during Phase 1 of construction. Estimated OPCC added cost is ≈\$50k.

### 3.8 Facility 70 – Aerated Sludge Storage and Mixing

- Potential added cost to provide elevated walkway around ASHTs. Estimated additional cost is ≈\$148,000.

### 3.9 Facility 72 – Biosolids Handling Building

- Potential added cost to provide solids handling equipment such as dump trucks and front-end loaders for processing sludge. This equipment is not currently included in the OPCC.
- Potential added cost to provide exterior solids pad for sludge storage. An armored pad (50 feet by 200 feet similar to that at Central Wastewater Treatment Plant (WWTP)) and drain piping will add ≈\$300,000 to the OPCC (this will appear under Facility 04, Grading and Paving and Facility 05, Yard Piping).

### 3.10 Facility 85 – Operations and Laboratory Building

- The base foundation design will be drilled piers supporting a structural slab over void forms. An alternate foundation design can be provided in the drawings, incorporating the geotechnical report recommendations for shallow foundations and slab on grade. Note that the geotechnical report describes the subgrade prep as "extensive" and includes specific requirements regarding backfilling, paving and drainage, and options regarding depth of moisture conditioned fill below the select fill.



### **3.11 Facility 86 – Maintenance and Storage Building**

- Cost savings are achievable by reducing the size/scope of the maintenance building. Any scope changes will be discussed with the City/OR Team.
- The base foundation design will be drilled piers supporting a structural slab over void forms. An alternate foundation design can be provided in the drawings, incorporating the geotechnical report recommendations for shallow foundations and slab on grade. Note that the geotechnical report describes the subgrade prep as "extensive" and includes specific requirements regarding backfilling, paving and drainage, and options regarding depth of moisture conditioned fill below the select fill.

### **3.12 Facility 88 – Main Plant Electrical Building**

- Include a Deductive Bid Alternative (reference VE #1 in DIM No. 21 – Electrical Distribution System Appendix A) to not install electrical redundancy during Phase 1 of the project. This would include designing, but not installing in Phase 1, the B side switchgear, transformers, and feeders. These items would then be installed in Phase 2. The main electrical building would be sized for both paralleling and distribution switchgears. The estimated cost savings for the Bid Alternative is \$1.5M.
- Potential cost reduction associated with reducing the main electrical building sizing (reference VE #2 in DIM No. 21 – Electrical Distribution System Appendix A). Under this alternative, in combination with the Deductive Bid Alternative (reference a. above in Facility 88), the Main Electrical building would be reduced by approximately 460 square feet. In the future Phase 2, a new Paralleling Switchgear (PSG) Building would be constructed (at approximately 925 square feet) that would facilitate incorporation of the electrical redundancy. Estimated cost savings for Phase 1 is between ≈\$100k to ≈\$200k for the reduced building footprint (in addition to the cost savings realized for the \$1.5M bid alternate noted above).
  - i. It is noted that this alternative would add between ≈\$250k to ≈\$500k into the future Phase 2 construction project to allow construction of the adjacent PSG Building.
  - ii. Note: this VE Item #2 (to include a separate PSG building) was indicated as non-preferred during the previous DIM Package F review period but is included here for clarity.

### **3.13 Facility 95 - SCADA**

- Potential cost reduction associated with minimizing the scope associated with the site security/access/camera system. The fully loaded allowance (including contingency, overhead and profit (OH&P), and mobilization) for these items is ≈\$900k, and a portion of this cost could be saved depending upon owner preferences.



# APPENDIX A

## Detailed Cost Estimates

# GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design

19W07191 City of Pflugerville

November 22, 2021

1. Lump Sum Work (Facilities or Areas)	\$ Total
<a href="#">03</a> Demolition and Erosion Control	\$167,000
<a href="#">04</a> Grading and Paving	\$5,241,000
<a href="#">05</a> Yard Piping	\$10,545,000
<a href="#">06</a> Site Electrical	\$1,983,000
<a href="#">07</a> Landscaping and Irrigation	\$427,000
<a href="#">09</a> Civil Yard Structures	\$689,000
<a href="#">10</a> Influent Lift Station	\$7,592,000
<a href="#">12</a> Headworks	\$6,846,000
<a href="#">18</a> Odor Control - Influent Lift Station	\$1,724,000
<a href="#">19</a> Odor Control - Headworks	\$636,000
<a href="#">30</a> Aeration Basin Splitter Box	(removed)
<a href="#">31</a> Aeration Basins	\$12,322,000
<a href="#">38</a> Blower Facility	\$6,316,000
<a href="#">40</a> Mixed Liquor Splitter Box	\$504,000
<a href="#">45</a> Secondary Clarifiers	\$6,143,000
<a href="#">46</a> RAS/WAS Pump Station	\$2,361,000
<a href="#">50</a> Filters	\$5,225,000
<a href="#">53</a> UV Disinfection	\$5,286,000
<a href="#">55</a> Effluent Facility	\$954,000
<a href="#">56</a> Non-Potable Water System	\$987,000
<a href="#">60</a> Chemical Feed Facility	\$1,133,000
<a href="#">70</a> Aerated Sludge Storage and Mixing	\$2,462,000
<a href="#">72</a> Biosolids Handling Building	\$7,208,000
<a href="#">85</a> Operations & Laboratory Building	\$2,030,000
<a href="#">86</a> Maintenance and Storage Building	\$1,874,000
<a href="#">88</a> Main Plant Electrical Building	\$4,820,000
<a href="#">90</a> General Electrical	\$4,296,000
<a href="#">95</a> SCADA	\$2,173,000
<b>Total Estimated Lump Sum Work</b>	<b>\$101,944,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 3**  
**Facility Description: Demolition and Erosion Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Demolition	1	LS	\$ -	\$ 50,000.00	\$ 50,000
Erosion Control	1	LS	\$ 50,000.00		\$ 50,000
					\$ -
					\$ -
					\$ -
					\$ -
Miscellaneous	5%				\$ 5,000
Subtotal Division 2					<b>\$ 105,000</b>
<b>Subtotal This Facility</b>					<b>\$ 105,000</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 39,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 4,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 19,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 167,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 4**  
**Facility Description: Grading and Paving**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	6,000	CY		\$ 15.00	\$ 90,000
Fill	8,500	CY	\$ 20.00		\$ 170,000
Subgrade Preparation	15,810	SY		\$ 25.00	\$ 395,250
Base Material	5,839	CY	\$ 69.00		\$ 402,891
<i>Miscellaneous</i>	5%				\$ 52,907
Subtotal Division 31					<b>\$ 1,111,048</b>
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching (Moved to F07)					
Heavy Duty Reinforced Concrete Pavement (8")	21,650	SY	\$ 50.00		\$ 1,082,500
Medium Duty Reinforced Concrete Pavement (6")	5,944	SY	\$ 80.00		\$ 475,547
Asphalt Concrete Pavement (4")	1063	SY	\$ 54.00		\$ 57,376
Chain Link Fence and Gate	7,505	LF	\$ 60.00		\$ 450,307
Concrete Sidewalk (5")	881	SY	\$ 55.00		\$ 48,455
<i>Miscellaneous</i>	5%				\$ 105,709
Subtotal Division 32					<b>\$ 2,219,894</b>
<b>Subtotal This Facility</b>					<b>\$ 3,330,942</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 1,210,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 100,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 600,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,241,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 33 - Utilities</b>					
<b><u>Potable Water System</u></b>					
8" Fire Hydrant Assembly	2	EA	\$ 5,500.00		\$ 11,000
8" DI Pipe	1910	LF	\$ 60.00		\$ 114,600
8" Gate Valve	2	EA	\$ 1,600.00		\$ 3,200
8" 90 Bend	1	EA	\$ 300.00		\$ 300
8" RPZ Backflow Preventer	1	EA	\$ 6,550.00		\$ 6,550
8" x 2" Tapping Sleeve	5	EA	\$ 1,264.00		\$ 6,320
2" SCH 80 Pipe	606	LF	\$ 15.00		\$ 9,090
2" Gate Valve	5	EA	\$ 418.00		\$ 2,090
<b><u>Non Potable Water System</u></b>					
12" DI Pipe	121	LF	\$ 90.00		\$ 10,890
12" x 8" Reducer	1	EA	\$ 288.00		\$ 288
Yard Hydrant Assembly	1	EA	\$ 170.00		\$ 170
8" DI Pipe	1560	LF	\$ 60.00		\$ 93,600
8" Tee	2	EA	\$ 349.00		\$ 698
8" x 8" x 4" Tee	1	EA	\$ 294.00		\$ 294
8" x 8" x 6" Tee	1	EA	\$ 242.00		\$ 242
8" x 6" Reducer	1	EA	\$ 143.00		\$ 143
8" x 2" Reducer	1	EA	\$ 115.00		\$ 115
8" 90 Bend	1	EA	\$ 303.00		\$ 303
8" Gate Valve	1	EA	\$ 1,600.00		\$ 1,600
8" x 2" Tapping Sleeve	1	EA	\$ 1,264.00		\$ 1,264
Yard Hydrant Assembly	2	EA	\$ 170.00		\$ 340
6" DI Pipe	1505	LF	\$ 45.00		\$ 67,725
6" Tee	1	EA	\$ 235.00		\$ 235
6" x 2" Reducer	1	EA	\$ 100.00		\$ 100
6" 90 Bend	1	EA	\$ 163.00		\$ 163
6" Gate Valve	3	EA	\$ 1,200.00		\$ 3,600
4" DI Pipe	150	LF	\$ 30.00		\$ 4,500
4" Tee	1	EA	\$ 138.00		\$ 138
4" x 2" Reducer	1	EA	\$ 75.00		\$ 75
Yard Hydrant Assembly	2	EA	\$ 170.00		\$ 340
2" SCH 80 PVC Pipe	580	LF	\$ 15.00		\$ 8,700
2" 90 Bend	1	EA	\$ 100.00		\$ 100
2" Gate Valve	2	EA	\$ 800.00		\$ 1,600
<b><u>Plant Drain System</u></b>					
30" DI Pipe	1760	LF	\$ 320.00		\$ 563,200
Process Unit Drain Connection	19	EA	\$ 10,900.00		\$ 207,100
8" DI Pipe	3377	LF	\$ 60.00		\$ 202,620
6" DI Pipe	183	LF	\$ 45.00		\$ 8,235
6" x 4" Reducer	7	EA	\$ 106.00		\$ 742
4" DI Pipe	936	LF	\$ 30.00		\$ 28,080
72" Manhole	9	EA	\$ 11,830.00		\$ 106,470
96" Scum Manhole	1	EA	\$ 25,000.00		\$ 25,000
<i>Miscellaneous</i>	5%				\$ 17,519
Subtotal Division 33					<b>\$ 1,509,339</b>
<b>Division 40 - Process Integration</b>					
<b><u>Interceptor to Influent Lift Stations</u></b>					
48" DI Pipe	697	LF	\$ 650.00		\$ 453,050
96" Manhole	2	EA	\$ 25,000.00		\$ 50,000

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Influent Lift Stations to Headworks</u></b>					
36" DI Pipe	450	LF	\$ 420.00		\$ 189,000
36" 90 Bend	1	EA	\$ 11,990.00		\$ 11,990
<b><u>Headworks to Aeration Basin</u></b>					
36" DI Pipe	631	LF	\$ 420.00		\$ 265,020
36" 90 Bend	3	EA	\$ 11,990.00		\$ 35,970
<b><u>Aeration Basins to MLSS Splitter Box</u></b>					
42" DI Pipe	870	LF	\$ 510.00		\$ 443,700
42" 90 Bend	4	EA	\$ 21,476.00		\$ 85,904
<b><u>MLSS Splitter Box to Secondary Clarifiers 1 &amp; 2</u></b>					
36" DI Pipe	259	LF	\$ 420.00		\$ 108,780
36" 45 Bend	2	EA	\$ 9,387.00		\$ 18,774
36" 22.5 Bend	2	EA	\$ 7,939.00		\$ 15,878
36" 90 Bend	1	EA	\$ 11,990.00		\$ 11,990
<b><u>Secondary Clarifiers 1 &amp; 2 to Pump Station</u></b>					
16" DI Pipe	97	LF	\$ 120.00		\$ 11,640
16" 45 Bend	2	EA	\$ 1,049.00		\$ 2,098
<b><u>Pump Station to Aeration Basins</u></b>					
36" DI Pipe	21	LF	\$ 420.00		\$ 8,820
16" DI Pipe	400	LF	\$ 120.00		\$ 48,000
16" 90 Bend	3	EA	\$ 1,049.00		\$ 3,147
16" Isolation Valve	2	EA	\$ 1,200.00		\$ 2,400
36" x 16" 45 Tee	1	EA	\$ 22,609.00		\$ 22,609
36" x 16" Reducer	1	EA	\$ 14,334.00		\$ 14,334
<b><u>Pump Station to ASHT</u></b>					
10" DI Pipe	601	LF	\$ 75.00		\$ 45,075
10" 90 Bend	6	EA	\$ 413.00		\$ 2,478
<b><u>Secondary Clarifier 1 &amp; 2 to Filter</u></b>					
36" DI Pipe	120	LF	\$ 420.00		\$ 50,400
48" Pipe	351	LF	\$ 650.00		\$ 228,150
48" x 36" 45 Tee	2	EA	\$ 35,916.00		\$ 71,832
48" 90 Bend	1	EA	\$ 28,637.00		\$ 28,637
48" Isolation Valves	2	EA	\$ 4,500.00		\$ 9,000
<b><u>UV to Flow Measure</u></b>					
36" DI Pipe	50	LF	\$ 420.00		\$ 21,000
<b><u>UV to Outfall</u></b>					
48" DI Pipe	1060	LF	\$ 650.00		\$ 689,000
48" 45 Bend	2	EA	\$ 34,450.00		\$ 68,900
<b><u>Stormwater Collection System</u></b>					
78" DI Pipe	725	LF	\$ 2,100.00		\$ 1,522,500
Stormwater Inlets	10	EA	\$ 3,600.00		\$ 36,000
Stormwater Junction Boxes	5	EA	\$ 6,000.00		\$ 30,000
<b><u>Filters to UV Disinfection</u></b>					
36" DI Pipe	45	LF	\$ 420.00		\$ 18,900
96" Manhole	2	EA	\$ 25,000.00		\$ 50,000
Miscellaneous	5%				\$ 247,229
Subtotal Division 40					<b>\$ 5,191,805</b>

**Facility Number: 5**  
**Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 6,701,143
<b>Contingency</b>				30%	\$ 2,434,000
<b>Mobilization</b>				3%	\$ 202,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 1,207,000
<b>Total Estimated Facility Costs</b>					<b>\$ 10,545,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 6**  
**Facility Description: Site Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
TX1A/B 5kV Feeders (Main Elec Bldg) DB	150	EA	\$150		\$ 22,500
TX2A/B 5kV Feeders (Influent Lift Station) DB	1700	EA	\$150		\$ 255,000
TX3A/B 5kV Feeders (Blower Bldg) DB	550	EA	\$150		\$ 82,500
TX4A/B 5kV Feeders (RAS/WAS) DB	1100	EA	\$150		\$ 165,000
TX4A/B 5kV Feeders (Solids) DB	300	EA	\$150		\$ 45,000
Bluebonnet Transformer Secondary Fdrs DB	150	EA	\$400		\$ 60,000
Manholes Power	10	EA	\$15,000		\$ 150,000
Misc Site Lighting 30 fixtures at 5000 each	1	LS	\$150,000		\$ 150,000
Communication Manholes	10	LS	\$12,000		\$ 120,000
Fiber Ductbank	1	LS	\$100,000		\$ 100,000
Security Conduit	1	LS	\$60,000		\$ 60,000
Lightning Protection	1	LS	\$50,000		\$ 50,000
<b>Subtotal This Facility</b>					
					\$ 1,260,000
<b>Contingency</b>				<b>30%</b>	\$ 458,000
<b>Mobilization</b>				<b>3%</b>	\$ 38,000
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	\$ 227,000
<b>Total Estimated Facility Costs</b>					\$ 1,983,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 7**  
**Facility Description: Landscaping and Irrigation**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching	160	AC	\$ 300.00		\$ 48,000
Landscape Irrigation System Piping	3200	LF	\$ 35.00	\$ 10.50	\$ 145,600
Fittings	1	LS	\$ 14,560.00	\$ 4,368.00	\$ 18,928
Trees	48	EA	\$ 700.00	\$ 210.00	\$ 43,680
Miscellaneous	5%				\$ 12,810
			Subtotal Division 32		\$ 269,018
<b>Subtotal This Facility</b>					<b>\$ 269,018</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 99,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 9,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 49,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 427,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 9**  
**Facility Description: Civil Yard Structures**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
<b>Outfall Structure &amp; Effluent Discharge Drop Box</b>					
Excavation	900	CY		\$ 15.00	\$ 13,500
Fill	550	CY	\$ 20.00		\$ 11,000
Allowance for Groundwater Control at Effluent Box Structure	1	LS	\$ 75,000.00		\$ 75,000
<b>Flowmeter Vault</b>					
Excavation	80	CY		\$ 15.00	\$ 1,200
Fill	30	CY	\$ 20.00		\$ 600
<i>Miscellaneous</i>	5%				\$ 5,065
Subtotal Division 31					<b>\$ 106,365</b>
<b>Division 32 - Exterior Improvements</b>					
<b>Outfall Structure &amp; Effluent Discharge Drop Box</b>					
Concrete Base Slab	56	CY	\$ 400.00		\$ 22,400
Concrete Wall	356	CY	\$ 800.00		\$ 284,800
<b>Flowmeter Vault</b>					
Concrete Base Slab	5	CY	\$ 400.00		\$ 2,000
Concrete Wall	2	CY	\$ 800.00		\$ 1,600
Concrete Elevated Slab	3	CY	\$ 1,200.00		\$ 3,600
<i>Miscellaneous</i>	5%				\$ 15,720
Subtotal Division 32					<b>\$ 330,120</b>
<b>Subtotal This Facility</b>					<b>\$ 436,485</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 159,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 14,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 79,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 689,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 10**  
**Facility Description: Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Lift Station</b>					
Concrete Base Slab	300	CY	\$ 400.00		\$ 120,000
Concrete Freestanding Wall	1250	CY	\$ 800.00		\$ 1,000,000
Concrete Elevated Slab	86	CY	\$ 1,200.00		\$ 103,200
Controlled Low Strength Matieral Fill		CY	\$ 80.00		\$ -
<b>Electrical Housing Building</b>					
Concrete Base Slab	61	CY	\$ 400.00		\$ 24,400
<b>Electrical Building Deep Foundation</b>					
Drilled Shaft Deep Foundation	320	LF	\$ 100.00		\$ 32,000
Miscellaneous	5%				\$ 63,980
Subtotal Division 3					\$ 1,343,580
<b>Division 4 - Masonry</b>					
<b>Electrical Housing Building</b>					
CMU Masonry Walls	2325	SF	\$ 35.00		\$ 81,375
Miscellaneous	5%				\$ 4,069
Subtotal Division 4					\$ 85,444
<b>Division 5 - Metals</b>					
<b>Electrical Housing Building</b>					
Metal Roofing Panels	1000	SF	\$ 15.00		\$ 15,000
Steel Roof Trusses	13	EA	\$ 290.00		\$ 3,770
<b>Lift Station</b>					
Pump Guide Rails	260	LF	\$100	\$ 30.00	\$ 33,800
Access Ladder	1	LS	\$ 2,000.00		\$ 2,000
Access Hatches	8	EA	\$3,000		\$ 24,000
Monorail Framing (Galvanized Steel)	4000	LB	\$ 4.00	\$ 1.20	\$ 20,800
Miscellaneous	5%				\$ 4,969
Subtotal Division 5					\$ 104,339
<b>Division 8 - Openings</b>					
Double Door	3	EA	\$ 4,500.00		\$ 13,500
Miscellaneous	5%				\$ 675
Subtotal Division 8					\$ 14,175
<b>Division 9 - Finishes</b>					
Piping Coatings	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Miscellaneous	5%				\$ 1,300
Subtotal Division 9					\$ 27,300
<b>Division 11 - Equipment</b>					
Monorail Crane - 5 ton	1	EA	\$ 37,000.00	\$ 11,100.00	\$ 48,100
Miscellaneous	5%				\$ 2,405
Subtotal Division 11					\$ 50,505
<b>Division 23 - HVAC</b>					
10-ton AC unit	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
Corrosive Air Scrubber	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Ductwork+accessories	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250

**Facility Number: 10**  
**Facility Description: Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 3,933
			Subtotal Division 23		\$ 82,583
<b>Division 26 - Electrical</b>					
SWBD-1	1	EA	\$ 150,000.00	\$ 40,000.00	\$ 190,000
18 pulse VFDs	5	EA	\$ 60,000.00	\$ 100,000.00	\$ 400,000
2000 kVA Pad Mounted Transformers	2	EA	\$ 80,000.00	\$ 50,000.00	\$ 210,000
Wire and Conduit from Transformer to Switchboard	2	EA	\$ 50,000.00	\$ 10,000.00	\$ 60,000
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 100,000.00	\$ 20,000.00	\$ 120,000
Conduit Total	1	LS	\$ 150,000.00	\$ 30,000.00	\$ 180,000
Lighting	30	EA	\$ 300.00	\$ 4,500.00	\$ 13,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 10,000.00	\$ 40,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 20,000.00	\$ 40,000
Grounding Total	1	LS	\$ 20,000.00	\$ 7,500.00	\$ 27,500
Miscellaneous	1	LS	\$ 20,000.00	\$ -	\$ 20,000
High level Float	2	EA	\$ 200.00	\$ 140.00	\$ 540
Radar Level Transmitter	2	EA	\$ 3,500.00	\$ 2,450.00	\$ 9,450
Pressure indicator	5	EA	\$ 500.00	\$ 875.00	\$ 3,375
Strap-On Ultrasonic Flow Meter	5	EA	\$ 5,000.00	\$ 8,750.00	\$ 33,750
Pressure Transmitters	2	EA	\$ 2,500.00	\$ 1,750.00	\$ 6,750
Level Indicator	2	EA	\$ 250.00	\$ 175.00	\$ 675
PLC/Network Hardware/Enclosures	1	LS	\$ 100,000.00	\$ 35,000.00	\$ 135,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
Programming/Testing					
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
			Subtotal Division 26		\$ 1,557,540
<b>Division 31 - Earthwork</b>					
<u>Lift Station</u>					
Open Cut Excavation	9284	CY		\$ 15.00	\$ 139,260
Shored Excavation	3906	CY		\$ 30.00	\$ 117,180
Fill	6940	CY	\$ 20.00		\$ 138,800
<u>Electrical Housing Building</u>					
Open Cut Excavation	200	CY		\$ 15.00	\$ 3,000
Fill	51	CY	\$ 20.00		\$ 1,020
Miscellaneous	5%				\$ 19,963
			Subtotal Division 31		\$ 419,223
<b>Division 40 - Process Integration</b>					
Influent Lift Pumps - 6 MGD	2	EA	\$ 62,000.00	\$ 18,600.00	\$ 161,200
Influent Lift Pumps - 12 MGD	2	EA	\$ 86,000.00	\$ 25,800.00	\$ 223,600
Influent Jockey Pumps	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Pump Discharge Piping	1	LS	\$350,000		\$ 350,000
Pump Discharge Check Valves	6	LS	\$ 24,000.00		\$ 144,000
Pump Discharge Isolation Valves	6	EA	\$ 13,000.00		\$ 78,000
Pump Discharge ARVs	7	EA	\$ 5,000.00		\$ 35,000
Piping Supports	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 54,340
			Subtotal Division 40		\$ 1,141,140
<b>Subtotal This Facility</b>					\$ 4,825,828
<b>Contingency</b>				30%	\$ 1,752,000
<b>Mobilization</b>				3%	\$ 145,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 869,000
<b>Total Estimated Facility Costs</b>					\$ 7,592,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 12**  
**Facility Description: Headworks**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 1 - General Requirements</b>					
System 19	7000	SF	\$ 7.00		\$ 49,000
Miscellaneous	5%				\$ 2,450
					Subtotal Division 1
					\$ 51,450
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
					Subtotal Division 2
					\$ -
<b>Division 3 - Concrete</b>					
<u>Headworks Concrete</u>					
Concrete Base Slab	470	CY	\$ 400.00		\$ 188,000
Concrete Support Columns	40	CY	\$ 800.00		\$ 32,000
Inlet Box Walls	180	CY	\$ 800.00		\$ 144,000
Effluent Box Walls	110	CY	\$ 800.00		\$ 88,000
Channel Area Elevated Slab	160	CY	\$ 1,200.00		\$ 192,000
U Channel Elevated Flat Slab on Bypass	10	CY	\$ 1,200.00		\$ 12,000
Grit Area Elevated Slab	100	CY	\$ 1,200.00		\$ 120,000
Screenings Channel Walls	150	CY	\$ 800.00		\$ 120,000
Grit Channel Walls	140	CY	\$ 800.00		\$ 112,000
Grit Lower Cone Concrete	20	CY	\$ 801.00		\$ 16,020
Screen area elevated Walkways between Channels	50	CY	\$ 1,200.00		\$ 60,000
Grit Area Elevated Walkways between channels; mixer motor access and support	20	CY	\$ 1,200.00		\$ 24,000
Upper Level Parapet Walls (42" tall around structure)	30	CY	\$ 800.00		\$ 24,000
Equipment Pads at Grit Pumps	40	CY	\$ 400.00		\$ 16,000
Equipment Pad at Grit Washer/Classifier	30	CY	\$ 400.00		\$ 12,000
<u>Headworks Deep Foundation</u>					
Drilled Shaft Deep Foundation	1200	LF	\$ 100.00		\$ 120,000
<u>Electrical Housing Building</u>					
Concrete Base Slab	30	CY	\$ 400.00		\$ 12,000
<u>Electrical Building Deep Foundation</u>					
Drilled Shaft Deep Foundation	160	LF	\$ 100.00		\$ 16,000
Miscellaneous	5%				\$ 64,001
					Subtotal Division 3
					\$ 1,372,021
<b>Division 4 - Masonry</b>					
<u>Electrical Housing Building</u>					
CMU Masonry Walls	1750	SF	\$ 35.00		\$ 61,250
Miscellaneous	5%				\$ 3,063
					Subtotal Division 4
					\$ 64,313
<b>Division 5 - Metals</b>					
Stairs	1	LS	\$ 75,000.00	\$ 22,500.00	\$ 97,500
Aluminum channel covers	2265	SF	\$ 60.00	\$ 18.00	\$ 176,670
<u>Electrical Housing Building</u>					
Metal Truss Framing	10	EA	\$ 290.00		\$ 2,900
Metal Roofing Panels	973	SF	\$ 15.00		\$ 14,595
<u>Metal Canopy</u>					
Metal Canopy (over upper level channels)	2400	SF	\$ 75.00		\$ 180,000
Bollards	36	EA	\$ 500.00		\$ 18,000
Miscellaneous	5%				\$ 23,583
					Subtotal Division 5
					\$ 513,248

**Facility Number: 12**  
**Facility Description: Headworks**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 8 - Openings</b>					
Double Door	3	EA	\$ 4,500.00		\$ 13,500
Miscellaneous	5%				\$ 675
			Subtotal Division 8		\$ 14,175
<b>Division 9 - Coatings</b>					
Channel - Heavy Corrosion Lining	1	LS	\$ 75,000.00		\$ 75,000
Allowance for Piping Coatings	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 5,250
			Subtotal Division 8		\$ 110,250
<b>Division 23 - HVAC</b>					
6-ton AC unit	2	EA	\$ 8,400.00	\$ 2,520.00	\$ 21,840
Corrosive Air Scrubber	1	EA	\$ 17,500.00	\$ 5,250.00	\$ 22,750
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 2,652
			Subtotal Division 11		\$ 55,692
<b>Division 26 - Electrical</b>					
Feeder 400A 2 ssets approximate 200"	1	EA	\$40,000	\$0	\$ 40,000
Panelboard	2	EA	\$30,000	\$20,000	\$ 80,000
Wiring Total	1	LS	\$60,000	\$30,000	\$ 90,000
Conduit Total	1	LS	\$70,000	\$40,000	\$ 110,000
Lighting and Receptacles Total	1	LS	\$25,000	\$5,000	\$ 30,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$10,000	\$5,000	\$ 15,000
Cable Tray Total	1	LS	\$0	\$0	\$ -
Grounding Total	1	LS	\$15,000	\$5,000	\$ 20,000
Instrumentation Related Electrical	1	LS	\$20,000	\$0	\$ 20,000
					\$ -
Radar Level Transmitter	2	EA	\$3,500	\$2,450	\$ 9,450
Solenoid Valve	6	EA	\$500	\$1,050	\$ 4,050
Pressure Indicator	2	EA	\$500	\$350	\$ 1,350
PLC/ Network Hardware / Enclosures	1	EA	\$35,000	\$5,000	\$ 40,000
UPS	1	EA	\$5,000	\$2,500	\$ 7,500
Programming / Testing	0	LS			\$ -
			Subtotal Division 26		\$ 467,350
<b>Division 31 - Earthwork</b>					
Excavation	1560	CY		\$ 15.00	
Fill	1004	CY	\$ 20.00		
<u>Electrical Building Earthwork</u>					
Excavation	168	CY		\$ 15.00	\$ 2,520
Backfill	94	CY	\$ 20.00		\$ 1,880
Miscellaneous	5%				\$ 220
			Subtotal Division 31		\$ 4,620
<b>Division 40 - Process Integration</b>					
Screen Package (2 Screens, 2 compactors, 4 Panels)	1	LS	\$ 460,000.00	\$ 138,000.00	\$ 598,000
SS 316 Custom Drop Chutes for Screenings	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Manual Bar Screen	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Grit System (1 vortex system, 2 pumps, 1 classifier, 1 concentrator, plc panel)	1	LS	\$ 310,000.00	\$ 93,000.00	\$ 403,000
Stainless steel slide gates w/ Electric actuators	8	EA	\$ 21,000.00	\$ 6,300.00	\$ 218,400
Downward Opening Weir gates w/ electric actuators	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
<u>Allowance for piping &amp; Valves</u>					
Influent and Effluent Piping Allowance (36" Inlet x2 (one capped), 12" Inlet x1, 30" Outlet, 48" Outlet-capped)	1	LS	\$ 30,000.00		\$ 30,000
Allowance for Drain Piping + Valves	1	LS	\$ 65,000.00		\$ 65,000
Allowance for Grit Piping (Glass Lined)	1	LS	\$ 50,000.00		\$ 50,000
Allowance for NPW Piping	1	LS	\$ 15,000.00		\$ 15,000
NPW Wash Hose Station (2 at upper level, 2 at lower level)	4	EA	\$ 1,500.00		\$ 6,000
Weir plates at Bypass Channel	3	EA	\$ 2,500.00		\$ 7,500

**Facility Number: 12**  
**Facility Description: Headworks**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Odor Control Duct Work	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 80,825
			Subtotal Division 40		\$ 1,697,325
<b>Subtotal This Facility</b>					\$ 4,350,444
<b>Contingency</b>				30%	\$ 1,580,000
<b>Mobilization</b>				3%	\$ 131,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 784,000
<b>Total Estimated Facility Costs</b>					\$ 6,846,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 18**  
**Facility Description: Odor Control - Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
ILS Odor Control Unit					
Concrete Base Slab	80	CY	\$ 400.00		\$ 32,000
Concrete Equipment Pad	21	CY	\$ 400.00		\$ 8,400
Odor Control Deep Foundation					
Drilled Shaft Deep Foundation	360	LF	\$ 100.00		\$ 36,000
Miscellaneous	5%				\$ 1,800
	Subtotal Division 3				\$ 78,200
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Electrical Allowance	1	LS	\$30,000		\$ 30,000
Miscellaneous	5%				\$ 1,500
	Subtotal Division 26				\$ 31,500
<b>Division 31 - Earthwork</b>					
ILS Odor Control Unit					
Excavation		CY		\$ 15.00	\$ -
Select Fill		CY	\$ 20.00		\$ -
Miscellaneous	5%				\$ -
	Subtotal Division 31				\$ -
<b>Division 40 - Process Integration</b>					
ILS Odor Control Unit					
FRP duct works	1	LS	\$ 40,000.00		\$ 40,000
NPW piping	1	LS	\$ 15,000.00		\$ 15,000
Miscellaneous	5%				\$ 2,750
	Subtotal Division 40				\$ 57,750
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biotrickling filter (quoted package by Bioair)	1	LS	\$ 881,300.00	\$ 88,130.00	\$ 969,430
Miscellaneous	5%				\$ 48,472
	Subtotal Division 44				\$ 1,017,902

**Facility Number: 18**  
**Facility Description: Odor Control - Influent Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 1,185,352
Contingency				20%	\$ 288,000
Mobilization				3%	\$ 36,000
Contractor's Overhead and Profit				18%	\$ 214,000
<b>Total Estimated Facility Costs</b>					\$ 1,724,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

Facility Number: 19  
Facility Description: Headworks - Odor Control

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
Headworks Odor Control Unit					
Concrete Base Slab	33	CY	\$ 400.00		\$ 13,200
Concrete Equipment Pad	6	CY	\$ 400.00		\$ 2,400
Odor Control Deep Foundation					
Drilled Shaft Deep Foundation	270	LF	\$ 100.00		\$ 27,000
Miscellaneous	5%				\$ 1,350
	Subtotal Division 3				\$ 43,950
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Electrical Allowance	1	LS	\$30,000		\$ 30,000
Miscellaneous	5%				\$ 1,500
	Subtotal Division 26				\$ 31,500
<b>Division 31 - Earthwork</b>					
Headworks Odor Control Unit					
Excavation		CY		\$ 15.00	\$ -
Select Fill		CY	\$ 20.00		\$ -
Miscellaneous	5%				\$ -
	Subtotal Division 31				\$ -
<b>Division 40 - Process Integration</b>					
Headworks Odor Control Unit					
FRP duct works	1	LS	\$ 20,000.00		\$ 20,000
NPW piping	1	LS	\$ 20,000.00		\$ 20,000
Miscellaneous	5%				\$ 2,000
	Subtotal Division 40				\$ 42,000
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biotrickling filter (quoted package by Bioair)	1	LS	\$ 275,900.00	\$ 27,590.00	\$ 303,490
Miscellaneous	5%				\$ 15,175
	Subtotal Division 44				\$ 318,665
<b>Subtotal This Facility</b>					<b>\$ 436,115</b>

**Facility Number: 19**  
**Facility Description: Headworks - Odor Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Contingency				20%	\$ 106,000
Mobilization				3%	\$ 14,000
Contractor's Overhead and Profit				18%	\$ 79,000
<b>Total Estimated Facility Costs</b>					<b>\$ 636,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 31**  
**Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
Aeration Basins Concrete					
Concrete Base Slab	3065	CY	\$ 400.00		\$ 1,226,000
Concrete Freestanding Wall	2740	CY	\$ 800.00		\$ 2,192,000
Elevated MLR Channels	476	CY	\$ 800.00		\$ 380,729
Concrete Elevated Slab	221	CY	\$ 1,200.00		\$ 265,200
Aeration Basin Deep Foundations					
Drilled Shaft Deep Foundation	7360	LF	\$ 100.00		\$ 736,000
Miscellaneous	5%				\$ 239,996
	Subtotal Division 3				\$ 5,039,925
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Aluminum Guardrail	2630	LF	\$ 60.00	\$ 18.00	\$ 205,140
Stairs	3	EA	\$30,000		\$ 90,000
Miscellaneous	5%				\$ 14,757
	Subtotal Division 5				\$ 309,897
<b>Division 11 - Equipment</b>					
Miscellaneous	5%	EA			\$ -
		EA			\$ -
					\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 70,000.00	\$ 15,000.00	\$ 85,000
Conduit Total	1	LS	\$ 90,000.00	\$ 20,000.00	\$ 110,000
Lighting and Receptacles Total	1	LS	\$ 50,000.00	\$ 30,000.00	\$ 80,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 20,000.00	\$ 50,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 10,000.00	\$ 30,000
Grounding Total	1	LS	\$ 30,000.00	\$ 10,000.00	\$ 40,000
Thermalmass Flowmeter	2	EA	\$ 5,000.00	\$ 17,500.00	\$ 45,000
Analyzer Transmitter (OPR)	0	EA	\$ 5,000.00	\$ 3,500.00	\$ -
Analyzer Transmitter (Ammonia)	2	EA	\$ 5,000.00	\$ 7,000.00	\$ 24,000
Analyzer Transmitter (DO)	2	EA	\$ 5,000.00	\$ 14,000.00	\$ 38,000
Analyzer Transmitter (Solids)	0	EA	\$ 8,000.00	\$ 5,600.00	\$ -
Magmeter	0	EA	\$ 40,000.00	\$ 28,000.00	\$ -
Pressure Transmitters	2	EA	\$ 500.00	\$ 350.00	\$ 1,700
PLC/ Network Hardware					
UPS					
Programming / Testing					
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
Weir Level Instrument (channel instrument on IMLR lines)	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
Miscellaneous	0%				\$ -
	Subtotal Division 26				\$ 518,900
<b>Division 31 - Earthwork</b>					
Excavation	25431	CY		\$ 15.00	\$ 381,465
Backfill	8306	CY	\$ 20.00		\$ 166,120
Miscellaneous	5%				\$ 27,379
	Subtotal Division 31				\$ 574,964

**Facility Number: 31**  
**Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Aeration Basin Influent Structure Motorized 304 St Steel Slide Gates (1 per Aeration Basin)	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Air Piping 36" Flanged, Sch 10S, 304 St Steel	35	LF	\$ 648.00	\$ 194.40	\$ 29,484
Air Piping 30" Flanged, Sch 10S, 304 St Steel	20	LF	\$ 540.00	\$ 162.00	\$ 14,040
Air Piping 20" Flanged, Sch 10S, 304 St Steel	460	LF	\$ 360.00	\$ 108.00	\$ 215,280
Air Piping 12" Flanged, Sch 10S, 304 St Steel	120	LF	\$ 216.00	\$ 64.80	\$ 33,696
IMLR piping, 30-inch, Sch 10S	80	LF	\$ 500.00	\$ 150.00	\$ 52,000
IMLR pipe discharge check valves (2 per Aeration Basin)	4	EA	\$ 5,000.00	\$ 1,500.00	\$ 26,000
FRP Cutthroat Flume	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
Allowance for Ductile Iron Drain Piping and Mud Valves	8	EA	\$ 20,000.00	\$ 6,000.00	\$ 208,000
18-inch Aeration Basin Air Flow Control Valve w Electro-Hydraulic Actuator (1 per aeration basin)	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
12-inch Aerated Zone Control Valve w Electro-Hydraulic Actuator (4 per aeration basin)		EA	\$ 3,000.00	\$ 900.00	\$ -
Fittings (tees, elbows & reducers)	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
St Steel Bellows Expansion Cplg (6 each Aeration Basin)	12	EA	\$ 3,000.00	\$ 900.00	\$ 46,800
Allowance for Pipe Supports	1	LS	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Miscellaneous	5%				\$ 42,575
Subtotal Division 40					<b>\$ 894,075</b>
<b>Division 43 - Process Gas and Liquid Handling, Purification, and Storage</b>					
Internal Recycle Pumps w. guide rails and davit cranes(2 per Aeration Basin)	4	EA	\$ 60,000.00	\$ 18,000.00	\$ 312,000
Miscellaneous	5%				\$ 15,600
Subtotal Division 44					<b>\$ 327,600</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
Submersible Mixers w. portable davit crane (2- Anaerobic, 2- Anoxic per Aeration Basin)	8	EA	\$ 25,000.00	\$ 7,500.00	\$ 260,000
Diffuser Package (1 per Aeration Basin)	2	EA	\$ 150,000.00	\$ 45,000.00	\$ 390,000
Jib Crane	1	EA	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 39,000
Subtotal Division 46					<b>\$ 819,000</b>
<b>Subtotal This Facility</b>					<b>\$ 8,484,362</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 2,054,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 255,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 1,528,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 12,322,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**City of Pflugerville**  
**19W07191**

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
					\$ -
Subtotal Division 2					
<b>Division 3 - Concrete</b>					
Blower Facility Concrete					
Concrete Base Slab	350	CY	\$ 400.00		\$ 140,000
Concrete Equipment Pads	9	CY	\$ 400.00		\$ 3,600
Blower Facility Deep Foundations					
Drilled Shaft Deep Foundation	1600	LF	\$ 100.00		\$ 160,000
Miscellaneous	5%				\$ 15,180
					\$ -
Subtotal Division 3					
<b>Division 4 - Masonry</b>					
Blower Building Masonry					
CMU Walls	8,500	SF	\$ 35.00		\$ 297,500
Miscellaneous	5%				\$ 14,875
					\$ -
Subtotal Division 4					
<b>Division 5 - Metals</b>					
Blower Building Metals					
Metal Roofing Panels	5,000	SF	\$ 15.00		\$ 75,000
Steel Roof Trusses	24	EA	\$ 290.00		\$ 6,960
Bridge Crane Framing	4,000	LB	\$ 4.00	\$ 1.20	\$ 20,800
Miscellaneous	5%				\$ 5,138
					\$ -
Subtotal Division 5					
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	280	LF	\$ 9.20	\$ 2.76	\$ 3,349
Miscellaneous	5%				\$ 167
					\$ -
Subtotal Division 7					
<b>Division 8 - Openings</b>					
Blower Building Openings					
Exterior Doors-Single	2	EA	\$ 2,500.00		\$ 5,000
Exterior Doors-Double	1	EA	\$ 4,500.00		\$ 4,500
Exterior Overhead Door	1	EA	\$ 6,000.00		\$ 6,000
Miscellaneous	5%				\$ 775
					\$ -
Subtotal Division 8					
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
					\$ -
Subtotal Division 11					

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 13 - Special Construction</b>					
Metal Canopy (over blowers) - removed		SF	\$ 75.00		\$ -
Miscellaneous	5%				\$ -
			Subtotal Division 13		\$ -
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
5-ton AC unit	2	EA	\$ 7,000.00	\$ 2,100.00	\$ 18,200
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Blower Room</b>					
Exhaust Fans	3	EA	\$ 5,000.00	\$ 1,500.00	\$ 19,500
Louvers	3	EA	\$ 3,000.00	\$ 900.00	\$ 11,700
Unit Heaters	6	EA	\$ 2,500.00	\$ 750.00	\$ 19,500
Miscellaneous	5%				\$ 3,868
			Subtotal Division 26		\$ 81,218
<b>Division 26 - Electrical</b>					
SWBD-2	1	EA	\$165,000	\$80,000	\$ 245,000
MCC-3	1	EA	\$135,000	\$50,000	\$ 185,000
6 pulse VFDs	12	EA	\$10,000	\$24,000	\$ 144,000
2000 kVA Pad Mounted Transformers	2	EA	\$80,000	\$50,000	\$ 210,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$50,000	\$10,000	\$ 60,000
ATS	1	EA	\$10,000	\$5,000	\$ 15,000
45 kVA XFMR	1	EA	\$5,000	\$2,000	\$ 7,000
Panelboard	1	EA	\$10,000	\$5,000	\$ 15,000
Wiring Total	1	LS	\$150,000	\$30,000	\$ 180,000
Conduit Total	1	LS	\$75,000	\$15,000	\$ 90,000
Lighting and Receptacles Total	1	LS	\$50,000	\$30,000	\$ 80,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$30,000	\$20,000	\$ 50,000
Cable Tray Total	1	LS	\$20,000	\$10,000	\$ 30,000
Grounding Total	1	LS	\$30,000	\$10,000	\$ 40,000
Pressure Transmitters	1	EA	\$ 500.00	\$ 350.00	\$ 850
Thermalmass Flowmeter	1	EA	\$ 5,000.00	\$ 17,500.00	\$ 22,500
PLC/ Network Hardware	1	LS	\$ 90,000.00	\$ 20,000.00	\$ 110,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
			Subtotal Division 26		\$ 1,504,350
<b>Division 31 - Earthwork</b>					
<b>Blower Building Earthwork</b>					
Excavation	764	CY		\$ 15.00	\$ 11,460
Backfill	57	CY	\$ 20.00		\$ 1,147
Miscellaneous	5%				\$ 630
			Subtotal Division 31		\$ 13,237
<b>Division 40 - Process Integration</b>					
Aeration Blowers w. PLC Panels & instruments (Integrally-Geared Single Stage Centrifugal, 6,000 scfm @ 11.0 psig each)	0	EA	\$ 380,000.00	\$ 114,000.00	\$ -
Aeration Blowers w. PLC Panels & instruments (Integrally-Geared Single Stage Centrifugal, 2,900 scfm @ 11.0 psig each)	0	EA	\$ 270,000.00	\$ 81,000.00	\$ -
Complete Aeration Blower Package Quote	1	EA	\$ 1,170,000.00	\$ 351,000.00	\$ 1,521,000
16-inch Sch 10S, 304 St Steel Air Piping	80	LF	\$ 288.00	\$ 86.40	\$ 29,952
36-inch Sch 10S, 304 St Steel Air Piping	65	LF	\$ 648.00	\$ 194.40	\$ 54,756
16-inch Discharge Check Valves (part of Blower Package)	0	EA	\$ 15,000.00	\$ 4,500.00	\$ -
16-inch Discharge Butterfly Valves	4	EA	\$ 4,000.00	\$ 1,200.00	\$ 20,800
36-inch St Steel Bellows Expansion Cplg	8	EA	\$ 3,000.00	\$ 900.00	\$ 31,200
Allowance for Pipe Supports	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Main air header blow-off control valve w electro-hydraulic actuator	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Main air header Pressure Transmitter	1	EA	\$ 5,000.00	\$ 1,500.00	\$ 6,500
Manual air header butterfly valve	1	EA	\$ 8,000.00	\$ 2,400.00	\$ 10,400
Miscellaneous	5%				\$ 88,280
			Subtotal Division 40		\$ 1,853,888

**Facility Number: 38**  
**Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 41 - Material Processing and Handling Equipment</b>					
Bridge crane	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
Miscellaneous	5%				\$ 6,500
	Subtotal Division 41				<b>\$ 136,500</b>
<b>Subtotal This Facility</b>					<b>\$ 4,348,037</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 1,053,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 131,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 783,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,316,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 40**  
**Facility Description: Mixed Liquor Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Mixed Liquor Splitter Box Concrete</u>					
Concrete Base Slab	88	CY	\$ 400.00		\$ 35,200
Concrete Freestanding Wall	168	CY	\$ 800.00		\$ 134,400
Concrete Elevated Slab	5	CY	\$ 1,200.00		\$ 6,000
<u>Mixed Liquor Splitter Box Deep Foundations</u>					
Drilled Shaft Deep Foundation	20	LF	\$ 100.00		\$ 2,000
Miscellaneous	5%				\$ 8,880
	Subtotal Division 3				\$ 186,480
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Aluminum Guardrail	72	LF	\$ 60.00		\$ 4,320
Stairs	2	EA	\$ 30,000.00		\$ 60,000
Misc. Aluminum Framing	250	LB	\$ 9.00	\$ 2.70	\$ 2,925
Aluminum Grating	240	SF	\$ 60.00		\$ 14,400
Miscellaneous	5%				\$ 4,082
	Subtotal Division 5				\$ 85,727
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Misc. Electrical costs (fixture+light switch) per GAI Coordination 10/11/21	1	LS	\$15,000		\$ 15,000
Miscellaneous	5%				\$ 750
	Subtotal Division 26				\$ 15,750
<b>Division 31 - Earthwork</b>					
Excavation	900	CY		\$ 15.00	\$ 13,500
Backfill	563	CY	\$ 20.00		\$ 11,260
Miscellaneous	5%				\$ 1,238
	Subtotal Division 31				\$ 25,998
<b>Division 46 - Water and Wastewater Equipment</b>					
Gate	2	EA	\$15,000		\$ 30,000
Miscellaneous	5%				\$ 1,500
	Subtotal Division 40				\$ 31,500
<b>Subtotal This Facility</b>					<b>\$ 345,455</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 84,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 11,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 63,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 504,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 45**  
**Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<b>Secondary Clarifiers Concrete</b>					
Concrete Base Slab	3503	CY	\$ 400.00	\$	807,200
Concrete Freestanding Wall	720	CY	\$ 800.00	\$	345,600
Concrete Launderers	200	CY	\$ 600.00	\$	46,800
Concrete Walkway/Elevated Slab	56	CY	\$ 1,200.00	\$	21,600
<b>Secondary Clarifiers Deep Foundations</b>					
Drilled Shaft Deep Foundation	5680	LF	\$ 100.00	\$	488,000
Miscellaneous	5%			\$	85,460
	Subtotal Division 3				\$ 1,794,660
<b>Division 4 - Masonry</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 11				\$ -
<b>Division 23 - HVAC</b>					
Miscellaneous	5%			\$	-
	Subtotal Division 23				\$ -
<b>Division 26 - Electrical</b>					
Panels	0	LS			
Wire Conduit	1	LS	\$25,000	\$ 7,500.00	\$ 32,500
Light/Receptacles	1	LS	\$17,500	\$ 5,250.00	\$ 22,750
Misc.	1	LS	\$7,500	\$ 2,250.00	\$ 9,750
Cable Tray	0	LS		\$ -	\$ -
Grounding	1	LS	\$25,000	\$ 7,500.00	\$ 32,500
Miscellaneous	0%			\$	-
	Subtotal Division 26				\$ 97,500

**Facility Number: 45**  
**Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	5700	CY		\$ 15.00	\$ 85,500
Backfill	2150	CY	\$ 20.00		\$ 43,000
Dewatering	1	LS	\$ 300,000.00		\$ 300,000
Miscellaneous	5%				\$ 21,425
			Subtotal Division 31		<b>\$ 449,925</b>
<b>Division 40 - Process Integration</b>					
Piping Allowance	2	EA	\$ 50,000.00		\$ 100,000
Miscellaneous	5%				\$ 5,000
			Subtotal Division 40		<b>\$ 105,000</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
135' SC Mechanism	2	EA	\$ 423,500.00	\$ 127,050.00	\$ 1,101,100
SS 304 Adder	2	EA	\$ 160,400.00		\$ 320,800
FRP Weirs and Scum Baffles	2	EA	\$ 24,000.00	\$ 7,200.00	\$ 62,400
FRP Density Current Baffles	2	EA	\$ 47,000.00	\$ 14,100.00	\$ 122,200
Local Control Panel from Manufacturer	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Allowance for scum flushing system	2	EA	\$ 15,000.00		\$ 30,000
Allowance for algae control system (chlorine drip)	2	EA	\$ 15,000.00		\$ 30,000
Miscellaneous	5%				\$ 84,885
			Subtotal Division 46		<b>\$ 1,782,585</b>
<b>Subtotal This Facility</b>					<b>\$ 4,229,670</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 1,024,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 127,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 762,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,143,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
CMU Building Concrete Base Slab	33	CY	\$ 400.00		\$ 13,200
CMU Building Deep Foundations Drilled Shaft Deep Foundation	160	LF	\$ 100.00		\$ 16,000
Pre-Engineering Metal Building Concrete Base Slab	131	CY	\$ 400.00		\$ 52,400
Pre-Engineering Deep Foundations Drilled Shaft Deep Foundation	320	LF	\$ 100.00		\$ 32,000
Miscellaneous	5%				\$ 5,680
Subtotal Division 3					\$ 119,280
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	1728	SF	\$ 35.00		\$ 60,480
Miscellaneous	5%				\$ 3,024
Subtotal Division 4					\$ 63,504
<b>Division 5 - Metals</b>					
CMU Building Metal Roof Panels	610	SF	\$ 15.00		\$ 9,150
Metal Roof Trusses	9	EA	\$ 290.00		\$ 2,610
Metal Canopy Pre-Engineered Metal Canopy	1800	SF	\$ 75.00		\$ 135,000
Miscellaneous	5%				\$ 7,338
Subtotal Division 5					\$ 154,098
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	120	LF	\$9.20	\$ 2.76	\$ 1,435
Miscellaneous	5%				\$ 72
Subtotal Division 7					\$ 1,507
<b>Division 8 - Openings</b>					
Double Exterior Door	3	EA	\$4,500.00		\$ 13,500
Miscellaneous	5%				\$ 675
Subtotal Division 8					\$ 14,175
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 23 - HVAC</b>					
5-ton split system AC unit	2	EA	\$ 7,000.00	\$ 2,100.00	\$ 18,200
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,333
Subtotal Division 23					\$ 27,983
<b>Division 26 - Electrical</b>					
MCC-4 6 pulse VFDs	7	EA	\$12,500.00	\$3,750.00	\$ 113,750
Wiring Total	1	LS	\$60,000.00	\$25,000.00	\$ 85,000
Conduit Total	1	LS	\$50,000.00	\$15,000.00	\$ 65,000
Lighting and Receptacles Total	1	LS	\$25,000.00		\$ 25,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$15,000.00		\$ 15,000
Grounding Total	1	LS	\$10,000.00		\$ 10,000

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Pressure Indicator	14	EA	\$500.00	\$1,050.00	\$ 8,050
Pressure Switch	7	EA	\$500.00	\$1,050.00	\$ 4,550
8" Clamp-on Ultrasonic Meter	1	EA	\$10,000.00	\$3,500.00	\$ 13,500
14" Clamp-on Ultrasonic Meter	2	EA	\$18,000.00	\$6,300.00	\$ 42,300
PLC/ Network Hardware / Enclosures	1	LS	\$100,000.00	\$20,000.00	\$ 120,000
UPS	1	EA	\$15,000.00	\$5,000.00	\$ 20,000
Miscellaneous	1	LS	\$10,000.00		\$ 10,000
			Subtotal Division 26		\$ 313,750
<b>Division 31 - Earthwork</b>					
<b>CMU Building</b>					
Excavation	121	CY		\$ 15.00	\$ 1,815
Fill	62	CY	\$ 20.00		\$ 1,240
<b>Metal Canopy</b>					
Excavation	353	CY		\$ 15.00	\$ 5,295
Fill	223	CY	\$ 20.00		\$ 4,460
Miscellaneous	5%				\$ 641
			Subtotal Division 31		\$ 13,451
<b>Division 40 - Process Integration</b>					
Pipe Supports	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
<b>RAS/WAS Suction</b>					
18" DI Pipe	48	LF	\$ 100.00	\$ 30.00	\$ 6,175
18" Plug Valve	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
18" Tee	9	EA	\$ 6,000.00	\$ 1,800.00	\$ 70,200
18" Blind Flange	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
18" Elbow	4	EA	\$ 5,000.00	\$ 1,500.00	\$ 26,000
18" Sampling Port	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
14" DI Pipe	18	LF	\$ 70.00	\$ 21.00	\$ 1,593
14" Plug Valve	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
14" Check Valve	5	EA	\$ 3,000.00	\$ 900.00	\$ 19,500
14" to 10" Reducer	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
6" DI Pipe	10	LF	\$ 40.00	\$ 12.00	\$ 520
6" Plug Valve	2	EA	\$ 1,750.00	\$ 525.00	\$ 4,550
<b>RAS Discharge</b>					
18" DI Pipe	75	LF	\$ 100.00	\$ 30.00	\$ 9,750
18" Elbow	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
18" to 14" Reducer	2	EA	\$ 3,000.00	\$ 900.00	\$ 7,800
14" DI Pipe	46	LF	\$ 70.00	\$ 21.00	\$ 4,186
14" Elbow	7	EA	\$ 4,000.00	\$ 1,200.00	\$ 36,400
14" Tee	5	EA	\$ 4,000.00	\$ 1,200.00	\$ 26,000
14" Plug Valve	6	EA	\$ 6,000.00	\$ 1,800.00	\$ 46,800
14" Check Valve	5	EA	\$ 3,000.00	\$ 900.00	\$ 19,500
14" to 10" Reducer	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
14" Clamp-on Flow Meter	2	EA	\$ 15,000.00	\$ 4,500.00	\$ 39,000
2" ARV	5	EA	\$ 1,000.00	\$ 300.00	\$ 6,500
<b>WAS Discharge</b>					
6" DI Pipe	85	LF	\$ 40.00	\$ 12.00	\$ 4,420
6" Elbow	8	EA	\$ 350.00	\$ 105.00	\$ 3,640
6" Plug Valve	2	EA	\$ 1,750.00	\$ 525.00	\$ 4,550
6" Check Valve	2	EA	\$ 1,150.00	\$ 345.00	\$ 2,990
6" Tee	1	EA	\$ 400.00	\$ 120.00	\$ 520
6" Clamp-on Flow Meter	1	EA	\$ 7,500.00	\$ 2,250.00	\$ 9,750
2" ARV	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Miscellaneous	5%				\$ 23,367
			Subtotal Division 40		\$ 490,711
<b>Division 43 - Process Gas &amp; Liquid Handling</b>					
3.0 MGD RAS Pumps with VFD	3	EA	\$ 40,000.00	\$ 12,000.00	\$ 156,000
1.5 MGD RAS Pumps with VFD	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
500 gpm WAS Pumps with VFD	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Miscellaneous	5%				\$ 14,950
			Subtotal Division 43		\$ 313,950

**Facility Number: 46**  
**Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 46 - Water and Wastewater Equipment</b>					
Miscellaneous			5%		\$ -
			Subtotal Division 46		\$ -
<b>Subtotal This Facility</b>					\$ 1,624,408
<b>Contingency</b>				20%	\$ 394,000
<b>Mobilization</b>				3%	\$ 49,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 293,000
<b>Total Estimated Facility Costs</b>					\$ 2,361,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 50**  
**Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
Filters Concrete					
Concrete Wall	297	CY	\$ 800.00		\$ 237,600
Concrete Base Slab	143	CY	\$ 400.00		\$ 57,200
Elevated Slab	30	CY	\$ 1,200.00		\$ 36,000
Filters Deep Foundations					
Drilled Shaft Deep Foundation	480	LF	\$ 100.00		\$ 48,000
CLSM	66	CY	\$ 85.00		\$ 5,610
Miscellaneous	5%				\$ 7,341
	Subtotal Division 3				\$ 154,151
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
Canopy Framing	3060	SF	\$ 75.00		\$ 229,500
Roof Panel	0	SF	\$ 15.00		\$ -
Aluminum Guardrail	150	LF	\$ 60.00		\$ 9,000
Aluminum Grating	882	SF	\$ 60.00		\$ 52,920
Monorail Framing (Galvanized Steel)	5470	LB	\$ 4.00	\$ 1.20	\$ 28,444
Miscellaneous	5%				\$ 15,993
	Subtotal Division 5				\$ 335,857
<b>Division 9 - Finishes</b>					
Protective Coatings	1	LS	\$9,000	\$ 2,700.00	\$ 11,700
Miscellaneous	5%				\$ 585
	Subtotal Division 9				\$ 12,285
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Filter Electrical Allowance	1	LS	\$145,000		\$ 145,000
Pressure Transmitter	4	EA	\$ 2,500.00	\$ 3,500.00	\$ 13,500
BW Probe	4	EA	\$ 5,000.00	\$ 7,000.00	\$ 27,000
Pressure Indicator	9	EA	\$ 500.00	\$ 1,575.00	\$ 6,075
Flow Switch	2	EA	\$ 500.00	\$ 350.00	\$ 1,350
Analyzer Transmitter (Phosp)	0	EA	\$ 10,000.00		\$ -
Analyzer Transmitter (Turbidity)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Miscellaneous	0%				\$ -
	Subtotal Division 26				\$ 199,675
<b>Division 31 - Earthwork</b>					
Excavation	3565	CY		\$ 15.00	\$ 53,475
Fill	2132	CY	\$ 20.00		\$ 42,640
Miscellaneous	5%				\$ 4,806
	Subtotal Division 31				\$ 100,921

**Facility Number: 50**  
**Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Filter, Cloth Media, 8 MGD	4	EA	\$ 395,000.00	\$ 118,500.00	\$ 2,054,000
Piping Allowance	1	LS	\$ 125,000.00		\$ 125,000
Slide Gates	4	EA	\$13,000.00	\$ 1,950.00	\$ 59,800
Miscellaneous	5%				\$ 111,940
	Subtotal Division 40				<b>\$ 2,350,740</b>
<b>Division 41 - Material Processing and Handling</b>					
Monorail Trolley System	1	EA	\$35,000	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
	Subtotal Division 41				<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 3,320,203</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 1,206,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 100,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 598,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,225,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<u>UV Disinfection Concrete</u>					
Concrete Base Slab	80	CY	\$ 400.00	\$ 120.00	\$ 41,600
Concrete Freestanding Wall	140	CY	\$ 800.00	\$ 240.00	\$ 145,600
Concrete Elevated Slab	70	CY	\$ 1,200.00	\$ 360.00	\$ 109,200
New Concrete Sidewalk	65	SY	\$ 35.00	\$ 10.50	\$ 2,958
<u>UV Disinfection Deep Foundation</u>					
Drilled Shaft Deep Foundation	360	LF	\$ 100.00	\$ 30.00	\$ 46,800
<u>Electrical Building Foundation</u>					
CMU Building Foundation	26	CY	\$ 400.00		\$ 10,400
<u>Electrical Building Deep Foundation</u>					
Drilled Shaft Deep Foundations	160	LF	\$ 100.00		\$ 16,000
Miscellaneous	5%				\$ 18,628
Subtotal Division 3					\$ 391,185
<b>Division 4 - Masonry</b>					
Masonry Walls	2070	SF	\$ 35.00		\$ 72,450
Miscellaneous	5%				\$ 3,623
Subtotal Division 4					\$ 76,073
<b>Division 5 - Metals</b>					
<u>Aluminum Guardrail - Two Rail W/ Posts</u>					
Aluminum Grating	1070	SF	\$ 60.00	\$ 18.00	\$ 83,460
Checker Plating	500	SF	\$ 150.00	\$ 45.00	\$ 97,500
Pre-Engineered Metal Building Canopy	2,000	SF	\$ 75.00	\$ 22.50	\$ 195,000
Aluminum Beams	1,200	LB	\$ 10.00	\$ 3.00	\$ 15,600
<u>Electrical Building Metals</u>					
Metal Roof Paneling	684	SF	\$ 15.00		\$ 10,260
Steel Roof Trusses	13	EA	\$ 290.00		\$ 3,770
Miscellaneous	5%				\$ 20,280
Subtotal Division 5					\$ 425,870
<b>Division 6 - Wood &amp; Plastics</b>					
FRP Finger Weirs (includes support)	1	LS	\$ 60,000.00	\$ 18,000.00	\$ 78,000
Misc. Lumber for Building Eaves	1	LS	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 4,095
Subtotal Division 6					\$ 85,995
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3500	SF	\$ 3.80	\$ 1.14	\$ 17,290
Building Roof Insulation	1200	SF	\$ 1.75	\$ 0.53	\$ 2,730
Metal Standing Seam Roofing	1200	SF	\$ 4.25	\$ 1.28	\$ 6,630
Metal Soffits	113	SF	\$ 4.25	\$ 1.28	\$ 624
Metal Eave Trim and Gutters	126	LF	\$ 10.00	\$ 3.00	\$ 1,638
Miscellaneous	5%				\$ 1,446
Subtotal Division 7					\$ 30,358

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 8 - Openings</b>					
Exterior Doors - Single	1	EA	\$ 2,500.00	\$ 750.00	\$ 3,250
Exterior Doors - Double	1	EA	\$ 4,500.00	\$ 1,350.00	\$ 5,850
Miscellaneous	5%				\$ 455
			Subtotal Division 8		\$ 9,555
<b>Division 9 - Finishes</b>					
Dampproofing	1825	SF	\$ 3.00	\$ 0.90	\$ 7,118
Masonry Water Resistant Coating	3500	SF	\$ 1.50	\$ 0.45	\$ 6,825
Miscellaneous	5%				\$ 697
			Subtotal Division 9		\$ 14,640
<b>Division 23 - HVAC</b>					
7.5-ton AC unit	2	EA	\$ 10,500.00	\$ 3,150.00	\$ 27,300
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,788
			Subtotal Division 23		\$ 37,538
<b>Division 26 - Electrical</b>					
UV Electrical Distribution	1	LS	\$375,000		\$ 375,000
Misc. Electrical	1	LS	\$442,000		\$ 442,000
Strap on Flow Meter	1	EA	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Analyzer Transmitter (UVT)	1	EA	\$ 5,000.00	-	\$ 5,000
Level Switch	1	EA	\$ 200.00	\$ 70.00	\$ 270
Analyzer Transmitter (DO)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
PLC/ Network Hardware /Enclosure	1	LS	\$ 60,000.00	\$ 20,000.00	\$ 80,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
Miscellaneous	0%				\$ -
			Subtotal Division 26		\$ 972,770
<b>Division 31 - Earthwork</b>					
Disinfection Area					
Fill	665	CY	\$ 20.00		\$ 13,300
Excavation	1347	CY		\$ 15.00	\$ 20,205
Electrical Building					
Fill	90	CY	\$ 20.00		\$ 1,800
Excavation	153	CY		\$ 15.00	\$ 2,295
Miscellaneous	5%				\$ 1,880
			Subtotal Division 31		\$ 39,480
<b>Division 40 - Process Integration</b>					
8" DIP (PD)	450	LF	\$ 50.00	\$ 15.00	\$ 29,250
8" Fittings	9	EA	\$ 235.00	\$ 70.50	\$ 2,750
Yard Piping Tie-In Fittings / Connections	6	EA	\$ 1,500.00	\$ 450.00	\$ 11,700
Yard Hydrants	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Miscellaneous	5%				\$ 2,380
			Subtotal Division 40		\$ 49,979
<b>Division 44 - Pollution Control Equipment</b>					
86" x 72" Motorized Slide Gates	2	EA	\$ 30,000.00	\$ 9,000.00	\$ 78,000
Miscellaneous	5%				\$ 3,900
			Subtotal Division 44		\$ 81,900
<b>Division 46 - Water and Wastewater Equipment</b>					
UV Equipment	1	LS	\$ 823,000.00	\$ 246,900.00	\$ 1,069,900
36" Ultrasonic Flowmeter	1	LS	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Miscellaneous	5%				\$ 54,470
			Subtotal Division 46		\$ 1,143,870

**Facility Number: 53**  
**Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 3,359,212
Contingency				30%	\$ 1,220,000
Mobilization				3%	\$ 101,000
Contractor's Overhead and Profit				18%	\$ 605,000
<b>Total Estimated Facility Costs</b>					\$ 5,286,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 55**  
**Facility Description: Effluent Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
<u>Effluent Facility Concrete</u>					
Concrete Base Slab	140	CY	\$ 400.00		\$ 56,000
Concrete Walls	110	CY	\$ 800.00		\$ 88,000
Baffle Blocks	5	CY	\$ 1,500.00		\$ 7,500
<u>Effluent Facility Deep Foundations</u>					
Drilled Shaft Deep Foundation	440	LF	\$ 100.00		\$ 44,000
					\$ -
Miscellaneous	5%				\$ 9,775
	Subtotal Division 3				\$ 205,275
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 4				\$ -
<b>Division 5 - Metals</b>					
		EA			\$ -
Miscellaneous	5%				\$ -
	Subtotal Division 5				\$ -
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 11				\$ -
<b>Division 26 - Electrical</b>					
Misc Electrical	1	EA	\$ 25,000.00		\$ 25,000
Autosampler equipment	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Ultrasonic Level Transmitter	1	EA	\$ 2,500.00	\$ 875.00	\$ 3,375
Analyzer Transmitter (DO)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Miscellaneous	5%				\$ 5,006
	Subtotal Division 26				\$ 105,131
<b>Division 31 - Earthwork</b>					
Excavation	1078	CY		\$ 15.00	\$ 16,170
Fill	1138	CY	\$ 20.00		\$ 22,760
Miscellaneous	5%				\$ 1,947
	Subtotal Division 31				\$ 40,877

**Facility Number: 55**  
**Facility Description: Effluent Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Flume	1	LS	\$ 35,875.00	\$ 10,762.50	\$ 46,638
Mechanical Aerator	2	EA	\$ 75,000.00	\$ 22,500.00	\$ 195,000
Miscellaneous	5%				\$ 12,082
	Subtotal Division 40				\$ 253,719
<b>Subtotal This Facility</b>					\$ 605,002
<b>Contingency</b>					30% \$ 220,000
<b>Mobilization</b>					3% \$ 19,000
<b>Contractor's Overhead and Profit</b>					18% \$ 109,000
<b>Total Estimated Facility Costs</b>					\$ 954,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 56**  
**Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
Non-Potable Water System					
Concrete Base Slab	21	CY	\$ 400.00		\$ 8,400
Concrete Freestanding Wall	63	CY	\$ 800.00		\$ 50,400
Concrete Elevated Slab	4	CY	\$ 1,200.00		\$ 4,800
Non-Potable Water System Deep Foundations					
Drilled Shaft Deep Foundations	80	LF	\$ 100.00		\$ 8,000
Miscellaneous	5%				\$ 3,580
Subtotal Division 3					\$ 75,180
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
Subtotal Division 4					\$ -
<b>Division 5 - Metals</b>					
Aluminum Guardrail	50	LF	\$ 60.00		\$ 3,000
Aluminum Grating	225	SF	\$ 60.00		\$ 13,500
Galvanized Steel Framing	9144	LB	\$ 4.00	\$ 1.20	\$ 47,549
Aluminum Stairs	0	Riser	\$ 600.00		\$ -
Miscellaneous	5%				\$ 3,202
Subtotal Division 5					\$ 67,251
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 26 - Electrical</b>					
Disconnect Switches	1	LS	\$ 26,000.00		\$ 26,000
Misc. Electrical	1	LS	\$ 15,000.00		\$ 15,000
Submersible Level Transmitter	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Pressure Indicator	3	EA	\$ 500.00	\$ 525.00	\$ 3,075
Magmeter	1	EA	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Pressure Transmitter	1	EA	\$ 2,500.00	\$ 875.00	\$ 3,375
Analyzer Transmitter (CL2)	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Miscellaneous	0%				\$ -
Subtotal Division 26					\$ 94,700
<b>Division 31 - Earthwork</b>					
Excavation	523	CY	\$ 15.00		\$ 7,845
Backfill	463	CY	\$ 20.00		\$ 9,260
Miscellaneous	5%				\$ 855
Subtotal Division 31					\$ 17,960
<b>Division 40 - Process Integration</b>					
8" Pressure control valve	1	LS	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Control systems	1	LS	\$ 7,500.00	\$ 2,250.00	\$ 9,750
Hydropneumatic Tank	0	LS	\$ 35,000.00	\$ 10,500.00	\$ -
Chlorine Analyzer	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500

**Facility Number: 56**  
**Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 1,788
			Subtotal Division 40		\$ 37,538
<b>Division 43 - Process Gas &amp; Liquid Handling</b>					
Non-Potable Supply Pumps & Motors Including VFDs	4	EA	\$ 45,000.00	\$ 13,500.00	\$ 234,000
Local piping	1	LS	\$ 23,400.00	\$ 7,020.00	\$ 30,420
4" Plug Valves	4	EA	\$ 1,500.00	\$ 450.00	\$ 7,800
4" Check Valves	4	EA	\$ 1,000.00	\$ 300.00	\$ 5,200
6" Clamp-on Flow Meter	1	EA	\$ 9,000.00	\$ 2,700.00	\$ 11,700
8" Filter	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Miscellaneous	5%				\$ 14,586
			Subtotal Division 43		\$ 306,306
<b>Division 44 - Pollution Control Equipment</b>					
18" Motorized Butterfly Valve	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Miscellaneous	5%				\$ 1,300
			Subtotal Division 44		\$ 27,300
<b>Subtotal This Facility</b>					\$ 626,235
<b>Contingency</b>				<b>30%</b>	\$ 228,000
<b>Mobilization</b>				<b>3%</b>	\$ 19,000
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	\$ 113,000
<b>Total Estimated Facility Costs</b>					\$ 987,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<u>Chemical Feed Facility Deep Foundations</u>					
Drilled Shaft Deep Foundation	630	LF	\$ 100.00		\$ 63,000
<u>Chemical Building</u>					
Concrete Freestanding Wall	5	CY	\$ 800.00		\$ 4,000
Building Base Slab	23	CY	\$ 400.00		\$ 9,200
Equipment Pad	3	CY	\$ 400.00		\$ 1,200
<u>Tank Shelter</u>					
Concrete Tank Pad	45	CY	\$ 400.00		\$ 18,000
Concrete Base Slab	38	CY	\$ 400.00		\$ 15,200
Concrete Stairs	1	CY	\$ 800.00		\$ 800
Concrete Freestanding Walls	14	CY	\$ 800.00		\$ 11,200
Miscellaneous	5%				\$ 6,130
Subtotal Division 3					\$ 128,730
<b>Division 4 - Masonry</b>					
CMU Walls	1930	SF	\$ 35.00		\$ 67,550
Miscellaneous	5%				\$ 3,378
Subtotal Division 4					\$ 70,928
<b>Division 5 - Metals</b>					
<u>Chemical Building</u>					
Sump Pit Covers	1	EA	\$ 500.00		\$ 500
Joists	1	TON	\$ 2,725.00		\$ 2,725
Metal Roof Paneling	616	SF	\$ 15.00		\$ 9,240
Aluminum Grating	105	SF	\$ 60.00		\$ 6,300
<u>Tank Shelter</u>					
Sump Pit Covers	1	EA	\$ 500.00		\$ 500
Pre-Engineering Metal Canopy	880	SF	\$ 60.00		\$ 52,800
Aluminum Ladder	12	LF	\$ 75.50		\$ 906
Aluminum Guardrail	110	LF	\$ 60.00		\$ 6,600
Aluminum Grating	120	SF	\$ 60.00		\$ 7,200
Miscellaneous	5%				\$ 4,339
Subtotal Division 5					\$ 91,110
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	1930	SF	\$ 3.80		\$ 7,334
Building Roof Insulation	616	SF	\$ 1.75		\$ 1,078
Miscellaneous	5%				\$ 421
Subtotal Division 7					\$ 8,833
<b>Division 8 - Openings</b>					
Single Door	3	EA	\$ 2,500.00		\$ 7,500
Double Door	1	EA	\$ 4,500.00		\$ 4,500
Exterior Overhead Door	1	EA	\$ 6,000.00		\$ 6,000
Miscellaneous	5%				\$ 600
Subtotal Division 8					\$ 18,600
<b>Division 9 - Finishes</b>					
Chemical Resistant Floor Primer	1500	SF	\$ 3.00		\$ 4,500
Masonry Water Resistant Coating	1422	SF	\$ 1.50		\$ 2,133

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 332
					Subtotal Division 9
					\$ 6,965
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
					Subtotal Division 11
					\$ -
<b>Division 22 - Plumbing</b>					
Tepid Water System (105 gal water heater, mixing valve, showers)	1	LS	\$ 11,000.00	\$ 3,300.00	\$ 14,300
Piping allowance	1	LS	\$ 2,000.00	\$ 600.00	\$ 2,600
Miscellaneous	5%				\$ 845
					Subtotal Division 22
					\$ 17,745
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 4,200.00	\$ 1,260.00	\$ 5,460
<b>Sodium Hypo Room</b>					
Mini-split system AC 1-ton	1	EA	\$ 1,400.00	\$ 420.00	\$ 1,820
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Aluminum Sulfate Room</b>					
Mini-split system AC 1-ton	1	EA	\$ 1,400.00	\$ 420.00	\$ 1,820
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
Miscellaneous	5%				\$ 1,365
					Subtotal Division 23
					\$ 28,665
<b>Division 26 - Electrical</b>					
Misc. Equipment Electrical cost	1	LS	\$ 80,000.00	\$ 24,000.00	\$ 104,000
Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
Ultrasonic Level Transmitter	1	EA	\$ 2,500.00	\$ 875.00	\$ 3,375
PLC/ Network Hardware / Enclosures	1	LS	\$ 35,000.00	\$ 10,000.00	\$ 45,000
UPS	1	EA	\$ 7,500.00	\$ 1,000.00	\$ 8,500
Programming / Testing	1	LS			\$ -
Miscellaneous	1	LS	\$ 5,000.00		\$ 5,000
Miscellaneous	5%				\$ 8,969
					Subtotal Division 26
					\$ 188,344
<b>Division 31 - Earthwork</b>					
Excavation	572	CY		\$ 15.00	\$ 8,580
Fill	373	CY	\$ 20.00		\$ 7,460
Miscellaneous	5%				\$ 802
					Subtotal Division 31
					\$ 16,842
<b>Division 40 - Process Integration</b>					
<b>Sodium Hypochlorite</b>					
Chemical Feed Pump Package	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
Room Piping	1	LS	\$ 1,560.00	\$ 468.00	\$ 2,028
Chemical Storage Tanks	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
<b>Alum (Phosphate Polishing)</b>					
Chemical Feed Pump Package	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
Room Piping	1	LS	\$ 1,040.00	\$ 312.00	\$ 1,352
Chemical Storage Tanks	1	EA	\$ 52,900.00	\$ 15,870.00	\$ 68,770
Eyewash/Safety Shower	3	EA	\$ 2,000.00	\$ 600.00	\$ 7,800
Miscellaneous	5%				\$ 6,728

**Facility Number: 60**  
**Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
					Subtotal Division 40
					\$ 141,278
<b>Subtotal This Facility</b>					\$ 718,038
<b>Contingency</b>				30%	\$ 262,000
<b>Mobilization</b>				3%	\$ 22,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 130,000
<b>Total Estimated Facility Costs</b>					\$ 1,133,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<u>Aerated Sludge Storage and Mixing</u>					
Concrete Base Slab	261	CY	\$ 400.00		\$ 104,400
Concrete Freestanding Wall	273	CY	\$ 800.00		\$ 218,400
Concrete Elevated Slab	0	CY	\$ 1,200.00		\$ -
<u>Piping Area</u>					
Concrete Base Slab	52	CY	\$ 400.00		\$ 20,800
Concrete Equipment Pads	5	CY	\$ 400.00		\$ 2,000
<u>Aluminum Walkway Between ASHT and Solids Building</u>					
Concrete Base Slab	3	CY	\$ 400.00		\$ 1,200
<u>Aerated Sludge Storage and Mixing Deep Foundations</u>					
Drilled Shaft Deep Foundation	1120	LF	\$ 100.00		\$ 112,000
Miscellaneous	5%				\$ 22,940
Subtotal Division 3					\$ 481,740
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
Subtotal Division 4					\$ -
<b>Division 5 - Metals</b>					
<u>ASHT Metals</u>					
Aluminum Framing	1660	LB	\$ 6.50	\$ 1.95	\$ 14,027
Aluminum Guardrail	97	LF	\$ 60.00		\$ 5,820
Air Piping Supports	8	EA	\$ 350.00	\$ 105.00	\$ 3,640
Aluminum Bar Grating	200	SF	\$ 60.00		\$ 12,000
<u>Aluminum Walkway Between ASHT and Solids Building</u>					
Aluminum Framing	1000	LB	\$ 6.50	\$ 1.95	\$ 8,450
Aluminum Guardrail	46	LF	\$ 60.00		\$ 2,760
Aluminum Bar Grating	92	SF	\$ 60.00		\$ 5,520
Miscellaneous	5%				\$ 2,611
Subtotal Division 5					\$ 54,828
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 30,000.00		\$ 30,000
Conduit Total	1	LS	\$ 10,000.00		\$ 10,000
Lighting and Receptacles Total	1	LS	\$ 15,000.00		\$ 15,000
Mis. Disconnects, Boxes, and Fittings	1	LS	\$ 10,000.00		\$ 10,000
Cable Tray Total	1	LS			\$ -
Grounding Total	1	LS	\$ 5,000.00		\$ 5,000
<u>Aerated Sludge Holding Tanks + Solids</u>					
Ultrasonic Level Transmitter	2	EA	\$ 2,500.00	\$ 1,750.00	\$ 8,500
<u>Sludge Recirculation Pump Station</u>					
Pressure Indicator	3	EA	\$ 500.00	\$ 525.00	\$ 3,075
Pressure Switch	3	EA	\$ 500.00	\$ 525.00	\$ 3,075
<u>Sludge Feed Pumps</u>					
Pressure Switch	2	EA	\$ 500.00	\$ 350.00	\$ 1,700
Miscellaneous	5%				\$ 4,318
Subtotal Division 26					\$ 90,668
<b>Division 31 - Earthwork</b>					
Excavation	1083	CY		\$ 15.00	\$ 16,245
Fill	632	CY	\$ 20.00		\$ 12,640

Facility Number: 70					
Facility Description: Aerated Sludge Storage and Mixing					
Description	Qty	Unit	Unit Cost	Labor	Total Cost
Miscellaneous	5%				\$ 1,444
			Subtotal Division 31		\$ 30,329
<b>Division 40 - Process Integration</b>					
<u>Air Piping</u>					
6" SS Pipe	260	LF	\$125	\$ 37.50	\$ 42,250
6" Tee	2	EA	\$655	\$ 196.50	\$ 1,703
6" 90 Bend	15	EA	\$ 470.00	\$ 141.00	\$ 9,165
6" Expansion Joint	0	EA	\$ 750.00	\$ 225.00	\$ -
6" Butterfly Isolation Valve	5	EA	\$ 400.00	\$ 120.00	\$ 2,600
Pressure Gauge and Switch	2	EA	\$ 1,400.00	\$ 420.00	\$ 3,640
<u>Recirculation Pump Piping</u>					
16" DI Pipe	55	LF	\$ 120.00	\$ 36.00	\$ 8,580
16" Tee, FL x FL	3	EA	\$ 6,129.00	\$ 1,838.70	\$ 23,903
16" Plug Valve	7	EA	\$ 9,248.00	\$ 2,774.40	\$ 84,157
12" DI Pipe	70	LF	\$90.00	\$ 27.00	\$ 8,190
12" Tee	3	EA	\$2,408.00	\$ 722.40	\$ 9,391
12" Plug Valve	7	EA	\$5,313.00	\$ 1,593.90	\$ 48,348
<u>Decant</u>					
4" Telescoping Valve <i>Includes bracket, offset pedestal, and handwheel operator</i>	2	EA	\$ 9,750.00	\$ 2,925.00	\$ 25,350
<u>Drain</u>					
8" Mud Valves <i>Includes extension stems, stem guides, floor stands, operator</i>	2	EA	\$3,300.00	\$ 990.00	\$ 8,580
<u>Centrifuge Feed Pumps</u>					
Centrifuge Feed Piping Allowance	1	LS	\$140,000		\$ 140,000
Miscellaneous	5%				\$ 20,793
			Subtotal Division 40		\$ 436,650
<b>Division 46 - Water and Wastewater Equipment</b>					
<u>Jet Aeration/Mixing System</u>					
Jet Aeration/Mixing System <i>Includes in-tank FRP manifold and dry-pit horizontal non-clog pump</i>	2	EA	\$82,500	\$ 24,750.00	\$ 214,500
Blowers - Rotary Lobe	3	EA	\$30,000	\$ 9,000.00	\$ 117,000
Redundant Mixing Pump	1	EA	\$35,000	\$ 10,500.00	\$ 45,500
<u>Centrifuge Feed Pumps</u>					
Centrifuge Feed Pumps	2	EA	\$50,000	\$ 15,000.00	\$ 130,000
Miscellaneous	5%				\$ 25,350
			Subtotal Division 46		\$ 532,350
<b>Subtotal This Facility</b>					<b>\$ 1,626,565</b>
<b>Contingency</b>				<b>25%</b>	<b>\$ 493,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 49,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 293,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,462,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Solids Processing Building Concrete</b>					
Concrete Base Slab	453	CY	\$ 400.00		\$ 181,200
Concrete Equipment Pads	5	CY	\$ 400.00		\$ 2,000
Concrete Walls	99	CY	\$ 800.00		\$ 79,200
Concrete Elevated Slab	168	CY	\$ 1,200.00		\$ 201,600
<b>Solids Processing Building Deep Foundations</b>					
Drilled Shaft Deep Foundation	1120	LF	\$ 100.00		\$ 112,000
Miscellaneous	5%				\$ 28,800
Subtotal Division 3					\$ 604,800
<b>Division 4 - Masonry</b>					
CMU Block Walls	5040	SF	\$ 35.00		\$ 176,400
Miscellaneous	5%				\$ 8,820
Subtotal Division 4					\$ 185,220
<b>Division 5 - Metals</b>					
<b>Steel Monorail framing</b>					
Steel Monorail framing	8000	LB	\$ 4.00		\$ 32,000
<b>Pre-Fabricated Metal Building Canopy (Eliminated)</b>					
Pre-Fabricated Metal Building Canopy (Eliminated)		SF	\$ 75.00		\$ -
<b>Metal Roof Paneling</b>					
Metal Roof Paneling	3000	SF	\$ 15.00		\$ 45,000
<b>Aluminum Stairs</b>					
Aluminum Stairs	30	Riser	\$ 600.00		\$ 18,000
<b>Aluminum Walkway Framing</b>					
Aluminum Walkway Framing	2000	LB	\$ 6.50	\$ 1.95	\$ 16,900
<b>Aluminum Guardrail</b>					
Aluminum Guardrail	63	LF	\$ 60.00		\$ 3,780
<b>Aluminum Grating</b>					
Aluminum Grating	240	SF	\$ 60.00		\$ 14,400
Miscellaneous	5%				\$ 6,504
Subtotal Division 5					\$ 136,584
<b>Division 8 - Openings</b>					
<b>Single Door</b>					
Single Door	7	EA	\$ 2,500.00		\$ 17,500
<b>Exterior Overhead Doors</b>					
Exterior Overhead Doors	1	EA	\$ 6,000.00		\$ 6,000
<b>Oversized Double Door</b>					
Oversized Double Door	1	EA	\$ 6,000.00		\$ 6,000
<b>Double Door</b>					
Double Door	2	EA	\$ 4,500.00		\$ 9,000
Miscellaneous	5%				\$ 1,925
Subtotal Division 8					\$ 40,425
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
Subtotal Division 11					\$ -
<b>Division 23 - HVAC</b>					
<b>Dewatering Electrical Room</b>					
<b>6-ton split system AC unit</b>					
6-ton split system AC unit	2	EA	\$ 8,400.00	\$ 2,520.00	\$ 21,840
<b>Ductwork+accessories</b>					
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
<b>Controls</b>					
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Solids Handling Electrical/Control Room</b>					
<b>Mini-split system AC 3-ton</b>					
Mini-split system AC 3-ton	1	EA	\$ 4,200.00	\$ 1,260.00	\$ 5,460
<b>Misc. Room between Electrical Room and Bulk Polymer Storage Room</b>					
<b>Exhaust Fan</b>					
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
<b>Intake Louver</b>					
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Ductwork</b>					
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
<b>Unit Heater</b>					
Unit Heater	2	LS	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>Controls</b>					
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Polymer Storage Room</b>					

**Facility Number: 72**  
**Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Exhaust Fan	1	EA	\$ 2,000.00	\$ 600.00	\$ 2,600
Intake Louver	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
Ductwork	1	LS	\$ 500.00	\$ 150.00	\$ 650
Unit Heater	2	LS	\$ 2,500.00	\$ 750.00	\$ 6,500
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Centrifuge Room</b>					
Makeup Air Unit	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Exhaust Fan (summer ventilation)	2	EA	\$ 4,000.00	\$ 1,200.00	\$ 10,400
Louvers (summer ventilation)	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
Controls	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
Miscellaneous	5%				\$ 5,428
Subtotal Division 23					<b>\$ 113,978</b>

**Division 26 - Electrical**

MCC-5	1	EA	\$ 150,000.00	\$ 45,000.00	\$ 195,000
Install MFR Centrifuge VFDs	1	LS	\$ -	\$ 20,000.00	\$ 20,000
1000 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 40,000.00	\$ 130,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$ 30,000.00	\$ 20,000.00	\$ 50,000
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 150,000.00	\$ 30,000.00	\$ 180,000
Conduit Total	1	LS	\$ 80,000.00	\$ 40,000.00	\$ 120,000
Lighting and Receptacles Total	1	LS	\$ 40,000.00		\$ 40,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00		\$ 30,000
Cable Tray Total	1	LS	\$ 20,000.00	\$ 10,000.00	\$ 30,000
Grounding Total	1	LS	\$ 20,000.00		\$ 20,000
<b>Polymer Blending Units</b>					
Polymer Tote Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
<b>Centrifuge</b>					
6" Magmeter	2	EA	\$ 8,000.00	\$ 5,600.00	\$ 21,600
PLC/ Network Hardware / Enclosures	1	LS	\$ 100,000.00	\$ 20,000.00	\$ 120,000
UPS	1	EA	\$ 15,000.00	\$ 5,000.00	\$ 20,000
Programming / Testing		LS			\$ -
Miscellaneous	1	LS	\$ 10,000.00		\$ 10,000
Subtotal Division 26					<b>\$ 1,037,100</b>

**Division 31 - Earthwork**

Excavation	1000	CY		\$ 15.00	\$ 15,000
Fill	86	CY	\$ 20.00		\$ 1,720
Miscellaneous	5%				\$ 836
Subtotal Division 31					<b>\$ 17,556</b>

**Division 40 - Process Integration**

Centrifuges	2	EA	\$ 750,000.00	\$ 150,000.00	\$ 1,800,000
Polymer Transfer Pumps	2	EA	\$ 6,000.00	\$ 1,000.00	\$ 14,000
Polymer Blending Unit	2	EA	\$ 50,000.00	\$ 15,000.00	\$ 130,000
Polymer Tanks	1	LS	\$ 12,500.00	\$ 1,500.00	\$ 14,000
Centrifuge Building Piping Allowance	1	LS	\$ 325,000.00		\$ 325,000
Miscellaneous	5%				\$ 114,150
Subtotal Division 40					<b>\$ 2,397,150</b>

**Division 41 - Material Processing and Handling Equipment**

Monorail	1	LS	\$ 35,000.00	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>

**Subtotal This Facility**

Subtotal This Facility					<b>\$ 4,580,588</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 1,664,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 138,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 825,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 7,208,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
Subtotal Division 2					\$ -
<b>Division 3 - Concrete</b>					
<b>Operations &amp; Laboratory Building Concrete</b>					
Concrete Base Slab	175	CY	\$ 400.00		\$ 70,000
<b>Operations &amp; Laboratory Building Deep Foundations</b>					
Drilled Shaft Deep Foundation	0	LF	\$ 100.00		\$ -
Miscellaneous	5%				\$ 3,500
Subtotal Division 3					\$ 73,500
<b>Division 4 - Masonry</b>					
Concrete Masonry Walls - 8"	5200	SF	\$ 7.00	\$ 6.00	\$ 67,600
Concrete Masonry Walls - 4"	2600	SF	\$ 6.50	\$ 6.00	\$ 32,500
Miscellaneous	5%				\$ 5,005
Subtotal Division 4					\$ 105,105
<b>Division 5 - Metals</b>					
Metal Studs - 16ft x 6.00 in, 12ga, 16" o.c.	500	LF	\$ 40.00	\$ 25.00	\$ 32,500
Metal Roof Framing	4720	SF	\$ 14.00	\$ 0.50	\$ 68,440
Metal Roof Deck	4720	SF	\$ 3.50	\$ 0.50	\$ 18,880
Miscellaneous	5%				\$ 5,991
Subtotal Division 5					\$ 125,811
<b>Division 6 - Wood &amp; Plastics</b>					
Rough Carpentry	1	LS	\$ 10,000.00	\$ 10,000.00	\$ 20,000
Gypsum Sheathing - 5/8" glass mat	4000	SF	\$ 0.77	\$ 0.77	\$ 6,160
Miscellaneous	5%				\$ 1,308
Subtotal Division 6					\$ 27,468
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Roof Panels	4720	SF	\$ 5.10	\$ 1.75	\$ 32,332
Metal Wall Panels	2600	SF	\$ 3.00	\$ 5.00	\$ 20,800
Metal Soffit Panels	4720	SF	\$ 5.10	\$ 1.75	\$ 32,332
Air Barrier-Wall	5200	SF	\$ 0.16	\$ 0.12	\$ 1,456
Wall Sound Insulation - 3.5" R-13 15"W	8500	SF	\$ 0.31	\$ 0.28	\$ 5,015
Wall-Open-Cell Foam Insulation (Spray applied) - 3.0" R-15	7100	SF	\$ 1.58	\$ 0.80	\$ 16,898
Roof-Polyisocyanurate Rigid Insulation - R-30 (6" +)	4720	SF	\$ 1.35	\$ 0.30	\$ 7,788
Wall-Polyisocyanurate Rigid Insulation - R-11 (2"+)	5200	SF	\$ 0.90	\$ 0.25	\$ 5,980
Sealants	1	LS	\$ 600.00	\$ 1,000.00	\$ 1,600
Miscellaneous	5%				\$ 6,210
Subtotal Division 7					\$ 130,411
<b>Division 8 - Openings</b>					
Interior Man Doors - SCW/ALUM 3'x7'	11	EA	\$ 850.00	\$ 360.00	\$ 13,310
Exterior Man Doors - Alum 3'x7'	5	SF	\$ 1,875.00	\$ 800.00	\$ 13,375
Interior ALUM Storefront - Office	375	SF	\$ 28.00	\$ 5.50	\$ 12,563
Interior Glazing - Single	375	SF	\$ 5.75		\$ 2,156
Exterior Windows - 1": Insulated Glazing	210	SF	\$ 22.00	\$ 6.00	\$ 5,880
ALUM Storefront - Vestibule	64	SF	\$ 28.00	\$ 5.50	\$ 2,144
Exterior Glazing - Insulated	64	SF	\$ 5.75		\$ 368
Mirrors - Toilet; Frameless	115	SF	\$ 10.00	\$ 5.25	\$ 1,754
Miscellaneous	5%				\$ 2,577
Subtotal Division 8					\$ 54,127
<b>Division 9 - Finishes</b>					
Walls - Gypsum Board - 5/8" -Tape & Float	16000	SF	\$ 0.70	\$ 0.95	\$ 26,400
Ceiling - Gypsum Board - 5/8" -Tape & Float	265	SF	\$ 0.70	\$ 0.95	\$ 437
Walls - Cementitious Backing Board- 5/8" -Tape & Float	2600	SF	\$ 1.10	\$ 4.75	\$ 15,210
Paint - Walls Gypsum Board - Prep, Primer & Fins Coat	16000	SF	\$ 0.12	\$ 0.36	\$ 7,680
Paint - Ceiling Gypsum Board - Prep, Primer & Fins Coat	265	SF	\$ 0.12	\$ 0.36	\$ 127

Facility Number: 85						
Facility Description: Operations & Laboratory Building						
Description	Qty	Unit	Unit Cost	Labor	Total Cost	
Acoustic Ceiling Tile, 15/16" grid, 24x24	3500	SF	\$ 2.57	\$ 1.06	\$ 12,705	
Sealed Concrete - Floor	2400	SF	\$ 0.46	\$ 0.23	\$ 1,656	
Carpet Tile - Floor -OFC/Training	1000	SF	\$ 8.50	\$ 5.00	\$ 13,500	
Base - Wall - 6" Resilient	1000	LF	\$ 1.50	\$ 1.25	\$ 2,750	
Base - Wall - 6" Resilient Corners	100	EA	\$ 3.00	\$ 1.25	\$ 425	
Interior Wall Tile - Large Format - 12" x 24"	2500	SF	\$ 9.50	\$ 4.50	\$ 35,000	
Base - Wall - 6"x12" Cove Tile	375	LF	\$ 7.85	\$ 7.25	\$ 5,663	
Miscellaneous	5%				\$ 6,078	
Subtotal Division 9					<b>\$ 127,631</b>	
<b>Division 10 - Specialties</b>						
Building Sign - 36" x 12" - Aluminum	2	EA	\$ 210.00	\$ 25.00	\$ 470	
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 50.00	\$ 15.00	\$ 260	
Fire Extinguisher - Cabinet	4	EA	\$ 110.00	\$ 95.00	\$ 820	
Toilet Partitions - Stainless Steel	2	EA	\$ 1,500.00	\$ 200.00	\$ 3,400	
San Napkin Disposal	1	EA	\$ 25.00	\$ 16.00	\$ 41	
Waste Recepticle	3	EA	\$ 100.00	\$ 36.00	\$ 408	
Toilet Paper Dispenser	3	EA	\$ 25.00	\$ 16.00	\$ 123	
Grab Bars - ADA 36"	3	EA	\$ 40.00	\$ 22.00	\$ 186	
Grab Bars - ADA 42"	3	EA	\$ 50.00	\$ 40.00	\$ 270	
Hand Dryer	3	EA	\$ 800.00	\$ 100.00	\$ 2,700	
Lockers - 12"x18"x72"	16	EA	\$ 540.00	\$ 20.00	\$ 8,960	
Shower Enclosures - ADA & Standard	2	EA	\$ 1,000.00	\$ 110.00	\$ 2,220	
Corner Guards-Stainless Steel (3"x3"x48"L)	12	EA	\$ 110.00	\$ 20.00	\$ 1,560	
Door/Wall Signs - 8"x 8" acrylic	24	EA	\$ 40.00	\$ 10.00	\$ 1,200	
Miscellaneous	5%				\$ 1,131	
Subtotal Division 10					<b>\$ 23,749</b>	
<b>Division 11 - Equipment</b>						
Audio/Video Equipment - Conference	1	LS	\$ 5,000.00	\$ 500.00	\$ 5,500	
Lab Equipment	1	LS	\$ 100,000.00		\$ 100,000	
FF&E - OFC	7	EA	\$ 5,000.00		\$ 35,000	
FF&E -Training	1	EA	\$ 10,000.00		\$ 10,000	
Miscellaneous	5%				\$ 7,525	
Subtotal Division 11					<b>\$ 158,025</b>	
<b>Division 22 - Plumbing</b>						
Fire Sprinkler	0	SF	\$ 5.00	\$ 5.00	\$ -	
<b>Plumbing Fixtures</b>						
Water closet, Wall Hung, Manual Flushvalve, Carrier, + Rough-in	3	EA	\$ 2,910.00	\$ 564.00	\$ 10,422	
Urinal, Wall Hung, Manual Flushvalve, + Rough-in	0	EA	\$ 1,145.00	\$ 581.00	\$ -	
Lavatory, Under Conter Mount, Manual Faucet, + Rough-in	3	EA	\$ 494.50	\$ 574.00	\$ 3,206	
Two-compartment Sink, Faucet, + Rough-in	1	EA	\$ 1,281.50	\$ 618.00	\$ 1,900	
Electric Drinking Fountain, Recessed, + Rough-in	1	EA	\$ 2,171.00	\$ 242.00	\$ 2,413	
Mop Sink, Faucet, + Rough-in	1	EA	\$ 1,063.00	\$ 689.50	\$ 1,753	
ADA Shower, Drain, + Rough-in	2	EA	\$ 524.00	\$ 100.00	\$ 1,248	
<b>Equipment</b>						
Reduced Pressure Backflow Preventer, 3"	1	EA	\$ 4,650.00	\$ 188.00	\$ 4,838	
Ice Maker Outlet, + Rough-in	1	EA	\$ 120.00	\$ 67.00	\$ 187	
Thermostatic Mixing Valve	1	EA	\$ 1,400.00	\$ 48.00	\$ 1,448	
ADA Emergency Shower/Eyewash	1	EA	\$ 800.00	\$ 350.00	\$ 1,150	
Recirculator Pump	1	EA	\$ 970.00	\$ 141.00	\$ 1,111	
Wall hydrant	6	EA	\$ 500.00	\$ 33.50	\$ 3,201	
Gas-Fired Water Heater, 100 Gallon, Housekeeping Pad, + Rough-in	1	EA	\$ 8,925.00	\$ 785.00	\$ 9,710	
Neutralization Tank, + Rough-in	1	EA	\$ 2,800.00	\$ 117.00	\$ 2,917	
<b>Piping</b>						
Domestic Water, Copper	1	LS	\$ 2,500.00	\$ 1,500.00	\$ 4,000	
Sanitary Sewer, PVC, Cleanouts	1	LS	\$ 4,500.00	\$ 2,200.00	\$ 6,700	
Acid Waste Piping, PVC, + Lab Sink Rough-in	1	LS	\$ 1,500.00	\$ 1,000.00	\$ 2,500	
Natural Gas, Sch. 40 Steel, Service Entrance	1	LS	\$ 2,500.00	\$ 2,000.00	\$ 4,500	
Valves	1	LS	\$ 1,000.00	\$ 500.00	\$ 1,500	
Miscellaneous	5%				\$ 3,235	
Subtotal Division 22					<b>\$ 67,938</b>	
<b>Division 23 - HVAC</b>						
HVAC	3700	SF	\$ 13.00	\$ 13.00	\$ 96,200	
Miscellaneous	5%				\$ 4,810	
Subtotal Division 23					<b>\$ 101,010</b>	
<b>Division 26 - Electrical</b>						
400A Feeder	1	EA	\$ 65,000.00	\$ -	\$ 65,000	
Main Service Panel	0	EA	\$ 30,000.00	\$ -	\$ 30,000	
Lighting and Branch Circuit Wiring	0	EA	\$ 75,000.00	\$ -	\$ 75,000	
Communications and Security	0	EA	\$ 45,000.00	\$ -	\$ 45,000	

**Facility Number: 85**  
**Facility Description: Operations & Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Subtotal Division 26					\$ 215,000
<b>Division 31 - Earthwork</b>					
Excavation	2254	CY		\$ 15.00	\$ 33,810
Fill	2080	CY	\$ 20.00		\$ 41,600
Miscellaneous	5%				\$ 3,771
Subtotal Division 31					\$ 79,181
<b>Division 40 - Process Integration</b>					
Miscellaneous	5%				\$ -
Subtotal Division 40					\$ -
<b>Subtotal This Facility</b>					\$ 1,288,955
<b>Contingency</b>				30%	\$ 469,000
<b>Mobilization</b>				3%	\$ 39,000
<b>Contractor's Overhead and Profit</b>				18%	\$ 233,000
<b>Total Estimated Facility Costs</b>					\$ 2,030,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 86**  
**Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 2				\$ -
<b>Division 3 - Concrete</b>					
Maintenance and Storage Building Concrete Concrete Base Slab	148	CY	\$ 400.00		\$ 59,200
Mainanence and Storage Building Deep Foundations Concrete Deep Foundation	0	LF	\$ 100.00		\$ -
Miscellaneous	5%				\$ 2,960
	Subtotal Division 3				\$ 62,160
<b>Division 4 - Masonry</b>					
Interior Finish Out	350	SF	\$ 150.00	\$ 45.00	\$ 68,250
Miscellaneous	5%				\$ 3,413
	Subtotal Division 4				\$ 71,663
<b>Division 5 - Metals</b>					
Prefabricated Metal Building	4038	SF	\$ 115.00	\$ 34.50	\$ 603,681
Metal Roof Panels	4038	SF	\$ 25.00		\$ 100,950
Fencing with gates	50	LF	\$ 60.00		\$ 3,000
Miscellaneous	5%				\$ 35,382
	Subtotal Division 5				\$ 743,013
<b>Division 7 - Thermal/Moisture Protection</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 7				\$ -
<b>Division 8 - Openings</b>					
Miscellaneous	5%				\$ -
	Subtotal Division 8				\$ -
<b>Division 11 - Equipment</b>					
Single Door	6	EA	\$ 2,500.00		\$ 15,000
Double Door	1	EA	\$ 4,500.00		\$ 4,500
Roll-Up Door	3	EA	\$ 10,000.00		\$ 30,000
FF& E Package	1	LS	\$ 20,000.00		\$ 20,000
Miscellaneous	5%				\$ 3,475
	Subtotal Division 11				\$ 72,975
<b>Division 23 - HVAC</b>					
HVAC/Plumbing	2,676	SF	\$ 20.00		\$ 53,520
Miscellaneous	5%				\$ 2,676
	Subtotal Division 23				\$ 56,196
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 35,000.00	\$ -	\$ 35,000
Main Service Panel	0	EA	\$ 30,000.00	\$ -	\$ 30,000
Lighting and Branch Circuit Wiring	0	EA	\$ 35,000.00	\$ -	\$ 35,000
Communications and Security	0	EA	\$ 15,000.00	\$ -	\$ 15,000
	Subtotal Division 26				\$ 115,000
<b>Division 31 - Earthwork</b>					

**Facility Number: 86**  
**Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Excavation	1956	CY		\$ 15.00	\$ 29,340
Fill	1807	CY	\$ 20.00		\$ 36,140
Miscellaneous	5%				\$ 3,274
Subtotal Division 31					<b>\$ 68,754</b>
<b>Division 40 - Process Integration</b>					
Miscellaneous	5%				\$ -
Subtotal Division 40					<b>\$ -</b>
<b>Subtotal This Facility</b>					<b>\$ 1,189,760</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 433,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 36,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 215,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,874,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 88**  
**Facility Description: Main Plant Electrical Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Main Plant Electrical Building					
Concrete Base Slab	185	CY	\$ 400.00		\$ 74,000
Concrete Deep Foundation	920	LF	\$ 100.00		\$ 92,000
Concrete Equipment Pads	12	CY	\$ 400.00		\$ 4,800
Miscellaneous	5%				\$ 8,540
					<b>Subtotal Division 3</b>
					<b>\$ 179,340</b>
<b>Division 4 - Masonry</b>					
Masonry Walls	3000	SF	\$ 35.00		\$ 105,000
Miscellaneous	5%				\$ 5,250
					<b>Subtotal Division 4</b>
					<b>\$ 110,250</b>
<b>Division 5 - Metals</b>					
Metal Roof Framing	3000	SF	\$ 15.00		\$ 45,000
Miscellaneous	5%				\$ 2,250
					<b>Subtotal Division 5</b>
					<b>\$ 47,250</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3000	SF	\$ 3.80	\$ 1.14	\$ 14,820
Building Roof Insulation	3000	SF	\$ 1.75	\$ 1.92	\$ 11,010
Miscellaneous	5%				\$ 1,292
					<b>Subtotal Division 7</b>
					<b>\$ 27,122</b>
<b>Division 8 - Openings</b>					
Single Door	2	EA	\$ 2,500.00		\$ 5,000
Double Door	2	EA	\$ 4,500.00		\$ 9,000
Miscellaneous	5%				\$ 700
					<b>Subtotal Division 8</b>
					<b>\$ 14,700</b>
<b>Division 11 - Equipment</b>					
Miscellaneous	5%				\$ -
					<b>Subtotal Division 11</b>
					<b>\$ -</b>
<b>Division 21 - Fire Protection</b>					
Allowance for fire protection system	1	LS	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 1,250
					<b>Subtotal Division 21</b>
					<b>\$ 26,250</b>
<b>Division 23 - HVAC</b>					
6-ton AC unit	2	EA	\$ 8,400.00	\$ 2,520.00	\$ 21,840
Ductwork+accessories	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,515
					<b>Subtotal Division 23</b>
					<b>\$ 31,805</b>
<b>Division 26 - Electrical</b>					
MV SWGR 1A & 1B	2	EA	\$ 800,000.00	\$ 160,000.00	\$ 1,760,000
Transfer Control Cabinet	1	EA	\$ 100,000.00	\$ 30,000.00	\$ 130,000
MCC-1	1	EA	\$ 85,000.00	\$ 20,000.00	\$ 105,000
500 kVA Pad Mounted Transformers	2	EA	\$ 30,000.00	\$ 40,000.00	\$ 100,000
ATS	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 2,000.00	\$ 7,000
Panelboard	1	EA	\$ 10,000.00	\$ 5,000.00	\$ 15,000
Wiring Total	1	LS	\$ 90,000.00	\$ -	\$ 90,000
Conduit Total	1	LS	\$ 150,000.00	\$ -	\$ 150,000
Lighting and Receptacles Total	2200	EA	\$ 15.00	\$ -	\$ 33,000



**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 90**  
**Facility Description: General Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
2750 KW GEN SET	1	EA	\$1,500,000.00	\$200,000.00	\$ 1,700,000
Load Bank	1	EA	\$200,000.00	\$30,000.00	\$ 230,000
TX1A/B 5kV Feeders (Main Elec Bldg)	1	LS	\$20,000.00	\$10,000.00	\$ 30,000
TX2A/B 5kV Feeders (Influent Lift Station)	1	LS	\$190,000.00	\$40,000.00	\$ 230,000
TX3A/B 5kV Feeders (Blower Bldg)	1	LS	\$60,000.00	\$20,000.00	\$ 80,000
TX4A/B 5kV Feeders (RAS/WAS)	1	LS	\$125,000.00	\$30,000.00	\$ 155,000
TX5A/B 5kV Feeders (Solids)	1	LS	\$35,000.00	\$10,000.00	\$ 45,000
Bluebonnet Transformer Secondary Fdrs DB	150	EA	\$400.00	\$0.00	\$ 60,000
Bluebonnect Contribution in Aid of Construction	1	LS	\$200,000.00	\$0.00	\$ 200,000
			Subtotal Division 26		\$ 2,730,000
<b>Subtotal This Facility</b>					<b>\$ 2,730,000</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 992,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 82,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 492,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,296,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF - 30% Design**  
**19W07191 City of Pflugerville**  
**19W07191**

**Facility Number: 95**  
**Facility Description: SCADA**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
<b>Control Room</b>					
Servers	3	EA	\$ 20,000.00	\$ 10,000.00	\$ 70,000
Software	1	LS	\$ 100,000.00	\$ 10,000.00	\$ 110,000
Work Stations	2	EA	\$ 20,000.00	\$ 5,000.00	\$ 45,000
Network Enclosure	1	EA	\$ 30,000.00	\$ 10,000.00	\$ 40,000
UPS	1	EA	\$ 25,000.00	\$ 5,000.00	\$ 30,000
PLC	1	EA	\$ 20,000.00	\$ 10,000.00	\$ 30,000
Testing	1	EA		\$ 40,000.00	\$ 40,000
Spare Parts	1	EA	\$ 20,000.00		\$ 20,000
Training	1	LS	\$ 15,000.00		\$ 15,000
Miscellaneous	1	EA	\$ 10,000.00		\$ 10,000
Fiber 24 strand	5000		\$ 4.00	\$ 20,000.00	\$ 40,000
Miscellaneous	0%				\$ -
Subtotal Division 26					<b>\$ 450,000</b>
<b>Division 27 - Communication</b>					
Fiber loop allowance	0	LS	\$ 250,000.00		\$ -
Main PLCs (Operations, Main Elec, ILS, Blower, RAS/WAS, UV, Dewatering)	0	EA	\$ 50,000.00		\$ -
Miscellaneous	5%				\$ -
Subtotal Division 27					<b>\$ -</b>
<b>Division 28 - Electronic Safety &amp; Security</b>					
Allowance for site security, access, etc.	1	LS	\$ 400,000.00		\$ 400,000
Allowance for cameras, controls, etc.	1	LS	\$ 150,000.00		\$ 150,000
Miscellaneous	0%				\$ -
Subtotal Division 28					<b>\$ 550,000</b>
<b>Division 40 - Process Integration</b>					
System Integration/Programming	1	LS		\$380,000	\$ 380,000
Miscellaneous	0%				\$ -
Subtotal Division 40					<b>\$ 380,000</b>
<b>Subtotal This Facility</b>					<b>\$ 1,380,000</b>
<b>Contingency</b>				<b>30%</b>	<b>\$ 502,000</b>
<b>Mobilization</b>				<b>3%</b>	<b>\$ 42,000</b>
<b>Contractor's Overhead and Profit</b>				<b>18%</b>	<b>\$ 249,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,173,000</b>

# Wilbarger Creek Regional Wastewater Treatment Facility Opinion of Probable Construction Cost

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Design Information Memorandum No. 25  
60% Submittal Revision

City of Pflugerville, Texas



**Prepared by:**



**3755 S Capital of TX Highway  
Austin, TX 78704**

**May 2022**

**Garver Project No.: 19W07191**



## **Engineer's Certification**

I hereby certify that this Design Information Memorandum No. 25 – Opinion of Probable Construction Cost for the Wilbarger Creek Regional Wastewater Treatment Facility (RWWTF) project was prepared by Garver under my direct supervision for the City of Pflugerville. This DIM is not to be used for permitting, design, bidding, or construction purposes.

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Appendix A: Detailed Facility Opinion of Probable Construction Cost





**List of Acronyms**

<b>Acronym</b>	<b>Phrase</b>
AACE	Association for the Advancement of Cost Engineering
COP	City of Pflugerville
DIM	Design Information Memorandum
OH&P	Overhead and Profit
OPCC	Opinion of Probable Construction Cost
MH	Manhole
PSG	Paralleling Switchgear
RAS	Return Activated Sludge
SC	Secondary Clarifier
WAS	Waste Activated Sludge
RWWTF	Regional Wastewater Treatment Facility
UV	Ultraviolet
WWTP	Wastewater Treatment Plant





### 1.0 Introduction

The purpose of this Design Information Memorandum (DIM) No. 25, 60% Design Revision, is to present the opinion of probable construction cost (OPCC), as well as related costs for the establishment and commissioning of the facility, for the City of Pflugerville (COP) Wilbarger Creek Regional Wastewater Treatment Facility (RWWTF) at the 60% design phase.

Subsequent sections of this memorandum provide the following information:

1. OPCC Assumptions
2. Lump Sum Item OPCC Estimates (for Major RWWTF Facilities)
3. Cost Savings, Adjustments, and Alternates
4. Unit Price Item Allowances
5. Proposal Allowances for Construction
6. Escalation Considerations
7. Identification of Costs Independent of the Construction Contract
8. Summary

### 2.0 OPCC Assumptions

Table 2-1 outlines key assumptions included within the OPCC, including mobilization, Contractor's overhead and profit, contingency, and escalation assumptions. These parameters have been adjusted from the previous 30% OPCC for the reasoning indicated below.

Table 2-1: Cost Estimating Assumptions

Assumption	30% Estimate Amount	60% Estimate Amount	Justification for Adjustment
Mobilization	3%	5%	<ul style="list-style-type: none"> <li>• Current market conditions</li> <li>• Higher fuel prices</li> </ul>
Contractor's Overhead and Profit	18%	20%	<ul style="list-style-type: none"> <li>• Current market conditions</li> <li>• Contractor availability/workload</li> </ul>
Contingency for Design Progression and Detailing	30% (20% to 25% at some facilities)	20%	<ul style="list-style-type: none"> <li>• Improved accuracy in Quantity Takeoffs</li> <li>• Updated unit pricing for the current market (as of May 2022)</li> <li>• Revised equipment pricing as specified.</li> <li>• Moved escalation out of contingency values</li> </ul>

Garver notes that the previous 30% estimate considered escalation as part of the unit pricing and Contingency values; however, this approach is inadequate to cover escalation seen from 30% to 60% design and the anticipated escalation from the 60% submittal through the bidding period in early 2023. Thus, Garver has revised the OPCC approach to account for the OPCC as of the current date, and then applied escalation (refer to Section 7 below) to better estimate the anticipated construction costs.





### **3.0 Lump Sum OPCC Estimates and Comparison to 30% OPCC**

Table 3-1 presents the Lump Sum OPCC for each facility included as part of the construction contract. These costs per facility include Contractor Mobilization, Overhead and Profit, and Contingency identified in Table 2-1. The 60% OPCC line items are analogous to the OPCC items presented in the 30% OPCC, which are shown, and can be compared directly (except where electrical buildings have been combined, i.e., the Influent Lift Station and Headworks Electrical Buildings – previously part of the Facility 10 and Facility 12 costs – were combined into a single electrical building) or split from the associated facility (i.e., the UV Electrical Building has been split out of Facility 53 and into a separate Facility 54). The table summarizes the scope included in each facility line item and outlines changes in scope, quantity takeoffs, unit pricing, and/or overall cost. The line-item cost changes from 30% shown in the last column of Table 2-1 account for the differences in contingency, overhead and profit, and mobilization. Appendix A to this memorandum includes a detailed OPCC for each facility.

It should be noted that the bid environment in 2022 has been highly dynamic based on labor and unit price fluctuations. This OPCC would account for the anticipated cost of each facility scope if the project were being bid in May 2022 at its midpoint of construction. Unit pricing for equipment has been updated based on equipment vendor quotes received in March and April of 2022; however, it is noted by numerous vendors that bid pricing is dynamic and could change frequently. Garver has utilized adjustments for pricing for items such as concrete, excavation, backfill, miscellaneous metals, piping, valving, electrical control panels, etc. Still, the unit prices shown may be more indicative of a stable bid environment. Garver will continue to monitor unit prices as the project bid approaches, and construction escalation will be addressed separately in Section 7.



Table 3-1: 60% Design Wilbarger Creek RWWTF Opinion of Probable Construction Cost

ID	Line Item	30% OPCC (As of November 2021)	60% OPCC (As of May 2022)	60% OPCC Summary of Scope (As of May 2022)	Summary of Updates from 30% Submittal Package (from November 2021)
03	Demolition and Erosion Control	\$167,000	\$168,000	<ul style="list-style-type: none"> <li>Demolition of existing facilities and allowance for site erosion control during construction.</li> </ul>	<ul style="list-style-type: none"> <li>No updates identified as necessary.</li> </ul>
04	Grading and Paving	\$5,241,000	\$6,806,000	<ul style="list-style-type: none"> <li>Site grading to finished grade throughout the site. Includes detention pond sized to offset the plant outfall (Travis County requirement) through Phase 4 buildout.</li> <li>Reduced excavation/fill unit pricing to reflect non-detailed excavation work at the green-field site.</li> <li>Paving, including roadways throughout the site, sidewalks, and other misc. paving.</li> </ul>	<ul style="list-style-type: none"> <li>Updated quantity of heavy duty reinforced concrete pavement. (-\$127K)</li> <li>Updated quantity of subgrade preparation. (+\$292K)</li> <li>Updated excavation/fill quantity and reduced base material price. (+\$900K)</li> </ul>
05	Yard Piping	\$10,545,000	\$12,117,000	<ul style="list-style-type: none"> <li>Yard piping throughout the site such as major process piping, storm sewers, potable water piping, non-potable water piping, and plant drains.</li> <li>Removed Kimley-Horn interceptor from scope.</li> </ul>	<ul style="list-style-type: none"> <li>Unit pricing updates. (+ 84% average)</li> <li>Portion of 54" Interceptor moved to Kimley Horn Scope</li> <li>Updated yard piping quantities, depths, etc. based on design progression. (+1.02M overall) <ul style="list-style-type: none"> <li>Plant Drain system (+\$1.16M)</li> <li>Potable Water (+\$280K)</li> <li>Non-Potable Water (+\$100K)</li> <li>Process piping (+\$440K)</li> <li>Stormwater Sewer modified to predominately overland flow (-\$956K)</li> </ul> </li> <li>Addition of SC Scum MH as standard manhole.</li> </ul>
06	Site Electrical	\$1,983,000	\$5,746,000	<ul style="list-style-type: none"> <li>Site electrical distribution, including ductbanks and wiring.</li> <li>Paralleling Distribution System (A side vs. B side as separated systems)</li> <li>Electrical ductbanks (5 kV, 480V), Fiber Ductbank, and Security Conduit</li> <li>Site lighting throughout site independent of facility lighting.</li> </ul>	<ul style="list-style-type: none"> <li>Increase in Manhole and ductbank estimates due to parallel distribution system (+\$3.4M)</li> <li>Additional 5kV feeder estimates(+ \$100k)</li> </ul>
07	Landscaping and Irrigation	\$427,000	\$959,000	<ul style="list-style-type: none"> <li>Landscaping (adjacent to operations and lab building), tree aesthetic barriers, irrigation of landscaping/trees, and establishment of grass throughout the site.</li> </ul>	<ul style="list-style-type: none"> <li>Allocated allowance for grass reestablishment, fertilizer, and initial maintenance throughout site.</li> <li>Expanded cost and quantity of tree establishment.</li> </ul>
09	Civil Yard Structures	\$689,000	\$731,000	<ul style="list-style-type: none"> <li>Site civil structures not directly tied to a process area, such as the UV influent flowmeter vault, outfall manhole and drop box, outfall structure, and storm detention point control structure.</li> </ul>	<ul style="list-style-type: none"> <li>Structural design progress updated the concrete wall sizes of the structures to 12" and the slabs to 14" in general.</li> <li>Detailed quantities for the outfall structure (-\$184K)</li> <li>The cut and fill excavation was updated for the new required depths of structures. Based on the geotechnical report, a groundwater control allowance was added. (+\$225K)</li> </ul>





ID	Line Item	30% OPCC (As of November 2021)	60% OPCC (As of May 2022)	60% OPCC Summary of Scope (As of May 2022)	Summary of Updates from 30% Submittal Package (from November 2021)
10	Influent Lift Station	\$7,592,000	\$7,784,000	<ul style="list-style-type: none"> <li>Influent lift station structure (sized to handle up to six submersible pumps), pumps, piping, and appurtenances</li> </ul>	<ul style="list-style-type: none"> <li>Reduced the overall footprint of the facility by <b>28%</b></li> <li>The cut and fill excavation was changed to shored excavation on one side due to geotechnical recommendations <b>(\$200K)</b>.</li> <li>Wall thickness was increased to 3'-6" for the bottom 16' based on current design progression.</li> <li>Shifted electrical building to Facility 14 to combine ILS/headworks electrical equipment in one building <b>(\$420K)</b></li> <li>The monorail framing quantities increased from 4000 lbs to 9450 lbs as more columns were needed to support the monorail <b>(\$17K)</b>.</li> <li>Increased pump quote <b>(\$1M)</b></li> <li>Increased piping, valves, and gates cost estimate and addition of a second pipe to headworks <b>(\$600k)</b></li> <li>Based on geotechnical considerations, piers, grade beams, and void forms were added to support the pad at grade <b>(\$140K)</b>.</li> </ul>
12	Headworks	\$6,846,000	\$6,849,000	<ul style="list-style-type: none"> <li>Headworks structure for screening (future coarse screen and fine screen) and grit removal.</li> </ul>	<ul style="list-style-type: none"> <li>Shifted electrical building to Facility 14 to combine ILS/headworks electrical equipment in one building <b>(\$300K)</b></li> <li>Updated canopy with two walls over screening channels <b>(\$35K)</b>.</li> <li>Updated screen quote <b>(\$115K)</b></li> <li>Process increase due to design progression <b>(\$35K)</b></li> <li>Increased electrical due to design progression <b>(\$120K)</b></li> </ul>
13	Influent Foul Air Facility #1 (Previously separated as F18 and F19)	\$2,360,000	\$1,488,000	<ul style="list-style-type: none"> <li>Odor control system, ductwork, and dispersion fans for the influent lift station.</li> </ul>	<ul style="list-style-type: none"> <li>Odor control for ILS/HW combined into a single facility</li> <li>Biofilter is the proposed technology.</li> <li>Reduced footprint through ILS wet well sizing variation.</li> </ul>
14	ILS/HW Electrical Building #1	N/A (Included in F10 and F12)	\$3,964,000	<ul style="list-style-type: none"> <li>Headworks electrical building and electrical gear for headworks and future primary sludge pump station.</li> </ul>	<ul style="list-style-type: none"> <li>Electrical building for ILS/HW combined into a single facility.</li> <li>Added in void forms and grade beams based on geotechnical considerations <b>(\$60K)</b></li> <li>Increased the total number of piers from 8 to 15 <b>(\$40K)</b></li> <li>Detailed electrical costs added <b>(\$1.9M)</b></li> </ul>
31	Aeration Basins	\$12,322,000	\$14,663,000	<ul style="list-style-type: none"> <li>Two A<sup>2</sup>O Basins, including basins, mixers, diffusers, air piping, and IMLR pumps/channels.</li> </ul>	<ul style="list-style-type: none"> <li>Minor adjustments due to incorporation of IMLR channels rather than piping and adjustment for control strategy <b>(\$90K)</b></li> <li>Manual Jib Crane <b>(\$140K)</b></li> <li>Based on geotechnical considerations, piers increased from 184 piers to 311, peir depth adjusted <b>(\$1.1M)</b>.</li> <li>Added in void forms based on geotechnical considerations <b>(\$900K)</b></li> <li>Included the costs for aluminum grating <b>(\$280K)</b></li> </ul>





ID	Line Item	30% OPCC (As of November 2021)	60% OPCC (As of May 2022)	60% OPCC Summary of Scope (As of May 2022)	Summary of Updates from 30% Submittal Package (from November 2021)
38	Blower Facility	\$6,316,000	\$8,040,000	<ul style="list-style-type: none"> <li>Blower Building sized for Phase 1 only, including four blowers in an enclosed room.</li> <li>Blower Electrical Room and gear for Aeration Basins, Blowers, and electrical distribution to RAS/WAS PS.</li> </ul>	<ul style="list-style-type: none"> <li>Updated doors to FRP (+\$40K)</li> <li>Structural quantity additions (+\$170K)</li> <li>Reduced blower quote (-\$160K)</li> <li>Increased electrical pricing due to design progression (+\$1.5M)</li> <li>Included the costs for void forms and grade beams based on geotechnical considerations (+\$100K)</li> </ul>
40	Mixed Liquor Splitter Box	\$504,000	\$794,000	<ul style="list-style-type: none"> <li>MLSS Splitter structure designed for future expansion.</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of facility to allow ease of access and reduced headloss (\$180k).</li> <li>Included costs for void forms and grade beams based on geotechnical considerations (+\$100K)</li> </ul>
45	Secondary Clarifiers	\$6,143,000	\$10,830,000	<ul style="list-style-type: none"> <li>Two clarifiers with 135-foot diameter and 15-foot sidewater depth.</li> </ul>	<ul style="list-style-type: none"> <li>Updated wall and slab thickness to 16" and 3'-7" respectively, based on current structural design and corrected previous calculation error (+\$1.8 M).</li> <li>Increased number of piers based on geotechnical considerations (+\$340K)</li> <li>Increased earthwork due to void forms sloping to the center (+\$275K)</li> <li>Updated clarifier mechanism equipment quote (+\$630k)</li> <li>Increased electrical pricing and further design (+\$300K)</li> <li>Additional stairs and guardrails (+\$220k)</li> <li>Added in void forms based on geotechnical considerations (+\$710K)</li> </ul>
46	RAS/WAS Pump Station	\$2,361,000	\$4,206,000	<ul style="list-style-type: none"> <li>RAS/WAS Pump Station built at grade with space for up to seven pumps with VFDs.</li> <li>RAS/WAS electrical building and electrical gear for RAS/WAS PS and secondary clarifiers.</li> </ul>	<ul style="list-style-type: none"> <li>Updated to FRP Doors (+\$20k)</li> <li>Increased earthwork due to the addition of grade beams (+\$62K)</li> <li>Structural quantity update (+\$170K)</li> <li>Updated pump and piping equipment costs (+\$270k)</li> <li>Reduce electrical building size.</li> <li>Additional electrical infrastructure to sub-feed Phase II RAS/ WAS Pump Station electrical distribution (+\$1.3M)</li> <li>Added void forms and grade beams based on geotechnical considerations (+\$108K)</li> </ul>
50	Filters	\$5,225,000	\$5,512,000	<ul style="list-style-type: none"> <li>Three cloth media filters, filter structure, and shade canopy for up to three filters.</li> </ul>	<ul style="list-style-type: none"> <li>Structural quantities have been updated based on facility redesign</li> <li>Filter price updated based on Aqua Aerobic Systems package</li> <li>Added mud valves and basin drains</li> </ul>
53	UV Disinfection	\$5,286,000	\$4,077,000	<ul style="list-style-type: none"> <li>UV Facility with two UV Channels.</li> <li>Three banks of UV lamps per channel (six total).</li> <li>Finger weir level control system.</li> </ul>	<ul style="list-style-type: none"> <li>UV Electrical Building moved to Facility 54 (-\$1.9M)</li> <li>Replaced pre-engineered canopy with constructed roof deck. (-\$210K)</li> <li>Increased the number of piers and adjusted the depth based on geotechnical considerations. (+\$90K)</li> <li>Corrected earthwork items (+\$190K)</li> <li>Detailed electrical costs added (+\$400K)</li> </ul>
54	UV Electrical Building #1	N/A (Included in F53)	\$1,926,000	<ul style="list-style-type: none"> <li>UV electrical building and electrical gear for tertiary filters, UV system, and NPW system.</li> </ul>	<ul style="list-style-type: none"> <li>Moved from Facility 53 (+\$1.9M)</li> </ul>





ID	Line Item	30% OPCC (As of November 2021)	60% OPCC (As of May 2022)	60% OPCC Summary of Scope (As of May 2022)	Summary of Updates from 30% Submittal Package (from November 2021)
55	Effluent Facility	\$954,000	\$1,898,000	<ul style="list-style-type: none"> <li>Supplemental post-aeration bypass channel.</li> <li>Single-drop coarse bubble diffusers and piping.</li> <li>Two positive displacement blowers.</li> <li>Nested Parshall flume.</li> <li>Cascade aeration structure.</li> </ul>	<ul style="list-style-type: none"> <li>Replaced fixed mechanical aerator with supplemental coarse bubble diffusers and positive displacement blowers (-\$20K)</li> <li>Addition of bypass channel (+\$100K)</li> <li>Concrete and excavation costs increased due to the addition of a supplemental post-aeration basin (+\$805K)</li> <li>Widened cascade aerator footprint and adjusted design to include steps instead of baffle blocks (+\$45K)</li> <li>Aluminum guardrail (+\$25K)</li> </ul>
56	Non-Potable Water System	\$987,000	\$819,000	<ul style="list-style-type: none"> <li>Pump station located at the UV Disinfection/Effluent Facility to house 4 vertical turbine pumps with VFDs.</li> </ul>	<ul style="list-style-type: none"> <li>Addition of magmeter bypass</li> <li>Addition of bag filter and associated bypass.</li> <li>Reduction in pump capacity due to reduced NPW demand from 30%</li> </ul>
60	Chemical Feed Facility	\$1,133,000	\$1,857,000	<ul style="list-style-type: none"> <li>Chemical feed and storage building for sodium hypochlorite (500 gal.) and aluminum sulfate (10,000 gal.), including chemical containment and offloading.</li> <li>Chemical Feed Electrical building.</li> </ul>	<ul style="list-style-type: none"> <li>Increased estimate for FRP doorways (+\$50K)</li> <li>Updates to facility HVAC (-\$10K)</li> <li>Additional concrete quantities (+\$70K)</li> <li>Reduction of metal quantities (-\$50K)</li> <li>Increased earthwork due to the addition of grade beams (+\$31K)</li> <li>Increase in FRP tank and pump quotes (+\$55K)</li> <li>Detailed electrical costs added (+\$580K)</li> </ul>
70	Aerated Sludge Storage and Mixing	\$2,462,000	\$3,201,000	<ul style="list-style-type: none"> <li>Two 50-ft ASHTs with jet aeration systems, including three recirculation chopper pumps and three positive displacement blowers</li> <li>Three progressive cavity centrifuge feed pumps</li> <li>Pump station, elevated walkway, decant thickening, and drains</li> </ul>	<ul style="list-style-type: none"> <li>Replaced end suction centrifugal recirculation pumps with chopper pumps (+\$85K)</li> <li>Increased electrical unit prices and switch to annular pressure sensors and radar level transmitter (+\$100K)</li> <li>Increase in number of piers due to structural concrete slab design updates (+\$110K)</li> <li>Added grade beams and void forms based on geotechnical considerations (+\$140K)</li> </ul>
72	Biosolids Handling Building	\$7,208,000	\$9,269,000	<ul style="list-style-type: none"> <li>Construct Biosolids Handling Building with space for three Centrifuges.</li> <li>Solids electrical room and electrical gear for ASHTs and dewatering.</li> </ul>	<ul style="list-style-type: none"> <li>Custom Polymer Blending Units provided (not pre-packaged) (+\$60k)</li> <li>Increased estimate for FRP doors (+\$115K)</li> <li>Structural quantities updated based on current design (+\$730K)</li> <li>Updated piping layout and sizes to match equipment (+\$190K)</li> <li>Added grade beams and void forms based on geotechnical considerations (+\$210K)</li> <li>Added earthwork due to grade beams (+\$110K)</li> <li>Added roll-off guides (+\$201K)</li> <li>Increased electrical pricing due to electrical design progression (+\$700K)</li> <li>Added centrifuge equipment such as oil-air unit, diverter gate, and air compressor</li> </ul>
85	Operations & Laboratory Building	\$2,030,000	\$2,058,000	<ul style="list-style-type: none"> <li>Operations and Laboratory building of approximately 3,500 square feet for plant operations/operations staff.</li> </ul>	<ul style="list-style-type: none"> <li>Switched from over-excavation to drilled piers with grade beams and void forms based on geotechnical considerations, concrete quantities up (+\$314K), earthwork quantities down (-\$102K)</li> </ul>
86	Maintenance and Storage Building	\$1,874,000	\$1,054,000	<ul style="list-style-type: none"> <li>Maintenance Facility of approximately 4,000 square feet for plant functions including shop space, indoor storage, outdoor storage, and staff workspaces.</li> </ul>	<ul style="list-style-type: none"> <li>Switched from over-excavation to drilled piers with grade beams and void forms based on geotechnical considerations (+\$230K)</li> <li>Switched from pre-engineered metal building to masonry building (-\$921K)</li> </ul>





ID	Line Item	30% OPCC (As of November 2021)	60% OPCC (As of May 2022)	60% OPCC Summary of Scope (As of May 2022)	Summary of Updates from 30% Submittal Package (from November 2021)
88	Main Plant Electrical Building	\$4,820,000	\$5,183,000	<ul style="list-style-type: none"> <li>Main plant electrical building to house distribution and switchgear to serve electrical loads through Phase 2.</li> </ul>	<ul style="list-style-type: none"> <li>Updated doors to FRP (+\$21K)</li> <li>Included costs for grade beams and void forms based on geotechnical considerations (+50K).</li> <li>Included costs for masonry veneer (+80K)</li> <li>Increased electrical pricing due to electrical design progression (+\$353K)</li> </ul>
90	Miscellaneous Electrical	\$4,296,000	\$3,898,000	<ul style="list-style-type: none"> <li>Miscellaneous electrical items associated with City-side establishment of power from Electrical Service Provider.</li> <li>Emergency generator and load bank</li> </ul>	<ul style="list-style-type: none"> <li>Removal of Bluebonnet Contribution in Aid for Construction (-\$410k)</li> <li>Generator and load bank price increase (+\$690k)</li> <li>reduced 5kV cable (-\$670k)</li> </ul>
95	SCADA	\$2,173,000	\$2,490,000	<ul style="list-style-type: none"> <li>Plant Controls system, including SCADA/fiber loop, main operator control station, PLCs, access cabinet</li> </ul>	<ul style="list-style-type: none"> <li>Increased SCADA room equipment estimate (+\$475K)</li> <li>Additional Fiber</li> </ul>
<b>LUMP SUM FACILITY TOTAL</b>		<b>\$101,944,000</b>	<b>\$128,387,000</b>		
<ol style="list-style-type: none"> <li>Scope Change</li> <li>Unit Quantity Update</li> <li>Unit Price Update</li> <li>General Further Design Detail</li> </ol>					





Some changes were made to the project that affected costs at several facilities. Additional items added project-wide are described below and are provided for the benefit of understanding the changes in the Lump Sum/Facility Pricing from 30% to 60% design. Note that prices shown include contingency, mobilization, and overhead and profit.

- Electrical design progression (+\$8M)
  - The current estimate reflects incorporation of recent City of Pflugerville electrical design standards/details and recent equipment and materials pricing from bidding of City projects.
  - The current estimate includes design progression on ductbank and feeder design.
- Additional concrete (+\$6.4M)
  - Additional concrete is required per geotechnical recommendations and current structural design progression.
- Addition of Void forms (+\$2.8M)
  - Added based on design progression and geotechnical considerations.
- Mechanical equipment quote increases (+\$2.7M)
  - Includes pumps, screens, clarifier mechanisms
- Pipe and valve quantity and unit price updates (+\$2.4M)
- All facility doors will be FRP (+\$300k)
  - FRP provides better corrosion resistance and longevity.

For comparison purposes on the OPCC assumptions, Garver has reviewed the OPCC impact to the lump sum facility items if mobilization and contractor overhead/profit were at the level previously used at the 30% OPCC. If the mobilization was maintained at 3% versus the recommended 5%, the lump sum facility total would be reduced \$2,050,000. Likewise, if the Contractor's overhead and profit were maintained at 18% versus the recommended 20%, the lump sum total would be reduced by \$2,139,000. Maintaining both adders at 30% design values, the lump sum facility cost would be reduced by \$4,156,000.

For purposes of comparing contingency, if contingency were to be reduced by 1% across all facilities, a corresponding reduction of \$1,069,000 to the total facility cost would be achieved. That said, Garver recommends maintaining OPCC assumptions at the levels indicated in Section 2 for planning purposes given the current market conditions and current level of definition of the design progression. It is noted that, at later estimates (90% design; 100% design), the contingency is likely to be reduced as additional detail is added into the estimate.





#### 4.0 Cost Savings, Adjustments, and Alternatives

As outlined below, Garver has identified potential estimate updates, scope modifications, or potential bid alternatives for consideration of the City/OR team to potentially mitigate cost increases. Additional cost savings and proposal alternates may be generated through further discussion as part of the 60% submittal.

- Detention Grading (Facility 04) – Potential savings to minimize the volume of the detention basin installed, either by reviewing the detention assumptions (detaining full plant peak effluent flow) and/or by limiting construction to Phase 1 only.
- Site Electrical (Facility 06) - Both "A" conductors and "B" conductor ductbanks for 5kV could be installed in the same trench. 5KV Manholes will still separate "A" and "B" conductors. (≈ -\$400k)
- Headworks (Facility 12) - Potential deductive bid alternative to remove canopy over headworks. (≈ -\$170k)
- Aeration Basins (Facility 31) - Potential added cost to provide additional instrumentation (DO probes in two additional zones per AB, ammonia probe, MLSS probe) and diffuser drop controls (air meter and control valves at each diffuser drop leg) as shown as future in the P&ID and control description. (≈ +\$225k)
- Blower Building (Facility 38) - Potential cost savings to eliminate enclosed blower room and install a canopy over blowers. (≈ -\$200k to \$400k)
- RAS/WAS Pump Station (Facility 46) — Potential deductive bid alternate to remove canopy over pump area. (≈ -\$200k)
- Electrical (Facility 06 and 90) - Cost savings are achievable by modifying the redundant electrical feed system. As discussed previously, allowing portions of this design to be included as a deductive bid alternate (not currently reflected in the drawings) would allow for the design intent to be maintained but enable the City to achieve potential cost savings at bid time.

#### 5.0 Unit Price Item Allowances

Through the development of the Proposal Form (refer to Section 00 41 00), Garver has identified potential extra unit price items to include for potential changes encountered during construction (refer to section 5.03 of Section 00 41 00). Items in the section include various civil and structural work such as additional concrete, paving, earthwork, as well as additional equipment training. Garver recommends further review of these items and the establishment of an allowance within the construction contract (See Section 6.0 below) for the additional unit price items.

#### 6.0 Proposal Allowances for Construction

Garver recommends establishing Proposal Allowances/Cash Allowances for the project construction. This includes a general allowance for work change directives and/or change orders that would be negotiated and approved by City Staff during construction to allow work to proceed without council approval. Garver proposes that this allowance could be from 0% up to 5% of the Lump Sum Facility work allowance (pending coordination and discussion with the City PM Team and Owner's Representative), and has shown the allowance at 3% (\$3,900,000) for purposes of this submittal.

Additional allowances may be discussed/added through further design and startup discussions, such as startup and commissioning allowances or additional independent testing.





### 7.0 Escalation Considerations

Given the current bidding and inflation environment, Garver recommends that escalation considerations be added to the facility/lump sum OPCC to account for anticipated increases in construction costs that are likely to be part of the Offeror Pricing on the date of the proposal. Garver previously assumed that these costs could be covered through unit pricing and Contingency pricing; however, given the acceleration of inflation from the 30% submittal (November 2021) through the 60% Submittal (May 2022), Garver has adjusted its approach so as to provide the OPCC as of the date of the estimate and then include escalation separately. Garver finds it prudent to assume this anticipated escalation will occur for budgetary planning purposes.

For this project, Garver recommends the application of escalation as noted in Table 7-1.

Table 7-1: Escalation Assumptions

Assumption	60% Estimate Amount	Justification for Assumption
Escalation Period from 60% OPCC to Proposal/Bid Date	0.75 years	<ul style="list-style-type: none"> <li>Assumes Proposal/Bid Date in early February 2023 (9 months from 60% OPCC)</li> </ul>
Escalation Period from 60% OPCC to Proposal/Bid Date	1.25 years	<ul style="list-style-type: none"> <li>Assumes half of a construction period of 2.5 years</li> </ul>
Rate of Escalation	7%	<ul style="list-style-type: none"> <li>Future escalation is unknown, but anticipated escalation of 5% to 10% is possible based upon inflation rate from November 2021 through May 2022.</li> <li>Value provided is an average assumption and is subject to further monitoring throughout design.</li> </ul>
<b>Total Escalation</b>	<b>14%</b>	<ul style="list-style-type: none"> <li><b>Assumes 2 years (0.75 yr + 1.25 yr) multiplied by the 7% rate of escalation.</b></li> </ul>

Garver recommends applying the escalation to the Lump Sum Facility total. Based on the current OPCC and escalation assumptions, Garver recommends the inclusion of approximately \$18,600,000 in escalation to the total cost of the project.





### 8.0 Identification of Costs Independent of the Construction Contract

Garver identified the need to identify and account for several cost items—necessary to get the plant operable—that would ultimately either not be part of the construction contract or may be preferred to not be part of the construction contract. These costs will be borne by the City of Pflugerville independent of the construction contract covered by this OPCC. This includes items that may be acquired and installed by the City of Pflugerville rather than the Contractor. These costs have not been included in the estimated total project cost. Estimates for these items are shown in Table 8-1.

**Table 8-1: Costs Independent from Construction Contract**

Item	Description	Budgeted Costs
1	3-Phase Power Establishment to Site (for Bluebonnet or Oncor) <ul style="list-style-type: none"> <li>Previously included an allowance under Facility 90, which has been updated to current power company estimates.</li> </ul>	From \$0.8M to \$1.4M
2	Building Furnishings <ul style="list-style-type: none"> <li>Costs to provide office furniture, equipment, etc., in the new buildings.</li> <li>Currently is included under Facility 85 and 86; however, the City may achieve cost savings by procuring separately.</li> </ul>	\$150k to \$250k
3	Equipment and Tools <ul style="list-style-type: none"> <li>Equipment such as backhoes, UTVs, trucks, mowers, etc. will be needed to access and manage facility operations.</li> <li>Tools will be needed for maintenance and storage.</li> <li>Costs are not currently at any individual facility. The City should achieve cost savings by procuring separately from the Contractor.</li> </ul>	\$450k to \$750,000
4	Allowance for Independent Testing during Construction <ul style="list-style-type: none"> <li>Independent Testing will be required and should be planned outside of the Construction Contract.</li> </ul>	TBD
5	Allowances for Water Procurement (watertightness testing, startup testing, etc.) <ul style="list-style-type: none"> <li>Could involve purchase of water from Manville WSC or capturing water from Wilbarger Creek (would require additional permitting)</li> <li>Concept will be developed as part of the Startup and Commissioning Plan</li> </ul>	TBD
6	Allowances for Chemicals during Startup and Testing <ul style="list-style-type: none"> <li>Concept will be developed as part of the Startup and Commissioning Plan</li> </ul>	TBD
<b>Total</b>		<b>TBD (\$3M shown in estimate summary below)</b>

Additional costs not included in the RWWTF project total include portions of the remainder of the Wilbarger project being designed by other consultants and led by the OR Team, such as the decommissioning of the Weiss Lift Station, offsite sewer interceptors, etc.





## 9.0 Summary

Contingencies were reduced based on typical design progression as recommended by the Association for the Advancement of Cost Engineering (AACE), as described in Figure 9-1. With the 60% submittal, we are about two-thirds through the final design phase, making the AACE recommended contingency approximately from +20% to +25% to -10% to -12%. This range describes our expected accuracy range for the costs presented.

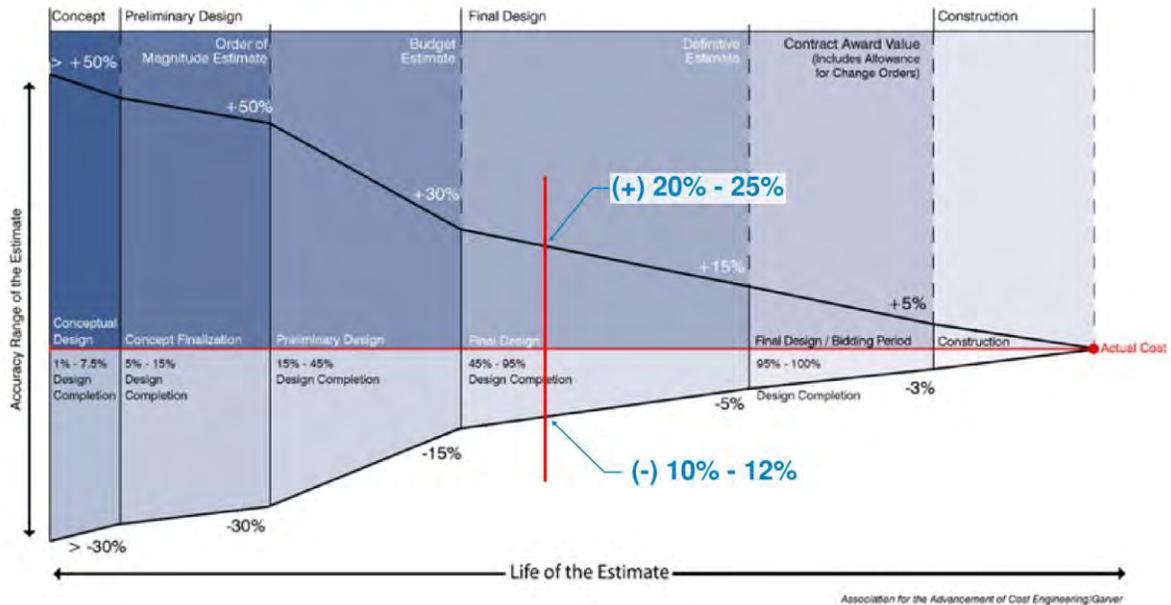


Figure 9-1: Estimate Accuracy Range through Project Development

In addition, contractor overhead and profit, and mobilization were increased based on the current market and other considerations described in Table 2-1. A summary of expected costs for the project is shown in Table 9-1.

Garver notes the following as key takeaways from the RWWTF OPCC analysis:

1. The RWWTF OPCC is anticipated to be from \$130M up to \$160M based on current market conditions and incorporating the current scope as identified in the 60% submittal. Under the assumptions presented—including allowances and additional costs outside of the anticipated construction contract, an OPCC of approximately \$154,000,000 is estimated.
5. The cost above includes adjustments to OPCC assumptions (Mobilization, Contingency, Contractor Overhead and Profit), incorporation of cash allowances for construction-related changes, escalation to the midpoint of construction, and incorporation of costs independent of the construction contract.
6. Cost increases are due to changes in the current bid environment, design progression (quantity takeoff updates), and updated scope from the 30% submittal.
7. The design team remains committed to refining the design and incorporating cost savings within the current design scope when identified. Suggestions are provided within this memorandum, and additional considerations will be discussed as part of the 60% Workshop.



Table 9-1: Project Cost Summary Table

Facility Area	Facilities Include	60% OPCC Item (May 2022)	30% OPCC Item (Nov. 2021)
Civil	02, 03, 04, 05, 07, 09	\$20,800,000	\$17,069,000
Electrical and SCADA (Overall Plant)	06, 88, 90, 95	\$17,300,000	\$13,272,000
A - ILS/Headworks	10, 12, 13, 14	\$20,100,000	\$16,798,000
B - Secondary Treatment	31, 38, 40, 45, 46	\$38,500,000	\$27,646,000
C - Tertiary Treatment	50, 53, 54, 55, 56, 60	\$16,100,000	\$13,585,000
D - Solids	70, 72	\$12,500,000	\$9,670,000
Operations and Lab and Maintenance Buildings	85, 86	\$3,100,000	\$3,904,000
<b>Subtotal, Lump Sum Facilities</b>		<b>\$128,400,000</b>	<b>\$101,944,000</b>
Additive or Deductive Alternates		TBD	-
Cash Allowance for Change Orders in Construction		\$3,900,000	-
Costs Independent of Construction Contract		\$3,000,000	-
Escalation to Midpoint of Construction		\$18,600,000	-
<b>Total, All Project</b>		<b>\$153,900,000</b>	<b>\$101,944,000</b>

# Wilbarger Creek Regional Wastewater Treatment Facility Opinion of Probable Construction Cost

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Design Information Memorandum No. 25  
Final Submittal Revision

City of Pflugerville, Texas



**Prepared by:**



**3755 S Capital of TX Highway  
Austin, TX 78704**

**September 2022**

**Garver Project No.: 19W07191**



## **Engineer's Certification**

I hereby certify that this Design Information Memorandum No. 25 – Opinion of Probable Construction Cost for the Wilbarger Creek Regional Wastewater Treatment Facility (RWWTF) project was prepared by Garver under my direct supervision for the City of Pflugerville. This DIM is not to be used for permitting, design, bidding, or construction purposes.

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Appendix B: Changes to Concrete Cost



**List of Acronyms**

<b>Acronym</b>	<b>Phrase</b>
AACE	Association for the Advancement of Cost Engineering
COP	City of Pflugerville
DIM	Design Information Memorandum
OH&P	Overhead and Profit
OPCC	Opinion of Probable Construction Cost
MH	Manhole
PSG	Paralleling Switchgear
RAS	Return Activated Sludge
SC	Secondary Clarifier
WAS	Waste Activated Sludge
RWWTF	Regional Wastewater Treatment Facility
UV	Ultraviolet
WWTP	Wastewater Treatment Plant





## 1.0 Introduction

The purpose of this Design Information Memorandum (DIM) No. 25, Final Design Revision, is to present the opinion of probable construction cost (OPCC), as well as related costs for the establishment and commissioning of the facility, for the City of Pflugerville (COP) Wilbarger Creek Regional Wastewater Treatment Facility (RWWTF) at the final design phase.

Subsequent sections of this memorandum provide the following information:

1. OPCC Assumptions
2. Lump Sum Item OPCC Estimates (for Major RWWTF Facilities)
3. Cost Savings, Adjustments, and Alternates
4. Contingency Allowances for Construction
5. Escalation Considerations
6. Identification of Costs Independent of the Construction Contract
7. Summary

## 2.0 OPCC Assumptions

Table 2-1 outlines key assumptions included within the OPCC, including mobilization, contractor's overhead and profit (OH&P), contingency, and escalation assumptions. These factors are applied to raw costs at each facility, and thus impact all values provided in the OPCC. These parameters have been adjusted from the previous 60% OPCC for the reasoning indicated below. Garver does not recommend any further reduction in the assumptions shown, and, in fact, a case could be made that, for planning purposes, higher values could be appropriate, as the values noted are on the lower end of the ranges that Garver has used for recent OPCCs at the Final OPCC level, and several of these recent projects (bid in September 2022) have bid above the Final OPCC.

**Table 2-1: Cost Estimating Assumptions**

Assumption	60% Estimate Amount	Final Estimate Amount	Summary of Changes
Mobilization	5%	5%	No changes were noted.
Contractor's Overhead and Profit (OH&P)	20%	22%	<ul style="list-style-type: none"><li>• Limited contractor pool in Central Texas will likely result in higher OH&amp;P to prompt participation in the project.</li><li>• Accelerated construction schedule will likely increase risk, which will cause contractors to seek additional OH&amp;P.</li><li>• Garver notes that, in its recent projects that have bid, OH&amp;P assumptions between 20% and 30% have been utilized on the final OPCCs.</li></ul>



Assumption	60% Estimate Amount	Final Estimate Amount	Summary of Changes
Contingency for Design Progression and Detailing	20%	18%	<ul style="list-style-type: none"><li>• Reduced contingency due to design detail progression for Final Submittal.</li><li>• Garver notes that, in its recent projects that have bid, Contingencies between 18% and 25% have been utilized on the final OPCCs.</li></ul>

It is noted that the total between Mobilization, OH&P, and Contingency totals to the same amount relative to the 60% OPCC; however, Garver applies Mobilization and OH&P to the Raw Facility/Unit costs, whereas Contingency applies to the Raw Facility/Unit Costs AND the Mobilization and OH&P.

### 3.0 Lump Sum OPCC Estimates and Comparison to 60% OPCC

Table 3-1 presents the Lump Sum OPCC for each facility included as part of the construction contract. These costs per facility include Contractor Mobilization, Overhead and Profit, and Contingency as identified in Table 2-1. Table 3-1 summarizes the scope included in each facility line item and outlines changes in the facility design from the 60% submittal. Appendix A to this memorandum includes a detailed OPCC for each facility. The "Summary of Changes" column in Table 3-1 does not include ALL changes and may not account for all cost updates. Refer to the paragraph following the table for additional information for broad changes impacted across multiple facilities.

It should be noted that the bid environment in 2022 has been highly dynamic based on labor and unit price fluctuations. This OPCC would account for the anticipated cost of each facility scope if the project was bid in September 2022 at its midpoint of construction. Unit pricing for equipment has been updated based on equipment vendor quotes received in August and September of 2022; however, it is noted by numerous vendors that bid pricing is dynamic and could change frequently. Garver has utilized adjustments for pricing for items such as concrete, excavation, backfill, miscellaneous metals, piping, valves, electrical control panels, etc. Still, the unit prices shown may be more indicative of a stable bid environment. Garver will continue to monitor unit prices as the project bid approaches, and construction escalation will be addressed separately in Section 7.





Table 3-1: Final Submittal Wilbarger Creek RWWTF Opinion of Probable Construction Cost

ID	Line Item	60% OPCC (As of May 2022)	Final Submittal OPCC (As of Sept. 2022)	Final OPCC Summary of Scope (As of Sept. 2022)	Summary of Updates from 60% Submittal Package (from May 2022)
03	Demolition and Erosion Control	\$168,000	\$435,000	<ul style="list-style-type: none"> <li>Demolition of existing facilities and allowance for site erosion control during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Updated pricing assumptions for lump sum items.</li> </ul>
04	Grading and Paving	\$6,806,000	\$8,535,000	<ul style="list-style-type: none"> <li>Site grading to finished grade throughout the site. Includes detention pond sized to offset the plant outfall (Travis County requirement) through Phase 4 buildout.</li> <li>Paving, including roadways throughout the site, sidewalks, and other misc. paving.</li> </ul>	<ul style="list-style-type: none"> <li>Updated pricing for cut / fill based on recent project bids (+\$0.8M)</li> <li>Updated quantities and pricing for wrought iron column fence (+\$0.5M) per City development standard requirements</li> </ul>
05	Yard Piping	\$12,117,000	\$15,646,000	<ul style="list-style-type: none"> <li>Yard piping throughout the site such as major process piping, storm sewers, potable water piping, non-potable water piping, and plant drains.</li> </ul>	<ul style="list-style-type: none"> <li>Increase in pipe price and quantity refinement from 60% OPCC (+\$1.4M)</li> </ul>
06	Site Electrical	\$5,746,000	\$9,632,000	<ul style="list-style-type: none"> <li>Site electrical distribution, including ductbanks and wiring.</li> <li>Paralleling Distribution System (A side vs. B side as separated systems)</li> <li>Electrical ductbanks (5 kV, 480V), Fiber Ductbank, and Security Conduit</li> <li>Site lighting throughout site independent of facility lighting.</li> </ul>	<ul style="list-style-type: none"> <li>Updated electrical ductbank unit pricing and quantities based on design considerations and current market conditions, including concrete unit pricing. (+\$1.7M)</li> <li>Added Ductbank for connection to City Fiber Network (+\$0.3M)</li> <li>Additional updates to unit pricing for electrical gear.</li> </ul>
07	Landscaping and Irrigation	\$959,000	\$1,211,000	<ul style="list-style-type: none"> <li>Landscaping (adjacent to operations and lab building), tree aesthetic barriers, irrigation of landscaping/trees, and establishment of grass throughout the site.</li> </ul>	<ul style="list-style-type: none"> <li>Increased piping length for irrigation system.</li> </ul>
09	Civil Yard Structures	\$731,000	\$1,030,000	<ul style="list-style-type: none"> <li>Site civil structures not directly tied to a process area, such as the UV influent flowmeter vault, outfall manhole and drop box, outfall structure, and storm detention control structure.</li> </ul>	<ul style="list-style-type: none"> <li>Updated quantities and concrete unit pricing per design development.</li> </ul>
10	Influent Lift Station	\$7,784,000	\$15,735,000	<ul style="list-style-type: none"> <li>Influent lift station structure (sized to handle up to six submersible pumps), pumps, piping, and appurtenances</li> </ul>	<ul style="list-style-type: none"> <li>Structure is disproportionately impacted by increased concrete unit price updates as concrete is primary cost driver of the facility.               <ul style="list-style-type: none"> <li>Increased thickness of walls based on loading demands and change to layout of structure (+\$2.1M)</li> <li>Added concrete beams around structure to meet load requirements (+\$0.4M), which effectively reduces the total wall thickness of the lift station and overall saves costs.</li> </ul> </li> <li>Per 60% Client Request:               <ul style="list-style-type: none"> <li>Added gates for 78-inch influent, 54-inch LS #2 connection and 36-inch drain (+\$0.25M)</li> <li>Added riser pipe and guide rails for future Pump #6 (+\$0.1M)</li> <li>Added 24-inch plug valves for future Pump #2, Pump #4 and Pump #6 (+\$0.1M)</li> <li>Added protective coatings to interior surface of structure (+\$1.2M)</li> </ul> </li> </ul>





ID	Line Item	60% OPCC (As of May 2022)	Final Submittal OPCC (As of Sept. 2022)	Final OPCC Summary of Scope (As of Sept. 2022)	Summary of Updates from 60% Submittal Package (from May 2022)
12	Headworks	\$6,849,000	\$10,438,000	<ul style="list-style-type: none"> <li>Headworks structure for screening (future coarse screen and fine screen) and grit removal.</li> </ul>	<ul style="list-style-type: none"> <li>Added slide gates at facility effluent per client 60% comment and added actuators to tall/limited access gates as needed per design progression (+\$0.3M)</li> <li>Per client 60% comment: Added protective coatings to interior surface of structure (+\$0.5M)</li> <li>Additional equipment cost per supplier quote and increased installation costs due to current labor market (+\$0.5M)</li> </ul>
13	Influent Foul Air Facility #1 (Previously separated as F18 and F19)	\$1,488,000	\$2,323,000	<ul style="list-style-type: none"> <li>Odor control system, ductwork, and dispersion fans for the influent lift station.</li> </ul>	<ul style="list-style-type: none"> <li>Additional Biofilter equipment cost per supplier quote and installation costs increase (+\$0.5M)</li> </ul>
14	ILS/HW Electrical Building #1	\$3,964,000	\$5,081,000	<ul style="list-style-type: none"> <li>Headworks electrical building and electrical gear for headworks and future primary sludge pump station.</li> </ul>	<ul style="list-style-type: none"> <li>Additional HVAC costs due to IBC 2021 Code adoption, including additional foundation design (+\$0.3M)</li> </ul>
31	Aeration Basins	\$14,663,000	\$37,321,000	<ul style="list-style-type: none"> <li>Two A<sup>2</sup>O Basins, including basins, mixers, diffusers, air piping, and IMLR pumps/channels.</li> </ul>	<ul style="list-style-type: none"> <li>Net increase of approximately 4,000 CY of concrete. Structure is disproportionately impacted by increased concrete unit price updates as concrete is primary cost driver of the facility.               <ul style="list-style-type: none"> <li>Additional foundation design considerations (increased piers, increased grade beams, etc.)</li> <li>Increased wall thicknesses</li> </ul> </li> <li>Additional excavation depth (increased to 12')</li> <li>Replaced IMLR channel and flume with IMLR pipe and ultrasonic flowmeter to facilitate reduced wall height and require reduced maintenance of IMLR channels.</li> <li>Increased air piping unit pricing and piping support costs due to equipment pricing updates.</li> </ul>
38	Blower Facility	\$8,040,000	\$10,576,000	<ul style="list-style-type: none"> <li>Blower Building sized for Phase 1 only, including four blowers in an enclosed room.</li> <li>Blower Electrical Room and gear for Aeration Basins, Blowers, and electrical distribution to RAS/WAS PS.</li> </ul>	<ul style="list-style-type: none"> <li>Building structural updates (foundation, base slab, void form, masonry veneer, steel joists, etc.)</li> <li>Dissolved oxygen, NH<sub>3</sub>, and MLSS instrument unit costs increased</li> </ul>
40	Mixed Liquor Splitter Box	\$794,000	\$2,090,000	<ul style="list-style-type: none"> <li>MLSS Splitter structure designed for future expansion.</li> </ul>	<ul style="list-style-type: none"> <li>Per client 60% comment: added slide gates on influent lines for isolation for future construction and alum feed/injection equipment (+\$0.2M)</li> <li>Updated quantity and design of miscellaneous metals (+\$0.4M)</li> </ul>
45	Secondary Clarifiers	\$10,830,000	\$18,589,000	<ul style="list-style-type: none"> <li>Two clarifiers with 135-foot diameter and 15-foot sidewater depth.</li> </ul>	<ul style="list-style-type: none"> <li>Net decrease of approximately 1,200 CY of concrete.</li> <li>Structure is disproportionately impacted by increased concrete unit price updates as concrete is primary cost driver of the facility.</li> <li>Addition of slide gates on effluent 36" lines per client 60% comment (+\$0.2M)</li> <li>135' SC mechanism price increase, including 304 SS adder and full-diameter access bridge per Client request (+\$0.8M)</li> </ul>
46	RAS/WAS Pump Station	\$4,206,000	\$4,700,000	<ul style="list-style-type: none"> <li>RAS/WAS Pump Station built at grade with space for seven pumps with VFDs.</li> <li>RAS/WAS electrical building and electrical gear for RAS/WAS PS and secondary clarifiers.</li> </ul>	<ul style="list-style-type: none"> <li>Re-route discharge piping to prevent multiple pipelines under the slab.</li> <li>Update flow meters to ultrasonic clamp-on meters. Removal of flow meter bypass.</li> <li>Removed canopy.</li> </ul>





ID	Line Item	60% OPCC (As of May 2022)	Final Submittal OPCC (As of Sept. 2022)	Final OPCC Summary of Scope (As of Sept. 2022)	Summary of Updates from 60% Submittal Package (from May 2022)
50	Filters	\$5,512,000	\$7,183,000	<ul style="list-style-type: none"> <li>Three cloth media filters, filter structure, and shade canopy for up to three filters.</li> </ul>	<ul style="list-style-type: none"> <li>Structural design progression for foundation design, base slab, walls, etc. (+\$0.6M)</li> <li>Added two-year warranty (+\$20K)</li> </ul>
53	UV Disinfection	\$4,077,000	\$4,246,000	<ul style="list-style-type: none"> <li>UV Facility with two UV Channels.</li> <li>Three banks of UV lamps per channel (six total).</li> <li>Finger weir level control system.</li> </ul>	<ul style="list-style-type: none"> <li>Pre-selected manufacturer proposal equipment and costs incorporated. (-\$0.3M)</li> <li>Addition of multiple slide gates on influent/effluent lines per 60% client comment (+\$0.2M)</li> <li>Electrical design progression (+\$0.4M)</li> </ul>
54	UV Electrical Building #1	\$1,926,000	\$2,703,000	<ul style="list-style-type: none"> <li>UV electrical building and electrical gear for tertiary filters, UV system, and NPW system.</li> </ul>	<ul style="list-style-type: none"> <li>Additional HVAC costs due to IBC 2021 Code adoption, including additional foundation design (+\$0.3M)</li> </ul>
55	Effluent Facility	\$1,898,000	\$3,662,000	<ul style="list-style-type: none"> <li>Supplemental post-aeration bypass channel.</li> <li>Single-drop coarse bubble diffusers and piping.</li> <li>Two positive displacement blowers.</li> <li>Nested Parshall flume.</li> <li>Cascade aeration structure.</li> </ul>	<ul style="list-style-type: none"> <li>Per 60% client comments (+\$0.3M): <ul style="list-style-type: none"> <li>Addition of multiple slide gates on influent/effluent lines and increased size of channel slide gates</li> <li>Addition of effluent piping connections</li> </ul> </li> <li>Electrical design progression (+\$0.4M)</li> <li>Post-Aeration System Design Updates (+\$0.4M) <ul style="list-style-type: none"> <li>PD blowers HP increased, along with addition of VFDs for aeration control, and updates to diffuser pricing</li> </ul> </li> </ul>
56	Non-Potable Water System	\$819,000	\$1,038,000	<ul style="list-style-type: none"> <li>Pump station located at the UV Disinfection/Effluent Facility to house 4 vertical turbine pumps with VFDs.</li> </ul>	<ul style="list-style-type: none"> <li>Update flow meters to ultrasonic clamp-on meters. Removal of flow meter bypass.</li> </ul>
60	Chemical Feed Facility	\$1,857,000	\$2,704,000	<ul style="list-style-type: none"> <li>Chemical feed and storage building for sodium hypochlorite (500 gal.) and aluminum sulfate (10,000 gal.), including chemical containment and offloading.</li> <li>Chemical Feed Electrical building.</li> </ul>	<ul style="list-style-type: none"> <li>Increased building footprint to house equipment and updated facility (+\$0.4M)</li> <li>Increased electrical and controls unit pricing (+\$0.4M)</li> </ul>
70	Aerated Sludge Storage and Mixing	\$3,201,000	\$5,914,000	<ul style="list-style-type: none"> <li>Two 50-ft ASHTs with jet aeration systems, including stainless steel manifolds, three recirculation chopper pumps and three positive displacement blowers</li> <li>Three progressive cavity centrifuge feed pumps</li> <li>Pump station, elevated walkway, decant thickening, and drains</li> </ul>	<ul style="list-style-type: none"> <li>Updated structural elements (foundation and concrete design, walkway) (+\$1.1M)</li> <li>Updated electrical scope and unit pricing (+\$0.8M)</li> <li>Updated vendor pricing based on updated specification (+\$0.8M)</li> </ul>
72	Biosolids Handling Building	\$9,269,000	\$13,223,000	<ul style="list-style-type: none"> <li>Construct Biosolids Handling Building with space for three Centrifuges.</li> <li>Solids electrical room and electrical gear for ASHTs and dewatering.</li> </ul>	<ul style="list-style-type: none"> <li>Additional building concrete design (foundation, columns, additional stiffness for centrifuges, etc.; including unit price increases) (+\$2.2M)</li> <li>Additional structural masonry and metals (+\$0.7M)</li> <li>Updated electrical equipment and unit prices (+\$1.1M)</li> </ul>
85	Operations & Laboratory Building	\$2,058,000	\$2,869,000	<ul style="list-style-type: none"> <li>Operations and Laboratory building of approximately 3,500 square feet for plant operations/operations staff.</li> </ul>	<ul style="list-style-type: none"> <li>Updated foundation and building structural design (+\$0.5M)</li> <li>Facility design progression and details (+\$0.3M)</li> </ul>
86	Maintenance and Storage Building	\$1,054,000	\$1,735,000	<ul style="list-style-type: none"> <li>Maintenance Facility of approximately 4,000 square feet for plant functions including shop space, indoor storage, outdoor storage, and staff workspaces.</li> </ul>	<ul style="list-style-type: none"> <li>Updated foundation and building structural design (+\$0.5M)</li> <li>Facility design progression and details (+\$0.1M)</li> </ul>
88	Main Plant Electrical Building	\$5,183,000	\$6,238,000	<ul style="list-style-type: none"> <li>Main plant electrical building to house distribution and switchgear to serve electrical loads through Phase 2.</li> </ul>	<ul style="list-style-type: none"> <li>Building structural and architectural design progression (concrete quantity, masonry, and unit cost updates) (+\$0.4M)</li> <li>Updated Electrical Unit Pricing (+\$0.3M) <ul style="list-style-type: none"> <li>Increased MV Cable cost due to current market conditions</li> <li>Updated cost for Switchgear controls</li> </ul> </li> </ul>





ID	Line Item	60% OPCC (As of May 2022)	Final Submittal OPCC (As of Sept. 2022)	Final OPCC Summary of Scope (As of Sept. 2022)	Summary of Updates from 60% Submittal Package (from May 2022)
89	Generator and Transformer Pads	N/A	\$359,000	<ul style="list-style-type: none"> <li>Foundation and structural supports for Generator and Transformers associated with Facility 88</li> </ul>	<ul style="list-style-type: none"> <li>Facility Added/separated cost from Facility 88.</li> </ul>
90	Miscellaneous Electrical	\$3,898,000	\$5,270,000	<ul style="list-style-type: none"> <li>Miscellaneous electrical items associated with City-side establishment of power from Electrical Service Provider.</li> <li>Emergency generator and load bank</li> </ul>	<ul style="list-style-type: none"> <li>Updated cost of Generator and associated labor based on current market conditions (+\$0.9M)</li> </ul>
95	SCADA	\$2,490,000	\$2,563,000	<ul style="list-style-type: none"> <li>Plant Controls system, including SCADA/fiber loop, main operator control station, PLCs, access cabinet</li> </ul>	<ul style="list-style-type: none"> <li>Updated control system equipment pricing.</li> </ul>
99	Weiss Lane Lift Station Decommissioning	N/A	\$255,000	<ul style="list-style-type: none"> <li>Decommissioning Activities at Weiss Lane Lift Station per Kimley-Horn design</li> </ul>	<ul style="list-style-type: none"> <li>Facility Added to this portion of the OPCC. Estimate is per Kimley Horn lump sum items, but with additional multipliers for design assumptions.</li> </ul>
<b>LUMP SUM FACILITY TOTAL</b>		<b>\$128,387,000</b>	<b>\$204,000,000</b>		





Garver recognizes the significant increase (up to \$76M) in base-facility OPCC following the 60% Design submittal. The following represents some of the major impacts to the OPCC in addition to those noted in the “Summary of Changes” column above:

1. Concrete Pricing Updates: Concrete pricing updates account for \$43M, or 57% of the base-facility price increases. There are two sources of impacts to concrete unit pricing discussed in detail below:
  - a. Concrete Unit Price Increases (significant updates since 60%)
  - b. Quantity Updates
2. Electrical and Controls Pricing Updates: Electrical and controls pricing updates account for about \$16M, or 21% of the base facility price increases. These are primarily due to shortages of subcomponents and programming chips rather than programmer or copper material availability.
3. Equipment Pricing Updates: Equipment pricing updates are a smaller portion and are partially noted in the table above. They likely account for less than \$3M in pricing increase (4%) and are based on the Final Submittal specifications, including design updates and adders such as the minimum 2-year equipment warranty from the date of final completion.
4. 60% Design Comment Incorporation: Certain comments at 60% resulted in additional costs for the project, such as Influent Lift Station lining, Headworks lining, gate additions throughout the main process facility to allow for piping isolation and future connections without shutdowns, and full-width clarifier access walkways. Certain instances are noted in the table above, and likely total between \$2M to \$4M (~4%) of the above increase.
5. Miscellaneous Updates by Facility: Refer to Table 3-1 above for specific updates for each facility and the remaining adjustments as warranted. These likely account for the remaining \$10M or 14% of the OPCC increase by facility.

### **3.2 Concrete Pricing Updates**

As noted above, concrete pricing represents over 57% of the increase in facility costs from the 60% OPCC and are related to either the increase in concrete unit prices or updates to unit quantities. Table 3-2 provides a comparison of the unit cost updates from the 60% cost estimate to the Final Submittal estimate. Garver has seen significant increases from typical concrete unit pricing in recent project bids. In reviewing the bids with several contractors (including ongoing discussions with the City of Pflugerville for the Water Treatment Plant), concrete unit pricing is noted as a major impact. Issues include the following:

- Constraints on supply of raw materials critical for concrete (cement/concrete mix).
- Cost of reinforcing steel, including compliance with American Iron and Steel (AIS) requirements mandated by Clean Water State Revolving Fund (CWSRF) funding mechanisms.
- Limited labor force in Central Texas for drivers.
- Increased labor pricing due to labor constraints for concrete specialists.
- Manufacturing facility impacts due to recent weather events (February 2021 freeze) and increased regulation.

Garver utilized recent bid tabulations, updated pricing on its most recent OPCCs, and coordination calls by its Construction Management group with Central Texas-based contractors to update the unit cost.

**Table 3-2: Concrete Unit Cost Updates**

Item	60% Unit Cost	Unit	Final Submittal Unit Cost	Unit
Concrete Deep Foundations <sup>1</sup>	\$850 <sup>1</sup>	CY <sup>1</sup>	\$1,400	CY
Grade Beams	\$400	CY	\$1,200	CY
Base Slabs	\$400	CY	\$1,500	CY
Freestanding Walls	\$800	CY	\$1,600	CY
Beams	\$1,200	CY	\$1,400	CY
Columns	\$800	CY	\$1,300	CY
Elevated Slabs	\$1,200	CY	\$1,600	CY
Equipment Pads	\$400	CY	\$1,000	CY
Void Forms	\$15	SF	\$14	SF
Total Due to Unit Price Changes				
<b>Notes:</b> For Drilled Pier Foundations, Garver has shifted from a \$/LF unit price (for a 24" diameter drilled pier) to a \$/CY unit price (to accommodate multiple drilled pier sizes and better account for the volumetric price of concrete). The price shown per CY is based on conversion of \$100/LF for 24" diameter drilled piers converted into its CY basis.				

The above increases in concrete unit pricing alone result in an increase of about \$33M in concrete cost based on the quantity of concrete shown in the 60% OPCC, including Mobilization, OH&P, and Contingency. Garver notes that, for planning purposes, it is prudent to do a sensitivity analysis for the overall project cost based on the concrete unit cost assumptions, since a further increase of 20% concrete unit costs could add \$13M in concrete costs to the OPCC with the unit quantities shown.

Concrete quantities were also updated to reflect the design shown in the "Final Submittal" drawings. This resulted in a general net increase in concrete totalling around \$10M in the OPCC utilizing the revised Final Submittal concrete unit pricing. The concrete quantity updates were based on design progression and finalization of the geotechnical recommendations. Garver has added Appendix B to this memorandum to compare the changes in concrete quantity (from the 60% Submittal to the Final Submittal) by type of concrete for each facility throughout the project. Table 3-3 summarizes the concrete quantity updates by type of concrete and the resulting impacts to the OPCC.

**Table 3-3: Concrete Quantity Updates**

Item	Change in Quantity from 60% to Final Submittal	Unit	Final Submittal Unit Cost	Change in Total Cost
Concrete Deep Foundations	1,008	CY	\$1,400	\$1,400,000
Grade Beams	151	CY	\$1,200	\$200,000
Base Slabs	738	CY	\$1,500	\$1,100,000
Freestanding Walls	2026	CY	\$1,600	\$3,200,000
Beams	227	CY	\$1,400	\$300,000
Columns	47	CY	\$1,300	\$100,000
Elevated Slabs	-17	CY	\$1,600	\$0
Equipment Pads	151	CY	\$1,000	\$0
Void Forms	9,186	SF	\$14	\$1,400,000
Total Due to Quantity Updates, prior to Mob., OH&P, Contingency				\$6,300,000
Mobilization, OH&P, Contingency				\$3,100,000
<b>Total Cost, Added</b>				<b>\$9,400,000</b>

Specific facilities that are significantly impacted by the concrete quantity updates from the 60% Submittal include:

- Facility 10 (Influent Lift Station): 1,000 cubic yards of additional concrete.
- Facility 31 (Aeration Basins): 4,100 cubic yards of additional concrete.
- Facility 45 (Secondary Clarifiers): Reduction of 1,200 cubic yards of concrete.

These facilities all contain significant concrete and concrete cost relative to the overall facility OPCC, which explains the relatively significant proportional change in the OPCC for the facilities as compared to the 60% Submittal.

## 4.0 Cost Savings, Adjustments, and Alternatives

Garver has previously identified potential estimate updates, scope modifications, or potential bid alternatives for consideration of the City/OR team. In previous OPCC iterations, these have not been adopted as alternates (rather, cost savings may have been included as part of the design or items were rejected). Additional cost savings and proposal alternates may be generated through further discussion as part of the final submittal.

- Detention Grading (Facility 04) – Potential alternative to add volume to the detention basin by expanding the excavation to meet the size shown for all Phases of the facility. This is currently shown as a Proposal Alternate in the Final Submittal.
- Aeration Basins (Facility 31) – Garver anticipates further review of the design assumptions at the aeration basins, particularly as related to the freeboard assumptions (it could be reduced from 5' to 3'; or meet the TCEQ minimum of 18", though that is not advised). This reduction could lead to savings in concrete volume, simplify the foundation design, and/or reduce wall thickness. Garver has proceeded to consider this change and will welcome further discussion with the City/Owner's Representative as part of the Final Submittal Workshops.
- Equipment Alternates – Garver has shown in the Final Submittal proposal form the potential for equipment alternates to facilitate selection of equipment around owner preferences. These currently include Grit Removal, Blowers and Aeration Control System, and Jet Aeration Equipment.

## 5.0 Cash Allowances

The proposal form includes Cash Allowance for the following items:

- Ultraviolet Disinfection System (Pre-selected equipment pricing supplier)
- Cloth Media Filter System (Pre-negotiated equipment pricing supplier)
- Electrical Procurement Package (Pre-procured electrical equipment for assignment to the general contractor)

These items are currently included in the Facility costs included in Table 3-1 for purposes of the OPCC.

## 6.0 Contingency Allowances for Construction

Garver recommends establishing Contingency Allowances for the project construction in the Proposal Form. The recommended Contingency Allowances are further described in Table 6-1. A general allowance for work change directives and/or change orders that would be negotiated and approved by City Staff during construction to allow work to proceed without City Council approval. Garver proposes that this allowance could be from 3% up to 5% of the Lump Sum Facility work allowance (pending coordination and discussion with the City PM Team and Owner's Representative), and has shown the allowance at 5% (\$10,200,000) for purposes of this submittal.

**Table 6-1: Contingency Allowances**

<b>Item</b>	<b>Description</b>	<b>Budgeted Costs</b>
1	<p>Overall Contingency for Work Change Directives</p> <ul style="list-style-type: none"> <li>• Allowance for miscellaneous work on a change authorization basis required during completion of the Project to be used solely at the discretion of the Owner and Engineer.</li> </ul>	\$10.2M
2	<p>Power Utility Service Allowance</p> <ul style="list-style-type: none"> <li>• Allowance for the Contractor to install work as directed by Oncor to establish electrical at the site. It includes allowances for Oncor-provided electrical pads on the site and other appurtenances necessary to connect to the primary power source.</li> </ul>	\$500k
3	<p>Commissioning, Startup, Seeding, and Bypass Pumping</p> <ul style="list-style-type: none"> <li>• Allowance associated with Startup and Commissioning activities. This includes an allowance for owner-directed bypass needs that are independent of the requirements listed under Sections 01 50 00, 01 75 60, and 01 79 00.</li> </ul>	\$300k
4	<p>Construction Water Allowance</p> <ul style="list-style-type: none"> <li>• Allowance related to Construction Water for basin and piping testing, filling basins for performance testing, and filling for commissioning and startup and clean water testing prior to seeding and introduction of wastewater. This allowance is provided as a measure of accounting between the Contractor and the Owner.</li> <li>• Garver recommends that the City provide the water to the contractor utilizing its existing contract with MWSC.</li> </ul>	See below
5	<p>Construction Trailer/Outfitting Allowance</p> <ul style="list-style-type: none"> <li>• Allowance for additional equipment to outfit and furnish the Construction Observer's field trailer. This is in addition to the field office requirements for the Residential Project Representative defined in section 01 50 00.</li> </ul>	\$100k
6	<p>Office and Laboratory Equipment Outfitting</p> <ul style="list-style-type: none"> <li>• Allowance for Owner-directed procurement of office furniture for the new Operations and Laboratory and Maintenance Buildings.</li> </ul>	\$300k
<b>Total</b>		<b>(\$11.4M shown in estimate summary)</b>

Additional allowances may be discussed/added through further design discussions.

## 7.0 Identification of Costs Independent of the Construction Contract

Garver identified the need to identify and account for several cost items—necessary to get the plant operable—that would ultimately either not be part of the construction contract or may be preferred to not be part of the construction contract. These costs will be borne by the City of Pflugerville independent of the construction contract covered by this OPCC. This includes items that may be acquired and installed by the City of Pflugerville rather than the Contractor. These costs have not been included in the estimated total project cost. Estimates for these items are shown in **Error! Reference source not found.**

**Table 7-1: Costs Independent from Construction Contract**

Item	Description	Budgeted Costs
1	<p>Three-phase power establishment to Site (Independent payment)</p> <ul style="list-style-type: none"> <li>Garver recommends allocating funding for Oncor electrical service, even though current estimates show minimal costs.</li> <li>This is noted due to the criticality of establishing 3-phase power to the site and the potential for funding to allow for better traction.</li> </ul>	\$1,000,000
2	<p>MWSC Water Contract Allowance (for Construction Water Testing)</p> <ul style="list-style-type: none"> <li>Refer to description in Section 6 above.</li> <li>Garver recommends that the City provide water as the City has favorable water rates directly with MWSC (saving overall costs) and since the City's existing contract should allow for better control of Construction Water with MWSC (i.e. increased flow rates and better capacity to get water when needed).</li> </ul>	\$200,000
3	<p>Equipment and Tools</p> <ul style="list-style-type: none"> <li>Equipment such as backhoes, UTVs, trucks, mowers, etc. will be needed to access and manage facility operations.</li> <li>Tools will be needed for maintenance and storage.</li> <li>Costs are not currently at any individual facility. The City should achieve cost savings by procuring separately from the Contractor.</li> </ul>	\$450k to \$750,000
4	<p>Allowances for Chemicals during Startup and Testing</p> <ul style="list-style-type: none"> <li>The City will need to expect to provide chemicals for startup and commissioning and during operation of the plant through existing service providers.</li> </ul>	\$100,000
<b>Total</b>		<b>\$1.9M</b>

Additional costs not included in the RWWTF project total include portions of the remainder of the Wilbarger project being designed by other consultants and led by the OR Team, such as the offsite sewer interceptors, etc.

## 8.0 Escalation Considerations

Given the current bidding and inflation environment, Garver recommends that escalation considerations be added to the facility/lump sum OPCC to account for anticipated increases in construction costs that are likely to be part of the Offeror Pricing on the date of the proposal, similar to what was shown for the 60% Submittal OPCC.

For this submittal, Garver recommends the application of escalation as noted in Table 8-1.

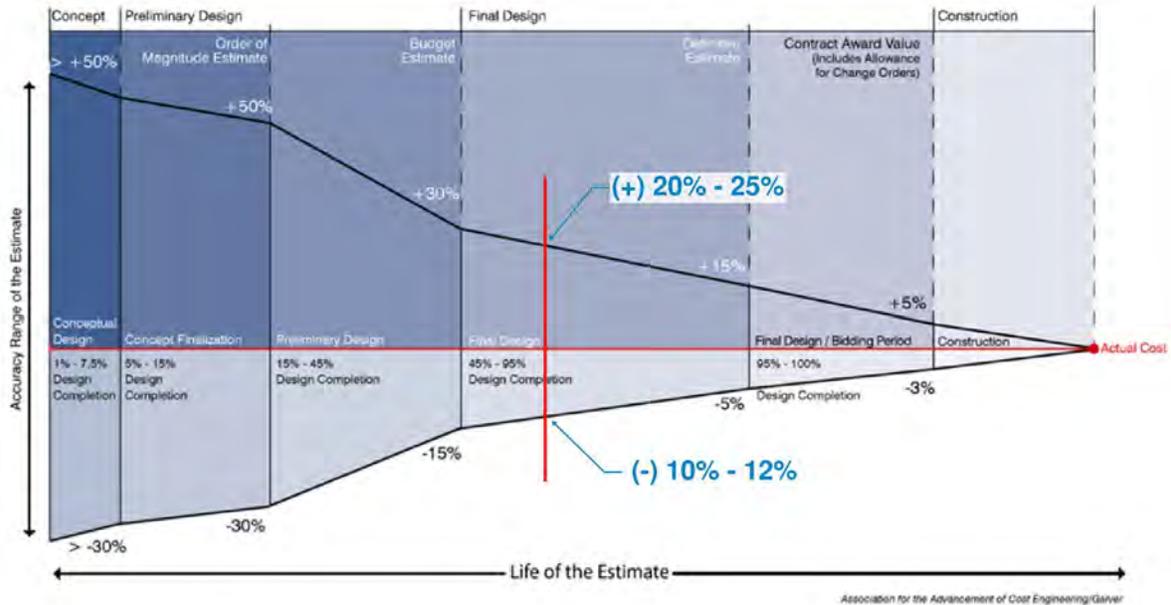
**Table 8-1: Escalation Assumptions**

<b>Assumption</b>	<b>Final Submittal OPCC Amount</b>	<b>Justification for Assumption</b>
Escalation Period from Final Proposal OPCC to Construction NTP Date	0.5 years	<ul style="list-style-type: none"> <li>Assumes NTP in March 2023 (6 months from Final Submittal OPCC)</li> </ul>
Escalation Period from Final Submittal OPCC to Mid—point of Construction	1.5 years	<ul style="list-style-type: none"> <li>Assumes half of a construction period of 3 years</li> </ul>
Rate of Escalation	7%	<ul style="list-style-type: none"> <li>Future escalation is unknown, but anticipated escalation of 5% to 10% is possible based upon inflation rate from November 2021 through May 2022.</li> <li>Value provided is an average assumption and is subject to further monitoring throughout design.</li> </ul>
<b>Total Escalation</b>	<b>14%</b>	<ul style="list-style-type: none"> <li><b>Assumes 2 years (0.5 yr + 1.5 yr) multiplied by the 7% rate of escalation.</b></li> </ul>

Garver recommends applying the escalation to the Lump Sum Facility total. Based on the current OPCC and escalation assumptions, Garver recommends the inclusion of approximately \$30M in escalation to the total cost of the project.

## 9.0 Summary

Contingencies were reduced based on typical design progression as recommended by the Association for the Advancement of Cost Engineering (AACE), as described in Figure 9-1. With the Final Submittal, we are about through the final design phase, making the AACE recommended contingency approximately from +20% to +25% to -10% to -12%. This range describes our expected accuracy range for the costs presented.



**Figure 9-1: Estimate Accuracy Range through Project Development**

In addition, contractor overhead and profit, and mobilization were increased based on the current market and other considerations described in Table 2-1. A summary of expected costs for the project is shown in Table 9-1.

Garver notes the following as key takeaways from the RWWTF OPCC analysis:

1. The RWWTF OPCC is anticipated to be from \$200M up to \$250M based on current market conditions and incorporating the current scope as identified in the Final submittal. Under the assumptions presented—including allowances and additional costs outside of the anticipated construction contract, an OPCC of approximately \$247,000,000 is estimated.
2. The cost above includes adjustments to OPCC assumptions (Mobilization, Contingency, Contractor Overhead and Profit), incorporation of cash allowances for construction-related changes, escalation to the midpoint of construction, and incorporation of costs independent of the construction contract.
3. Cost increases are due to changes in the current bid environment, design progression (quantity takeoff updates), and updated scope from the 60% submittal.
4. The design team remains committed to refining the design and incorporating cost savings within the current design scope when identified. Suggestions are provided within this memorandum, and additional considerations will be discussed as part of the Final Review Meetings.

**Table 9-1: Project Cost Summary Table**

<b>Facility Area</b>	<b>Facilities Include</b>	<b>Final OPCC Item (Sept. 2022)</b>	<b>60% OPCC Item (May 2022)</b>
Civil	03, 04, 05, 07, 09	\$26,900,000	\$20,800,000
Electrical and SCADA (Overall Plant)	06, 88, 90, 95	\$23,700,000	\$17,300,000
A - ILS/Headworks	10, 12, 13, 14	\$33,400,000	\$20,100,000
B - Secondary Treatment	31, 38, 40, 45, 46	\$73,500,000	\$38,500,000
C - Tertiary Treatment	50, 53, 54, 55, 56, 60	\$21,600,000	\$16,100,000
D - Solids	70, 72	\$19,200,000	\$12,500,000
Operations and Lab and Maintenance Buildings	85, 86	\$4,600,000	\$3,100,000
<b>Subtotal, Lump Sum Facilities</b>		<b>\$204,000,000</b>	<b>\$128,400,000</b>
Additive or Deductive Alternates		TBD	TBD
Contingency Allowances for Construction		\$11,400,000	\$3,900,000
Costs Independent of Construction Contract		\$1,900,000	\$3,000,000
Escalation to Midpoint of Construction		\$29,600,000	\$18,600,000
<b>Total, All Project</b>		<b>\$247,000,000</b>	<b>\$153,900,000</b>



# **APPENDIX A**

## **Detailed Cost Estimates**

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville

19W07191

9/30/2022

**1. Lump Sum Work (Facilities or Areas)**

**\$ Total**

<a href="#">03</a> Demolition and Erosion Control	\$435,000
<a href="#">04</a> Grading, Paving, Storm Water Detention	\$8,535,000
<a href="#">05</a> Yard Piping	\$15,646,000
<a href="#">06</a> Site Electrical	\$9,632,000
<a href="#">07</a> Landscaping and Irrigation	\$1,211,000
<a href="#">09</a> Civil Yard Structures	\$1,030,000
<a href="#">10</a> Influent Lift Station #1	\$15,735,000
<a href="#">12</a> Headworks #1	\$10,438,000
<a href="#">13</a> Influent Foul Air Facility #1	\$2,323,000
<a href="#">14</a> ILS/HW Electrical Building #1	\$5,081,000
<a href="#">31</a> Aeration Basins	\$37,321,000
<a href="#">38</a> Blower Facility #1	\$10,576,000
<a href="#">40</a> Mixed Liquor Splitter Box	\$2,090,000
<a href="#">45</a> Secondary Clarifiers	\$18,589,000
<a href="#">46</a> RAS/WAS Pump Station	\$4,935,000
<a href="#">50</a> Filters	\$7,183,000
<a href="#">53</a> UV Disinfection	\$4,246,000
<a href="#">54</a> UV Electrical Building #1	\$2,703,000
<a href="#">55</a> Effluent Facility	\$3,662,000
<a href="#">56</a> Non-Potable Water System	\$1,038,000
<a href="#">60</a> Chemical Feed Facility	\$2,704,000
<a href="#">70</a> Aerated Sludge Storage and Mixing	\$5,914,000
<a href="#">72</a> Biosolids Handling Building	\$13,223,000
<a href="#">85</a> Operations & Laboratory Building	\$2,869,000
<a href="#">86</a> Maintenance and Storage Building	\$1,735,000
<a href="#">88</a> Main Plant Electrical Building #1	\$6,238,000
<a href="#">89</a> Generator and Transformer Pad	\$359,000
<a href="#">90</a> General Electrical	\$5,270,000
<a href="#">95</a> SCADA	\$2,563,000
<a href="#">99</a> Weiss Lift Station (estimate per Kimley Horn)	\$255,000

**Total Estimated Lump Sum Work**

**\$204,000,000**

All numbers above include the following base Assumptions:

Mobilization	5%
Contractor Overhead and Profit	22%
Contingency for Unidentified Scope	18%

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville

19W07191

9/30/2022

**2. Additive and Deductive Alternates**

**\$ Total**

Subtotal Estimated Deductive Alternatives

\$0

**3. Cash Allowances for Construction Changes**

**\$ Total**

1

Cash Allowance for Construction Changes

Basis of Cash Allowance  
Allowance Rate 5%

\$204,000,000  
\$10,200,000

Subtotal for Construction Changes

\$10,200,000

**4. Allowance for Project Escalation**

**\$ Total**

Escalation of Cost to Midpoint Construction (Sept 2022  
now; 6 Months to NTP, 50% of 3 yr construction  
midpoint)

Basis of Escalation  
2 Years @ 7.0%

\$204,000,000  
\$29,600,000

**5. Costs for Contingency Allowance Items or Costs Independent of Construction Contract**

**\$ Total**

Contingency Allowances (through Contractor)

2 Contractor's Coordination with Utility for Power to Site (Contingency Allowance)

\$500,000

3 Commissioning, Startup, and Equipment Testing (Contingency Allowance)

\$300,000

5 Construction Trailer Outfitting Allowance (Contingency Allowance)

\$100,000

6 Building Furnishings (Contingency Allowance)

\$300,000

Other City-Paid Costs

3-Phase Power Establishment to Site (Independent Payment)

\$1,000,000

4 Allowances for Water Procurement (Ex. MWSC Contract)

\$200,000

Equipment and Tools (Operations Purchase)

\$600,000

Allowances for Startup Chemicals (Operations Purchase)

\$100,000

Subtotal for Costs Independent of Construction Contract

\$3,100,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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9/30/2022

Construction Contract Costs, Complete with Facilities, Alternates, Cash Allowances, and Escalation	(1 + 2 + 3 + 4)	\$244,000,000
Complete Project, with Alternates, Allowance, Escalation, and Costs Independent of Contract	(1 + 2 + 3 + 4 + 5)	\$247,000,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 3**

**Facility Description: Demolition and Erosion Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Demolition	1	LS	\$ -	\$ 75,000.00	\$ 75,000
Erosion Control	1	LS	\$ 200,000.00	\$ -	\$ 200,000
<i>Miscellaneous</i>	5%				\$ 13,750
Subtotal Division 2					<b>\$ 288,750</b>
<b>Subtotal This Facility</b>					<b>\$ 288,750</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 67,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 15,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 64,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 435,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 4  
Facility Description: Grading, Paving, and Storm Detention**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	34,380	CY		\$ 15.00	\$ 515,700
Fill	58,805	CY	\$ -	\$ 18.00	\$ 1,058,490
Subgrade Preparation	27,496	SY		\$ 25.00	\$ 687,400
Base Material	4,705	CY	\$ 69.00		\$ 324,645
<i>Miscellaneous</i>	5%				\$ 129,312
Subtotal Division 31					<b>\$ 2,715,547</b>
<b>Division 32 - Exterior Improvements</b>					
Heavy Duty Reinforced Concrete Pavement (8")	21,266	SY	\$ 50.00		\$ 1,063,300
Medium Duty Reinforced Concrete Pavement (6")	6,230	SY	\$ 110.00		\$ 685,300
Asphalt Concrete Pavement (4")	759	SY	\$ 54.00		\$ 40,986
Chain Link Fence and Gate	5,510	LF	\$ 40.00		\$ 220,400
Column Fence with Wrought Iron Bars	2,600	LF	\$ 250.00		\$ 650,000
Sliding Entrance Gate	1	EA	\$ 25,000.00		\$ 25,000
Concrete Sidewalk (5")	2,335	SY	\$ 65.00		\$ 151,775
<i>Miscellaneous</i>	5%				\$ 141,838
Subtotal Division 32					<b>\$ 2,978,599</b>
<b>Subtotal This Facility</b>					<b>\$ 5,694,146</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,302,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 285,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,253,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 8,535,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 33 - Utilities</b>					
<b>Potable Water System</b>					
12" DI Pipe	2040	LF	\$ 121.30	\$ 60.65	\$ 371,178
12" x 4" Tee	1	EA	\$ 395.00	\$ 197.50	\$ 593
12" x 6" Tee	2	EA	\$ 395.00	\$ 197.50	\$ 1,185
12" 45 Bend	5	EA	\$ 346.00	\$ 173.00	\$ 2,595
12" Blind Flange	1	EA	\$ 383.00	\$ 191.50	\$ 575
6" DI Pipe	195	LF	\$ 63.43	\$ 31.72	\$ 18,553
6" DI Valve	1	EA	\$ 1,462.00	\$ 731.00	\$ 2,193
4" DI Pipe	845	LF	\$ 72.45	\$ 36.23	\$ 91,830
4" x 2" Tee	2	EA	\$ 163.00	\$ 81.50	\$ 489
4" x 2" Reducer	1	EA	\$ 133.00	\$ 66.50	\$ 200
4" 90 Bend	1	EA	\$ 83.00	\$ 41.50	\$ 125
4" 45 Bend	2	EA	\$ 95.00	\$ 47.50	\$ 285
4" x 3" Reducer	2	EA	\$ 105.00	\$ 52.50	\$ 315
4" x 3" Tee	1	EA	\$ 152.00	\$ 76.00	\$ 228
3" DI Pipe	295	LF	\$ 65.00	\$ 32.50	\$ 28,763
3" x 2" Tee	1	EA	\$ 150.00	\$ 75.00	\$ 225
2" SCH 80 Pipe	305	LF	\$ 18.00	\$ 9.00	\$ 8,235
2" 90 Bend	2	EA	\$ 100.00	\$ 50.00	\$ 300
2" 45 Bend	2	EA	\$ 100.00	\$ 50.00	\$ 300
2" Plug	1	EA	\$ 65.00	\$ 32.50	\$ 98
2" Gate Valve	1	EA	\$ 391.00	\$ 195.50	\$ 587
Fire Hydrant Assembly	3	EA	\$ 10,000.00	\$ 5,000.00	\$ 45,000
<b>Non Potable Water System</b>					
8" DI Pipe	1875	LF	\$ 81.51	\$ 40.76	\$ 229,247
8" Tee	3	EA	\$ 292.00	\$ 146.00	\$ 1,314
8" x 4" Tee	2	EA	\$ 211.00	\$ 105.50	\$ 633
8" x 6" Tee	5	EA	\$ 241.00	\$ 120.50	\$ 1,808
8" x 2" Tee	7	EA	\$ 205.00	\$ 102.50	\$ 2,153
8" x 6" Reducer	1	EA	\$ 115.00	\$ 57.50	\$ 173
8" x 4" Reducer	3	EA	\$ 107.00	\$ 53.50	\$ 482
8" 90 Bend	1	EA	\$ 196.00	\$ 98.00	\$ 294
8" 45 Bend	12	EA	\$ 160.00	\$ 80.00	\$ 2,880
8" 22.5 Bend	2	EA	\$ 150.00	\$ 75.00	\$ 450
8" Gate Valve	2	EA	\$ 2,365.00	\$ 1,182.50	\$ 7,095
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 85.00	\$ 255
6" DI Pipe	1380	LF	\$ 63.43	\$ 31.72	\$ 131,300
6" Tee	1	EA	\$ 195.00	\$ 97.50	\$ 293
6" x 2" Tee	3	EA	\$ 230.00	\$ 115.00	\$ 1,035
6" x 2" Tapping Saddle	1	EA	\$ 1,300.00	\$ 650.00	\$ 1,950
6" x 1" Tapping Sleeve	1	EA	\$ 1,300.00	\$ 650.00	\$ 1,950
6" 90 Bend	6	EA	\$ 136.00	\$ 68.00	\$ 1,224
6" 45 Bend	6	EA	\$ 110.00	\$ 55.00	\$ 990
6" 22.5 Bend	2	EA	\$ 100.00	\$ 50.00	\$ 300
6" Gate Valve	2	EA	\$ 1,462.00	\$ 731.00	\$ 4,386
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 85.00	\$ 255
4" DI Pipe	1630	LF	\$ 72.45	\$ 36.23	\$ 177,140
4" Tee	5	EA	\$ 109.00	\$ 54.50	\$ 818
4" x 2" Tee	2	EA	\$ 163.00	\$ 81.50	\$ 489
4" x 2" Reducer	2	EA	\$ 133.00	\$ 66.50	\$ 399
4" 90 Bend	3	EA	\$ 83.00	\$ 41.50	\$ 374
4" 45 Bend	4	EA	\$ 95.00	\$ 47.50	\$ 570

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
4" Gate Valve	1	EA	\$ 879.00	\$ 439.50	\$ 1,319
4" Butterfly Valve	1	EA	\$ 949.00	\$ 474.50	\$ 1,424
4" Cap	1	EA	\$ 31.00	\$ 15.50	\$ 47
Yard Hydrant Assembly	5	EA	\$ 170.00	\$ 85.00	\$ 1,275
2" SCH 80 PVC Pipe	2010	LF	\$ 15.00	\$ 7.50	\$ 45,225
2" Tee	11	EA	\$ 150.00	\$ 75.00	\$ 2,475
2" 90 Bend	9	EA	\$ 100.00	\$ 50.00	\$ 1,350
2" 45 Bend	9	EA	\$ 110.00	\$ 55.00	\$ 1,485
2" 22.5 Bend	2	EA	\$ 95.00	\$ 47.50	\$ 285
2" 11.25 Bend	2	EA	\$ 85.00	\$ 42.50	\$ 255
2" Gate Valve	5	EA	\$ 391.00	\$ 195.50	\$ 2,933
2" Check Valve	1	EA	\$ 3,049.00	\$ 1,524.50	\$ 4,574
<b>Plant Drain System</b>					
30" DI Pipe	1775	LF	\$ 501.14	\$ 250.57	\$ 1,334,285
30" x 12" Tee	4	EA	\$ 3,444.00	\$ 1,722.00	\$ 20,664
30" x 8" Tee	2	EA	\$ 3,067.00	\$ 1,533.50	\$ 9,201
30" x 6" Tee	1	EA	\$ 2,718.00	\$ 1,359.00	\$ 4,077
30" x 4" Tee	2	EA	\$ 4,191.00	\$ 2,095.50	\$ 12,573
Process Unit Drain Connection	2	EA	\$ 10,900.00	\$ 5,450.00	\$ 32,700
18" DI Pipe	770	LF	\$ 215.12	\$ 107.56	\$ 248,464
18" x 12" Tee	2	EA	\$ 2,188.00	\$ 1,094.00	\$ 6,564
18" x 8" Tee	4	EA	\$ 1,282.00	\$ 641.00	\$ 7,692
18" x 6" Tee	4	EA	\$ 2,026.00	\$ 1,013.00	\$ 12,156
12" DI Pipe	1230	LF	\$ 121.30	\$ 60.65	\$ 223,799
12" x 12" Tee	1	EA	\$ 846.00	\$ 423.00	\$ 1,269
12" x 8" Tee	5	EA	\$ 642.00	\$ 321.00	\$ 4,815
12" x 4" Tee	2	EA	\$ 394.00	\$ 197.00	\$ 1,182
12" x 12" WYE	12	EA	\$ 1,292.00	\$ 646.00	\$ 23,256
12" 45 Bend	3	EA	\$ 346.00	\$ 173.00	\$ 1,557
8" DI Pipe	760	LF	\$ 81.51	\$ 40.76	\$ 92,921
Cleanout	13	EA	\$ 1,680.00	\$ 840.00	\$ 32,760
6" DI Pipe	420	LF	\$ 63.43	\$ 31.72	\$ 39,961
6" x 6" WYE	7	EA	\$ 341.00	\$ 170.50	\$ 3,581
6" 90 Bend	1	EA	\$ 136.00	\$ 68.00	\$ 204
6" 22.5 Bend	2	EA	\$ 135.00	\$ 67.50	\$ 405
6" 11.25 Bend	2	EA	\$ 139.00	\$ 69.50	\$ 417
4" DI Pipe	710	LF	\$ 72.45	\$ 36.23	\$ 77,159
4" x 4" Tee	2	EA	\$ 109.00	\$ 54.50	\$ 327
4" 90 Bend	1	EA	\$ 83.00	\$ 41.50	\$ 125
4" 45 Bend	1	EA	\$ 95.00	\$ 47.50	\$ 143
4" 11.25 Bend	2	EA	\$ 83.00	\$ 41.50	\$ 249
96" Manhole	8	EA	\$ 30,000.00	\$ 15,000.00	\$ 360,000
48" Manhole	6	EA	\$ 8,000.00	\$ 4,000.00	\$ 72,000
<b>Chemical</b>					
2" CPVC	850	LF	\$ 18.00	\$ 9.00	\$ 22,950
2" 90 Bend	3	EA	\$ 100.00	\$ 50.00	\$ 450
2" 11.25 Bend	2	EA	\$ 85.00	\$ 42.50	\$ 255
2" Tee	1	EA	\$ 150.00	\$ 75.00	\$ 225
1/2" CPVC	310	LF	\$ 2.00	\$ 1.00	\$ 930
1/2" 90 Bend	5	EA	\$ 75.00	\$ 37.50	\$ 563
4" PVC	735	LF	\$ 40.00	\$ 20.00	\$ 44,100

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**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
2" PVC	310	LF	\$ 18.00	\$ 9.00	\$ 8,370
3/4" CPVC	235	LF	\$ 10.00	\$ 5.00	\$ 3,525
1" CPVC	500	LF	\$ 12.00	\$ 6.00	\$ 9,000
<i>Miscellaneous</i>	5%				\$ 196,081
Subtotal Division 33					<b>\$ 4,117,700</b>

**Division 40 - Process Integration**

<b><u>Interceptor to Influent Lift Stations</u></b>					
78" CCFRPP (Hobas) Pipe	85	LF	\$ 2,400.00	\$ 1,200.00	\$ 306,000
<b><u>Headworks to Aeration Basin</u></b>					
30" DI Pipe	575	LF	\$ 501.14	\$ 250.57	\$ 432,233
30" 90 Bend	3	EA	\$ 3,922.00	\$ 1,961.00	\$ 17,649
30" 45 Bend	2	EA	\$ 3,296.00	\$ 1,648.00	\$ 9,888
30"x18" Tee	1	EA	\$ 5,925.00	\$ 2,962.50	\$ 8,888
<b><u>Aeration Basin to MLSS Splitter Box</u></b>					
42" DI Pipe	140	LF	\$ 813.29	\$ 406.65	\$ 170,791
42" 90 Bend	1	EA	\$ 10,513.00	\$ 5,256.50	\$ 15,770
36" DI Pipe	155	LF	\$ 650.34	\$ 325.17	\$ 151,204
36" 90 Bend	1	EA	\$ 6,131.00	\$ 3,065.50	\$ 9,197
<b><u>MLSS Splitter Box to Secondary Clarifiers 1 &amp; 2</u></b>					
36" DI Pipe	470	LF	\$ 650.34	\$ 325.17	\$ 458,490
36" 90 Bend	4	EA	\$ 6,131.00	\$ 3,065.50	\$ 36,786
36" 45 Bend	2	EA	\$ 4,818.00	\$ 2,409.00	\$ 14,454
<b><u>Secondary Clarifiers 1 &amp; 2 to Pump Station</u></b>					
18" DI Pipe	120	LF	\$ 215.12	\$ 107.56	\$ 38,722
18" 45 Bend	2	EA	\$ 1,001.00	\$ 500.50	\$ 3,003
18" 22.5 Bend	2	EA	\$ 785.00	\$ 392.50	\$ 2,355
<b><u>Pump Station to Aeration Basin</u></b>					
18" DI Pipe	510	LF	\$ 215.12	\$ 107.56	\$ 164,567
18" 45 Bend	2	EA	\$ 1,001.00	\$ 500.50	\$ 3,003
18" 22.5 Bend	2	EA	\$ 785.00	\$ 392.50	\$ 2,355
18" Isolation Valve	1	EA	\$ 9,900.00	\$ 4,950.00	\$ 14,850
36" x 18" Tee	1	EA	\$ 9,117.00	\$ 4,558.50	\$ 13,676
18" x 18" Tee	1	EA	\$ 1,979.00	\$ 989.50	\$ 2,969
18" WYE	1	EA	\$ 4,000.00	\$ 2,000.00	\$ 6,000
18" 90 Bend	1	EA	\$ 1,175.00	\$ 587.50	\$ 1,763
<b><u>Pump Station to ASHT</u></b>					
6" DI Pipe	985	LF	\$ 63.50	\$ 31.75	\$ 93,821
6" Tee	1	EA	\$ 195.00	\$ 97.50	\$ 293
6" 90 Bend	1	EA	\$ 136.00	\$ 68.00	\$ 204
6" 45 Bend	7	EA	\$ 110.00	\$ 55.00	\$ 1,155
6" 22.5 Bend	3	EA	\$ 100.00	\$ 50.00	\$ 450
<b><u>Secondary Clarifier 1 &amp; 2 to Filter</u></b>					
36" DI Pipe	290	LF	\$ 650.34	\$ 325.17	\$ 282,898
36" 45 Bend	2	EA	\$ 4,818.00	\$ 2,409.00	\$ 14,454
36" Tee	1	EA	\$ 58,094.00	\$ 29,047.00	\$ 87,141
48" x 36" Reducer	1	EA	\$ 7,205.00	\$ 3,602.50	\$ 10,808
48" DI Pipe	485	LF	\$ 1,101.97	\$ 550.99	\$ 801,683
48" 90 Bend	1	EA	\$ 14,016.00	\$ 7,008.00	\$ 21,024
48" 45 Bend	2	EA	\$ 9,696.00	\$ 4,848.00	\$ 29,088

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**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Filters to UV Disinfection</u></b>					
36" DI Pipe	45	LF	\$ 650.34	\$ 325.17	\$ 43,898
<b><u>UV to Outfall</u></b>					
48" DI Pipe	1025	LF	\$ 1,101.97	\$ 550.99	\$ 1,694,279
48" 45 Bend	1	EA	\$ 9,696.00	\$ 4,848.00	\$ 14,544
<b><u>Stormwater Collection System</u></b>					
42" RCP	1310	LF	\$ 180.00	\$ 90.00	\$ 353,700
36" RCP	470	LF	\$ 176.25	\$ 88.13	\$ 124,256
30" RCP	260	LF	\$ 138.75	\$ 69.38	\$ 54,113
24" RCP	765	LF	\$ 108.38	\$ 54.19	\$ 124,360
Stormwater Inlet	12	EA	\$ 9,000.00	\$ 4,500.00	\$ 162,000
Stormwater Junction Boxes	1	EA	\$ 7,000.00	\$ 3,500.00	\$ 10,500
<b><u>Stormwater Pond to Outfall</u></b>					
42" RCP	785	LF	\$ 180.00	\$ 90.00	\$ 211,950
<i>Miscellaneous</i>	5%				\$ 301,061
Subtotal Division 40					<b>\$ 6,322,289</b>
<b>Subtotal This Facility</b>					<b>\$ 10,439,989</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,387,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 522,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,297,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 15,646,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 6**

**Facility Description: Site Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
TX1A/B 5kV Feeders (Main Elec Bldg)	1	EA	\$20,000.00	\$7,000	\$ 27,000
TX2A/B 5kV Feeders (Influent Lift Station)	1	EA	\$240,000.00	\$84,000	\$ 324,000
TX3A/B 5kV Feeders (Blower Bldg)	1	EA	\$55,000.00	\$19,250	\$ 74,250
TX4A/B 5kV Feeders (RAS/WAS)	1	EA	\$125,000.00	\$43,750	\$ 168,750
TX5A/B 5kV Feeders (UV/ Filters)	1	EA	\$35,000.00	\$12,250	\$ 47,250
TX6A/B 5kV Feeders (Solids)	1	EA	\$85,000.00	\$29,750	\$ 114,750
Site Lighting	40	EA	\$8,500	\$2,975	\$ 459,000
5KV Manholes	19	LS	\$25,000	\$8,750	\$ 641,250
480V Manholes	8	LS	\$20,000	\$7,000	\$ 216,000
Communication Manholes	18	LS	\$15,000	\$5,250	\$ 364,500
Fiber Ductbank	1	LS	\$515,000	\$180,250	\$ 695,250
Security Conduit	1	LS	\$340,000	\$119,000	\$ 459,000
480V Ductbank	1	LS	\$825,000	\$288,750	\$ 1,113,750
5KV Ductbank	1	LS	\$1,275,000	\$446,250	\$ 1,721,250
<b>Subtotal This Facility</b>					<b>\$ 6,426,000</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,470,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 322,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,414,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 9,632,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 7**

**Facility Description: Landscaping and Irrigation**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching	160	AC	\$ 2,500.00		\$ 400,000
Landscape Irrigation System Piping	4420	LF	\$ 50.00	\$ 15.00	\$ 287,300
Fittings	1	LS	\$ 28,730.00	\$ 8,619.00	\$ 37,349
Trees	48	EA	\$ 700.00	\$ 210.00	\$ 43,680
<i>Miscellaneous</i>	5%				\$ 38,416
			Subtotal Division 32		<b>\$ 806,745</b>
<b>Subtotal This Facility</b>					
					<b>\$ 806,745</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 185,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 41,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 178,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,211,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 9  
Facility Description: Civil Yard Structures**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Outfall Discharge Headwall Structure</u></b>					
Concrete Base Slab	26	CY	\$ 1,500.00		\$ 39,394
Concrete Freestanding Wall	87	CY	\$ 1,600.00		\$ 139,486
Grade Beams	33	CY	\$ 1,200.00		\$ 40,000
<b><u>Flowmeter Vault</u></b>					
Concrete Base Slab	8	CY	\$ 1,500.00		\$ 12,000
Concrete Freestanding Wall	16	CY	\$ 1,600.00		\$ 25,600
Concrete Elevated Slab	3	CY	\$ 1,600.00		\$ 4,800
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00		\$ -
<b><u>Hydraulic Drop Box</u></b>					
Concrete Base Slab	14	CY	\$ 1,500.00		\$ 21,111
Concrete Freestanding Wall	41	CY	\$ 1,600.00		\$ 65,185
Concrete Elevated Slab	14	CY	\$ 1,600.00		\$ 22,400
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00		\$ -
<b><u>Stormwater Detention Box</u></b>					
Concrete Base Slab	5	CY	\$ 1,500.00		\$ 8,056
Concrete Freestanding Wall	16	CY	\$ 1,600.00		\$ 25,481
Concrete Elevated Slab		CY	\$ 1,600.00		\$ -
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00		\$ -
<i>Miscellaneous</i>	5%				\$ 20,176
<b>Subtotal Division 3</b>					<b>\$ 423,689</b>
<b>Division 31 - Earthwork</b>					
<b><u>Hydraulic Drop Box</u></b>					
Excavation	3,020	CY		\$ 15.00	\$ 45,300
Fill	2,660	CY	\$ 20.00		\$ 53,200
<b><u>Outfall Structure &amp; Effluent Discharge Drop Box</u></b>					
Excavation	1,291	CY		\$ 15.00	\$ 19,365
Fill	940	CY	\$ 20.00		\$ 18,800
Allowance for Groundwater Control at Effluent Box Structure	1	LS	\$ 75,000.00		\$ 75,000
<b><u>Flowmeter Vault</u></b>					
Excavation	728	CY		\$ 15.00	\$ 10,920
Fill	645	CY	\$ 20.00		\$ 12,900
<b><u>Stormwater Detention Box</u></b>					
Excavation	430	CY		\$ 15.00	\$ 6,450
Fill	402	CY	\$ 20.00		\$ 8,040
<i>Miscellaneous</i>	5%				\$ 12,499
<b>Subtotal Division 31</b>					<b>\$ 262,474</b>
<b>Subtotal This Facility</b>					<b>\$ 686,163</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 157,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 35,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 151,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,030,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 10  
Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	383	CY	\$ 1,500.00		\$ 573,944
Concrete Freestanding Wall	1925	CY	\$ 1,600.00		\$ 3,080,652
Concrete Elevated Slab	146	CY	\$ 1,600.00		\$ 233,320
Drilled Shaft Deep Foundation	43	CY	\$ 1,400.00		\$ 60,893
Void Forms	2100	SF	\$ 14.00		\$ 29,400
Grade Beams	66	CY	\$ 1,200.00		\$ 78,644
Perimeter Beams	252	CY	\$ 1,400.00		\$ 352,230
Beams under Top Slab	4	CY	\$ 1,400.00		\$ 5,496
Pump pads	5	CY	\$ 1,000.00		\$ 4,815
<i>Miscellaneous</i>	5%				\$ 202,843
			Subtotal Division 3		\$ <b>4,622,237</b>
<b>Division 5 - Metals</b>					
Pump Guide Rails	744	LF	\$ 30.00	\$ 30	\$ 44,640
Access Hatches	13	EA	\$ 2,300.00	\$ 690.00	\$ 38,870
Fabricated Piping Supports	1	LS	\$ 15,000	\$ 4,500.00	\$ 19,500
Steel Monorail Framing	18893	LB	\$ 3.00	\$ 0.90	\$ 73,684
Galvanizing	18893	LB	\$ 1.00	\$ 0.30	\$ 24,561
Aluminum Pipe Supports	1102	LB	\$ 10.00	\$ 3.00	\$ 14,331
<i>Miscellaneous</i>	5%				\$ 10,063
			Subtotal Division 5		\$ <b>225,649</b>
<b>Division 9 - Finishes</b>					
Piping Coatings	1	LS	\$ 14,000.00	\$ 85,000.00	\$ 99,000
Wet Well Coatings	20,300	SF	\$ 10.00	\$ 30.00	\$ 812,000
<i>Miscellaneous</i>	5%				\$ 45,550
			Subtotal Division 9		\$ <b>956,550</b>
<b>Division 11 - Equipment</b>					
Monorail Crane - 5 ton	1	EA	\$ 37,000.00	\$ 11,100.00	\$ 48,100
<i>Miscellaneous</i>	5%				\$ 2,405
			Subtotal Division 11		\$ <b>50,505</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 276,000.00	\$ 96,600.00	\$ 372,600
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting	1	EA	\$ 35,000.00	\$ 12,250.00	\$ 47,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 33,250.00	\$ 128,250
Grounding Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250
<b>Instruments</b>					
Transit-Time Ultrasonic Strap-on	3	EA	\$ 15,000	\$ 9,000	\$ 54,000
PSL/PI/Seal	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
PITs w/Block/Bleed	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
LSH Floats	2	EA	\$ 600	\$ 240	\$ 1,440
Submersible Level Transmitters with Stillingwell and JB	2	EA	\$ 5,000	\$ 2,000	\$ 12,000
Pressure Indicator	5	EA	\$ 2,500	\$ 2,500	\$ 15,000
Level Indicator	2	EA	\$ 1,500	\$ 600	\$ 3,600
PSH/PI/Seal	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
Room Temperature (TIT)	1	EA	\$ 2,000	\$ 400	\$ 2,400
<i>Miscellaneous</i>	2	EA	\$ 500	\$ 200	\$ 1,200
<i>Miscellaneous</i>	5%				\$ 43,175
			Subtotal Division 26		\$ <b>906,665</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 10  
Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Shored Excavation	8058	SF	\$ 50.00		\$ 402,900
Excavation	15500	CY		\$ 15.00	\$ 232,500
Fill	9000	CY	\$ 20.00		\$ 180,000
<i>Miscellaneous</i>	5%				\$ 40,770
Subtotal Division 31					<b>\$ 856,170</b>
<b>Division 40 - Process Integration</b>					
Influent Lift Pumps - 3 MGD	2	EA	\$ 125,000	\$ 37,500.00	\$ 325,000
Influent Lift Pumps - 12 MGD	3	EA	\$ 255,000	\$ 76,500.00	\$ 994,500
Pump Discharge Piping	1	LS	\$ 560,000.00	\$ 168,000.00	\$ 728,000
Pump Discharge Check Valves (12")	2	LS	\$ 9,000.00	\$ 2,700.00	\$ 23,400
Pump Discharge Check Valves (24")	3	LS	\$ 23,000.00	\$ 6,900.00	\$ 89,700
Pump Discharge Isolation Valves (12")	3	EA	\$ 4,500.00	\$ 1,350.00	\$ 17,550
Pump Discharge Isolation Valves (24")	6	EA	\$ 21,000.00	\$ 6,300.00	\$ 163,800
Slide Gates	1	LS	\$ 250,000	\$ 75,000.00	\$ 325,000
Pump Discharge ARVs	8	EA	\$ 2,000.00	\$ 600.00	\$ 20,800
Piping Supports	1	LS	\$ 22,000	\$ 6,600.00	\$ 28,600
<b>Odor Control Ductwork (FRP)</b>					
12" FRP	66	LF	\$ 29.12	\$ 8.74	\$ 2,498
20" FRP	43	LF	\$ 61.47	\$ 18.44	\$ 3,436
30" FRP	100	LF	\$ 99.37	\$ 29.81	\$ 12,918
12" Elbow	1	EA	\$ 189.95	\$ 28.49	\$ 218
12" Tee	1	EA	\$ 179.48	\$ 26.92	\$ 206
12" Control Damper	2	EA	\$ 82.20	\$ 12.33	\$ 189
20" Elbow	3	EA	\$ 390.80	\$ 58.62	\$ 1,348
20" Control Damper	2	EA	\$ 143.65	\$ 21.55	\$ 330
32" Elbow	3	EA	\$ 801.98	\$ 120.30	\$ 2,767
32" Tee	2	EA	\$ 700.15	\$ 105.02	\$ 1,610
32" Reducer	5	EA	\$ 533.51	\$ 80.03	\$ 3,068
<i>Miscellaneous</i>	5%				\$ 135,818
Subtotal Division 40					<b>\$ 2,880,758</b>
<b>Subtotal This Facility</b>					<b>\$ 10,498,533</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,401,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 525,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,310,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 15,735,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Headworks Concrete</b>					
Concrete Base Slab	526	CY	\$ 1,500.00		\$ 789,000
Concrete Drop Panel	30	CY	\$ 1,500.00		\$ 45,000
Concrete Support Columns	60	CY	\$ 1,300.00		\$ 78,000
Concrete Equipment Pad	30	CY	\$ 1,000.00		\$ 30,000
Concrete Freestanding Walls	592	CY	\$ 1,600.00		\$ 947,200
Concrete Elevated Slab	270	CY	\$ 1,600.00		\$ 432,000
Grout	10	CY	\$ 200.00		\$ 2,000
Compacted Sand	252	CY	\$ 30.00		\$ 7,567
Void Forms	6992	SF	\$ 14.00		\$ 97,888
<b>Headworks Deep Foundation</b>					
Drilled Shaft Deep Foundation	290	CY	\$ 1,400.00		\$ 405,948
Miscellaneous	5%				\$ 141,730
Subtotal Division 3					<b>\$ 2,976,334</b>
<b>Division 4 - Masonry</b>					
Aluminum channel covers	2000	SF	\$ 60.00	\$ 18.00	\$ 156,000
Aluminum Plate Supports	169	LB	\$ 10.00	\$ 3.00	\$ 2,195
<b>Metal Canopy</b>					
Roof Deck	2589	SF	\$ 15.00	\$ 4.50	\$ 50,486
Metal Wall	0	SF	\$ 15.00	\$ 4.50	\$ -
Steel Roof Framing	18294	LF	\$ 3.00	\$ 0.90	\$ 71,347
Galvanizing	18294	LF	\$ 1.00	\$ 0.30	\$ 23,782
Bollards	37	EA	\$ 500.00		\$ 18,500
Miscellaneous	5%				\$ 17,218
Subtotal Division 5					<b>\$ 380,088</b>
<b>Division 9 - Coatings</b>					
System 19	13500	SF	\$ 27.92		\$ 376,920
Allowance for Piping Coatings	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 20,346
Subtotal Division 9					<b>\$ 427,266</b>
<b>Division 23 - HVAC</b>					
Wiring Total	1	LS	\$ 265,000.00	\$ 92,750.00	\$ 357,750
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting	1	EA	\$ 120,000.00	\$ 42,000.00	\$ 162,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Grounding Total	1	LS	\$ 40,000.00	\$ 14,000.00	\$ 54,000
Miscellaneous	5%				\$ 40,163
Subtotal Division 26					<b>\$ 843,413</b>
<b>Division 31 - Earthwork</b>					
Excavation	1540	CY		\$ 15.00	\$ 23,100
Fill	1304	CY	\$ 20.00		\$ 26,080
Miscellaneous	5%				\$ 2,459
Subtotal Division 31					<b>\$ 51,639</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
SS 316 Custom Drop Chutes for Screenings	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Manual Bar Screen	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Grit System (1 vortex system, 1 washer, plc panel)	1	LS	\$ 247,000.00	\$ 74,100.00	\$ 321,100
			\$ -	\$ -	\$ -
Stainless steel slide gates	12	EA	\$ 22,000.00	\$ 6,600.00	\$ 343,200
Gate Electric Actuators	5	EA	\$ 7,130.00	\$ 2,139.00	\$ 46,345
<b>Allowance for piping &amp; Valves</b>					
Influent and Effluent Piping Allowance (36" Inlet x2 (one capped), 12" Inlet x1, 30" Outlet, 48" Outlet-capped)	0	LS	\$ 30,000.00		\$ -
Allowance for Drain Piping + Valves	0	LS	\$ 65,000.00		\$ -
Allowance for Grit Piping (Glass Lined)	0	LS	\$ 50,000.00		\$ -
Allowance for NPW Piping	0	LS	\$ 15,000.00		\$ -
<b>NPW PVC Piping</b>					
1" PVC	215	LF	\$ 3.49	\$ 1.05	\$ 975
3" PVC	267	LF	\$ 10.77	\$ 3.23	\$ 3,738
1" Elbow	15	EA	\$ 1.50	\$ 0.45	\$ 29
3" Cross	1	EA	\$ 32.31	\$ 9.69	\$ 42
3" Tee	13	EA	\$ 32.31	\$ 9.69	\$ 546
3" Reducer	9	EA	\$ 32.31	\$ 9.69	\$ 378
3" Elbow	9	EA	\$ 32.31	\$ 9.69	\$ 378
<b>Drain DIP Piping</b>					
4" DIP	61	LF	\$ 68.00	\$ 20.40	\$ 5,392
6" DIP	383	LF	\$ 60.00	\$ 18.00	\$ 29,874
8" DIP	92	LF	\$ 75.69	\$ 22.71	\$ 9,053
12" DIP	55	LF	\$ 113.00	\$ 33.90	\$ 8,080
4" 45 bend	6	EA	\$ 86.00	\$ 25.80	\$ 671
4" Wye	3	EA	\$ 109.00	\$ 32.70	\$ 425
4" Elbow	8	EA	\$ 114.00	\$ 34.20	\$ 1,186
6" Tee	7	EA	\$ 500.00	\$ 150.00	\$ 4,550
6" Wye	17	EA	\$ 500.00	\$ 150.00	\$ 11,050
6" Elbow	24	EA	\$ 180.00	\$ 54.00	\$ 5,616
6" 45 Bend	11	EA	\$ 148.00	\$ 44.40	\$ 2,116
6" Plug Valve	6	EA	\$ 2,200.00	\$ 660.00	\$ 17,160
8"x8"x6" Wye	2	EA	\$ 680.00	\$ 204.00	\$ 1,768
8"x8"x4" Wye	2	EA	\$ 680.00	\$ 204.00	\$ 1,768
8" Tee	1	EA	\$ 292.00	\$ 87.60	\$ 380
8" Elbow	1	EA	\$ 262.00	\$ 78.60	\$ 341
12"x12"x6" Wye	3	EA	\$ 895.00	\$ 268.50	\$ 3,491
12" Elbow	1	EA	\$ 1,691.00	\$ 507.30	\$ 2,198
<b>Grit DIP Piping (Glass Lined)</b>					
4" DIP	146	LF	\$ 394.30	\$ 118.29	\$ 74,838
4" Elbow (long radius)	10	EA	\$ 1,018.00	\$ 305.40	\$ 13,234
4" 45 Bend	3	EA	\$ 722.00	\$ 216.60	\$ 2,816
4"x3" Reducer	4	EA	\$ 859.00	\$ 257.70	\$ 4,467
4" Actuated Plug Valve	2	EA	\$ 5,343.00	\$ 1,602.90	\$ 13,892
4" Plug Valve	2	EA	\$ 1,194.00	\$ 358.20	\$ 3,104
4" Wye	5	EA	\$ 1,538.00	\$ 461.40	\$ 9,997
4" Tee	4	EA	\$ 1,030.00	\$ 309.00	\$ 5,356
4" Dismantling Joint	6	EA	\$ 500.00	\$ 150.00	\$ 3,900
<b>Influent and Effluent DIP Piping</b>					
12" DIP	24	LF	\$ 103.35	\$ 31.01	\$ 3,225
30" DIP	5	LF	\$ 465.35	\$ 139.61	\$ 3,025
36" DIP	50	LF	\$ 603.99	\$ 181.20	\$ 39,259
48" DIP	5	LF	\$ 1,023.26	\$ 306.98	\$ 6,651
12" Plug Valve	1	EA	\$ 5,844.00	\$ 1,753.20	\$ 7,597
36" Plug Valve	2	EA	\$ 38,000.00	\$ 11,400.00	\$ 98,800
12" Elbow	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
36" Elbow	3	EA	\$ 13,184.00	\$ 3,955.20	\$ 51,418
30" Flexible Coupling	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
48" Flexible Coupling	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>Odor Control Ductwork (FRP)</b>					
6" FRP	131	LF	\$ 16.57	\$ 4.97	\$ 2,822
8" FRP	28	LF	\$ 20.49	\$ 6.15	\$ 746
10" FRP	54	LF	\$ 24.56	\$ 7.37	\$ 1,724
12" FRP	40	LF	\$ 29.12	\$ 8.74	\$ 1,514

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 12  
Facility Description: Headworks #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
14" FRP	109	LF	\$ 42.90	\$ 12.87	\$ 6,079
18" FRP	30	LF	\$ 55.89	\$ 16.77	\$ 2,180
6" Balancing Damper	7	EA	\$ 51.74	\$ 15.52	\$ 471
8" Balancing Damper	2	EA	\$ 61.02	\$ 18.31	\$ 159
6" Elbow	20	EA	\$ 99.07	\$ 29.72	\$ 2,576
8" Elbow	5	EA	\$ 117.02	\$ 35.11	\$ 761
10" Elbow	3	EA	\$ 152.85	\$ 45.86	\$ 596
12" Elbow	4	EA	\$ 189.95	\$ 56.99	\$ 988
14" Elbow	5	EA	\$ 229.89	\$ 68.97	\$ 1,494
18" Elbow	1	EA	\$ 361.01	\$ 108.30	\$ 469
10"x8" Reducer	1	EA	\$ 125.44	\$ 37.63	\$ 163
12"x10" Reducer	1	EA	\$ 150.30	\$ 45.09	\$ 195
14"x12" Reducer	1	EA	\$ 175.77	\$ 52.73	\$ 229
18"x8" Reducer	1	EA	\$ 225.02	\$ 67.51	\$ 293
6" Tee	1	EA	\$ 83.38	\$ 25.01	\$ 108
8" Tee	1	EA	\$ 113.75	\$ 34.13	\$ 148
10" Tee	2	EA	\$ 146.96	\$ 44.09	\$ 382
12" Tee	1	EA	\$ 179.48	\$ 53.84	\$ 233
14" Tee	2	EA	\$ 238.42	\$ 71.53	\$ 620
18" Tee	1	EA	\$ 322.63	\$ 96.79	\$ 419
NPW Wash Hose Station (2 at upper level, 2 at lower level)	4	EA	\$ 1,500.00		\$ 6,000
Weir plates at Bypass Channel	3	EA	\$ 2,500.00		\$ 7,500
Odor Control Duct Work	450	LF	\$ 145.00	\$ 43.50	\$ 84,825
Odor Control Dampers	10	EA	\$ 100.00	\$ 30.00	\$ 1,300
<i>Miscellaneous</i>	5%				\$ 108,804
			Subtotal Division 40		\$ 2,284,884
<b>Subtotal This Facility</b>					<b>\$ 6,963,623</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,593,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 349,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,532,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 10,438,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

**Facility Number: 13  
Facility Description: Influent Foul Air Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	186	CY	\$ 1,500.00		\$ 279,444
Concrete Drop Panels	9	CY	\$ 1,500.00		\$ 13,500
Concrete Freestanding Walls	96	CY	\$ 1,600.00		\$ 154,074
Concrete Elevated Slab	7	CY	\$ 1,600.00		\$ 10,667
Drilled Pier Deep Foundation	43	CY	\$ 1,400.00		\$ 60,148
Void Forms	2,300	SF	\$ 14.00		\$ 32,200
<b>ILS Odor Control Unit Blower Pad</b>					
Concrete Base Slab	31	CY	\$ 1,500.00		\$ 46,111
Concrete Equipment Pad	11	CY	\$ 1,000.00		\$ 11,111
Concrete Drop Panels	4	CY	\$ 1,500.00		\$ 5,556
Drilled Pier Deep Foundation	12	CY	\$ 1,400.00		\$ 16,333
Void Forms	560	SF	\$ 14.00		\$ 7,840
Miscellaneous	5%				\$ 31,849
			Subtotal Division 3		<b>\$ 668,834</b>
<b>Division 4 - Masonry</b>					
Excavation	2157	CY		\$ 15.00	\$ 32,355
Fill	1278	CY	\$ 20.00		\$ 25,560
<b>ILS Odor Control Unit Blower Pad</b>					
Excavation	138	CY		\$ 15.00	\$ 2,070
Fill	108	CY	\$ 20.00		\$ 2,160
Miscellaneous	5%				\$ 3,107
			Subtotal Division 31		<b>\$ 65,252</b>
<b>Division 40 - Process Integration</b>					
<b>Drain DIP Piping</b>					
4" DIP	178	LF	\$ 68.00	\$ 20.40	\$ 15,735
4" Elbow	16	EA	\$ 114.00	\$ 34.20	\$ 2,371
4" Tee	3	EA	\$ 152.00	\$ 45.60	\$ 593
<b>W2</b>					
2" PVC	45	LF	\$ 10.00	\$ 3.00	\$ 585
2" Elbow	3	EA	\$ 4.50	\$ 1.35	\$ 18
<b>Ductwork to Fans (FRP)</b>					
18" FRP	99	LF	\$ 55.89	\$ 16.77	\$ 7,193
36" FRP	33	LF	\$ 110.03	\$ 33.01	\$ 4,720
18" Balancing Damper	1	EA	\$ 361.01	\$ 108.30	\$ 469
36" Balancing Damper	3	EA	\$ 1,055.96	\$ 316.79	\$ 4,118
36" Tee	2	EA	\$ 819.57	\$ 245.87	\$ 2,131
36" Wye	1	EA	\$ 999.88	\$ 299.96	\$ 1,300
36" Expansion Joint	2	EA	\$ 650.00	\$ 195.00	\$ 1,690
Miscellaneous	5%				\$ 2,046
			Subtotal Division 40		<b>\$ 42,970</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 13  
Facility Description: Influent Foul Air Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biofilter (quoted package by Biorem)					
1. Concrete biofilter vessel structural design, supply and installation by others.					
2. Biofilter media support flooring. Material of construction to be FRP grating and I-beams.					
3. Humidification spray lance to be installed in the inlet ductwork.					
4. Engineered biofilter media, provided in loose bulk.					
5. Composite media support flooring.					
6. (1) lot of inlet ductwork between the fan and biofilter plenum, including expansion joint, damper.					
7. (1) 50 HP centrifugal FRP exhaust fan rated for 20,000 CFM at 8 in WC with TEFC motor. Fan static pressure allows for 2 inWC pressure loss through external ductwork.					
8. (1) Schedule 80 PVC manifold with matched precipitation rate nozzles for optimized coverage of biofilter media.					
9. (1) Control Panel					
10. (1) Waterbox					
11. Instrumentation and fluid control valves external to waterbox					
12. Winterization system					
13. Engineering submittal packages					
14. Operation and Maintenance manuals					
15. Field services					
Redundant Blower	1	LS	\$ 525,000.00	\$ 157,500.00	\$ 682,500
	1	LS	\$ 40,000.00	\$ 12,000.00	\$ 52,000
<i>Miscellaneous</i>					\$ 36,725
					\$ 771,225
<b>Subtotal Division 44</b>					<b>\$ 771,225</b>
<b>Subtotal This Facility</b>					<b>\$ 1,548,280</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 355,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 78,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 341,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,323,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 14**

**Facility Description: ILS/HW Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	78	CY	\$ 1,500.00		\$ 117,500
Equipment Pads	12	CY	\$ 1,000.00		\$ 11,926
Void Forms	2115	SF	\$ 14.00		\$ 29,610
Grade Beams	44	CY	\$ 1,200.00		\$ 53,111
Drilled Shaft Deep Foundation	46	CY	\$ 1,400.00		\$ 64,711
<i>Miscellaneous</i>	5%				\$ 13,843
					<b>\$ 290,701</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2580	SF	\$ 20.00		\$ 51,600
Veneer	2580	SF	\$ 15.00		\$ 38,700
<i>Miscellaneous</i>	5%				\$ 4,515
					<b>\$ 94,815</b>
<b>Division 5 - Metals</b>					
Metal Deck	1425	SF	\$ 15.00		\$ 21,375
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
<i>Miscellaneous</i>	5%				\$ 1,264
					<b>\$ 26,539</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	120	LF	\$9.20	\$ 2.76	\$ 1,435
Wall Insulation	2580	SF	\$1.20	\$ 0.50	\$ 4,386
Roof Insulation	1425	SF	\$2.25	\$ 0.65	\$ 4,133
<i>Miscellaneous</i>	5%				\$ 498
					<b>\$ 10,451</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
<i>Miscellaneous</i>	5%				\$ 1,000
					<b>\$ 21,000</b>
<b>Division 23 - HVAC</b>					
12 Ton Packaged AC Unit	2	EA	\$ 32,000.00	\$ 9,600.00	\$ 83,200
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 5,137.00	\$ 1,541.10	\$ 6,678
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Modular Chemical Scrubber	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 6,531
					<b>\$ 137,160</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 14**

**Facility Description: ILS/HW Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-2	1	EA	\$ 240,000.00	\$ 84,000.00	\$ 324,000
MCC-2	1	EA	\$ 170,000.00	\$ 59,500.00	\$ 229,500
18 pulse 300HP VFDs	4	EA	\$ 85,000.00	\$ 29,750.00	\$ 459,000
18 pulse 300HP VFDs	2	EA	\$ 70,000.00	\$ 24,500.00	\$ 189,000
2000 kVA Pad Mounted Transformers	2	EA	\$ 110,000.00	\$ 38,500.00	\$ 297,000
Wire and Conduit from Transformer to Switchboard	2	EA	\$ 115,000.00	\$ 40,250.00	\$ 310,500
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 220,000.00	\$ 77,000.00	\$ 297,000
Conduit Total	1	LS	\$ 80,000.00	\$ 28,000.00	\$ 108,000
Lighting	1	EA	\$ 35,000.00	\$ 12,250.00	\$ 47,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Cable Tray Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Grounding Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
				\$ -	
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 700.00	\$ 2,700
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 8,750.00	\$ 33,750
<b>ILS/HW Electrical Building #1 (SCADA) Network Enclosure (NET-ILS1)</b>					
Enclosure (NET-ILS1) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-ILS1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA ILS1 Enclosure (PLC-ILS1)</b>					
Enclosure (PLC-ILS1) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/1	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, U	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, s	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
Analog Out Module, 8 Isolated point, current, and	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	4	EA	\$ 700	\$ 560	\$ 3,360
Digital Output Module, N.O Isolated Relay Output,	3	EA	\$ 1,000	\$ 600	\$ 3,600
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (91x\$450 Hard + 200x\$200 Soft)+3	1	LOT	\$ -	\$ 71,000	\$ 71,000
<i>Miscellaneous</i>	5%				\$ 133,086
			Subtotal Division 26		<b>\$ 2,794,796</b>
<b>Division 31 - Earthwork</b>					
Open Cut Excavation	415	CY		\$ 15.00	\$ 6,225
Fill	350	CY	\$ 20.00		\$ 7,000
<i>Miscellaneous</i>	5%				\$ 661
			Subtotal Division 31		<b>\$ 13,886</b>
<b>Subtotal This Facility</b>					<b>\$ 3,389,347</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 775,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 170,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 746,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,081,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 31  
Facility Description: Aeration Basins

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Aeration Basins Concrete</b>					
Concrete Base Slab	4949	CY	\$ 1,500.00		\$ 7,423,500
Concrete Freestanding Wall	4139	CY	\$ 1,600.00		\$ 6,622,400
Concrete Elevated Slab	390	CY	\$ 1,600.00		\$ 624,000
Drop Panels	0	CY	\$ 1,500.00		\$ -
Void Forms	43059	SF	\$ 14.00		\$ 602,826
<b>Aeration Basin Deep Foundations</b>					
Drilled Shaft Deep Foundation	3000	CY	\$ 1,400.00		\$ 4,200,000
Miscellaneous	5%				\$ 973,636
					Subtotal Division 3
					<b>\$ 20,446,362</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	2867	LF	\$ 60.00	\$ 18.00	\$ 223,626
Stairs	75	Riser	\$ 600.00	\$ 180.00	\$ 58,500
Metal Grating	200	SF	\$ 60.00		\$ 12,000
Misc. Aluminum Support Framing for Stairs	500	SF	\$ 10.00	\$ 3.00	\$ 6,500
Miscellaneous	5%				\$ 14,706
					Subtotal Division 5
					<b>\$ 315,332</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500
Conduit Total	1	LS	\$ 165,000.00	\$ 57,750.00	\$ 222,750
Lighting and Receptacles Total	1	LS	\$ 75,000.00	\$ 26,250.00	\$ 101,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 33,250.00	\$ 128,250
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Miscellaneous	5%				\$ 33,413
					Subtotal Division 26
					<b>\$ 701,663</b>
<b>Division 31 - Earthwork</b>					
Excavation	25000	CY		\$ 15.00	\$ 375,000
Backfill	8500	CY	\$ 20.00		\$ 170,000
Miscellaneous	5%				\$ 27,250
					Subtotal Division 31
					<b>\$ 572,250</b>
<b>Division 40 - Process Integration</b>					
Aeration Basin Manual, Type 304 St Steel Slide Gates ( per Aeration Basin)	6	EA	\$ 18,000.00	\$ 5,400.00	\$ 140,400
Air Piping 36" Flanged, Sch 10S, 304 St Steel	35	LF	\$ 1,500.00	\$ 450.00	\$ 68,250
Air Piping 30" Flanged, Sch 10S, 304 St Steel	20	LF	\$ 1,400.00	\$ 420.00	\$ 36,400
Air Piping 20" Flanged, Sch 10S, 304 St Steel	460	LF	\$ 1,000.00	\$ 300.00	\$ 598,000
Air Piping 8" Flanged, Sch 10S, 304 St Steel	120	LF	\$ 750.00	\$ 225.00	\$ 117,000
Allowance for Overhead Air Header Pipe Supports	1	LS	\$ 125,000.00	\$ 37,500.00	\$ 162,500
Vertical IMLR piping, 24-inch, Sch 10S	80	LF	\$ 540.00	\$ 162.00	\$ 56,160
24-inch swing check valves for IMLR pipe (2 per Aeration Basin)	4	EA	\$ 5,000.00	\$ 1,500.00	\$ 26,000
24-inch IMLR ductile iron pipe and fittings (2 x lengths of 320 LF per basin)	640	LF	\$ 60.00	\$ 18.00	\$ 49,920
24-inch IMLR ultrasonic flowmeter (1 per aeration basin)	2	EA	\$ 8,000.00	\$ 2,400.00	\$ 20,800
External IMLR pipe supports	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
FRP, 36-inch Cutthroat Flume	0	EA	\$ 8,000.00	\$ 2,400.00	\$ -
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	8	EA	\$ 20,000.00	\$ 6,000.00	\$ 208,000
18-inch Aeration Basin Air Flow Control Valve w Electro-Hydraulic Actuator (1 per aeration basi	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
12-inch Aerated Zone Control Valve w Electro-Hydraulic Actuator (4 per aeration basin)		EA	\$ 3,000.00	\$ 900.00	\$ -
Fittings (tees, elbows & reducers)	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
St Steel Bellows Expansion Cplg (6 each Aeration Basin)	12	EA	\$ 3,000.00	\$ 900.00	\$ 46,800
Allowance for Aeration Air Pipe Supports	1	LS	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Miscellaneous	5%				\$ 90,032
					Subtotal Division 40
					<b>\$ 1,890,662</b>
<b>Division 43 - Process Gas and Liquid Handling, Purification, and Storage</b>					
Internal Recycle Pumps w. guide rails and davit cranes(2 per Aeration Basin)	4	EA	\$ 60,000.00	\$ 18,000.00	\$ 312,000
Miscellaneous	5%				\$ 15,600
					Subtotal Division 43
					<b>\$ 327,600</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

**Facility Number: 31  
Facility Description: Aeration Basins**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 46 - Water and Wastewater Equipment</b>					
Submersible Mixers w. portable davit crane (1- Anaerobic mixer, 2- Anoxic mixers per Aeration Basin)	6	EA	\$ 25,000.00	\$ 7,500.00	\$ 195,000
Fine bubble diffuser package (1 per Aeration Basin)	2	EA	\$ 150,000.00	\$ 45,000.00	\$ 390,000
Manual Jib Crane w. hoist, 1000-lb capacity	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 30,875
			Subtotal Division 46		<b>\$ 648,375</b>
<b>Subtotal This Facility</b>					<b>\$ 24,902,244</b>
<b>Contingency</b>					<b>18% \$ 5,693,000</b>
<b>Mobilization</b>					<b>5% \$ 1,246,000</b>
<b>Contractor's Overhead and Profit</b>					<b>22% \$ 5,479,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 37,321,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

**Facility Number: 38  
Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Blower Facility Concrete</b>					
Concrete Base Slab	392	CY	\$ 1,500.00		\$ 588,000
Concrete Equipment Pads	15	CY	\$ 1,000.00		\$ 15,000
Void Forms	5371	SF	\$ 14.00		\$ 75,194
Grade Beams	166	CY	\$ 1,200.00		\$ 199,200
<b>Blower Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	108	CY	\$ 1,400.00		\$ 151,822
Miscellaneous	5%				\$ 51,461
Subtotal Division 3					<b>\$ 1,080,677</b>
<b>Division 4 - Masonry</b>					
CMU Walls	8,397	SF	\$ 24.00		\$ 201,528
Masonry Veneer	6,994	SF	\$ 15.00		\$ 104,910
Masonry Pilaster	36	SF	\$ 35.00		\$ 1,276
Miscellaneous	5%				\$ 15,386
Subtotal Division 4					<b>\$ 323,099</b>
<b>Division 5 - Metals</b>					
Roof Deck	5,290	SF	\$ 15.00		\$ 79,350
Steel Joists	6	TON	\$ 3,000.00	\$ 900.00	\$ 21,450
Aluminum framing	3,855	LB	\$ 10.00	\$ 3.00	\$ 50,115
Miscellaneous	5%				\$ 7,546
Subtotal Division 5					<b>\$ 158,461</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	115	LF	\$ 9.20	\$ 2.76	\$ 1,375
Wall Insulation	3550	SF	\$ 1.20	\$ 0.50	\$ 6,035
Roof Insulation	5290	SF	\$ 2.25	\$ 0.65	\$ 15,341
Miscellaneous	5%				\$ 1,138
Subtotal Division 7					<b>\$ 23,889</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
FRP Overhead Door	1	EA	\$ 16,000.00		\$ 6,000
Miscellaneous	5%				\$ 2,100
Subtotal Division 8					<b>\$ 44,100</b>
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
15-ton Pacakged AC Unit	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 5,305.00	\$ 1,591.50	\$ 6,897
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Blower Room</b>					
Louvers	5	EA	\$ 2,128.00	\$ 638.40	\$ 13,832
Exhaust Fans	2	EA	\$ 3,130.00	\$ 939.00	\$ 8,138
Miscellaneous	5%				\$ 6,406
Subtotal Division 23					<b>\$ 134,522</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 38  
Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-3	1	EA	\$310,000	\$108,500	\$ 418,500
MCC-3	1	EA	\$190,000	\$66,500	\$ 256,500
18 pulse 300 VFDs	5	EA	\$85,000	\$29,750	\$ 573,750
2000 kVA Pad Mounted Transformers	2	EA	\$110,000	\$38,500	\$ 297,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$80,000	\$28,000	\$ 108,000
ATS	1	EA	\$10,000	\$3,500	\$ 13,500
45 kVA XFMR	1	EA	\$5,000	\$1,750	\$ 6,750
Panelboard	1	EA	\$15,000	\$5,250	\$ 20,250
Wiring Total	1	LS	\$315,000	\$110,250	\$ 425,250
Conduit Total	1	LS	\$115,000	\$40,250	\$ 155,250
Lighting and Receptacles Total	1	LS	\$60,000	\$21,000	\$ 81,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$50,000	\$17,500	\$ 67,500
Cable Tray Total	1	LS	\$50,000	\$17,500	\$ 67,500
Grounding Total	1	LS	\$40,000	\$14,000	\$ 54,000
<b>Blower Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-BLR)</b>					
Enclosure (NET-BLR) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-BLR	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Main Electrical Enclosure (PLC-MAIN)</b>					
Enclosure (PLC-BLR) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	2	EA	\$ 1,500	\$ 600	\$ 3,600
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	2	EA	\$ 1,500	\$ 600	\$ 3,600
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	7	EA	\$ 3,000	\$ 4,200	\$ 25,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	3	EA	\$ 3,500	\$ 2,100	\$ 12,600
Digital Input Module, 10-31 vdc, 16pts	7	EA	\$ 700	\$ 980	\$ 5,880
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 25,000	\$ 5,000	\$ 30,000
Programming (197x\$450 Hard + 500x\$100 Soft)+1 Trip @10K	1	LOT	\$ -	\$ 149,000	\$ 149,000
<b>Instruments</b>					
Room Temperature Transmitters (TIT)	1	EA	\$ 2,000.00	\$ 400	\$ 2,400.00
Dissolved Oxygen	2	EA	\$ 6,500	\$ 2,600	\$ 15,600.00
NH3	2	EA	\$ 17,000	\$ 6,800	\$ 40,800.00
Transit-Time Ultrasonic Strap-on	2	EA	\$ 15,000	\$ 6,000	\$ 36,000.00
MLSS	2	EA	\$ 8,000	\$ 3,200	\$ 19,200.00
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200.00
ThermalMass Flow Meter	11	EA	\$ 7,000	\$ 15,400	\$ 92,400.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000.00
Miscellaneous	5%				\$ 155,232
Subtotal Division 26					<b>\$ 3,259,862</b>
<b>Division 31 - Earthwork</b>					
<b>Blower Building Earthwork</b>					
Excavation	856	CY		\$ 15.00	\$ 12,840
Backfill	562	CY	\$ 20.00		\$ 11,240
Miscellaneous	5%				\$ 1,204
Subtotal Division 31					<b>\$ 25,284</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 38  
Facility Description: Blower Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Multi-Stage Centrifugal Blowers w 5x2,950 SCFM blowers, Disch BFVs, Disch check valves, 5xPLC panels, 1xMaster PLC panel	1	EA	\$ 1,050,000.00	\$ 315,000.00	\$ 1,365,000
16-inch Sch 10S, 304 St Steel Air Piping	80	LF	\$ 1,000.00	\$ 300.00	\$ 104,000
36-inch Sch 10S, 304 St Steel Air Piping	65	LF	\$ 1,500.00	\$ 450.00	\$ 126,750
16-inch Discharge Check Valves (part of Blower Package)	0	EA	\$ 15,000.00	\$ 4,500.00	\$ -
16--inch Discharge Butterfly Valves	4	EA	\$ 4,000.00	\$ 1,200.00	\$ 20,800
36-inch St Steel Bellows Expansion Cplg	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
Allowance for Pipe Supports	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Main air header blow-off control valve w electro-hydraulic actuator	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Manual air header butterfly valve	1	EA	\$ 8,000.00	\$ 2,400.00	\$ 10,400
<i>Miscellaneous</i>	5%				\$ 89,018
			<b>Subtotal Division 40</b>		<b>\$ 1,869,368</b>
<b>Division 41 - Material Processing and Handling Equipment</b>					
5-ton bridge crane	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
<i>Miscellaneous</i>	5%				\$ 6,500
			<b>Subtotal Division 46</b>		<b>\$ 136,500</b>
<b>Subtotal This Facility</b>					<b>\$ 7,055,761</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,614,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 353,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,553,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 10,576,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 40  
Facility Description: Mixed Liquor Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Mixed Liquor Splitter Box Concrete</b>					
Concrete Base Slab	153	CY	\$ 1,500.00		\$ 229,528
Concrete Freestanding Wall	190	CY	\$ 1,600.00		\$ 304,649
Concrete Beams	8	CY	\$ 1,400.00		\$ 11,459
Concrete Elevated Slab	5	CY	\$ 1,600.00		\$ 8,059
Void Forms	2013	SF	\$ 14.00		\$ 28,182
<b>Mixed Liquor Splitter Box Deep Foundations</b>					
Drilled Shaft Deep Foundation	111	CY	\$ 1,400.00		\$ 154,726
Miscellaneous	5%				\$ 36,830
<b>Subtotal Division 3</b>					<b>\$ 773,433</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	188	LF	\$ 60.00		\$ 11,265
Aluminum Stairs	32	Riser	\$ 600.00	\$ 180.00	\$ 24,960
Aluminum Framing	1951	LB	\$ 10.00	\$ 3.00	\$ 25,368
2" Aluminum Grating	471	SF	\$ 60.00		\$ 28,280
Stainless Steel Removable Plates	18745	LB	\$ 10.00	\$ 3.00	\$ 243,680
Miscellaneous	5%				\$ 16,678
<b>Subtotal Division 5</b>					<b>\$ 350,231</b>
<b>Division 26 - Electrical</b>					
Misc. Electrical costs (fixture+light switch)	1	LS	\$85,000		\$ 85,000
Miscellaneous	5%				\$ 4,250
<b>Subtotal Division 26</b>					<b>\$ 89,250</b>
<b>Division 31 - Earthwork</b>					
Excavation	1515	CY		\$ 15.00	\$ 22,725
Backfill	1143	CY	\$ 20.00		\$ 22,860
Miscellaneous	5%				\$ 2,279
<b>Subtotal Division 31</b>					<b>\$ 47,864</b>
<b>Division 44 - Pollution Control Equipment</b>					
48" x 60" Slide Gate	2	EA	\$14,000	\$ 4,200.00	\$ 36,400
48" x 48" Slide Gate	1	EA	\$36,500	\$ 10,950.00	\$ 47,450
42" x 42" Slide Gate	1	EA	\$32,100	\$ 9,630.00	\$ 41,730
1 1/2" Alum Feed Piping	75	LF	\$10	\$ 3.00	\$ 975
Miscellaneous	5%				\$ 6,328
<b>Subtotal Division 44</b>					<b>\$ 132,883</b>
<b>Subtotal This Facility</b>					<b>\$ 1,393,661</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 319,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 70,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 307,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,090,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 45  
Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Secondary Clarifiers Concrete</b>					
Concrete Base Slab	3125	CY	\$ 1,500.00		\$ 4,687,085
Concrete Freestanding Wall	608	CY	\$ 1,600.00		\$ 972,949
Concrete Elevated Slab	117	CY	\$ 1,600.00		\$ 187,246
Void Forms	29935	SF	\$ 14.00		\$ 419,089
Grout	176	CY	\$ 200.00		\$ 35,257
<b>Secondary Clarifiers Deep Foundations</b>					
Drilled Shaft Deep Foundation	903	CY	\$ 1,400.00		\$ 1,264,719
<i>Miscellaneous</i>	5%				\$ 378,317
Subtotal Division 3					<b>\$ 7,944,663</b>
<b>Division 5 - Metals</b>					
Aluminum Stairs	46	Riser	\$ 600.00	\$ 180.00	\$ 35,880
Aluminum Guardrail	340	LF	\$ 60.00	\$ 18.00	\$ 26,533
Aluminum Framing	3942	LB	\$ 10.00	\$ 3.00	\$ 51,244
Aluminum Grating	216	SF	\$ 60.00		\$ 12,974
<i>Miscellaneous</i>	5%				\$ 6,332
Subtotal Division 5					<b>\$ 132,963</b>
<b>Division 26 - Electrical</b>					
Wiring Total	2	LS	\$130,000	\$ 45,500.00	\$ 351,000
Conduit Total	1	LS	\$78,000	\$ 27,300.00	\$ 105,300
Light/Receptacles	1	LS	\$45,000	\$ 15,750.00	\$ 60,750
Grounding	1	LS	\$65,000	\$ 22,750.00	\$ 87,750
<i>Miscellaneous</i>	5%				\$ 30,240
Subtotal Division 26					<b>\$ 635,040</b>
<b>Division 31 - Earthwork</b>					
Excavation	17115	CY		\$ 15.00	\$ 256,723
Backfill	7493	CY	\$ 20.00		\$ 149,855
Dewatering	1	LS	\$ 300,000.00		\$ 300,000
<i>Miscellaneous</i>	5%				\$ 35,329
Subtotal Division 31					<b>\$ 741,907</b>
<b>Division 40 - Process Integration</b>					
36" DI Pipe - Influent MLSS	140	LF	\$ 650.34	\$ 195.10	\$ 118,362
18" DI Pipe - Effluent RAS/WAS	140	LF	\$ 215.12	\$ 64.54	\$ 39,152
12" DI Pipe - Drain Piping	140	LF	\$ 121.30	\$ 36.39	\$ 22,077
<i>Miscellaneous</i>	5%				\$ 8,980
Subtotal Division 40					<b>\$ 188,570</b>
<b>Division 44 - Pollution Control Equipment</b>					
135' SC Mechanism including FRP Weirs, Scum Baffles, Density Current Baffles, and LCP	2	EA	\$ 719,650.00	\$ 215,895.00	\$ 1,871,090
SS 304 Adder	2	EA	\$ 333,500.00		\$ 667,000
42" x 42" Slide Gate	2	EA	\$32,000.00	\$ 9,600.00	\$ 83,200
<b>Algae Control System</b>					
2" PVC Pipe	200	LF	\$ 10.00	\$ 3.00	\$ 2,600
2" PVC Ball Valve	2	EA	\$ 13.00	\$ 3.90	\$ 34
2" PVC Elbow	8	EA	\$ 4.50	\$ 1.35	\$ 47
6" 316L Stainless Steel Launder	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 45  
Facility Description: Secondary Clarifiers**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Scum Flushing and Control</u></b>					
1" PVC Pipe	150	LF	\$ 3.49	\$ 1.05	\$ 681
1" PVC Ball Valve	2	EA	\$ 11.00	\$ 3.30	\$ 29
1" PVC Elbow	10	EA	\$ 1.50	\$ 0.45	\$ 20
1" PVC Tee	26	EA	\$ 2.00	\$ 0.60	\$ 68
1" PVC Pressure Reducing Valve	1	EA	\$ 100.00	\$ 30.00	\$ 130
Spray Nozzles	25	EA	\$ 5.00	\$ 1.50	\$ 163
<i>Miscellaneous</i>	5%				\$ 131,415
Subtotal Division 44					<b>\$ 2,759,725</b>
<b>Subtotal This Facility</b>					<b>\$ 12,402,868</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,836,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 621,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,729,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 18,589,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building</b>					
Concrete Base Slab	29	CY	\$ 1,500.00		\$ 43,889
Drilled Shaft Deep Foundation	34	CY	\$ 1,400.00		\$ 48,222
Grade Beams	23	CY	\$ 1,200.00		\$ 28,000
Void Forms	810	SF	\$ 14.00		\$ 11,340
<b>RAS/WAS Pump Station</b>					
Concrete Base Slab	74	CY	\$ 1,500.00		\$ 111,667
Drilled Shaft Deep Foundation	92	CY	\$ 1,400.00		\$ 128,644
Grade Beams	122	CY	\$ 1,200.00		\$ 146,667
Equipment Pads	10	CY	\$ 1,000.00		\$ 10,000
Void Forms	2010	SF	\$ 14.00		\$ 28,140
Miscellaneous	5%				\$ 27,828
			Subtotal Division 3		<b>\$ 584,397</b>
<b>Division 4 - Masonry</b>					
<b>Electrical Building</b>					
CMU Masonry Walls	1527	SF	\$ 20.00		\$ 30,533
Masonry Veneer	1527	SF	\$ 15.00		\$ 22,900
Miscellaneous	5%				\$ 2,672
			Subtotal Division 4		<b>\$ 56,105</b>
<b>Division 5 - Metals</b>					
<b>Electrical Building</b>					
Roof Deck	628	SF	\$ 15.00		\$ 9,419
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
<b>RAS/WAS Pump Station</b>					
Roof Deck	0	SF	\$ 15.00		\$ -
Structural Steel Framing	0	LB	\$ 3.00	\$ 0.90	\$ -
Steel Galvanizing	0	LB	\$ 1.00	\$ 0.30	\$ -
Steel Joists	0	TON	\$ 3,000.00	\$ 900.00	\$ -
Aluminum Framing (Pipe supports.)	450	LB	\$ 10.00	\$ 3.00	\$ 5,850
Miscellaneous	5%				\$ 958
			Subtotal Division 5		<b>\$ 20,128</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
<b>Electrical Building</b>					
Rain Gutters and Downspouts	85.5001	LF	\$ 9.20	\$ 2.76	\$ 1,023
Wall Insulation	1527	SF	\$ 1.20	\$ 0.50	\$ 2,595
Roof Insulation	628	SF	\$ 2.25	\$ 0.65	\$ 1,821
Awning	1	QTY	\$ 500.00	\$ 150.00	\$ 650
Miscellaneous	5%				\$ 304
			Subtotal Division 7		<b>\$ 6,393</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
Miscellaneous	5%				\$ 1,200
			Subtotal Division 8		<b>\$ 25,200</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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**City of Pflugerville  
19W07191**

**Facility Number: 46  
Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 23 - HVAC</b>					
5-ton AC Split System	2	EA	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Corrosion Resistant Coatings	1	LS	\$ 2,500.00		\$ 2,500
Ductwork+accessories	1	LS	\$ 533.00	\$ 159.90	\$ 693
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,622
Subtotal Division 23					<b>\$ 34,065</b>
<b>Division 26 - Electrical</b>					
MCC-4	1	EA	\$ 130,000.00	\$ 45,500.00	\$ 175,500
750 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 15,750.00	\$ 121,500
6 pulse VFDs	7	EA	\$ 24,000.00	\$ 8,400.00	\$ 226,800
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 105,000.00	\$ 36,750.00	\$ 141,750
Conduit Total	1	LS	\$ 42,000.00	\$ 14,700.00	\$ 56,700
Lighting and Receptacles Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 65,000.00	\$ 22,750.00	\$ 87,750
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Cable Tray Total	1	LS	\$ 20,000.00	\$ 7,000.00	\$ 27,000
<b>RAS/WAS Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-RAS/WAS)</b>					
Enclosure (NET-RAS/WAS) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Miscellaneous for NET-RAS/WAS	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-RAS/WAS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA RAS/WAS Enclosure (PLC-RAS/WAS)</b>					
Enclosure (PLC-ILS1) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700	\$ 700	\$ 4,200
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (87x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 40,000	\$ 40,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Transit-Time Ultrasonic FM	3	EA	\$ 15,000	\$ 9,000	\$ 54,000
	0	EA	\$ -	\$ -	\$ -
PIT/Seal	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Sludge Blanket Level Transmitters	2	EA	\$ 10,000	\$ 4,000	\$ 24,000
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
PI/PSH/Seal	7	EA	\$ 4,000	\$ 5,600	\$ 33,600
PI/PSH/Annular Diaphragm 12"	5	EA	\$ 8,000	\$ 8,000	\$ 48,000
PSL/Seal	7	EA	\$ 3,000	\$ 4,200	\$ 25,200
	0	EA	\$ -	\$ -	\$ -
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 67,558
Subtotal Division 26					<b>\$ 1,418,708</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
<b>Electrical Building</b>					
Excavation	460	CY		\$ 15.00	\$ 6,900
Fill	430	CY	\$ 20.00		\$ 8,600
<b>RAS/WAS Pump Station</b>					
Excavation	960	CY		\$ 15.00	\$ 14,400
Fill	870	CY	\$ 20.00		\$ 17,400
Miscellaneous	5%				\$ 2,365
Subtotal Division 31					<b>\$ 49,665</b>

<b>Division 40 - Process Integration</b>					
Pipe Supports	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
<b>RAS/WAS Suction</b>					
18" DI Pipe	51	LF	\$ 240.00	\$ 72.00	\$ 15,912
18" Plug Valve	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
18" Tee	7	EA	\$ 9,071.00	\$ 2,721.30	\$ 82,546
18" x 12" Tee	2	EA	\$ 6,692.00	\$ 2,007.60	\$ 17,399
18" Blind Flange	2	EA	\$ 1,210.00	\$ 363.00	\$ 3,146
18" Elbow	4	EA	\$ 6,057.00	\$ 1,817.10	\$ 31,496
18" Sampling Port	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
18" to 12" Reducer	5	EA	\$ 2,215.00	\$ 664.50	\$ 14,398
12" to 6" Reducer	2	EA	\$ 971.00	\$ 291.30	\$ 2,525
12" DI Pipe	10	LF	\$ 113.00	\$ 33.90	\$ 1,469
12" Plug Valve	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
12" Restrained Flanged Coupling Adapter	5	EA	\$ 1,950.00	\$ 585.00	\$ 12,675
12" to 10" Reducer	3	EA	\$ 1,274.00	\$ 382.20	\$ 4,969
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Restrained Flanged Coupling Adapter	2	EA	\$ 750.00	\$ 225.00	\$ 1,950
<b>RAS Discharge</b>					
18" DI Pipe	20	LF	\$ 240.00	\$ 72.00	\$ 6,240
18" Elbow	1	EA	\$ 6,057.00	\$ 1,817.10	\$ 7,874
18" to 12" Reducer	1	EA	\$ 2,215.00	\$ 664.50	\$ 2,880
12" DI Pipe	95	LF	\$ 113.00	\$ 33.90	\$ 13,956
12" 90 deg. Elbow	13	EA	\$ 1,691.00	\$ 507.30	\$ 28,578
12" 45 deg. Elbow	5	EA	\$ 1,410.00	\$ 423.00	\$ 9,165
12" Tee	5	EA	\$ 2,649.00	\$ 794.70	\$ 17,219
12" Plug Valve	7	EA	\$ 6,000.00	\$ 1,800.00	\$ 54,600
12" Check Valve	5	EA	\$ 8,600.00	\$ 2,580.00	\$ 55,900
12" Restrained Flanged Coupling Adapter	5	EA	\$ 1,950.00	\$ 585.00	\$ 12,675
12" Pinch Valve	2	EA	\$ 10,500.00	\$ 3,150.00	\$ 27,300
12" to 10" Reducer	5	EA	\$ 1,274.00	\$ 382.20	\$ 8,281
12" to 6" Reducer	2	EA	\$ 971.00	\$ 291.30	\$ 2,525
12" Expansion Joint	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
6" Expansion Joint	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
2" ARV	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>WAS Discharge</b>					
6" DI Pipe	85	LF	\$ 60.00	\$ 18.00	\$ 6,630
6" Elbow	8	EA	\$ 345.00	\$ 103.50	\$ 3,588
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Check Valve	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
6" Tee	1	EA	\$ 505.00	\$ 151.50	\$ 657
6" Expansion Joint	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
6" Restrained Flanged Coupling Adapter	2	EA	\$ 750.00	\$ 225.00	\$ 1,950
2" ARV	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
Miscellaneous	5%				\$ 29,179
Subtotal Division 40					<b>\$ 612,749</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 46  
Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
3.0 MGD RAS Pumps and VFDs	3	EA	\$ 40,000.00	\$ 12,000.00	\$ 156,000
1.5 MGD RAS Pumps and VFDs	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
500 gpm WAS Pumps and VFDs	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Subtotal Division 46					<b>\$ 312,000</b>
<b>Subtotal This Facility</b>					<b>\$ 3,291,009</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 753,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 165,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 725,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,935,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 50  
Facility Description: Filters

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Filters Concrete</b>					
Concrete Wall	282	CY	\$ 1,600.00		\$ 451,200
Concrete Base Slab	141	CY	\$ 1,500.00		\$ 211,698
Elevated Slab	13	CY	\$ 1,600.00		\$ 21,452
Grade Beams	116	CY	\$ 1,200.00		\$ 139,778
Void Forms	2858	SF	\$ 14.00		\$ 40,012
Drilled Shaft Deep Foundation	90	CY	\$ 1,400.00		\$ 126,415
Concrete Column	24	CY	\$ 1,300.00		\$ 30,815
<i>Miscellaneous</i>	5%				\$ 51,068
			Subtotal Division 3		<b>\$ 1,072,438</b>
<b>Division 5 - Metals</b>					
Roof Deck	2,900	SF	\$ 15.00		\$ 43,500
Aluminum Guardrail	588	LF	\$ 60.00		\$ 35,280
Aluminum Grating	590	SF	\$ 60.00		\$ 35,400
Steel Framing	47,819	LB	\$ 3.00	\$ 0.90	\$ 186,494
Galvanizing	47,819	LB	\$ 1.00	\$ 0.30	\$ 62,165
Stairs	91	Riser	\$ 600.00	\$ 180.00	\$ 70,980
Aluminum Framing	709	LB	\$ 10.00	\$ 3.00	\$ 9,211
<i>Miscellaneous</i>	5%				\$ 22,152
			Subtotal Division 5		<b>\$ 465,182</b>
<b>Division 9 - Finishes</b>					
Protective Coatings	1	LS	\$ 9,000.00	\$ 2,700.00	\$ 11,700
Pipe Markings	1	LS	\$ 500.00	\$ 1,500.00	\$ 2,000
<i>Miscellaneous</i>	5%				\$ 685
			Subtotal Division 9		<b>\$ 14,385</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 132,000.00	\$ 46,200.00	\$ 178,200
Conduit Total	1	LS	\$ 85,000.00	\$ 29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$ 50,000.00	\$ 17,500.00	\$ 67,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
<b>Filter Complex (SCADA)</b>					
<b>Network Enclosure (NET-FC1)</b>					
Enclosure (NET-FC1) (24"H x 24"W x 25"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-FC1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Enclosure (501-FILTERSPLIT-100) (12"H x 12"W x 8"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
Combined Turbidity Instrument, with sc4500 controller with mounting kit	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
<i>Miscellaneous</i>	5%				\$ 24,735
			Subtotal Division 26		<b>\$ 519,435</b>
<b>Division 31 - Earthwork</b>					
Excavation	2600	CY		\$ 15.00	\$ 39,000
Fill	1200	CY	\$ 20.00		\$ 24,000
<i>Miscellaneous</i>	5%				\$ 3,150
			Subtotal Division 31		<b>\$ 66,150</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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**Facility Number: 50  
Facility Description: Filters**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Filter, Cloth Media, 12 MGD	3	EA	\$ 570,000.00	\$ 171,000.00	\$ 2,223,000
48-inch Influent Pipe	1	LS	\$ 13,000.00	\$ 3,900.00	\$ 16,900
36-inch Effluent Pipe	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Filter Backwash Piping	1	LS	\$ 80,000.00	\$ 24,000.00	\$ 104,000
Basin Drain Piping and Mud Valves	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Hose Station Piping	1	LS	\$ 1,000.00	\$ 3,000.00	\$ 4,000
Slide Gates	3	EA	\$ 22,000.00	\$ 6,600.00	\$ 85,800
NPW Wash Hose Station	4	EA	\$ 700.00	\$ 300.00	\$ 4,000
<i>Miscellaneous</i>	5%				\$ 124,095
			Subtotal Division 40		<b>\$ 2,605,995</b>
<b>Division 41 - Material Processing and Handling</b>					
Monorail Trolley System	1	EA	\$ 35,000.00	\$ 10,500.00	\$ 45,500
<i>Miscellaneous</i>	5%				\$ 2,275
			Subtotal Division 41		<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 4,791,360</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,096,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 240,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,055,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 7,183,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 53  
Facility Description: UV Disinfection

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>UV Disinfection Concrete</b>					
Concrete Base Slab	76	CY	\$ 1,500.00		\$ 114,333
Concrete Freestanding Wall	142	CY	\$ 1,600.00		\$ 227,852
Concrete Elevated Slab	89	CY	\$ 1,600.00		\$ 142,064
Void Forms	1372	SF	\$ 14.00		\$ 19,208
<b>UV Disinfection Deep Foundation</b>					
Drilled Shaft Deep Foundation	78	CY	\$ 1,400.00		\$ 109,096
Miscellaneous	5%				\$ 30,628
Subtotal Division 3					<b>\$ 643,181</b>
<b>Division 5 - Metals</b>					
Aluminum Grating	1179	SF	\$ 60.00	\$ 18.00	\$ 91,962
Checker Plating	141	SF	\$ 150.00	\$ 45.00	\$ 27,495
Roof Deck	2,010	SF	\$ 15.00	-	\$ 30,150
Steel Framing	10,547	LB	\$ 4.00	\$ 1.20	\$ 54,846
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 5,801
Miscellaneous	5%				\$ 10,513
Subtotal Division 5					<b>\$ 220,767</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Misc. Lumber for Building Eaves	1	LS	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 195
Subtotal Division 6					<b>\$ 4,095</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$155,000.00	\$54,250.00	\$ 209,250
Conduit Total	1	LS	\$85,000.00	\$29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$80,000.00	\$28,000.00	\$ 108,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$75,000.00	\$26,250.00	\$ 101,250
Grounding Total	1	LS	\$40,000.00	\$14,000.00	\$ 54,000
<b>UV Complex (SCADA)</b>					
<b>Network Enclosure (NET-UV2)</b>					
Enclosure (NET-UV2) (24"H x 24"W x 25"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-UV2	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Enclosure (521-UVSPLIT-100) (12"H x 12"W x 8"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Transit Time Strap-on Flow Meter for 36"	1	EA	\$ 15,000.00	\$ 3,000.00	\$ 18,000
Miscellaneous	5%				\$ 32,663
Subtotal Division 26					<b>\$ 685,913</b>
<b>Division 31 - Earthwork</b>					
<b>Disinfection Area</b>					
Fill	2037	CY	\$ 20.00		\$ 40,740
Excavation	1283	CY		\$ 15.00	\$ 19,245
Miscellaneous	5%				\$ 2,999
Subtotal Division 31					<b>\$ 62,984</b>
<b>Division 40 - Process Integration</b>					
Allowance for Influent Piping (36" Inlet, 36 Inlet (capped), 48" Outlet (capped))	1	LS	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	3	EA	\$ 20,000.00	\$ 6,000.00	\$ 78,000
Yard Piping Tie-In Fittings / Connections	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Yard Hydrants	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Fabricated Stainless Steel Slide Gate (Motorized, 60" x 53")	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
Fabricated Stainless Steel Slide Gate (Manual, 36" x 36")	2	EA	\$ 12,500.00	\$ 3,750.00	\$ 32,500
Fabricated Stainless Steel Slide Gate (Manual, 48" x 48")	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
36" Ultrasonic Flowmeter	1	EA	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Miscellaneous	5%				\$ 9,815
Subtotal Division 40					<b>\$ 238,615</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
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**Facility Number: 53  
Facility Description: UV Disinfection**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
UV Equipment	1	LS	\$ 655,520.00	\$ 196,656.00	\$ 852,176
FRP Finger Weirs (includes support)	1	LS	\$ 59,700.00	\$ 17,910.00	\$ 77,610
<i>Miscellaneous</i>	5%				\$ 46,489
			Subtotal Division 44		<b>\$ 976,275</b>
<b>Subtotal This Facility</b>					<b>\$ 2,831,830</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 648,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 142,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 624,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,246,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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**Facility Number: 54  
Facility Description: UV Electrical Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building Foundation</b>					
Concrete Base Slab	62	CY	\$ 1,500.00		\$ 93,557
Concrete Housekeeping Pads	3	CY	\$ 1,000.00		\$ 3,299
Void Forms	1631	SF	\$ 14.00		\$ 22,835
Grade Beams	41	CY	\$ 1,200.00		\$ 49,529
<b>Electrical Building Deep Foundation</b>					
Drilled Shaft Deep Foundations	38	CY	\$ 1,400.00		\$ 52,941
Miscellaneous	5%				\$ 11,108
Subtotal Division 3					<b>\$ 233,268</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2139	SF	\$ 20.00		\$ 42,776
Veneer	2139	SF	\$ 15.00		\$ 32,082
Miscellaneous	5%				\$ 3,743
Subtotal Division 4					<b>\$ 78,601</b>
<b>Division 5 - Metals</b>					
Metal Roof Paneling	1,056	SF	\$ 15.00		\$ 15,841
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 987
Subtotal Division 5					<b>\$ 20,728</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	2139	SF	\$ 1.20	\$ 0.50	\$ 3,636
Building Roof Insulation	2139	SF	\$ 2.25	\$ 0.65	\$ 6,202
Metal Standing Seam Roofing	1200	SF	\$ 4.25	\$ 1.28	\$ 6,630
Metal Soffits	113	SF	\$ 4.25	\$ 1.28	\$ 624
Rain Gutters and Downspouts	98	LF	\$ 9.20	\$ 2.76	\$ 1,172
Miscellaneous	5%				\$ 913
Subtotal Division 7					<b>\$ 19,178</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,000
Subtotal Division 8					<b>\$ 21,000</b>
<b>Division 9 - Finishes</b>					
Dampproofing	1825	SF	\$ 3.00	\$ 0.90	\$ 7,118
Masonry Water Resistant Coating	3500	SF	\$ 1.50	\$ 0.45	\$ 6,825
Miscellaneous	5%				\$ 697
Subtotal Division 9					<b>\$ 14,640</b>
<b>Division 23 - HVAC</b>					
10-ton Packaged AC unit	2	EA	\$ 29,000.00	\$ 8,700.00	\$ 75,400
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 4,931.00	\$ 1,479.30	\$ 6,410
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 4,503
Subtotal Division 23					<b>\$ 94,563</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**City of Pflugerville  
19W07191**

**Facility Number: 54  
Facility Description: UV Electrical Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
MCC-5	1	EA	\$ 175,000.00	\$ 61,250.00	\$ 236,250.00
1000 kVA Pad Mounted Transformers	2	EA	\$ 85,000.00	\$ 29,750.00	\$ 199,750.00
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500.00
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750.00
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250.00
Wiring Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500.00
Conduit Total	1	LS	\$ 80,000.00	\$ 28,000.00	\$ 108,000.00
Lighting and Receptacles Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250.00
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750.00
Grounding Total	1	LS	\$ 20,000.00	\$ 7,000.00	\$ 27,000.00
Cable Tray Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750.00
<b>UV Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-UV)</b>					
Enclosure (NET-UV) (24"H x 24"W x 25"D)	1	EA	\$ 8,000.00	\$ 1,600.00	\$ 9,600.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-UV	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000.00
<b>SCADA UV Enclosure (PLC-UV)</b>					
Enclosure (PLC-UV) (72"H x 72"W x 24"D )	1	EA	\$ 30,000.00	\$ 6,000.00	\$ 36,000.00
17 slot ControlLogix Chassis	1	EA	\$ 1,500.00	\$ 300.00	\$ 1,800.00
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500.00	\$ 300.00	\$ 1,800.00
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000.00	\$ 800.00	\$ 4,800.00
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000.00	\$ 2,600.00	\$ 15,600.00
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	3	EA	\$ 3,000.00	\$ 1,800.00	\$ 10,800.00
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500.00	\$ 1,400.00	\$ 8,400.00
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700.00	\$ 700.00	\$ 4,200.00
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000.00	\$ 400.00	\$ 2,400.00
Miscellaneous	1	LOT	\$ 20,000.00	\$ 4,000.00	\$ 24,000.00
Programming (118x\$450 Hard + 300x\$100 + 700x\$100 Soft) + 2trips@10K	1	LOT	\$ -	\$ 173,000.00	\$ 173,000.00
Room Temperature Instrument	1	EA	\$ 2,000.00	\$ 400.00	\$ 2,400.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000.00	\$ 5,000.00	\$ 30,000.00
Miscellaneous	5%				\$ 60,728
<b>Subtotal Division 26</b>					<b>\$ 1,305,278</b>
<b>Division 31 - Earthwork</b>					
Fill	336	CY	\$ 20.00		\$ 8,168
Excavation	408	CY		\$ 15.00	\$ 5,039
Miscellaneous	5%				\$ 660
<b>Subtotal Division 31</b>					<b>\$ 13,868</b>
<b>Subtotal This Facility</b>					<b>\$ 1,801,123</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 413,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 91,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 397,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,703,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**Facility Number: 55  
Facility Description: Effluent Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Effluent Facility Concrete</b>					
Concrete Base Slab	202	CY	\$ 1,500.00		\$ 303,000
Concrete Walls	327	CY	\$ 1,600.00		\$ 523,793
Cast-in-place stair	36	CY	\$ 1,600.00		\$ 58,311
Equipment Pads	4	CY	\$ 1,000.00		\$ 3,704
Concrete Elevated Slab	18	CY	\$ 1,600.00		\$ 29,214
Void Forms	3636	SF	\$ 14.00		\$ 50,904
<b>Effluent Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	145	CY	\$ 1,400.00		\$ 202,637
Miscellaneous	5%				\$ 58,578
Subtotal Division 3					<b>\$ 1,230,141</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	362	LF	\$ 60.00		\$ 21,720
Aluminum Grating	106	SF	\$ 60.00		\$ 6,347
Miscellaneous	5%				\$ 1,403
Subtotal Division 5					<b>\$ 29,470</b>
<b>Division 26 - Electrical</b>					
Misc Electrical	1	EA	\$ 210,000.00	\$ 42,000	\$ 252,000
LE/FIT for Parshall Flume (Flow Meter)	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Dissolved Oxygen Probe	1	EA	\$ 6,500	\$ 1,300	\$ 7,800.00
LSH Floats	1	EA	\$ 600	\$ 120	\$ 720
Refrigerated Autosampler and Pump	1	EA	\$ 10,294	\$ 2,059	\$ 12,353
PI/PSH/Block/Bleed	2	EA	\$ 4,000	\$ 1,600	\$ 11,200
Miscellaneous	5%				\$ 14,504
Subtotal Division 26					<b>\$ 304,576</b>
<b>Division 31 - Earthwork</b>					
Excavation	3850	CY		\$ 15.00	\$ 57,750
Fill	2300	CY	\$ 20.00		\$ 46,000
Miscellaneous	5%				\$ 5,188
Subtotal Division 31					<b>\$ 108,938</b>
<b>Division 40 - Process Integration</b>					
Allowance for Effluent Piping (48" Outlet, 48" Outlet (capped), 18" Outlet, 18" Outlet (capped))	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Allowance for Ductile Iron Drain Piping and Plug Valves	2	LS	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Air Piping 10" Flanged, Sch 10S, 304 St Steel	40	LF	\$ 220.00	\$ 66.00	\$ 11,440
Air Piping 6" Flanged, Sch 10S, 304 St Steel	80	LF	\$ 150.00	\$ 45.00	\$ 15,600
Allowance for Pipe Supports	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
Fittings (tees, elbows, reducers, expansion joints)	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
8-inch swing check valve	2	EA	\$ 3,000.00	\$ 900.00	\$ 7,800
Yard Piping Tie-In Fittings / Connections	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Yard Hydrants	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Nested Parshall Flume (36" Nested Inside 72")	1	LS	\$ 68,121.00	\$ 20,436.30	\$ 88,557
Fabricated Stainless Steel Slide Gate (Manual, 96" x 84")	3	EA	\$ 30,000.00	\$ 9,000.00	\$ 117,000
Fabricated Stainless Steel Slide Gate (Manual, 18" x 18")	2	EA	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Fabricated Stainless Steel Slide Gate (Manual, 48" x 48")	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Miscellaneous	5%				\$ 20,860
Subtotal Division 40					<b>\$ 438,057</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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**Facility Number: 55  
Facility Description: Effluent Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
Positive Displacement Blowers (60 hp, 1,100 scfm @ 7.5 psig each) and VFDs	2	EA	\$ 66,000.00	\$ 19,800.00	\$ 171,600
Coarse Bubble Diffusers (Single Drop) and Piping	1	LS	\$ 110,000.00	\$ 33,000.00	\$ 143,000
<i>Miscellaneous</i>	5%				\$ 15,730
			Subtotal Division 44		<b>\$ 330,330</b>
<b>Subtotal This Facility</b>					<b>\$ 2,441,512</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 559,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 123,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 538,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 3,662,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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**Facility Number: 56  
Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Non-Potable Water System</b>					
Concrete Base Slab	15	CY	\$ 1,500.00		\$ 22,833
Concrete Freestanding Wall	18	CY	\$ 1,600.00		\$ 28,919
Concrete Elevated Slab	18	CY	\$ 1,600.00		\$ 29,077
Void Forms	274	SF	\$ 14.00		\$ 3,836
<b>Non-Potable Water System Deep Foundations</b>					
Drilled Shaft Deep Foundations	15	CY	\$ 1,400.00		\$ 21,363
<i>Miscellaneous</i>	5%				\$ 5,301
				Subtotal Division 3	\$ 111,329
<b>Division 5 - Metals</b>					
Aluminum Grating	259	SF	\$ 60.00		\$ 15,553
<i>Miscellaneous</i>	5%				\$ 778
				Subtotal Division 5	\$ 16,331
<b>Division 26 - Electrical</b>					
Disconnect Switches	1	LS	\$ 60,000.00	\$ 21,000	\$ 81,000
Misc. Electrical	1	LS	\$ 85,000.00	\$ 29,750	\$ 114,750
LSLL Float	1	EA	\$ 600	\$ 120	\$ 720
Submersible Level Transmitter with Stilling Well	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Transit-time Ultrasonic FM	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Pressure Indicator with seal/Block/Bleed	1	EA	\$ 2,000	\$ 400	\$ 2,400
PI/PSH with Block/Bleed	4	EA	\$ 4,000	\$ 3,200	\$ 19,200
PIT with Block/Bleed	1	EA	\$ 3,000	\$ 600	\$ 3,600
	0	EA	\$ -	\$ -	\$ -
<i>Miscellaneous</i>	5%				\$ 12,284
				Subtotal Division 26	\$ 257,954
<b>Division 31 - Earthwork</b>					
Excavation	1,000	CY		\$ 15.00	\$ 15,000
Backfill	850	CY	\$ 20.00		\$ 17,000
<i>Miscellaneous</i>	5%				\$ 1,600
				Subtotal Division 31	\$ 33,600
<b>Division 40 - Process Integration</b>					
3'x3' Slide Gate	1	EA	\$ 10,000.00	\$ 3,000.00	\$ 13,000
<b>Pumping Set-up</b>					
6"x4" Reducer	1	EA	\$ 373.00	\$ 111.90	\$ 485
4" Pressure Reducing Valve	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
6" Butterfly Valves	4	EA	\$ 1,500.00	\$ 450.00	\$ 7,800
6" Swing Check Valves - V608	4	EA	\$ 2,500.00	\$ 750.00	\$ 13,000
6" DI Pipe	30	LF	\$ 60.00	\$ 18.00	\$ 2,340
6" Tee	4	EA	\$ 505.00	\$ 151.50	\$ 2,626
6" 90 deg. Elbow	5	EA	\$ 345.00	\$ 103.50	\$ 2,243
8" x 6" Reducer	1	EA	\$ 576.00	\$ 172.80	\$ 749
2" ARV	1	EA	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Filter Bypass</b>					
6" Butterfly Valve	3	EA	\$ 1,500.00	\$ 450.00	\$ 5,850
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Tee	2	EA	\$ 505.00	\$ 151.50	\$ 1,313
6" 90 deg. Elbow	2	EA	\$ 345.00	\$ 103.50	\$ 897

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 56  
Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Chlorine Injection</b>					
1/2" Chlorine Injection Quill	1	EA	\$ 135.00	\$ 40.50	\$ 176
1/2" PVC Pipe	15	LF	\$ 3.00	\$ 0.90	\$ 59
1/2" Elbow	3	EA	\$ 0.70	\$ 0.21	\$ 3
1/2" Ball Valve	2	EA	\$ 3.00	\$ 0.90	\$ 8
1/2" Pressure Control Valve	1	EA	\$ 65.00	\$ 19.50	\$ 85
2" PVC Carrier Pipe	10	LF	\$ 5.22	\$ 1.57	\$ 68
2" PVC Elbow	2	EA	\$ 1.00	\$ 0.30	\$ 3
<i>Miscellaneous</i>	5%				\$ 2,997
Subtotal Division 40					<b>\$ 62,928</b>
<b>Division 44 - Pollution Control Equipment</b>					
Non-Potable Supply Pumps & Motors Including VFDs	4	EA	\$ 32,000.00	\$ 9,600.00	\$ 166,400
Bag Filter and SS304 Housing	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 9,945
Subtotal Division 44					<b>\$ 208,845</b>
<b>Subtotal This Facility</b>					<b>\$ 690,987</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 159,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 35,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 153,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,038,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Chemical Building</b>					
Drilled Shaft Deep Foundation	19	CY	\$ 1,400.00		\$ 26,237
Grade Beams	21	CY	\$ 1,200.00		\$ 25,200
Concrete Freestanding Wall	5	CY	\$ 1,600.00		\$ 8,000
Building Base Slab	34	CY	\$ 1,500.00		\$ 51,000
Void Forms	1034	SF	\$ 14.00		\$ 14,470
<b>Tank Shelter</b>					
Drilled Shaft Deep Foundation	35	CY	\$ 1,400.00		\$ 49,467
Concrete Tank Pad	18	CY	\$ 1,000.00		\$ 18,000
Concrete Base Slab	81	CY	\$ 1,500.00		\$ 121,500
Concrete Freestanding Walls	15	CY	\$ 1,600.00		\$ 24,626
Void Forms	1250	SF	\$ 14.00		\$ 17,500
Miscellaneous	5%				\$ 17,800
					<b>\$ 373,799</b>
<b>Division 4 - Masonry</b>					
<b>Chemical Building</b>					
CMU Masonry Walls	2628	SF	\$ 20.00		\$ 52,560
Masonry Veneer	1885	SF	\$ 15.00		\$ 28,275
Miscellaneous	5%				\$ 4,042
					<b>\$ 84,877</b>
<b>Division 5 - Metals</b>					
<b>Chemical Building</b>					
Steel Joists	0.5	TON	\$ 3,000.00	\$ 900.00	\$ 1,950
Metal Deck	2046	SF	\$ 15.00		\$ 30,690
Aluminum Grating	205	SF	\$ 60.00		\$ 12,300
<b>Tank Shelter</b>					
Galv. Structural Steel Framing	8158	LB	\$ 4.00	\$ 1.20	\$ 32,632
Aluminum Stairs	5	RISER	\$ 600.00	\$ 180.00	\$ 3,900
Aluminum Guardrail	119	LF	\$ 60.00		\$ 7,140
Miscellaneous	5%				\$ 4,431
					<b>\$ 93,043</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Wall Insulation	1885	SF	\$ 1.20	\$ 0.50	\$ 3,205
Roof Insulation	2046	SF	\$ 2.25	\$ 0.65	\$ 5,933
Rain Gutters and Downspouts	96	LF	\$ 9.20	\$ 2.76	\$ 1,148
Miscellaneous	5%				\$ 514
					<b>\$ 10,800</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	2	EA	\$ 12,000.00		\$ 24,000
FRP Exterior Overhead Door	0	EA	\$ 16,000.00		\$ -
Miscellaneous	5%				\$ 2,400
					<b>\$ 50,400</b>
<b>Division 9 - Finishes</b>					
Chemical Resistant Floor Primer	1500	SF	\$ 3.00		\$ 4,500
Masonry Water Resistant Coating	1422	SF	\$ 1.50		\$ 2,133
Miscellaneous	5%				\$ 332
					<b>\$ 6,965</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	2	EA	\$ 1,071.00	\$ 321.30	\$ 2,785
Eye/Face Wash with Heat Trace	1	LS	\$ 5,328.40	\$ 1,598.52	\$ 6,927
105 gal Water Heater	1	EA	\$ 6,326.26	\$ 1,897.88	\$ 8,224
Backflow Preventer - 1 1/2"	1	EA	\$ 705.18	\$ 211.55	\$ 917
Emergency Mixing Valve - 1"	1	EA	\$ 1,008.18	\$ 302.45	\$ 1,311
1" PVC Pipe	24	LF	\$ 3.49	\$ 1.05	\$ 109
1-1/2" PVC Pipe	22	LF	\$ 5.22	\$ 1.57	\$ 149
1" CPVC Pipe	11	LF	\$ 5.70	\$ 1.71	\$ 82
1-1/4" CPVC Pipe	53	LF	\$ 6.34	\$ 1.90	\$ 437
1" PVC Fittings	1	LS	\$ 27.22	\$ 8.17	\$ 35
1-1/2" PVC Fittings	1	LS	\$ 37.32	\$ 11.20	\$ 49
1" CPVC Fittings	1	LS	\$ 20.38	\$ 6.11	\$ 26
1-1/4" CPVC Fittings	1	LS	\$ 109.21	\$ 32.76	\$ 142
1" PVC Ball Valve	3	EA	\$ 54.16	\$ 16.25	\$ 211
1-1/2" PVC Ball Valve	3	EA	\$ 85.26	\$ 25.58	\$ 333
1" CPVC Ball Valve	2	EA	\$ 89.77	\$ 26.93	\$ 233
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185
Hose Station	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Expansion Tank	1	EA	\$ 100.00	\$ 30.00	\$ 130
Miscellaneous	5%				\$ 1,244
Subtotal Division 22					<b>\$ 26,128</b>
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
Split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Corrosion Resistant Coatings	1	LS	\$ 2,400.00	\$ 720.00	\$ 3,120
Ductwork	1	LS	\$ 426.00	\$ 127.80	\$ 554
<b>Sodium Hypo Room</b>					
Exhaust Fan	1	EA	\$ 1,259.00	\$ 377.70	\$ 1,637
Intake Louver	1	EA	\$ 497.00	\$ 149.10	\$ 646
Ductwork	1	LS	\$ 32.00	\$ 9.60	\$ 42
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
<b>Aluminum Sulfate Room</b>					
Exhaust Fan	1	EA	\$ 1,184.00	\$ 355.20	\$ 1,539
Intake Louver	1	EA	\$ 432.00	\$ 129.60	\$ 562
Ductwork	1	LS	\$ 25.00	\$ 7.50	\$ 33
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
Miscellaneous	5%				\$ 1,252
Subtotal Division 23					<b>\$ 26,283</b>
<b>Division 26 - Electrical</b>					
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
15 kVA XFMR	1	EA	\$ 2,000.00	\$ 700.00	\$ 2,700
Panelboard	2	EA	\$ 20,000.00	\$ 7,000.00	\$ 47,000
Wiring Total	1	LS	\$95,000.00	\$ 33,250.00	\$ 128,250
Conduit Total	1	LS	\$120,000.00	\$ 42,000.00	\$ 162,000
Lighting and Receptacles Total	1	LS	\$55,000.00	\$ 19,250.00	\$ 74,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$65,000.00	\$ 22,750.00	\$ 87,750
Grounding Total	1	LS	\$20,000.00	\$ 7,000.00	\$ 27,000
<b>Chemical Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-CHEM)</b>					
Enclosure (NET-CHEM) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Miscellaneous for NET-CHEM	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-CHEM	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Chemical Enclosure (PLC-CHEM)</b>					
Enclosure (PLC-CHEM) (72"H x 72"W x 24"D)	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 60  
Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$ 3,500	\$ 700	\$ 4,200
Digital Input Module, 10-31 vdc, 16pts	3	EA	\$ 700	\$ 420	\$ 2,520
Digital Output Module, N.O Isolated Relay Output, 16pts	1	EA	\$ 1,000	\$ 200	\$ 1,200
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (77x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 35,000	\$ 35,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
PE/LIT Indicating Transmitters with Flange Tank Mounting Equip	2	EA	\$ 6,000	\$ 2,400	\$ 14,400
LSH Floats	3	EA	\$ 600	\$ 360	\$ 2,160
Chlorine Analyzer	1	EA	\$ 6,000	\$ 1,200	\$ 7,200
PI/PSH/Seal Block/Bleed	8	EA	\$ 8,000	\$ 12,800	\$ 76,800
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<i>Miscellaneous</i>	5%				\$ 41,857
<b>Subtotal Division 26</b>					<b>\$ 878,987</b>
<b>Division 31 - Earthwork</b>					
Excavation	802	CY		\$ 15.00	\$ 12,030
Fill	467	CY	\$ 20.00		\$ 9,340
<i>Miscellaneous</i>	5%				\$ 1,069
<b>Subtotal Division 31</b>					<b>\$ 22,439</b>
<b>Division 40 - Process Integration</b>					
<b>Sodium Hypochlorite Piping</b>					
1/2" PVC Pipe	90	LF	\$ 3.00	\$ 0.90	\$ 351
1/2" 90 Bend	17	EA	\$ 1.50	\$ 0.45	\$ 33
1/2" 45 Bend	14	EA	\$ 3.00	\$ 0.90	\$ 55
1/2" Tee	17	EA	\$ 4.00	\$ 1.20	\$ 88
1/2" Pressure Gauge	1	EA	\$ 150.00	\$ 45.00	\$ 195
1/2" Pressure Gauge and Switch	2	EA	\$ 600.00	\$ 180.00	\$ 1,560
1/2" Ball Valve (w/ union)	21	EA	\$ 55.00	\$ 16.50	\$ 1,502
1/2" Air Release Valve	4	EA	\$ 200.00	\$ 60.00	\$ 1,040
1/2" Pressure Relief Valve	2	EA	\$ 180.00	\$ 54.00	\$ 468
1/2" Back Pressure Regulator	1	EA	\$ 200.00	\$ 60.00	\$ 260
3/4" PVC Pipe	50	LF	\$ 3.50	\$ 1.05	\$ 228
3/4" 90 Bend	13	EA	\$ 2.00	\$ 0.60	\$ 34
3/4" 45 Bend	6	EA	\$ 4.00	\$ 1.20	\$ 31
3/4" Tee	13	EA	\$ 4.50	\$ 1.35	\$ 76
3/4" Pressure Gauge and Switch	2	EA	\$ 600.00	\$ 180.00	\$ 1,560
3/4" Ball Valve (w/ union)	10	EA	\$ 60.00	\$ 18.00	\$ 780
3/4" Air Release Valve	3	EA	\$ 225.00	\$ 67.50	\$ 878
3/4" Pressure Relief Valve	2	EA	\$ 250.00	\$ 75.00	\$ 650
1" PVC Pipe	35	LF	\$ 4.00	\$ 1.20	\$ 182
1" 90 Bend	4	EA	\$ 1.50	\$ 0.45	\$ 8
1" Tee	2	EA	\$ 2.00	\$ 0.60	\$ 5
1" Ball Valve (w/ union)	3	EA	\$ 65.00	\$ 19.50	\$ 254
1' Actuated Ball Valve	1	EA	\$ 500.00	\$ 150.00	\$ 650
3" PVC Pipe	12	LF	\$ 20.00	\$ 6.00	\$ 312
3" 90 Bend	3	EA	\$ 65.00	\$ 19.50	\$ 254
3" Tee	1	EA	\$ 50.00	\$ 15.00	\$ 65
3" Wye Strainer	1	EA	\$ 600.00	\$ 180.00	\$ 780
3" Ball Valve (w/ union)	1	EA	\$ 600.00	\$ 180.00	\$ 780
Callibration Column	4	EA	\$ 100.00	\$ 30.00	\$ 520
<b>Aluminum Sulfate Piping</b>					
1/2" Ball Valve (w/ union)	2	EA	\$ 3.00	\$ 0.90	\$ 8
3/4" PVC Pipe	70	LF	\$ 3.50	\$ 1.05	\$ 319
3/4" 90 Bend	12	EA	\$ 2.00	\$ 0.60	\$ 31

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 60  
Facility Description: Chemical Feed Facility**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
3/4" 45 Bend	4	EA	\$ 4.00	\$ 1.20	
3/4" Tee	8	EA	\$ 4.50	\$ 1.35	\$ 47
3/4" Ball Valve (w/ union)	7	EA	\$ 60.00	\$ 18.00	\$ 546
3/4" Pressure Relief Valve	1	EA	\$ 250.00	\$ 75.00	\$ 325
3/4" Air Release Valve	1	EA	\$ 225.00	\$ 67.50	\$ 293
3/4" Pressure Gauge and Switch	1	EA	\$ 600.00	\$ 180.00	\$ 780
1 1/2" PVC Pipe	70	LF	\$ 5.00	\$ 1.50	\$ 455
1 1/2" 90 Bend	12	EA	\$ 4.00	\$ 1.20	\$ 62
1 1/2" 45 Bend	2	EA	\$ 9.00	\$ 2.70	\$ 23
1 1/2" Tee	8	EA	\$ 14.00	\$ 4.20	\$ 146
1 1/2" Ball Valve (w/ union)	7	EA	\$ 12.00	\$ 3.60	\$ 109
1 1/2" Pressure Relief Valve	1	EA	\$ 600.00	\$ 180.00	\$ 780
1 1/2" Air Release Valve	1	EA	\$ 350.00	\$ 105.00	\$ 455
1 1/2" Pressure Gauge and Switch	1	EA	\$ 600.00	\$ 180.00	\$ 780
2" PVC Pipe	60	LF	\$ 10.00	\$ 3.00	\$ 780
2" 90 Bend	12	EA	\$ 5.00	\$ 1.50	\$ 78
2" Tee	2	EA	\$ 18.00	\$ 5.40	\$ 47
2" Ball Valve (w/ Union)	3	EA	\$ 150.00	\$ 45.00	\$ 585
2" Actuated Ball Valve	1	EA	\$ 550.00	\$ 165.00	\$ 715
4" PVC Pipe	35	LF	\$ 40.00	\$ 12.00	\$ 1,820
4" 90 Bend	5	EA	\$ 100.00	\$ 30.00	\$ 650
4" Tee	1	EA	\$ 30.00	\$ 9.00	\$ 39
4" Wye Strainer	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
4" Ball Valve (w/ union)	1	EA	\$ 800.00	\$ 240.00	\$ 1,040
Callibration Column	2	EA	\$ 100.00	\$ 30.00	\$ 260
<b>Miscellaneous Piping</b>					
2" PVC Pipe	30	LF	\$ 10.00	\$ 3.00	\$ 390
2" 90 Bend	7	EA	\$ 5.00	\$ 1.50	\$ 46
2" Tee	2	EA	\$ 18.00	\$ 5.40	\$ 47
3" PVC	14	LF	\$ 20.00	\$ 6.00	\$ 364
3" 90 Bends	3	EA	\$ 65.00	\$ 19.50	\$ 254
4" PVC	50	LF	\$ 40.00	\$ 12.00	\$ 2,600
4" 90 Bend	4	EA	\$ 100.00	\$ 30.00	\$ 520
6" PVC	27	LF	\$ 100.00	\$ 30.00	\$ 3,510
6" 90 Bend	3	EA	\$ 150.00	\$ 45.00	\$ 585
6" Mud Valve	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Miscellaneous	5%				\$ 1,914
Subtotal Division 40					<b>\$ 40,198</b>
<b>Division 44 - Pollution Control Equipment</b>					
<b>Sodium Hypochlorite</b>					
500 Gallon Fiberglass Tank	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Pump	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
Injection Quill	2	EA	\$ 400.00	\$ 120.00	\$ 1,040
<b>Aluminum Sulfate</b>					
10,000 Gallon Fiberglass Tank	1	EA	\$ 52,900.00	\$ 15,870.00	\$ 68,770
Pump	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Injection Quill	1	EA	\$ 400.00	\$ 120.00	\$ 520
Miscellaneous	5%				\$ 8,977
Subtotal Division 44					<b>\$ 188,507</b>
<b>Subtotal This Facility</b>					<b>\$ 1,802,425</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 413,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 91,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 397,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,704,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Concrete Base Slab	330	CY	\$ 1,500.00		\$ 495,000
Concrete Freestanding Wall	284	CY	\$ 1,600.00		\$ 454,400
Void Forms	4694	SF	\$ 14.00		\$ 65,716
<b><u>Piping Area</u></b>					
Concrete Base Slab	93	CY	\$ 1,500.00		\$ 139,500
Concrete Equipment Pads	10	CY	\$ 1,000.00		\$ 10,000
Void Forms	1581	SF	\$ 14.00		\$ 22,134
<b><u>Aerated Sludge Storage and Mixing Deep Foundations</u></b>					
Drilled Shaft Deep Foundation	54	CY	\$ 1,400.00		\$ 75,756
Miscellaneous	5%				\$ 63,125
Subtotal Division 3					<b>\$ 1,325,631</b>
<b>Division 5 - Metals</b>					
<b><u>ASHT Metals</u></b>					
Walkway Column Supports	1677	LB	\$ 4.00	\$ 1.20	\$ 8,720
Walkway Aluminum Bar Grating	650	SF	\$ 60.00		\$ 39,000
Truss Walkway Framing	14000	LB	\$ 10.00	\$ 3.00	\$ 182,000
Miscellaneous	5%				\$ 11,486
Subtotal Division 5					<b>\$ 241,206</b>
<b>Division 14 - Conveyance</b>					
1-Ton Electric Trolley and Hoist for Blowers	1	EA	\$15,000	\$ 4,500.00	\$ 19,500
Miscellaneous	5%				\$ 975
Subtotal Division 14					<b>\$ 20,475</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 140,000.00	\$ 49,000.00	\$ 189,000
Conduit Total	1	LS	\$ 85,000.00	\$ 29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$ 40,000.00	\$ 14,000.00	\$ 54,000
Mis. Disconnects, Boxes, and Fittings	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Cable Tray Total	1	LS		\$ -	\$ -
Grounding Total	1	LS	\$ 55,000.00	\$ 19,250.00	\$ 74,250
<b><u>Aerated Sludge Holding Tanks + Solids</u></b>					
Radar Level Transmitters	2	EA	\$ 4,500	\$ 1,800	\$ 10,800
LSLL/LSHH Capatance Probes with Enclosure and Stilling Well	2	EA	\$ 8,000	\$ 3,200	\$ 19,200
<b><u>Sludge Recirculation Pump Station</u></b>					
PI/PSH and PI/PSL with seal and Block/Bleed	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
<b><u>Sludge Feed Pumps</u></b>					
Pressure Indicating Transmitters	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
PSH with PIT/Seal Block/Bleed	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Pressure Indicator	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Miscellaneous	5%				\$ 31,050
Subtotal Division 26					<b>\$ 652,050</b>
<b>Division 31 - Earthwork</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Excavation	704	CY		\$ 15.00	\$ 10,560
Fill	300	CY	\$ 20.00		\$ 6,000
<b><u>Piping Area</u></b>					
Excavation	270	CY		\$ 15.00	\$ 4,050
Fill	184	CY	\$ 20.00		\$ 3,680
Miscellaneous	5%				\$ 1,215
Subtotal Division 31					<b>\$ 25,505</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

**Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
<b>WAS Piping</b>					
6" DI Pipe	112	LF	\$ 59	\$ 17.67	\$ 8,576
6" Tee, MJ x MJ	1	EA	\$ 259	\$ 77.70	\$ 337
6" 90 Bend, FL x FL	4	EA	\$ 312	\$ 93.60	\$ 1,622
6" 90 Bend, MJ x MJ	2	EA	\$ 180	\$ 54.00	\$ 468
6" 45 Bend, MJ x MJ	2	EA	\$ 148	\$ 44.40	\$ 385
6" Plug Valve, motor acutated	2	EA	\$ 6,699	\$ 2,009.70	\$ 17,417
<b>Air Piping</b>					
6" Sch 10S 304L SST Pipe	216	LF	\$ 65	\$ 19.50	\$ 18,252
6" Tee	1	EA	\$ 350	\$ 105.00	\$ 455
6" 90 Bend	12	EA	\$ 410	\$ 123.00	\$ 6,396
6" 45 Bend	4	EA	\$ 400	\$ 120.00	\$ 2,080
6" 22.5 Bend	2	EA	\$ 390	\$ 117.00	\$ 1,014
6" SST Expansion Joint	4	EA	\$ 850	\$ 255.00	\$ 4,420
6" Butterfly Isolation Valve	2	EA	\$ 809	\$ 242.70	\$ 2,103
6" x 4" Tee	2	EA	\$ 350	\$ 105.00	\$ 910
4" Sch 10S 304L SST Pipe	12	LF	\$ 60	\$ 18.00	\$ 936
4" Tee	3	EA	\$ 300	\$ 90.00	\$ 1,170
4" 90 Bend	3	EA	\$ 360	\$ 108.00	\$ 1,404
4" Butterfly Isolation Valve	3	EA	\$ 503	\$ 150.90	\$ 1,962
<b>Recirculation Pump Piping</b>					
16" DI Pipe	41	LF	\$ 148.46	\$ 44.54	\$ 7,913
16" Tee, FL x FL	3	EA	\$ 6,129	\$ 1,838.70	\$ 23,903
16" 90 Bend, FL x FLARE	2	EA	\$ 7,057	\$ 2,117.10	\$ 18,348
16" Flexible Coupling Adapter	3	EA	\$ 600	\$ 180.00	\$ 2,340
16" Plug Valve	7	EA	\$ 10,000	\$ 3,000.00	\$ 91,000
					\$ -
12" DI Pipe	42	LF	\$ 103.35	\$ 31.01	\$ 5,643
12" Tee, FL x FL	3	EA	\$ 2,408	\$ 722.40	\$ 9,391
12" Flexible Coupling Adapter	3	EA	\$ 500	\$ 150.00	\$ 1,950
12" Swing Check Valve	3	EA	\$ 8,600	\$ 2,580.00	\$ 33,540
12" Plug Valve	7	EA	\$ 6,000	\$ 1,800.00	\$ 54,600
<b>Drain</b>					
8" Telescoping Valve <i>Includes bracket, offset pedestal, and handwheel operator</i>	2	EA	\$ 12,875	\$ 3,862.50	\$ 33,475
12" DI	54	LF	\$ 112.63	\$ 33.79	\$ 7,907
12" x 8" Tee, MJ x MJ	4	EA	\$ 583	\$ 174.90	\$ 3,032
12" x 8" Reducer, MJ x MJ	1	EA	\$ 305.00	\$ 91.50	\$ 397
8" DI	293	LF	\$ 75.69	\$ 22.71	\$ 28,830
8" Tee, MJ x MJ	1	EA	\$ 349	\$ 104.70	\$ 454
8" Plug Valve w/ nut and stem	2	EA	\$ 2,857	\$ 857.10	\$ 7,428
8" x 4" Reducer, MJ x MJ	1	EA	\$ 146.00	\$ 43.80	\$ 190
12" x 4" Tee, MJ x MJ	1	EA	\$ 552	\$ 165.60	\$ 718
4" DI	28	LF	\$ 67.28	\$ 20.18	\$ 2,449
4" 45 Bend, MJ x MJ	2	EA	\$ 86.00	\$ 25.80	\$ 224
<b>Centrifuge Feed Piping</b>					
8" DI Pipe	166	LF	\$75.69	\$ 22.71	\$ 16,334
8" Tee, FL x FL	3	EA	\$1,098	\$ 329.40	\$ 4,282
8" Flexible Coupling Adapter	3	EA	\$400	\$ 120.00	\$ 1,560
8" 90 Bend, FL x FL	6	EA	\$569	\$ 170.70	\$ 4,438
8" 90 Bend, MJ x MJ	4	EA	\$238	\$ 71.40	\$ 1,238
8" 45 Bend, MJ x MJ	4	EA	\$190	\$ 57.00	\$ 988
8" Plug Valve	11	EA	\$3,220	\$ 966.00	\$ 46,046
Miscellaneous	5%				\$ 23,926
<b>Subtotal Division 40</b>					<b>\$ 502,450</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
<b>Jet Aeration/Mixing System</b>					
Jet Aeration/Mixing System <i>Includes in-tank SST manifold, three (3) PD blowers, three (3) dry-pit horizontal chopper pumps, backflush, service, freight</i>	1	LS	\$715,000	\$ 214,500.00	\$ 929,500
<b>Centrifuge Feed Pumps</b>					
Centrifuge Feed Pumps	2	EA	\$50,000	\$ 15,000.00	\$ 130,000
Miscellaneous	5%				\$ 52,975
<b>Subtotal Division 46</b>					<b>\$ 1,112,475</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					<b>\$ 3,879,791</b>
<b>Contingency</b>				<b>20%</b>	<b>\$ 986,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 194,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 854,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,914,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 72  
Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	232	CY	\$ 1,400.00		\$ 324,644
Grade Beams	67	CY	\$ 1,200.00		\$ 80,792
Concrete Base Slab	606	CY	\$ 1,500.00		\$ 908,507
Concrete Equipment Pads	64	CY	\$ 1,000.00		\$ 63,926
Concrete Walls	196	CY	\$ 1,600.00		\$ 313,767
Concrete Elevated Slab	270	CY	\$ 1,600.00		\$ 432,684
Concrete Columns	26	CY	\$ 1,300.00		\$ 33,896
Void Forms	8585	SF	\$ 14.00		\$ 120,195
<i>Miscellaneous</i>	5%				\$ 113,921
Subtotal Division 3					<b>\$ 2,392,333</b>
<b>Division 4 - Masonry</b>					
CMU Block Walls	9422	SF	\$ 20.00		\$ 188,433
Masonry Veneer	19530	SF	\$ 15.00		\$ 292,950
Masonry Pilasters	1440	SF	\$ 35.00		\$ 50,400
<i>Miscellaneous</i>	5%				\$ 26,589
Subtotal Division 4					<b>\$ 558,373</b>
<b>Division 5 - Metals</b>					
Steel Monorail	10738	LB	\$ 4.00		\$ 42,952
Steel Joists	1	TON	\$ 3,000.00		\$ 3,000
Steel Trusses	44086	LB	\$ 4.00		\$ 176,345
Metal Deck	5946	SF	\$ 15.00		\$ 89,193
Aluminum Stairs	62	Riser	\$ 600.00		\$ 37,200
Aluminum Walkway Framing	665	LB	\$ 10.00	\$ 3.00	\$ 8,648
Aluminum Guardrail	194	LF	\$ 60.00		\$ 11,615
Aluminum Grating	21	SF	\$ 60.00		\$ 1,282
Stainless Steel Tread Plate	1035	SF	\$ 100.00	\$ 30.00	\$ 134,550
Stainless Steel Angles	3528	LB	\$ 10.00	\$ 3.00	\$ 45,865
<i>Miscellaneous</i>	5%				\$ 27,532
Subtotal Division 5					<b>\$ 578,182</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	531	LF	\$ 9.20	\$ 2.76	\$ 6,351
<i>Miscellaneous</i>	5%				\$ -
Subtotal Division 7					\$ 6,350.76
<b>Division 8 - Openings</b>					
FRP Single Door	7	EA	\$ 8,000.00		\$ 56,000
FRP Exterior Overhead Doors	1	EA	\$ 16,000.00		\$ 16,000
FRP Oversized Double Door	1	EA	\$ 14,000.00		\$ 14,000
FRP Double Door	2	EA	\$ 12,000.00		\$ 24,000
Exterior Windows	128	SF	\$ 22.00	\$ 6.00	\$ 3,584
<i>Miscellaneous</i>	5%				\$ 5,679
Subtotal Division 8					<b>\$ 119,263</b>
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	3	EA	\$ 1,071.00	\$ 321.30	\$ 4,177
105 gal Water Heater	1	EA	\$ 6,326.26	\$ 1,897.88	\$ 8,224
Backflow Preventer - 1-1/2"	1	EA	\$ 704.18	\$ 211.25	\$ 915
Backflow Preventer - 2-1/2" Reduced Pressure	1	EA	\$ 3,800.00	\$ 1,140.00	\$ 4,940
Emergency Mixing Valve - 1"	1	EA	\$ 1,008.18	\$ 302.45	\$ 1,311
1" PVC Pipe	105	LF	\$ 3.49	\$ 1.05	\$ 476
1-1/2" PVC Pipe	22	LF	\$ 5.22	\$ 1.57	\$ 149
2" PVC Pipe	24	LF	\$ 4.83	\$ 1.45	\$ 151
3" PVC Pipe	32	LF	\$ 10.77	\$ 3.23	\$ 448
1-1/4" CPVC Pipe	81	LF	\$ 6.34	\$ 1.90	\$ 668
1" PVC Fittings	1	LS	\$ 119.10	\$ 35.73	\$ 155
1-1/2" PVC Fittings	1	LS	\$ 37.32	\$ 11.20	\$ 49
2" PVC Fittings	1	LS	\$ 37.67	\$ 11.30	\$ 49
3" PVC Fittings	1	LS	\$ 112.01	\$ 33.60	\$ 146

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 72  
Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
1-1/4" CPVC Fittings	1	LS	\$ 166.90	\$ 50.07	\$ 217
1" PVC Ball Valve	2	EA	\$ 54.16	\$ 16.25	\$ 141
1-1/2" PVC Ball Valve	2	EA	\$ 85.26	\$ 25.58	\$ 222
2" PVC Ball Valve	3	EA	\$ 134.40	\$ 40.32	\$ 524
3" PVC Ball Valve	2	EA	\$ 272.82	\$ 81.85	\$ 709
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185
<i>Miscellaneous</i>	5%				\$ 1,193
Subtotal Division 22					<b>\$ 25,048</b>
<b>Division 23 - HVAC</b>					
<b><u>Dewatering Electrical Room</u></b>					
Makeup Air Unit	1	EA	\$ 21,281.40	\$ 6,384.42	\$ 27,666
Supply Fan	1	EA	\$ 1,663.00	\$ 498.90	\$ 2,162
Exhaust Fan	3	EA	\$ 1,663.00	\$ 498.90	\$ 6,486
Ductwork+accessories	1	LS	\$ 2,669.00	\$ 800.70	\$ 3,470
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
<b><u>Electrical Room</u></b>					
10 ton packaged AC	2	EA	\$ 29,000.00	\$ 8,700.00	\$ 75,400
Corrosion Resistant Coatings	1	LS	\$ 5.00	\$ 1.50	\$ 7
Ductwork+accessories	1	LS	\$ 3,168.00	\$ 950.40	\$ 4,118
			\$ -	\$ -	\$ -
<b><u>Blower Room</u></b>					
Intake Louver	1	EA	\$ 819.00	\$ 245.70	\$ 1,065
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
<b><u>Chemical Room</u></b>					
Exhaust Fan	2	EA	\$ 1,362.00	\$ 408.60	\$ 3,541
Intake Louver	1	EA	\$ 1,261.00	\$ 378.30	\$ 1,639
Unit Heater	3	LS	\$ 2,500.00	\$ 750.00	\$ 9,750
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
			\$ -	\$ -	\$ -
<b><u>Operations Room</u></b>					
Mini-split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Corrosion Resistant Coatings	1	LS	\$ 4,800.00	\$ 1,440.00	\$ 6,240
Ductwork+accessories	1	LS	\$ 456.00	\$ 136.80	\$ 593
Controls	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
<i>Miscellaneous</i>	5%				\$ 8,212
Subtotal Division 23					<b>\$ 172,448</b>
<b>Division 26 - Electrical</b>					
SWBD-5	1	EA	\$ 280,000.00	\$ 98,000.00	\$ 378,000
MCC-5	1	EA	\$ 175,000.00	\$ 61,250.00	\$ 236,250
Install MFR Centrifuge VFDs	1	LS	\$ 45,000.00	\$ 15,750.00	\$ 60,750
1000 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 15,750.00	\$ 105,750
Wire and Conduit from Transformer to Switchboard	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	3	EA	\$ 5,000.00	\$ 1,750.00	\$ 16,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 275,000.00	\$ 96,250.00	\$ 371,250
Conduit Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500
Lighting and Receptacles Total	1	LS	\$ 70,000.00	\$ 24,500.00	\$ 94,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Cable Tray Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Grounding Total	1	LS	\$ 45,000.00	\$ 15,750.00	\$ 60,750
			\$ -	\$ -	\$ -
<b><u>Polymer Blending Units</u></b>					
Polymer Tote Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
			\$ -	\$ -	\$ -
<b><u>Centrifuge</u></b>					
6" Magmeter	2	EA	\$ 8,000.00	\$ 5,600.00	\$ 21,600
<b><u>Solids Electrical Building (SCADA)</u></b>					
<b><u>Network Enclosure (NET-SOLIDS)</u></b>					
Enclosure (NET-SOLIDS) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-SOLIDS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 72  
Facility Description: Biosolids Handling Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>SCADA Solids Enclosure (PLC-SOLIDS)</b>					
Enclosure (PLC-SOLIDS) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	1	EA	\$ 3,000	\$ 600	\$ 3,600
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700	\$ 700	\$ 4,200
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (106x\$450 Hard + 700x\$100 Soft)+ 1 trip@10K	1	LOT	\$ -	\$ 127,000	\$ 127,000
<b>SCADA ASHT Level Alarm Panel (LLRP-ASHT)</b>					
Enclosure (LLRP-ASHT) (12"H x 12"W x 8"D )	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Miscellaneous	1	LOT	\$ 6,000	\$ 1,200	\$ 7,200
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Radar Level Transmitters	1	EA	\$ 4,500	\$ 900	\$ 5,400
LSH Floats Chem Areas	1	EA	\$ 600	\$ 120	\$ 720
PI/PSH and PI/PSL with seals & Block/Bleed	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
PIT with Seal & Block/Bleed	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Pressure Gauge with Seal	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Rotometers	4	EA	\$ 1,000	\$ 800	\$ 4,800
Paddlewheel Flow Meter	4	EA	\$ 4,000	\$ 3,200	\$ 19,200
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 106,606
Subtotal Division 26					<b>\$ 2,238,726</b>
<b>Division 31 - Earthwork</b>					
Excavation	2113	CY		\$ 15.00	\$ 31,702
Fill	1743	CY	\$ 20.00		\$ 34,866
Miscellaneous	5%				\$ 3,328
Subtotal Division 31					<b>\$ 69,897</b>
<b>Division 40 - Process Integration</b>					
Centrifuges	2	EA	\$ 725,000.00	\$ 217,500.00	\$ 1,885,000
Polymer Transfer Pumps	2	EA	\$ 5,500.00	\$ 1,650.00	\$ 14,300
Polymer Blending Unit	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Polymer Bulk Tank	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
Polymer Day Tank	2	LS	\$ 2,000.00	\$ 600.00	\$ 5,200
Centrifuge Building Piping Allowance	1	LS	\$ 400,000.00	\$ 120,000.00	\$ 520,000
Miscellaneous	5%				\$ 124,475
Subtotal Division 40					<b>\$ 2,613,975</b>
<b>Division 41 - Material Processing and Handling Equipment</b>					
Monorail	1	LS	\$ 35,000.00	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 8,822,371</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,017,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 442,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,941,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 13,223,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 85  
Facility Description: Operations and Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<u>Operations &amp; Laboratory Building Concrete</u>					
Concrete Base Slab	153	CY	\$ 1,500.00		\$ 229,778
Void Forms	4136	SF	\$ 14.00		\$ 57,904
Grade Beams	126	CY	\$ 1,200.00		\$ 151,467
<u>Operations &amp; Laboratory Building Deep Foundations</u>					
Drilled Shaft Deep Foundation	93	CY	\$ 1,400.00		\$ 129,681
Miscellaneous	5%				\$ 28,441
				Subtotal Division 3	\$ 597,271
<b>Division 4 - Masonry</b>					
Concrete Masonry Walls - 8"	5200	SF	\$ 8.75	\$ 7.50	\$ 84,500
Concrete Masonry Walls - 4"	2000	SF	\$ 8.20	\$ 7.50	\$ 31,400
Miscellaneous	5%				\$ 5,795
				Subtotal Division 4	\$ 121,695
<b>Division 5 - Metals</b>					
Metal Studs - 16ft x 6.00 in, 12ga, 16" o.c.	500	LF	\$ 50.00	\$ 18.75	\$ 34,375
Metal Roof Framing (Steel Joists)	4735	SF	\$ 17.50	\$ 5.25	\$ 107,721
Metal Roof Deck	4735	SF	\$ 4.40	\$ 1.32	\$ 27,084
Miscellaneous	5%				\$ 8,459
				Subtotal Division 5	\$ 177,639
<b>Division 6 - Wood &amp; Plastics</b>					
Rough Carpentry	1	LS	\$ 18,000.00	\$ 12,000.00	\$ 30,000
Gypsum Sheathing - 5/8" glass mat	4000	SF	\$ 2.50	\$ 1.25	\$ 15,000
Miscellaneous	5%				\$ 2,250
				Subtotal Division 6	\$ 47,250
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Roof Panels	4720	SF	\$ 6.50	\$ 2.15	\$ 40,828
Metal Wall Panels	3450	SF	\$ 3.75	\$ 6.00	\$ 33,638
Metal Soffit Panels	1000	SF	\$ 6.40	\$ 2.15	\$ 8,550
Air Barrier-Wall	10000	SF	\$ 0.25	\$ 0.18	\$ 4,300
Wall Sound Insulation - 3.5" R-13 15"W	8500	SF	\$ 0.45	\$ 0.35	\$ 6,800
Wall-Open-Cell Foam Insulation (Spray applied) - 3.0" R-15	5200	SF	\$ 1.58	\$ 0.80	\$ 12,376
Roof-Polyisocyanurate Rigid Insulation - R-30 (6" +/-)	4720	SF	\$ 2.00	\$ 0.42	\$ 11,422
Wall-Polyisocyanurate Rigid Insulation - R-11 (2"+-)	5200	SF	\$ 1.15	\$ 0.32	\$ 7,644
Sealants	1	LS	\$ 1,600.00	\$ 1,200.00	\$ 2,800
Miscellaneous	5%				\$ 6,418
				Subtotal Division 7	\$ 134,776
<b>Division 8 - Openings</b>					
Interior Man Doors - SCW/ALUM 3'x7'	10	EA	\$ 1,075.00	\$ 450.00	\$ 15,250
Exterior Man Doors - Alum 3'x7'	5	SF	\$ 2,343.00	\$ 1,000.00	\$ 16,715
Interior ALUM Storefront - Office	462	SF	\$ 35.00	\$ 6.80	\$ 19,312
Interior Glazing - Single	462	SF	\$ 7.25	\$ 7.50	\$ 6,815
Exterior Windows - 1": Insulated Glazing	210	SF	\$ 27.50	\$ 7.50	\$ 7,350
ALUM Storefront - Vestibule	112	SF	\$ 35.00	\$ 6.80	\$ 4,682
Exterior Glazing - Insulated	188	SF	\$ 7.25	\$ 7.50	\$ 2,773
Mirrors - Toilet; Frameless	50	SF	\$ 12.00	\$ 6.50	\$ 925
Miscellaneous	5%				\$ 3,691
				Subtotal Division 8	\$ 77,512

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 85**

**Facility Description: Operations and Laboratory Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 9 - Finishes</b>					
Walls - Gypsum Board - 5/8" -Tape & Float	12000	SF	\$ 1.10	\$ 1.20	\$ 27,600
Ceiling - Gypsum Board - 5/8" -Tape & Float	478	SF	\$ 0.85	\$ 1.10	\$ 932
Walls - Cementitious Backing Board- 5/8" -Tape & Float	3744	SF	\$ 1.40	\$ 6.00	\$ 27,706
Paint - Walls Gypsum Board - Prep, Primer & Fins Coat	12000	SF	\$ 0.15	\$ 0.45	\$ 7,200
Paint - Ceiling Gypsum Board - Prep, Primer & Fins Coat	478	SF	\$ 0.15	\$ 0.45	\$ 287
Acoustic Ceiling Tile, 15/16" grid, 24x24	3400	SF	\$ 3.25	\$ 1.25	\$ 15,300
Sealed Concrete - Floor	2730	SF	\$ 0.55	\$ 0.30	\$ 2,321
Carpet Tile - Floor -OFC/Training	1000	SF	\$ 10.75	\$ 6.25	\$ 17,000
Base - Wall - 6" Resilient	1000	LF	\$ 1.90	\$ 1.60	\$ 3,500
Base - Wall - 6" Resilient Corners	100	EA	\$ 3.75	\$ 1.60	\$ 535
Interior Wall Tile - Large Format - 12" x 24"	2500	SF	\$ 8.25	\$ 5.60	\$ 34,625
Base - Wall - 6"x12" Cove Tile	375	LF	\$ 9.95	\$ 9.00	\$ 7,106
<i>Miscellaneous</i>	5%				\$ 7,206
Subtotal Division 9					<b>\$ 151,317</b>
<b>Division 10 - Specialties</b>					
Building Sign - 36" x 12" - Aluminum	2	EA	\$ 265.00	\$ 31.25	\$ 593
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 62.50	\$ 18.75	\$ 325
Fire Extinguisher - Cabinet	4	EA	\$ 137.50	\$ 94.00	\$ 926
Toilet Partitions - Stainless Steel	3	EA	\$ 1,875.00	\$ 250.00	\$ 6,375
San Napkin Disposal	2	EA	\$ 31.25	\$ 20.00	\$ 103
Waste Recepticle	3	EA	\$ 120.00	\$ 45.00	\$ 495
Toilet Paper Dispenser	3	EA	\$ 31.25	\$ 20.00	\$ 154
Grab Bars - ADA 36"	2	EA	\$ 48.00	\$ 27.50	\$ 151
Grab Bars - ADA 42"	2	EA	\$ 60.00	\$ 48.00	\$ 216
Hand Dryer	2	EA	\$ 1,000.00	\$ 125.00	\$ 2,250
Lockers - 12"x18"x72"	11	EA	\$ 675.00	\$ 25.00	\$ 7,700
Shower Enclosures - ADA & Standard	2	EA	\$ 1,200.00	\$ 137.50	\$ 2,675
Corner Guards-Stainless Steel (3"x3"x48"L)	12	EA	\$ 137.50	\$ 25.00	\$ 1,950
Door/Wall Signs - 8"x 8" acrylic	24	EA	\$ 48.00	\$ 12.00	\$ 1,440
<i>Miscellaneous</i>	5%				\$ 1,268
Subtotal Division 10					<b>\$ 26,619</b>
<b>Division 11 - Equipment</b>					
Audio/Video Equipment - Conference	1	LS	\$ 7,500.00	\$ 750.00	\$ 8,250
Lab Equipment	1	LS	\$ 125,000.00	\$ 10,000.00	\$ 135,000
FF&E - OFC	7	EA	\$ 6,000.00	\$ 1,000.00	\$ 49,000
FF&E -Training	1	EA	\$ 12,000.00	\$ 1,200.00	\$ 13,200
<i>Miscellaneous</i>	5%				\$ 10,273
Subtotal Division 11					<b>\$ 215,723</b>
<b>Division 12 - Furnishings</b>					
Blinds	462	SF	\$ 6.80	\$ 1.50	\$ 3,835
Millwork - Base Cabinet - 24" D - Plastic Laminate	36	LF	\$ 187.50	\$ 11.50	\$ 7,164
Millwork - Overhead Cabinet - 12" D - Plastic Laminate	38	LF	\$ 112.50	\$ 9.75	\$ 4,646
Soild Surface Contertops	36	LF	\$ 106.25	\$ 42.50	\$ 5,355
<i>Miscellaneous</i>	5%				\$ 1,050
Subtotal Division 12					<b>\$ 22,049</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85

Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
INSTANT WATER HEATER, ELECTRIC	1	EACH	\$ 408.00	\$ 320.00	\$ 728
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
ICEMAKER OUTLET CONNECTION	2	EACH	\$ 60.00	\$ 80.00	\$ 280
HOT WATER CIRCULATION PUMP WITH CONTROLS	1	EACH	\$ 1,880.00	\$ 480.00	\$ 2,360
HOSE BIB	1	EACH	\$ 40.00	\$ 40.00	\$ 80
FREEZEPROOF WALL HYDRANT	3	EACH	\$ 90.00	\$ 80.00	\$ 510
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	3	EACH	\$ 520.00	\$ 160.00	\$ 2,040
URINAL, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
5 FT HANDWASH BASIN, MANUAL FAUCETS	2	EACH	\$ 3,400.00	\$ 320.00	\$ 7,440
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	1	EACH	\$ 1,740.00	\$ 320.00	\$ 2,060
ACRYLIC SHOWER, WITH SHOWER VALVE	2	EACH	\$ 3,900.00	\$ 1,280.00	\$ 10,360
STAINLESS STEEL KITCHEN SINK, MANUAL FAUCET	1	EACH	\$ 440.00	\$ 320.00	\$ 760
SERVICE SINK, WALL FAUCET	1	EACH	\$ 660.00	\$ 320.00	\$ 980
EMERGENCY EYEWASH	1	EACH	\$ 220.00	\$ 320.00	\$ 540
DOMESTIC WATER PIPING	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 32,000
SANITARY SEWER PIPING	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 32,000
<i>Miscellaneous</i>	5%				\$ 5,056
<b>Subtotal Division 22</b>					<b>\$ 106,184</b>
<b>Division 23 - HVAC</b>					
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 3-TON	2	EACH	\$ 10,000.00	\$ 9,000.00	\$ 38,000
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 1.5-TON	1	EACH	\$ 6,500.00	\$ 6,500.00	\$ 13,000
DUCTLESS MINI-SPLIT SYSTEM, WALL MOUNT, THERMOSTAT	2	EACH	\$ 2,800.00	\$ 2,800.00	\$ 11,200
STATIC PLAT ENERGY RECOVERY UNIT, DUCTWORK, 1,000 CFM	1	EACH	\$ 4,500.00	\$ 4,500.00	\$ 9,000
FIXED LOUVER	1	EACH	\$ 200.00	\$ 200.00	\$ 400
ROOF INTAKE HOOD, 16" DIA	1	EACH	\$ 800.00	\$ 480.00	\$ 1,280
MOTORIZED DAMPER	1	EACH	\$ 280.00	\$ 80.00	\$ 360
<i>Miscellaneous</i>	5%				\$ 3,662
<b>Subtotal Division 23</b>					<b>\$ 76,902</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4735	SF	\$ 18.00	\$ -	\$ 85,230
Communications and Security	4735	SF	\$ 9.00	\$ -	\$ 42,615
<b>Subtotal Division 26</b>					<b>\$ 143,845</b>
<b>Division 31 - Earthwork</b>					
Excavation	600	CY		\$ 15.00	\$ 9,000
Fill	231	CY	\$ 20.00		\$ 4,620
<i>Miscellaneous</i>	5%				\$ 681
<b>Subtotal Division 31</b>					<b>\$ 14,301</b>
<b>Subtotal This Facility</b>					<b>\$ 1,913,084</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 438,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 96,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 421,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,869,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 86  
Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	68	CY	\$ 1,400.00		\$ 94,785
Grade Beams	130	CY	\$ 1,200.00		\$ 155,556
Void Forms	4256	SF	\$ 14.00		\$ 59,584
Concrete Base Slab	158	CY	\$ 1,500.00		\$ 236,444
Miscellaneous	5%				\$ 27,318
	Subtotal Division 3				<b>\$ 573,688</b>
<b>Division 4 - Masonry</b>					
CMU - 8"	5089	SF	\$ 8.50	\$ 8.00	\$ 83,969
Misc- Reinforcing, etc.	1	LS	\$ 2,500.00	\$ 3,000.00	\$ 5,500
Miscellaneous	5%				\$ 4,473
	Subtotal Division 4				<b>\$ 93,942</b>
<b>Division 5 - Metals</b>					
Prefabricated Metal Building	4038	SF	\$ 22.00	\$ 8.50	\$ 123,159
Fencing with gates - 12'-0"H	35	LF	\$ 54.00	\$ 32.00	\$ 3,010
Miscellaneous	5%				\$ 6,308
	Subtotal Division 5				<b>\$ 132,477</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Wall Panels - Insulated	200	SF	\$ 12.50	\$ 4.00	\$ 3,300
Metal Roof Panels - Insulated	4591	SF	\$ 10.25	\$ 6.00	\$ 74,604
Sealants	1	LS	\$ 400.00	\$ 250.00	\$ 650
Miscellaneous	5%				\$ 3,928
	Subtotal Division 7				<b>\$ 82,481</b>
<b>Division 8 - Openings</b>					
Exterior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	5	EA	\$ 2,343.00	\$ 1,020.00	\$ 16,815
Interior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	1	EA	\$ 1,437.00	\$ 375.00	\$ 1,812
Overhead Insulating Coiling Door - 10'W x 8'H	1	EA	\$ 1,500.00	\$ 720.00	\$ 2,220
Overhead Insulating Coiling Door - 10'W x 14'H	2	EA	\$ 2,625.00	\$ 1,312.00	\$ 7,874
Miscellaneous	5%				\$ 1,436
	Subtotal Division 8				<b>\$ 30,157</b>
<b>Division 9 - Finishes</b>					
Paint - Walls CMU - Prep, Primer & Fins Coat	1100	SF	\$ 0.32	\$ 0.54	\$ 946
Paint - Ceiling - Prep, Primer & Fins Coat	80	SF	\$ 0.32	\$ 0.54	\$ 69
Miscellaneous	5%				\$ 51
	Subtotal Division 9				<b>\$ 1,066</b>
<b>Division 10 - Specialities</b>					
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 62.00	\$ 18.75	\$ 323
Waste Recepticle	1	EA	\$ 120.00	\$ 45.00	\$ 165
Toilet Paper Dispenser	1	EA	\$ 12.00	\$ 12.00	\$ 24
Grab Bars - ADA 36"	1	EA	\$ 50.00	\$ 28.00	\$ 78
Grab Bars - ADA 42"	1	EA	\$ 62.50	\$ 27.50	\$ 90
Hand Dryer	1	EA	\$ 1,000.00	\$ 120.00	\$ 1,120
Door/Wall Signs - 8"x8" acrylic	8	EA	\$ 50.00	\$ 12.00	\$ 496
Exterior Wall Signs - 12"x36" Aluminum Sign/Painted Letter	2	EA	\$ 120.00	\$ 48.00	\$ 336
Miscellaneous	5%				\$ 132
	Subtotal Division 10				<b>\$ 2,764</b>
<b>Division 11 - Equipment</b>					
FF& E Package	1	LS	\$ 28,000.00		\$ 28,000
Miscellaneous	5%				\$ 1,400
	Subtotal Division 11				<b>\$ 29,400</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 86  
Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
Fire Sprinkler (not required)	0	SF	\$ 5.00	\$ 5.00	\$ -
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
HOSE BIB	2	EACH	\$ 40.00	\$ 40.00	\$ 160
FREEZEPROOF WALL HYDRANT	2	EACH	\$ 90.00	\$ 80.00	\$ 340
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
HANDWASH SINK, FOOT CONTROLS	2	EACH	\$ 1,850.00	\$ 320.00	\$ 4,340
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	0	EACH	\$ 1,740.00	\$ 320.00	\$ -
EMERGENCY SHOWER	1	EACH	\$ 660.00	\$ 320.00	\$ 980
AIR COMPRESSOR, 120 GALLONS	1	EACH	\$ 7,500.00	\$ 660.00	\$ 8,160
COMPRESSED AIR PIPING	1	LS	\$ 2,200.00	\$ 2,200.00	\$ 4,400
DOMESTIC WATER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
SANITARY SEWER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
<i>Miscellaneous</i>	5%				\$ -
<b>Subtotal Division 22</b>					<b>\$ 40,570</b>
<b>Division 23 - HVAC</b>					
ELECTRIC UNIT HEATER, CORROSION RESISTANT	2	EA	\$ 3,800.00	\$ 700.00	\$ 9,000
EXHAUST FAN, TOILET	1	EA	\$ 280.00	\$ 280.00	\$ 560
EXHAUST FAN, 5,000 CFM	1	EA	\$ 1,200.00	\$ 1,200.00	\$ 2,400
BIG ASS FAN	1	EA	\$ 6,200.00	\$ 1,200.00	\$ 7,400
<i>Miscellaneous</i>	5%				\$ 968
<b>Subtotal Division 23</b>					<b>\$ 20,328</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4038	SF	\$ 9.00	\$ -	\$ 36,342
Communications and Security	4038	SF	\$ 5.00	\$ -	\$ 20,190
<b>Maintenance Building (SCADA) Network Enclosure (NET-MAINT)</b>					
Enclosure (NET-UV) (24"H x 24"W x 25"D) with Fan Package	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-MAINT	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000.00
<i>Miscellaneous</i>	5%				\$ 5,427
<b>Subtotal Division 26</b>					<b>\$ 113,959</b>
<b>Division 31 - Earthwork</b>					
Excavation	1200	CY		\$ 15.00	\$ 18,000
Fill	800	CY	\$ 20.00		\$ 16,000
<i>Miscellaneous</i>	5%				\$ 1,700
<b>Subtotal Division 31</b>					<b>\$ 35,700</b>
<b>Subtotal This Facility</b>					<b>\$ 1,156,531</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 265,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 58,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 255,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,735,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 88

Facility Description: Main Plant Electrical Building #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Main Plant Electrical Building</b>					
Concrete Base Slab	132	CY	\$ 1,500.00		\$ 197,259
Void Forms	3071.37	SF	\$ 14.00		\$ 42,999
Grade Beams	79	CY	\$ 1,200.00		\$ 94,567
Drilled Shaft Deep Foundation	107	CY	\$ 1,400.00		\$ 149,541
Concrete Housekeeping Pads	3	CY	\$ 1,000.00		\$ 3,296
Miscellaneous	5%				\$ 24,383
				Subtotal Division 3	\$ 512,046
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	3492	SF	\$ 20.00		\$ 69,840
Veneer	3492	SF	\$ 15.00		\$ 52,380
Miscellaneous	5%				\$ 6,111
				Subtotal Division 4	\$ 128,331
<b>Division 5 - Metals</b>					
Metal Roofing Panels	2400	SF	\$ 15.00		\$ 36,000
Steel Roof Joists	2	TON	\$3,000.00	\$900.00	\$ 7,800
Miscellaneous	5%				\$ 2,190
				Subtotal Division 5	\$ 45,990
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3492	SF	\$ 3.80	\$ 1.14	\$ 17,250
Building Roof Insulation	2400	SF	\$ 1.75	\$ 1.92	\$ 8,808
Rain Gutters and Downspouts	72	LF	\$ 9.20	\$ 2.76	\$ 861
Miscellaneous	5%				\$ 1,346
				Subtotal Division 7	\$ 28,266
<b>Division 8 - Openings</b>					
FRP Single Door	2	EA	\$ 8,000.00		\$ 16,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,400
				Subtotal Division 8	\$ 29,400
<b>Division 21 - Fire Protection</b>					
Allowance for fire protection system	1	LS	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 1,250
				Subtotal Division 21	\$ 26,250
<b>Division 23 - HVAC</b>					
10-ton AC unit	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Corrosion Resistant Coatings	1	LS	\$ 4,800.00	\$ 1,440.00	\$ 6,240
Ductwork+accessories	1	LS	\$ 7,338.00	\$ 2,201.40	\$ 9,539
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 3,551
				Subtotal Division 23	\$ 74,581



**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 89**

**Facility Description: Generator and Transformer Pad**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	29	CY	\$ 1,400.00		\$ 40,756
Transformer Pads	62	CY	\$ 1,000.00		\$ 62,222
<i>Miscellaneous</i>	5%				\$ 5,149
Subtotal Division 3					<b>\$ 108,127</b>
<b>Division 5 - Metals</b>					
Structural Steel Framing	16300	LB	\$ 3.00	\$ 0.90	\$ 63,570
Steel Galvanizing	16300	LB	\$ 1.00	\$ 0.30	\$ 21,190
2" Grating	260	SF	\$ 60.00	\$ 18.00	\$ 20,280
Handrails	140	LF	\$ 60.00	\$ 18.00	\$ 10,920
Stairs	10	Riser	\$ 600.00	\$ 180.00	\$ 7,800
<i>Miscellaneous</i>	5%				\$ 6,188
Subtotal Division 5					<b>\$ 129,948</b>
<b>Subtotal This Facility</b>					<b>\$ 238,075</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 55,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 12,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 53,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 359,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 90  
Facility Description: General Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
2750 KW GEN SET	1	EA	\$2,200,000.00	\$770,000.00	\$ 2,970,000
Load Bank Connection Box	1	EA	\$50,000.00	\$17,500.00	\$ 67,500
Generator & Load Bank Feeders	1	LS	\$40,000.00	\$14,000.00	\$ 54,000
Incoming Power 15KV Ductbank	1	LS	\$10,000	\$3,500.00	\$ 13,500
Incoming Power 5kV Ductbank	1	LS	\$120,000	\$42,000.00	\$ 162,000
Incoming 5KV Manholes	4	EA	\$25,000	\$5,000.00	\$ 120,000
Incoming Power 5kV Cable	1	LS	\$95,000	\$33,250.00	\$ 128,250
Bluebonnet Transformer Secondary Fdrs DB (Non-Contractor Cost -- see elsewhere)	0	LS	\$950,000.00	\$0.00	\$ -
Subtotal Division 26					<b>\$ 3,515,250</b>
<b>Subtotal This Facility</b>					<b>\$ 3,515,250</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 804,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 176,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 774,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,270,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 95  
Facility Description: SCADA

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
<b>SCADA Room</b>					
Servers	3	EA	\$ 40,000	\$ 24,000	\$ 144,000
Software (HMI)	1	LS	\$ 100,000	\$ 20,000	\$ 120,000
19-inch Racks	4	EA	\$ 30,000	\$ 24,000	\$ 144,000
Ethernet Switches	2	EA	\$ 30,000	\$ 12,000	\$ 72,000
UPS	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<b>SCADA Room</b>					
Work Stations with Monitors	2	EA	\$ 20,000	\$ 8,000	\$ 48,000
Overall startup Testing	1	LOT		\$ 120,000	\$ 120,000
Spare Parts	1	EA	\$ 50,000		\$ 50,000
Training	1	LS	\$ -	\$ 30,000	\$ 30,000
Miscellaneous	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
<i>Miscellaneous</i>	5%				\$ 38,500
Subtotal Division 26					<b>\$ 808,500</b>
<b>Division 27 - Communication</b>					
FOC-01 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-02 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-03 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-04 (Include Fiber and Installation)	1500	FT	\$ 6.00	\$ 1,350	\$ 10,350
FOC-05 (Include Fiber and Installation)	1200	FT	\$ 6.00	\$ 1,080	\$ 8,280
FOC-06 (Include Fiber and Installation)	1000	FT	\$ 6.00	\$ 900	\$ 6,900
FOC-07 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-08 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-09 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-10 (Include Fiber and Installation)	500	FT	\$ 6.00	\$ 450	\$ 3,450
FOC-11 (Include Fiber and Installation)	700	FT	\$ 6.00	\$ 630	\$ 4,830
FOC-12 (Include Fiber and Installation)	900	FT	\$ 6.00	\$ 810	\$ 6,210
TOTAL Fiber Connectors, Includes Connector and Installation	468	Unit	\$ 100	-	\$ 46,800
Testing of each Fiber Strand	240	Strands	\$ 100	-	\$ 24,000
FOPPs	13	Unit	\$ 4,000	\$ 7,800	\$ 59,800
Miscellaneous Fiber Items	1	LOT	\$ 10,000	-	\$ 10,000
<i>Miscellaneous</i>	5%				\$ 9,549
Subtotal Division 27					<b>\$ 200,519</b>
<b>Division 28 - Electronic Safety &amp; Security</b>					
Allowance for site security, access, etc.	1	LS	\$ 400,000		\$ 400,000
Allowance for cameras, controls, etc.	1	LS	\$ 150,000		\$ 150,000
<i>Miscellaneous</i>	0%				\$ -
Subtotal Division 28					<b>\$ 550,000</b>
<b>Division 40 - Process Integration (SCADA)</b>					
Configuration of HMI (submittals, graphics, database, WFT only, mtgs, etc.)	1	LS		\$150,000	\$ 150,000
<i>Miscellaneous</i>	0%				\$ -
Subtotal Division 40					<b>\$ 150,000</b>
<b>Subtotal This Facility</b>					<b>\$ 1,709,019</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 391,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 86,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 376,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,563,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191  
KHA No. 069228913

**Facility Number: 99  
Facility Description: Weiss Lane Lift Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Weiss Lane LS</b> Salvage, remove, and convert to City Existing Generator Electrical Cabinets/control panels, PLC, Control I/O, PLC Back Panel, Radio, including associated Labor, Materials, and Equipment per plans and specifications	1	LS	\$ 75,000.00		\$ 75,000
Decommission Existing Weiss Lane LS per plans and specifications	1	LS	\$ 125,000.00		\$ 125,000
<i>Miscellaneous</i>	5%				\$ 6,250
		Subtotal			\$ 131,250
<b>Subtotal This Facility</b>					<b>\$ 168,750</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 39,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 9,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 38,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 255,000</b>



## **Appendix B: Changes to Concrete Cost**



## 1.0 Total Concrete Price Change

Table 1 includes the total quantity of each line item across all facilities and unit prices used in the previous 60% OPCC and the 90% OPCC.

**Table 1: Changes to Concrete Cost**

Item	60%			90%			Change in Total Cost
	QTY	Unit Price	Total	QTY	Unit Price	Total	
Deep Foundations	4677	\$860	\$6,040,000	5685	\$1,400	\$11,930,000	\$5,890,000
Grade Beams	884	\$400	\$540,000	1035	\$1,200	\$1,870,000	\$1,330,000
Base Slabs	11318	\$400	\$6,800,000	12056	\$1,500	\$27,110,000	\$20,310,000
Freestanding Walls	6956	\$800	\$8,350,000	8981	\$1,600	\$21,540,000	\$13,190,000
Beams	37	\$1,200	\$70,000	264	\$1,400	\$560,000	\$490,000
Columns	63	\$800	\$80,000	110	\$1,300	\$220,000	\$140,000
Elevated Slabs	1414	\$1,200	\$2,550,000	1397	\$1,600	\$3,350,000	\$800,000
Equipment Pads	217	\$400	\$140,000	247	\$1,000	\$380,000	\$240,000
Total							\$42,390,000

**Notes:**  
 1. 60% total costs include 5% for mobilization and 20% for contractor's overhead and profit, with 20% contingency.  
 2. 90% total costs include 5% for mobilization and 22% for contractor's overhead and profit, with 18% contingency.

## 2.0 Concrete Quantity Changes for Wilbarger Creek RWWTF Phase 1 Construction

Table 2 outlines changes in concrete quantities from the previous 60% OPCC. Quantities for each line item are shown for each facility to compare quantities more effectively. Total change in quantities from 60% to 90% are included to illustrate the total volume of concrete added or removed for each facility.





Table 2: Concrete Quantity Comparison from 60% to 90%

Facility	Item	60% QTY	90% QTY	Change in QTY	Total Change in Qty
09 - Civil Yard Structures	Deep Foundations	47	0	-47	-37
	Grade Beams	0	33	33	
	Base Slabs	116	54	-62	
	Freestanding Walls	119	160	41	
	Elevated Slabs	19	17	-2	
10 - Influent Lift Station	Deep Foundations	98	43	-54	1035
	Grade Beams	57	66	9	
	Base Slabs	300	383	83	
	Freestanding Walls	1197	1925	728	
	Beams	0	256	256	
	Elevated Slabs	137	146	9	
12 - Headworks	Deep Foundations	163	290	127	73
	Grade Beams	103	0	-103	
	Base Slabs	470	526	56	
	Freestanding Walls	572	592	20	
	Columns	35	60	25	
	Elevated Slabs	319	270	-49	
	Equipment Pads	34	30	-4	
13 - Influent Foul Air Facility	Deep Foundations	102	55	-48	-52
	Grade Beams	54	0	-54	
	Base Slabs	157	210	53	
	Freestanding Walls	95	96	1	
	Elevated Slabs	7	7	0	
	Equipment Pads	15	11	-4	





Changes to Concrete Cost

Facility	Item	60% QTY	90% QTY	Change in QTY	Total Change in Qty
14 - ILS Electrical Building	Deep Foundations	70	46	-24	4
	Grade Beams	34	44	11	
	Base Slabs	65	78	14	
	Equipment Pads	8	12	4	
31 - Aeration Basins	Deep Foundations	1789	3000	1211	4116
	Base Slabs	3454	4949	1495	
	Freestanding Walls	2743	4139	1396	
	Elevated Slabs	377	390	13	
38 - Aeration Blower Facility	Deep Foundations	144	108	-36	69
	Grade Beams	60	166	106	
	Base Slabs	398	392	-6	
	Equipment Pads	11	15	4	
40 - MLSS Splitter box	Deep Foundations	70	111	41	2
	Grade Beams	79	0	-79	
	Base Slabs	101	153	52	
	Freestanding Walls	194	190	-4	
	Beams	0	8	8	
	Elevated Slabs	21	5	-16	
45 - Secondary Clarifiers	Deep Foundations	856	903	47	-1239
	Grade Beams				
	Base Slabs	4224	3125	-1099	
	Freestanding Walls	747	608	-139	
	Elevated Slabs	165	117	-48	
46 - RAS/WAS Pump Station	Deep Foundations	93	126	33	92
	Grade Beams	77	146	69	
	Base Slabs	118	104	-14	
	Equipment Pads	6	10	4	
50 - Tertiary Filters	Deep Foundations	84	90	7	181
	Grade Beams	40	116	76	
	Base Slabs	121	141	20	
	Freestanding Walls	239	282	43	
	Columns	0	24	24	
	Elevated Slabs	3	13	10	





Changes to Concrete Cost

Facility	Item	60% QTY	90% QTY	Change in QTY	Total Change in Qty
53 - UV Disinfection	Deep Foundations	149	78	-71	-177
	Base Slabs	76	76	0	
	Freestanding Walls	208	142	-66	
	Elevated Slabs	129	89	-41	
54 - UV Electrical Building	Deep Foundations	70	38	-32	-20
	Grade Beams	32	41	10	
	Base Slabs	56	62	6	
	Equipment Pads	7	3	-4	
55 - Effluent Facility	Deep Foundations	154	145	-9	-48
	Base Slabs	266	202	-64	
	Freestanding Walls	309	327	18	
	Elevated Slabs	48	55	7	
	Equipment Pads	4	4	0	
56 - Non-Potable Water	Deep Foundations	14	15	1	-3
	Base Slabs	15	15	0	
	Freestanding Walls	29	18	-11	
	Elevated Slabs	12	18	6	
60 - Chemical Feed Facility	Deep Foundations	74	54	-20	-33
	Grade Beams	54	21	-33	
	Base Slabs	64	115	51	
	Freestanding Walls	24	20	-4	
	Equipment Pads	44	18	-26	
70 - Aerated Sludge Holding Tanks	Deep Foundations	223	54	-169	-157
	Base Slabs	399	423	24	
	Freestanding Walls	284	284	0	
	Equipment Pads	22	10	-12	
72 - Biosolids Handling Building	Deep Foundations	167	232	64	187
	Grade Beams	143	67	-76	
	Base Slabs	464	606	142	
	Freestanding Walls	195	196	1	
	Beams	37	0	-37	
	Columns	28	26	-2	
	Elevated Slabs	177	270	94	
	Equipment Pads	64	64	0	





Facility	Item	60% QTY	90% QTY	Change in QTY	Total Change in Qty
85 - Operations & Laboratory Building	Deep Foundations	140	93	-47	-6
	Grade Beams	43	126	83	
	Base Slabs	195	153	-42	
86 - Maintenance & Storage Building	Deep Foundations	56	68	12	91
	Grade Beams	56	130	73	
	Base Slabs	151	158	6	
88 - Main Plant Electrical Building	Deep Foundations	116	107	-9	39
	Grade Beams	53	79	26	
	Base Slabs	109	132	23	
	Equipment Pads	3	3	0	
89 - Generator and Transformer Pad	Deep Foundations	0	29	29	91
	Equipment Pads	0	62	62	

**Notes:**

- All quantities are in cubic yards (CY).
- 24" diameter piers were assumed for deep foundations in the 60% OPCC, allowing an estimate per linear foot (LF). Volumes were calculated by multiplying a unit volume per LF by the quantity of LF provided in the 60% OPCC. This allows for a comparison of CY of concrete for deep foundations.

Some notable changes in concrete quantities from the 60% OPCC include:

- 10 – Influent Lift Station
  - After receiving the final geotechnical report and further geometry changes, transverse beams were added to reinforce the walls, and the walls were thickened. These changes caused net increase of 1,035 CY.
- 31 – Aeration Basins
  - As design progressed, the walls and base slab were thickened. As a result of the increased weight of the structure, drilled piers were added. This caused a net increase of 4,116 CY.
- 45 – Secondary Clarifiers
  - Optimization of slab thickness and drilled pier spacing led to a decrease in slab thickness and a net savings of 1,239 CY.



**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Post 90% Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

10/21/2022

**1. Lump Sum Work (Facilities or Areas)**

**\$ Total**

<a href="#">03</a> Demolition and Erosion Control	\$435,000
<a href="#">04</a> Grading, Paving, Storm Water Detention	\$7,676,000
<a href="#">05</a> Yard Piping	\$12,108,000
<a href="#">06</a> Site Electrical	\$9,632,000
<a href="#">07</a> Landscaping and Irrigation	\$1,211,000
<a href="#">09</a> Civil Yard Structures	\$904,000
<a href="#">10</a> Influent Lift Station #1	\$14,767,000
<a href="#">12</a> Headworks #1	\$9,656,000
<a href="#">13</a> Influent Foul Air Facility #1	\$2,037,000
<a href="#">14</a> ILS/HW Electrical Building #1	\$4,960,000
<a href="#">31</a> Aeration Basins	\$26,362,000
<a href="#">38</a> Blower Facility #1	\$10,075,000
<a href="#">40</a> Mixed Liquor Splitter Box	\$1,825,000
<a href="#">45</a> Secondary Clarifiers	\$15,062,000
<a href="#">46</a> RAS/WAS Pump Station	\$4,706,000
<a href="#">50</a> Filters	\$6,843,000
<a href="#">53</a> UV Disinfection	\$4,125,000
<a href="#">54</a> UV Electrical Building #1	\$2,605,000
<a href="#">55</a> Effluent Facility	\$2,703,000
<a href="#">56</a> Non-Potable Water System	\$1,018,000
<a href="#">60</a> Chemical Feed Facility	\$1,654,000
<a href="#">70</a> Aerated Sludge Storage and Mixing	\$5,356,000
<a href="#">72</a> Biosolids Handling Building	\$12,538,000
<a href="#">85</a> Operations & Laboratory Building	\$2,627,000
<a href="#">86</a> Maintenance and Storage Building	\$1,497,000
<a href="#">88</a> Main Plant Electrical Building #1	\$6,029,000
<a href="#">89</a> Generator and Transformer Pad	\$307,000
<a href="#">90</a> General Electrical	\$5,270,000
<a href="#">95</a> SCADA	\$2,563,000
<a href="#">99</a> Weiss Lift Station (estimate per Kimley Horn)	\$255,000

**Total Estimated Lump Sum Work      \$177,000,000**

All numbers above include the following base Assumptions:

Mobilization	5%
Contractor Overhead and Profit	22%
Contingency for Unidentified Scope	18%

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Post 90% Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

10/21/2022

**2. Additive and Deductive Alternates**

**\$ Total**

Subtotal Estimated Deductive Alternatives

\$0

**3. Cash Allowances for Construction Changes**

**\$ Total**

1

Cash Allowance for Construction Changes

Basis of Cash Allowance  
Allowance Rate 5%

\$177,000,000

\$8,900,000

Subtotal for Construction Changes

\$8,900,000

**4. Allowance for Project Escalation**

**\$ Total**

Escalation of Cost to Midpoint Construction (Sept 2022  
now; 6 Months to NTP, 50% of 3 yr construction  
midpoint)

Basis of Escalation  
2 Years @ 7.0%

\$177,000,000

\$25,600,000

**5. Costs for Contingency Allowance Items or Costs Independent of Construction**

**\$ Total**

**Contract**

Contingency Allowances (through Contractor)

2 Contractor's Coordination with Utility for Power to Site (Contingency Allowance)

\$500,000

3 Commissioning, Startup, and Equipment Testing (Contingency Allowance)

\$300,000

5 Construction Trailer Outfitting Allowance (Contingency Allowance)

\$100,000

6 Building Furnishings (Contingency Allowance)

\$300,000

Other City-Paid Costs

3-Phase Power Establishment to Site (Independent Payment)

\$0

4 Allowances for Water Procurement (Ex. MWSC Contract)

\$0

Equipment and Tools (Operations Purchase)

\$0

Allowances for Startup Chemicals (Operations Purchase)

\$0

Subtotal for Costs Independent of Construction Contract

\$1,200,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Post 90% Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

10/21/2022

**6. Identified Cost Savings**

**\$ Total**

Schedule Adjustment Savings

6 Month Schedule Extension

**(\$4,000,000)**

**Construction Contract Costs, Complete with Facilities,  
Alternates, Cash Allowances, Escalation plus Identified  
Cost Savings**

**(1 + 2 + 3 + 4 + 6)**

**\$208,000,000**

**Complete Project, with Alternates, Allowance,  
Escalation, Costs Independent of Contract plus  
Identified Cost Savings**

**(1 + 2 + 3 + 4 + 5 + 6)**

**\$209,000,000**

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 3**

**Facility Description: Demolition and Erosion Control**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 2 - Existing Conditions</b>					
Demolition	1	LS	\$ -	\$ 75,000.00	\$ 75,000
Erosion Control	1	LS	\$ 200,000.00	\$ -	\$ 200,000
Miscellaneous	5%				\$ 13,750
Subtotal Division 2					<b>\$ 288,750</b>
<b>Subtotal This Facility</b>					<b>\$ 288,750</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 67,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 15,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 64,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 435,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 4**

**Facility Description: Grading, Paving, and Storm Detention**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Excavation	34,380	CY	\$	15.00	\$ 515,700
Fill	58,805	CY	\$ -	\$ 18.00	\$ 1,058,490
Subgrade Preparation	27,496	SY	\$	25.00	\$ 687,400
Base Material	4,705	CY	\$ 69.00		\$ 324,645
<i>Miscellaneous</i>	5%				\$ 129,312
Subtotal Division 31					<b>\$ 2,715,547</b>
<b>Division 32 - Exterior Improvements</b>					
Heavy Duty Reinforced Concrete Pavement (8")	21,266	SY	\$ 50.00		\$ 1,063,300
Medium Duty Reinforced Concrete Pavement (6")	6,230	SY	\$ 110.00		\$ 685,300
Asphalt Concrete Pavement (4")	759	SY	\$ 54.00		\$ 40,986
Chain Link Fence and Gate	8,110	LF	\$ 40.00		\$ 324,400
Column Fence with Wrought Iron Bars	0	LF	\$ 250.00		\$ -
Sliding Entrance Gate	1	EA	\$ 25,000.00		\$ 25,000
Concrete Sidewalk (5")	2,335	SY	\$ 65.00		\$ 151,775
<i>Miscellaneous</i>	5%				\$ 114,538
Subtotal Division 32					<b>\$ 2,405,299</b>
<b>Subtotal This Facility</b>					<b>\$ 5,120,846</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,171,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 257,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,127,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 7,676,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 33 - Utilities</b>					
<b><u>Potable Water System</u></b>					
12" DI Pipe	2040	LF	\$ 121.30	\$ 38.99	\$ 326,990
12" x 4" Tee	1	EA	\$ 395.00	\$ 126.96	\$ 522
12" x 6" Tee	2	EA	\$ 395.00	\$ 126.96	\$ 1,044
12" 45 Bend	5	EA	\$ 346.00	\$ 111.21	\$ 2,286
12" Blind Flange	1	EA	\$ 383.00	\$ 123.11	\$ 506
6" DI Pipe	195	LF	\$ 63.43	\$ 25.13	\$ 17,270
6" DI Valve	1	EA	\$ 1,462.00	\$ 579.28	\$ 2,041
4" DI Pipe	845	LF	\$ 72.45	\$ 28.71	\$ 85,477
4" x 2" Tee	2	EA	\$ 163.00	\$ 64.58	\$ 455
4" x 2" Reducer	1	EA	\$ 133.00	\$ 52.70	\$ 186
4" 90 Bend	1	EA	\$ 83.00	\$ 32.89	\$ 116
4" 45 Bend	2	EA	\$ 95.00	\$ 37.64	\$ 265
4" x 3" Reducer	2	EA	\$ 105.00	\$ 41.60	\$ 293
4" x 3" Tee	1	EA	\$ 152.00	\$ 60.23	\$ 212
3" DI Pipe	295	LF	\$ 65.00	\$ 25.75	\$ 26,773
3" x 2" Tee	1	EA	\$ 150.00	\$ 59.43	\$ 209
2" SCH 80 Pipe	305	LF	\$ 18.00	\$ 7.13	\$ 7,665
2" 90 Bend	2	EA	\$ 100.00	\$ 39.62	\$ 279
2" 45 Bend	2	EA	\$ 100.00	\$ 39.62	\$ 279
2" Plug	1	EA	\$ 65.00	\$ 25.75	\$ 91
2" Gate Valve	1	EA	\$ 391.00	\$ 154.92	\$ 546
Fire Hydrant Assembly	3	EA	\$ 10,000.00	\$ 3,962.26	\$ 41,887
<b><u>Non Potable Water System</u></b>					
8" DI Pipe	1875	LF	\$ 81.51	\$ 32.30	\$ 213,387
8" Tee	3	EA	\$ 292.00	\$ 115.70	\$ 1,223
8" x 4" Tee	2	EA	\$ 211.00	\$ 83.60	\$ 589
8" x 6" Tee	5	EA	\$ 241.00	\$ 95.49	\$ 1,682
8" x 2" Tee	7	EA	\$ 205.00	\$ 81.23	\$ 2,004
8" x 6" Reducer	1	EA	\$ 115.00	\$ 45.57	\$ 161
8" x 4" Reducer	3	EA	\$ 107.00	\$ 42.40	\$ 448
8" 90 Bend	1	EA	\$ 196.00	\$ 77.66	\$ 274
8" 45 Bend	12	EA	\$ 160.00	\$ 63.40	\$ 2,681
8" 22.5 Bend	2	EA	\$ 150.00	\$ 59.43	\$ 419
8" Gate Valve	2	EA	\$ 2,365.00	\$ 937.08	\$ 6,604
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 67.36	\$ 237
6" DI Pipe	1380	LF	\$ 63.43	\$ 25.13	\$ 122,216
6" Tee	1	EA	\$ 195.00	\$ 77.26	\$ 272
6" x 2" Tee	3	EA	\$ 230.00	\$ 91.13	\$ 963
6" x 2" Tapping Saddle	1	EA	\$ 1,300.00	\$ 515.09	\$ 1,815
6" x 1" Tapping Sleeve	1	EA	\$ 1,300.00	\$ 515.09	\$ 1,815
6" 90 Bend	6	EA	\$ 136.00	\$ 53.89	\$ 1,139
6" 45 Bend	6	EA	\$ 110.00	\$ 43.58	\$ 922
6" 22.5 Bend	2	EA	\$ 100.00	\$ 39.62	\$ 279
6" Gate Valve	2	EA	\$ 1,462.00	\$ 579.28	\$ 4,083
Yard Hydrant Assembly	1	EA	\$ 170.00	\$ 67.36	\$ 237
4" DI Pipe	1630	LF	\$ 72.45	\$ 28.71	\$ 164,885
4" Tee	5	EA	\$ 109.00	\$ 43.19	\$ 761
4" x 2" Tee	2	EA	\$ 163.00	\$ 64.58	\$ 455
4" x 2" Reducer	2	EA	\$ 133.00	\$ 52.70	\$ 371
4" 90 Bend	3	EA	\$ 83.00	\$ 32.89	\$ 348
4" 45 Bend	4	EA	\$ 95.00	\$ 37.64	\$ 531
4" Gate Valve	1	EA	\$ 879.00	\$ 348.28	\$ 1,227

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
4" Butterfly Valve	1	EA	\$ 949.00	\$ 376.02	\$ 1,325
4" Cap	1	EA	\$ 31.00	\$ 12.28	\$ 43
Yard Hydrant Assembly	5	EA	\$ 170.00	\$ 67.36	\$ 1,187
2" SCH 80 PVC Pipe	2010	LF	\$ 15.00	\$ 5.94	\$ 42,096
2" Tee	11	EA	\$ 150.00	\$ 59.43	\$ 2,304
2" 90 Bend	9	EA	\$ 100.00	\$ 39.62	\$ 1,257
2" 45 Bend	9	EA	\$ 110.00	\$ 43.58	\$ 1,382
2" 22.5 Bend	2	EA	\$ 95.00	\$ 37.64	\$ 265
2" 11.25 Bend	2	EA	\$ 85.00	\$ 33.68	\$ 237
2" Gate Valve	5	EA	\$ 391.00	\$ 154.92	\$ 2,730
2" Check Valve	1	EA	\$ 3,049.00	\$ 1,208.09	\$ 4,257
<b><u>Plant Drain System</u></b>					
30" DI Pipe	1775	LF	\$ 501.14	\$ 47.10	\$ 973,134
30" x 12" Tee	4	EA	\$ 3,444.00	\$ 323.72	\$ 15,071
30" x 8" Tee	2	EA	\$ 3,067.00	\$ 288.28	\$ 6,711
30" x 6" Tee	1	EA	\$ 2,718.00	\$ 255.48	\$ 2,973
30" x 4" Tee	2	EA	\$ 4,191.00	\$ 393.93	\$ 9,170
Process Unit Drain Connection	2	EA	\$ 10,900.00	\$ 1,024.54	\$ 23,849
18" DI Pipe	770	LF	\$ 215.12	\$ 69.15	\$ 218,885
18" x 12" Tee	2	EA	\$ 2,188.00	\$ 703.29	\$ 5,783
18" x 8" Tee	4	EA	\$ 1,282.00	\$ 412.07	\$ 6,776
18" x 6" Tee	4	EA	\$ 2,026.00	\$ 651.21	\$ 10,709
12" DI Pipe	1230	LF	\$ 121.30	\$ 38.99	\$ 197,156
12" x 12" Tee	1	EA	\$ 846.00	\$ 271.93	\$ 1,118
12" x 8" Tee	5	EA	\$ 642.00	\$ 206.36	\$ 4,242
12" x 4" Tee	2	EA	\$ 394.00	\$ 126.64	\$ 1,041
12" x 12" WYE	12	EA	\$ 1,292.00	\$ 415.29	\$ 20,487
12" 45 Bend	3	EA	\$ 346.00	\$ 111.21	\$ 1,372
8" DI Pipe	760	LF	\$ 81.51	\$ 32.30	\$ 86,493
Cleanout	13	EA	\$ 1,680.00	\$ 665.66	\$ 30,494
6" DI Pipe	420	LF	\$ 63.43	\$ 25.13	\$ 37,196
6" x 6" WYE	7	EA	\$ 341.00	\$ 135.11	\$ 3,333
6" 90 Bend	1	EA	\$ 136.00	\$ 53.89	\$ 190
6" 22.5 Bend	2	EA	\$ 135.00	\$ 53.49	\$ 377
6" 11.25 Bend	2	EA	\$ 139.00	\$ 55.08	\$ 388
4" DI Pipe	710	LF	\$ 72.45	\$ 28.71	\$ 71,821
4" x 4" Tee	2	EA	\$ 109.00	\$ 43.19	\$ 304
4" 90 Bend	1	EA	\$ 83.00	\$ 32.89	\$ 116
4" 45 Bend	1	EA	\$ 95.00	\$ 37.64	\$ 133
4" 11.25 Bend	2	EA	\$ 83.00	\$ 32.89	\$ 232
96" Manhole	8	EA	\$ 30,000.00	\$ 2,819.84	\$ 262,559
48" Manhole	6	EA	\$ 8,000.00	\$ 2,571.43	\$ 63,429
<b><u>Chemical</u></b>					
2" CPVC	850	LF	\$ 18.00	\$ 7.13	\$ 21,362
2" 90 Bend	3	EA	\$ 100.00	\$ 39.62	\$ 419
2" 11.25 Bend	2	EA	\$ 85.00	\$ 33.68	\$ 237
2" Tee	1	EA	\$ 150.00	\$ 59.43	\$ 209
1/2" CPVC	310	LF	\$ 2.00	\$ 0.79	\$ 866
1/2" 90 Bend	5	EA	\$ 75.00	\$ 29.72	\$ 524
4" PVC	735	LF	\$ 40.00	\$ 15.85	\$ 41,049
2" PVC	310	LF	\$ 18.00	\$ 7.13	\$ 7,791

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
3/4" CPVC	235	LF	\$ 10.00	\$ 3.96	\$ 3,281
1" CPVC	500	LF	\$ 12.00	\$ 4.75	\$ 8,377
Miscellaneous	5%				\$ 162,208
Subtotal Division 33					<b>\$ 3,406,368</b>

**Division 40 - Process Integration**

**Interceptor to Influent Lift Stations**

78" CCFRMP (Hobas) Pipe	85	LF	\$ 2,400.00	\$ 225.59	\$ 223,175
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**Headworks to Aeration Basin**

30" DI Pipe	575	LF	\$ 501.14	\$ 47.10	\$ 315,241
30" 90 Bend	3	EA	\$ 3,922.00	\$ 368.65	\$ 12,872
30" 45 Bend	2	EA	\$ 3,296.00	\$ 309.81	\$ 7,212
30"x18" Tee	1	EA	\$ 5,925.00	\$ 556.92	\$ 6,482

**Aeration Basin to MLSS Splitter Box**

42" DI Pipe	140	LF	\$ 813.29	\$ 76.45	\$ 124,563
42" 90 Bend	1	EA	\$ 10,513.00	\$ 988.17	\$ 11,501
36" DI Pipe	155	LF	\$ 650.34	\$ 61.13	\$ 110,278
36" 90 Bend	1	EA	\$ 6,131.00	\$ 576.28	\$ 6,707

**MLSS Splitter Box to Secondary Clarifiers 1 & 2**

36" DI Pipe	470	LF	\$ 650.34	\$ 61.13	\$ 334,390
36" 90 Bend	4	EA	\$ 6,131.00	\$ 576.28	\$ 26,829
36" 45 Bend	2	EA	\$ 4,818.00	\$ 452.87	\$ 10,542

**Secondary Clarifiers 1 & 2 to Pump Station**

18" DI Pipe	120	LF	\$ 215.12	\$ 69.15	\$ 34,112
18" 45 Bend	2	EA	\$ 1,001.00	\$ 321.75	\$ 2,646
18" 22.5 Bend	2	EA	\$ 785.00	\$ 252.32	\$ 2,075

**Pump Station to Aeration Basin**

18" DI Pipe	510	LF	\$ 215.12	\$ 69.15	\$ 144,976
18" 45 Bend	2	EA	\$ 1,001.00	\$ 321.75	\$ 2,646
18" 22.5 Bend	2	EA	\$ 785.00	\$ 252.32	\$ 2,075
18" Isolation Valve	1	EA	\$ 9,900.00	\$ 3,182.14	\$ 13,082
36" x 18" Tee	1	EA	\$ 9,117.00	\$ 2,930.46	\$ 12,047
18" x 18" Tee	1	EA	\$ 1,979.00	\$ 636.11	\$ 2,615
18" WYE	1	EA	\$ 4,000.00	\$ 1,285.71	\$ 5,286
18" 90 Bend	1	EA	\$ 1,175.00	\$ 377.68	\$ 1,553

**Pump Station to ASHT**

6" DI Pipe	985	LF	\$ 63.50	\$ 25.16	\$ 87,330
6" Tee	1	EA	\$ 195.00	\$ 77.26	\$ 272
6" 90 Bend	1	EA	\$ 136.00	\$ 53.89	\$ 190
6" 45 Bend	7	EA	\$ 110.00	\$ 43.58	\$ 1,075
6" 22.5 Bend	3	EA	\$ 100.00	\$ 39.62	\$ 419

**Secondary Clarifier 1 & 2 to Filter**

36" DI Pipe	290	LF	\$ 650.34	\$ 61.13	\$ 206,326
36" 45 Bend	2	EA	\$ 4,818.00	\$ 452.87	\$ 10,542
36" Tee	1	EA	\$ 58,094.00	\$ 5,460.53	\$ 63,555
48" x 36" Reducer	1	EA	\$ 7,205.00	\$ 677.23	\$ 7,882
48" DI Pipe	485	LF	\$ 1,101.97	\$ 103.58	\$ 584,691
48" 90 Bend	1	EA	\$ 14,016.00	\$ 1,317.43	\$ 15,333
48" 45 Bend	2	EA	\$ 9,696.00	\$ 911.37	\$ 21,215

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**Facility Number: 5  
Facility Description: Yard Piping**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Filters to UV Disinfection</u></b>					
36" DI Pipe	45	LF	\$ 650.34	\$61.13	\$ 32,016
<b><u>UV to Outfall</u></b>					
48" DI Pipe	1025	LF	\$ 1,101.97	\$103.58	\$ 1,235,689
48" 45 Bend	1	EA	\$ 9,696.00	\$911.37	\$ 10,607
<b><u>Stormwater Collection System</u></b>					
42" RCP	1310	LF	\$ 180.00	\$16.92	\$ 257,965
36" RCP	470	LF	\$ 176.25	\$16.57	\$ 90,625
30" RCP	260	LF	\$ 138.75	\$13.04	\$ 39,465
24" RCP	765	LF	\$ 108.38	\$10.19	\$ 90,702
Stormwater Inlet	12	EA	\$ 9,000.00	\$845.95	\$ 118,151
Stormwater Junction Boxes	1	EA	\$ 7,000.00	\$657.96	\$ 7,658
<b><u>Stormwater Pond to Outfall</u></b>					
42" RCP	785	LF	\$ 180.00	\$ 16.92	\$ 154,582
Miscellaneous	5%				\$ 222,460
Subtotal Division 40					<b>\$ 4,671,655</b>
<b>Subtotal This Facility</b>					<b>\$ 8,078,024</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,847,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 404,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,778,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 12,108,000</b>

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**City of Pflugerville  
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**Facility Number: 6**

**Facility Description: Site Electrical**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
TX1A/B 5kV Feeders (Main Elec Bldg)	1	EA	\$20,000.00	\$7,000	\$ 27,000
TX2A/B 5kV Feeders (Influent Lift Station)	1	EA	\$240,000.00	\$84,000	\$ 324,000
TX3A/B 5kV Feeders (Blower Bldg)	1	EA	\$55,000.00	\$19,250	\$ 74,250
TX4A/B 5kV Feeders (RAS/WAS)	1	EA	\$125,000.00	\$43,750	\$ 168,750
TX5A/B 5kV Feeders (UV/ Filters)	1	EA	\$35,000.00	\$12,250	\$ 47,250
TX6A/B 5kV Feeders (Solids)	1	EA	\$85,000.00	\$29,750	\$ 114,750
Site Lighting	40	EA	\$8,500	\$2,975	\$ 459,000
5KV Manholes	19	LS	\$25,000	\$8,750	\$ 641,250
480V Manholes	8	LS	\$20,000	\$7,000	\$ 216,000
Communication Manholes	18	LS	\$15,000	\$5,250	\$ 364,500
Fiber Ductbank	1	LS	\$515,000	\$180,250	\$ 695,250
Security Conduit	1	LS	\$340,000	\$119,000	\$ 459,000
480V Ductbank	1	LS	\$825,000	\$288,750	\$ 1,113,750
5KV Ductbank	1	LS	\$1,275,000	\$446,250	\$ 1,721,250
<b>Subtotal This Facility</b>					<b>\$ 6,426,000</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,470,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 322,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,414,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 9,632,000</b>

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Facility Number: 7

Facility Description: Landscaping and Irrigation

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 32 - Exterior Improvements</b>					
Sodding, Seeding, Fertilizing, & Mulching	160	AC	\$ 2,500.00		\$ 400,000
Landscape Irrigation System Piping	4420	LF	\$ 50.00	\$ 15.00	\$ 287,300
Fittings	1	LS	\$ 28,730.00	\$ 8,619.00	\$ 37,349
Trees	48	EA	\$ 700.00	\$ 210.00	\$ 43,680
<i>Miscellaneous</i>	5%				\$ 38,416
	Subtotal Division 32				<b>\$ 806,745</b>
<b>Subtotal This Facility</b>					
				<b>\$</b>	<b>806,745</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 185,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 41,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 178,000</b>
<b>Total Estimated Facility Costs</b>				<b>\$</b>	<b>1,211,000</b>

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Facility Number: 9

Facility Description: Civil Yard Structures

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Outfall Discharge Headwall Structure</u></b>					
Concrete Base Slab	26	CY	\$ 905.00	\$	23,768
Concrete Freestanding Wall	87	CY	\$ 1,325.00	\$	115,512
Grade Beams	33	CY	\$ 905.00	\$	30,167
<b><u>Flowmeter Vault</u></b>					
Concrete Base Slab	8	CY	\$ 905.00	\$	7,240
Concrete Freestanding Wall	16	CY	\$ 1,325.00	\$	21,200
Concrete Elevated Slab	3	CY	\$ 1,925.00	\$	5,775
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00	\$	-
<b><u>Hydraulic Drop Box</u></b>					
Concrete Base Slab	14	CY	\$ 905.00	\$	12,737
Concrete Freestanding Wall	41	CY	\$ 1,325.00	\$	53,981
Concrete Elevated Slab	14	CY	\$ 1,925.00	\$	26,950
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00	\$	-
<b><u>Stormwater Detention Box</u></b>					
Concrete Base Slab	5	CY	\$ 905.00	\$	4,860
Concrete Freestanding Wall	16	CY	\$ 1,325.00	\$	21,102
Concrete Elevated Slab		CY	\$ 1,925.00	\$	-
Concrete Deep Foundations					
Void Forms	0	SF	\$ 14.00	\$	-
<i>Miscellaneous</i>	5%			\$	16,165
Subtotal Division 3					<b>\$ 339,456</b>
<b>Division 31 - Earthwork</b>					
<b><u>Hydraulic Drop Box</u></b>					
Excavation	3,020	CY	\$	15.00	\$ 45,300
Fill	2,660	CY	\$ 20.00		\$ 53,200
<b><u>Outfall Structure &amp; Effluent Discharge Drop Box</u></b>					
Excavation	1,291	CY	\$	15.00	\$ 19,365
Fill	940	CY	\$ 20.00		\$ 18,800
Allowance for Groundwater Control at Effluent Box Structure	1	LS	\$ 75,000.00		\$ 75,000
<b><u>Flowmeter Vault</u></b>					
Excavation	728	CY	\$	15.00	\$ 10,920
Fill	645	CY	\$ 20.00		\$ 12,900
<b><u>Stormwater Detention Box</u></b>					
Excavation	430	CY	\$	15.00	\$ 6,450
Fill	402	CY	\$ 20.00		\$ 8,040
<i>Miscellaneous</i>	5%			\$	12,499
Subtotal Division 31					<b>\$ 262,474</b>
<b>Subtotal This Facility</b>					<b>\$ 601,930</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 138,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 31,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 133,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 904,000</b>

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**Facility Number: 10  
Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	383	CY	\$ 905.00		\$ 346,280
Concrete Freestanding Wall	1925	CY	\$ 1,325.00		\$ 2,551,165
Concrete Elevated Slab	146	CY	\$ 1,925.00		\$ 280,713
Drilled Shaft Deep Foundation	35	CY	\$ 1,400.00		\$ 48,714
Void Forms	2100	SF	\$ 14.00		\$ 29,400
Grade Beams	66	CY	\$ 905.00		\$ 59,311
Perimeter Beams	252	CY	\$ 1,925.00		\$ 484,316
Beams under Top Slab	4	CY	\$ 1,925.00		\$ 7,557
Pump pads	5	CY	\$ 600.00		\$ 2,889
Miscellaneous	5%				\$ 165,779
Subtotal Division 3					<b>\$ 3,976,124</b>
<b>Division 5 - Metals</b>					
Pump Guide Rails	744	LF	\$ 30.00	\$ 30	\$ 44,640
Access Hatches	13	EA	\$ 2,300.00	\$ 690.00	\$ 38,870
Fabricated Piping Supports	1	LS	\$ 15,000.00	\$ 4,500.00	\$ 19,500
Steel Monorail Framing	18893	LB	\$ 3.00	\$ 0.90	\$ 73,684
Galvanizing	18893	LB	\$ 1.00	\$ 0.30	\$ 24,561
Aluminum Pipe Supports	1102	LB	\$ 10.00	\$ 3.00	\$ 14,331
Miscellaneous	5%				\$ 10,063
Subtotal Division 5					<b>\$ 225,649</b>
<b>Division 9 - Finishes</b>					
Piping Coatings	1	LS	\$ 14,000.00	\$ 85,000.00	\$ 99,000
Wet Well Coatings	20,300	SF	\$ 10.00	\$ 30.00	\$ 812,000
Miscellaneous	5%				\$ 45,550
Subtotal Division 9					<b>\$ 956,550</b>
<b>Division 11 - Equipment</b>					
Monorail Crane - 5 ton	1	EA	\$ 37,000.00	\$ 11,100.00	\$ 48,100
Miscellaneous	5%				\$ 2,405
Subtotal Division 11					<b>\$ 50,505</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 276,000.00	\$ 96,600.00	\$ 372,600
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting	1	EA	\$ 35,000.00	\$ 12,250.00	\$ 47,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 33,250.00	\$ 128,250
Grounding Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250
<b>Instruments</b>					
Transit-Time Ultrasonic Strap-on	3	EA	\$ 15,000	\$ 9,000	\$ 54,000
PSL/PI/Seal	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
PITs w/Block/Bleed	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
LSH Floats	2	EA	\$ 600	\$ 240	\$ 1,440
Submersible Level Transmitters with Stillingwell and JB	2	EA	\$ 5,000	\$ 2,000	\$ 12,000
Pressure Indicator	5	EA	\$ 2,500	\$ 2,500	\$ 15,000
Level Indicator	2	EA	\$ 1,500	\$ 600	\$ 3,600
PSH/PI/Seal	2	EA	\$ 4,000	\$ 1,600	\$ 9,600
Room Temperature (TIT)	1	EA	\$ 2,000	\$ 400	\$ 2,400
Miscellaneous	2	EA	\$ 500	\$ 200	\$ 1,200
Miscellaneous	5%				\$ 43,175
Subtotal Division 26					<b>\$ 906,665</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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**Facility Number: 10  
Facility Description: Influent Lift Station #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
Shored Excavation	8058	SF	\$ 50.00		\$ 402,900
Excavation	15500	CY		\$ 15.00	\$ 232,500
Fill	9000	CY	\$ 20.00		\$ 180,000
<i>Miscellaneous</i>	5%				\$ 40,770
Subtotal Division 31					<b>\$ 856,170</b>
<b>Division 40 - Process Integration</b>					
Influent Lift Pumps - 3 MGD	2	EA	\$ 125,000	\$ 37,500.00	\$ 325,000
Influent Lift Pumps - 12 MGD	3	EA	\$ 255,000	\$ 76,500.00	\$ 994,500
Pump Discharge Piping	1	LS	\$ 560,000.00	\$ 168,000.00	\$ 728,000
Pump Discharge Check Valves (12")	2	LS	\$ 9,000.00	\$ 2,700.00	\$ 23,400
Pump Discharge Check Valves (24")	3	LS	\$ 23,000.00	\$ 6,900.00	\$ 89,700
Pump Discharge Isolation Valves (12")	3	EA	\$ 4,500.00	\$ 1,350.00	\$ 17,550
Pump Discharge Isolation Valves (24")	6	EA	\$ 21,000.00	\$ 6,300.00	\$ 163,800
Slide Gates	1	LS	\$ 250,000	\$ 75,000.00	\$ 325,000
Pump Discharge ARVs	8	EA	\$ 2,000.00	\$ 600.00	\$ 20,800
Piping Supports	1	LS	\$ 22,000	\$ 6,600.00	\$ 28,600
<b>Odor Control Ductwork (FRP)</b>					
12" FRP	66	LF	\$ 29.12	\$ 8.74	\$ 2,498
20" FRP	43	LF	\$ 61.47	\$ 18.44	\$ 3,436
30" FRP	100	LF	\$ 99.37	\$ 29.81	\$ 12,918
12" Elbow	1	EA	\$ 189.95	\$ 28.49	\$ 218
12" Tee	1	EA	\$ 179.48	\$ 26.92	\$ 206
12" Control Damper	2	EA	\$ 82.20	\$ 12.33	\$ 189
20" Elbow	3	EA	\$ 390.80	\$ 58.62	\$ 1,348
20" Control Damper	2	EA	\$ 143.65	\$ 21.55	\$ 330
32" Elbow	3	EA	\$ 801.98	\$ 120.30	\$ 2,767
32" Tee	2	EA	\$ 700.15	\$ 105.02	\$ 1,610
32" Reducer	5	EA	\$ 533.51	\$ 80.03	\$ 3,068
<i>Miscellaneous</i>	5%				\$ 135,818
Subtotal Division 40					<b>\$ 2,880,758</b>
<b>Subtotal This Facility</b>					<b>\$ 9,852,420</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,253,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 493,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,168,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 14,767,000</b>

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Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Headworks Concrete</b>					
Concrete Base Slab	526	CY	\$ 905.00		\$ 476,030
Concrete Drop Panel	30	CY	\$ 905.00		\$ 27,150
Concrete Support Columns	60	CY	\$ 1,325.00		\$ 79,500
Concrete Equipment Pad	30	CY	\$ 600.00		\$ 18,000
Concrete Freestanding Walls	592	CY	\$ 1,325.00		\$ 784,400
Concrete Elevated Slab	270	CY	\$ 1,925.00		\$ 519,750
Grout	10	CY	\$ 200.00		\$ 2,000
Compacted Sand	252	CY	\$ 30.00		\$ 7,567
Void Forms	6992	SF	\$ 14.00		\$ 97,888
<b>Headworks Deep Foundation</b>					
Drilled Shaft Deep Foundation	232	CY	\$ 1,400.00		\$ 324,759
Miscellaneous	5%				\$ 116,852
<b>Subtotal Division 3</b>					<b>\$ 2,453,896</b>
<b>Division 4 - Masonry</b>					
Aluminum channel covers	2000	SF	\$ 60.00	\$ 18.00	\$ 156,000
Aluminum Plate Supports	169	LB	\$ 10.00	\$ 3.00	\$ 2,195
<b>Metal Canopy</b>					
Roof Deck	2589	SF	\$ 15.00	\$ 4.50	\$ 50,486
Metal Wall	0	SF	\$ 15.00	\$ 4.50	\$ -
Steel Roof Framing	18294	LF	\$ 3.00	\$ 0.90	\$ 71,347
Galvanizing	18294	LF	\$ 1.00	\$ 0.30	\$ 23,782
Bollards	37	EA	\$ 500.00		\$ 18,500
Miscellaneous	5%				\$ 17,218
<b>Subtotal Division 5</b>					<b>\$ 380,088</b>
<b>Division 9 - Coatings</b>					
System 19	13500	SF	\$ 27.92		\$ 376,920
Allowance for Piping Coatings	1	LS	\$ 30,000.00		\$ 30,000
Miscellaneous	5%				\$ 20,346
<b>Subtotal Division 9</b>					<b>\$ 427,266</b>
<b>Division 23 - HVAC</b>					
Wiring Total	1	LS	\$ 265,000.00	\$ 92,750.00	\$ 357,750
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting	1	EA	\$ 120,000.00	\$ 42,000.00	\$ 162,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Grounding Total	1	LS	\$ 40,000.00	\$ 14,000.00	\$ 54,000
Miscellaneous	5%				\$ 40,163
<b>Subtotal Division 26</b>					<b>\$ 843,413</b>
<b>Division 31 - Earthwork</b>					
Excavation	1540	CY		\$ 15.00	\$ 23,100
Fill	1304	CY	\$ 20.00		\$ 26,080
Miscellaneous	5%				\$ 2,459
<b>Subtotal Division 31</b>					<b>\$ 51,639</b>

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19W07191

Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
SS 316 Custom Drop Chutes for Screenings	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
Manual Bar Screen	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Grit System (1 vortex system, 1 washer, plc panel)	1	LS	\$ 247,000.00	\$ 74,100.00	\$ 321,100
			\$ -	\$ -	\$ -
Stainless steel slide gates	12	EA	\$ 22,000.00	\$ 6,600.00	\$ 343,200
Gate Electric Actuators	5	EA	\$ 7,130.00	\$ 2,139.00	\$ 46,345
<b>Allowance for piping &amp; Valves</b>					
Influent and Effluent Piping Allowance (36" Inlet x2 (one capped), 12" Inlet x1, 30" Outlet, 48" Outlet-capped)	0	LS	\$ 30,000.00		\$ -
Allowance for Drain Piping + Valves	0	LS	\$ 65,000.00		\$ -
Allowance for Grit Piping (Glass Lined)	0	LS	\$ 50,000.00		\$ -
Allowance for NPW Piping	0	LS	\$ 15,000.00		\$ -
<b>NPW PVC Piping</b>					
1" PVC	215	LF	\$ 3.49	\$ 1.05	\$ 975
3" PVC	267	LF	\$ 10.77	\$ 3.23	\$ 3,738
1" Elbow	15	EA	\$ 1.50	\$ 0.45	\$ 29
3" Cross	1	EA	\$ 32.31	\$ 9.69	\$ 42
3" Tee	13	EA	\$ 32.31	\$ 9.69	\$ 546
3" Reducer	9	EA	\$ 32.31	\$ 9.69	\$ 378
3" Elbow	9	EA	\$ 32.31	\$ 9.69	\$ 378
<b>Drain DIP Piping</b>					
4" DIP	61	LF	\$ 68.00	\$ 20.40	\$ 5,392
6" DIP	383	LF	\$ 60.00	\$ 18.00	\$ 29,874
8" DIP	92	LF	\$ 75.69	\$ 22.71	\$ 9,053
12" DIP	55	LF	\$ 113.00	\$ 33.90	\$ 8,080
4" 45 bend	6	EA	\$ 86.00	\$ 25.80	\$ 671
4" Wye	3	EA	\$ 109.00	\$ 32.70	\$ 425
4" Elbow	8	EA	\$ 114.00	\$ 34.20	\$ 1,186
6" Tee	7	EA	\$ 500.00	\$ 150.00	\$ 4,550
6" Wye	17	EA	\$ 500.00	\$ 150.00	\$ 11,050
6" Elbow	24	EA	\$ 180.00	\$ 54.00	\$ 5,616
6" 45 Bend	11	EA	\$ 148.00	\$ 44.40	\$ 2,116
6" Plug Valve	6	EA	\$ 2,200.00	\$ 660.00	\$ 17,160
8"x8"x6" Wye	2	EA	\$ 680.00	\$ 204.00	\$ 1,768
8"x8"x4" Wye	2	EA	\$ 680.00	\$ 204.00	\$ 1,768
8" Tee	1	EA	\$ 292.00	\$ 87.60	\$ 380
8" Elbow	1	EA	\$ 262.00	\$ 78.60	\$ 341
12"x12"x6" Wye	3	EA	\$ 895.00	\$ 268.50	\$ 3,491
12" Elbow	1	EA	\$ 1,691.00	\$ 507.30	\$ 2,198
<b>Grit DIP Piping (Glass Lined)</b>					
4" DIP	146	LF	\$ 394.30	\$ 118.29	\$ 74,838
4" Elbow (long radius)	10	EA	\$ 1,018.00	\$ 305.40	\$ 13,234
4" 45 Bend	3	EA	\$ 722.00	\$ 216.60	\$ 2,816
4"x3" Reducer	4	EA	\$ 859.00	\$ 257.70	\$ 4,467
4" Actuated Plug Valve	2	EA	\$ 5,343.00	\$ 1,602.90	\$ 13,892
4" Plug Valve	2	EA	\$ 1,194.00	\$ 358.20	\$ 3,104
4" Wye	5	EA	\$ 1,538.00	\$ 461.40	\$ 9,997
4" Tee	4	EA	\$ 1,030.00	\$ 309.00	\$ 5,356
4" Dismantling Joint	6	EA	\$ 500.00	\$ 150.00	\$ 3,900
<b>Influent and Effluent DIP Piping</b>					
12" DIP	24	LF	\$ 103.35	\$ 31.01	\$ 3,225
30" DIP	5	LF	\$ 465.35	\$ 139.61	\$ 3,025
36" DIP	50	LF	\$ 603.99	\$ 181.20	\$ 39,259
48" DIP	5	LF	\$ 1,023.26	\$ 306.98	\$ 6,651
12" Plug Valve	1	EA	\$ 5,844.00	\$ 1,753.20	\$ 7,597
36" Plug Valve	2	EA	\$ 38,000.00	\$ 11,400.00	\$ 98,800
12" Elbow	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
36" Elbow	3	EA	\$ 13,184.00	\$ 3,955.20	\$ 51,418
30" Flexible Coupling	2	EA	\$ 2,000.00	\$ 600.00	\$ 5,200
48" Flexible Coupling	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>Odor Control Ductwork (FRP)</b>					
6" FRP	131	LF	\$ 16.57	\$ 4.97	\$ 2,822
8" FRP	28	LF	\$ 20.49	\$ 6.15	\$ 746
10" FRP	54	LF	\$ 24.56	\$ 7.37	\$ 1,724
12" FRP	40	LF	\$ 29.12	\$ 8.74	\$ 1,514

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 12  
Facility Description: Headworks #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
14" FRP	109	LF	\$ 42.90	\$ 12.87	\$ 6,079
18" FRP	30	LF	\$ 55.89	\$ 16.77	\$ 2,180
6" Balancing Damper	7	EA	\$ 51.74	\$ 15.52	\$ 471
8" Balancing Damper	2	EA	\$ 61.02	\$ 18.31	\$ 159
6" Elbow	20	EA	\$ 99.07	\$ 29.72	\$ 2,576
8" Elbow	5	EA	\$ 117.02	\$ 35.11	\$ 761
10" Elbow	3	EA	\$ 152.85	\$ 45.86	\$ 596
12" Elbow	4	EA	\$ 189.95	\$ 56.99	\$ 988
14" Elbow	5	EA	\$ 229.89	\$ 68.97	\$ 1,494
18" Elbow	1	EA	\$ 361.01	\$ 108.30	\$ 469
10"x8" Reducer	1	EA	\$ 125.44	\$ 37.63	\$ 163
12"x10" Reducer	1	EA	\$ 150.30	\$ 45.09	\$ 195
14"x12" Reducer	1	EA	\$ 175.77	\$ 52.73	\$ 229
18"x8" Reducer	1	EA	\$ 225.02	\$ 67.51	\$ 293
6" Tee	1	EA	\$ 83.38	\$ 25.01	\$ 108
8" Tee	1	EA	\$ 113.75	\$ 34.13	\$ 148
10" Tee	2	EA	\$ 146.96	\$ 44.09	\$ 382
12" Tee	1	EA	\$ 179.48	\$ 53.84	\$ 233
14" Tee	2	EA	\$ 238.42	\$ 71.53	\$ 620
18" Tee	1	EA	\$ 322.63	\$ 96.79	\$ 419
NPW Wash Hose Station (2 at upper level, 2 at lower level)	4	EA	\$ 1,500.00		\$ 6,000
Weir plates at Bypass Channel	3	EA	\$ 2,500.00		\$ 7,500
Odor Control Duct Work	450	LF	\$ 145.00	\$ 43.50	\$ 84,825
Odor Control Dampers	10	EA	\$ 100.00	\$ 30.00	\$ 1,300
Miscellaneous	5%				\$ 108,804
			Subtotal Division 40		\$ 2,284,884
<b>Subtotal This Facility</b>					<b>\$ 6,441,185</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,473,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 323,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,418,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 9,656,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 13

Facility Description: Influent Foul Air Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	186	CY	\$ 905.00		\$ 168,598
Concrete Drop Panels	9	CY	\$ 905.00		\$ 8,145
Concrete Freestanding Walls	96	CY	\$ 1,325.00		\$ 127,593
Concrete Elevated Slab	7	CY	\$ 1,925.00		\$ 12,833
Drilled Pier Deep Foundation	34	CY	\$ 1,400.00		\$ 48,119
Void Forms	2,300	SF	\$ 14.00		\$ 32,200
<b><u>ILS Odor Control Unit Blower Pad</u></b>					
Concrete Base Slab	31	CY	\$ 905.00		\$ 27,820
Concrete Equipment Pad	11	CY	\$ 600.00		\$ 6,667
Concrete Drop Panels	4	CY	\$ 905.00		\$ 3,352
Drilled Pier Deep Foundation	9	CY	\$ 1,400.00		\$ 13,067
Void Forms	560	SF	\$ 14.00		\$ 7,840
Miscellaneous	5%				\$ 22,812
Subtotal Division 3					<b>\$ 479,045</b>
<b>Division 4 - Masonry</b>					
Excavation	2157	CY		\$ 15.00	\$ 32,355
Fill	1278	CY	\$ 20.00		\$ 25,560
<b><u>ILS Odor Control Unit Blower Pad</u></b>					
Excavation	138	CY		\$ 15.00	\$ 2,070
Fill	108	CY	\$ 20.00		\$ 2,160
Miscellaneous	5%				\$ 3,107
Subtotal Division 31					<b>\$ 65,252</b>
<b>Division 40 - Process Integration</b>					
<b><u>Drain DIP Piping</u></b>					
4" DIP	178	LF	\$ 68.00	\$ 20.40	\$ 15,735
4" Elbow	16	EA	\$ 114.00	\$ 34.20	\$ 2,371
4" Tee	3	EA	\$ 152.00	\$ 45.60	\$ 593
<b><u>W2</u></b>					
2" PVC	45	LF	\$ 10.00	\$ 3.00	\$ 585
2" Elbow	3	EA	\$ 4.50	\$ 1.35	\$ 18
<b><u>Ductwork to Fans (FRP)</u></b>					
18" FRP	99	LF	\$ 55.89	\$ 16.77	\$ 7,193
36" FRP	33	LF	\$ 110.03	\$ 33.01	\$ 4,720
18" Balancing Damper	1	EA	\$ 361.01	\$ 108.30	\$ 469
36" Balancing Damper	3	EA	\$ 1,055.96	\$ 316.79	\$ 4,118
36" Tee	2	EA	\$ 819.57	\$ 245.87	\$ 2,131
36" Wye	1	EA	\$ 999.88	\$ 299.96	\$ 1,300
36" Expansion Joint	2	EA	\$ 650.00	\$ 195.00	\$ 1,690
Miscellaneous	5%				\$ 2,046
Subtotal Division 40					<b>\$ 42,970</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 13

Facility Description: Influent Foul Air Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
Odor Control Biofilter (quoted package by Biorem) 1. Concrete biofilter vessel structural design, supply and installation by others. 2. Biofilter media support flooring. Material of construction to be FRP grating and I-beams. 3. Humidification spray lance to be installed in the inlet ductwork. 4. Engineered biofilter media, provided in loose bulk. 5. Composite media support flooring. 6. (1) lot of inlet ductwork between the fan and biofilter plenum, including expansion joint, damper. 7. (1) 50 HP centrifugal FRP exhaust fan rated for 20,000 CFM at 8 in WC with TEFC motor. Fan static pressure allows for 2 inWC pressure loss through external ductwork. 8. (1) Schedule 80 PVC manifold with matched precipitation rate nozzles for optimized coverage of biofilter media. 9. (1) Control Panel 10. (1) Waterbox 11. Instrumentation and fluid control valves external to waterbox 12. Winterization system 13. Engineering submittal packages 14. Operation and Maintenance manuals 15. Field services					
Redundant Blower	1	LS	\$ 525,000.00	\$ 157,500.00	\$ 682,500
Redundant Blower	1	LS	\$ 40,000.00	\$ 12,000.00	\$ 52,000
<i>Miscellaneous</i>	5%				\$ 36,725
	Subtotal Division 44				<b>\$ 771,225</b>
<b>Subtotal This Facility</b>					<b>\$ 1,358,492</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 311,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 68,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 299,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,037,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 14

Facility Description: ILS/HW Electrical Building #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Concrete Base Slab	78	CY	\$ 905.00		\$ 70,892
Equipment Pads	12	CY	\$ 600.00		\$ 7,156
Void Forms	2115	SF	\$ 14.00		\$ 29,610
Grade Beams	44	CY	\$ 905.00		\$ 40,055
Drilled Shaft Deep Foundation	37	CY	\$ 1,400.00		\$ 51,769
Miscellaneous	5%				\$ 9,974
Subtotal Division 3					<b>\$ 209,455</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2580	SF	\$ 20.00		\$ 51,600
Veneer	2580	SF	\$ 15.00		\$ 38,700
Miscellaneous	5%				\$ 4,515
Subtotal Division 4					<b>\$ 94,815</b>
<b>Division 5 - Metals</b>					
Metal Deck	1425	SF	\$ 15.00		\$ 21,375
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous	5%				\$ 1,264
Subtotal Division 5					<b>\$ 26,539</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	120	LF	\$9.20	\$ 2.76	\$ 1,435
Wall Insulation	2580	SF	\$1.20	\$ 0.50	\$ 4,386
Roof Insulation	1425	SF	\$2.25	\$ 0.65	\$ 4,133
Miscellaneous	5%				\$ 498
Subtotal Division 7					<b>\$ 10,451</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,000
Subtotal Division 8					<b>\$ 21,000</b>
<b>Division 23 - HVAC</b>					
12 Ton Packaged AC Unit	2	EA	\$ 32,000.00	\$ 9,600.00	\$ 83,200
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 5,137.00	\$ 1,541.10	\$ 6,678
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Modular Chemical Scrubber	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Miscellaneous	5%				\$ 6,531
Subtotal Division 23					<b>\$ 137,160</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 14**

**Facility Description: ILS/HW Electrical Building #1**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-2	1	EA	\$ 240,000.00	\$ 84,000.00	\$ 324,000
MCC-2	1	EA	\$ 170,000.00	\$ 59,500.00	\$ 229,500
18 pulse 300HP VFDs	4	EA	\$ 85,000.00	\$ 29,750.00	\$ 459,000
18 pulse 300HP VFDs	2	EA	\$ 70,000.00	\$ 24,500.00	\$ 189,000
2000 kVA Pad Mounted Transformers	2	EA	\$ 110,000.00	\$ 38,500.00	\$ 297,000
Wire and Conduit from Transformer to Switchboard	2	EA	\$ 115,000.00	\$ 40,250.00	\$ 310,500
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 220,000.00	\$ 77,000.00	\$ 297,000
Conduit Total	1	LS	\$ 80,000.00	\$ 28,000.00	\$ 108,000
Lighting	1	EA	\$ 35,000.00	\$ 12,250.00	\$ 47,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Cable Tray Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Grounding Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
				\$ -	
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 700.00	\$ 2,700
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 8,750.00	\$ 33,750
<b>ILS/HW Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-ILS1)</b>					
Enclosure (NET-ILS1) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-ILS1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA ILS1 Enclosure (PLC-ILS1)</b>					
Enclosure (PLC-ILS1) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/1	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, U	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, s	3	EA	\$ 3,000	\$ 1,800	\$ 10,800
Analog Out Module, 8 Isolated point, current, and	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	4	EA	\$ 700	\$ 560	\$ 3,360
Digital Output Module, N.O Isolated Relay Output	3	EA	\$ 1,000	\$ 600	\$ 3,600
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (91x\$450 Hard + 200x\$200 Soft)+3	1	LOT	\$ -	\$ 71,000	\$ 71,000
<i>Miscellaneous</i>		5%			\$ 133,086
					<b>\$ 2,794,796</b>
<b>Division 31 - Earthwork</b>					
Open Cut Excavation	415	CY		\$ 15.00	\$ 6,225
Fill	350	CY	\$ 20.00		\$ 7,000
<i>Miscellaneous</i>		5%			\$ 661
					<b>\$ 13,886</b>
<b>Subtotal This Facility</b>					<b>\$ 3,308,101</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 757,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 166,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 728,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,960,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
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Facility Number: 31  
Facility Description: Aeration Basins

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Aeration Basins Concrete</b>					
Concrete Base Slab	4682	CY	\$ 905.00		\$ 4,237,210
Concrete Freestanding Wall	3075	CY	\$ 1,325.00		\$ 4,074,375
Concrete Elevated Slab	390	CY	\$ 1,925.00		\$ 750,750
Drop Panels	0	CY	\$ 905.00		\$ -
Void Forms	43059	SF	\$ 14.00		\$ 602,826
<b>Aeration Basin Deep Foundations</b>					
Drilled Shaft Deep Foundation	2400	CY	\$ 1,400.00		\$ 3,360,000
Miscellaneous	5%				\$ 651,258
Subtotal Division 3					<b>\$ 13,676,419</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	2867	LF	\$ 60.00	\$ 18.00	\$ 223,626
Stairs	75	Riser	\$ 600.00	\$ 180.00	\$ 58,500
Metal Grating	200	SF	\$ 60.00		\$ 12,000
Misc. Aluminum Support Framing for Stairs	500	SF	\$ 10.00	\$ 3.00	\$ 6,500
Miscellaneous	5%				\$ 14,706
Subtotal Division 5					<b>\$ 315,332</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500
Conduit Total	1	LS	\$165,000.00	\$ 57,750.00	\$ 222,750
Lighting and Receptacles Total	1	LS	\$ 75,000.00	\$ 26,250.00	\$ 101,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 95,000.00	\$ 33,250.00	\$ 128,250
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Miscellaneous	5%				\$ 33,413
Subtotal Division 26					<b>\$ 701,663</b>
<b>Division 31 - Earthwork</b>					
Excavation	25000	CY		\$ 15.00	\$ 375,000
Backfill	8500	CY	\$ 20.00		\$ 170,000
Miscellaneous	5%				\$ 27,250
Subtotal Division 31					<b>\$ 572,250</b>
<b>Division 40 - Process Integration</b>					
Aeration Basin Manual, Type 304 St Steel Slide Gates ( per Aeration Basin)	6	EA	\$ 18,000.00	\$ 5,400.00	\$ 140,400
Air Piping 36" Flanged, Sch 10S, 304 St Steel	35	LF	\$ 1,500.00	\$ 450.00	\$ 68,250
Air Piping 30" Flanged, Sch 10S, 304 St Steel	20	LF	\$ 1,400.00	\$ 420.00	\$ 36,400
Air Piping 20" Flanged, Sch 10S, 304 St Steel	460	LF	\$ 1,000.00	\$ 300.00	\$ 598,000
Air Piping 8" Flanged, Sch 10S, 304 St Steel	120	LF	\$ 750.00	\$ 225.00	\$ 117,000
Allowance for Overhead Air Header Pipe Supports	1	LS	\$ 125,000.00	\$ 37,500.00	\$ 162,500
Vertical IMLR piping, 24-inch, Sch 10S	0	LF	\$ 540.00	\$ 162.00	\$ -
24-inch swing check valves for IMLR pipe (2 per Aeration Basin)	0	EA	\$5,000.00	\$ 1,500.00	\$ -
24-inch IMLR ductile iron pipe and fittings (2 x lengths of 320 LF per basin)	0	LF	\$60.00	\$ 18.00	\$ -
24-inch IMLR ultrasonic flowmeter (1 per aeration basin)	0	EA	\$8,000.00	\$ 2,400.00	\$ -
External IMLR pipe supports	0	LS	\$100,000.00	\$ 30,000.00	\$ -
FRP, 36-inch Cuthroat Flume	0	EA	\$ 8,000.00	\$ 2,400.00	\$ -
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	8	EA	\$ 20,000.00	\$ 6,000.00	\$ 208,000
18-inch Aeration Basin Air Flow Control Valve w Electro-Hydraulic Actuator (1 per aeration basin)	2	EA	\$ 5,000.00	\$ 1,500.00	\$ 13,000
12-inch Aerated Zone Control Valve w Electro-Hydraulic Actuator (4 per aeration basin)		EA	\$ 3,000.00	\$ 900.00	\$ -
Fittings (tees, elbows & reducers)	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
St Steel Bellows Expansion Cplg (6 each Aeration Basin)	12	EA	\$ 3,000.00	\$ 900.00	\$ 46,800
Allowance for Aeration Air Pipe Supports	1	LS	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Miscellaneous	5%				\$ 75,888
Subtotal Division 40					<b>\$ 1,593,638</b>
<b>Division 43 - Process Gas and Liquid Handling, Purification, and Storage</b>					
Internal Recycle Pumps w. guide rails and davit cranes(2 per Aeration Basin)	0	EA	\$ 60,000.00	\$ 18,000.00	\$ -
Miscellaneous	5%				\$ -
Subtotal Division 43					<b>\$ -</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 31  
Facility Description: Aeration Basins

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 46 - Water and Wastewater Equipment</b>					
Submersible Mixers w. portable davit crane (1- Anaerobic mixer, 2- Anoxic mixers per Aeration	6	EA	\$ 25,000.00	\$ 7,500.00	\$ 195,000
Fine bubble diffuser package (1 per Aeration Basin)	2	EA	\$ 180,000.00	\$ 54,000.00	\$ 468,000
Manual Jib Crane w. hoist, 1000-lb capacity	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 34,775
	Subtotal Division 46				\$ 730,275
<b>Subtotal This Facility</b>					\$ 17,589,576
<b>Contingency</b>					18% \$ 4,022,000
<b>Mobilization</b>					5% \$ 880,000
<b>Contractor's Overhead and Profit</b>					22% \$ 3,870,000
<b>Total Estimated Facility Costs</b>					\$ 26,362,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 38  
Facility Description: Blower Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Blower Facility Concrete</b>					
Concrete Base Slab	392	CY	\$ 905.00		\$ 354,760
Concrete Equipment Pads	15	CY	\$ 600.00		\$ 9,000
Void Forms	5371	SF	\$ 14.00		\$ 75,194
Grade Beams	166	CY	\$ 905.00		\$ 150,230
<b>Blower Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	87	CY	\$ 1,400.00		\$ 121,458
Miscellaneous	5%				\$ 35,532
Subtotal Division 3					<b>\$ 746,174</b>
<b>Division 4 - Masonry</b>					
CMU Walls	8,397	SF	\$ 24.00		\$ 201,528
Masonry Veneer	6,994	SF	\$ 15.00		\$ 104,910
Masonry Pilaster	36	SF	\$ 35.00		\$ 1,276
Miscellaneous	5%				\$ 15,386
Subtotal Division 4					<b>\$ 323,099</b>
<b>Division 5 - Metals</b>					
Roof Deck	5,290	SF	\$ 15.00		\$ 79,350
Steel Joists	6	TON	\$ 3,000.00	\$ 900.00	\$ 21,450
Aluminum framing	3,855	LB	\$ 10.00	\$ 3.00	\$ 50,115
Miscellaneous	5%				\$ 7,546
Subtotal Division 5					<b>\$ 158,461</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	115	LF	\$ 9.20	\$ 2.76	\$ 1,375
Wall Insulation	3550	SF	\$ 1.20	\$ 0.50	\$ 6,035
Roof Insulation	5290	SF	\$ 2.25	\$ 0.65	\$ 15,341
Miscellaneous	5%				\$ 1,138
Subtotal Division 7					<b>\$ 23,889</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
FRP Overhead Door	1	EA	\$ 16,000.00		\$ 6,000
Miscellaneous	5%				\$ 2,100
Subtotal Division 8					<b>\$ 44,100</b>
<b>Division 23 - HVAC</b>					
<b>Electrical Room</b>					
15-ton Pacakged AC Unit	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 5,305.00	\$ 1,591.50	\$ 6,897
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Blower Room</b>					
Louvers	5	EA	\$ 2,128.00	\$ 638.40	\$ 13,832
Exhaust Fans	2	EA	\$ 3,130.00	\$ 939.00	\$ 8,138
Miscellaneous	5%				\$ 6,406
Subtotal Division 23					<b>\$ 134,522</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 38  
Facility Description: Blower Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
SWBD-3	1	EA	\$310,000	\$108,500	\$ 418,500
MCC-3	1	EA	\$190,000	\$66,500	\$ 256,500
18 pulse 300 VFDs	5	EA	\$85,000	\$29,750	\$ 573,750
2000 kVA Pad Mounted Transformers	2	EA	\$110,000	\$38,500	\$ 297,000
Wire and Conduit from Transformer to Switchboard	1	LS	\$80,000	\$28,000	\$ 108,000
ATS	1	EA	\$10,000	\$3,500	\$ 13,500
45 kVA XFMR	1	EA	\$5,000	\$1,750	\$ 6,750
Panelboard	1	EA	\$15,000	\$5,250	\$ 20,250
Wiring Total	1	LS	\$315,000	\$110,250	\$ 425,250
Conduit Total	1	LS	\$115,000	\$40,250	\$ 155,250
Lighting and Receptacles Total	1	LS	\$60,000	\$21,000	\$ 81,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$50,000	\$17,500	\$ 67,500
Cable Tray Total	1	LS	\$50,000	\$17,500	\$ 67,500
Grounding Total	1	LS	\$40,000	\$14,000	\$ 54,000
<b>Blower Electrical Building #1 (SCADA)</b>					
<b>Network Enclosure (NET-BLR)</b>					
Enclosure (NET-BLR) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	-	-	-
Miscellaneous for NET-BLR	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Main Electrical Enclosure (PLC-MAIN)</b>					
Enclosure (PLC-BLR) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	2	EA	\$ 1,500	\$ 600	\$ 3,600
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	2	EA	\$ 1,500	\$ 600	\$ 3,600
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	7	EA	\$ 3,000	\$ 4,200	\$ 25,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	3	EA	\$ 3,500	\$ 2,100	\$ 12,600
Digital Input Module, 10-31 vdc, 16pts	7	EA	\$ 700	\$ 980	\$ 5,880
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 25,000	\$ 5,000	\$ 30,000
Programming (197x\$450 Hard + 500x\$100 Soft)+1 Trip @10K	1	LOT	-	\$ 149,000	\$ 149,000
<b>Instruments</b>					
Room Temperature Transmitters (TIT)	1	EA	\$ 2,000.00	\$ 400	\$ 2,400.00
Dissolved Oxygen	2	EA	\$ 6,500	\$ 2,600	\$ 15,600.00
NH3	2	EA	\$ 17,000	\$ 6,800	\$ 40,800.00
Transit-Time Ultrasonic Strap-on	2	EA	\$ 15,000	\$ 6,000	\$ 36,000.00
MLSS	2	EA	\$ 8,000	\$ 3,200	\$ 19,200.00
Pressure Indicating Transmitters	2	EA	\$ 3,000	\$ 1,200	\$ 7,200.00
ThermalMass Flow Meter	11	EA	\$ 7,000	\$ 15,400	\$ 92,400.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000.00
Miscellaneous	5%				\$ 155,232
Subtotal Division 26					<b>\$ 3,259,862</b>
<b>Division 31 - Earthwork</b>					
<b>Blower Building Earthwork</b>					
Excavation	856	CY	\$	15.00	\$ 12,840
Backfill	562	CY	\$ 20.00		\$ 11,240
Miscellaneous	5%				\$ 1,204
Subtotal Division 31					<b>\$ 25,284</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 38  
Facility Description: Blower Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Multi-Stage Centrifugal Blowers w 5x2,950 SCFM blowers, Disch BFVs, Disch check valves, 5xPLC panels, 1xMaster PLC panel	1	EA	\$ 1,050,000.00	\$ 315,000.00	\$ 1,365,000
16-inch Sch 10S, 304 St Steel Air Piping	80	LF	\$ 1,000.00	\$ 300.00	\$ 104,000
36-inch Sch 10S, 304 St Steel Air Piping	65	LF	\$ 1,500.00	\$ 450.00	\$ 126,750
16-inch Discharge Check Valves (part of Blower Package)	0	EA	\$ 15,000.00	\$ 4,500.00	\$ -
16-inch Discharge Butterfly Valves	4	EA	\$ 4,000.00	\$ 1,200.00	\$ 20,800
36-inch St Steel Bellows Expansion Cplg	8	EA	\$ 6,000.00	\$ 1,800.00	\$ 62,400
Allowance for Pipe Supports	1	EA	\$ 50,000.00	\$ 15,000.00	\$ 65,000
Main air header blow-off control valve w electro-hydraulic actuator	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Manual air header butterfly valve	1	EA	\$ 8,000.00	\$ 2,400.00	\$ 10,400
<i>Miscellaneous</i>	5%				\$ 89,018
	Subtotal Division 40				<b>\$ 1,869,368</b>
<b>Division 41 - Material Processing and Handling Equipment</b>					
5-ton bridge crane	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000
<i>Miscellaneous</i>	5%				\$ 6,500
	Subtotal Division 46				<b>\$ 136,500</b>
<b>Subtotal This Facility</b>					<b>\$ 6,721,258</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,537,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 337,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,479,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 10,075,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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**Facility Number: 40  
Facility Description: Mixed Liquor Splitter Box**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Mixed Liquor Splitter Box Concrete</b>					
Concrete Base Slab	153	CY	\$ 905.00		\$ 138,482
Concrete Freestanding Wall	190	CY	\$ 1,325.00		\$ 252,287
Concrete Beams	8	CY	\$ 1,925.00		\$ 15,756
Concrete Elevated Slab	5	CY	\$ 1,925.00		\$ 9,696
Void Forms	2013	SF	\$ 14.00		\$ 28,182
<b>Mixed Liquor Splitter Box Deep Foundations</b>					
Drilled Shaft Deep Foundation	88	CY	\$ 1,400.00		\$ 123,781
Miscellaneous	5%				\$ 28,409
Subtotal Division 3					<b>\$ 596,594</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	188	LF	\$ 60.00		\$ 11,265
Aluminum Stairs	32	Riser	\$ 600.00	\$ 180.00	\$ 24,960
Aluminum Framing	1951	LB	\$ 10.00	\$ 3.00	\$ 25,368
2" Aluminum Grating	471	SF	\$ 60.00		\$ 28,280
Stainless Steel Removable Plates	18745	LB	\$ 10.00	\$ 3.00	\$ 243,680
Miscellaneous	5%				\$ 16,678
Subtotal Division 5					<b>\$ 350,231</b>
<b>Division 26 - Electrical</b>					
Misc. Electrical costs (fixture+light switch)	1	LS	\$85,000		\$ 85,000
Miscellaneous	5%				\$ 4,250
Subtotal Division 26					<b>\$ 89,250</b>
<b>Division 31 - Earthwork</b>					
Excavation	1515	CY		\$ 15.00	\$ 22,725
Backfill	1143	CY	\$ 20.00		\$ 22,860
Miscellaneous	5%				\$ 2,279
Subtotal Division 31					<b>\$ 47,864</b>
<b>Division 44 - Pollution Control Equipment</b>					
48" x 60" Slide Gate	2	EA	\$14,000	\$ 4,200.00	\$ 36,400
48" x 48" Slide Gate	1	EA	\$36,500	\$ 10,950.00	\$ 47,450
42" x 42" Slide Gate	1	EA	\$32,100	\$ 9,630.00	\$ 41,730
1 1/2" Alum Feed Piping	75	LF	\$10	\$ 3.00	\$ 975
Miscellaneous	5%				\$ 6,328
Subtotal Division 44					<b>\$ 132,883</b>
<b>Subtotal This Facility</b>					<b>\$ 1,216,822</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 279,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 61,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 268,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,825,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 45  
Facility Description: Secondary Clarifiers

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Secondary Clarifiers Concrete</b>					
Concrete Base Slab	3125	CY	\$ 905.00		\$ 2,827,874
Concrete Freestanding Wall	608	CY	\$ 1,325.00		\$ 805,724
Concrete Elevated Slab	117	CY	\$ 1,925.00		\$ 225,281
Void Forms	29935	SF	\$ 14.00		\$ 419,089
Grout	176	CY	\$ 200.00		\$ 35,257
<b>Secondary Clarifiers Deep Foundations</b>					
Drilled Shaft Deep Foundation	723	CY	\$ 1,400.00		\$ 1,011,775
Miscellaneous	5%				\$ 266,250
Subtotal Division 3					<b>\$ 5,591,250</b>
<b>Division 5 - Metals</b>					
Aluminum Stairs	46	Riser	\$ 600.00	\$ 180.00	\$ 35,880
Aluminum Guardrail	340	LF	\$ 60.00	\$ 18.00	\$ 26,533
Aluminum Framing	3942	LB	\$ 10.00	\$ 3.00	\$ 51,244
Aluminum Grating	216	SF	\$ 60.00		\$ 12,974
Miscellaneous	5%				\$ 6,332
Subtotal Division 5					<b>\$ 132,963</b>
<b>Division 26 - Electrical</b>					
Wiring Total	2	LS	\$130,000	\$ 45,500.00	\$ 351,000
Conduit Total	1	LS	\$78,000	\$ 27,300.00	\$ 105,300
Light/Receptacles	1	LS	\$45,000	\$ 15,750.00	\$ 60,750
Grounding	1	LS	\$65,000	\$ 22,750.00	\$ 87,750
Miscellaneous	5%				\$ 30,240
Subtotal Division 26					<b>\$ 635,040</b>
<b>Division 31 - Earthwork</b>					
Excavation	17115	CY		\$ 15.00	\$ 256,723
Backfill	7493	CY	\$ 20.00		\$ 149,855
Dewatering	1	LS	\$ 300,000.00		\$ 300,000
Miscellaneous	5%				\$ 35,329
Subtotal Division 31					<b>\$ 741,907</b>
<b>Division 40 - Process Integration</b>					
36" DI Pipe - Influent MLSS	140	LF	\$ 650.34	\$ 195.10	\$ 118,362
18" DI Pipe - Effluent RAS/WAS	140	LF	\$ 215.12	\$ 64.54	\$ 39,152
12" DI Pipe - Drain Piping	140	LF	\$ 121.30	\$ 36.39	\$ 22,077
Miscellaneous	5%				\$ 8,980
Subtotal Division 40					<b>\$ 188,570</b>
<b>Division 44 - Pollution Control Equipment</b>					
135' SC Mechanism including FRP Weirs, Scum Baffles, Density Current Baffles, and LCP	2	EA	\$ 719,650.00	\$ 215,895.00	\$ 1,871,090
SS 304 Adder	2	EA	\$ 333,500.00		\$ 667,000
42" x 42" Slide Gate	2	EA	\$32,000.00	\$ 9,600.00	\$ 83,200
<b>Algae Control System</b>					
2" PVC Pipe	200	LF	\$ 10.00	\$ 3.00	\$ 2,600
2" PVC Ball Valve	2	EA	\$ 13.00	\$ 3.90	\$ 34
2" PVC Elbow	8	EA	\$ 4.50	\$ 1.35	\$ 47
6" 316L Stainless Steel Launder	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 45  
Facility Description: Secondary Clarifiers

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Scum Flushing and Control</b>					
1" PVC Pipe	150	LF	\$ 3.49	\$ 1.05	\$ 681
1" PVC Ball Valve	2	EA	\$ 11.00	\$ 3.30	\$ 29
1" PVC Elbow	10	EA	\$ 1.50	\$ 0.45	\$ 20
1" PVC Tee	26	EA	\$ 2.00	\$ 0.60	\$ 68
1" PVC Pressure Reducing Valve	1	EA	\$ 100.00	\$ 30.00	\$ 130
Spray Nozzles	25	EA	\$ 5.00	\$ 1.50	\$ 163
<i>Miscellaneous</i>	5%				\$ 131,415
			Subtotal Division 44		<b>\$ 2,759,725</b>
<b>Subtotal This Facility</b>					<b>\$ 10,049,455</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 2,298,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 503,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 2,211,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 15,062,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building</b>					
Concrete Base Slab	29	CY	\$ 905.00		\$ 26,480
Drilled Shaft Deep Foundation	28	CY	\$ 1,400.00		\$ 38,578
Grade Beams	23	CY	\$ 905.00		\$ 21,117
Void Forms	810	SF	\$ 14.00		\$ 11,340
<b>RAS/WAS Pump Station</b>					
Concrete Base Slab	74	CY	\$ 905.00		\$ 67,372
Drilled Shaft Deep Foundation	74	CY	\$ 1,400.00		\$ 102,916
Grade Beams	122	CY	\$ 905.00		\$ 110,611
Equipment Pads	10	CY	\$ 600.00		\$ 6,000
Void Forms	2010	SF	\$ 14.00		\$ 28,140
Miscellaneous	5%				\$ 20,628
Subtotal Division 3					<b>\$ 433,181</b>
<b>Division 4 - Masonry</b>					
<b>Electrical Building</b>					
CMU Masonry Walls	1527	SF	\$ 20.00		\$ 30,533
Masonry Veneer	1527	SF	\$ 15.00		\$ 22,900
Miscellaneous	5%				\$ 2,672
Subtotal Division 4					<b>\$ 56,105</b>
<b>Division 5 - Metals</b>					
<b>Electrical Building</b>					
Roof Deck	628	SF	\$ 15.00		\$ 9,419
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
<b>RAS/WAS Pump Station</b>					
Roof Deck	0	SF	\$ 15.00		\$ -
Structural Steel Framing	0	LB	\$ 3.00	\$ 0.90	\$ -
Steel Galvanizing	0	LB	\$ 1.00	\$ 0.30	\$ -
Steel Joists	0	TON	\$ 3,000.00	\$ 900.00	\$ -
Aluminum Framing (Pipe supports.)	450	LB	\$ 10.00	\$ 3.00	\$ 5,850
Miscellaneous	5%				\$ 958
Subtotal Division 5					<b>\$ 20,128</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
<b>Electrical Building</b>					
Rain Gutters and Downspouts	85.5001	LF	\$ 9.20	\$ 2.76	\$ 1,023
Wall Insulation	1527	SF	\$ 1.20	\$ 0.50	\$ 2,595
Roof Insulation	628	SF	\$ 2.25	\$ 0.65	\$ 1,821
Awning	1	QTY	\$ 500.00	\$ 150.00	\$ 650
Miscellaneous	5%				\$ 304
Subtotal Division 7					<b>\$ 6,393</b>
<b>Division 8 - Openings</b>					
FRP Single Door	3	EA	\$ 8,000.00		\$ 24,000
Miscellaneous	5%				\$ 1,200
Subtotal Division 8					<b>\$ 25,200</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 23 - HVAC</b>					
5-ton AC Split System	2	EA	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Corrosion Resistant Coatings	1	LS	\$ 2,500.00		\$ 2,500
Ductwork+accessories	1	LS	\$ 533.00	\$ 159.90	\$ 693
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 1,622
Subtotal Division 23					<b>\$ 34,065</b>
<b>Division 26 - Electrical</b>					
MCC-4	1	EA	\$ 130,000.00	\$ 45,500.00	\$ 175,500
750 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 15,750.00	\$ 121,500
6 pulse VFDs	7	EA	\$ 24,000.00	\$ 8,400.00	\$ 226,800
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 105,000.00	\$ 36,750.00	\$ 141,750
Conduit Total	1	LS	\$ 42,000.00	\$ 14,700.00	\$ 56,700
Lighting and Receptacles Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 65,000.00	\$ 22,750.00	\$ 87,750
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
Cable Tray Total	1	LS	\$ 20,000.00	\$ 7,000.00	\$ 27,000
<b>RAS/WAS Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-RAS/WAS)</b>					
Enclosure (NET-RAS/WAS) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Miscellaneous for NET-RAS/WAS	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-RAS/WAS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA RAS/WAS Enclosure (PLC-RAS/WAS)</b>					
Enclosure (PLC-ILS1) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	2	EA	\$ 3,000	\$ 1,200	\$ 7,200
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700	\$ 700	\$ 4,200
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (87x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 40,000	\$ 40,000
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Transit-Time Ultrasonic FM	3	EA	\$ 15,000	\$ 9,000	\$ 54,000
PIT/Seal	0	EA	\$ -	\$ -	\$ -
Sludge Blanket Level Transmitters	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
	2	EA	\$ 10,000	\$ 4,000	\$ 24,000
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
PI/PSH/Seal	7	EA	\$ 4,000	\$ 5,600	\$ 33,600
PI/PSH/Annular Diaphragm 12"	5	EA	\$ 8,000	\$ 8,000	\$ 48,000
PSL/Seal	7	EA	\$ 3,000	\$ 4,200	\$ 25,200
	0	EA	\$ -	\$ -	\$ -
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 67,558
Subtotal Division 26					<b>\$ 1,418,708</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 46  
Facility Description: RAS/WAS Pump Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 31 - Earthwork</b>					
<b>Electrical Building</b>					
Excavation	460	CY		\$ 15.00	\$ 6,900
Fill	430	CY	\$ 20.00		\$ 8,600
<b>RAS/WAS Pump Station</b>					
Excavation	960	CY		\$ 15.00	\$ 14,400
Fill	870	CY	\$ 20.00		\$ 17,400
Miscellaneous	5%				\$ 2,365
Subtotal Division 31					<b>\$ 49,665</b>

<b>Division 40 - Process Integration</b>					
Pipe Supports	1	LS	\$ 20,000.00	\$ 6,000.00	\$ 26,000
<b>RAS/WAS Suction</b>					
18" DI Pipe	51	LF	\$ 240.00	\$ 72.00	\$ 15,912
18" Plug Valve	2	EA	\$ 12,000.00	\$ 3,600.00	\$ 31,200
18" Tee	7	EA	\$ 9,071.00	\$ 2,721.30	\$ 82,546
18" x 12" Tee	2	EA	\$ 6,692.00	\$ 2,007.60	\$ 17,399
18" Blind Flange	2	EA	\$ 1,210.00	\$ 363.00	\$ 3,146
18" Elbow	4	EA	\$ 6,057.00	\$ 1,817.10	\$ 31,496
18" Sampling Port	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
18" to 12" Reducer	5	EA	\$ 2,215.00	\$ 664.50	\$ 14,398
12" to 6" Reducer	2	EA	\$ 971.00	\$ 291.30	\$ 2,525
12" DI Pipe	10	LF	\$ 113.00	\$ 33.90	\$ 1,469
12" Plug Valve	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
12" Restrained Flanged Coupling Adapter	5	EA	\$ 1,950.00	\$ 585.00	\$ 12,675
12" to 10" Reducer	3	EA	\$ 1,274.00	\$ 382.20	\$ 4,969
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Restrained Flanged Coupling Adapter	2	EA	\$ 750.00	\$ 225.00	\$ 1,950
<b>RAS Discharge</b>					
18" DI Pipe	20	LF	\$ 240.00	\$ 72.00	\$ 6,240
18" Elbow	1	EA	\$ 6,057.00	\$ 1,817.10	\$ 7,874
18" to 12" Reducer	1	EA	\$ 2,215.00	\$ 664.50	\$ 2,880
12" DI Pipe	95	LF	\$ 113.00	\$ 33.90	\$ 13,956
12" 90 deg. Elbow	13	EA	\$ 1,691.00	\$ 507.30	\$ 28,578
12" 45 deg. Elbow	5	EA	\$ 1,410.00	\$ 423.00	\$ 9,165
12" Tee	5	EA	\$ 2,649.00	\$ 794.70	\$ 17,219
12" Plug Valve	7	EA	\$ 6,000.00	\$ 1,800.00	\$ 54,600
12" Check Valve	5	EA	\$ 8,600.00	\$ 2,580.00	\$ 55,900
12" Restrained Flanged Coupling Adapter	5	EA	\$ 1,950.00	\$ 585.00	\$ 12,675
12" Pinch Valve	2	EA	\$ 10,500.00	\$ 3,150.00	\$ 27,300
12" to 10" Reducer	5	EA	\$ 1,274.00	\$ 382.20	\$ 8,281
12" to 6" Reducer	2	EA	\$ 971.00	\$ 291.30	\$ 2,525
12" Expansion Joint	5	EA	\$ 1,500.00	\$ 450.00	\$ 9,750
6" Expansion Joint	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
2" ARV	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
<b>WAS Discharge</b>					
6" DI Pipe	85	LF	\$ 60.00	\$ 18.00	\$ 6,630
6" Elbow	8	EA	\$ 345.00	\$ 103.50	\$ 3,588
6" Plug Valve	2	EA	\$ 2,200.00	\$ 660.00	\$ 5,720
6" Check Valve	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
6" Tee	1	EA	\$ 505.00	\$ 151.50	\$ 657
6" Expansion Joint	2	EA	\$ 500.00	\$ 150.00	\$ 1,300
6" Restrained Flanged Coupling Adapter	2	EA	\$ 750.00	\$ 225.00	\$ 1,950
2" ARV	2	EA	\$ 2,500.00	\$ 750.00	\$ 6,500
Miscellaneous	5%				\$ 29,179
Subtotal Division 40					<b>\$ 612,749</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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**City of Pflugerville  
19W07191**

**Facility Number: 46  
Facility Description: RAS/WAS Pump Station**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
3.0 MGD RAS Pumps and VFDs	3	EA	\$ 40,000.00	\$ 12,000.00	\$ 156,000
1.5 MGD RAS Pumps and VFDs	2	EA	\$ 35,000.00	\$ 10,500.00	\$ 91,000
500 gpm WAS Pumps and VFDs	2	EA	\$ 25,000.00	\$ 7,500.00	\$ 65,000
Subtotal Division 46					<b>\$ 312,000</b>
<b>Subtotal This Facility</b>					<b>\$ 3,139,793</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 718,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 157,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 691,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,706,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 50  
Facility Description: Filters

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Filters Concrete</b>					
Concrete Wall	282	CY	\$ 1,325.00		\$ 373,650
Concrete Base Slab	141	CY	\$ 905.00		\$ 127,725
Elevated Slab	13	CY	\$ 1,925.00		\$ 25,809
Grade Beams	116	CY	\$ 905.00		\$ 105,416
Void Forms	2858	SF	\$ 14.00		\$ 40,012
Drilled Shaft Deep Foundation	72	CY	\$ 1,400.00		\$ 101,132
Concrete Column	24	CY	\$ 1,325.00		\$ 31,407
Miscellaneous	5%				\$ 40,258
Subtotal Division 3					<b>\$ 845,409</b>
<b>Division 5 - Metals</b>					
Roof Deck	2,900	SF	\$ 15.00		\$ 43,500
Aluminum Guardrail	588	LF	\$ 60.00		\$ 35,280
Aluminum Grating	590	SF	\$ 60.00		\$ 35,400
Steel Framing	47,819	LB	\$ 3.00	\$ 0.90	\$ 186,494
Galvanizing	47,819	LB	\$ 1.00	\$ 0.30	\$ 62,165
Stairs	91	Riser	\$ 600.00	\$ 180.00	\$ 70,980
Aluminum Framing	709	LB	\$ 10.00	\$ 3.00	\$ 9,211
Miscellaneous	5%				\$ 22,152
Subtotal Division 5					<b>\$ 465,182</b>
<b>Division 9 - Finishes</b>					
Protective Coatings	1	LS	\$ 9,000.00	\$ 2,700.00	\$ 11,700
Pipe Markings	1	LS	\$ 500.00	\$ 1,500.00	\$ 2,000
Miscellaneous	5%				\$ 685
Subtotal Division 9					<b>\$ 14,385</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 132,000.00	\$ 46,200.00	\$ 178,200
Conduit Total	1	LS	\$ 85,000.00	\$ 29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$ 50,000.00	\$ 17,500.00	\$ 67,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Grounding Total	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
<b>Filter Complex (SCADA)</b>					
<b>Network Enclosure (NET-FC1)</b>					
Enclosure (NET-FC1) (24"H x 24"W x 25"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-FC1	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Enclosure (501-FILTERSPLIT-100) (12"H x 12"W x 8"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	EA	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -
Combined Turbidity Instrument, with sc4500 controller with mounting kit	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000
Miscellaneous	5%				\$ 24,735
Subtotal Division 26					<b>\$ 519,435</b>
<b>Division 31 - Earthwork</b>					
Excavation	2600	CY		\$ 15.00	\$ 39,000
Fill	1200	CY	\$ 20.00		\$ 24,000
Miscellaneous	5%				\$ 3,150
Subtotal Division 31					<b>\$ 66,150</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 50  
Facility Description: Filters

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
Filter, Cloth Media, 12 MGD	3	EA	\$ 570,000.00	\$ 171,000.00	\$ 2,223,000
48-inch Influent Pipe	1	LS	\$ 13,000.00	\$ 3,900.00	\$ 16,900
36-inch Effluent Pipe	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
Filter Backwash Piping	1	LS	\$ 80,000.00	\$ 24,000.00	\$ 104,000
Basin Drain Piping and Mud Valves	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Hose Station Piping	1	LS	\$ 1,000.00	\$ 3,000.00	\$ 4,000
Slide Gates	3	EA	\$ 22,000.00	\$ 6,600.00	\$ 85,800
NPW Wash Hose Station	4	EA	\$ 700.00	\$ 300.00	\$ 4,000
<i>Miscellaneous</i>	5%				\$ 124,095
Subtotal Division 40					<b>\$ 2,605,995</b>
<b>Division 41 - Material Processing and Handling</b>					
Monorail Trolley System	1	EA	\$ 35,000.00	\$ 10,500.00	\$ 45,500
<i>Miscellaneous</i>	5%				\$ 2,275
Subtotal Division 41					<b>\$ 47,775</b>
<b>Subtotal This Facility</b>					<b>\$ 4,564,330</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 1,044,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 229,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 1,005,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,843,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 53  
Facility Description: UV Disinfection

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>UV Disinfection Concrete</b>					
Concrete Base Slab	76	CY	\$ 905.00		\$ 68,981
Concrete Freestanding Wall	142	CY	\$ 1,325.00		\$ 188,690
Concrete Elevated Slab	89	CY	\$ 1,925.00		\$ 170,921
Void Forms	1372	SF	\$ 14.00		\$ 19,208
<b>UV Disinfection Deep Foundation</b>					
Drilled Shaft Deep Foundation	62	CY	\$ 1,400.00		\$ 87,277
<i>Miscellaneous</i>	5%				\$ 26,754
Subtotal Division 3					<b>\$ 561,831</b>
<b>Division 5 - Metals</b>					
Aluminum Grating	1179	SF	\$ 60.00	\$ 18.00	\$ 91,962
Checker Plating	141	SF	\$ 150.00	\$ 45.00	\$ 27,495
Roof Deck	2,010	SF	\$ 15.00	-	\$ 30,150
Steel Framing	10,547	LB	\$ 4.00	\$ 1.20	\$ 54,846
Steel Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 5,801
<i>Miscellaneous</i>	5%				\$ 10,513
Subtotal Division 5					<b>\$ 220,767</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Misc. Lumber for Building Eaves	1	LS	\$ 3,000.00	\$ 900.00	\$ 3,900
<i>Miscellaneous</i>	5%				\$ 195
Subtotal Division 6					<b>\$ 4,095</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$155,000.00	\$54,250.00	\$ 209,250
Conduit Total	1	LS	\$85,000.00	\$29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$80,000.00	\$28,000.00	\$ 108,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$75,000.00	\$26,250.00	\$ 101,250
Grounding Total	1	LS	\$40,000.00	\$14,000.00	\$ 54,000
<b>UV Complex (SCADA)</b>					
<b>Network Enclosure (NET-UV2)</b>					
Enclosure (NET-UV2) (24"H x 24"W x 25"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Internal UPS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Miscellaneous for NET-UV2	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Enclosure (521-UVSPLIT-100) (12"H x 12"W x 8"D)	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Transit Time Strap-on Flow Meter for 36"	1	EA	\$ 15,000.00	\$ 3,000.00	\$ 18,000
<i>Miscellaneous</i>	5%				\$ 32,663
Subtotal Division 26					<b>\$ 685,913</b>
<b>Division 31 - Earthwork</b>					
<b>Disinfection Area</b>					
Fill	2037	CY	\$ 20.00		\$ 40,740
Excavation	1283	CY		\$ 15.00	\$ 19,245
<i>Miscellaneous</i>	5%				\$ 2,999
Subtotal Division 31					<b>\$ 62,984</b>
<b>Division 40 - Process Integration</b>					
Allowance for Influent Piping (36" Inlet, 36 Inlet (capped), 48" Outlet (capped))	1	LS	\$ 25,000.00	\$ 7,500.00	\$ 32,500
Allowance for Ductile Iron Drain Piping and Type 304 St Stl Mud Valves	3	EA	\$ 20,000.00	\$ 6,000.00	\$ 78,000
Yard Piping Tie-In Fittings / Connections	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Yard Hydrants	1	EA	\$ 1,500.00	\$ 450.00	\$ 1,950
Fabricated Stainless Steel Slide Gate (Motorized, 60" x 53")	2	EA	\$ 14,000.00	\$ 4,200.00	\$ 36,400
Fabricated Stainless Steel Slide Gate (Manual, 36" x 36")	2	EA	\$ 12,500.00	\$ 3,750.00	\$ 32,500
Fabricated Stainless Steel Slide Gate (Manual, 48" x 48")	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
36" Ultrasonic Flowmeter	1	EA	\$ 15,000.00	\$ 4,500.00	\$ 19,500
<i>Miscellaneous</i>	5%				\$ 9,815
Subtotal Division 40					<b>\$ 238,615</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 53  
Facility Description: UV Disinfection

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
UV Equipment	1	LS	\$ 655,520.00	\$ 196,656.00	\$ 852,176
FRP Finger Weirs (includes support)	1	LS	\$ 59,700.00	\$ 17,910.00	\$ 77,610
<i>Miscellaneous</i>	5%				\$ 46,489
Subtotal Division 44					<b>\$ 976,275</b>
<b>Subtotal This Facility</b>					
					<b>\$ 2,750,480</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 630,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 138,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 606,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 4,125,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 54  
Facility Description: UV Electrical Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Electrical Building Foundation</b>					
Concrete Base Slab	62	CY	\$ 905.00		\$ 56,446
Concrete Housekeeping Pads	3	CY	\$ 600.00		\$ 1,980
Void Forms	1631	SF	\$ 14.00		\$ 22,835
Grade Beams	41	CY	\$ 905.00		\$ 37,353
<b>Electrical Building Deep Foundation</b>					
Drilled Shaft Deep Foundations	30	CY	\$ 1,400.00		\$ 42,353
Miscellaneous		5%			\$ 8,048
Subtotal Division 3					<b>\$ 169,014</b>
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	2139	SF	\$ 20.00		\$ 42,776
Veneer	2139	SF	\$ 15.00		\$ 32,082
Miscellaneous		5%			\$ 3,743
Subtotal Division 4					<b>\$ 78,601</b>
<b>Division 5 - Metals</b>					
Metal Roof Paneling	1,056	SF	\$ 15.00		\$ 15,841
Steel Roof Joists	1	TON	\$ 3,000.00	\$ 900.00	\$ 3,900
Miscellaneous		5%			\$ 987
Subtotal Division 5					<b>\$ 20,728</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	2139	SF	\$ 1.20	\$ 0.50	\$ 3,636
Building Roof Insulation	2139	SF	\$ 2.25	\$ 0.65	\$ 6,202
Metal Standing Seam Roofing	1200	SF	\$ 4.25	\$ 1.28	\$ 6,630
Metal Soffits	113	SF	\$ 4.25	\$ 1.28	\$ 624
Rain Gutters and Downspouts	98	LF	\$ 9.20	\$ 2.76	\$ 1,172
Miscellaneous		5%			\$ 913
Subtotal Division 7					<b>\$ 19,178</b>
<b>Division 8 - Openings</b>					
FRP Single Door	1	EA	\$ 8,000.00		\$ 8,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous		5%			\$ 1,000
Subtotal Division 8					<b>\$ 21,000</b>
<b>Division 9 - Finishes</b>					
Dampproofing	1825	SF	\$ 3.00	\$ 0.90	\$ 7,118
Masonry Water Resistant Coating	3500	SF	\$ 1.50	\$ 0.45	\$ 6,825
Miscellaneous		5%			\$ 697
Subtotal Division 9					<b>\$ 14,640</b>
<b>Division 23 - HVAC</b>					
10-ton Packaged AC unit	2	EA	\$ 29,000.00	\$ 8,700.00	\$ 75,400
Corrosion Resistant Coatings	1	LS	\$ 5,000.00		\$ 5,000
Ductwork+accessories	1	LS	\$ 4,931.00	\$ 1,479.30	\$ 6,410
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous		5%			\$ 4,503
Subtotal Division 23					<b>\$ 94,563</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 54  
Facility Description: UV Electrical Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
MCC-5	1	EA	\$ 175,000.00	\$ 61,250.00	\$ 236,250.00
1000 kVA Pad Mounted Transformers	2	EA	\$ 85,000.00	\$ 29,750.00	\$ 199,750.00
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500.00
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750.00
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250.00
Wiring Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500.00
Conduit Total	1	LS	\$ 80,000.00	\$ 28,000.00	\$ 108,000.00
Lighting and Receptacles Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250.00
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750.00
Grounding Total	1	LS	\$ 20,000.00	\$ 7,000.00	\$ 27,000.00
Cable Tray Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750.00
<b>UV Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-UV)</b>					
Enclosure (NET-UV) (24"H x 24"W x 25"D)	1	EA	\$ 8,000.00	\$ 1,600.00	\$ 9,600.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-UV	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000.00
<b>SCADA UV Enclosure (PLC-UV)</b>					
Enclosure (PLC-UV) (72"H x 72"W x 24"D)	1	EA	\$ 30,000.00	\$ 6,000.00	\$ 36,000.00
17 slot ControlLogix Chassis	1	EA	\$ 1,500.00	\$ 300.00	\$ 1,800.00
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500.00	\$ 300.00	\$ 1,800.00
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000.00	\$ 800.00	\$ 4,800.00
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000.00	\$ 2,600.00	\$ 15,600.00
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	3	EA	\$ 3,000.00	\$ 1,800.00	\$ 10,800.00
Analog Out Module, 8 Isolated point, current, and voltage 36pin	2	EA	\$ 3,500.00	\$ 1,400.00	\$ 8,400.00
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700.00	\$ 700.00	\$ 4,200.00
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000.00	\$ 400.00	\$ 2,400.00
Miscellaneous	1	LOT	\$ 20,000.00	\$ 4,000.00	\$ 24,000.00
Programming (118x\$450 Hard + 300x\$100 + 700x\$100 Soft) + 2trips@10K	1	LOT	\$ -	\$ 173,000.00	\$ 173,000.00
Room Temperature Instrument	1	EA	\$ 2,000.00	\$ 400.00	\$ 2,400.00
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000.00	\$ 5,000.00	\$ 30,000.00
Miscellaneous	5%				\$ 60,728
Subtotal Division 26					<b>\$ 1,305,278</b>
<b>Division 31 - Earthwork</b>					
Fill	336	CY	\$ 20.00		\$ 8,168
Excavation	408	CY		\$ 15.00	\$ 5,039
Miscellaneous	5%				\$ 660
Subtotal Division 31					<b>\$ 13,868</b>
<b>Subtotal This Facility</b>					<b>\$ 1,736,869</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 398,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 87,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 383,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,605,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 55  
Facility Description: Effluent Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Effluent Facility Concrete</b>					
Concrete Base Slab	202	CY	\$ 905.00		\$ 182,810
Concrete Walls	327	CY	\$ 1,325.00		\$ 433,766
Cast-in-place stair	36	CY	\$ 1,925.00		\$ 70,156
Equipment Pads	4	CY	\$ 600.00		\$ 2,222
Concrete Elevated Slab	18	CY	\$ 1,925.00		\$ 35,148
Void Forms	3636	SF	\$ 14.00		\$ 50,904
<b>Effluent Facility Deep Foundations</b>					
Drilled Shaft Deep Foundation	116	CY	\$ 1,400.00		\$ 162,110
Miscellaneous	5%				\$ 46,856
					<b>Subtotal Division 3</b>
					<b>\$ 983,971</b>
<b>Division 5 - Metals</b>					
Aluminum Guardrail	362	LF	\$ 60.00		\$ 21,720
Aluminum Grating	106	SF	\$ 60.00		\$ 6,347
Miscellaneous	5%				\$ 1,403
					<b>Subtotal Division 5</b>
					<b>\$ 29,470</b>
<b>Division 26 - Electrical</b>					
Misc Electrical	1	EA	\$ 210,000.00	\$ 42,000	\$ 252,000
LE/FIT for Parshall Flume (Flow Meter)	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Dissolved Oxygen Probe	1	EA	\$ 6,500	\$ 1,300	\$ 7,800.00
LSH Floats	1	EA	\$ 600	\$ 120	\$ 720
Refrigerated Autosampler and Pump	1	EA	\$ 10,294	\$ 2,059	\$ 12,353
PI/PSH/Block/Bleed	2	EA	\$ 4,000	\$ 1,600	\$ 11,200
Miscellaneous	5%				\$ 14,504
					<b>Subtotal Division 26</b>
					<b>\$ 304,576</b>
<b>Division 31 - Earthwork</b>					
Excavation	3850	CY		\$ 15.00	\$ 57,750
Fill	2300	CY	\$ 20.00		\$ 46,000
Miscellaneous	5%				\$ 5,188
					<b>Subtotal Division 31</b>
					<b>\$ 108,938</b>
<b>Division 40 - Process Integration</b>					
Allowance for Effluent Piping (48" Outlet, 48" Outlet (capped), 18" Outlet, 18" Outlet (capped))	1	LS	\$ 30,000.00	\$ 9,000.00	\$ 39,000
Allowance for Ductile Iron Drain Piping and Plug Valves	2	LS	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Yard Piping Tie-In Fittings / Connections	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Yard Hydrants	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
Nested Parshall Flume (36" Nested Inside 72")	1	LS	\$ 68,121.00	\$ 20,436.30	\$ 88,557
Fabricated Stainless Steel Slide Gate (Manual, 96" x 84")	3	EA	\$ 30,000.00	\$ 9,000.00	\$ 117,000
Fabricated Stainless Steel Slide Gate (Manual, 18" x 18")	2	EA	\$ 10,000.00	\$ 3,000.00	\$ 26,000
Fabricated Stainless Steel Slide Gate (Manual, 48" x 48")	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Miscellaneous	5%				\$ 17,818
					<b>Subtotal Division 40</b>
					<b>\$ 374,175</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 55  
Facility Description: Effluent Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 44 - Pollution Control Equipment</b>					
<i>Miscellaneous</i>	5%				\$ -
			Subtotal Division 44		\$ -
<b>Subtotal This Facility</b>					<b>\$ 1,801,130</b>
<b>Contingency</b>				18%	\$ 413,000
<b>Mobilization</b>				5%	\$ 91,000
<b>Contractor's Overhead and Profit</b>				22%	\$ 397,000
<b>Total Estimated Facility Costs</b>					<b>\$ 2,703,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 56  
Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Non-Potable Water System</b>					
Concrete Base Slab	15	CY	\$ 905.00		\$ 13,776
Concrete Freestanding Wall	18	CY	\$ 1,325.00		\$ 23,948
Concrete Elevated Slab	18	CY	\$ 1,925.00		\$ 34,983
Void Forms	274	SF	\$ 14.00		\$ 3,836
<b>Non-Potable Water System Deep Foundations</b>					
Drilled Shaft Deep Foundations	12	CY	\$ 1,400.00		\$ 17,090
Miscellaneous	5%				\$ 4,682
Subtotal Division 3					<b>\$ 98,315</b>
<b>Division 5 - Metals</b>					
Aluminum Grating	259	SF	\$ 60.00		\$ 15,553
Miscellaneous	5%				\$ 778
Subtotal Division 5					<b>\$ 16,331</b>
<b>Division 26 - Electrical</b>					
Disconnect Switches	1	LS	\$ 60,000.00	\$ 21,000	\$ 81,000
Misc. Electrical	1	LS	\$ 85,000.00	\$ 29,750	\$ 114,750
LSLL Float	1	EA	\$ 600	\$ 120	\$ 720
Submersible Level Transmitter with Stilling Well	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
Transit-time Ultrasonic FM	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Pressure Indicator with seal/Block/Bleed	1	EA	\$ 2,000	\$ 400	\$ 2,400
PI/PSH with Block/Bleed	4	EA	\$ 4,000	\$ 3,200	\$ 19,200
PIT with Block/Bleed	1	EA	\$ 3,000	\$ 600	\$ 3,600
	0	EA	\$ -	\$ -	\$ -
Miscellaneous	5%				\$ 12,284
Subtotal Division 26					<b>\$ 257,954</b>
<b>Division 31 - Earthwork</b>					
Excavation	1,000	CY		\$ 15.00	\$ 15,000
Backfill	850	CY	\$ 20.00		\$ 17,000
Miscellaneous	5%				\$ 1,600
Subtotal Division 31					<b>\$ 33,600</b>
<b>Division 40 - Process Integration</b>					
3'x3' Slide Gate	1	EA	\$ 10,000.00	\$ 3,000.00	\$ 13,000
<b>Pumping Set-up</b>					
6"x4" Reducer	1	EA	\$ 373.00	\$ 111.90	\$ 485
4" Pressure Reducing Valve	1	LS	\$ 4,000.00	\$ 1,200.00	\$ 5,200
6" Butterfly Valves	4	EA	\$ 1,500.00	\$ 450.00	\$ 7,800
6" Swing Check Valves - V608	4	EA	\$ 2,500.00	\$ 750.00	\$ 13,000
6" DI Pipe	30	LF	\$ 60.00	\$ 18.00	\$ 2,340
6" Tee	4	EA	\$ 505.00	\$ 151.50	\$ 2,626
6" 90 deg. Elbow	5	EA	\$ 345.00	\$ 103.50	\$ 2,243
8" x 6" Reducer	1	EA	\$ 576.00	\$ 172.80	\$ 749
2" ARV	1	EA	\$ 2,500.00	\$ 750.00	\$ 3,250
<b>Filter Bypass</b>					
6" Butterfly Valve	3	EA	\$ 1,500.00	\$ 450.00	\$ 5,850
6" DI Pipe	10	LF	\$ 60.00	\$ 18.00	\$ 780
6" Tee	2	EA	\$ 505.00	\$ 151.50	\$ 1,313
6" 90 deg. Elbow	2	EA	\$ 345.00	\$ 103.50	\$ 897

**Chlorine Injection**

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

**City of Pflugerville  
19W07191**

**Facility Number: 56  
Facility Description: Non-Potable Water System**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
1/2" Chlorine Injection Quill	1	EA	\$ 135.00	\$ 40.50	\$ 176
1/2" PVC Pipe	15	LF	\$ 3.00	\$ 0.90	\$ 59
1/2" Elbow	3	EA	\$ 0.70	\$ 0.21	\$ 3
1/2" Ball Valve	2	EA	\$ 3.00	\$ 0.90	\$ 8
1/2" Pressure Control Valve	1	EA	\$ 65.00	\$ 19.50	\$ 85
2" PVC Carrier Pipe	10	LF	\$ 5.22	\$ 1.57	\$ 68
2" PVC Elbow	2	EA	\$ 1.00	\$ 0.30	\$ 3
<i>Miscellaneous</i>	5%				\$ 2,997
Subtotal Division 40					<b>\$ 62,928</b>
<b>Division 44 - Pollution Control Equipment</b>					
Non-Potable Supply Pumps & Motors Including VFDs	4	EA	\$ 32,000.00	\$ 9,600.00	\$ 166,400
Bag Filter and SS304 Housing	1	EA	\$ 25,000.00	\$ 7,500.00	\$ 32,500
<i>Miscellaneous</i>	5%				\$ 9,945
Subtotal Division 44					<b>\$ 208,845</b>
<b>Subtotal This Facility</b>					<b>\$ 677,973</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 156,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 34,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 150,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,018,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>ALUM System</b>					
Drilled Shaft Deep Foundation	20	CY	\$ 1,400.00		\$ 28,000
Concrete Freestanding Wall	10	CY	\$ 1,325.00		\$ 13,250
Concrete Tank Pad	11	CY	\$ 600.00		\$ 6,600
Building Base Slab	40	CY	\$ 905.00		\$ 36,200
Void Forms	720	SF	\$ 14.00		\$ 10,080
<b>SHP System</b>					
Concrete Tank Pad	2	CY	\$ 600.00		\$ 1,200
Concrete Base Slab	7	CY	\$ 905.00		\$ 6,335
Concrete Freestanding Walls	3	CY	\$ 1,325.00		\$ 3,975
Void Forms	150	SF	\$ 14.00		\$ 2,100
Miscellaneous	5%				\$ 5,387
Subtotal Division 3					<b>\$ 113,127</b>
<b>Division 4 - Masonry</b>					
Miscellaneous	5%				\$ -
Subtotal Division 4					<b>\$ -</b>
<b>Division 5 - Metals</b>					
<b>Chemical Building</b>					
Aluminum Grating	10	SF	\$ 60.00		\$ 600
8' x 10' FRP Building	2	EA	\$ 20,000.00		\$ 40,000
<b>Tank Shelter</b>					
Tank Canopy	225	LF	\$ 100.00	\$ 30.00	\$ 29,250
Miscellaneous	5%				\$ 3,493
Subtotal Division 5					<b>\$ 73,343</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Miscellaneous	5%				\$ -
Subtotal Division 7					<b>\$ -</b>
<b>Division 8 - Openings</b>					
Miscellaneous	5%				\$ -
Subtotal Division 8					<b>\$ -</b>
<b>Division 9 - Finishes</b>					
Chemical Resistant Floor Primer	920	SF	\$ 3.00		\$ 2,760
Miscellaneous	5%				\$ 138
Subtotal Division 9					<b>\$ 2,898</b>
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	2	EA	\$ 1,071.00	\$ 321.30	\$ 2,785
Eye/Face Wash with Heat Trace	2	LS	\$ 5,328.40	\$ 1,598.52	\$ 13,854
105 gal Water Heater	2	EA	\$ 6,326.26	\$ 1,897.88	\$ 16,448
Backflow Preventer - 1 1/2"	2	EA	\$ 705.18	\$ 211.55	\$ 1,833

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Emergency Mixing Valve - 1"	2	EA	\$ 1,008.18	\$ 302.45	\$ 2,621
1" PVC Pipe	48	LF	\$ 3.49	\$ 1.05	\$ 218
1-1/2" PVC Pipe	44	LF	\$ 5.22	\$ 1.57	\$ 299
1" CPVC Pipe	22	LF	\$ 5.70	\$ 1.71	\$ 163
1-1/4" CPVC Pipe	106	LF	\$ 6.34	\$ 1.90	\$ 874
1" PVC Fittings	2	LS	\$ 54.44	\$ 16.33	\$ 142
1-1/2" PVC Fittings	2	LS	\$ 74.65	\$ 22.39	\$ 194
1" CPVC Fittings	2	LS	\$ 40.76	\$ 12.23	\$ 106
1-1/4" CPVC Fittings	2	LS	\$ 218.41	\$ 65.52	\$ 568
1" PVC Ball Valve	6	EA	\$ 54.16	\$ 16.25	\$ 422
1-1/2" PVC Ball Valve	6	EA	\$ 85.26	\$ 25.58	\$ 665
1" CPVC Ball Valve	4	EA	\$ 89.77	\$ 26.93	\$ 467
1-1/4" CPVC Ball Valve	2	EA	\$ 142.43	\$ 42.73	\$ 370
Hose Station	2	EA	\$ 1,000.00	\$ 300.00	\$ 2,600
Expansion Tank	2	EA	\$ 100.00	\$ 30.00	\$ 260
Miscellaneous	5%				\$ 2,244
Subtotal Division 22					\$ 47,133
<b>Division 23 - HVAC</b>					
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
Miscellaneous	5%				\$ -
Subtotal Division 23					\$ -
<b>Division 26 - Electrical</b>					
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
15 kVA XFMR	1	EA	\$ 2,000.00	\$ 700.00	\$ 2,700
Wiring Total	1	LS	\$95,000.00	\$ 33,250.00	\$ 128,250
Conduit Total	1	LS	\$120,000.00	\$ 42,000.00	\$ 162,000
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$65,000.00	\$ 22,750.00	\$ 87,750
	0	LOT	\$ -	\$ -	\$ -
<b>SCADA Chemical Enclosure (PLC-CHEM)</b>					
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pir	2	EA	\$ 3,000	\$ 1,200	\$ 8,400
Analog Out Module, 8 Isolated point, current, and voltage 36pin	1	EA	\$ 3,500	\$ 700	\$ 4,200
Digital Input Module, 10-31 vdc, 16pts	3	EA	\$ 700	\$ 420	\$ 3,360
Digital Output Module, N.O Isolated Relay Output, 16pts	1	EA	\$ 1,000	\$ 200	\$ 1,200
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (77x\$450 Hard + 0x\$350 Soft)	1	LOT	\$ -	\$ 35,000	\$ 35,000
<b>Instruments</b>					
PE/LIT Indicating Transmitters with Flange Tank Mounting Equip	2	EA	\$ 6,000	\$ 2,400	\$ 14,400
LSH Floats	3	EA	\$ 600	\$ 360	\$ 2,160
Chlorine Analyzer	1	EA	\$ 6,000	\$ 1,200	\$ 7,200
PI/PSH/Seal Block/Bleed	8	EA	\$ 8,000	\$ 12,800	\$ 76,800
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 30,046
Subtotal Division 26					\$ 630,966
<b>Division 31 - Earthwork</b>					
Excavation	175	CY	\$ 20.00		\$ 3,500
Fill	115	CY	\$ 15.00		\$ 1,725
Miscellaneous	5%				\$ 261

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
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Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
Subtotal Division 31					\$ 5,486
<b>Division 40 - Process Integration</b>					
<b>Sodium Hypochlorite Piping</b>					
1/2" PVC Pipe	90	LF	\$ 3.00	\$ 0.90	\$ 351
1/2" 90 Bend	17	EA	\$ 1.50	\$ 0.45	\$ 33
1/2" 45 Bend	14	EA	\$ 3.00	\$ 0.90	\$ 55
1/2" Tee	17	EA	\$ 4.00	\$ 1.20	\$ 88
1/2" Pressure Gauge	1	EA	\$ 150.00	\$ 45.00	\$ 195
1/2" Pressure Gauge and Switch	2	EA	\$ 600.00	\$ 180.00	\$ 1,560
1/2" Ball Valve (w/ union)	21	EA	\$ 55.00	\$ 16.50	\$ 1,502
1/2" Air Release Valve	4	EA	\$ 200.00	\$ 60.00	\$ 1,040
1/2" Pressure Relief Valve	2	EA	\$ 180.00	\$ 54.00	\$ 468
1/2" Back Pressure Regulator	1	EA	\$ 200.00	\$ 60.00	\$ 260
3/4" PVC Pipe	50	LF	\$ 3.50	\$ 1.05	\$ 228
3/4" 90 Bend	13	EA	\$ 2.00	\$ 0.60	\$ 34
3/4" 45 Bend	6	EA	\$ 4.00	\$ 1.20	\$ 31
3/4" Tee	13	EA	\$ 4.50	\$ 1.35	\$ 76
3/4" Pressure Gauge and Switch	2	EA	\$ 600.00	\$ 180.00	\$ 1,560
3/4" Ball Valve (w/ union)	10	EA	\$ 60.00	\$ 18.00	\$ 780
3/4" Air Release Valve	3	EA	\$ 225.00	\$ 67.50	\$ 878
3/4" Pressure Relief Valve	2	EA	\$ 250.00	\$ 75.00	\$ 650
1" PVC Pipe	35	LF	\$ 4.00	\$ 1.20	\$ 182
1" 90 Bend	4	EA	\$ 1.50	\$ 0.45	\$ 8
1" Tee	2	EA	\$ 2.00	\$ 0.60	\$ 5
1" Ball Valve (w/ union)	3	EA	\$ 65.00	\$ 19.50	\$ 254
1' Actuated Ball Valve	1	EA	\$ 500.00	\$ 150.00	\$ 650
3" PVC Pipe	12	LF	\$ 20.00	\$ 6.00	\$ 312
3" 90 Bend	3	EA	\$ 65.00	\$ 19.50	\$ 254
3" Tee	1	EA	\$ 50.00	\$ 15.00	\$ 65
3" Wye Strainer	1	EA	\$ 600.00	\$ 180.00	\$ 780
3" Ball Valve (w/ union)	1	EA	\$ 600.00	\$ 180.00	\$ 780
Callibration Column	4	EA	\$ 100.00	\$ 30.00	\$ 520
<b>Aluminum Sulfate Piping</b>					
1/2" Ball Valve (w/ union)	2	EA	\$ 3.00	\$ 0.90	\$ 8
3/4" PVC Pipe	70	LF	\$ 3.50	\$ 1.05	\$ 319
3/4" 90 Bend	12	EA	\$ 2.00	\$ 0.60	\$ 31
3/4" 45 Bend	4	EA	\$ 4.00	\$ 1.20	\$ 31
3/4" Tee	8	EA	\$ 4.50	\$ 1.35	\$ 47
3/4" Ball Valve (w/ union)	7	EA	\$ 60.00	\$ 18.00	\$ 546
3/4" Pressure Relief Valve	1	EA	\$ 250.00	\$ 75.00	\$ 325
3/4" Air Release Valve	1	EA	\$ 225.00	\$ 67.50	\$ 293
3/4" Pressure Gauge and Switch	1	EA	\$ 600.00	\$ 180.00	\$ 780
1 1/2" PVC Pipe	70	LF	\$ 5.00	\$ 1.50	\$ 455
1 1/2" 90 Bend	12	EA	\$ 4.00	\$ 1.20	\$ 62
1 1/2" 45 Bend	2	EA	\$ 9.00	\$ 2.70	\$ 23
1 1/2" Tee	8	EA	\$ 14.00	\$ 4.20	\$ 146
1 1/2" Ball Valve (w/ union)	7	EA	\$ 12.00	\$ 3.60	\$ 109
1 1/2" Pressure Relief Valve	1	EA	\$ 600.00	\$ 180.00	\$ 780
1 1/2" Air Release Valve	1	EA	\$ 350.00	\$ 105.00	\$ 455
1 1/2" Pressure Gauge and Switch	1	EA	\$ 600.00	\$ 180.00	\$ 780
2" PVC Pipe	60	LF	\$ 10.00	\$ 3.00	\$ 780
2" 90 Bend	12	EA	\$ 5.00	\$ 1.50	\$ 78
2" Tee	2	EA	\$ 18.00	\$ 5.40	\$ 47
2" Ball Valve (w/ Union)	3	EA	\$ 150.00	\$ 45.00	\$ 585
2" Actuated Ball Valve	1	EA	\$ 550.00	\$ 165.00	\$ 715
4" PVC Pipe	35	LF	\$ 40.00	\$ 12.00	\$ 1,820
4" 90 Bend	5	EA	\$ 100.00	\$ 30.00	\$ 650
4" Tee	1	EA	\$ 30.00	\$ 9.00	\$ 39
4" Wye Strainer	1	EA	\$ 1,000.00	\$ 300.00	\$ 1,300
4" Ball Valve (w/ union)	1	EA	\$ 800.00	\$ 240.00	\$ 1,040
Callibration Column	2	EA	\$ 100.00	\$ 30.00	\$ 260

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
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City of Pflugerville  
19W07191

Facility Number: 60  
Facility Description: Chemical Feed Facility

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b><u>Miscellaneous Piping</u></b>					
2" PVC Pipe	30	LF	\$ 10.00	\$ 3.00	\$ 390
2" 90 Bend	7	EA	\$ 5.00	\$ 1.50	\$ 46
2" Tee	2	EA	\$ 18.00	\$ 5.40	\$ 47
3" PVC	14	LF	\$ 20.00	\$ 6.00	\$ 364
3" 90 Bends	3	EA	\$ 65.00	\$ 19.50	\$ 254
4" PVC	50	LF	\$ 40.00	\$ 12.00	\$ 2,600
4" 90 Bend	4	EA	\$ 100.00	\$ 30.00	\$ 520
6" PVC	27	LF	\$ 100.00	\$ 30.00	\$ 3,510
6" 90 Bend	3	EA	\$ 150.00	\$ 45.00	\$ 585
6" Mud Valve	2	EA	\$ 1,500.00	\$ 450.00	\$ 3,900
<i>Miscellaneous</i>	5%				\$ 1,914
Subtotal Division 40					<b>\$ 40,198</b>
<b><u>Division 44 - Pollution Control Equipment</u></b>					
<b><u>Sodium Hypochlorite</u></b>					
500 Gallon Fiberglass Tank	1	EA	\$ 20,000.00	\$ 6,000.00	\$ 26,000
Pump	4	EA	\$ 6,000.00	\$ 1,800.00	\$ 31,200
Injection Quill	2	EA	\$ 400.00	\$ 120.00	\$ 1,040
<b><u>Aluminum Sulfate</u></b>					
10,000 Gallon Fiberglass Tank	1	EA	\$ 52,900.00	\$ 15,870.00	\$ 68,770
Pump	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Injection Quill	1	EA	\$ 400.00	\$ 120.00	\$ 520
<i>Miscellaneous</i>	5%				\$ 8,977
Subtotal Division 44					<b>\$ 188,507</b>
<b>Subtotal This Facility</b>					<b>\$ 1,101,657</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 253,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 56,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 243,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,654,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
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City of Pflugerville  
19W07191

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Concrete Base Slab	330	CY	\$ 905.00		\$ 298,650
Concrete Freestanding Wall	284	CY	\$ 1,325.00		\$ 376,300
Void Forms	4694	SF	\$ 14.00		\$ 65,716
<b><u>Piping Area</u></b>					
Concrete Base Slab	93	CY	\$ 905.00		\$ 84,165
Concrete Equipment Pads	10	CY	\$ 600.00		\$ 6,000
Void Forms	1581	SF	\$ 14.00		\$ 22,134
<b><u>Aerated Sludge Storage and Mixing Deep Foundations</u></b>					
Drilled Shaft Deep Foundation	43	CY	\$ 1,400.00		\$ 60,604
<i>Miscellaneous</i>	5%				\$ 45,678
Subtotal Division 3					<b>\$ 959,248</b>
<b>Division 5 - Metals</b>					
<b><u>ASHT Metals</u></b>					
Walkway Column Supports	1677	LB	\$ 4.00	\$ 1.20	\$ 8,720
Walkway Aluminum Bar Grating	650	SF	\$ 60.00		\$ 39,000
Truss Walkway Framing	14000	LB	\$ 10.00	\$ 3.00	\$ 182,000
<i>Miscellaneous</i>	5%				\$ 11,486
Subtotal Division 5					<b>\$ 241,206</b>
<b>Division 14 - Conveyance</b>					
1-Ton Electric Trolley and Hoist for Blowers	1	EA	\$15,000	\$ 4,500.00	\$ 19,500
<i>Miscellaneous</i>	5%				\$ 975
Subtotal Division 14					<b>\$ 20,475</b>
<b>Division 26 - Electrical</b>					
Wiring Total	1	LS	\$ 140,000.00	\$ 49,000.00	\$ 189,000
Conduit Total	1	LS	\$ 85,000.00	\$ 29,750.00	\$ 114,750
Lighting and Receptacles Total	1	LS	\$ 40,000.00	\$ 14,000.00	\$ 54,000
Mis. Disconnects, Boxes, and Fittings	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Cable Tray Total	1	LS	\$ -	\$ -	\$ -
Grounding Total	1	LS	\$ 55,000.00	\$ 19,250.00	\$ 74,250
<b><u>Aerated Sludge Holding Tanks + Solids</u></b>					
Radar Level Transmitters	2	EA	\$ 4,500	\$ 1,800	\$ 10,800
LSLL/LSHH Capatance Probes with Enclosure and Stilling Well	2	EA	\$ 8,000	\$ 3,200	\$ 19,200
<b><u>Sludge Recirculation Pump Station</u></b>					
PI/PSH and PI/PSL with seal and Block/Bleed	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
<b><u>Sludge Feed Pumps</u></b>					
Pressure Indicating Transmitters	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
PSH with PIT/Seal Block/Bleed	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Pressure Indicator	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
<i>Miscellaneous</i>	5%				\$ 31,050
Subtotal Division 26					<b>\$ 652,050</b>
<b>Division 31 - Earthwork</b>					
<b><u>Aerated Sludge Storage and Mixing</u></b>					
Excavation	704	CY		\$ 15.00	\$ 10,560
Fill	300	CY	\$ 20.00		\$ 6,000
<b><u>Piping Area</u></b>					
Excavation	270	CY		\$ 15.00	\$ 4,050
Fill	184	CY	\$ 20.00		\$ 3,680
<i>Miscellaneous</i>	5%				\$ 1,215
Subtotal Division 31					<b>\$ 25,505</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 40 - Process Integration</b>					
<b>WAS Piping</b>					
6" DI Pipe	112	LF	\$ 59	\$ 17.67	\$ 8,576
6" Tee, MJ x MJ	1	EA	\$ 259	\$ 77.70	\$ 337
6" 90 Bend, FL x FL	4	EA	\$ 312	\$ 93.60	\$ 1,622
6" 90 Bend, MJ x MJ	2	EA	\$ 180	\$ 54.00	\$ 468
6" 45 Bend, MJ x MJ	2	EA	\$ 148	\$ 44.40	\$ 385
6" Plug Valve, motor acutated	2	EA	\$ 6,699	\$ 2,009.70	\$ 17,417
<b>Air Piping</b>					
6" Sch 10S 304L SST Pipe	216	LF	\$ 65	\$ 19.50	\$ 18,252
6" Tee	1	EA	\$ 350	\$ 105.00	\$ 455
6" 90 Bend	12	EA	\$ 410	\$ 123.00	\$ 6,396
6" 45 Bend	4	EA	\$ 400	\$ 120.00	\$ 2,080
6" 22.5 Bend	2	EA	\$ 390	\$ 117.00	\$ 1,014
6" SST Expansion Joint	4	EA	\$ 850	\$ 255.00	\$ 4,420
6" Butterfly Isolation Valve	2	EA	\$ 809	\$ 242.70	\$ 2,103
6" x 4" Tee	2	EA	\$ 350	\$ 105.00	\$ 910
4" Sch 10S 304L SST Pipe	12	LF	\$ 60	\$ 18.00	\$ 936
4" Tee	3	EA	\$ 300	\$ 90.00	\$ 1,170
4" 90 Bend	3	EA	\$ 360	\$ 108.00	\$ 1,404
4" Butterfly Isolation Valve	3	EA	\$ 503	\$ 150.90	\$ 1,962
<b>Recirculation Pump Piping</b>					
16" DI Pipe	41	LF	\$ 148.46	\$ 44.54	\$ 7,913
16" Tee, FL x FL	3	EA	\$ 6,129	\$ 1,838.70	\$ 23,903
16" 90 Bend, FL x FLARE	2	EA	\$ 7,057	\$ 2,117.10	\$ 18,348
16" Flexible Coupling Adapter	3	EA	\$ 600	\$ 180.00	\$ 2,340
16" Plug Valve	7	EA	\$ 10,000	\$ 3,000.00	\$ 91,000
					\$ -
12" DI Pipe	42	LF	\$ 103.35	\$ 31.01	\$ 5,643
12" Tee, FL x FL	3	EA	\$ 2,408	\$ 722.40	\$ 9,391
12" Flexible Coupling Adapter	3	EA	\$ 500	\$ 150.00	\$ 1,950
12" Swing Check Valve	3	EA	\$ 8,600	\$ 2,580.00	\$ 33,540
12" Plug Valve	7	EA	\$ 6,000	\$ 1,800.00	\$ 54,600
<b>Drain</b>					
8" Telescoping Valve <i>Includes bracket, offset pedestal, and handwheel operator</i>	2	EA	\$ 12,875	\$ 3,862.50	\$ 33,475
12" DI	54	LF	\$ 112.63	\$ 33.79	\$ 7,907
12" x 8" Tee, MJ x MJ	4	EA	\$ 583	\$ 174.90	\$ 3,032
12" x 8" Reducer, MJ x MJ	1	EA	\$ 305.00	\$ 91.50	\$ 397
8" DI	293	LF	\$ 75.69	\$ 22.71	\$ 28,830
8" Tee, MJ x MJ	1	EA	\$ 349	\$ 104.70	\$ 454
8" Plug Valve w/ nut and stem	2	EA	\$ 2,857	\$ 857.10	\$ 7,428
8" x 4" Reducer, MJ x MJ	1	EA	\$ 146.00	\$ 43.80	\$ 190
12" x 4" Tee, MJ x MJ	1	EA	\$ 552	\$ 165.60	\$ 718
4" DI	28	LF	\$ 67.28	\$ 20.18	\$ 2,449
4" 45 Bend, MJ x MJ	2	EA	\$ 86.00	\$ 25.80	\$ 224
<b>Centrifuge Feed Piping</b>					
8" DI Pipe	166	LF	\$75.69	\$ 22.71	\$ 16,334
8" Tee, FL x FL	3	EA	\$1,098	\$ 329.40	\$ 4,282
8" Flexible Coupling Adapter	3	EA	\$400	\$ 120.00	\$ 1,560
8" 90 Bend, FL x FL	6	EA	\$569	\$ 170.70	\$ 4,438
8" 90 Bend, MJ x MJ	4	EA	\$238	\$ 71.40	\$ 1,238
8" 45 Bend, MJ x MJ	4	EA	\$190	\$ 57.00	\$ 988
8" Plug Valve	11	EA	\$3,220	\$ 966.00	\$ 46,046
Miscellaneous	5%				\$ 23,926
Subtotal Division 40					<b>\$ 502,450</b>
<b>Division 46 - Water and Wastewater Equipment</b>					
<b>Jet Aeration/Mixing System</b>					
Jet Aeration/Mixing System <i>Includes in-tank SST manifold, three (3) PD blowers, three (3) dry-pit horizontal chopper pumps, backflush, service, freight</i>	1	LS	\$715,000	\$ 214,500.00	\$ 929,500
<b>Centrifuge Feed Pumps</b>					
Centrifuge Feed Pumps	2	EA	\$50,000	\$ 15,000.00	\$ 130,000
Miscellaneous	5%				\$ 52,975
Subtotal Division 46					<b>\$ 1,112,475</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 70  
Facility Description: Aerated Sludge Storage and Mixing

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Subtotal This Facility</b>					\$ 3,513,408
<b>Contingency</b>				20%	\$ 893,000
<b>Mobilization</b>				5%	\$ 176,000
<b>Contractor's Overhead and Profit</b>				22%	\$ 773,000
<b>Total Estimated Facility Costs</b>					\$ 5,356,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 72  
Facility Description: Biosolids Handling Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	186	CY	\$ 1,400.00		\$ 259,716
Grade Beams	67	CY	\$ 905.00		\$ 60,931
Concrete Base Slab	606	CY	\$ 905.00		\$ 548,133
Concrete Equipment Pads	64	CY	\$ 600.00		\$ 38,355
Concrete Walls	196	CY	\$ 1,325.00		\$ 259,839
Concrete Elevated Slab	270	CY	\$ 1,925.00		\$ 520,573
Concrete Columns	26	CY	\$ 1,325.00		\$ 34,548
Void Forms	8585	SF	\$ 14.00		\$ 120,195
Miscellaneous	5%				\$ 92,114
Subtotal Division 3					\$ 1,934,404
<b>Division 4 - Masonry</b>					
CMU Block Walls	9422	SF	\$ 20.00		\$ 188,433
Masonry Veneer	19530	SF	\$ 15.00		\$ 292,950
Masonry Pilasters	1440	SF	\$ 35.00		\$ 50,400
Miscellaneous	5%				\$ 26,589
Subtotal Division 4					\$ 558,373
<b>Division 5 - Metals</b>					
Steel Monorail	10738	LB	\$ 4.00		\$ 42,952
Steel Joists	1	TON	\$ 3,000.00		\$ 3,000
Steel Trusses	44086	LB	\$ 4.00		\$ 176,345
Metal Deck	5946	SF	\$ 15.00		\$ 89,193
Aluminum Stairs	62	Riser	\$ 600.00		\$ 37,200
Aluminum Walkway Framing	665	LB	\$ 10.00	\$ 3.00	\$ 8,648
Aluminum Guardrail	194	LF	\$ 60.00		\$ 11,615
Aluminum Grating	21	SF	\$ 60.00		\$ 1,282
Stainless Steel Tread Plate	1035	SF	\$ 100.00	\$ 30.00	\$ 134,550
Stainless Steel Angles	3528	LB	\$ 10.00	\$ 3.00	\$ 45,865
Miscellaneous	5%				\$ 27,532
Subtotal Division 5					\$ 578,182
<b>Division 7 - Thermal/Moisture Protection</b>					
Rain Gutters and Downspouts	531	LF	\$ 9.20	\$ 2.76	\$ 6,351
Miscellaneous	5%				\$ -
Subtotal Division 7					\$ 6,350.76
<b>Division 8 - Openings</b>					
FRP Single Door	7	EA	\$ 8,000.00		\$ 56,000
FRP Exterior Overhead Doors	1	EA	\$ 16,000.00		\$ 16,000
FRP Oversized Double Door	1	EA	\$ 14,000.00		\$ 14,000
FRP Double Door	2	EA	\$ 12,000.00		\$ 24,000
Exterior Windows	128	SF	\$ 22.00	\$ 6.00	\$ 3,584
Miscellaneous	5%				\$ 5,679
Subtotal Division 8					\$ 119,263
<b>Division 22 - Plumbing</b>					
Eye/Face Wash	3	EA	\$ 1,071.00	\$ 321.30	\$ 4,177
105 gal Water Heater	1	EA	\$ 6,326.26	\$ 1,897.88	\$ 8,224
Backflow Preventer - 1-1/2"	1	EA	\$ 704.18	\$ 211.25	\$ 915
Backflow Preventer - 2-1/2" Reduced Pressure	1	EA	\$ 3,800.00	\$ 1,140.00	\$ 4,940
Emergency Mixing Valve - 1"	1	EA	\$ 1,008.18	\$ 302.45	\$ 1,311
1" PVC Pipe	105	LF	\$ 3.49	\$ 1.05	\$ 476
1-1/2" PVC Pipe	22	LF	\$ 5.22	\$ 1.57	\$ 149
2" PVC Pipe	24	LF	\$ 4.83	\$ 1.45	\$ 151
3" PVC Pipe	32	LF	\$ 10.77	\$ 3.23	\$ 448
1-1/4" CPVC Pipe	81	LF	\$ 6.34	\$ 1.90	\$ 668
1" PVC Fittings	1	LS	\$ 119.10	\$ 35.73	\$ 155
1-1/2" PVC Fittings	1	LS	\$ 37.32	\$ 11.20	\$ 49
2" PVC Fittings	1	LS	\$ 37.67	\$ 11.30	\$ 49
3" PVC Fittings	1	LS	\$ 112.01	\$ 33.60	\$ 146
1-1/4" CPVC Fittings	1	LS	\$ 166.90	\$ 50.07	\$ 217

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 72  
Facility Description: Biosolids Handling Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
1" PVC Ball Valve	2	EA	\$ 54.16	\$ 16.25	\$ 141
1-1/2" PVC Ball Valve	2	EA	\$ 85.26	\$ 25.58	\$ 222
2" PVC Ball Valve	3	EA	\$ 134.40	\$ 40.32	\$ 524
3" PVC Ball Valve	2	EA	\$ 272.82	\$ 81.85	\$ 709
1-1/4" CPVC Ball Valve	1	EA	\$ 142.43	\$ 42.73	\$ 185
<i>Miscellaneous</i>	5%				\$ 1,193
Subtotal Division 22					\$ 25,048
<b>Division 23 - HVAC</b>					
<b>Dewatering Electrical Room</b>					
Makeup Air Unit	1	EA	\$ 21,281.40	\$ 6,384.42	\$ 27,666
Supply Fan	1	EA	\$ 1,663.00	\$ 498.90	\$ 2,162
Exhaust Fan	3	EA	\$ 1,663.00	\$ 498.90	\$ 6,486
Ductwork+accessories	1	LS	\$ 2,669.00	\$ 800.70	\$ 3,470
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Electrical Room</b>					
10 ton packaged AC	2	EA	\$ 29,000.00	\$ 8,700.00	\$ 75,400
Corrosion Resistant Coatings	1	LS	\$ 5.00	\$ 1.50	\$ 7
Ductwork+accessories	1	LS	\$ 3,168.00	\$ 950.40	\$ 4,118
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Blower Room</b>					
Intake Louver	1	EA	\$ 819.00	\$ 245.70	\$ 1,065
Unit Heater	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Chemical Room</b>					
Exhaust Fan	2	EA	\$ 1,362.00	\$ 408.60	\$ 3,541
Intake Louver	1	EA	\$ 1,261.00	\$ 378.30	\$ 1,639
Unit Heater	3	LS	\$ 2,500.00	\$ 750.00	\$ 9,750
Controls	1	LS	\$ 1,000.00	\$ 300.00	\$ 1,300
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Operations Room</b>					
Mini-split system AC 3-ton	1	EA	\$ 6,000.00	\$ 1,800.00	\$ 7,800
Corrosion Resistant Coatings	1	LS	\$ 4,800.00	\$ 1,440.00	\$ 6,240
Ductwork+accessories	1	LS	\$ 456.00	\$ 136.80	\$ 593
Controls	1	LS	\$ 5,000.00	\$ 1,500.00	\$ 6,500
			\$ -	\$ -	\$ -
<i>Miscellaneous</i>	5%				\$ 8,212
Subtotal Division 23					\$ 172,448
<b>Division 26 - Electrical</b>					
SWBD-5	1	EA	\$ 280,000.00	\$ 98,000.00	\$ 378,000
MCC-5	1	EA	\$ 175,000.00	\$ 61,250.00	\$ 236,250
Install MFR Centrifuge VFDs	1	LS	\$ 45,000.00	\$ 15,750.00	\$ 60,750
1000 kVA Pad Mounted Transformers	2	EA	\$ 45,000.00	\$ 15,750.00	\$ 105,750
Wire and Conduit from Transformer to Switchboard	1	LS	\$ 30,000.00	\$ 10,500.00	\$ 40,500
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	3	EA	\$ 5,000.00	\$ 1,750.00	\$ 16,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 275,000.00	\$ 96,250.00	\$ 371,250
Conduit Total	1	LS	\$ 130,000.00	\$ 45,500.00	\$ 175,500
Lighting and Receptacles Total	1	LS	\$ 70,000.00	\$ 24,500.00	\$ 94,500
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 60,000.00	\$ 21,000.00	\$ 81,000
Cable Tray Total	1	LS	\$ 25,000.00	\$ 8,750.00	\$ 33,750
Grounding Total	1	LS	\$ 45,000.00	\$ 15,750.00	\$ 60,750
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Polymer Blending Units</b>					
Polymer Tote Weight Transmitter	2	EA	\$ 5,000.00	\$ 3,500.00	\$ 13,500
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>Centrifuge</b>					
6" Magmeter	2	EA	\$ 8,000.00	\$ 5,600.00	\$ 21,600
			\$ -	\$ -	\$ -
<b>Solids Electrical Building (SCADA)</b>					
<b>Network Enclosure (NET-SOLIDS)</b>					
Enclosure (NET-SOLIDS) (24"H x 24"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
	0	LOT	\$ -	\$ -	\$ -
Miscellaneous for NET-SOLIDS	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
			\$ -	\$ -	\$ -
<b>SCADA Solids Enclosure (PLC-SOLIDS)</b>					
Enclosure (PLC-SOLIDS) (72"H x 72"W x 24"D )	1	EA	\$ 30,000	\$ 6,000	\$ 36,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 72  
Facility Description: Biosolids Handling Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
17 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	1	EA	\$ 3,000	\$ 600	\$ 3,600
Digital Input Module, 10-31 vdc, 16pts	5	EA	\$ 700	\$ 700	\$ 4,200
Digital Output Module, N.O Isolated Relay Output, 16pts	2	EA	\$ 1,000	\$ 400	\$ 2,400
Miscellaneous	1	LOT	\$ 20,000	\$ 4,000	\$ 24,000
Programming (106x\$450 Hard + 700x\$100 Soft)+ 1 trip@10K	1	LOT	\$ -	\$ 127,000	\$ 127,000
<b>SCADA ASHT Level Alarm Panel (LLRP-ASHT)</b>					
Enclosure (LLRP-ASHT) (12"H x 12"W x 8"D )	1	EA	\$ 15,000	\$ 3,000	\$ 18,000
Miscellaneous	1	LOT	\$ 6,000	\$ 1,200	\$ 7,200
<b>Instruments</b>					
Room Temperature Transmitters	1	EA	\$ 2,000	\$ 400	\$ 2,400
Radar Level Transmitters	1	EA	\$ 4,500	\$ 900	\$ 5,400
LSH Floats Chem Areas	1	EA	\$ 600	\$ 120	\$ 720
PI/PSH and PI/PSL with seals & Block/Bleed	6	EA	\$ 8,000	\$ 9,600	\$ 57,600
PIT with Seal & Block/Bleed	2	EA	\$ 3,500	\$ 1,400	\$ 8,400
Pressure Gauge with Seal	2	EA	\$ 2,500	\$ 1,000	\$ 6,000
Rotometers	4	EA	\$ 1,000	\$ 800	\$ 4,800
Paddlewheel Flow Meter	4	EA	\$ 4,000	\$ 3,200	\$ 19,200
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
Miscellaneous	5%				\$ 106,606
Subtotal Division 26					\$ 2,238,726
<b>Division 31 - Earthwork</b>					
Excavation	2113	CY		\$ 15.00	\$ 31,702
Fill	1743	CY	\$ 20.00		\$ 34,866
Miscellaneous	5%				\$ 3,328
Subtotal Division 31					\$ 69,897
<b>Division 40 - Process Integration</b>					
Centrifuges	2	EA	\$ 725,000.00	\$ 217,500.00	\$ 1,885,000
Polymer Transfer Pumps	2	EA	\$ 5,500.00	\$ 1,650.00	\$ 14,300
Polymer Blending Unit	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Polymer Bulk Tank	1	LS	\$ 10,000.00	\$ 3,000.00	\$ 13,000
Polymer Day Tank	2	LS	\$ 2,000.00	\$ 600.00	\$ 5,200
Centrifuge Building Piping Allowance	1	LS	\$ 400,000.00	\$ 120,000.00	\$ 520,000
Miscellaneous	5%				\$ 124,475
Subtotal Division 40					\$ 2,613,975
<b>Division 41 - Material Processing and Handling Equipment</b>					
Monorail	1	LS	\$ 35,000.00	\$ 10,500.00	\$ 45,500
Miscellaneous	5%				\$ 2,275
Subtotal Division 41					\$ 47,775
<b>Subtotal This Facility</b>					\$ 8,364,441
<b>Contingency</b>				<b>18%</b>	\$ 1,913,000
<b>Mobilization</b>				<b>5%</b>	\$ 419,000
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	\$ 1,841,000
<b>Total Estimated Facility Costs</b>					\$ 12,538,000

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85  
Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<u>Operations &amp; Laboratory Building Concrete</u>					
Concrete Base Slab	153	CY	\$ 905.00		\$ 138,633
Void Forms	4136	SF	\$ 14.00		\$ 57,904
Grade Beams	126	CY	\$ 905.00		\$ 114,231
<u>Operations &amp; Laboratory Building Deep Foundations</u>					
Drilled Shaft Deep Foundation	74	CY	\$ 1,400.00		\$ 103,745
Miscellaneous	5%				\$ 20,726
Subtotal Division 3					<b>\$ 435,239</b>
<b>Division 4 - Masonry</b>					
Concrete Masonry Walls - 8"	5200	SF	\$ 8.75	\$ 7.50	\$ 84,500
Concrete Masonry Walls - 4"	2000	SF	\$ 8.20	\$ 7.50	\$ 31,400
Miscellaneous	5%				\$ 5,795
Subtotal Division 4					<b>\$ 121,695</b>
<b>Division 5 - Metals</b>					
Metal Studs - 16ft x 6.00 in, 12ga, 16" o.c.	500	LF	\$ 50.00	\$ 18.75	\$ 34,375
Metal Roof Framing (Steel Joists)	4735	SF	\$ 17.50	\$ 5.25	\$ 107,721
Metal Roof Deck	4735	SF	\$ 4.40	\$ 1.32	\$ 27,084
Miscellaneous	5%				\$ 8,459
Subtotal Division 5					<b>\$ 177,639</b>
<b>Division 6 - Wood &amp; Plastics</b>					
Rough Carpentry	1	LS	\$ 18,000.00	\$ 12,000.00	\$ 30,000
Gypsum Sheathing - 5/8" glass mat	4000	SF	\$ 2.50	\$ 1.25	\$ 15,000
Miscellaneous	5%				\$ 2,250
Subtotal Division 6					<b>\$ 47,250</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Roof Panels	4720	SF	\$ 6.50	\$ 2.15	\$ 40,828
Metal Wall Panels	3450	SF	\$ 3.75	\$ 6.00	\$ 33,638
Metal Soffit Panels	1000	SF	\$ 6.40	\$ 2.15	\$ 8,550
Air Barrier-Wall	10000	SF	\$ 0.25	\$ 0.18	\$ 4,300
Wall Sound Insulation - 3.5" R-13 15"W	8500	SF	\$ 0.45	\$ 0.35	\$ 6,800
Wall-Open-Cell Foam Insulation (Spray applied) - 3.0" R-15	5200	SF	\$ 1.58	\$ 0.80	\$ 12,376
Roof-Polyisocyanurate Rigid Insulation - R-30 (6" +/-)	4720	SF	\$ 2.00	\$ 0.42	\$ 11,422
Wall-Polyisocyanurate Rigid Insulation - R-11 (2"+/-)	5200	SF	\$ 1.15	\$ 0.32	\$ 7,644
Sealants	1	LS	\$ 1,600.00	\$ 1,200.00	\$ 2,800
Miscellaneous	5%				\$ 6,418
Subtotal Division 7					<b>\$ 134,776</b>
<b>Division 8 - Openings</b>					
Interior Man Doors - SCW/ALUM 3'x7'	10	EA	\$ 1,075.00	\$ 450.00	\$ 15,250
Exterior Man Doors - Alum 3'x7'	5	SF	\$ 2,343.00	\$ 1,000.00	\$ 16,715
Interior ALUM Storefront - Office	462	SF	\$ 35.00	\$ 6.80	\$ 19,312
Interior Glazing - Single	462	SF	\$ 7.25	\$ 7.50	\$ 6,815
Exterior Windows - 1": Insulated Glazing	210	SF	\$ 27.50	\$ 7.50	\$ 7,350
ALUM Storefront - Vestibule	112	SF	\$ 35.00	\$ 6.80	\$ 4,682
Exterior Glazing - Insulated	188	SF	\$ 7.25	\$ 7.50	\$ 2,773
Mirrors - Toilet; Frameless	50	SF	\$ 12.00	\$ 6.50	\$ 925
Miscellaneous	5%				\$ 3,691
Subtotal Division 8					<b>\$ 77,512</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85  
Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 9 - Finishes</b>					
Walls - Gypsum Board - 5/8" -Tape & Float	12000	SF	\$ 1.10	\$ 1.20	\$ 27,600
Ceiling - Gypsum Board - 5/8" -Tape & Float	478	SF	\$ 0.85	\$ 1.10	\$ 932
Walls - Cementitious Backing Board- 5/8" -Tape & Float	3744	SF	\$ 1.40	\$ 6.00	\$ 27,706
Paint - Walls Gypsum Board - Prep, Primer & Fins Coat	12000	SF	\$ 0.15	\$ 0.45	\$ 7,200
Paint - Ceiling Gypsum Board - Prep, Primer & Fins Coat	478	SF	\$ 0.15	\$ 0.45	\$ 287
Acoustic Ceiling Tile, 15/16" grid, 24x24	3400	SF	\$ 3.25	\$ 1.25	\$ 15,300
Sealed Concrete - Floor	2730	SF	\$ 0.55	\$ 0.30	\$ 2,321
Carpet Tile - Floor -OFC/Training	1000	SF	\$ 10.75	\$ 6.25	\$ 17,000
Base - Wall - 6" Resilient	1000	LF	\$ 1.90	\$ 1.60	\$ 3,500
Base - Wall - 6" Resilient Corners	100	EA	\$ 3.75	\$ 1.60	\$ 535
Interior Wall Tile - Large Format - 12" x 24"	2500	SF	\$ 8.25	\$ 5.60	\$ 34,625
Base - Wall - 6"x12" Cove Tile	375	LF	\$ 9.95	\$ 9.00	\$ 7,106
Miscellaneous	5%				\$ 7,206
Subtotal Division 9					<b>\$ 151,317</b>
<b>Division 10 - Specialties</b>					
Building Sign - 36" x 12" - Aluminum	2	EA	\$ 265.00	\$ 31.25	\$ 593
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 62.50	\$ 18.75	\$ 325
Fire Extinguisher - Cabinet	4	EA	\$ 137.50	\$ 94.00	\$ 926
Toilet Partitions - Stainless Steel	3	EA	\$ 1,875.00	\$ 250.00	\$ 6,375
San Napkin Disposal	2	EA	\$ 31.25	\$ 20.00	\$ 103
Waste Recepticle	3	EA	\$ 120.00	\$ 45.00	\$ 495
Toilet Paper Dispenser	3	EA	\$ 31.25	\$ 20.00	\$ 154
Grab Bars - ADA 36"	2	EA	\$ 48.00	\$ 27.50	\$ 151
Grab Bars - ADA 42"	2	EA	\$ 60.00	\$ 48.00	\$ 216
Hand Dryer	2	EA	\$ 1,000.00	\$ 125.00	\$ 2,250
Lockers - 12"x18"x72"	11	EA	\$ 675.00	\$ 25.00	\$ 7,700
Shower Enclosures - ADA & Standard	2	EA	\$ 1,200.00	\$ 137.50	\$ 2,675
Corner Guards-Stainless Steel (3"x3"x48"L)	12	EA	\$ 137.50	\$ 25.00	\$ 1,950
Door/Wall Signs - 8"x 8" acrylic	24	EA	\$ 48.00	\$ 12.00	\$ 1,440
Miscellaneous	5%				\$ 1,268
Subtotal Division 10					<b>\$ 26,619</b>
<b>Division 11 - Equipment</b>					
Audio/Video Equipment - Conference	1	LS	\$ 7,500.00	\$ 750.00	\$ 8,250
Lab Equipment	1	LS	\$ 125,000.00	\$ 10,000.00	\$ 135,000
FF&E - OFC	7	EA	\$ 6,000.00	\$ 1,000.00	\$ 49,000
FF&E -Training	1	EA	\$ 12,000.00	\$ 1,200.00	\$ 13,200
Miscellaneous	5%				\$ 10,273
Subtotal Division 11					<b>\$ 215,723</b>
<b>Division 12 - Furnishings</b>					
Blinds	462	SF	\$ 6.80	\$ 1.50	\$ 3,835
Millwork - Base Cabinet - 24" D - Plastic Laminate	36	LF	\$ 187.50	\$ 11.50	\$ 7,164
Millwork - Overhead Cabinet - 12" D - Plastic Laminate	38	LF	\$ 112.50	\$ 9.75	\$ 4,646
Soidd Surface Countertops	36	LF	\$ 106.25	\$ 42.50	\$ 5,355
Miscellaneous	5%				\$ 1,050
Subtotal Division 12					<b>\$ 22,049</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 85  
Facility Description: Operations and Laboratory Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
INSTANT WATER HEATER, ELECTRIC	1	EACH	\$ 408.00	\$ 320.00	\$ 728
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
ICEMAKER OUTLET CONNECTION	2	EACH	\$ 60.00	\$ 80.00	\$ 280
HOT WATER CIRCULATION PUMP WITH CONTROLS	1	EACH	\$ 1,880.00	\$ 480.00	\$ 2,360
HOSE BIB	1	EACH	\$ 40.00	\$ 40.00	\$ 80
FREEZEPROOF WALL HYDRANT	3	EACH	\$ 90.00	\$ 80.00	\$ 510
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	3	EACH	\$ 520.00	\$ 160.00	\$ 2,040
URINAL, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
5 FT HANDWASH BASIN, MANUAL FAUCETS	2	EACH	\$ 3,400.00	\$ 320.00	\$ 7,440
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	1	EACH	\$ 1,740.00	\$ 320.00	\$ 2,060
ACRYLIC SHOWER, WITH SHOWER VALVE	2	EACH	\$ 3,900.00	\$ 1,280.00	\$ 10,360
STAINLESS STEEL KITCHEN SINK, MANUAL FAUCET	1	EACH	\$ 440.00	\$ 320.00	\$ 760
SERVICE SINK, WALL FAUCET	1	EACH	\$ 660.00	\$ 320.00	\$ 980
EMERGENCY EYEWASH	1	EACH	\$ 220.00	\$ 320.00	\$ 540
DOMESTIC WATER PIPING	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 32,000
SANITARY SEWER PIPING	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 32,000
Miscellaneous	5%				\$ 5,056
Subtotal Division 22					<b>\$ 106,184</b>
<b>Division 23 - HVAC</b>					
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 3-TON	2	EACH	\$ 10,000.00	\$ 9,000.00	\$ 38,000
SPLIT SYSTEM HEAT PUMP THERMOSTAT, DUCTWORK, 1.5-TON	1	EACH	\$ 6,500.00	\$ 6,500.00	\$ 13,000
DUCTLESS MINI-SPLIT SYSTEM, WALL MOUNT, THERMOSTAT	2	EACH	\$ 2,800.00	\$ 2,800.00	\$ 11,200
STATIC PLAT ENERGY RECOVERY UNIT, DUCTWORK, 1,000 CFM	1	EACH	\$ 4,500.00	\$ 4,500.00	\$ 9,000
FIXED LOUVER	1	EACH	\$ 200.00	\$ 200.00	\$ 400
ROOF INTAKE HOOD, 16" DIA	1	EACH	\$ 800.00	\$ 480.00	\$ 1,280
MOTORIZED DAMPER	1	EACH	\$ 280.00	\$ 80.00	\$ 360
Miscellaneous	5%				\$ 3,662
Subtotal Division 23					<b>\$ 76,902</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4735	SF	\$ 18.00	\$ -	\$ 85,230
Communications and Security	4735	SF	\$ 9.00	\$ -	\$ 42,615
Subtotal Division 26					<b>\$ 143,845</b>
<b>Division 31 - Earthwork</b>					
Excavation	600	CY		\$ 15.00	\$ 9,000
Fill	231	CY	\$ 20.00		\$ 4,620
Miscellaneous	5%				\$ 681
Subtotal Division 31					<b>\$ 14,301</b>
<b>Subtotal This Facility</b>					<b>\$ 1,751,051</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 401,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 88,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 386,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,627,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 86  
Facility Description: Maintenance and Storage Building**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	54	CY	\$ 1,400.00		\$ 75,828
Grade Beams	130	CY	\$ 905.00		\$ 117,315
Void Forms	4256	SF	\$ 14.00		\$ 59,584
Concrete Base Slab	158	CY	\$ 905.00		\$ 142,655
Miscellaneous	5%				\$ 19,769
	Subtotal Division 3				<b>\$ 415,151</b>
<b>Division 4 - Masonry</b>					
CMU - 8"	5089	SF	\$ 8.50	\$ 8.00	\$ 83,969
Misc- Reinforcing, etc.	1	LS	\$ 2,500.00	\$ 3,000.00	\$ 5,500
Miscellaneous	5%				\$ 4,473
	Subtotal Division 4				<b>\$ 93,942</b>
<b>Division 5 - Metals</b>					
Prefabricated Metal Building	4038	SF	\$ 22.00	\$ 8.50	\$ 123,159
Fencing with gates - 12'-0"H	35	LF	\$ 54.00	\$ 32.00	\$ 3,010
Miscellaneous	5%				\$ 6,308
	Subtotal Division 5				<b>\$ 132,477</b>
<b>Division 7 - Thermal/Moisture Protection</b>					
Metal Wall Panels - Insulated	200	SF	\$ 12.50	\$ 4.00	\$ 3,300
Metal Roof Panels - Insulated	4591	SF	\$ 10.25	\$ 6.00	\$ 74,604
Sealants	1	LS	\$ 400.00	\$ 250.00	\$ 650
Miscellaneous	5%				\$ 3,928
	Subtotal Division 7				<b>\$ 82,481</b>
<b>Division 8 - Openings</b>					
Exterior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	5	EA	\$ 2,343.00	\$ 1,020.00	\$ 16,815
Interior Insulated Hollow Metal - Single Door/ Frame - 3'x7'	1	EA	\$ 1,437.00	\$ 375.00	\$ 1,812
Overhead Insulating Coiling Door - 10'W x 8'H	1	EA	\$ 1,500.00	\$ 720.00	\$ 2,220
Overhead Insulating Coiling Door - 10'W x 14'H	2	EA	\$ 2,625.00	\$ 1,312.00	\$ 7,874
Miscellaneous	5%				\$ 1,436
	Subtotal Division 8				<b>\$ 30,157</b>
<b>Division 9 - Finishes</b>					
Paint - Walls CMU - Prep, Primer & Fins Coat	1100	SF	\$ 0.32	\$ 0.54	\$ 946
Paint - Ceiling - Prep, Primer & Fins Coat	80	SF	\$ 0.32	\$ 0.54	\$ 69
Miscellaneous	5%				\$ 51
	Subtotal Division 9				<b>\$ 1,066</b>
<b>Division 10 - Specialties</b>					
Fire Extinguisher - 10 LB; Type ABC	4	EA	\$ 62.00	\$ 18.75	\$ 323
Waste Recepticle	1	EA	\$ 120.00	\$ 45.00	\$ 165
Toilet Paper Dispenser	1	EA	\$ 12.00	\$ 12.00	\$ 24
Grab Bars - ADA 36"	1	EA	\$ 50.00	\$ 28.00	\$ 78
Grab Bars - ADA 42"	1	EA	\$ 62.50	\$ 27.50	\$ 90
Hand Dryer	1	EA	\$ 1,000.00	\$ 120.00	\$ 1,120
Door/Wall Signs - 8"x8" acrylic	8	EA	\$ 50.00	\$ 12.00	\$ 496
Exterior Wall Signs - 12"x36" Aluminum Sign/Painted Letter	2	EA	\$ 120.00	\$ 48.00	\$ 336
Miscellaneous	5%				\$ 132
	Subtotal Division 10				<b>\$ 2,764</b>
<b>Division 11 - Equipment</b>					
FF& E Package	1	LS	\$ 28,000.00		\$ 28,000
Miscellaneous	5%				\$ 1,400
	Subtotal Division 11				<b>\$ 29,400</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 86

Facility Description: Maintenance and Storage Building

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 22 - Plumbing</b>					
Fire Sprinkler (not required)	0	SF	\$ 5.00	\$ 5.00	\$ -
STORAGE WATER HEATER, ELECTRIC	1	EACH	\$ 2,810.00	\$ 1,280.00	\$ 4,090
BACKFLOW PREVENTER, 2"	1	EACH	\$ 1,280.00	\$ 320.00	\$ 1,600
THERMOSTATIC MIXING VALVE	1	EACH	\$ 1,980.00	\$ 640.00	\$ 2,620
HOSE BIB	2	EACH	\$ 40.00	\$ 40.00	\$ 160
FREEZEPROOF WALL HYDRANT	2	EACH	\$ 90.00	\$ 80.00	\$ 340
WATER CLOSET, FLOOR MOUNT, MANUAL FLUSH VALVE	1	EACH	\$ 520.00	\$ 160.00	\$ 680
HANDWASH SINK, FOOT CONTROLS	2	EACH	\$ 1,850.00	\$ 320.00	\$ 4,340
ELECTRIC DRINKING FOUNTAIN, DUAL HEIGHT	0	EACH	\$ 1,740.00	\$ 320.00	\$ -
EMERGENCY SHOWER	1	EACH	\$ 660.00	\$ 320.00	\$ 980
AIR COMPRESSOR, 120 GALLONS	1	EACH	\$ 7,500.00	\$ 660.00	\$ 8,160
COMPRESSED AIR PIPING	1	LS	\$ 2,200.00	\$ 2,200.00	\$ 4,400
DOMESTIC WATER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
SANITARY SEWER PIPING	1	LS	\$ 3,300.00	\$ 3,300.00	\$ 6,600
Miscellaneous	5%				\$ -
Subtotal Division 22					<b>\$ 40,570</b>
<b>Division 23 - HVAC</b>					
ELECTRIC UNIT HEATER, CORROSION RESISTANT	2	EA	\$ 3,800.00	\$ 700.00	\$ 9,000
EXHAUST FAN, TOILET	1	EA	\$ 280.00	\$ 280.00	\$ 560
EXHAUST FAN, 5,000 CFM	1	EA	\$ 1,200.00	\$ 1,200.00	\$ 2,400
BIG ASS FAN	1	EA	\$ 6,200.00	\$ 1,200.00	\$ 7,400
Miscellaneous	5%				\$ 968
Subtotal Division 23					<b>\$ 20,328</b>
<b>Division 26 - Electrical</b>					
400A Feeder	1	EA	\$ 12,000.00	\$ -	\$ 12,000
Main Service Panel	1	EA	\$ 4,000.00	\$ -	\$ 4,000
Lighting and Branch Circuit Wiring	4038	SF	\$ 9.00	\$ -	\$ 36,342
Communications and Security	4038	SF	\$ 5.00	\$ -	\$ 20,190
<b>Maintenance Building (SCADA) Network Enclosure (NET-MAINT)</b>					
Enclosure (NET-UV) (24"H x 24"W x 25"D) with Fan Package	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
Ethernet Switch	1	EA	\$ 10,000.00	\$ 2,000.00	\$ 12,000.00
Internal UPS	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000
Miscellaneous for NET-MAINT	1	EA	\$ 5,000.00	\$ 1,000.00	\$ 6,000.00
Miscellaneous	5%				\$ 5,427
Subtotal Division 26					<b>\$ 113,959</b>
<b>Division 31 - Earthwork</b>					
Excavation	1200	CY	\$ -	\$ 15.00	\$ 18,000
Fill	800	CY	\$ 20.00	\$ -	\$ 16,000
Miscellaneous	5%				\$ 1,700
Subtotal Division 31					<b>\$ 35,700</b>
<b>Subtotal This Facility</b>					<b>\$ 997,994</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 229,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 50,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 220,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 1,497,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 88

Facility Description: Main Plant Electrical Building #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
<b>Main Plant Electrical Building</b>					
Concrete Base Slab	132	CY	\$ 905.00		\$ 119,013
Void Forms	3071.37	SF	\$ 14.00		\$ 42,999
Grade Beams	79	CY	\$ 905.00		\$ 71,319
Drilled Shaft Deep Foundation	85	CY	\$ 1,400.00		\$ 119,633
Concrete Housekeeping Pads	3	CY	\$ 600.00		\$ 1,978
Miscellaneous	5%				\$ 17,747
			Subtotal Division 3		\$ 372,689
<b>Division 4 - Masonry</b>					
CMU Masonry Walls	3492	SF	\$ 20.00		\$ 69,840
Veneer	3492	SF	\$ 15.00		\$ 52,380
Miscellaneous	5%				\$ 6,111
			Subtotal Division 4		\$ 128,331
<b>Division 5 - Metals</b>					
Metal Roofing Panels	2400	SF	\$ 15.00		\$ 36,000
Steel Roof Joists	2	TON	\$3,000.00	\$900.00	\$ 7,800
Miscellaneous	5%				\$ 2,190
			Subtotal Division 5		\$ 45,990
<b>Division 7 - Thermal/Moisture Protection</b>					
Building Wall Insulation	3492	SF	\$ 3.80	\$ 1.14	\$ 17,250
Building Roof Insulation	2400	SF	\$ 1.75	\$ 1.92	\$ 8,808
Rain Gutters and Downspouts	72	LF	\$ 9.20	\$ 2.76	\$ 861
Miscellaneous	5%				\$ 1,346
			Subtotal Division 7		\$ 28,266
<b>Division 8 - Openings</b>					
FRP Single Door	2	EA	\$ 8,000.00		\$ 16,000
FRP Double Door	1	EA	\$ 12,000.00		\$ 12,000
Miscellaneous	5%				\$ 1,400
			Subtotal Division 8		\$ 29,400
<b>Division 21 - Fire Protection</b>					
Allowance for fire protection system	1	LS	\$ 25,000.00		\$ 25,000
Miscellaneous	5%				\$ 1,250
			Subtotal Division 21		\$ 26,250
<b>Division 23 - HVAC</b>					
10-ton AC unit	2	EA	\$ 20,000.00	\$ 6,000.00	\$ 52,000
Corrosion Resistant Coatings	1	LS	\$ 4,800.00	\$ 1,440.00	\$ 6,240
Ductwork+accessories	1	LS	\$ 7,338.00	\$ 2,201.40	\$ 9,539
Controls	1	LS	\$ 2,500.00	\$ 750.00	\$ 3,250
Miscellaneous	5%				\$ 3,551
			Subtotal Division 23		\$ 74,581

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 88

Facility Description: Main Plant Electrical Building #1

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
MV SWGR 1A & 1B	2	EA	\$ 800,000.00	\$ 200,000.00	\$ 1,800,000
Transfer Control Cabinet	1	EA	\$ 145,000.00	\$ 50,750.00	\$ 195,750
MCC-1	1	EA	\$ 95,000.00	\$ 33,250.00	\$ 128,250
500 kVA Pad Mounted Transformers	2	EA	\$ 40,000.00	\$ 28,000.00	\$ 108,000
ATS	1	EA	\$ 10,000.00	\$ 3,500.00	\$ 13,500
45 kVA XFMR	1	EA	\$ 5,000.00	\$ 1,750.00	\$ 6,750
Panelboard	1	EA	\$ 15,000.00	\$ 5,250.00	\$ 20,250
Wiring Total	1	LS	\$ 225,000.00	\$ 78,750.00	\$ 303,750
Conduit Total	1	LS	\$ 110,000.00	\$ 38,500.00	\$ 148,500
Lighting and Receptacles Total	1	EA	\$ 55,000.00	\$ 19,250.00	\$ 74,250
Misc. Disconnects, Boxes, and Fittings Total	1	LS	\$ 34,000.00	\$ 11,900.00	\$ 45,900
Cable Tray Total	1	LS	\$ 55,000.00	\$ 19,250.00	\$ 74,250
Grounding Total	1	LS	\$ 35,000.00	\$ 12,250.00	\$ 47,250
				\$	-
				\$	-
				\$	-
<b>Main Plant Electrical Building #1 (SCADA)</b>					
Room Temperature Transmitters	1	EA	\$ 2,000.00	\$ 400	\$ 2,400
<b>Network Enclosure (NET-MAIN)</b>					
Enclosure (NET-MAIN) (24"H x 25"W x 25"D)	1	EA	\$ 8,000	\$ 1,600	\$ 9,600
Ethernet Switch	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
Configuration for Power Monitoring devices	1	LOT	\$ -	\$ 7,000	\$ 7,000
Miscellaneous for NET-MAIN	1	EA	\$ 5,000	\$ 1,000	\$ 6,000
<b>SCADA Main Electrical Enclosure (PLC-MAIN)</b>					
Enclosure (PLC-MAIN) (72"H x 48"W x 24"D )	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
10 slot ControlLogix Chassis	1	EA	\$ 1,500	\$ 300	\$ 1,800
ControlLogix, 19-32 VDC Power Supply (10Amp@5v)	1	EA	\$ 1,500	\$ 300	\$ 1,800
EtherNet/IP communication module, dual port, 10/100M twisted pair, 128 TCP connections	1	EA	\$ 4,000	\$ 800	\$ 4,800
ControlLogix 5570 controller with 8MB Memory, USB Port	1	EA	\$ 13,000	\$ 2,600	\$ 15,600
Analog Input Module, 8 Isolated Points, Current, sourcing and voltage 36 pin	1	EA	\$ 3,000	\$ 600	\$ 3,600
Analog Out Module, 8 Isolated point, current, and voltage 36pin	0	EA	\$ 3,500	\$ 700	\$ 700
Digital Input Module, 10-31 vdc, 16pts	2	EA	\$ 700	\$ 140	\$ 1,540
Digital Output Module, N.O Isolated Relay Output, 16pts	0	EA	\$ 1,000	\$ 200	\$ 200
Miscellaneous	1	LOT	\$ 15,000	\$ -	\$ 15,000
Programming	1	LOT	\$ -	\$ 15,000	\$ 15,000
UPS 5kva with MBB Bypass switch	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<i>Miscellaneous</i>	5%			\$	156,172
			Subtotal Division 26	\$	<b>3,279,612</b>
<b>Division 31 - Earthwork</b>					
Excavation	1044	CY	\$	15.00	\$ 15,667
Fill	956	CY	\$ 20.00		\$ 19,111
<i>Miscellaneous</i>	5%			\$	1,739
			Subtotal Division 31	\$	<b>36,517</b>
<b>Subtotal This Facility</b>					<b>\$ 4,021,635</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 920,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 202,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 885,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 6,029,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

**Facility Number: 89**

**Facility Description: Generator and Transformer Pad**

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 3 - Concrete</b>					
Drilled Shaft Deep Foundation	23	CY	\$ 1,400.00		\$ 32,604
Transformer Pads	62	CY	\$ 600.00		\$ 37,333
<i>Miscellaneous</i>	5%				\$ 3,497
<b>Subtotal Division 3</b>					<b>\$ 73,435</b>
<b>Division 5 - Metals</b>					
Structural Steel Framing	16300	LB	\$ 3.00	\$ 0.90	\$ 63,570
Steel Galvanizing	16300	LB	\$ 1.00	\$ 0.30	\$ 21,190
2" Grating	260	SF	\$ 60.00	\$ 18.00	\$ 20,280
Handrails	140	LF	\$ 60.00	\$ 18.00	\$ 10,920
Stairs	10	Riser	\$ 600.00	\$ 180.00	\$ 7,800
<i>Miscellaneous</i>	5%				\$ 6,188
<b>Subtotal Division 5</b>					<b>\$ 129,948</b>
<b>Subtotal This Facility</b>					<b>\$ 203,383</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 47,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 11,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 45,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 307,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 90  
Facility Description: General Electrical

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
2750 KW GEN SET	1	EA	\$2,200,000.00	\$770,000.00	\$ 2,970,000
Load Bank Connection Box	1	EA	\$50,000.00	\$17,500.00	\$ 67,500
Generator & Load Bank Feeders	1	LS	\$40,000.00	\$14,000.00	\$ 54,000
Incoming Power 15KV Ductbank	1	LS	\$10,000	\$3,500.00	\$ 13,500
Incoming Power 5kV Ductbank	1	LS	\$120,000	\$42,000.00	\$ 162,000
Incoming 5KV Manholes	4	EA	\$25,000	\$5,000.00	\$ 120,000
Incoming Power 5kV Cable	1	LS	\$95,000	\$33,250.00	\$ 128,250
Bluebonnet Transformer Secondary Fdrs DB (Non-Contractor Cost -- see elsewhere)	0	LS	\$950,000.00	\$0.00	\$ -
Subtotal Division 26					<b>\$ 3,515,250</b>
<b>Subtotal This Facility</b>					<b>\$ 3,515,250</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 804,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 176,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 774,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 5,270,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191

Facility Number: 95  
Facility Description: SCADA

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Division 26 - Electrical</b>					
<b>SCADA Room</b>					
Servers	3	EA	\$ 40,000	\$ 24,000	\$ 144,000
Software (HMI)	1	LS	\$ 100,000	\$ 20,000	\$ 120,000
19-inch Racks	4	EA	\$ 30,000	\$ 24,000	\$ 144,000
Ethernet Switches	2	EA	\$ 30,000	\$ 12,000	\$ 72,000
UPS	1	EA	\$ 25,000	\$ 5,000	\$ 30,000
<b>SCADA Room</b>					
Work Stations with Monitors	2	EA	\$ 20,000	\$ 8,000	\$ 48,000
Overall startup Testing	1	LOT		\$ 120,000	\$ 120,000
Spare Parts	1	EA	\$ 50,000		\$ 50,000
Training	1	LS	-	\$ 30,000	\$ 30,000
Miscellaneous	1	EA	\$ 10,000	\$ 2,000	\$ 12,000
<i>Miscellaneous</i>	5%				\$ 38,500
Subtotal Division 26					<b>\$ 808,500</b>
<b>Division 27 - Communication</b>					
FOC-01 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-02 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-03 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-04 (Include Fiber and Installation)	1500	FT	\$ 6.00	\$ 1,350	\$ 10,350
FOC-05 (Include Fiber and Installation)	1200	FT	\$ 6.00	\$ 1,080	\$ 8,280
FOC-06 (Include Fiber and Installation)	1000	FT	\$ 6.00	\$ 900	\$ 6,900
FOC-07 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-08 (Include Fiber and Installation)	200	FT	\$ 6.00	\$ 180	\$ 1,380
FOC-09 (Include Fiber and Installation)	300	FT	\$ 6.00	\$ 270	\$ 2,070
FOC-10 (Include Fiber and Installation)	500	FT	\$ 6.00	\$ 450	\$ 3,450
FOC-11 (Include Fiber and Installation)	700	FT	\$ 6.00	\$ 630	\$ 4,830
FOC-12 (Include Fiber and Installation)	900	FT	\$ 6.00	\$ 810	\$ 6,210
TOTAL Fiber Connectors, Includes Connector and Installation	468	Unit	\$ 100	-	\$ 46,800
Testing of each Fiber Strand	240	Strand:	\$ 100	-	\$ 24,000
FOPPs	13	Unit	\$ 4,000	\$ 7,800	\$ 59,800
Miscellaneous Fiber Items	1	LOT	\$ 10,000	-	\$ 10,000
<i>Miscellaneous</i>	5%				\$ 9,549
Subtotal Division 27					<b>\$ 200,519</b>
<b>Division 28 - Electronic Safety &amp; Security</b>					
Allowance for site security, access, etc.	1	LS	\$ 400,000		\$ 400,000
Allowance for cameras, controls, etc.	1	LS	\$ 150,000		\$ 150,000
<i>Miscellaneous</i>	0%				\$ -
Subtotal Division 28					<b>\$ 550,000</b>
<b>Division 40 - Process Integration (SCADA)</b>					
Configuration of HMI (submittals, graphics, database, WFT only, mtgs, etc.)	1	LS		\$ 150,000	\$ 150,000
<i>Miscellaneous</i>	0%				\$ -
Subtotal Division 40					<b>\$ 150,000</b>
<b>Subtotal This Facility</b>					<b>\$ 1,709,019</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 391,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 86,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 376,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 2,563,000</b>

**GARVER - Pflugerville Wilbarger Creek Regional WWTF -  
Final Submittal  
DRAFT OPCC**

City of Pflugerville  
19W07191  
KHA No. 069228913

Facility Number: 99  
Facility Description: Weiss Lane Lift Station

Description	Qty	Unit	Unit Cost	Labor	Total Cost
<b>Weiss Lane LS</b> Salvage, remove, and convert to City Existing Generator Electrical Cabinets/control panels, PLC, Control I/O, PLC Back Panel, Radio, including associated Labor, Materials, and Equipment per plans and specifications	1	LS	\$ 75,000.00		\$ 75,000
Decommission Existing Weiss Lane LS per plans and specifications	1	LS	\$ 125,000.00		\$ 125,000
<i>Miscellaneous</i>	5%				\$ 6,250
	Subtotal				\$ 131,250
<b>Subtotal This Facility</b>					<b>\$ 168,750</b>
<b>Contingency</b>				<b>18%</b>	<b>\$ 39,000</b>
<b>Mobilization</b>				<b>5%</b>	<b>\$ 9,000</b>
<b>Contractor's Overhead and Profit</b>				<b>22%</b>	<b>\$ 38,000</b>
<b>Total Estimated Facility Costs</b>					<b>\$ 255,000</b>



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## MEMORANDUM

Date: October 21, 2022  
To: City of Pflugerville  
From: Garver  
RE: WCRWWTF OPCC Cost Justification Memo

### 1.0 Background:

Garver is designing the 6.0 million gallon per day (MGD) Wilbarger Creek Regional Wastewater Treatment Facility (WCRWWTF) for the City of Pflugerville (City). Garver prepared an Opinion of Probable Construction Cost (OPCC) as part of the Final Submittal review. The City asked Garver to provide additional detail and justification for the costs used in the OPCC. Specifically, the City asked Garver to show the source of both material and labor costs for each discipline.

### 2.0 Structural Cost

By far, the largest component of increase to structural cost of the OPCC are the unit prices for concrete. Garver's construction costs utilize a total placed cost of concrete by unit volume. That total cost includes the delivered cost of concrete, delivered cost of fabricated rebar, and a fraction that covers labor, formwork multipliers, and shoring.

To evaluate these total placed unit costs in the current rapidly changing environment, Garver conducted phone surveys with eight contacts in construction, ready mix plants, and rebar manufacturing. To this information we also added data collected from RSMeans reported for 2022. This current price information is presented in a spreadsheet as an appendix. The total unit costs were factored based upon component costs prior to the recent price increases. A formula was then created which allows new unit prices to be developed based upon selection of the price of each individual component.

#### 2.1.1 Rebar Costs

Three local rebar suppliers, one rebar fabricator, and several general contractors experienced in water projects were contacted regarding pricing. RSMeans was also referenced for information.

#### 2.1.2 Delivered Concrete Costs

Concrete material, as the cost of concrete delivered to a site, were obtained from one ready-mix supplier and three general contractors experienced in water projects. RSMeans was consulted but in Garver's opinion does not appear to reflect the local market conditions for this project.

#### 2.1.3 Labor Costs

Three general contractors with experience in water projects were willing to share with Garver some information regarding labor pricing. The information provided was somewhat general in nature; the information the contractors provided about conditions in the market indicated that per diem costs are frequently required at this time, in this region.

### 2.1.4 Additional Costs

As noted above, the labor costs are combined within the unit price to reflect other factors affecting the final placed cost of concrete by volume. These additional costs, such as formwork and shoring, are more difficult to evaluate as a portion of the total unit cost. Garver separates concrete into different types that reflect the fact that formwork for walls costs less than that for elevated slabs requiring shoring, while flatwork requires comparatively little formwork.

### 2.2 Concrete Unit Prices

The breakdown of concrete unit prices by proportion, and then the adjustment of those unit prices based upon Garver's understanding of current market conditions, is shown in the appendix. Garver had adjusted the unit prices for the 90% cost estimate and has now further refined them based upon this analysis. The original and adjusted values are as follows (all values are \$/cubic yard)

Table 1: Concrete Unit Cost Review

Concrete Placement	90% OPCC	Projected OPCC
Slabs on Void Forms	\$1500	\$905
Walls	\$1600	\$1325
Elevated Slabs	\$1600	\$1925

### 2.3 Reduction of OPCC

Applying the updated concrete unit costs result in an overall reduction of \$15M throughout the project for structural concrete costs in the OPCC. This value represents the anticipated contract cost with contingency, mobilization and overhead and profit considered. After applying a time-based cost escalation, the reduction to concrete costs is anticipated to be around \$18M. This price assumes the same quantities of concrete at the time of the 90% OPCC.

### 2.4 Additional Reductions

#### 2.4.1 Drilled Pier Unit Costs

Drilled Pier concrete unit costs are still being investigated. Garver reached out to several firms but has not yet been able to obtain useful information. Additional efforts are being made, and the unit price for drilled piers, which is a significant cost on the project, will be updated accordingly.

#### 2.4.2 Drilled Pier Redesign

The project geotechnical engineer, Terracon, has been directed to proceed with pressure meter testing on the site. Possible increases in allowable soil bearing capacities are reported by Terracon to be in the 20 to 50 percent range. These increases would result in a nearly linear reduction in pier length and therefore pier costs in the same proportion of the capacity increase. A 20% increase in soil capacity values would result in a savings of \$1.43M at the current drilled pier unit costs.

#### 2.4.3 Aeration Basin Redesign

A reduction of the height of the walls by 3.5 feet is being incorporated into the design of the aeration basin. The design is ongoing, but Garver can confirm at minimum a 6 inch reduction in the thickness of the primary walls, and a 2 inch reduction in the thickness of the base slab. These reductions result in savings of \$3.1M at the 90% OPCC unit prices; this corresponds to a savings of \$2.5M at the projected OPCC unit prices.

### 3.0 Civil Costs

The largest civil cost for this project is pipe and fittings. The total length of installed pipe (not including pipe under structures) is 27,500 linear feet. Of that total, 48% of the pipe (5,435 linear feet) is 12 inch diameter or greater, and 29% (7,870 linear feet) is 30 inch diameter or greater. Installing larger diameter pipe requires larger installation equipment and more bedding and backfill material. Garver used the material cost of pipe and a labor modifier to calculate the total unit price for installed pipe. Garver increased its standard labor modifier from 30% to 50% of material costs to capture the price volatility the pipe market has exhibited over the past 18 months. For this memo Garver reviewed the actual installation costs, including bedding and backfill materials, excavation and shoring protection, and equipment and labor costs. The following sections describe these costs in more detail. The costs below do not include the escalation factors. The civil costs listed below are shown before contingency (18%), mobilization (5%) and profit (33%) are factored in.

#### 3.1.1 Excavation and Backfill

RSMeans was used to calculate cost justification for earthwork excavation for pipe and infrastructure to be completed during construction. The most recent labor and cost evaluation was used (Year 2022, Quarter 2) in RSMeans. This excavation does not include structural infrastructure for buildings or roadways. Using these values, the labor unit costs for excavation and fill will be \$14 and \$16 respectively. The updated lump sum with these values will reduce construction cost by \$152K before contingency, mobilization, and profit.

Table 2: Excavation and Backfill Unit Cost Review

	90% OPCC Labor (CY)	90% OPCC Cost	Revised Labor (CY)	Revised Cost
Excavation	\$15	\$516,000	\$14	\$482,000
Fill	\$18	\$1,058,000	\$16	\$941,000
<b>Subtotal Excavation and Backfill</b>		\$1,574,000		\$1,423,000

#### 3.1.2 Pipe Material

Pipe and material costs have been received from four manufacturers to ensure current and possible forecasted costs. Increases in ductile pipe costs and lead times have been incorporated into these estimates. The pipe material costs were carried over from the Final Submittal OPCC, since these represent the best available local information for pipe materials.

Table 3: Pipe Material Unit Cost Review

Pipe Size (inches)	Average Unit Cost (\$/LF)	Average 90% OPCC Labor Cost (\$/LF)	Average Total Unit Cost 90% OPCC (\$/LF)	Revised Labor (\$/LF)	Average Revised Labor Cost (\$/LF)
<12	\$74	\$53	\$127	\$42	\$116
12-24	\$168	\$84	\$252	\$54	\$222
30<	\$767	\$383	\$1,150	\$72	\$839

The overall piping cost reduces from \$10.4M to \$8.1M based on the revised labor calculation before contingency, mobilization and profit are factored in.

### 3.1.3 Site Perimeter Fencing

Changing the wrought-iron stone column fence to standard chain-link fence will save \$550K to the project before contingency, mobilization, and profit. Changing the stone column fence to chain-link will require the approval of the City planning department.

2,600 LF x \$250/LF = \$650K (stone column fence)

2,600 LF x \$40/LF = \$104K (6 foot chain link fence with barbed wire intruder deterrent)

## Appendix

Table 4: Historical data for concrete construction unit costs

Previous Base Price		Notes
Slabs	\$400	Out-of-date cost per cubic yard to construct slabs
Walls	\$800	Out-of-date cost per cubic yard to construct walls
Elevated Slabs	\$1,200	Out-of-date cost per cubic yard to construct elevated slabs
Rebar per pound	\$0.50	Out-of-date cost per pound to fabricate rebar
Rebar (8@12)	\$144	Out-of-date cost of rebar per cubic yard of concrete for an average steel amount for a slab
Concrete Delivered	\$100	Out-of-date cost of concrete delivered from ready-mix to plant
Labor Slabs	\$156	Remaining cost to construct slabs excluding the rebar and concrete costs
Labor Walls	\$556	Remaining cost to construct walls excluding the rebar and concrete costs
Labor Elevated Slabs	\$956	Remaining cost to construct elevated slabs excluding the rebar and concrete costs

Table 5: Revised data for concrete construction unit costs

Projected OPCC New Unit Costs		Notes
Labor Multiplier	1.5	Generalized 50% raise in labor costs
Labor Slabs	\$234	Labor cost per cy to construct slabs
Labor Walls	\$834	Labor cost per cy to construct walls
Labor Elevated Slabs	\$1,434	Labor cost per cy to construct elevated slabs
Rebar per pound	\$1.00	Cost of rebar per pound of fabrication
Rebar (8@12)	\$288	Cost of rebar per cubic yard of concrete, average steel per slab
Concrete Delivered	\$200	Cost of concrete to be delivered from ready-mix plant to site
Slabs	\$902.50	Unit price to construct slabs per cubic yard, combines the concrete, rebar, and factored labor prices, rounded to \$905
Walls	\$1,322	Unit price to construct walls per cubic yard, combines the concrete, rebar, and factored labor prices, rounded to \$1325
Elevated Slabs	\$1,922	Unit price to construct elevated slabs per cubic yard, combines the concrete, rebar, and factored labor prices, rounded to \$1925



# Memo

**To:** Mrs. Andrea Brinkley, Capital Improvements Director, City of Pflugerville  
Mr. Thomas Hunter, Assistant City Manager, City of Pflugerville

**From:** Yue Sun, PE, BCEE, Ardurra Group

**Date:** November 2, 2022

**Re:** City of Pflugerville  
Water Treatment Plant Expansion  
OPCC and Schedule Progression

---

## 1.0 Project Background

The City of Pflugerville operates a nominal 17.7 million gallons per day (MGD) Water Treatment Plant (WTP). In 2020, a Water Master Plan was prepared for the City which outlined a plan to increase the capacity of the City's WTP in phases in order to accommodate the future population growth that is expected within the City's service area. In order to maintain adequate capacity for the future population growth, the Water Master Plan recommended that the City initially expand the WTP capacity to 30 MGD and subsequently in 15-MGD increments to an ultimate capacity of 75 MGD. The City contracted Ardurra Group to complete the design of the expansion of the City's WTP to 30 MGD. Total scope of work consisted of preliminary and final design with interim deliverables including a Preliminary Engineering Report (PER/30%), 60%, 90% and 100% design deliverables.

## 2.0 OPCC and Schedule Progression

### 2.1 Project Timeline

The overall project timeline with major milestones from inception through the bidding phase is summarized below. See **Table 1** for a summary of opinion of probable construction costs (OPCC) as the project progressed.

#### Water Master Plan Update by Freese and Nichols

A Water Master Plan (WMP) was prepared by Freese and Nichols and submitted to the City in February of 2020. At this time, based on water demand projections, it was recommended that the City expand its WTP to 30 MGD by 2022. The WMP also included an interim expansion of the WTP to 20.5 MGD by 2021. An OPCC was provided for the 20.5 MGD expansion and the 30 MGD expansion.

#### Evaluation of Treatment Alternatives by Garver

An Evaluation of Treatment Alternatives report was prepared by Garver and submitted to the City in August of 2020. The purpose of this report was to complete a raw water quality analysis



and evaluate water treatment process alternatives for implementation during the expansion of the WTP to 30 MGD. The recommendation to retrofit the existing five membrane trains within the existing membrane building was made. At this time a project schedule was developed which included project design from October 2020 to October 2021, a construction notice to proceed in January 2022 and construction completed by April 2023, with an estimated construction schedule of 15 months. An OPCC was included in the report for the recommended expansion improvements.

#### Preliminary Engineering Report

A notice to proceed was issued to Ardurra in December 2020 for the preliminary design of the 30 MGD WTP expansion with a deliverable schedule of June 2021 for the 30% Preliminary Engineering Report. The draft preliminary engineering report was submitted on June 8, 2022. After comments were received from the City and the Owner's Advisor, the final PER was submitted on July 30, 2021 and included a preliminary project schedule and preliminary OPCC. The preliminary project schedule estimated project advertisement for bid in April 2022, a construction notice to proceed in June 2022 and construction completed by June of 2024.

#### Final Design

A supplemental agreement was signed by the City and issued to Ardurra in July 2021 for the WTP expansion final design and bidding phase services. Final design deliverables with updated OPCCs were submitted on schedule in October 2021 for the 60% milestone, January 2022 for the 90% milestone, February 2022 for regulatory review deliverable and May 2022 for 100% and bid ready documents. During development of the contract documents, the project schedule was updated based on the following:

- Updated lead time of major process equipment and electrical equipment obtained during final design phase
- Discussion with TCEQ on key regulatory reviews required during construction (Step 2 Approval for Use, membrane DIT review, and membrane checklist)
- Development of a comprehensive construction sequence and staging plan to identify interim construction milestones, critical tie-ins, temporary bypass piping set-up, in order to maintain plant operation and minimize impacts on plant production

At this time, the project schedule was updated to reflect a project advertisement for bid from May 2022 to July 2022 and a construction completion date of December 2025.

#### Bidding Phase

The WTP Expansion project was officially advertised for bid on June 16, 2022. Original bid open date was July 29, 2022. Multiple requests were received from potential bidders for an extension of bid opening. The bid date was extended to September 9, 2022. One proposal was received from PLW Waterworks, LLC (PLW) by the City on September 9, 2022.

#### Post Bidding Phase

Multiple collaborative work sessions have taken place since the bid opening between the city, Ardurra, PLW, and Garver to identify cost optimization opportunities for the project, as summarized below:

- Schedule optimization to allow additional time to the 1st construction milestone.
- Relocation of chemical facility to avoid installation of temporary bypass piping .



- Miscellaneous electrical design optimization.
- Miscellaneous process piping and valve optimization.

These items provide additional cost savings but still retain 30 MGD expansion for the project with key design features intact. The final negotiated price from PLW was received on October 27, 2022.

*Table 1: Construction Cost Timeline*

Milestone	Date	OPCC <sup>(2)</sup>	Percent Increase from Previous	Anticipated Construction Schedule (months)
Water Master Plan Update	Feb. 2020	\$55,890,000	-	N/A
Evaluation of Treatment Alternatives (by OA)	Aug. 2020	\$69,065,000	20%	15
30% Preliminary Design	Jun. 2021	\$80,121,000	20%	24
60% Final Design	Oct. 2021	\$90,326,000	13%	28
90% Final Design	Jan. 2022	\$91,532,000	1.3%	31
100% Final Design/Bid-Ready	May 2022	\$106,896,000	17%	41
Proposal Opening (PLW)	Sep. 2022	\$152,100,000 <sup>(1)(2)</sup>	41%	41

Note:

(1) Price reflects Total Bid Price (base bid + cash allowance + additive alternates).

(2) Additive alternates were incorporated into the project after the 100% milestone and therefore were not accounted for in the OPCCs.

## 2.2 Proactive Actions to Cope with Market Volatility and Supply Chain Disruption

Knowing globe issues with inflation, shipping delay and resultant increased freight costs, and lack of inventory and material shortage, the city and Ardurra project team took proactive actions over the course of the project to mitigate, including:

- Identification of long lead equipment on critical path.
- Pre-procurement of membrane filtration system with pre-negotiated price.
- Pre-purchase of major electrical equipment.
- Contractor outreach program at the project 60% milestone to engage local contractor community and discuss project scope and challenges with a site visit to the Water Treatment Plant.

## 2.3 Factors Contributing to Cost Escalation

The following factors are identified to contribute to the increase in the construction costs and the gap between the latest OPCC and bid price:



- **Labor Work Force Shortage:** The water/wastewater bid market is very active. Both General Contractors and Subcontractors are experiencing skilled labor shortage and retention challenges. Several General Contractors who attended the WTP Expansion Outreach Program in November 2021, decided not to bid the project due to current backlog and not being able to staff the project. PLW revealed that they have to relocate skilled and blue-collar labor that is not locally available to the project site. PLW expects a 5% annual escalation on blue-collar labor. Historically based on Engineering News-Record (ENR) labor indices, the cost of labor has increased by 2% in 2019, 1% in 2020, 3% in 2021 and 2.5% in 2022. Overall, labor has increased by 9% since 2019. However, these labor indices are based upon national averages and do not take into account local and specific factors, such as having to relocate labor forces.
- **Availability of Materials and Cost Escalation:** Construction material cost escalation is also a large factor in the increase in OPCCs and bid price. Ardurra was notified three times through the design process (April 2021, October 2021 and March 2022) of material cost escalation. Another notification was received after the 100% OPCC during the bidding phase in June 2022. ENR Materials Price Index ([https://www.enr.com/economics/historical\\_indices/material\\_price\\_index\\_history](https://www.enr.com/economics/historical_indices/material_price_index_history)), which tracks the price movement of concrete, steel, lumber, etc. has reported an overall material cost increase of 55% from January 2021 to September 2022. Also based on feedback from local contractors, concrete prices alone have increased 38% from May when the 100% OPCC was developed.
- **Project Constructability and Phasing Complexity:** The WTP Expansion project involves expansion and new construction at an operational facility. Maintenance of plant operation (MOPO) is critical to the success of the project. With existing construction constraints and key interim critical path milestones, Contractor has to stack trades and place multiple crews to work simultaneously.

### 3.0 General and Key Items Summary of OPCC

#### 3.1 General Summary

**Table 2** below shows the progression of the OPCC throughout the design process and the project bid in relation to the latest 5-Year Capital Improvement Plan. The 100% project OPCC was completed in May of 2022 at the same time as the City of Pflugerville's *Capital Improvement Plan FY2023 to FY2027* which is dated May 10, 2022. Within the FY23 to FY27 planning document, the project cost is listed as \$109,470,777 which is based on the 100% OPCC, therefore, the OPCCs cannot be compared. Only the bid price and final negotiated bid price (as described in Section 2.1) are compared in **Table 2** to the budget amount.



*Table 2: OPCC Evolution through Design Development*

Date of Occurrence	Project Deliverable	OPCC <sup>(2)</sup>	Percent Change from Budget	Notes
June 2021	30% Preliminary Design	\$80,121,000	-	
October 2021	60% Final Design	\$90,326,000	-	
January 2022	90% Final Design	\$91,532,000	-	
May 2022	100% Final Design/Bid-Ready	\$106,896,000	-	
May 2022	<i>Pflugerville 5-Year Capital Improvement Plan FY23 to FY27</i>	\$109,470,477	-	
September 2022	Proposal Opening (PLW)	\$152,100,000 <sup>(1)(2)</sup>	+39%	
October 2022	Final Negotiated Price (PLW)	\$146,256,682.52 <sup>(1)(2)</sup>	+34%	

Note:

(1) Price reflects Total Bid Price (base bid + cash allowance + additive alternates).

(2) Additive alternates were incorporated into the project after the 100% milestone and therefore were not accounted for in the OPCCs.

### 3.2 Key Items Summary

**Table 3** on the following page outlines the cost increase of key items from within the project scope as the design progressed and through the bidding process.



Table 3: Key Items Summary

Key Item	30% OPCC	60% OPCC	Percent Increase	90% OPCC	Percent Increase	100% OPCC <sup>(1)</sup>	Percent Increase	Proposal Opening (PLW)	Percent Increase	Final Negotiated Price (PLW)	Percent Increase
Site Development	\$ 9,312,543	\$ 10,807,608	16%	\$ 11,592,363	7.3%	\$ 12,592,399	8.6%	\$ 20,036,000	59.1%	\$ 20,036,000	0.0%
Yard Piping	\$ 4,062,640	\$ 3,827,230	-5.8%	\$ 4,838,051	26%	\$ 7,806,420	61.4%	\$ 18,413,803	135.9%	\$ 18,413,803	0.0%
Lake Pump Station	\$ 3,903,492	\$ 4,272,351	9.4%	\$ 4,577,866	7.2%	\$ 4,922,128	7.5%	\$ 4,037,880	-18.0%	\$ 4,037,880	0.0%
Pretreatment	\$ 15,024,072	\$ 18,883,100	26%	\$ 19,679,547	4.2%	\$ 22,309,230	13.4%	\$ 27,281,812	22.3%	\$ 27,281,812	0.0%
Membrane Filtration	\$ 24,122,261	\$ 25,828,030	7.1%	\$ 23,558,498	-8.8%	\$ 20,042,648	-14.9%	\$ 34,233,638	70.8%	\$ 34,090,663	-0.4%
Chlorine Contact Basin	\$ 1,486,357	\$ 2,752,390	85%	\$ 2,880,924	4.7%	\$ 3,055,727	6.1%	\$ 4,473,753	46.4%	\$ 4,473,753	0.0%
Existing HSPS	\$ 796,954	\$ 1,550,828	95%	\$ 1,931,798	25%	\$ 2,144,548	11.0%	\$ 1,998,440	-6.8%	\$ 1,998,440	0.0%
New HSPS No. 2	\$ 5,524,890	\$ 6,323,693	14%	\$ 6,563,830	3.8%	\$ 6,848,436	4.3%	\$ 5,111,170	-25.4%	\$ 5,111,170	0.0%
Chemical Facility	\$ 5,157,997	\$ 5,844,354	13%	\$ 5,912,763	1.2%	\$ 5,906,436	-0.1%	\$ 7,731,720	30.9%	\$ 7,731,720	0.0%
Solids Handling	\$ 10,729,316	\$ 10,236,909	-4.6%	\$ 9,996,390	-2.3%	\$ 10,179,437	1.8%	\$ 14,368,150	41.1%	\$ 14,368,150	0.0%
Mobilization	-	-	-	-	-	\$ 5,234,796	-	\$ 6,069,000	15.9%	\$ 6,069,000	0.0%
Asset Management System	-	-	-	-	-	\$ 50,000	-	\$ 35,000	-30.0%	\$ 35,000	0.0%
Acceptance Testing	-	-	-	-	-	\$ 119,523	-	\$ 169,000	41.4%	\$ 169,000	0.0%
Electrical Pre-Purchase	-	-	-	-	-	\$ 2,710,200	-	\$ 2,710,200	0.0%	\$ 2,710,200	0.0%
Owner Held Contingency	-	-	-	-	-	\$ 2,200,000	-	\$ 2,200,000	0.0%	\$ 2,200,000	0.0%
Cash Allowance	-	-	-	-	-	\$ 773,975	-	\$ 631,000	-18.5%	\$ 1,684,975	167.0%
Cost Optimization Savings	-	-	-	-	-	-	-	-	-	\$ (5,873,174)	-
<b>Sub-Total</b>	<b>\$80,120,521</b>	<b>\$90,326,493</b>	<b>12.7%</b>	<b>\$91,532,030</b>	<b>1.3%</b>	<b>\$106,895,903</b>	<b>16.8%</b>	<b>\$149,500,566</b>	<b>39.9%</b>	<b>\$144,538,392</b>	<b>-3.3%</b>
Additive Alternates	-	-	-	-	-	-	-	\$2,599,434	-	\$1,718,291	-33.9%
<b>TOTAL</b>	<b>\$80,120,521</b>	<b>\$90,326,493</b>	<b>12.7%</b>	<b>\$91,532,030</b>	<b>1.3%</b>	<b>\$106,895,903</b>	<b>16.8%</b>	<b>\$152,100,000</b>	<b>42.3%</b>	<b>\$146,256,683</b>	<b>-3.8%</b>

Notes:

- (1) OPCC restructured to coincide with bid schedule for comparison with bid values.
- (2) Additive alternates were incorporated into the project after the 100% milestone and therefore were not accounted for in the OPCCs
- (3) Pre 30% OPCCs by others not included in comparison table due to scope changes.



#### **4.0 Labor and Materials Escalation**

For reference, attached are figures showing the increase in cost of labor and materials from January 2021. **Figure 1** shows the percent increase of the Engineering News-Record construction cost index, materials cost index, skilled labor index and common labor index. **Figure 2** shows the percent increase of the U.S. Bureau of Labor Statistic Producer Price Index (PPI) for various process and structural related materials. The PPI measures the average change over time in the selling prices received by domestic producers for their output.

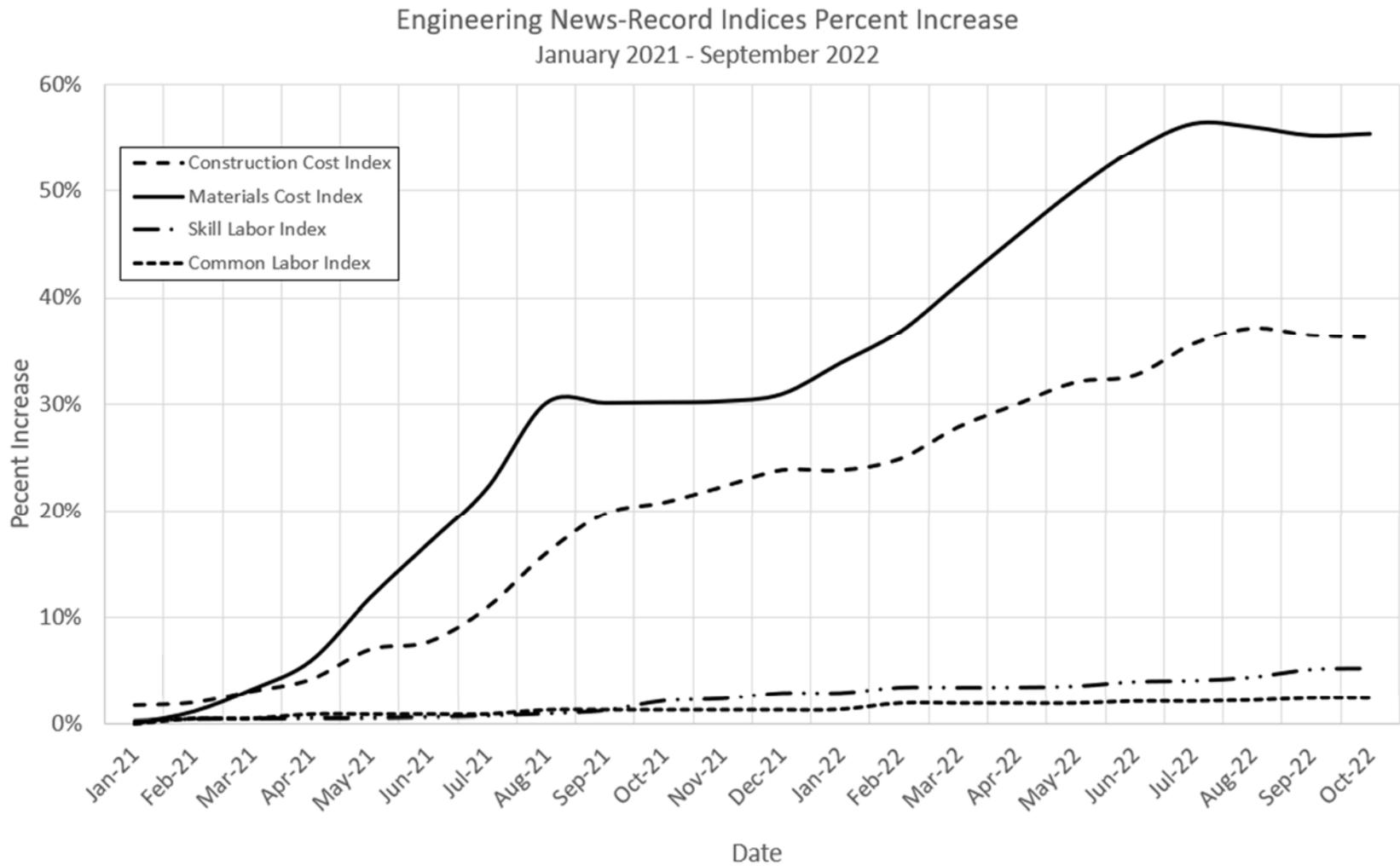
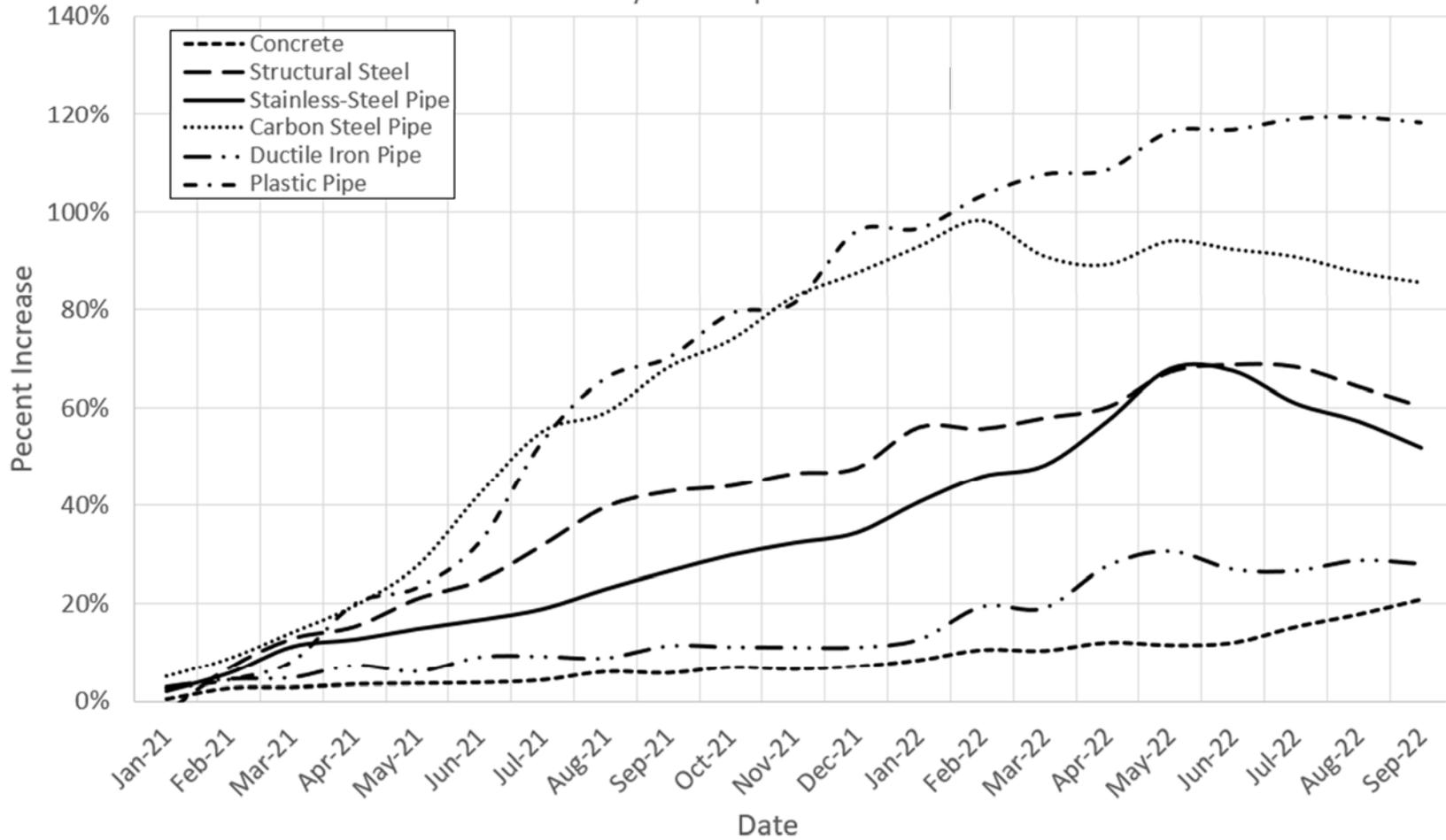


Figure 1: Engineering News-Record Historical Indices.

### Bureau of Labor Statistics Producer Price Index Percent Increase January 2021 - September 2022



**Figure 2:** United States Bureau of Labor Statistic Historical Producer Price Indices.

# 30% Opinion of Probable Construction Cost

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**City of Pflugerville  
WTP Expansion  
30% PER - OPCC**

Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
1	10	010 - Site Development, Improvements, Concrete and Electrical						
2		2000 - Sitework						
3		Concrete Road - Lime Stabilization	3,724.00	sqyd	117,306	31.50	186,563	50.0976
4		4" Sidewalk	117.3	cuyd	59,129	504.13	94,039	801.6997601
5		Check Dam Sub	3	each	156	52	248	82.7008
6		Clear and Grub	4	acre	21,910	5,477.40	34,845	8,711.26
7		Concrete Paving	868.9	cuyd	280,685	323.02	446,401	513.7544952
8		Concrete Washout area	1	each	5,500	5,500.00	8,747	8,747.20
9		Excavation to Stockpile - Generators	276	cuyd	2,355	8.53	3,746	13.57129809
10		Excavation to Stockpile - Transformer	71	cuyd	594	8.36	944	13.299328
11		Hydromulch	850,000.00	sqft	38,250	0.04	60,833	0.071568
12		Inlet protection barrier	10	each	450	45	716	71.568
13		Mowing and Maintenance	50	each	25,000	500.00	39,760	795.2
14		Rock Filter Dam	3	each	1,500	500.00	2,386	795.2
15		Silt Fence Installation	3,000.00	lnft	6,000	2.00	9,542	3.1808
16		Silt Fence Maintenance	3,000.00	lnft	24,969	8.32	39,710	13.23667124
17		Silt Fence removal	3,000.00	lnft	1,800	0.60	2,863	0.95424
18		Site - Cut to Stockpile	2,500.00	cuyd	17,460	6.98	27,768	11.1073536
19		Site - Cut to Waste	50,000.00	cuyd	400,000	8.00	636,160	12.7232
20		Site - Import Soils - Fill	5,000.00	cuyd	86,130	17.23	136,980	27.39609044
21		Site - Storm Pond	9,400.00	cuyd	112,800	12.00	179,397	19.0848
22		Site- Backfilling Concrete Washout	157	cuyd	3,534	22.51	5,620	35.79777671
23		Site- Stockpile to Fill	2,500.00	cuyd	21,084	8.43	33,532	13.41279744
24		Sodding	10,000.00	sqft	20,000	2.00	31,808	3.1808
25		Structural fill - Select Fill - Generators	34.6	cuyd	1,160	33.48	1,845	53.32758289
26		Structural Fill - Select Fill - Transformer	25	sqyd	242	9.67	385	15.3823488
27		Subgrade - Select Fill - Generators	256.2	cuyd	7,852	30.65	12,487	48.74029727
28		Subgrade - Select Fill - Transformer	64	cuyd	1,877	29.30	2,985	46.633013
29		Subgrade- Select Fill - Transformer	8.4	cuyd	676	80.49	1,075	128.0120533
30		SWPPP	1	each	2,500	2,500.00	3,976	3,976.00
31		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>1,260,917</b>	<b>1,260,917.11</b>	<b>2,005,363</b>	<b>2,005,362.57</b>
32		3000 - Concrete						
33		Slab on Grade - Generator 1	56.3	cuyd	18,855	335.19	29,988	532.6388018
34		Slab on Grade - Transformer	5.8	cuyd	2,300	398.19	3,657	630.5497269
35		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>21,155</b>	<b>21,154.90</b>	<b>33,645</b>	<b>33,644.75</b>
36		16000 - Electrical						
37		1000 kVA Transformer - Site Electrical	1	each	48,000	48,000.00	76,339	76,339.20
38		2500 kVA Transformer - Site Electrical	2	each	156,000	78,000.00	248,102	124,051.20
39		Diesel Engine Generator Platform - Generator 1	1	each	73,400	73,400.00	116,735	116,735.36
40		Distribution Switchgear - Site Electrical	1	lsum	600,000	600,000.00	954,240	954,240.00
41		Misc. Electrical - Site Electrical	1	lsum	120,000	120,000.00	190,848	190,848.00
42		Paralleling Switchgear - Site Electrical	1	lsum	1,050,000	1,050,000.00	1,669,920	1,669,920.00

**City of Pflugerville  
WTP Expansion  
30% PER - OPCC**

Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
43		Site Lighting - Site Electrical	1	Isum	96,000	96,000.00	152,678	152,678.40
44		Tier 2, 4160V, 2,250 kW Genset - Generator	1	Isum	1,140,000	1,140,000.00	1,813,056	1,813,056.00
45		Underground Electrical - Site Electrical	1	Isum	360,000	360,000.00	572,544	572,544.00
46		Wire & Conduit (Inside Building) - Site Electrical	1	Isum	210,000	210,000.00	333,984	333,984.00
47		Wire & Conduit (Plant Distribution) - Site Electrical	1	Isum	720,000	720,000.00	1,145,088	1,145,088.00
48		<b>Electrical Total</b>	<b>1</b>	<b>Isum</b>	<b>4,573,400</b>	<b>4,573,400.00</b>	<b>7,273,535</b>	<b>7,273,535.36</b>
<b>49</b>	<b>10</b>	<b>Site Development, Improvements, Concrete and Electrical Total</b>	<b>1</b>	<b>Isum</b>	<b>5,855,472</b>	<b>5,855,472.01</b>	<b>9,312,543</b>	<b>9,312,542.68</b>
50	70	070 - Yard Piping						
51		2001 - Underground Piping						
52		04" DR Line SB to SP - Yard	115	Inft	12,028	104.59	19,129	166.3433934
53		06" BWWS Line - Yard	399	Inft	48,690	122.03	77,437	194.0766316
54		06" SS Line - Yard	200	Inft	24,006	120.03	38,179	190.8957915
55		06" TS Line - Yard	515	Inft	62,845	122.03	99,949	194.0766355
56		08" AS Line - Yard	40	Inft	5,687	142.17	9,044	226.1087584
57		10" BW Line - Yard	153	Inft	22,517	147.17	35,811	234.0609351
58		10" BWWS Line - Yard	180	Inft	26,491	147.17	42,131	234.0609351
59		10" SN Line - Yard	354	Inft	51,489	145.45	81,889	231.3244887
60		12" BWR Line - Yard	572	Inft	88,558	154.82	140,842	246.2275353
61		12" BWW Line - Yard	467	Inft	73,485	157.36	116,871	250.2589415
62		12" NEU Line - Yard	180	Inft	27,508	152.82	43,748	243.0466951
63		12" RS Line - Yard	61	Inft	9,831	161.16	15,635	256.3119927
64		12" SN Line - Yard	80	Inft	12,682	158.52	20,169	252.1108044
65		16" RS Line - Yard	1,226.00	Inft	217,138	177.11	345,337	281.6775342
66		16" SN Line - Yard	400	Inft	70,441	176.10	112,029	280.0730184
67		18" DR Line - Yard	1,326.00	Inft	246,264	185.72	391,658	295.3683444
68		24" FW Line - Yard	1,691.00	Inft	363,485	214.95	578,087	341.8610038
69		24" SW Line - Yard	25	Inft	5,549	221.96	8,825	353.0083648
70		36" RW Line - Yard	185	Inft	45,241	244.55	71,951	388.9250128
71		42" FW Line - Yard	580	Inft	196,950	339.57	313,230	540.0510312
72		42" MP Line - Yard	32	Inft	11,956	373.62	19,015	594.20326
73		48" FW Line - Yard	102	Inft	47,487	465.56	75,523	740.4210108
74		ACH Line - Yard	1,380.00	Inft	110,157	79.82	175,194	126.9522625
75		Inlets - Yard	7	each	40,239	5,748.45	63,996	9,142.33
76		LAS Line - Yard	1,413.00	Inft	112,786	79.82	179,375	126.9461107
77		SH Line - Yard	2,730.00	Inft	217,696	79.74	346,224	126.8220904
78		Storm Line - Yard	1,092.00	Inft	390,828	357.90	621,572	569.2054416
79		Yard Drain - Yard	3	each	12,442	4,147.40	19,788	6,596.02
80		<b>Underground Piping Total</b>	<b>1</b>	<b>Isum</b>	<b>2,554,477</b>	<b>2,554,477.03</b>	<b>4,062,640</b>	<b>4,062,640.27</b>
<b>81</b>	<b>70</b>	<b>Yard Piping Total</b>	<b>1</b>	<b>Isum</b>	<b>2,554,477</b>	<b>2,554,477.03</b>	<b>4,062,640</b>	<b>4,062,640.27</b>
82	85	085 - Lake Pump Station						
83		2000 - Sitework						
84		4" Sidewalk - Lake PS	0.6	cuyd	850	1393.82	1,352	2,253.68

**City of Pflugerville  
WTP Expansion  
30% PER - OPCC**

Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
85		Demolition of North Wall - Lake PS	700	sqft	14,794	21.13	23,528	33.61133184
86		Drilled Piers - Lake PS	7	ea	49,000	7,000.00	77,930	11,132.80
87		Excavation Support System - Lake PS	500	sqft	32,500	65.00	51,688	103.376
88		Excavation Support System at Cans- Lake PS	1,260.00	sqft	81,900	65.00	130,254	103.376
89		Excavation to Waste - Lake PS	1,423.00	cuyd	18,311	12.87	29,122	20.46551979
90		Import Materials - Structural Backfill - Lake PS	614.4	cuyd	17,250	28.08	27,435	44.65306854
91		Import Materials - Subgrade - Lake PS	1,643.80	ton	88,235	53.68	140,329	85.3688658
92		Remove Excavation Support System - Lake PS	500	sqft	10,000	20.00	15,904	31.808
93		Remove Excavation Support System at Cans- Lake PS	1,260.00	sqft	25,200	20.00	40,078	31.808
94		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>338,041</b>	<b>338,040.86</b>	<b>537,620</b>	<b>537,620.18</b>
95		<b>2001 - Underground Piping</b>						
96		24" Suction Line - Lake PS	44	lnft	12,608	286.55	20,052	455.7218909
97		<b>Underground Piping Total</b>	<b>1</b>	<b>lsum</b>	<b>12,608</b>	<b>12,608.00</b>	<b>20,052</b>	<b>20,051.76</b>
98		<b>3000 - Concrete</b>						
99		12" Foundation Slab - Lake PS	46	cuyd	24,486	531.79	38,943	846.5789092
100		Concrete Equipment & Pipe Supports - Lake PS	6.4	cuyd	8,478	1,326.94	13,484	2,106.83
101		Pipe Encasement 24" Suction Line - Lake PS	35.9	cuyd	10,426	290.04	16,582	461.8813986
102		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>43,390</b>	<b>43,390.26</b>	<b>69,008</b>	<b>69,007.87</b>
103		<b>4000 - Masonry</b>						
104		Masonry Block - Lake PS	384	sqft	9,984	26.00	15,879	41.3504
105		Masonry Brick - Lake PS	384	sqft	6,144	16.00	9,771	25.4464
106		<b>Masonry Total</b>	<b>1</b>	<b>lsum</b>	<b>16,128</b>	<b>16,128.00</b>	<b>25,650</b>	<b>25,649.97</b>
107		<b>7000 - Thermal and Moisture Protection</b>						
108		Roofing - Lake PS	980	sqft	17,640	18.00	28,055	28.6272
109		<b>Thermal and Moisture Protection Total</b>	<b>1</b>	<b>lsum</b>	<b>17,640</b>	<b>17,640.00</b>	<b>28,055</b>	<b>28,054.66</b>
110		<b>8000 - Doors &amp; Windows</b>						
111		Metal Door - Lake PS	1	ea	4,800	4,800.00	7,634	7,633.92
112		Overhead Door - Lake PS	1	each	24,000	24,000.00	38,170	38,169.60
113		<b>Doors &amp; Windows Total</b>	<b>1</b>	<b>lsum</b>	<b>28,800</b>	<b>28,800.00</b>	<b>45,804</b>	<b>45,803.52</b>
114		<b>9000 - Finishes</b>						
115		Concrete Sealer - Lake PS	980	sqft	3,920	4.00	6,234	6.3616
116		Painting Building - Lake PS	2,940.00	sqft	17,640	6.00	28,055	9.5424
117		Painting Pipe - Lake PS	1,280.00	sqft	9,418	7.36	14,979	11.70233715
118		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>30,978</b>	<b>30,978.38</b>	<b>49,268</b>	<b>49,268.02</b>
119		<b>10000 - Specialties</b>						
120		Fire Extinguishers in Cabinets - Lake PS	1	each	320	320	509	508.928
121		<b>Specialties Total</b>	<b>1</b>	<b>lsum</b>	<b>320</b>	<b>320</b>	<b>509</b>	<b>508.928</b>
122		<b>11000 - Equipment</b>						
123		Ion Generator System - Lake PS	1	each	245,842	245,842.00	390,987	390,987.12
124		Vertical Turbine Pumps - Lake PS	2	each	547,228	273,614.15	870,312	435,155.94
125		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>793,070</b>	<b>793,070.29</b>	<b>1,261,299</b>	<b>1,261,298.99</b>
126		<b>13000 - Special Construction</b>						

**City of Pflugerville  
WTP Expansion  
30% PER - OPCC**

Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
127		PEMB - Lake PS	980	sqft	71,540	73.00	113,777	116.0992
128		<b>Special Construction Total</b>	<b>1</b>	<b>Isum</b>	<b>71,540</b>	<b>71,540.00</b>	<b>113,777</b>	<b>113,777.22</b>
129		<b>15000 - Mechanical</b>						
130		HVAC - Lake PS	1	Isum	60,840	60,840.00	96,760	96,759.94
131		Plumbing - Lake PS	1	Isum	9,860	9,860.00	15,681	15,681.34
132		Process Piping & Valves - Lake PS	60	Inft	322,593	5,376.55	513,052	8,550.87
133		<b>Mechanical Total</b>	<b>1</b>	<b>Isum</b>	<b>393,293</b>	<b>393,293.00</b>	<b>625,493</b>	<b>625,493.19</b>
134		<b>16000 - Electrical</b>						
135		Ethernet communications modules - Lake PS	1	Isum	52,900	52,900.00	84,132	84,132.16
136		45 kVA Transformer - Lake PS	1	Isum	6,000	6,000.00	9,542	9,542.40
137		Automatic Transfer Switch - Lake PS	1	Isum	48,000	48,000.00	76,339	76,339.20
138		Duckbank & Grounding	1	Isum	72,000	72,000.00	114,509	114,508.80
139		Lighting & Receptacle - Lake PS	1	Isum	37,500	37,500.00	59,640	59,640.00
140		Lighting Panel - Lake PS	1	Isum	6,000	6,000.00	9,542	9,542.40
141		Misc. Electrical - Lake PS	1	Isum	75,000	75,000.00	119,280	119,280.00
142		Motor Control Center MCC-2A - Lake PS	1	Isum	102,000	102,000.00	162,221	162,220.80
143		Network cabinet - replace network switch to Cisco 9200 using new ring topology - Lake PS	1	Isum	24,200	24,200.00	38,488	38,487.68
144		New redundant fiber optic cable from membrane bldg for ring network - Lake PS	1	Isum	10,800	10,800.00	17,176	17,176.32
145		Oncor Coordination	1	Isum	30,000	30,000.00	47,712	47,712.00
146		Replace PLC processor with new 1769-L33R - Lake PS	1	Isum	16,200	16,200.00	25,764	25,764.48
147		Wire & Conduit - Lake PS	1	Isum	228,000	228,000.00	362,611	362,611.20
148		<b>Electrical Total</b>	<b>1</b>	<b>Isum</b>	<b>708,600</b>	<b>708,600.00</b>	<b>1,126,957</b>	<b>1,126,957.44</b>
<b>149</b>	<b>85</b>	<b>Lake Pump Station Total</b>	<b>1</b>	<b>Isum</b>	<b>2,454,409</b>	<b>2,454,408.80</b>	<b>3,903,492</b>	<b>3,903,491.76</b>
150	190	<b>190 - Pretreatment</b>						
151		<b>2000 - Sitework</b>						
152		Backfill - Pretreatment	200	cuyd	8,802	44.01	13,999	69.99596912
153		Excavation to Waste - Pretreatment	3,753.00	cuyd	43,697	11.64	69,496	18.51755733
154		Subgrade Material - Pretreatment	23,980.00	sqft	340,636	14.20	541,747	22.591632
155		<b>Sitework Total</b>	<b>1</b>	<b>Isum</b>	<b>393,136</b>	<b>393,135.64</b>	<b>625,243</b>	<b>625,242.92</b>
156		<b>2001 - Underground Piping</b>						
157		Ductile Iron Pipe 08" RS U-Line - Pretreatment	304	Inft	36,781	120.99	58,496	192.4217636
158		Ductile Iron Pipe 18" DR U-Line - Pretreatment	20	Inft	6,084	304.18	9,675	483.771848
159		Ductile Iron Pipe 30" RW U-Line - Pretreatment	40	Inft	13,367	334.18	21,259	531.4834504
160		<b>Underground Piping Total</b>	<b>1</b>	<b>Isum</b>	<b>56,232</b>	<b>56,231.76</b>	<b>89,431</b>	<b>89,430.99</b>
161		<b>3000 - Concrete</b>						
162		12" Elevated Concrete Slab - Pretreatment	68.9	cuyd	83,120	1,206.11	132,194	1,918.64
163		12" Elevated Concrete Slab & Walkway - Pretreatment	302.3	cuyd	420,929	1,392.26	669,446	2,214.51
164		12" RS Slab On Grade - Pretreatment	7.9	cuyd	3,666	462.12	5,831	738.0623635
165		12" Walls <20' - Pretreatment	460.6	cuyd	492,308	1,068.76	782,966	1,699.88
166		18" Walls <20' - Pretreatment	1,006.60	cuyd	811,524	806.22	1,290,648	1282.185425

**City of Pflugerville  
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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
167		24" Foundation Slab - Flocculation	633.7	cuyd	364,818	575.72	580,206	915.5844458
168		24" Foundation Slab - Sedimentation Basin	896.9	cuyd	505,383	563.51	803,761	896.1544746
169		24" Foundation Slab - Sludge Collection Channel	102.2	cuyd	63,545	621.85	101,062	988.8697929
170		24" Walls <20' - Pretreatment	656.4	cuyd	491,484	748.73	781,655	1190.821692
171		24" Walls >20' - Pretreatment	95.7	cuyd	77,284	807.51	122,912	1284.345551
172		General Construction Equipment - Pretreatment	32	weeks	448,196	14,006.13	712,811	22,275.34
173		Grout Fill at Sed Basin - Pretreatment	284.3	cuyd	75,915	267.05	120,735	424.6748398
174		Grout Fill at Sludge Channel - Pretreatment	48.9	cuyd	12,432	254.14	19,772	404.3307419
175		Leak Testing - Pretreatment	1	each	2,334	2,334.00	3,712	3,711.99
176		Pipe Encasement 08" RS U-Line - Pretreatment	87.9	cuyd	29,100	331.22	46,281	526.516847
177		Pipe Encasement 18" DR U-Line - Pretreatment	8	cuyd	2,749	342.57	4,372	546.477344
178		Pipe Encasement 30" RW U-Line - Pretreatment	27	cuyd	8,064	299.24	12,826	475.0242062
179		Stair Landing Slab On Grade 1 - Pretreatment	6.1	cuyd	3,114	513.34	4,953	811.948737
180		Stair Landing Slab On Grade 2 - Pretreatment	6.1	cuyd	2,969	487.54	4,722	774.1154675
181		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>3,898,934</b>	<b>3,898,933.66</b>	<b>6,200,864</b>	<b>6,200,864.09</b>
182		<b>5000 - Steel</b>						
183		Grating - Pretreatment	362	sqft	18,621	51.44	29,615	81.80806718
184		Handrailing - Pretreatment	2,122.00	lnft	89,548	42.20	142,418	67.11488
185		Stairs 1 - Pretreatment	1	each	33,424	33,424.00	53,158	53,157.53
186		Stairs 2 - Pretreatment	1	each	25,576	25,576.00	40,676	40,676.07
187		<b>Steel Total</b>	<b>1</b>	<b>lsum</b>	<b>167,169</b>	<b>167,169.20</b>	<b>265,866</b>	<b>265,865.90</b>
188		<b>7000 - Thermal and Moisture Protection</b>						
189		Roofing - Pretreatment	12,450.00	sqft	224,100	18.00	356,409	28.6272
190		<b>Thermal and Moisture Protection Total</b>	<b>1</b>	<b>lsum</b>	<b>224,100</b>	<b>224,100.00</b>	<b>356,409</b>	<b>356,408.64</b>
191		<b>8000 - Doors &amp; Windows</b>						
192		Metal Door - Pretreatment	2	ea	9,600	4,800.00	15,268	7,633.92
193		<b>Doors &amp; Windows Total</b>	<b>1</b>	<b>lsum</b>	<b>9,600</b>	<b>9,600.00</b>	<b>15,268</b>	<b>15,267.84</b>
194		<b>9000 - Finishes</b>						
195		Painting Pipe - Pretreatment	833	sqft	6,129	7.36	9,748	11.70232739
196		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>6,129</b>	<b>6,129.30</b>	<b>9,748</b>	<b>9,748.04</b>
197		<b>11000 - Equipment</b>						
198		Chain and Flight Sludge Collector - Pretreatment	4	each	341,713	85,428.21	543,460	135,865.03
199		Inclined Parallel Plate Settler System - Pretreatment	4	each	2,198,642	549,660.50	3,496,720	874,180.06
200		Inline Static Mixers - Pretreatment	2	each	81,954	40,977.00	130,340	65,169.82
201		Slide Gates Surface Mounted - Pretreatment	10	each	71,308	7,130.81	113,408	11,340.84
202		Vertical Mixer - Pretreatment	12	each	438,164	36,513.67	696,856	58,071.34
203		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>3,131,781</b>	<b>3,131,780.93</b>	<b>4,980,784</b>	<b>4,980,784.39</b>
204		<b>13000 - Special Construction</b>						
205		PEMB - Pretreatment	12,450.00	sqft	249,000	20.00	396,010	31.808
206		<b>Special Construction Total</b>	<b>1</b>	<b>lsum</b>	<b>249,000</b>	<b>249,000.00</b>	<b>396,010</b>	<b>396,009.60</b>
207		<b>15000 - Mechanical</b>						
208		Ductile Iron Piping 08" RS Line - Pretreatment	36	lnft	9,424	261.78	14,988	416.3313778

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
209		Ductile Iron Piping 18" DR Line - Pretreatment	20	Inft	4,871	243.55	7,747	387.34192
210		Ductile Iron Piping 30" RW Line - Pretreatment	96	Inft	29,536	307.67	46,975	489.3196933
211		Ductile Iron Piping 48" BF Line - Pretreatment	3	Inft	7,609	2,536.33	12,101	4,033.78
212		Ductile Iron Piping 48" SW Line - Pretreatment	3	Inft	5,677	1,892.33	9,029	3,009.57
213		<b>Mechanical Total</b>	<b>1</b>	<b>Isum</b>	<b>57,117</b>	<b>57,117.40</b>	<b>90,840</b>	<b>90,839.51</b>
214		<b>16000 - Electrical</b>						
215		125A ATS - Pretreatment	1	Isum	9,000	9,000.00	14,314	14,313.60
216		45 kVA Transformer - Pretreatment	1	Isum	6,000	6,000.00	9,542	9,542.40
217		Duckbank & Grounding - Pretreatment	1	Isum	150,000	150,000.00	238,560	238,560.00
218		Lighting & Receptacle - Pretreatment	1	Isum	102,000	102,000.00	162,221	162,220.80
219		Lighting Panel - Pretreatment	1	Isum	6,000	6,000.00	9,542	9,542.40
220		Misc. Electrical - Pretreatment	1	Isum	50,000	50,000.00	79,520	79,520.00
221		Motor Control Center MCC-7 - Pretreatment	1	Isum	132,000	132,000.00	209,933	209,932.80
222		Network Cabinet with Cisco 9200, ring network, Watchdog 100P - Pretreatment	1	Isum	50,500	50,500.00	80,315	80,315.20
223		New redundant fiber optic cable from main electrical building bldg for ring network - Pretreatment	1	Isum	8,950	8,950.00	14,234	14,234.08
224		PLC Panel, 48 x 36 x 12", CompactLogix PLC, UPS, programming for 12 flocculation VFD, 4 sludge drive vendor panels - Pretreatment	1	Isum	68,400	68,400.00	108,783	108,783.36
225		Wire & Conduit - Pretreatment	1	Isum	375,000	375,000.00	596,400	596,400.00
226		<b>Electrical Total</b>	<b>1</b>	<b>Isum</b>	<b>957,850</b>	<b>957,850.00</b>	<b>1,523,365</b>	<b>1,523,364.64</b>
227	190	<b>Pretreatment Total</b>	<b>1</b>	<b>Isum</b>	<b>9,151,048</b>	<b>9,151,047.89</b>	<b>14,553,827</b>	<b>14,553,826.56</b>
228	200	<b>200 - Membrane Filtration</b>						
229		<b>2000 - Sitework</b>						
230		Demo Existing Piping - Membrane Building	930	Inft	83,460	89.74	132,735	142.7255742
231		Demolition Filter Equipment - Membrane Building	5	each	124,625	24,925.00	198,204	39,640.72
232		Temporary MP Piping - Membrane Building	428	Inft	146,141	341.45	232,422	543.04208
233		Temporary MF Piping - Membrane Building	102	Inft	51,051	500.50	81,192	796.0014369
234		<b>Sitework Total</b>	<b>1</b>	<b>Isum</b>	<b>405,277</b>	<b>405,277.00</b>	<b>644,553</b>	<b>644,552.54</b>
235		<b>2001 - Underground Piping</b>						
236		Delivery Area 03" DR Line - Membrane Building	40	Inft	5,368	134.21	8,538	213.4491744
237		Delivery Area Inlet Drain - Membrane Building	3	each	12,442	4,147.40	19,788	6,596.02
238		<b>Underground Piping Total</b>	<b>1</b>	<b>Isum</b>	<b>17,811</b>	<b>17,810.64</b>	<b>28,326</b>	<b>28,326.04</b>
239		<b>3000 - Concrete</b>						
240		Concrete Fill for Membranes - Membrane Building	110	cuyd	56,857	517.01	90,425	822.044217
241		Curb - Membrane Building	235	Inft	14,100	60.00	22,425	95.424
242		Delivery Area 4" Sidewalk - Membrane Building	4.1	cuyd	2,581	622.32	4,106	1001.366267
243		Delivery Area Paving - Membrane Building	41.5	cuyd	13,102	315.85	20,837	502.1053756
244		Equipment Pads (2)Octagons - Membrane Building	73	cuyd	36,304	497.46	57,739	790.9403424
245		Equipment Pads Bulk Tank (4) - Membrane Building	5.6	cuyd	4,251	759.15	6,761	1207.35784
246		Equipment Pads Pumps (4) - Membrane Building	11.2	cuyd	9,226	823.72	14,672	1310.03946
247		<b>Concrete Total</b>	<b>1</b>	<b>Isum</b>	<b>136,422</b>	<b>136,421.51</b>	<b>216,965</b>	<b>216,964.77</b>

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
248		<b>4000 - Masonry</b>						
249		Masonry Block - Membrane Building	2,024.00	sqft	62,884	31.07	100,011	49.41240791
250		<b>Masonry Total</b>	<b>1</b>	<b>lsum</b>	<b>62,884</b>	<b>62,884.00</b>	<b>100,011</b>	<b>100,010.71</b>
251		<b>8000 - Doors &amp; Windows</b>						
252		Fiberglass Door - Membrane Building	2	ea	9,600	4,800.00	15,268	7,633.92
253		<b>Doors &amp; Windows Total</b>	<b>1</b>	<b>lsum</b>	<b>9,600</b>	<b>9,600.00</b>	<b>15,268</b>	<b>15,267.84</b>
254		<b>9000 - Finishes</b>						
255		Floor Coatings - Membrane Building	2,980.00	sqft	26,820	9.00	42,655	14.3136
256		Painting Pipe - Membrane Building	950	sqft	6,990	7.36	11,117	11.70233061
257		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>33,810</b>	<b>33,810.20</b>	<b>53,772</b>	<b>53,771.74</b>
258		<b>11000 - Equipment</b>						
259		Neutralization Waste Tank - Membrane Building	1	each	7,882	7,882.28	12,536	12,535.98
260		Air Receiver - Membrane Building	2	each	7,916	3,958.24	12,590	6,295.18
261		Air Scour Blowers - Membrane Building	2	each	13,275	6,637.52	21,113	10,556.31
262		Backwash Pumps - Membrane Building	2	each	7,581	3,790.50	12,057	6,028.41
263		Booster Pumps - Membrane Building	3	each	675,806	225,268.67	1,074,802	358,267.29
264		CA Metering Pumps - Membrane Building	1	each	48,276	48,276.30	76,779	76,778.63
265		CA Tank - Membrane Building	1	each	59,723	59,722.92	94,983	94,983.33
266		CIA Feed Pump Pumps - Membrane Building	1	each	54,137	54,137.30	86,100	86,099.96
267		CIA Tank - Membrane Building	1	each	43,983	43,982.92	69,950	69,950.44
268		CIP Pumps - Membrane Building	2	each	7,063	3,531.54	11,233	5,616.56
269		CIP Tank - Membrane Building	1	each	7,882	7,882.28	12,536	12,535.98
270		Drain Pumps - Membrane Building	2	each	88,936	44,468.00	141,444	70,721.91
271		HA Metering Pumps - Membrane Building	1	each	46,176	46,176.30	73,439	73,438.79
272		HA Tank - Membrane Building	1	each	47,408	47,407.92	75,398	75,397.56
273		Membrane Filtration System (includes 5 membrane units, 5 permeate pumps, two backwash pumps, two CIP pumps, two neutralization pumps, two air scour blowers, one CIP tank, one neutralization tank, two air receivers and related appurtenances) - Membrane Building	5	each	8,292,484	1,658,496.75	13,188,366	2,637,673.23
274		Neutralization Waste Pumps - Membrane Building	2	each	7,063	3,531.54	11,233	5,616.56
275		Permeate Pumps - Membrane Building	5	each	19,803	3,960.59	31,495	6,298.93
276		SBS Metering Pumps - Membrane Building	1	each	46,176	46,176.30	73,439	73,438.79
277		SBS Tank - Membrane Building	1	each	59,318	59,317.92	94,339	94,339.22
278		SH Metering Pumps - Membrane Building	1	each	55,336	55,335.60	88,006	88,005.74
279		SH Tank - Membrane Building	1	each	36,173	36,172.92	57,529	57,529.41
280		Sump Pumps - Membrane Building	6	each	79,510	13,251.67	126,453	21,075.45
281		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>9,711,908</b>	<b>9,711,908.34</b>	<b>15,445,819</b>	<b>15,445,819.02</b>
282		<b>15000 - Mechanical</b>						
283		AA Piping - Membrane Building	335	lnft	45,430	135.61	72,252	215.6772299
284		BW Piping - Membrane Building	184	lnft	192,365	1,045.46	305,937	1,662.70
285		Chemical Piping - Membrane Building	1,200.00	lnft	88,096	73.41	140,108	116.7565653
286		CIP Piping - Membrane Building	332	lnft	111,455	335.71	177,258	533.910693

**City of Pflugerville  
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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
287		Eyewash - Membrane Building	8	each	115,700	14,462.50	184,009	23,001.16
288		HVAC - Membrane Building	1	lsum	69,607	69,607.00	110,703	110,702.97
289		MF Piping - Membrane Building	102	lnft	180,763	1,772.18	287,485	2,818.48
290		MP Piping - Membrane Building	463	lnft	465,831	1,006.11	740,857	1,600.12
291		Plumbing - Membrane Building	1	lsum	61,100	61,100.00	97,173	97,173.44
292		<b>Mechanical Total</b>	<b>1</b>	<b>lsum</b>	<b>1,330,346</b>	<b>1,330,346.40</b>	<b>2,115,783</b>	<b>2,115,782.91</b>
293		<b>16000 - Electrical</b>						
294		225A ATS - Membrane Building	1	lsum	12,000	12,000.00	19,085	19,084.80
295		75 kVA Transformer - Membrane Building	1	lsum	9,600	9,600.00	15,268	15,267.84
296		Demo Control Room network switch, extend CAT6 cables to new Cisco 9300 in mechanical / electrical room - Membrane Building	1	lsum	5,500	5,500.00	8,747	8,747.20
297		Duckbank & Grounding - Membrane Building	1	lsum	264,000	264,000.00	419,866	419,865.60
298		Lab PLC update processor to ControlLogix L82 - Membrane Building	1	lsum	27,500	27,500.00	43,736	43,736.00
299		Lighting & Receptacle - Membrane Building	1	lsum	36,000	36,000.00	57,254	57,254.40
300		Lighting Panel - Membrane Building	1	lsum	12,000	12,000.00	19,085	19,084.80
301		Misc. Electrical - Membrane Building	1	lsum	100,000	100,000.00	159,040	159,040.00
302		New 42U Network cabinet - Move all network equipment to new rack. Expand network switch to stackable Cisco 9300 using new ring topology - Membrane Building	1	lsum	58,500	58,500.00	93,038	93,038.40
303		SWBD-3, MCC-3, 200 HP VFD, 125 HP VFD, 40 PH VFD	1	lsum	1,332,000	1,332,000.00	2,118,413	2,118,412.80
304		Wire & Conduit - Membrane Building	1	lsum	1,087,500	1,087,500.00	1,729,560	1,729,560.00
305		<b>Electrical Total</b>	<b>1</b>	<b>lsum</b>	<b>2,944,600</b>	<b>2,944,600.00</b>	<b>4,683,092</b>	<b>4,683,091.84</b>
<b>306</b>	<b>200</b>	<b>Membrane Filtration Total</b>	<b>1</b>	<b>lsum</b>	<b>14,652,658</b>	<b>14,652,658.10</b>	<b>23,303,587</b>	<b>23,303,587.44</b>
307	340	340 - Chlorine Contact Basin						
308		<b>2000 - Sitework</b>						
309		Backfill - CCB	222	cuyd	10,643	47.94	16,927	76.24678486
310		Excavation to Waste - CCB	1,463.00	cuyd	17,034	11.64	27,091	18.51756096
311		Subgrade Material - CCB	5,586.00	sqft	79,349	14.20	126,197	22.591632
312		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>107,026</b>	<b>107,026.42</b>	<b>170,215</b>	<b>170,214.82</b>
313		<b>2001 - Underground Piping</b>						
314		Ductile Iron Pipe 48" MP U-Line - CCB	24	lnft	20,464	852.65	32,545	1356.057211
315		<b>Underground Piping Total</b>	<b>1</b>	<b>lsum</b>	<b>20,464</b>	<b>20,463.64</b>	<b>32,545</b>	<b>32,545.37</b>
316		<b>3000 - Concrete</b>						
317		12" Walls <20' - CCB	554.3	cuyd	592,883	1,069.53	942,921	1,701.10
318		12" Walls >20' - CCB	7.7	cuyd	11,428	1,484.72	18,175	2,360.34
319		24" Foundation Slab - CCB	321.8	cuyd	181,495	564.06	288,650	896.9863908
320		Leak Testing - CCB	1	each	2,334	2,334.00	3,712	3,711.99
321		Pipe Encasement 48" MP U-Line - CCB	25.2	cuyd	7,388	292.81	11,749	466.2453244
322		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>795,528</b>	<b>795,527.71</b>	<b>1,265,207</b>	<b>1,265,207.27</b>
323		<b>5000 - Steel</b>						
324		Bulkhead- CCB	16	sqft	1,095	68.42	1,741	108.82312
325		Weir Plates - CCB	18	sqft	580	32.2	922	51.21088

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
326		Steel Total	1	lsum	1,674	1,674.40	2,663	2,662.97
327		11000 - Equipment						
328		Slide Gates- CCB	1	each	9,889	9,888.52	15,727	15,726.70
329		Equipment Total	1	lsum	9,889	9,888.52	15,727	15,726.70
<b>330</b>	<b>340</b>	<b>Chlorine Contact Basin Total</b>	<b>1</b>	<b>lsum</b>	<b>934,581</b>	<b>934,580.70</b>	<b>1,486,357</b>	<b>1,486,357.15</b>
331	345	345 - Existing High Service Pump Station						
332		2000 - Sitework						
333		Demo / Building Modifications	5	each	32,279	6,455.77	51,336	10,267.27
334		Demo Existing Piping - Existing HPSP	185	lnft	16,602	89.74	26,404	142.7255908
335		Sitework Total	1	lsum	48,881	48,881.13	77,741	77,740.55
336		3000 - Concrete						
337		Concrete Equipment & Pipe Supports - Existing HSPS	7.7	cuyd	10,174	1,326.94	16,180	2,101.36
338		Concrete Total	1	lsum	10,174	10,173.82	16,180	16,180.44
339		9000 - Finishes						
340		Painting Pipe - Existing HSPS	628	sqft	4,621	7.36	7,349	11.70233034
341		Finishes Total	1	lsum	4,621	4,620.89	7,349	7,349.06
342		11000 - Equipment						
343		Rotate and Reinstall Vertical Turbine Pumps - Existing HSPS	3	each	101,253	33,750.96	161,033	53,677.53
344		Equipment Total	1	lsum	101,253	101,252.88	161,033	161,032.58
345		15000 - Mechanical						
346		Process Piping & Valves - Existing HSPS	100	lnft	325,324	3,253.24	517,395	5,173.95
347		Mechanical Total	1	lsum	325,324	325,324.00	517,395	517,395.29
348		16000 - Electrical						
349		Old HSPS Groundwater Storage PLC5. Replace processor with 1769-L24ER-QBFC1B - Existing HSPS	1	lsum	10,850	10,850.00	17,256	17,255.84
350		Electrical Total	1	lsum	10,850	10,850.00	17,256	17,255.84
<b>351</b>	<b>345</b>	<b>Existing High Service Pump Station Total</b>	<b>1</b>	<b>lsum</b>	<b>501,103</b>	<b>501,102.72</b>	<b>796,954</b>	<b>796,953.77</b>
352	346	346 - High Service Pump Station #2						
353		2000 - Sitework						
354		Excavation to Waste - HSPS	2,033.00	cuyd	24,609	12.10	39,138	19.25120919
355		Import Materials - Structural Backfill - HSPS	876	cuyd	24,710	28.21	39,299	44.86220654
356		Import Materials - Subgrade - HSPS	2,350.10	ton	126,279	53.73	200,834	85.45757003
357		Sitework Total	1	lsum	175,598	175,597.86	279,271	279,270.84
358		2001 - Underground Piping						
359		24" Suction Line - HSPS	90	lnft	25,789	286.55	41,015	455.7220516
360		Underground Piping Total	1	lsum	25,789	25,789.10	41,015	41,014.98
361		3000 - Concrete						
362		12" Foundation Slab - HSPS	119	cuyd	61,949	520.58	98,524	827.932704
363		12" Vault Walls - HSPS	11.4	cuyd	11,566	1,013.38	18,395	1,613.56
364		Concrete Equipment & Pipe Supports - HSPS	12.8	cuyd	16,956	1,326.94	26,967	2,106.83
365		Pipe Encasement 24" Suction Line - HSPS	73.5	cuyd	21,312	289.84	33,894	461.1445943
366		Concrete Total	1	lsum	111,783	111,783.29	177,780	177,780.14

**City of Pflugerville  
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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
367		<b>4000 - Masonry</b>						
368		Masonry Block - HSPS	1,340.00	sqft	34,840	26.00	55,410	41.3504
369		Masonry Brick - HSPS	900	sqft	14,400	16.00	22,902	25.4464
370		<b>Masonry Total</b>	<b>1</b>	<b>lsum</b>	<b>49,240</b>	<b>49,240.00</b>	<b>78,311</b>	<b>78,311.30</b>
371		<b>5000 - Steel</b>						
372		Grating - HSPS	64	sqft	905	14.14	1,439	22.4810495
373		<b>Steel Total</b>	<b>1</b>	<b>lsum</b>	<b>905</b>	<b>904.67</b>	<b>1,439</b>	<b>1438.787168</b>
374		<b>7000 - Thermal and Moisture Protection</b>						
375		Roofing - HSPS	2,904.00	sqft	52,272	18.00	83,133	28.6272
376		<b>Thermal and Moisture Protection Total</b>	<b>1</b>	<b>lsum</b>	<b>52,272</b>	<b>52,272.00</b>	<b>83,133</b>	<b>83,133.39</b>
377		<b>8000 - Doors &amp; Windows</b>						
378		Double Door & Frame - HSPS	1	each	10,135	10,135.00	16,119	16,118.70
379		Overhead Door - HSPS	1	each	24,000	24,000.00	38,170	38,169.60
380		Single Door & Frame - HSPS	3	each	11,940	3,980.00	18,989	6,329.79
381		<b>Doors &amp; Windows Total</b>	<b>1</b>	<b>lsum</b>	<b>46,075</b>	<b>46,075.00</b>	<b>73,278</b>	<b>73,277.68</b>
382		<b>9000 - Finishes</b>						
383		Concrete Sealer - HSPS	2,904.00	sqft	11,616	4.00	18,474	6.3616
384		Painting Building - HSPS	6,204.00	sqft	37,224	6.00	59,201	9.5424
385		Painting Pipe - HSPS	640	sqft	4,709	7.36	7,489	11.70233715
386		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>53,549</b>	<b>53,549.19</b>	<b>85,165</b>	<b>85,164.63</b>
387		<b>10000 - Specialties</b>						
388		Fire Extinguishers in Cabinets - HSPS	4	each	1,280	320.00	2,036	508.928
389		Interior Signage - HSPS	4	each	2,720	680.00	4,326	1081.472
390		<b>Specialties Total</b>	<b>1</b>	<b>lsum</b>	<b>4,000</b>	<b>4,000.00</b>	<b>6,362</b>	<b>6,361.60</b>
391		<b>11000 - Equipment</b>						
392		Vertical Turbine Pumps - HSPS	2	each	909,180	454,590.15	1,445,960	722,980.17
393		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>909,180</b>	<b>909,180.29</b>	<b>1,445,960</b>	<b>1,445,960.33</b>
394		<b>13000 - Special Construction</b>						
395		PEMB - HSPS	2,904.00	sqft	217,800	75.00	346,389	119.28
396		<b>Special Construction Total</b>	<b>1</b>	<b>lsum</b>	<b>217,800</b>	<b>217,800.00</b>	<b>346,389</b>	<b>346,389.12</b>
397		<b>15000 - Mechanical</b>						
398		HVAC - HSPS	1	lsum	159,720	159,720.00	254,019	254,018.69
399		Plumbing - HSPS	1	lsum	72,600	72,600.00	115,463	115,463.04
400		Process Piping & Valves - HSPS	275	lnft	429,238	1,560.87	682,660	2,482.40
401		<b>Mechanical Total</b>	<b>1</b>	<b>lsum</b>	<b>661,558</b>	<b>661,558.00</b>	<b>1,052,142</b>	<b>1,052,141.84</b>
402		<b>16000 - Electrical</b>						
403		300 kVA Distribution Transformer - HSPS	1	lsum	60,000	60,000.00	95,424	95,424.00
404		400A ATS - HSPS	1	lsum	12,000	12,000.00	19,085	19,084.80
405		400A Power Panel - HSPS	1	lsum	9,000	9,000.00	14,314	14,313.60
406		45 kVA Transformer - HSPS	1	lsum	6,000	6,000.00	9,542	9,542.40
407		Duckbank & Grounding - HSPS	1	lsum	102,000	102,000.00	162,221	162,220.80
408		Lighting & Receptacle - HSPS	1	lsum	72,000	72,000.00	114,509	114,508.80

**City of Pflugerville  
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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
409		Lighting Panel - HSPS	1	Isum	6,000	6,000.00	9,542	9,542.40
410		Misc. Electrical - HSPS	1	Isum	50,000	50,000.00	79,520	79,520.00
411		MV AFD's - HSSP	1	Isum	156,000	156,000.00	248,102	248,102.40
412		MV Motor Control Center - HSPS	1	Isum	330,000	330,000.00	524,832	524,832.00
413		Network Cabinet with Cisco 9200, ring network, Watchdog 100P - HSPS	1	Isum	53,500	53,500.00	85,086	85,086.40
414		New HSPS - RIO PLC, control panel for 2 new VFD pumps. RIO adapters for VFD's - HSPS	1	Isum	74,900	74,900.00	119,121	119,120.96
415		New redundant fiber optic cable from main electrical building bldg for ring network - HSPS	2	Isum	9,750	4,875.00	15,506	7,753.20
416		Wire & Conduit - HSPS	1	Isum	225,000	225,000.00	357,840	357,840.00
417		<b>Electrical Total</b>	<b>1</b>	<b>Isum</b>	<b>1,166,150</b>	<b>1,166,150.00</b>	<b>1,854,645</b>	<b>1,854,644.96</b>
<b>418</b>	<b>346</b>	<b>High Service Pump Station #2 Total</b>	<b>1</b>	<b>Isum</b>	<b>3,473,899</b>	<b>3,473,899.40</b>	<b>5,524,890</b>	<b>5,524,889.61</b>
419	350	350 - Chemical Facilities						
420		2000 - Sitework						
421		Backfill Structural Fill - Chemical Facilities	1,376.60	cuyd	40,519	29.43	64,441	46.81144726
422		Drilled Piers - Chemical Facilities	42	ea	294,000	7,000.00	467,578	11,132.80
423		Excavation to Waste - Chemical Facilities	3,933.00	cuyd	49,203	12.51	78,252	19.89623963
424		<b>Sitework Total</b>	<b>1</b>	<b>Isum</b>	<b>383,721</b>	<b>383,721.17</b>	<b>610,270</b>	<b>610,270.15</b>
425		2001 - Underground Piping						
426		Building DR Line - Chemical Facilities	255	Inft	32,996	129.40	52,477	205.7926458
427		Building Inlet Drain - Chemical Facilities	3	each	12,442	4,147.40	19,788	6,596.02
428		Delivery Area 04" DR Line - Chemical Facilities	45	Inft	6,011	133.58	9,560	212.4403307
429		Delivery Area Inlet Drain - Chemical Facilities	3	each	12,442	4,147.40	19,788	6,596.02
430		<b>Underground Piping Total</b>	<b>1</b>	<b>Isum</b>	<b>63,892</b>	<b>63,891.53</b>	<b>101,613</b>	<b>101,613.09</b>
431		3000 - Concrete						
432		Curb - Chemical Facilities	300	Inft	18,000	60.00	28,627	95.424
433		Delivery Area Paving - Chemical Facilities	62.2	cuyd	19,878	319.48	31,615	508.2752201
434		Equipment Pads (5) Octagons - Chemical Facilities	152.4	cuyd	79,449	521.16	126,355	829.102131
435		Foundation Slab - Chemical Facilities	359.1	cuyd	247,275	688.60	393,267	1095.145897
436		Walls - Chemical Facilities	96.7	cuyd	88,878	919.15	141,352	1461.75983
437		<b>Concrete Total</b>	<b>1</b>	<b>Isum</b>	<b>453,481</b>	<b>453,480.98</b>	<b>721,216</b>	<b>721,216.15</b>
438		4000 - Masonry						
439		Masonry Block - Chemical Facilities	2,205.00	sqft	79,380	36.00	126,246	57.2544
440		<b>Masonry Total</b>	<b>1</b>	<b>Isum</b>	<b>79,380</b>	<b>79,380.00</b>	<b>126,246</b>	<b>126,245.95</b>
441		5000 - Steel						
442		Grating - Chemical Facilities	455	sqft	10,032	22.05	15,954	35.06395077
443		Handrailing - Chemical Facilities	180	Inft	7,596	42.20	12,081	67.11488
444		Ladder - Chemical Facilities	1	ea	5,256	5,256.00	8,359	8,359.14
445		Miscellaneous Steel Framing - Chemical Facilities	5,000.00	lbs	40,000	8.00	63,616	12.7232
446		Steel Roof Decking - Chemical Facilities	2,622.00	sqft	15,732	6.00	25,020	9.5424
447		Steel Roof Joist - Chemical Facilities	2	ton	7,200	3,600.00	11,451	5,725.44
448		<b>Steel Total</b>	<b>1</b>	<b>Isum</b>	<b>85,816</b>	<b>85,815.50</b>	<b>136,481</b>	<b>136,480.97</b>

**City of Pflugerville  
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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
449		<b>7000 - Thermal and Moisture Protection</b>						
450		Roofing - Chemical Facilities	5,169.00	sqft	108,546	21.00	172,632	33.39747696
451		<b>Thermal and Moisture Protection Total</b>	<b>1</b>	<b>lsum</b>	<b>108,546</b>	<b>108,546.00</b>	<b>172,632</b>	<b>172,631.56</b>
452		<b>8000 - Doors &amp; Windows</b>						
453		Double Door & Frame - Chemical Facilities	5	each	50,675	10,135.00	80,594	16,118.70
454		Fiberglass Door - Chemical Facilities	2	ea	9,600	4,800.00	15,268	7,633.92
455		<b>Doors &amp; Windows Total</b>	<b>1</b>	<b>lsum</b>	<b>60,275</b>	<b>60,275.00</b>	<b>95,861</b>	<b>95,861.36</b>
456		<b>9000 - Finishes</b>						
457		Concrete Sealer - Chemical Facilities	600	sqft	8,972	14.95	14,269	23.78178133
458		Floor Coatings - Chemical Facilities	7,200.00	sqft	129,808	18.03	206,447	28.67320232
459		Painting Building - Chemical Facilities	6,045.00	sqft	36,270	6.00	57,684	9.5424
460		Painting Pipe - Chemical Facilities	1,050.00	sqft	7,726	7.36	12,287	11.70232981
461		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>182,776</b>	<b>182,776.28</b>	<b>290,687</b>	<b>290,687.40</b>
462		<b>10000 - Specialties</b>						
463		Fire Extinguishers in Cabinets - Chemical Facilities	5	each	1,600	320.00	2,545	508.928
464		Signage - Chemical Facilities	5	each	3,400	680.00	5,407	1081.472
465		<b>Specialties Total</b>	<b>1</b>	<b>lsum</b>	<b>5,000</b>	<b>5,000.00</b>	<b>7,952</b>	<b>7,952.00</b>
466		<b>11000 - Equipment</b>						
467		ACH Feed Pumps - Chemical Facilities	3	each	77,511	25,837.02	123,274	41,091.19
468		ACH Tank - Chemical Facilities	2	each	104,544	52,272.08	166,267	83,133.52
469		LAS Pumps - Chemical Facilities	2	each	35,263	17,631.54	56,082	28,041.20
470		LAS Tank - Chemical Facilities	1	each	46,538	46,538.30	74,015	74,014.51
471		SH Metering Pumps - Chemical Facilities	2	each	50,975	25,487.30	81,070	40,535.00
472		SH Tank - Chemical Facilities	2	each	94,625	47,312.58	150,492	75,245.93
473		SH Transfer Pumps - Chemical Facilities	2	each	29,707	14,853.65	47,246	23,623.24
474		Sump Pumps - Chemical Facilities	3	each	40,630	13,543.33	64,618	21,539.32
475		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>479,794</b>	<b>479,793.65</b>	<b>763,064</b>	<b>763,063.82</b>
476		<b>15000 - Mechanical</b>						
477		Chemical Piping - Chemical Facilities	2,086.00	lnft	134,102	64.29	213,276	102.2418298
478		Eyewash - Chemical Facilities	8	each	115,700	14,462.50	184,009	23,001.16
479		HVAC - Chemical Facilities	1	lsum	64,625	64,625.00	102,780	102,779.60
480		Plumbing - Chemical Facilities	1	lsum	61,000	61,000.00	97,014	97,014.40
481		<b>Mechanical Total</b>	<b>1</b>	<b>lsum</b>	<b>375,427</b>	<b>375,427.40</b>	<b>597,080</b>	<b>597,079.74</b>
482		<b>16000 - Electrical</b>						
483		125A ATS - Chemical Facilities	1	lsum	9,000	9,000.00	14,314	14,313.60
484		45 kVA Transformer - Chemical Facilities	1	lsum	6,000	6,000.00	9,542	9,542.40
485		ControlLogix PLC Panel, Free Standing 60 x 48 x 12" NEMA 12 - Chemical Facilities	1	lsum	145,400	145,400.00	231,244	231,244.16
486		Duckbank & Grounding - Chemical Facilities	1	lsum	48,000	48,000.00	76,339	76,339.20
487		Lighting & Receptacle - Chemical Facilities	1	lsum	120,000	120,000.00	190,848	190,848.00
488		Lighting Panel - Chemical Facilities	1	lsum	12,000	12,000.00	19,085	19,084.80
489		Misc. Electrical - Chemical Facilities	1	lsum	50,000	50,000.00	79,520	79,520.00

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
490		Motor Control Center MCC-5 - Chemical Facilities	1	lsum	156,000	156,000.00	248,102	248,102.40
491		Network Cabinet with Cisco 9200, ring network, Watchdog 100P - Chemical Facilities	1	lsum	58,800	58,800.00	93,516	93,515.52
492		New redundant fiber optic cable from main electrical building bldg for ring network- Chemical Facilities	3	lsum	7,400	2,466.67	11,769	3,922.99
493		Wire & Conduit - Chemical Facilities	1	lsum	352,500	352,500.00	560,616	560,616.00
494		<b>Electrical Total</b>	<b>1</b>	<b>lsum</b>	<b>965,100</b>	<b>965,100.00</b>	<b>1,534,895</b>	<b>1,534,895.04</b>
<b>495</b>	<b>350</b>	<b>Chemical Facilities Total</b>	<b>1</b>	<b>lsum</b>	<b>3,243,207</b>	<b>3,243,207.49</b>	<b>5,157,997</b>	<b>5,157,997.19</b>
496	400	400 - Raw Sludge Splitter Box						
497		2000 - Sitework						
498		Excavation to Waste - Raw Sludge Splitter Box	430	cuyd	6,229	14.49	9,907	23.04008781
499		Import Materials - Structural Backfill - Raw Sludge Splitter Box	143	cuyd	6,750	47.20	10,735	75.06688
500		Import Materials - Subgrade - Raw Sludge Splitter Box	401	ton	22,417	55.90	35,652	88.90851591
501		Import Materials - Subgrade Inlet - Raw Sludge Splitter Box	240	sqft	6,013	25.06	9,564	39.848466
502		Import Materials - Subgrade Outlet - Raw Sludge Splitter Box	240	sqft	5,449	22.70	8,666	36.108044
503		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>46,858</b>	<b>46,858.45</b>	<b>74,524</b>	<b>74,523.68</b>
504		2001 - Underground Piping						
505		Ductile Iron Pipe RS & BWWS U-Line - Pretreatment	45	lnft	5,445	120.99	8,659	192.4217892
506		<b>Underground Piping Total</b>	<b>1</b>	<b>lsum</b>	<b>5,445</b>	<b>5,444.53</b>	<b>8,659</b>	<b>8,658.98</b>
507		3000 - Concrete						
508		12" Ext. Walls - Raw Sludge Splitter Box	126.8	cuyd	134,698	1,062.16	214,224	1,689.46
509		12" Slab on Grade Inlet - Raw Sludge Splitter Box	5.3	cuyd	2,758	517.72	4,387	827.7011743
510		12" Slab on Grade Outlet - Raw Sludge Splitter Box	9.3	cuyd	5,480	587.12	8,715	937.1098529
511		18" Foundation Slab - Raw Sludge Splitter Box	37.7	cuyd	18,526	491.62	29,463	781.5250911
512		4" Mud Slab - Raw Sludge Splitter Box	8.8	cuyd	2,448	279.27	3,894	442.4944618
513		Concrete Pipe Encasement for Line - Raw Sludge Splitter Box	7.2	cuyd	2,667	368.93	4,242	589.1725156
514		Grout Fill/Fillets Inlet - Raw Sludge Splitter Box	1.1	cuyd	817	728.92	1,299	1180.741876
515		Grout Fill/Fillets Outlet - Raw Sludge Splitter Box	1	cuyd	783	761.22	1,246	1245.505856
516		Leak Testing - Raw Sludge Splitter Box	1	each	2,067	2,067.20	3,288	3,287.67
517		Stair Landing Slab On Grade - Raw Sludge Splitter Box	6.1	cuyd	3,114	513.34	4,953	811.948737
518		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>173,359</b>	<b>173,358.87</b>	<b>275,710</b>	<b>275,709.95</b>
519		5000 - Steel						
520		Grating - Raw Sludge Splitter Box	386	sqft	16,150	41.84	25,686	66.54299523
521		Handrailing - Raw Sludge Splitter Box	90	lnft	3,798	42.20	6,040	67.11488
522		Stairs - Raw Sludge Splitter Box	1	each	27,160	27,160.00	43,195	43,195.26
523		<b>Steel Total</b>	<b>1</b>	<b>lsum</b>	<b>47,108</b>	<b>47,108.40</b>	<b>74,921</b>	<b>74,921.20</b>
524		11000 - Equipment						
525		Slide Gates Surface Mounted - Raw Sludge Splitter Box	4	each	44,276	11,069.04	70,417	17,604.20
526		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>44,276</b>	<b>44,276.15</b>	<b>70,417</b>	<b>70,416.79</b>
<b>527</b>	<b>400</b>	<b>Raw Sludge Splitter Box Total</b>	<b>1</b>	<b>lsum</b>	<b>317,046</b>	<b>317,046.40</b>	<b>504,231</b>	<b>504,230.59</b>
528	450	450 - Raw Sludge Thickener						
529		2000 - Sitework						

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WTP Expansion  
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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
530		Excavation to Waste - Sludge Thickeners #1	20,920.80	cuyd	228,529	10.92	363,453	17.37278314
531		Import Materials - Structural Backfill - Sludge Thickeners #1	9,204.00	cuyd	256,175	27.83	407,420	44.26555102
532		Import Materials - Subgrade - Sludge Thickeners #1	4,639.70	ton	271,475	58.51	431,754	93.05655367
533		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>756,179</b>	<b>756,179.04</b>	<b>1,202,627</b>	<b>1,202,627.15</b>
534		<b>2001 - Underground Piping</b>						
535		RS Line from RS Splitter Box to ST - Sludge Thickener #1	30	lnft	11,056	368.52	17,583	586.10216
536		RS Line from RS Splitter Box to ST - Sludge Thickener #2	30	lnft	11,056	368.52	17,583	586.10216
537		TS Line under ST - Sludge Thickeners #1	45	lnft	11,306	251.25	17,982	399.5894137
538		TS Line under ST - Sludge Thickeners #2	45	lnft	11,306	251.25	17,982	399.5894137
539		<b>Underground Piping Total</b>	<b>1</b>	<b>lsum</b>	<b>44,724</b>	<b>44,724.08</b>	<b>71,129</b>	<b>71,129.18</b>
540		<b>3000 - Concrete</b>						
541		12" Elevated Launder Slab - Sludge Thickeners #1	23.6	cuyd	35,867	1,520.16	57,043	2,417.06
542		12" Elevated Launder Slab - Sludge Thickeners #2	23.6	cuyd	35,867	1,520.16	57,043	2,417.06
543		20" Walls - Sludge Thickeners #1	249.8	cuyd	192,663	771.33	306,412	1226.628788
544		20" Walls - Sludge Thickeners #2	249.8	cuyd	192,663	771.33	306,412	1226.628788
545		4" Mud Slab - Sludge Thickeners #1	94.9	cuyd	22,607	238.16	35,955	378.8693112
546		4" Mud Slab - Sludge Thickeners #2	94.9	cuyd	22,607	238.16	35,955	378.8693112
547		8" Launder Wall - Sludge Thickeners #1	16.2	cuyd	21,077	1,300.23	33,521	2,069.23
548		8" Launder Wall - Sludge Thickeners #2	16.2	cuyd	21,077	1,300.23	33,521	2,069.23
549		Center Pier Foundation - Sludge Thickeners #1	103.8	cuyd	47,455	457.35	75,473	727.0956399
550		Center Pier Foundation - Sludge Thickeners #2	103.8	cuyd	47,455	457.35	75,473	727.0956399
551		Concrete Pipe Encasement for TS Line - Sludge Thickener #1	7.7	cuyd	2,738	355.07	4,354	565.4223127
552		Concrete Pipe Encasement for TS Line - Sludge Thickeners #2	7.7	cuyd	2,738	355.07	4,354	565.4223127
553		Foundation Slab - Sludge Thickeners #1	443.1	cuyd	192,131	433.59	305,565	689.6061978
554		Foundation Slab - Sludge Thickeners #2	443.1	cuyd	192,131	433.59	305,565	689.6061978
555		Gang Form Setup - Sludge Thickeners #1	2,976.00	sqft	23,848	8.01	37,928	12.74453359
556		Gang Form Setup - Sludge Thickeners #2	2,976.00	sqft	23,848	8.01	37,928	12.74453359
557		Grout Fill/Fillets in Launder - Sludge Thickeners #1	3.1	cuyd	2,250	714.77	3,578	1154.209714
558		Grout Fill/Fillets in Launder - Sludge Thickeners #2	3.1	cuyd	2,250	714.77	3,578	1154.209714
559		Leak Testing - Sludge Thickeners #1	1	each	2,334	2,334.00	3,712	3,711.99
560		Leak Testing - Sludge Thickeners #2	1	each	2,334	2,334.00	3,712	3,711.99
561		Stair Landing Slab - Sludge Thickeners #1	3.9	cuyd	1,907	490.25	3,034	777.8605621
562		Stair Landing Slab - Sludge Thickeners #2	3.9	cuyd	1,907	490.25	3,034	777.8605621
563		Stair Support Slab - Sludge Thickeners #1	2.9	cuyd	1,559	534.64	2,480	855.1855007
564		Stair Support Slab - Sludge Thickeners #2	2.9	cuyd	1,559	534.64	2,480	855.1855007
565		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>1,092,873</b>	<b>1,092,873.29</b>	<b>1,738,106</b>	<b>1,738,105.68</b>
566		<b>5000 - Steel</b>						
567		Handrailing - Thickener	960	lnft	40,512	42.20	64,430	67.11488
568		Stairs - - Thickener	2	each	54,320	27,160.00	86,391	43,195.26
569		<b>Steel Total</b>	<b>1</b>	<b>lsum</b>	<b>94,832</b>	<b>94,832.00</b>	<b>150,821</b>	<b>150,820.81</b>
570		<b>11000 - Equipment</b>						
571		Equipment Crane Assembly - Sludge Thickeners #1	4	week	42,780	10,695.00	68,037	17,009.33

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
572		Equipment Crane Assembly - Sludge Thickeners #2	5	week	42,780	8,556.00	68,037	13,607.46
573		Thickener Equipment - Sludge Thickeners #1	1	each	257,657	257,657.15	409,778	409,777.93
574		Thickener Equipment - Sludge Thickeners #2	1	each	257,657	257,657.15	409,778	409,777.93
575		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>600,874</b>	<b>600,874.30</b>	<b>955,630</b>	<b>955,630.49</b>
576		<b>16000 - Electrical</b>						
577		125A ATS - GT	1	lsum	9,000	9,000.00	14,314	14,313.60
578		45 kVA Transformer - GT	1	lsum	6,000	6,000.00	9,542	9,542.40
579		ControlLogix PLC Panel, solids processing- gravity sludge thickener, thickened sludge pump station, backwash clarifier, and recycle pump station. 48 x 60 x 12" NEMA 4, UPS - GT	1	lsum	133,900	133,900.00	212,955	212,954.56
580		Duckbank & Grounding - GT	1	lsum	96,000	96,000.00	152,678	152,678.40
581		Lighting & Receptacle - GT	1	lsum	168,000	168,000.00	267,187	267,187.20
582		Lighting Panel - GT	1	lsum	6,000	6,000.00	9,542	9,542.40
583		Misc. Electrical - GT	1	lsum	50,000	50,000.00	79,520	79,520.00
584		Motor Control Center MCC-6 - GT	1	lsum	156,000	156,000.00	248,102	248,102.40
585		Network Cabinet with Cisco 9200, ring network, Watchdog 100P - GT	1	lsum	58,500	58,500.00	93,038	93,038.40
586		New redundant fiber optic cable from main electrical building bldg for ring network - GT	4	lsum	7,850	1,962.50	12,485	3,121.16
587		VFD's - GT	1	lsum	180,000	180,000.00	286,272	286,272.00
588		Wire & Conduit - GT	1	lsum	225,000	225,000.00	357,840	357,840.00
589		<b>Electrical Total</b>	<b>1</b>	<b>lsum</b>	<b>1,096,250</b>	<b>1,096,250.00</b>	<b>1,743,476</b>	<b>1,743,476.00</b>
590	450	<b>Raw Sludge Thickener Total</b>	<b>1</b>	<b>lsum</b>	<b>3,685,733</b>	<b>3,685,732.71</b>	<b>5,861,789</b>	<b>5,861,789.30</b>
591	452	<b>452 - Thickened Sludge Pump Station</b>						
592		<b>2000 - Sitework</b>						
593		Excavation to Waste - Thickened Sludge PS	1,587.00	cuyd	20,004	12.61	31,815	20.04729765
594		Import Materials - Structural Backfill - Thickened Sludge PS	840	cuyd	23,684	28.19	37,667	44.8411576
595		Import Materials - Subgrade - Thickened Sludge PS	156	ton	8,638	55.37	13,738	88.06105969
596		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>52,326</b>	<b>52,325.93</b>	<b>83,219</b>	<b>83,219.16</b>
597		<b>2001 - Underground Piping</b>						
598		Ductile Iron Pipe 06" Sludge Line U-Line - Thickened Sludge PS	10	lnft	1,326	132.59	2,109	210.871136
599		<b>Underground Piping Total</b>	<b>1</b>	<b>lsum</b>	<b>1,326</b>	<b>1,325.90</b>	<b>2,109</b>	<b>2,108.71</b>
600		<b>3000 - Concrete</b>						
601		12" Elevated Concrete Slab - Thickened Sludge PS	23.8	cuyd	38,099	1,602.30	60,593	2,545.91
602		20" Walls - Thickened Sludge PS	82.6	cuyd	74,082	896.45	117,820	1426.388363
603		24" Foundation Slab - Thickened Sludge PS	93.9	cuyd	43,234	460.33	68,760	732.2655516
604		24" Foundation Slab - Thickened Sludge PS	18.9	cuyd	11,604	613.96	18,455	976.4450133
605		24" Walls - Thickened Sludge PS	119.7	cuyd	105,511	881.61	167,805	1401.879671
606		30" Foundation Slab - Thickened Sludge PS	230.5	cuyd	142,485	618.26	226,608	983.1155232
607		4" Mud Slab - Thickened Sludge PS	6.5	cuyd	1,576	241.73	2,506	385.5349809
608		Grout Fill - Thickened Sludge PS	6.1	cuyd	2,018	330.98	3,209	526.0287108
609		Pipe Encasement Sludge Line - Thickened Sludge PS	0.2	cuyd	557	3268.78	886	4,427.51
610		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>419,165</b>	<b>419,165.21</b>	<b>666,640</b>	<b>666,640.35</b>

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
611		<b>5000 - Steel</b>						
612		Grating - Thickened Sludge PS	16	sqft	338	21.12	537	33.593224
613		Handrailing - Thickened Sludge PS	85	lnft	3,995	47.00	6,354	74.7488
614		Hatch - Thickened Sludge PS	5	each	6,018	1,203.60	9,571	1,914.21
615		Ladder - Thickened Sludge PS	2	ea	4,152	2,076.00	6,603	3,301.67
616		Platform - Thickened Sludge PS	125	sqft	19,247	153.97	30,610	244.8770688
617		<b>Steel Total</b>	<b>1</b>	<b>lsum</b>	<b>33,749</b>	<b>33,749.46</b>	<b>53,675</b>	<b>53,675.14</b>
618		<b>9000 - Finishes</b>						
619		Painting Pipe - Thickened Sludge PS	227	sqft	1,670	7.36	2,656	11.70233135
620		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>1,670</b>	<b>1,670.29</b>	<b>2,656</b>	<b>2,656.43</b>
621		<b>11000 - Equipment</b>						
622		Progressive Cavity Pumps - Thickened Sludge PS	2	each	31,969	15,984.50	50,843	25,421.75
624		Sump Pumps - Thickened Sludge PS	2	each	29,708	14,853.89	47,247	23,623.63
625		Weir Gates- Thickened Sludge PS	2	each	67,813	33,906.67	107,850	53,925.16
626		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>129,490</b>	<b>129,490.11</b>	<b>205,941</b>	<b>205,941.07</b>
627		<b>15000 - Mechanical</b>						
628		Piping - Thickened Sludge PS	144	lnft	28,135	195.38	44,746	310.7332356
629		Plumbing - Thickened Sludge PS	1	lsum	18,400	18,400.00	29,263	29,263.36
630		<b>Mechanical Total</b>	<b>1</b>	<b>lsum</b>	<b>46,535</b>	<b>46,534.80</b>	<b>74,009</b>	<b>74,008.95</b>
<b>631</b>	<b>452</b>	<b>Thickened Sludge Pump Station Total</b>	<b>1</b>	<b>lsum</b>	<b>684,262</b>	<b>684,261.70</b>	<b>1,088,250</b>	<b>1,088,249.81</b>
632	455	455 - Backwash Waste Clarifier						
633		<b>2000 - Sitework</b>						
634		Excavation to Waste - Backwash Waste Clarifier	12,552.50	cuyd	137,117	10.92	218,072	17.37275546
635		Import Materials - Structural Backfill - Backwash Waste Clarifier	5,522.40	cuyd	153,705	27.83	244,452	44.26555159
636		Import Materials - Subgrade - Backwash Waste Clarifier	2,783.80	ton	162,885	58.51	259,053	93.05722451
637		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>453,707</b>	<b>453,707.42</b>	<b>721,576</b>	<b>721,576.28</b>
638		<b>2001 - Underground Piping</b>						
639		Ductile Iron Pipe 10" BWWS U-Line - Backwash Waste Clarifier	50	lnft	6,825	136.51	10,855	217.0988243
640		Ductile Iron Pipe 12" BWW U-Line - Backwash Waste Clarifier	50	lnft	8,061	161.23	12,821	256.4144666
641		<b>Underground Piping Total</b>	<b>1</b>	<b>lsum</b>	<b>14,887</b>	<b>14,886.61</b>	<b>23,676</b>	<b>23,675.66</b>
642		<b>3000 - Concrete</b>						
643		12" Elevated Launder Slab - Backwash Waste Clarifier	23.6	cuyd	35,867	1,520.16	57,043	2,417.06
644		20" Walls - Backwash Waste Clarifier	249.8	cuyd	192,663	771.33	306,412	1226.628788
645		24" Foundation Slab - Backwash Waste Clarifier	443.1	cuyd	192,131	433.59	305,565	689.6061978
646		4" Mud Slab - Backwash Waste Clarifier	94.9	cuyd	22,607	238.16	35,955	378.8693112
647		8" Launder Wall - Backwash Waste Clarifier	16.2	cuyd	21,077	1,300.23	33,521	2,069.23
648		Center Pier Foundation - Backwash Waste Clarifier	103.8	cuyd	42,951	413.94	68,309	658.0837713
649		Concrete Pipe Encasement for TS Line - Backwash Waste Clarifier	7.7	cuyd	2,738	355.07	4,354	565.4223127
650		Gang Form Tire Down - Backwash Waste Clarifier	2,976.00	sqft	23,848	8.01	37,928	12.74453359
651		Grout Fill/Fillets in Launder - Backwash Waste Clarifier	3.1	cuyd	2,250	714.77	3,578	1154.209714
652		Leak Testing - Backwash Waste Clarifier	1	each	2,334	2,334.00	3,712	3,711.99
653		Pipe Encasement 10" BWWS U-Line - Backwash Waste Clarifier	14.1	cuyd	5,235	370.94	8,326	590.4986009

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
654		Pipe Encasement 12" BWW U-Line - Backwash Waste Clarifier	16	cuyd	5,704	356.41	9,072	566.97263
655		Stair Landing Slab - Backwash Waste Clarifier	3.9	cuyd	1,907	490.25	3,034	777.8605621
656		Stair Support Slab - Backwash Waste Clarifier	2.9	cuyd	1,559	534.64	2,480	855.1855007
657		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>552,872</b>	<b>552,871.60</b>	<b>879,287</b>	<b>879,286.99</b>
658		<b>11000 - Equipment</b>						
659		Clarifier Equipment - Backwash Waste Clarifier	1	each	321,837	321,836.90	511,849	511,849.41
660		Clarifier Equipment Crane Assembly - Backwash Waste Clarifier	4	week	42,780	10,695.00	68,037	17,009.33
661		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>364,617</b>	<b>364,616.90</b>	<b>579,887</b>	<b>579,886.72</b>
662		<b>15000 - Mechanical</b>						
663		Ductile Iron Piping 12" SN Line - Backwash Waste Clarifier	40	lnft	9,493	237.32	15,098	377.44168
664		<b>Mechanical Total</b>	<b>1</b>	<b>lsum</b>	<b>9,493</b>	<b>9,493.00</b>	<b>15,098</b>	<b>15,097.67</b>
<b>665</b>	<b>455</b>	<b>Backwash Waste Clarifier Total</b>	<b>1</b>	<b>lsum</b>	<b>1,395,576</b>	<b>1,395,575.53</b>	<b>2,219,523</b>	<b>2,219,523.32</b>
666	458	<b>458 - Recycle Pump Station</b>						
667		<b>2000 - Sitework</b>						
668		Excavation to Waste - Recycle PS	4,730.00	cuyd	52,451	11.09	83,418	17.63602293
669		Import Materials - Structural Backfill - Recycle PS	1,800.00	cuyd	51,060	28.37	81,206	45.11437317
670		Import Materials - Subgrade - Recycle PS	43.2	ton	3,829	88.63	6,089	140.9587719
671		<b>Sitework Total</b>	<b>1</b>	<b>lsum</b>	<b>107,340</b>	<b>107,340.10</b>	<b>170,714</b>	<b>170,713.70</b>
672		<b>3000 - Concrete</b>						
673		12" Elevated Slab - Recycle PS	14.7	cuyd	23,400	1,586.60	37,216	2,531.68
674		12" Walls - Recycle PS	81.3	cuyd	81,471	1,001.89	129,571	1,593.74
675		18" Foundation Slab - Recycle PS	34.8	cuyd	14,860	427.42	23,633	679.1190805
676		4" Mud Slab - Recycle PS	5.2	cuyd	1,229	238.12	1,954	375.8298708
677		Grout Fill/Fillets - Recycle PS	6.6	cuyd	3,996	607.35	6,356	962.9558739
678		Leak Testing - Recycle PS	1	each	1,800	1,800.40	2,863	2,863.36
679		<b>Concrete Total</b>	<b>1</b>	<b>lsum</b>	<b>126,756</b>	<b>126,756.20</b>	<b>201,593</b>	<b>201,593.06</b>
680		<b>5000 - Steel</b>						
681		Hatch - Recycle PS	5	ea	5,111	1,022.16	8,128	1,625.64
682		<b>Steel Total</b>	<b>1</b>	<b>lsum</b>	<b>5,111</b>	<b>5,110.80</b>	<b>8,128</b>	<b>8,128.22</b>
683		<b>9000 - Finishes</b>						
684		Painting Pipe - Recycle PS	153	sqft	1,126	7.36	1,790	11.70232952
685		<b>Finishes Total</b>	<b>1</b>	<b>lsum</b>	<b>1,126</b>	<b>1,125.79</b>	<b>1,790</b>	<b>1,790.46</b>
686		<b>11000 - Equipment</b>						
687		Submersible Pumps - Recycle PS	2	each	81,641	40,820.36	129,841	64,920.69
688		<b>Equipment Total</b>	<b>1</b>	<b>lsum</b>	<b>81,641</b>	<b>81,640.71</b>	<b>129,841</b>	<b>129,841.39</b>
689		<b>15000 - Mechanical</b>						
690		Piping - Recycle PS	153	lnft	32,722	213.87	52,042	340.140823
691		<b>Mechanical Total</b>	<b>1</b>	<b>lsum</b>	<b>32,722</b>	<b>32,722.30</b>	<b>52,042</b>	<b>52,041.55</b>
<b>692</b>	<b>458</b>	<b>Recycle Pump Station Total</b>	<b>1</b>	<b>lsum</b>	<b>354,696</b>	<b>354,695.90</b>	<b>564,108</b>	<b>564,108.36</b>
693	551	<b>551 - Pretreatment Electrical Building</b>						
694		<b>2000 - Sitework</b>						
695		Drilled Piers - Pretreatment Electrical Building	6	ea	42,000	7,000.00	66,797	11,132.80

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Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
696		Sitework Total	1	lsum	42,000	42,000.00	66,797	66,796.80
697		3000 - Concrete						
698		Foundation Slab - Pretreatment Electrical Building	20.7	cuyd	9,447	455.82	15,025	725.8447304
699		Precast Wall - Pretreatment Electrical Building	1,100.00	sqft	50,600	46.00	80,474	73.1584
700		Concrete Total	1	lsum	60,047	60,047.30	95,499	95,499.23
701		7000 - Thermal and Moisture Protection						
702		Roofing - Pretreatment Electrical Building	240	sqft	5,760	24.00	9,161	38.1696
703		Thermal and Moisture Protection Total	1	lsum	5,760	5,760.00	9,161	9,160.70
704		8000 - Doors & Windows						
705		Fiberglass Door - Pretreatment Electrical Building	1	ea	4,800	4,800.00	7,634	7,633.92
706		Doors & Windows Total	1	lsum	4,800	4,800.00	7,634	7,633.92
707		9000 - Finishes						
708		Concrete Sealer - Pretreatment Electrical Building	240	sqft	960	4	1,527	6.3616
709		Finishes Total	1	lsum	960	960	1,527	1526.784
710		10000 - Specialties						
711		Canopy - Pretreatment Electrical Building	1,350.00	sqft	155,250	115.00	246,910	182.896
712		Fire Extinguishers in Cabinets - Pretreatment Electrical Building	1	each	320	320	509	508.928
713		Specialties Total	1	lsum	155,570	155,570.00	247,419	247,418.53
714		15000 - Mechanical						
715		HVAC - Pretreatment Electrical Building	1	lsum	26,540	26,540.00	42,209	42,209.22
716		Mechanical Total	1	lsum	26,540	26,540.00	42,209	42,209.22
717	551	<b>Pretreatment Electrical Building Total</b>	1	lsum	295,677	295,677.30	470,245	470,245.18
718	552	552 - Membrane Electrical Building						
719		2000 - Sitework						
720		Drilled Piers - Membrane Electrical Building	29	ea	203,000	7,000.00	322,851	11,132.80
721		Sitework Total	1	lsum	203,000	203,000.00	322,851	322,851.20
722		3000 - Concrete						
723		Foundation Slab - Membrane Electrical Building	120.2	cuyd	54,794	455.82	87,145	724.9997175
724		Precast Wall - Membrane Electrical Building	1,095.00	sqft	50,370	46.00	80,108	73.1584
725		Concrete Total	1	lsum	105,164	105,164.37	167,253	167,253.41
726		7000 - Thermal and Moisture Protection						
727		Roofing - Membrane Electrical Building	1,000.00	sqft	24,000	24.00	38,170	38.1696
728		Thermal and Moisture Protection Total	1	lsum	24,000	24,000.00	38,170	38,169.60
729		8000 - Doors & Windows						
730		Double Door & Frame - Membrane Electrical Building	1	each	9,135	9,135.00	14,528	14,528.30
731		Fiberglass Door - Membrane Electrical Building	1	ea	4,800	4,800.00	7,634	7,633.92
732		Doors & Windows Total	1	lsum	13,935	13,935.00	22,162	22,162.22
733		9000 - Finishes						
734		Concrete Sealer - Membrane Electrical Building	1,000.00	sqft	4,000	4.00	6,362	6.3616
735		Painting Building - Membrane Electrical Building	5,360.00	sqft	32,160	6.00	51,147	9.5424
736		Finishes Total	1	lsum	36,160	36,160.00	57,509	57,508.86
737		10000 - Specialties						

**City of Pflugerville  
WTP Expansion  
30% PER - OPCC**

Item #	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit	Gross Total	Gross Total \$/Unit
738		Fire Extinguishers in Cabinets - Membrane Electrical Building	1	each	320	320	509	508.928
739		Specialties Total	1	lsum	320	320	509	508.928
740		15000 - Mechanical						
741		HVAC - Membrane Electrical Building	1	lsum	132,180	132,180.00	210,219	210,219.07
742		Mechanical Total	1	lsum	132,180	132,180.00	210,219	210,219.07
<b>743</b>	<b>552</b>	<b>Membrane Electrical Building Total</b>	<b>1</b>	<b>lsum</b>	<b>514,759</b>	<b>514,759.37</b>	<b>818,673</b>	<b>818,673.30</b>
744	553	553 - Solids Handling Electrical Building						
745		2000 - Sitework						
746		Drilled Piers - Solids Handling Electrical Building	13	ea	91,000	7,000.00	144,726	11,132.80
747		Sitework Total	1	lsum	91,000	91,000.00	144,726	144,726.40
748		3000 - Concrete						
749		Foundation Slab - Solids Handling Electrical Building	51.8	cuyd	23,618	455.82	37,562	725.1444151
750		Precast Wall - Solids Handling Electrical Building	2,060.00	sqft	94,760	46.00	150,706	73.1584
751		Concrete Total	1	lsum	118,378	118,378.26	188,269	188,268.78
752		7000 - Thermal and Moisture Protection						
753		Roofing - Solids Handling Electrical Building	800	sqft	19,200	24.00	30,536	38.1696
754		Thermal and Moisture Protection Total	1	lsum	19,200	19,200.00	30,536	30,535.68
755		8000 - Doors & Windows						
756		Fiberglass Door - Solids Handling Electrical Building	2	ea	9,600	4,800.00	15,268	7,633.92
757		Doors & Windows Total	1	lsum	9,600	9,600.00	15,268	15,267.84
758		9000 - Finishes						
759		Concrete Sealer - Solids Handling Electrical Building	800	sqft	3,200	4.00	5,089	6.3616
760		Painting Building - Solids Handling Electrical Building	4,920.00	sqft	29,700	6.04	47,235	9.600585366
761		Finishes Total	1	lsum	32,900	32,900.00	52,324	52,324.16
762		10000 - Specialties						
763		Fire Extinguishers in Cabinets - Solids Handling Electrical Building	1	each	320	320	509	508.928
764		Specialties Total	1	lsum	320	320	509	508.928
765		15000 - Mechanical						
766		HVAC - Solids Handling Electrical Building	1	lsum	37,590	37,590.00	59,783	59,783.14
767		Mechanical Total	1	lsum	37,590	37,590.00	59,783	59,783.14
<b>768</b>	<b>553</b>	<b>Solids Handling Electrical Building Total</b>	<b>1</b>	<b>lsum</b>	<b>308,988</b>	<b>308,988.26</b>	<b>491,415</b>	<b>491,414.93</b>
<b>769</b>		<b>Grand Total</b>			<b>50,377,591</b>		<b>80,120,521</b>	

		General Conditions			5,037,759	10%	of Cost of Work	
		Contingency			12,594,398	25%	of Cost of Work	
		Contractor OH and P			8,584,342	12%	of Cost of Work, GC, Cont & Esc	
		Escalation			3,526,431	7.00%	of Cost of Work	

**Total Opinion of Probable Cost**

**80,120,521**

# 60% Opinion of Probable Construction Cost

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60% Opinion of Probable Cost  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
1		10	010 - Site Development, Improvements, Concrete and Electrical				
2	2000		2000 - Sitework				
3			Concrete Road - Lime Stabilization	5,723.00	sqyd	180,274.50	31.5
4			4" Sidewalk	117.3	cuyd	59,129.39	504.13
5			Check Dam Sub	3	each	156	52
6			Clear and Grub	4	acre	21,909.60	5,477.40
7			Concrete Paving	1,250.00	cuyd	444,052.82	355.24
8			Concrete Washout area	1	each	5,500.00	5,500.00
9			Excavation to Stockpile - Generators	276	cuyd	2,355.18	8.53
10			Excavation to Stockpile - Transformer	71	cuyd	593.72	8.36
11			Hydromulch	850,000.00	sqft	38,250.00	0.04
12			Inlet protection barrier	10	each	450	45
13			Mowing and Maintenance	50	each	25,000.00	500
14			Rock Filter Dam	3	each	1,500.00	500
15			Sawcu and Remove Existing Paving	8,200.00	sqft	59,040.00	7.2
16			Silt Fence Installation	3,000.00	lnft	6,000.00	2
17			Silt Fence Maintenance	3,000.00	lnft	24,968.57	8.32
18			Silt Fence removal	3,000.00	lnft	1,800.00	0.6
19			Site - Cut	10,200.00	cuyd	81,600.00	8
20			Site - Cut to Stockpile	2,500.00	cuyd	17,460.00	6.98
21			Site - Cut to Waste	50,000.00	cuyd	400,000.00	8
22			Site - Fill	10,400.00	cuyd	176,800.00	17
23			Site - Import Soils - Fill	5,000.00	cuyd	86,129.56	17.23
24			Site - Storm Pond	1,400.00	cuyd	16,800.00	12
25			Site - Storm Pond - Fill	3,000.00	cuyd	51,000.00	17
26			Site- Backfilling Concrete Washout	157	cuyd	3,533.86	22.51
27			Site- Stockpile to Fill	2,500.00	cuyd	21,084.00	8.43
28			Sodding	10,000.00	sqft	20,000.00	2
29			Structural fill - Select Fill - Generators	34.6	cuyd	1,160.17	33.48
30			Structural Fill - Select Fill - Transformer	25	sqyd	241.8	9.67
31			Subgrade - Select Fill - Generators	256.2	cuyd	7,851.65	30.65
32			Subgrade - Select Fill - Transformer	64	cuyd	1,876.58	29.3
33			Subgrade Material for Concrete Pavement	51,500.00	sqft	237,672.44	4.61
34			Subgrade- Select Fill - Transformer	8.4	cuyd	676.12	80.49
35			SWPPP	1	each	2,500.00	2,500.00
36	2000		Sitework Total	1	lsum	1,997,365.96	1,997,365.96
37	3000		3000 - Concrete				
38			Concrete Pavement	2,000.00	sqft	40,396.00	20.2
39			Delivery Area Paving - Chemical Facilities	120.5	cuyd	40,132.52	333.02
40			Slab on Grade - Generator 1	56.3	cuyd	19,029.17	338.28
41			Slab on Grade - Transformer	5.8	cuyd	2,317.39	401.28
42	3000		Concrete Total	1	lsum	101,875.08	101,875.08
43	16000		16000 - Electrical				
44			1000 kVA Transformer - Site Electrical	1	each	48,000.00	48,000.00
45			2500 kVA Transformer - Site Electrical	2	each	264,000.00	132,000.00
46			750 kVA Transformer - Site Electrical	1	lsum	84,000.00	84,000.00

60% Opinion of Probable Cost  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
47			Diesel Engine Generator Platform - Generator 1	1	each	73,400.00	73,400.00
48			Distribution Switchgear - Site Electrical	1	Isum	852,500.00	852,500.00
49			Misc. Electrical - Site Electrical	1	Isum	60,000.00	60,000.00
50			Oncor Coordination - Site Electrical	1	Isum	90,000.00	90,000.00
51			Paralleling Switchgear - Site Electrical	1	Isum	781,000.00	781,000.00
52			Site Lighting - Site Electrical	1	Isum	96,000.00	96,000.00
53			Tier 2, 4160V, 2,250 kW Genset - Generator	1	Isum	1,925,000.00	1,925,000.00
54			Underground Electrical - Site Electrical	1	Isum	218,400.00	218,400.00
55			Underground Manholes/ Handholes - Site Electrical	1	Isum	129,600.00	129,600.00
56			Wire & Conduit (Inside Building) - Site Electrical	1	Isum	150,000.00	150,000.00
57			Wire & Conduit (Plant Distribution) - Site Electrical	1	Isum	439,200.00	439,200.00
58	16000		<b>Electrical Total</b>	1	Isum	5,211,100.00	5,211,100.00
59		10	<b>Site Development, Improvements, Concrete and Electrical Total</b>	1	Isum	7,310,341.04	7,310,341.04
60		70	<b>070 - Yard Piping</b>				
61	2001		<b>2001 - Underground Piping</b>				
62			04" DR Line SB to SP - Yard	115	Inft	12,028.10	104.59
63			06" BWWS Line - Yard	399	Inft	48,690.00	122.03
64			06" SS Line - Yard	200	Inft	24,006.01	120.03
65			06" TS Line - Yard	655	Inft	79,618.96	121.56
66			08" AS Line - Yard	80	Inft	11,373.69	142.17
67			10" BW Line - Yard	153	Inft	22,517.18	147.17
68			10" BWWS Line - Yard	216	Inft	31,788.96	147.17
69			10" SN Line - Yard	157	Inft	22,835.73	145.45
70			12" BWR Line - Yard	700	Inft	108,374.79	154.82
71			12" BWW Line - Yard	483	Inft	76,002.94	157.36
72			12" NEU Line - Yard	258	Inft	39,427.85	152.82
73			12" RS Line - Yard	138	Inft	22,917.51	166.07
74			12" SN Line - Yard	115	Inft	18,229.85	158.52
75			16" RS Line - Yard	1,264.00	Inft	223,868.46	177.11
76			16" SN Line - Yard	232	Inft	40,883.01	176.22
77			18" DR Line - Yard	1,326.00	Inft	246,264.10	185.72
78			18" FW Line - Yard	75	Inft	14,404.70	192.06
79			24" FW Line - Yard	2,224.00	Inft	478,055.13	214.95
80			24" SW Line - Yard	25	Inft	5,549.05	221.96
81			36" RW Line - Yard	185	Inft	45,240.90	244.55
82			42" FW Line - Yard	284.2	Inft	96,505.60	339.57
83			42" MP Line - Yard	32	Inft	11,955.80	373.62
84			48" FW Line - Yard	204	Inft	96,335.24	472.23
85			48" MP Line - Yard includes 4 Valves in Short Run	51	Inft	23,386.38	458.56
86			48" SW Line - Yard	102	Inft	48,506.76	475.56
87			ACH Line - Yard	1,380.00	Inft	110,157.27	79.82
88			LAS Line - Yard	1,413.00	Inft	112,786.00	79.82
89			SH Line - Yard	2,730.00	Inft	217,696.37	79.74
90			Storm Line - Yard	546	Inft	195,413.84	357.9
91	2001		<b>Underground Piping Total</b>	1	Isum	2,484,820.17	2,484,820.17
92	15000		<b>15000 - Mechanical</b>				

60% Opinion of Probable Cost  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
93			48" MP Line - Yard includes 4 Valves in Short Run	51	lnft	103,944.76	2,038.13
94	15000		<b>Mechanical Total</b>	1	lsum	103,944.76	103,944.76
95		70	<b>Yard Piping Total</b>	1	lsum	2,588,764.93	2,588,764.93
96		85	<b>085 - Lake Pump Station</b>				
97	2000		<b>2000 - Sitework</b>				
98			4" Sidewalk - Lake PS	0.6	cuyd	850.23	1,393.82
99			Asphalt Paving - Lake Pump Station	12	sqyd	1,080.00	90
100			Demolition - Asphalt Paving - Lake Pump Station	600	sqft	1,618.61	2.7
101			Demolition of North Wall - Lake PS	700	sqft	14,793.72	21.13
102			Drilled Piers - Lake PS	350	lnft	70,000.00	200
103			Excavation Support System - Lake PS	500	sqft	32,500.00	65
104			Excavation Support System at Cans- Lake PS	1,260.00	sqft	81,900.00	65
105			Excavation to Waste - Lake PS	1,423.00	cuyd	18,311.39	12.87
106			Import Materials - Structural Backfill - Lake PS	614.4	cuyd	17,250.28	28.08
107			Import Materials - Subgrade - Lake PS	1,643.80	ton	88,235.25	53.68
108			Lime Stabilization for Asphalt Paving Repair	100	sqft	2,660.03	26.6
109			Remove Excavation Support System - Lake PS	500	sqft	10,000.00	20
110			Remove Excavation Support System at Cans- Lake PS	1,260.00	sqft	25,200.00	20
111			Subgrade Material for Asphalt Repair - Lake Pump Station	100	sqft	1,892.44	18.92
112	2000		<b>Sitework Total</b>	1	lsum	366,291.94	366,291.94
113	2001		<b>2001 - Underground Piping</b>				
114			24" Suction Line - Lake PS	44	lnft	12,608.00	286.55
115	2001		<b>Underground Piping Total</b>	1	lsum	12,608.00	12,608.00
116	3000		<b>3000 - Concrete</b>				
117			12" Foundation Slab - Lake PS	46	cuyd	24,714.02	536.74
118			Concrete Equipment & Pipe Supports - Lake PS	6.4	cuyd	8,522.52	1,333.88
119			Hollow Core 6" - Lake PS	264	sqft	5,430.34	20.57
120			Pipe Encasement 24" Suction Line - Lake PS	35.9	cuyd	10,454.63	290.83
121	3000		<b>Concrete Total</b>	1	lsum	49,121.52	49,121.52
122	4000		<b>4000 - Masonry</b>				
123			Masonry Block - Lake PS	360	sqft	9,360.00	26
124			Masonry Block Electrical Room - Lake PS	220	sqft	5,720.00	26
125			Masonry Brick - Lake PS	360	sqft	5,760.00	16
126	4000		<b>Masonry Total</b>	1	lsum	20,840.00	20,840.00
127	5000		<b>5000 - Steel</b>				
128			Ladder Electrical Room - Lake PS	1	ea	816	816
129	5000		<b>Steel Total</b>	1	lsum	816	816
130	7000		<b>7000 - Thermal and Moisture Protection</b>				
131			Roofing - Lake PS	1,044.00	sqft	18,792.00	18
132	7000		<b>Thermal and Moisture Protection Total</b>	1	lsum	18,792.00	18,792.00
133	8000		<b>8000 - Doors &amp; Windows</b>				
134			FRP Door - Lake PS	1	ea	8,000.00	8,000.00
135			Overhead Door - Lake PS	1	each	24,000.00	24,000.00
136	8000		<b>Doors &amp; Windows Total</b>	1	lsum	32,000.00	32,000.00
137	9000		<b>9000 - Finishes</b>				
138			Concrete Sealer - Lake PS	1,044.00	sqft	4,176.00	4

60% Opinion of Probable Cost  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
139			Painting Building - Lake PS	2,940.00	sqft	14,700.00	5
140			Painting Pipe - Lake PS	1,280.00	sqft	14,080.00	11
141	9000		Finishes Total	1	Isum	32,956.00	32,956.00
142	10000		10000 - Specialties				
143			Fire Extinguishers in Cabinets - Lake PS	1	each	320	320
144	10000		Specialties Total	1	Isum	320	320
145	11000		11000 - Equipment				
146			Ion Generator System - Lake PS	1	each	307,974.00	307,974.00
147			Vertical Turbine Pumps - Lake PS	2	each	597,228.29	298,614.15
148	11000		Equipment Total	1	Isum	905,202.29	905,202.29
149	13000		13000 - Special Construction				
150			PEMB - Lake PS	1,044.00	sqft	76,212.00	73
151	13000		Special Construction Total	1	Isum	76,212.00	76,212.00
152	15000		15000 - Mechanical				
153			Electrical Actuators - Lake PS	2	ea	60,500.00	30,250.00
154			HVAC - Lake PS	1	Isum	64,418.82	64,418.82
155			Plumbing - Lake PS	1	Isum	11,351.18	11,351.18
156			Process Piping & Valves - Lake PS	60	Inftr	372,518.00	6,208.63
157	15000		Mechanical Total	1	Isum	508,788.00	508,788.00
158	16000		16000 - Electrical				
159			Ethernet communications modules - Lake PS	1	Isum	52,900.00	52,900.00
160			45 kVA Transformer - Lake PS	1	Isum	9,000.00	9,000.00
161			Automatic Transfer Switch - Lake PS	1	Isum	72,000.00	72,000.00
162			Disconnect Switches - Lake PS	1	Isum	9,000.00	9,000.00
163			Duckbank & Grounding	1	Isum	99,600.00	99,600.00
164			Instruments - Lake PS	1	Isum	45,000.00	45,000.00
165			Junction Boxes, Equipment Stands, Misc. Electrical - Lake PS	1	Isum	75,000.00	75,000.00
166			Lighting & Receptacle - Lake PS	1	Isum	30,000.00	30,000.00
167			Lighting Panel - Lake PS	1	Isum	6,000.00	6,000.00
168			Motor Control Center MCC-2A - Lake PS	1	Isum	157,200.00	157,200.00
169			Network cabinet - replace network switch to Cisco 9200 using new ring topology - Lake PS	1	Isum	24,200.00	24,200.00
170			New redundant fiber optic cable from membrane bldg for ring network - Lake PS	1	Isum	10,800.00	10,800.00
171			Oncor Coordination	1	Isum	30,000.00	30,000.00
172			Replace PLC processor with new 1769-L33R - Lake PS	1	Isum	16,200.00	16,200.00
173			VFD RIO Adapters - Lake PS	1	Isum	1,000.00	1,000.00
174			Wire & Conduit - Lake PS	1	Isum	228,000.00	228,000.00
175	16000		Electrical Total	1	Isum	865,900.00	865,900.00
176		85	Lake Pump Station Total	1	Isum	2,889,847.76	2,889,847.76
177		190	190 - Pretreatment				
178	2000		2000 - Sitework				
179			Backfill - Pretreatment	200	cuyd	8,802.31	44.01
180			Drilled Piers - Backwash Waste Clarifier	60	ea	210,000.00	3,500.00
181			Drilled Piers - Pretreatment	376	ea	1,316,000.00	3,500.00
182			Excavation to Waste - Pretreatment	3,753.00	cuyd	43,697.43	11.64

60% Opinion of Probable Cost  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
183			Subgrade Material - Pretreatment	23,980.00	sqft	340,635.90	14.2
184	2000		Sitework Total	1	lsum	1,919,135.64	1,919,135.64
185	2001		2001 - Underground Piping				
186			Ductile Iron Pipe 08" RS U-Line - Pretreatment	304	lnft	36,780.82	120.99
187			Ductile Iron Pipe 18" DR U-Line - Pretreatment	20	lnft	6,083.65	304.18
188			Ductile Iron Pipe 30" RW U-Line - Pretreatment	40	lnft	13,367.29	334.18
189	2001		Underground Piping Total	1	lsum	56,231.76	56,231.76
190	3000		3000 - Concrete				
191			12" Elevated Concrete Slab - Pretreatment	68.9	cuyd	83,849.37	1,216.69
192			12" Elevated Concrete Slab & Walkway - Pretreatment	302.3	cuyd	424,358.82	1,403.61
193			12" RS Slab On Grade - Pretreatment	7.9	cuyd	3,690.19	465.15
194			12" Walls <20' - Pretreatment	460.6	cuyd	497,164.31	1,079.30
195			18" Walls <20' - Pretreatment	1,006.60	cuyd	818,795.62	813.45
196			24" Foundation Slab - Flocculation	633.7	cuyd	369,385.69	582.93
197			24" Foundation Slab - Sedimentation Basin	896.9	cuyd	511,848.32	570.71
198			24" Foundation Slab - Sludge Collection Channel	102.2	cuyd	64,282.00	629.05
199			24" Walls <20' - Pretreatment	656.4	cuyd	496,325.94	756.1
200			24" Walls >20' - Pretreatment	95.7	cuyd	78,113.62	816.19
201			Elevated Beams - Pretreatment	39.9	cuyd	42,732.05	1,069.73
202			General Construction Equipment - Pretreatment	32	weeks	448,196.00	14,006.13
203			Grout Fill at Sed Basin - Pretreatment	284.3	cuyd	75,914.90	267.05
204			Grout Fill at Sludge Channel - Pretreatment	48.9	cuyd	12,431.95	254.14
205			Leak Testing - Pretreatment	1	each	2,334.00	2,334.00
206			Pipe Encasement 08" RS U-Line - Pretreatment	87.9	cuyd	29,194.78	332.3
207			Pipe Encasement 18" DR U-Line - Pretreatment	8	cuyd	2,759.58	343.9
208			Pipe Encasement 30" RW U-Line - Pretreatment	27	cuyd	8,089.65	300.17
209			Stair Landing Slab On Grade 1 - Pretreatment	6.1	cuyd	3,131.08	516.11
210			Stair Landing Slab On Grade 2 - Pretreatment	6.1	cuyd	2,986.45	490.39
211	3000		Concrete Total	1	lsum	3,975,584.33	3,975,584.33
212	5000		5000 - Steel				
213			Grating - Pretreatment	1,307.00	sqft	57,066.00	43.66
214			Handrailing - Pretreatment	2,133.00	lnft	90,012.60	42.2
215			Ladder - Pretreatment	1	ea	816	816
216			Stairs 1 - Pretreatment	1	each	33,424.00	33,424.00
217			Stairs 2 - Pretreatment	1	each	25,576.00	25,576.00
218	5000		Steel Total	1	lsum	206,894.60	206,894.60
219	7000		7000 - Thermal and Moisture Protection				
220			Roofing - Pretreatment	12,450.00	sqft	224,100.00	18
221	7000		Thermal and Moisture Protection Total	1	lsum	224,100.00	224,100.00
222	8000		8000 - Doors & Windows				
223			Double Door - Pretreatment	2	ea	17,780.00	8,890.00
224			Single Door - Pretreatment	2	ea	9,600.00	4,800.00
225	8000		Doors & Windows Total	1	lsum	27,380.00	27,380.00
226	9000		9000 - Finishes				
227			Painting Pipe - Pretreatment	833	sqft	6,129.30	7.36
228	9000		Finishes Total	1	lsum	6,129.30	6,129.30

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
229	11000		11000 - Equipment				
230			Arch Supported Retractable Covers - Pretreatment	1	lsum	615,000.00	615,000.00
231			Chain and Flight Sludge Collector - Pretreatment	4	each	470,412.84	117,603.21
232			Inclined Parallel Plate Settler System - Pretreatment	4	each	2,743,642.00	685,910.50
233			Inline Static Mixers - Pretreatment	2	each	64,954.00	32,477.00
234			Slide Gates Surface Mounted - Pretreatment	12	each	150,213.70	12,517.81
235			Vertical Mixer - Pretreatment	12	each	463,160.00	38,596.67
236	11000		Equipment Total	1	lsum	4,507,382.55	4,507,382.55
237	15000		15000 - Mechanical				
238			Ductile Iron Piping 08" RS Line - Pretreatment	36	inft	9,424.00	261.78
239			Ductile Iron Piping 18" DR Line - Pretreatment	20	inft	4,871.00	243.55
240			Ductile Iron Piping 30" RW Line - Pretreatment	96	inft	377,888.40	3,936.34
241			Ductile Iron Piping 48" BF Line - Pretreatment	3	inft	7,609.00	2,536.33
242			Ductile Iron Piping 48" SW Line - Pretreatment	3	inft	5,677.00	1,892.33
243	15000		Mechanical Total	1	lsum	405,469.40	405,469.40
244	16000		16000 - Electrical				
245			125A ATS - Pretreatment	1	lsum	16,200.00	16,200.00
246			45 kVA Transformer - Pretreatment	1	lsum	9,000.00	9,000.00
247			Disconnect Switches - Pretreatment	1	lsum	32,400.00	32,400.00
248			Duckbank & Grounding - Pretreatment	1	lsum	175,200.00	175,200.00
249			Instruments - Pretreatment	1	lsum	4,000.00	4,000.00
250			Junction Boxes, Equipment Stands, Misc. Electrical - Pretreatment	1	lsum	50,000.00	50,000.00
251			Lighting & Receptacle - Pretreatment	1	lsum	150,000.00	150,000.00
252			Lighting Panel - Pretreatment	1	lsum	6,000.00	6,000.00
253			Motor Control Center MCC-7 - Pretreatment	1	lsum	132,000.00	132,000.00
254			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - Pretreatment	1	lsum	50,500.00	50,500.00
255			New redundant fiber optic cable from main electrical building bldg for ring network - Pretreatment	1	lsum	8,950.00	8,950.00
256			PLC Panel, 48 x 36 x 12", CompactLogix PLC, UPS, programming for 12 flocculation VFD, 4 sludge drive vendor panels - Pretreatment	1	lsum	68,400.00	68,400.00
257			VFD RIO Adapters, 12 x 500 - Pretreatment	1	lsum	6,000.00	6,000.00
258			Wire & Conduit - Pretreatment	1	lsum	408,000.00	408,000.00
259	16000		Electrical Total	1	lsum	1,116,650.00	1,116,650.00
260		190	Pretreatment Total	1	lsum	12,444,957.58	12,444,957.58
261		200	200 - Membrane Filtration				
262	1000		1000 - General Conditions				
263			Membrane Pilot Study - Membrane Building	1	ea	250,000.00	250,000.00
264	1000		General Conditions Total	1	lsum	250,000.00	250,000.00
265	2000		2000 - Sitework				
266			Demo Existing Piping - Membrane Building	930	inft	83,460.00	89.74
267			Demolition Concrete for Sump Pits & Trench - Membrane Building	100	sqft	2,978.72	29.79
268			Demolition Filter Equipment - Membrane Building	5	each	124,625.00	24,925.00
269			Precast Inlet for Sump Pits - Membrane Building	4	each	21,848.90	5,462.23
270			Temporary MP Piping - Membrane Building	428	inft	146,140.60	341.45
271			Temporary MF Piping - Membrane Building	102	inft	51,051.40	500.5

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
272			Temporary Permeate Piping - Membrane Building	80	lnft	28,456.00	355.7
273	2000		Sitework Total	1	lsum	458,560.62	458,560.62
274	2001		2001 - Underground Piping				
275			Delivery Area 03" DR Line - Membrane Building	40	lnft	5,368.44	134.21
276			Delivery Area Inlet Drain - Membrane Building	3	each	12,442.20	4,147.40
277	2001		Underground Piping Total	1	lsum	17,810.64	17,810.64
278	3000		3000 - Concrete				
279			Concrete Fill for Membranes - Membrane Building	110	cuyd	57,317.73	521.2
280			Curb - Membrane Building	235	lnft	14,100.00	60
281			Delivery Area 4" Sidewalk - Membrane Building	4.1	cuyd	2,590.04	624.38
282			Delivery Area Paving - Membrane Building	41.5	cuyd	13,166.10	317.4
283			Drill & Epoxy Dowels for Sump Pits and Trench Drain - Membrane Building	100	each	1,034.41	10.34
284			Equipment Pads (2)Octagons - Membrane Building	73	cuyd	36,441.45	499.34
285			Equipment Pads Bulk Tank (4) - Membrane Building	5.6	cuyd	4,275.29	763.44
286			Equipment Pads Pumps (4) - Membrane Building	11.2	cuyd	9,277.70	828.37
287			Repair Concrete Floor for Sump Pits and Trench Drain - Membrane Building	2.6	cuyd	2,631.78	1,015.12
288	3000		Concrete Total	1	lsum	140,834.49	140,834.49
289	4000		4000 - Masonry				
290			Masonry Block - Membrane Building	2,024.00	sqft	62,884.00	31.07
291	4000		Masonry Total	1	lsum	62,884.00	62,884.00
292	5000		5000 - Steel				
293			FRP Covers - Membrane Building	300	sqft	19,498.71	65
294			Metal Support System - Membrane Building	1	ea	66,900.00	66,900.00
295	5000		Steel Total	1	lsum	86,398.71	86,398.71
296	8000		8000 - Doors & Windows				
297			Fiberglass Door - Membrane Building	2	ea	9,600.00	4,800.00
298	8000		Doors & Windows Total	1	lsum	9,600.00	9,600.00
299	9000		9000 - Finishes				
300			Floor Coatings - Membrane Building	2,980.00	sqft	59,600.00	20
301			Metal Studs & Drywall - Membrane Building	1,480.00	sqft	47,360.00	32
302			Painting Building - Membrane Building	8,595.00	sqft	51,570.00	6
303			Painting Pipe - Membrane Building	950	sqft	6,990.20	7.36
304			Painting Pipe - Membrane Building	3,405.00	sqft	25,054.36	7.36
305	9000		Finishes Total	1	lsum	190,574.56	190,574.56
306	11000		11000 - Equipment				
307			Neutralization Waste Tank - Membrane Building	1	each	7,882.28	7,882.28
308			Air Receiver - Membrane Building	2	each	7,916.48	3,958.24
309			Air Scour Blowers - Membrane Building	2	each	13,275.04	6,637.52
310			Backwash Pumps - Membrane Building	2	each	7,581.00	3,790.50
311			Booster Pumps - Membrane Building	3	each	675,806.00	225,268.67
312			CA Metering Pumps - Membrane Building	1	each	48,276.30	48,276.30
313			CA Tank - Membrane Building	1	each	59,722.92	59,722.92
314			CIA Feed Pump Pumps - Membrane Building	1	each	54,137.30	54,137.30
315			CIA Tank - Membrane Building	1	each	43,982.92	43,982.92

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
316			CIP Pumps - Membrane Building	2	each	7,063.08	3,531.54
317			CIP Tank - Membrane Building	1	each	7,882.28	7,882.28
318			Drain Pumps - Membrane Building	2	each	88,936.00	44,468.00
319			HA Metering Pumps - Membrane Building	1	each	46,176.30	46,176.30
320			HA Tank - Membrane Building	1	each	47,407.92	47,407.92
321			Membrane Filtration System (includes 5 membrane units, 5 permeate pumps, two backwash pumps, two CIP pumps, two neutralization pumps, two air scour blowers, one CIP tank, one neutralization tank, two air receivers and related appurtenances) - Membrane Building	5	each	67,483.75	13,496.75
322			Membrane Filtration System Owner Purchase	5	each	7,950,000.00	1,590,000.00
323			Neutralization Waste Pumps - Membrane Building	2	each	7,063.08	3,531.54
324			Permeate Pumps - Membrane Building	5	each	19,802.96	3,960.59
325			SBS Metering Pumps - Membrane Building	1	each	46,176.30	46,176.30
326			SBS Tank - Membrane Building	1	each	59,317.92	59,317.92
327			SH Metering Pumps - Membrane Building	1	each	55,335.60	55,335.60
328			SH Tank - Membrane Building	1	each	36,172.92	36,172.92
329			Sump Pumps - Membrane Building	6	each	77,466.00	12,911.00
330	11000		<b>Equipment Total</b>	1	Isum	9,434,864.34	9,434,864.34
331	15000		<b>15000 - Mechanical</b>				
332			AA Piping - Membrane Building	335	Inft	45,430.00	135.61
333			BW Piping - Membrane Building	184	Inft	192,364.80	1,045.46
334			Chemical Piping - Membrane Building	1,200.00	Inft	88,096.00	73.41
335			CIP Piping - Membrane Building	332	Inft	111,455.20	335.71
336			HVAC - Membrane Building	1	Isum	193,040.00	193,040.00
337			MF Piping - Membrane Building	102	Inft	180,762.80	1,772.18
338			MP Piping - Membrane Building	463	Inft	465,830.60	1,006.11
339			Plumbing - Membrane Building	1	Isum	120,000.00	120,000.00
340			Sprinkler System - Membrane Building	1	Isum	42,325.00	42,325.00
341			Temporary MP Piping - Membrane Building	428	Inft	52,917.25	123.64
342			Temporary MF Piping - Membrane Building	102	Inft	52,917.25	518.8
343			Temporary Permeate Piping - Membrane Building	80	Inft	42,917.25	536.47
344	15000		<b>Mechanical Total</b>	1	Isum	1,588,056.15	1,588,056.15
345	16000		<b>16000 - Electrical</b>				
346			125HP VFDs - Membrane Building	1	Isum	156,000.00	156,000.00
347			225A ATS - Membrane Building	1	Isum	12,000.00	12,000.00
348			250HP VFDs - Membrane Building	1	Isum	510,000.00	510,000.00
349			40HP VFDs - Membrane Building	1	Isum	76,800.00	76,800.00
350			75 kVA Transformer - Membrane Building	1	Isum	13,200.00	13,200.00
351			Demo Control Room network switch, extend CAT6 cables to new Cisco 9300 in mechanical / electrical room - Membrane Building	1	Isum	5,500.00	5,500.00
352			Duckbank & Grounding - Membrane Building	1	Isum	264,000.00	264,000.00
353			Instruments - Membrane Building	1	Isum	50,000.00	50,000.00
354			Lab PLC update processor to ControlLogix L82 - Membrane Building	1	Isum	27,500.00	27,500.00
355			Lighting & Receptacle - Membrane Building	1	Isum	36,000.00	36,000.00
356			Lighting Panel - Membrane Building	1	Isum	12,000.00	12,000.00
357			MCC-3 - Membrane Building	1	Isum	222,000.00	222,000.00

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
358			Misc. Electrical - Membrane Building	1	Isum	130,000.00	130,000.00
359			New 42U Network cabinet - Move all network equipment to new rack. Expand network switch to stackable Cisco 9300 using new ring topology - Membrane Building	1	Isum	58,500.00	58,500.00
360			New PLC Panel - Membrane Building	1	Isum	150,000.00	150,000.00
361			New RIO Panel - Membrane Building	1	Isum	60,000.00	60,000.00
362			New Train RIO Panels - Membrane Building	1	Isum	240,000.00	240,000.00
363			SWBD-3 - Membrane Building	1	Isum	140,000.00	140,000.00
364			SWBD-3, MCC-3, 200 HP VFD, 125 HP VFD, 40 PH VFD	1	Isum	1,332,000.00	1,332,000.00
365			Wire & Conduit - Membrane Building	1	Isum	870,000.00	870,000.00
366	16000		Electrical Total	1	Isum	4,365,500.00	4,365,500.00
367		200	Membrane Filtration Total	1	Isum	16,605,083.53	16,605,083.53
368		340	340 - Chlorine Contact Basin				
369	2000		2000 - Sitework				
370			Backfill - CCB	222	cuyd	10,643.10	47.94
371			Drilled Piers - CCB	84	ea	294,000.00	3,500.00
372			Excavation to Waste - CCB	1,463.00	cuyd	17,034.20	11.64
373			Subgrade Material - CCB	5,586.00	sqft	79,349.13	14.2
374	2000		Sitework Total	1	Isum	401,026.42	401,026.42
375	2001		2001 - Underground Piping				
376			Ductile Iron Pipe 48" MP U-Line - CCB	24	lnft	20,463.64	852.65
377	2001		Underground Piping Total	1	Isum	20,463.64	20,463.64
378	3000		3000 - Concrete				
379			12" Walls <20' - CCB	836	cuyd	902,685.93	1,079.77
380			12" Walls >20' - CCB	7.7	cuyd	11,511.44	1,495.60
381			24" Foundation Slab - CCB	393.2	cuyd	224,640.29	571.27
382			Elevated Concrete Slab - CCB	185.2	cuyd	129,173.57	697.5
383			Leak Testing - CCB	1	each	2,334.00	2,334.00
384			Pipe Encasement 48" MP U-Line - CCB	25.2	cuyd	7,409.83	293.69
385	3000		Concrete Total	1	Isum	1,277,755.07	1,277,755.07
386	5000		5000 - Steel				
387			Bulkhead- CCB	16	sqft	1,094.80	68.42
388			Hatch - CCB	6	each	7,221.60	1,203.60
389			Weir Plates - CCB	18	sqft	579.6	32.2
390	5000		Steel Total	1	Isum	8,896.00	8,896.00
391	9000		9000 - Finishes				
392			Coatings - CCB	3,766.00	sqft	67,788.00	18
393	9000		Finishes Total	1	Isum	67,788.00	67,788.00
394	11000		11000 - Equipment				
395			Slide Gates- CCB	1	each	9,888.52	9,888.52
396	11000		Equipment Total	1	Isum	9,888.52	9,888.52
397	15000		15000 - Mechanical				
398			Flap Gate - CCB	3	each	25,917.86	8,639.29
399	15000		Mechanical Total	1	Isum	25,917.86	25,917.86
400	16000		16000 - Electrical				
401			Instruments - CCB	1	Isum	50,000.00	50,000.00

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
402	16000		Electrical Total	1	lsum	50,000.00	50,000.00
403		340	Chlorine Contact Basin Total	1	lsum	1,861,735.51	1,861,735.51
404		345	345 - Existing High Service Pump Station				
405	2000		2000 - Sitework				
406			Demo / Building Modifications	5	each	32,278.88	6,455.77
407			Demo Existing Piping - Existing HPSP	185	lnft	16,602.26	89.74
408			Plug Existing 36" - Existing HSPS	1	ea	3,000.00	3,000.00
409			Trench Backfill and Compaction - Existing HSPS	250	cuyd	6,750.00	27
410			Trench Excavation - Existing HSPS	130	lnft	1,300.00	10
411	2000		Sitework Total	1	lsum	59,931.13	59,931.13
412	3000		3000 - Concrete				
413			Concrete Equipment & Pipe Supports - Existing HSPS	7.7	cuyd	10,227.03	1,333.88
414	3000		Concrete Total	1	lsum	10,227.03	10,227.03
415	9000		9000 - Finishes				
416			Painting Pipe - Existing HSPS	628	sqft	4,620.89	7.36
417	9000		Finishes Total	1	lsum	4,620.89	4,620.89
418	11000		11000 - Equipment				
419			Rotate and Reinstall Vertical Turbine Pumps - Existing HSPS	3	each	101,252.88	33,750.96
420	11000		Equipment Total	1	lsum	101,252.88	101,252.88
421	15000		15000 - Mechanical				
422			Process Piping & Valves - Existing HSPS	265	lnft	862,108.60	3,253.24
423	15000		Mechanical Total	1	lsum	862,108.60	862,108.60
424	16000		16000 - Electrical				
425			Old HSPS Groundwater Storage PLC5. Replace processor with 1769-L24ER-QBFC1B - Existing HSPS	1	lsum	10,850.00	10,850.00
426	16000		Electrical Total	1	lsum	10,850.00	10,850.00
427		345	Existing High Service Pump Station Total	1	lsum	1,048,990.53	1,048,990.53
428		346	346 - High Service Pump Station #2				
429	2000		2000 - Sitework				
430			Drilled Piers - HSPS	1,080.00	lnft	216,000.00	200
431			Excavation to Waste - HSPS	2,033.00	cuyd	24,608.72	12.1
432			Import Materials - Structural Backfill - HSPS	876	cuyd	24,710.32	28.21
433			Import Materials - Subgrade - HSPS	2,350.10	ton	126,278.82	53.73
434	2000		Sitework Total	1	lsum	391,597.86	391,597.86
435	2001		2001 - Underground Piping				
436			24" Suction Line - HSPS	90	lnft	25,789.10	286.55
437	2001		Underground Piping Total	1	lsum	25,789.10	25,789.10
438	3000		3000 - Concrete				
439			12" Foundation Slab - HSPS	119	cuyd	62,581.38	525.89
440			12" Vault Walls - HSPS	11.4	cuyd	11,635.25	1,019.44
441			Concrete Equipment & Pipe Supports - HSPS	12.8	cuyd	17,045.04	1,333.88
442			Pipe Encasement 24" Suction Line - HSPS	73.5	cuyd	21,369.81	290.63
443	3000		Concrete Total	1	lsum	112,631.48	112,631.48
444	4000		4000 - Masonry				
445			Masonry Block - HSPS	1,340.00	sqft	34,840.00	26
446			Masonry Brick - HSPS	900	sqft	14,400.00	16

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
447	4000		Masonry Total	1	Isum	49,240.00	49,240.00
448	5000		5000 - Steel				
449			Grating - HSPS	64	sqft	904.67	14.14
450	5000		Steel Total	1	Isum	904.67	904.67
451	7000		7000 - Thermal and Moisture Protection				
452			Roofing - HSPS	2,904.00	sqft	52,272.00	18
453	7000		Thermal and Moisture Protection Total	1	Isum	52,272.00	52,272.00
454	8000		8000 - Doors & Windows				
455			Double Door & Frame - HSPS	1	each	10,135.00	10,135.00
456			Overhead Door - HSPS	1	each	24,000.00	24,000.00
457			Single Door & Frame - HSPS	3	each	11,940.00	3,980.00
458	8000		Doors & Windows Total	1	Isum	46,075.00	46,075.00
459	9000		9000 - Finishes				
460			Concrete Sealer - HSPS	2,904.00	sqft	11,616.00	4
461			Painting Building - HSPS	6,204.00	sqft	37,224.00	6
462			Painting Pipe - HSPS	640	sqft	4,709.19	7.36
463	9000		Finishes Total	1	Isum	53,549.19	53,549.19
464	10000		10000 - Specialties				
465			Fire Extinguishers in Cabinets - HSPS	4	each	1,280.00	320
466			Interior Signage - HSPS	4	each	2,720.00	680
467	10000		Specialties Total	1	Isum	4,000.00	4,000.00
468	11000		11000 - Equipment				
469			Vertical Turbine Pumps - HSPS	2	each	1,058,680.29	529,340.15
470	11000		Equipment Total	1	Isum	1,058,680.29	1,058,680.29
471	13000		13000 - Special Construction				
472			PEMB - HSPS	2,904.00	sqft	217,800.00	75
473	13000		Special Construction Total	1	Isum	217,800.00	217,800.00
474	15000		15000 - Mechanical				
475			HVAC - HSPS	1	Isum	159,720.00	159,720.00
476			Process Piping & Valves - HSPS	410	lnft	721,880.29	1,760.68
477	15000		Mechanical Total	1	Isum	881,600.29	881,600.29
478	16000		16000 - Electrical				
479			300 kVA Distribution Transformer - HSPS	1	Isum	60,000.00	60,000.00
480			400A ATS - HSPS	1	Isum	21,600.00	21,600.00
481			400A Power Panel - HSPS	1	Isum	9,000.00	9,000.00
482			45 kVA Transformer - HSPS	1	Isum	9,000.00	9,000.00
483			Duckbank & Grounding - HSPS	1	Isum	102,000.00	102,000.00
484			Instruments - HSPS	1	Isum	10,000.00	10,000.00
485			Lighting & Receptacle - HSPS	1	Isum	54,000.00	54,000.00
486			Lighting Panel - HSPS	1	Isum	6,000.00	6,000.00
487			Misc. Electrical - HSPS	1	Isum	50,000.00	50,000.00
488			MV AFD's - HSPS	1	Isum	444,000.00	444,000.00
489			MV Motor Control Center - HSPS	1	Isum	282,000.00	282,000.00
490			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - HSPS	1	Isum	53,500.00	53,500.00
491			New HSPS - RIO PLC, control panel for 2 new VFD pumps. RIO adapters for VFD's - HSPS	1	Isum	74,900.00	74,900.00

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
492			New redundant fiber optic cable - HSPS	1	Isum	9,750.00	9,750.00
493			VFD RIO Adapters- HSPS	1	Isum	10,000.00	10,000.00
494			Wire & Conduit - HSPS	1	Isum	187,500.00	187,500.00
495	16000		Electrical Total	1	Isum	1,383,250.00	1,383,250.00
496		346	High Service Pump Station #2 Total	1	Isum	4,277,389.89	4,277,389.89
497		350	350 - Chemical Facilities				
498	2000		2000 - Sitework				
499			Backfill Structural Fill - Chemical Facilities	1,376.60	cuyd	40,518.51	29.43
500			Drilled Piers - Chemical Facilities	96	ea	336,000.00	3,500.00
501			Excavation to Waste - Chemical Facilities	3,933.00	cuyd	49,202.66	12.51
502	2000		Sitework Total	1	Isum	425,721.17	425,721.17
503	2001		2001 - Underground Piping				
504			Building DR Line - Chemical Facilities	255	Inft	32,996.18	129.4
505			Building Inlet Drain - Chemical Facilities	3	each	12,442.20	4,147.40
506			Delivery Area 04" DR Line - Chemical Facilities	45	Inft	6,010.95	133.58
507			Delivery Area Inlet Drain - Chemical Facilities	3	each	12,442.20	4,147.40
508	2001		Underground Piping Total	1	Isum	63,891.53	63,891.53
509	3000		3000 - Concrete				
510			Curb - Chemical Facilities	300	Inft	18,000.00	60
511			Equipment Pads (5) Octagons - Chemical Facilities	152.4	cuyd	79,768.36	523.26
512			Foundation Slab - Chemical Facilities	359.1	cuyd	250,727.13	698.21
513			Hollow Core 8" - Chemical Facilities	2,600.00	sqft	61,013.26	23.47
514			Walls - Chemical Facilities	96.7	cuyd	89,492.03	925.5
515	3000		Concrete Total	1	Isum	499,000.78	499,000.78
516	4000		4000 - Masonry				
517			Masonry Block - Chemical Facilities	6,154.00	sqft	221,544.00	36
518	4000		Masonry Total	1	Isum	221,544.00	221,544.00
519	5000		5000 - Steel				
520			Bollards - Chemical Facility	26	each	17,334.20	666.7
521			Grating - Chemical Facilities	455	sqft	10,031.50	22.05
522			Handrailing - Chemical Facilities	380	Inft	16,036.00	42.2
523			Ladder - Chemical Facilities	1	ea	5,256.00	5,256.00
524			Miscellaneous Steel Framing - Chemical Facilities	5,000.00	lbs	40,000.00	8
525	5000		Steel Total	1	Isum	88,657.70	88,657.70
526	7000		7000 - Thermal and Moisture Protection				
527			Roofing - Chemical Facilities	2,600.00	sqft	62,400.00	24
528	7000		Thermal and Moisture Protection Total	1	Isum	62,400.00	62,400.00
529	8000		8000 - Doors & Windows				
530			Double Door & Frame - Chemical Facilities	5	each	50,675.00	10,135.00
531			Fiberglass Door - Chemical Facilities	2	ea	9,600.00	4,800.00
532	8000		Doors & Windows Total	1	Isum	60,275.00	60,275.00
533	9000		9000 - Finishes				
534			Concrete Sealer - Chemical Facilities	600	sqft	8,972.00	14.95
535			Floor Coatings - Chemical Facilities	7,200.00	sqft	129,808.26	18.03
536			Painting Building - Chemical Facilities	11,367.00	sqft	68,202.00	6
537			Painting Pipe - Chemical Facilities	1,050.00	sqft	7,726.01	7.36

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
538	9000		Finishes Total	1	Isum	214,708.28	214,708.28
539	10000		10000 - Specialties				
540			Fire Extinguishers in Cabinets - Chemical Facilities	5	each	1,600.00	320
541			Signage - Chemical Facilities	5	each	3,400.00	680
542	10000		Specialties Total	1	Isum	5,000.00	5,000.00
543	11000		11000 - Equipment				
544			ACH Feed Pumps - Chemical Facilities	3	each	53,411.05	17,803.68
545			ACH Tank - Chemical Facilities	2	each	114,244.16	57,122.08
546			LAS Pumps - Chemical Facilities	2	each	35,263.08	17,631.54
547			LAS Tank - Chemical Facilities	1	each	50,738.30	50,738.30
548			SH Metering Pumps - Chemical Facilities	3	each	98,161.90	32,720.63
549			SH Tank - Chemical Facilities	2	each	112,925.16	56,462.58
550			SH Transfer Pumps - Chemical Facilities	2	each	29,707.30	14,853.65
551			Sump Pumps - Chemical Facilities	3	each	37,230.00	12,410.00
552	11000		Equipment Total	1	Isum	531,680.95	531,680.95
553	13000		13000 - Special Construction				
554			Canopy - Chemical Facilities	1,500.00	sqft	60,000.00	40
555	13000		Special Construction Total	1	Isum	60,000.00	60,000.00
556	15000		15000 - Mechanical				
557			Chemical Piping - Chemical Facilities	2,086.00	lnft	134,102.40	64.29
558			HVAC - Chemical Facilities	1	Isum	252,980.00	252,980.00
559			Plumbing - Chemical Facilities	1	Isum	175,000.00	175,000.00
560	15000		Mechanical Total	1	Isum	562,082.40	562,082.40
561	16000		16000 - Electrical				
562			125A ATS - Chemical Facilities	1	Isum	16,200.00	16,200.00
563			45 kVA Transformer - Chemical Facilities	1	Isum	9,000.00	9,000.00
564			ControlLogix PLC Panel, Free Standing 60 x 48 x 12" NEMA 12 - Chemical Facilities	1	Isum	145,400.00	145,400.00
565			Duckbank & Grounding - Chemical Facilities	1	Isum	48,000.00	48,000.00
566			Instruments - Chemical Facilities	1	Isum	70,000.00	70,000.00
567			Lighting & Receptacle - Chemical Facilities	1	Isum	158,400.00	158,400.00
568			Lighting Panel - Chemical Facilities	1	Isum	12,000.00	12,000.00
569			Misc. Electrical - Chemical Facilities	1	Isum	75,000.00	75,000.00
570			Motor Control Center MCC-5 - Chemical Facilities	1	Isum	156,000.00	156,000.00
571			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - Chemical Facilities	1	Isum	58,800.00	58,800.00
572			New redundant fiber optic cable - Chemical Facilities	1	Isum	7,400.00	7,400.00
573			Wire & Conduit - Chemical Facilities	1	Isum	402,000.00	402,000.00
574	16000		Electrical Total	1	Isum	1,158,200.00	1,158,200.00
575		350	Chemical Facilities Total	1	Isum	3,953,161.79	3,953,161.79
576		400	400 - Raw Sludge Splitter Box				
577	2000		2000 - Sitework				
578			Excavation to Waste - Raw Sludge Splitter Box	430	cuyd	6,229.40	14.49
579			Import Materials - Structural Backfill - Raw Sludge Splitter Box	143	cuyd	6,749.60	47.2
580			Import Materials - Subgrade - Raw Sludge Splitter Box	401	ton	22,417.20	55.9
581			Import Materials - Subgrade Inlet - Raw Sludge Splitter Box	240	sqft	6,013.35	25.06

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
582			Import Materials - Subgrade Outlet - Raw Sludge Splitter Box	240	sqft	5,448.90	22.7
583	2000		Sitework Total	1	Isum	46,858.45	46,858.45
584	2001		2001 - Underground Piping				
585			Ductile Iron Pipe RS & BWWS U-Line - Pretreatment	45	Inft	5,444.53	120.99
586	2001		Underground Piping Total	1	Isum	5,444.53	5,444.53
587	3000		3000 - Concrete				
588			12" Ext. Walls - Raw Sludge Splitter Box	63.4	cuyd	67,786.06	1,069.06
589			12" Slab on Grade Inlet - Raw Sludge Splitter Box	5.3	cuyd	2,782.34	522.23
590			12" Slab on Grade Outlet - Raw Sludge Splitter Box	9.3	cuyd	5,518.13	591.23
591			18" Foundation Slab - Raw Sludge Splitter Box	37.7	cuyd	18,700.49	496.25
592			4" Mud Slab - Raw Sludge Splitter Box	8.8	cuyd	2,448.41	279.27
593			Concrete Pipe Encasement for Line - Raw Sludge Splitter Box	7.2	cuyd	2,671.27	369.48
594			Grout Fill/Fillets Inlet - Raw Sludge Splitter Box	1.1	cuyd	816.66	728.92
595			Grout Fill/Fillets Outlet - Raw Sludge Splitter Box	1	cuyd	783.14	761.22
596			Leak Testing - Raw Sludge Splitter Box	1	each	2,067.20	2,067.20
597			Stair Landing Slab On Grade - Raw Sludge Splitter Box	6.1	cuyd	3,131.08	516.11
598	3000		Concrete Total	1	Isum	106,704.77	106,704.77
599	5000		5000 - Steel				
600			Grating - Raw Sludge Splitter Box	386	sqft	16,150.40	41.84
601			Handrailing - Raw Sludge Splitter Box	90	Inft	3,798.00	42.2
602			Stairs - Raw Sludge Splitter Box	1	each	27,160.00	27,160.00
603	5000		Steel Total	1	Isum	47,108.40	47,108.40
604	11000		11000 - Equipment				
605			Slide Gates Surface Mounted - Raw Sludge Splitter Box	4	each	44,276.15	11,069.04
606			Weir Gates- Raw Sludge Splitter Box	2	each	67,813.33	33,906.67
607	11000		Equipment Total	1	Isum	112,089.48	112,089.48
608		400	Raw Sludge Splitter Box Total	1	Isum	318,205.64	318,205.64
609		450	450 - Raw Sludge Thickener				
610	2000		2000 - Sitework				
611			Drilled Piers - Thickener	128	ea	448,000.00	3,500.00
612			Excavation to Waste - Sludge Thickeners #1	20,920.80	cuyd	228,529.00	10.92
613			Import Materials - Structural Backfill - Sludge Thickeners #1	9,204.00	cuyd	256,174.63	27.83
614			Import Materials - Subgrade - Sludge Thickeners #1	4,639.70	ton	271,475.41	58.51
615	2000		Sitework Total	1	Isum	1,204,179.04	1,204,179.04
616	2001		2001 - Underground Piping				
617			RS Line from RS Splitter Box to ST - Sludge Thickener #1	30	Inft	11,055.75	368.52
618			RS Line from RS Splitter Box to ST - Sludge Thickener #2	30	Inft	11,055.75	368.52
619			TS Line under ST - Sludge Thickeners #1	45	Inft	11,306.29	251.25
620			TS Line under ST - Sludge Thickeners #2	45	Inft	11,306.29	251.25
621	2001		Underground Piping Total	1	Isum	44,724.08	44,724.08
622	3000		3000 - Concrete				
623			12" Elevated Launder Slab - Sludge Thickeners #1	23.6	cuyd	36,019.03	1,526.62
624			12" Elevated Launder Slab - Sludge Thickeners #2	23.6	cuyd	36,019.03	1,526.62
625			20" Walls - Sludge Thickeners #1	249.8	cuyd	194,249.79	777.68
626			20" Walls - Sludge Thickeners #2	249.8	cuyd	194,249.79	777.68
627			4" Mud Slab - Sludge Thickeners #1	94.9	cuyd	22,607.33	238.16

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628			4" Mud Slab - Sludge Thickeners #2	94.9	cuyd	22,607.33	238.16
629			8" Launder Wall - Sludge Thickeners #1	16.2	cuyd	21,180.25	1,306.58
630			8" Launder Wall - Sludge Thickeners #2	16.2	cuyd	21,180.25	1,306.58
631			Center Pier Foundation - Sludge Thickeners #1	103.8	cuyd	47,670.29	459.42
632			Center Pier Foundation - Sludge Thickeners #2	103.8	cuyd	47,670.29	459.42
633			Concrete Pipe Encasement for TS Line - Sludge Thickener #1	7.7	cuyd	2,741.50	355.59
634			Concrete Pipe Encasement for TS Line - Sludge Thickeners #2	7.7	cuyd	2,741.50	355.59
635			Foundation Slab - Sludge Thickeners #1	443.1	cuyd	193,979.19	437.76
636			Foundation Slab - Sludge Thickeners #2	443.1	cuyd	193,979.19	437.76
637			Gang Form Setup - Sludge Thickeners #1	2,976.00	sqft	23,847.92	8.01
638			Gang Form Setup - Sludge Thickeners #2	2,976.00	sqft	23,847.92	8.01
639			Grout Fill/Fillets in Launder - Sludge Thickeners #1	3.1	cuyd	2,249.78	714.77
640			Grout Fill/Fillets in Launder - Sludge Thickeners #2	3.1	cuyd	2,249.78	714.77
641			Leak Testing - Sludge Thickeners #1	1	each	2,334.00	2,334.00
642			Leak Testing - Sludge Thickeners #2	1	each	2,334.00	2,334.00
643			Stair Landing Slab - Sludge Thickeners #1	3.9	cuyd	1,921.30	493.8
644			Stair Landing Slab - Sludge Thickeners #2	3.9	cuyd	1,921.30	493.8
645			Stair Support Slab - Sludge Thickeners #1	2.9	cuyd	1,569.74	538.2
646			Stair Support Slab - Sludge Thickeners #2	2.9	cuyd	1,569.74	538.2
647	3000		Concrete Total	1	Isum	1,100,740.27	1,100,740.27
648	5000		5000 - Steel				
649			Handrailing - Thickener	960	Inft	40,512.00	42.2
650			Stairs - - Thickener	2	each	54,320.00	27,160.00
651	5000		Steel Total	1	Isum	94,832.00	94,832.00
652	11000		11000 - Equipment				
653			Equipment Crane Assembly - Sludge Thickeners #1	4	week	42,780.00	10,695.00
654			Equipment Crane Assembly - Sludge Thickeners #2	5	week	42,780.00	8,556.00
655			Thickener Equipment - Sludge Thickeners #1	1	each	291,782.15	291,782.15
656			Thickener Equipment - Sludge Thickeners #2	1	each	291,782.15	291,782.15
657	11000		Equipment Total	1	Isum	669,124.30	669,124.30
658	16000		16000 - Electrical				
659			125A ATS - GT	1	Isum	9,000.00	9,000.00
660			45 kVA Transformer - GT	1	Isum	6,000.00	6,000.00
661			ControlLogix PLC Panel, solids processing- gravity sludge thickener, thickened sludge pump station, backwash clarifier, and recycle pump station. 48 x 60 x 12" NEMA 4, UPS - GT	1	Isum	133,900.00	133,900.00
662			Duckbank & Grounding - GT	1	Isum	168,000.00	168,000.00
663			Instruments - GT	1	Isum	60,000.00	60,000.00
664			Lighting & Receptacle - GT	1	Isum	96,000.00	96,000.00
665			Lighting Panel - GT	1	Isum	6,000.00	6,000.00
666			Misc. Electrical - GT	1	Isum	50,000.00	50,000.00
667			Motor Control Center MCC-6 - GT	1	Isum	100,800.00	100,800.00
668			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - GT	1	Isum	58,500.00	58,500.00
669			New redundant fiber optic cable - Raw Sludge Thickener	1	Isum	7,850.00	7,850.00
670			VFD RIO adapters - GT	1	Isum	2,500.00	2,500.00
671			VFD's - GT	1	Isum	180,000.00	180,000.00

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
672			Wire & Conduit - GT	1	lsum	180,000.00	180,000.00
673	16000		Electrical Total	1	lsum	1,058,550.00	1,058,550.00
674		450	Raw Sludge Thickener Total	1	lsum	4,172,149.69	4,172,149.69
675		452	452 - Thickened Sludge Pump Station				
676	2000		2000 - Sitework				
677			Excavation to Waste - Thickened Sludge PS	1,587.00	cuyd	20,004.44	12.61
678			Import Materials - Structural Backfill - Thickened Sludge PS	840	cuyd	23,683.71	28.19
679			Import Materials - Subgrade - Thickened Sludge PS	156	ton	8,637.78	55.37
680	2000		Sitework Total	1	lsum	52,325.93	52,325.93
681	2001		2001 - Underground Piping				
682			Ductile Iron Pipe 06" Sludge Line U-Line - Thickened Sludge PS	10	lnft	1,325.90	132.59
683	2001		Underground Piping Total	1	lsum	1,325.90	1,325.90
684	3000		3000 - Concrete				
685			12" Slab on Grade- Thickened Sludge PS	3.8	cuyd	2,348.03	621.17
686			14" Foundation Slab - Thickened Sludge PS	47	cuyd	21,793.95	464.1
687			14" Walls - Thickened Sludge PS	75.3	cuyd	94,125.36	1,250.00
688			20" Walls - Thickened Sludge PS	82.6	cuyd	74,801.24	905.16
689			4" Mud Slab - Thickened Sludge PS	6.5	cuyd	1,575.69	241.73
690			Grout Fill - Thickened Sludge PS	6.1	cuyd	2,017.59	330.98
691			Pipe Encasement Sludge Line - Thickened Sludge PS	0.2	cuyd	560.4	3,290.01
692	3000		Concrete Total	1	lsum	197,222.26	197,222.26
693	5000		5000 - Steel				
694			Grating - Thickened Sludge PS	16	sqft	337.96	21.12
695			Handrailing - Thickened Sludge PS	85	lnft	3,995.00	47
696			Ladder - Thickened Sludge PS	2	ea	4,152.00	2,076.00
697			Platform - Thickened Sludge PS	125	sqft	19,246.50	153.97
698	5000		Steel Total	1	lsum	27,731.46	27,731.46
699	9000		9000 - Finishes				
700			Painting Pipe - Thickened Sludge PS	227	sqft	1,670.29	7.36
701	9000		Finishes Total	1	lsum	1,670.29	1,670.29
702	11000		11000 - Equipment				
703			Progressive Cavity Pumps - Thickened Sludge PS	2	each	31,969.00	15,984.50
704			Sump Pumps - Thickened Sludge PS	2	each	29,707.78	14,853.89
705	11000		Equipment Total	1	lsum	61,676.78	61,676.78
706	14000		14000 - Conveying Systems				
707			Mono Rail - Thickened Sludge Pump Station	1	ea	18,600.00	18,600.00
708	14000		Conveying Systems Total	1	lsum	18,600.00	18,600.00
709	15000		15000 - Mechanical				
710			Piping - Thickened Sludge PS	144	lnft	28,134.80	195.38
711			Plumbing - Thickened Sludge PS	1	lsum	31,830.00	31,830.00
712	15000		Mechanical Total	1	lsum	59,964.80	59,964.80
713		452	Thickened Sludge Pump Station Total	1	lsum	420,517.42	420,517.42
714		455	455 - Backwash Waste Clarifier				
715	2000		2000 - Sitework				
716			Excavation to Waste - Backwash Waste Clarifier	12,552.50	cuyd	137,117.40	10.92
717			Import Materials - Structural Backfill - Backwash Waste Clarifier	5,522.40	cuyd	153,704.78	27.83

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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
718			Import Materials - Subgrade - Backwash Waste Clarifier	2,783.80	ton	162,885.25	58.51
719	2000		Sitework Total	1	lsum	453,707.42	453,707.42
720	2001		2001 - Underground Piping				
721			Ductile Iron Pipe 10" BWWS U-Line - Backwash Waste Clarifier	50	lnft	6,825.29	136.51
722			Ductile Iron Pipe 12" BWW U-Line - Backwash Waste Clarifier	50	lnft	8,061.32	161.23
723	2001		Underground Piping Total	1	lsum	14,886.61	14,886.61
724	3000		3000 - Concrete				
725			12" Elevated Launder Slab - Backwash Waste Clarifier	23.6	cuyd	36,019.03	1,526.62
726			12" Walls - Backwash Waste Clarifier	138.9	cuyd	137,379.31	988.78
727			24" Foundation Slab - Backwash Waste Clarifier	327.2	cuyd	143,255.87	437.76
728			4" Mud Slab - Backwash Waste Clarifier	94.9	cuyd	22,607.33	238.16
729			8" Launder Wall - Backwash Waste Clarifier	16.2	cuyd	21,180.25	1,306.58
730			Center Pier Foundation - Backwash Waste Clarifier	81.8	cuyd	43,166.13	527.57
731			Concrete Pipe Encasement for TS Line - Backwash Waste Clarifier	7.7	cuyd	2,741.50	355.59
732			Gang Form Tire Down - Backwash Waste Clarifier	2,976.00	sqft	23,847.92	8.01
733			Grout Fill/Fillets in Launder - Backwash Waste Clarifier	3.1	cuyd	2,249.78	714.77
734			Leak Testing - Backwash Waste Clarifier	1	each	2,334.00	2,334.00
735			Pipe Encasement 10" BWWS U-Line - Backwash Waste Clarifier	14.1	cuyd	5,258.78	372.61
736			Pipe Encasement 12" BWW U-Line - Backwash Waste Clarifier	16	cuyd	5,728.24	357.93
737			Stair Landing Slab - Backwash Waste Clarifier	3.9	cuyd	1,921.30	493.8
738			Stair Support Slab - Backwash Waste Clarifier	2.9	cuyd	1,569.74	538.2
739	3000		Concrete Total	1	lsum	449,259.19	449,259.19
740	11000		11000 - Equipment				
741			Clarifier Equipment - Backwash Waste Clarifier	1	each	321,836.90	321,836.90
742			Clarifier Equipment Crane Assembly - Backwash Waste Clarifier	4	week	42,780.00	10,695.00
743	11000		Equipment Total	1	lsum	364,616.90	364,616.90
744	15000		15000 - Mechanical				
745			Ductile Iron Piping 12" SN Line - Backwash Waste Clarifier	40	lnft	9,493.00	237.32
746	15000		Mechanical Total	1	lsum	9,493.00	9,493.00
747		455	Backwash Waste Clarifier Total	1	lsum	1,291,963.12	1,291,963.12
748		458	458 - Recycle Pump Station				
749	2000		2000 - Sitework				
750			Excavation to Waste - Recycle PS	4,730.00	cuyd	52,451.20	11.09
751			Import Materials - Structural Backfill - Recycle PS	1,800.00	cuyd	51,060.03	28.37
752			Import Materials - Subgrade - Recycle PS	43.2	ton	3,828.86	88.63
753	2000		Sitework Total	1	lsum	107,340.10	107,340.10
754	3000		3000 - Concrete				
755			12" Elevated Slab - Recycle PS	16	cuyd	25,463.41	1,594.53
756			12" Walls - Recycle PS	58.9	cuyd	59,342.01	1,007.74
757			24" Foundation Slab - Recycle PS	24.4	cuyd	10,625.18	435.26
758			4" Mud Slab - Recycle PS	5.2	cuyd	1,228.82	238.12
759			8" Thickened Slab - Recycle PS	12.2	cuyd	4,865.75	398.65
760			Grout Fill/Fillets - Recycle PS	6.6	cuyd	3,996.17	607.35
761			Leak Testing - Recycle PS	1	each	1,800.40	1,800.40
762	3000		Concrete Total	1	lsum	107,321.75	107,321.75

60% Opinion of Probable Cost  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
763	5000		5000 - Steel				
764			Hatch - Recycle PS	5	ea	5,110.80	1,022.16
765	5000		Steel Total	1	lsum	5,110.80	5,110.80
766	9000		9000 - Finishes				
767			Painting Pipe - Recycle PS	153	sqft	1,125.79	7.36
768	9000		Finishes Total	1	lsum	1,125.79	1,125.79
769	11000		11000 - Equipment				
770			Submersible Pumps - Recycle PS	2	each	116,652.71	58,326.36
771	11000		Equipment Total	1	lsum	116,652.71	116,652.71
772	14000		14000 - Conveying Systems				
773			Jib Crane - Recycle Pump Station	1	ea	8,500.00	8,500.00
774	14000		Conveying Systems Total	1	lsum	8,500.00	8,500.00
775	15000		15000 - Mechanical				
776			Piping - Recycle PS	153	lnft	32,722.30	213.87
777	15000		Mechanical Total	1	lsum	32,722.30	32,722.30
778		458	Recycle Pump Station Total	1	lsum	378,773.45	378,773.45
779		551	551 - Pretreatment Electrical Building				
780	2000		2000 - Sitework				
781			Drilled Piers - Pretreatment Electrical Building	6	ea	42,000.00	7,000.00
782	2000		Sitework Total	1	lsum	42,000.00	42,000.00
783	3000		3000 - Concrete				
784			Foundation Slab - Pretreatment Electrical Building	20.7	cuyd	9,543.36	460.46
785			House Keeping Pad - Pretreatment Electrical Building	1.5	cuyd	2,288.63	1,569.34
786			Precast Wall - Pretreatment Electrical Building	1,100.00	sqft	75,600.00	68.73
787	3000		Concrete Total	1	lsum	87,431.99	87,431.99
788	7000		7000 - Thermal and Moisture Protection				
789			Roofing - Pretreatment Electrical Building	240	sqft	5,760.00	24
790	7000		Thermal and Moisture Protection Total	1	lsum	5,760.00	5,760.00
791	8000		8000 - Doors & Windows				
792			Fiberglass Door - Pretreatment Electrical Building	1	ea	4,800.00	4,800.00
793	8000		Doors & Windows Total	1	lsum	4,800.00	4,800.00
794	9000		9000 - Finishes				
795			Concrete Sealer - Pretreatment Electrical Building	240	sqft	960	4
796	9000		Finishes Total	1	lsum	960	960
797	10000		10000 - Specialties				
798			Canopy - Pretreatment Electrical Building	1,350.00	sqft	155,250.00	115
799			Fire Extinguishers in Cabinets - Pretreatment Electrical Building	1	each	320	320
800	10000		Specialties Total	1	lsum	155,570.00	155,570.00
801	15000		15000 - Mechanical				
802			HVAC - Pretreatment Electrical Building	1	lsum	31,180.00	31,180.00
803	15000		Mechanical Total	1	lsum	31,180.00	31,180.00
804		551	Pretreatment Electrical Building Total	1	lsum	327,701.99	327,701.99
805		552	552 - Membrane Electrical Building				
806	2000		2000 - Sitework				
807			Drilled Piers - Membrane Electrical Building	29	ea	203,000.00	7,000.00
808	2000		Sitework Total	1	lsum	203,000.00	203,000.00

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City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
809	3000		3000 - Concrete				
810			Foundation Slab - Membrane Electrical Building	270.5	cuyd	124,540.89	460.46
811			House Keeping Pad - Membrane Electrical Building	1.5	cuyd	2,288.63	1,569.34
812			Precast Wall - Membrane Electrical Building	4,784.00	sqft	328,750.00	68.72
813	3000		Concrete Total	1	lsum	455,579.52	455,579.52
814	7000		7000 - Thermal and Moisture Protection				
815			Roofing - Membrane Electrical Building	1,000.00	sqft	24,000.00	24
816	7000		Thermal and Moisture Protection Total	1	lsum	24,000.00	24,000.00
817	8000		8000 - Doors & Windows				
818			Double Door & Frame - Membrane Electrical Building	1	each	9,135.00	9,135.00
819			Fiberglass Door - Membrane Electrical Building	1	ea	4,800.00	4,800.00
820	8000		Doors & Windows Total	1	lsum	13,935.00	13,935.00
821	9000		9000 - Finishes				
822			Concrete Sealer - Membrane Electrical Building	1,000.00	sqft	4,000.00	4
823			Painting Building - Membrane Electrical Building	5,360.00	sqft	32,160.00	6
824	9000		Finishes Total	1	lsum	36,160.00	36,160.00
825	10000		10000 - Specialties				
826			Fire Extinguishers in Cabinets - Membrane Electrical Building	1	each	320	320
827	10000		Specialties Total	1	lsum	320	320
828	15000		15000 - Mechanical				
829			HVAC - Membrane Electrical Building	1	lsum	132,180.00	132,180.00
830	15000		Mechanical Total	1	lsum	132,180.00	132,180.00
831		552	Membrane Electrical Building Total	1	lsum	865,174.52	865,174.52
832		553	553 - Solids Handling Electrical Building				
833	2000		2000 - Sitework				
834			Drilled Piers - Solids Handling Electrical Building	13	ea	91,000.00	7,000.00
835	2000		Sitework Total	1	lsum	91,000.00	91,000.00
836	3000		3000 - Concrete				
837			Foundation Slab - Solids Handling Electrical Building	51.8	cuyd	23,858.41	460.46
838			House Keeping Pad - Solids Handling Electrical Building	1.5	cuyd	2,288.63	1,569.34
839			Precast Wall - Solids Handling Electrical Building	2,060.00	sqft	125,950.00	61.14
840	3000		Concrete Total	1	lsum	152,097.04	152,097.04
841	7000		7000 - Thermal and Moisture Protection				
842			Roofing - Solids Handling Electrical Building	800	sqft	19,200.00	24
843	7000		Thermal and Moisture Protection Total	1	lsum	19,200.00	19,200.00

60% Opinion of Probable Cost  
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Item #	Division Code	WBS	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
844	8000		8000 - Doors & Windows				
845			Fiberglass Door - Solids Handling Electrical Building	2	ea	9,600.00	4,800.00
846	8000		Doors & Windows Total	1	lsum	9,600.00	9,600.00
847	9000		9000 - Finishes				
848			Concrete Sealer - Solids Handling Electrical Building	800	sqft	3,200.00	4
849			Painting Building - Solids Handling Electrical Building	4,920.00	sqft	29,700.00	6.04
850	9000		Finishes Total	1	lsum	32,900.00	32,900.00
851	10000		10000 - Specialties				
852			Fire Extinguishers in Cabinets - Solids Handling Electrical Building	1	each	320	320
853	10000		Specialties Total	1	lsum	320	320
854	15000		15000 - Mechanical				
855			HVAC - Solids Handling Electrical Building	1	lsum	37,590.00	37,590.00
856	15000		Mechanical Total	1	lsum	37,590.00	37,590.00
857		553	Solids Handling Electrical Building Total	1	lsum	342,707.04	342,707.04
858			Grand Total			61,097,465.42	

			General Conditions			6,109,747	10%
			Contingency			9,164,620	15%
			Contractor OH and P			9,677,839	12%
			Escalation			4,276,823	7.00%

**Total Opinion of Probable Cost**

**90,326,493**

# 90% Opinion of Probable Construction Cost

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**90% Opinion of Probable Cost**  
City of Pflugerville, TX  
Water Treatment Plant Expansion

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
1		10	010 - Site Development, Improvements, Concrete and Electrical				
2	1000		1000 - General Conditions				
3			Allowance for additional electrical service	1	lsum	150,000.00	150,000.00
4			Allowance for Testing and Flow used in Hydrostatic	1	lsum	67,000.00	67,000.00
5			Startup & Commissioning	1	lsum	85,000.00	85,000.00
6			Temporary Piping for Startup Phasing Plan	2,065.00	lnft	433,650.00	210.00
7	1000		General Conditions Total	1	lsum	735,650.00	735,650.00
8	2000		2000 - Sitework				
9			Concrete Road - Lime Stabilization	5,723.00	sqyd	180,274.50	31.50
10			4" Sidewalk	76.2	cuyd	38,434.11	504.13
11			Check Dam Sub	3	each	156.00	52.00
12			Clear and Grub	4	acre	21,909.60	5,477.40
13			Concrete Paving	1,250.00	cuyd	444,052.82	355.24
14			Concrete Washout area	1	each	5,500.00	5,500.00
15			Construction Entrance	1	each	2,000.00	2,000.00
16			Excavation to Stockpile - Generators	276	cuyd	2,355.18	8.53
17			Excavation to Stockpile - Transformer	71	cuyd	593.72	8.36
18			Hydromulch	850,000.00	sqft	38,250.00	0.04
19			Inlet protection barrier	10	each	450.00	45.00
20			Mowing and Maintenance	50	each	25,000.00	500.00
21			Rock Filter Dam	3	each	1,500.00	500.00
22			Sawcut and Remove Existing Paving	8,200.00	sqft	59,040.00	7.20
23			Silt Fence Installation	3,900.00	lnft	13,650.00	3.50
24			Silt Fence Maintenance	3,000.00	lnft	32,459.13	10.82
25			Silt Fence removal	3,900.00	lnft	2,340.00	0.60
26			Site - Cut	17,000.00	cuyd	136,000.00	8.00
27			Site - Fill	12,000.00	cuyd	204,000.00	17.00
28			Site - Roadway Excavation	4,500.00	cuyd	36,000.00	8.00
29			Site - Storm Pond	790	cuyd	9,480.00	12.00
30			Site - Storm Pond - Fill	3,200.00	cuyd	54,400.00	17.00
31			Site- Backfilling Concrete Washout	157	cuyd	3,533.86	22.51
32			Sodding	10,000.00	sqft	20,000.00	2.00
33			Structural fill - Select Fill - Generators	34.6	cuyd	1,160.17	33.48
34			Structural Fill - Select Fill - Transformer	25	sqyd	241.80	9.67
35			Subgrade - Select Fill - Generators	256.2	cuyd	7,851.65	30.65
36			Subgrade - Select Fill - Transformer	64	cuyd	1,876.58	29.30
37			Subgrade Material for Concrete Pavement	51,500.00	sqft	237,672.44	4.61
38			Subgrade- Select Fill - Transformer	8.4	cuyd	676.12	80.49
39			SWPPP	1	each	2,500.00	2,500.00
40			Tree and Plant Protection	520	lnft	2,600.00	5.00
41	2000		Sitework Total	1	lsum	1,585,957.68	1,585,957.68

**90% Opinion of Probable Cost**  
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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
42	3000		3000 - Concrete				
43			Concrete Pavement with Lime Subgrade	57,700.00	sqft	519,300.00	9.00
44			Concrete Retaining Wall - Site	45.2	cuyd	55,861.41	1,236.48
45			Delivery Area Paving - Chemical Facilities	120.5	cuyd	40,132.52	333.02
46			Footings Retaining Wall - Site	40.6	cuyd	18,062.89	444.47
47			Slab on Grade - Generator 1	56.3	cuyd	19,029.17	338.28
48			Slab on Grade - Transformer	5.8	cuyd	2,317.39	401.28
49	3000		Concrete Total	1	lsum	654,703.38	654,703.38
50	4000		4000 - Masonry				
51			Reinforced 12" Concrete Masonry Unit Screening Wall -	3,040.00	sqft	94,450.28	31.07
52	4000		Masonry Total	1	lsum	94,450.28	94,450.28
53	16000		16000 - Electrical				
54			1000 kVA Transformer - Site Electrical	1	each	48,000.00	48,000.00
55			2500 kVA Transformer - Site Electrical	2	each	132,000.00	66,000.00
56			750 kVA Transformer - Site Electrical	1	lsum	84,000.00	84,000.00
57			Diesel Engine Generator Platform - Generator 1	1	each	73,400.00	73,400.00
58			Distribution Switchgear - Site Electrical	1	lsum	852,500.00	852,500.00
59			Misc. Electrical - Site Electrical	1	lsum	60,000.00	60,000.00
60			Oncor Coordination - Site Electrical	1	lsum	90,000.00	90,000.00
61			Paralleling Switchgear - Site Electrical	1	lsum	781,000.00	781,000.00
62			Site Lighting - Site Electrical	1	lsum	96,000.00	96,000.00
63			Tier 2, 4160V, 2,250 kW Genset - Generator	1	lsum	1,925,000.00	1,925,000.00
64			Underground Electrical - Site Electrical	1	lsum	218,400.00	218,400.00
65			Underground Manholes/ Handholes - Site Electrical	1	lsum	129,600.00	129,600.00
66			Wire & Conduit (Inside Building) - Site Electrical	1	lsum	150,000.00	150,000.00
67			Wire & Conduit (Plant Distribution) - Site Electrical	1	lsum	439,200.00	439,200.00
68	16000		Electrical Total	1	lsum	5,079,100.00	5,079,100.00
69		10	Site Development, Improvements, Concrete and Electrical Total	1	lsum	8,149,861.34	8,149,861.34
70		70	070 - Yard Piping				
71	1000		1000 - General Conditions				
72			Water Connection - 12" Line Stop	1	each	2,272.00	2,272.00
73			Water Connection - 12" Wet Tap	4	each	6,816.00	1,704.00
74			Water Connection - 36" Double Line Stop	1	each	2,272.00	2,272.00
75			Water Connection - 42" Double Line Stop	3	each	11,360.00	3,786.67

**90% Opinion of Probable Cost**  
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Water Treatment Plant Expansion

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
76			Water Connection - 6" Wet Tap	3	each	3,408.00	1,136.00
77	1000		General Conditions Total	1	lsum	26,128.00	26,128.00
78	2000		2000 - Sitework				
79			Water Connection - 12" Line Stop	1	each	13,728.00	13,728.00
80			Water Connection - 12" Wet Tap	4	each	37,184.00	9,296.00
81			Water Connection - 36" Double Line Stop	1	each	91,728.00	91,728.00
82			Water Connection - 42" Double Line Stop	3	each	458,640.00	152,880.00
83			Water Connection - 6" Wet Tap	3	each	17,592.00	5,864.00
84	2000		Sitework Total	1	lsum	618,872.00	618,872.00
85	2001		2001 - Underground Piping				
86			02" CU Line Above Ground RWPS to Intake - Yard	178	lnft	13,395.83	75.26
87			02" CU Line RWPS to Intake - Yard	442	lnft	35,325.21	79.92
88			04" DR Line SB to SP - Yard	115	lnft	12,028.10	104.59
89			06" BWWS Line - Yard	399	lnft	48,690.00	122.03
90			06" SS Line - Yard	200	lnft	24,006.01	120.03
91			06" TS Line - Yard	655	lnft	79,618.96	121.56
92			10" BW Line - Yard	153	lnft	22,517.18	147.17
93			10" BWWS Line - Yard	216	lnft	31,788.96	147.17
94			10" SN Line - Yard	157	lnft	22,835.73	145.45
95			12" BWR Line - Yard	700	lnft	108,374.79	154.82
96			12" BWW Line - Yard	483	lnft	76,002.94	157.36
97			12" NEU Line - Yard	258	lnft	39,427.85	152.82
98			12" RS Line - Yard	138	lnft	22,917.51	166.07
99			12" SN Line - Yard	115	lnft	18,229.85	158.52
100			16" AS Line - Yard	80	lnft	14,733.69	184.17
101			16" RS Line - Yard	1,264.00	lnft	223,868.46	177.11
102			16" SN Line - Yard	232	lnft	40,883.01	176.22
103			18" DR Line - Yard	1,326.00	lnft	246,264.10	185.72
104			18" FW Line - Yard	75	lnft	14,404.70	192.06
105			24" FW Line - Yard	2,224.00	lnft	478,055.13	214.95
106			24" SW Line - Yard	25	lnft	5,549.05	221.96
107			36" BWW Line - Yard	65	lnft	18,475.66	284.24
108			36" RW Line - Yard	185	lnft	45,240.90	244.55
109			42" FW Line - Yard	284.2	lnft	96,505.60	339.57
110			42" MP Line - Yard	32	lnft	11,955.80	373.62
111			48" FW Line - Yard	204	lnft	96,335.24	472.23
112			48" MP Line - Yard includes 4 Valves in Short Run	51	lnft	231,275.90	4,534.82
113			48" SW Line - Yard	102	lnft	48,506.76	475.56
114			ACH Line - Yard	1,380.00	lnft	110,157.27	79.82
115			Injection Manholes - Yard	2	each	14,835.50	7,417.75
116			LAS Line - Yard	1,413.00	lnft	112,786.00	79.82

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
117			Process Manholes - Yard	4	each	33,671.00	8,417.75
118			SH Line - Yard	2,730.00	lnft	217,696.37	79.74
119			Storm Line - Yard	610	lnft	139,970.60	229.46
120	2001		Underground Piping Total	1	lsum	2,756,329.66	2,756,329.66
121		70	Yard Piping Total	1	lsum	3,401,329.66	3,401,329.66
122		85	085 - Lake Pump Station				
123	2000		2000 - Sitework				
124			4" Sidewalk - Lake PS	0.6	cuyd	850.23	1,393.82
125			Asphalt Paving - Lake Pump Station	12	sqyd	1,080.00	90.00
126			Demolition - Asphalt Paving - Lake Pump Station	600	sqft	1,618.61	2.70
127			Demolition of North Wall - Lake PS	700	sqft	14,793.72	21.13
128			Drilled Piers - Lake PS	350	lnft	70,000.00	200.00
129			Excavation Support System - Lake PS	500	sqft	32,500.00	65.00
130			Excavation Support System at Cans- Lake PS	1,260.00	sqft	81,900.00	65.00
131			Excavation to Waste - Lake PS	1,423.00	cuyd	18,311.39	12.87
132			Import Materials - Structural Backfill - Lake PS	614.4	cuyd	17,250.28	28.08
133			Import Materials - Subgrade - Lake PS	1,643.80	ton	88,235.25	53.68
134			Lime Stabilization for Asphalt Paving Repair	100	sqft	2,660.03	26.60
135			Remove Excavation Support System - Lake PS	500	sqft	10,000.00	20.00
136			Remove Excavation Support System at Cans- Lake PS	1,260.00	sqft	25,200.00	20.00
137			Subgrade Material for Asphalt Repair - Lake Pump Station	100	sqft	1,892.44	18.92
138	2000		Sitework Total	1	lsum	366,291.94	366,291.94
139	2001		2001 - Underground Piping				
140			24" Suction Line - Lake PS	44	lnft	12,608.00	286.55
141	2001		Underground Piping Total	1	lsum	12,608.00	12,608.00
142	3000		3000 - Concrete				
143			12" Foundation Slab - Lake PS	69.1	cuyd	37,071.03	536.74
144			Concrete Curb - Lake PS	2.2	cuyd	6,349.10	2,922.03
145			Concrete Equipment & Pipe Supports - Lake PS	6.4	cuyd	8,522.52	1,333.88
146			Drill & Epoxy Dowels for Curb - Lake PS	120	each	1,118.08	9.32
147			Hollow Core 6" - Lake PS	132	sqft	6,675.17	50.57
148			Pipe Encasement 24" Suction Line - Lake PS	46.7	cuyd	13,591.02	290.83
149	3000		Concrete Total	1	lsum	73,326.93	73,326.93
150	4000		4000 - Masonry				

**90% Opinion of Probable Cost**  
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Water Treatment Plant Expansion

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
151			Masonry Block - Lake PS	360	sqft	9,360.00	26.00
152			Masonry Block Electrical Room - Lake PS	220	sqft	5,720.00	26.00
153			Masonry Brick - Lake PS	360	sqft	5,760.00	16.00
154	4000		Masonry Total	1	lsum	20,840.00	20,840.00
155	5000		5000 - Steel				
156			Ladder Electrical Room - Lake PS	1	ea	816.00	816.00
157	5000		Steel Total	1	lsum	816.00	816.00
158	7000		7000 - Thermal and Moisture Protection				
159			Roofing - Lake PS	1,044.00	sqft	18,792.00	18.00
160	7000		Thermal and Moisture Protection Total	1	lsum	18,792.00	18,792.00
161	8000		8000 - Doors & Windows				
162			FRP Door - Lake PS	2	ea	9,792.00	4,896.00
163			Overhead Door - Lake PS	1	each	24,000.00	24,000.00
164	8000		Doors & Windows Total	1	lsum	33,792.00	33,792.00
165	9000		9000 - Finishes				
166			Concrete Sealer - Lake PS	1,044.00	sqft	4,176.00	4.00
167			Painting Building - Lake PS	2,940.00	sqft	14,700.00	5.00
168			Painting Pipe - Lake PS	1,280.00	sqft	14,080.00	11.00
169	9000		Finishes Total	1	lsum	32,956.00	32,956.00
170	10000		10000 - Specialties				
171			Fire Extinguishers in Cabinets - Lake PS	1	each	320.00	320.00
172	10000		Specialties Total	1	lsum	320.00	320.00
173	11000		11000 - Equipment				
174			Ion Generator System - Lake PS	1	each	339,488.00	339,488.00
175			Vertical Turbine Pumps - Lake PS	2	each	631,728.29	315,864.15
176	11000		Equipment Total	1	lsum	971,216.29	971,216.29
177	13000		13000 - Special Construction				
178			PEMB - Lake PS	1,044.00	sqft	76,212.00	73.00
179	13000		Special Construction Total	1	lsum	76,212.00	76,212.00
180	15000		15000 - Mechanical				
181			Actuators (NEMA 4X) - Lake PS	3	each	9,951.00	3,317.00
182			Electrical Actuators - Lake PS	2	ea	60,500.00	30,250.00
183			HVAC - Lake PS	1	lsum	64,418.82	64,418.82
184			Plumbing - Lake PS	1	lsum	16,704.00	16,704.00
185			Process Piping & Valves - Lake PS	60	lnft	488,764.90	8,146.08
186	15000		Mechanical Total	1	lsum	640,338.72	640,338.72
187	16000		16000 - Electrical				
188			Ethernet communications modules - Lake PS	1	lsum	52,900.00	52,900.00
189			45 kVA Transformer - Lake PS	1	lsum	9,000.00	9,000.00
190			Automatic Transfer Switch - Lake PS	1	lsum	72,000.00	72,000.00
191			Disconnect Switches - Lake PS	1	lsum	9,000.00	9,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
192			Duckbank & Grounding	1	Isum	99,600.00	99,600.00
193			Instruments - Lake PS	1	Isum	45,000.00	45,000.00
194			Junction Boxes, Equipment Stands, Misc. Electrical - Lake PS	1	Isum	75,000.00	75,000.00
195			Lighting & Receptacle - Lake PS	1	Isum	30,000.00	30,000.00
196			Lighting Panel - Lake PS	1	Isum	6,000.00	6,000.00
197			Motor Control Center MCC-2A - Lake PS	1	Isum	198,000.00	198,000.00
198			Network cabinet - replace network switch to Cisco 9200 using new ring topology - Lake PS	1	Isum	24,200.00	24,200.00
199			Oncor Coordination	1	Isum	30,000.00	30,000.00
200			Replace PLC processor with new 1769-L33R - Lake PS	1	Isum	16,200.00	16,200.00
201			RIO Control Panel and Programming - Lake PS	1	Isum	75,000.00	75,000.00
202			VFD RIO Adapters - Lake PS	1	Isum	1,000.00	1,000.00
203			Wire & Conduit - Lake PS	1	Isum	228,000.00	228,000.00
204	16000		Electrical Total	1	Isum	970,900.00	970,900.00
205		85	Lake Pump Station Total	1	Isum	3,218,409.89	3,218,409.89
206		190	190 - Pretreatment				
207	2000		2000 - Sitework				
208			Backfill - Pretreatment	200	cuyd	8,802.31	44.01
209			Drilled Piers - Pretreatment	376	ea	1,316,000.00	3,500.00
210			Excavation to Waste - Pretreatment	3,753.00	cuyd	43,697.43	11.64
211			Subgrade Material - Pretreatment	23,980.00	sqft	340,635.90	14.20
212	2000		Sitework Total	1	Isum	1,709,135.64	1,709,135.64
213	2001		2001 - Underground Piping				
214			Ductile Iron Pipe 08" & 12 DR U-Line - Pretreatment	426	Inft	57,616.17	135.25
215			Ductile Iron Pipe 08" RS U-Line - Pretreatment	304	Inft	36,780.82	120.99
216			Ductile Iron Pipe 18" DR U-Line - Pretreatment	20	Inft	6,083.65	304.18
217			Ductile Iron Pipe 30" RW U-Line - Pretreatment	40	Inft	13,367.29	334.18
218	2001		Underground Piping Total	1	Isum	113,847.94	113,847.94
219	3000		3000 - Concrete				
220			12" Elevated Concrete Slab - Pretreatment	68.9	cuyd	83,849.37	1,216.69
221			12" Elevated Concrete Slab & Walkway - Pretreatment	302.3	cuyd	424,358.82	1,403.61
222			12" RS Slab On Grade - Pretreatment	7.9	cuyd	3,690.19	465.15
223			12" Walls <20' - Pretreatment	460.6	cuyd	497,164.31	1,079.30
224			18" Walls <20' - Pretreatment	1,006.60	cuyd	818,795.62	813.45

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
225			24" Foundation Slab - Flocculation	633.7	cuyd	369,385.69	582.93
226			24" Foundation Slab - Sedimentation Basin	896.9	cuyd	511,848.32	570.71
227			24" Foundation Slab - Sludge Collection Channel	102.2	cuyd	64,282.00	629.05
228			24" Walls <20' - Pretreatment	656.4	cuyd	496,325.94	756.10
229			24" Walls >20' - Pretreatment	95.7	cuyd	78,113.62	816.19
230			Elevated Beams - Pretreatment	39.9	cuyd	42,732.05	1,069.73
231			General Construction Equipment - Pretreatment	32	weeks	448,196.00	14,006.13
232			Grout Fill at Sed Basin - Pretreatment	284.3	cuyd	75,914.90	267.05
233			Grout Fill at Sludge Channel - Pretreatment	48.9	cuyd	12,431.95	254.14
234			Leak Testing - Pretreatment	1	each	2,334.00	2,334.00
235			Pipe Encasement 08" & 12" DR U-Line - Pretreatment	127	cuyd	54,521.93	429.22
236			Pipe Encasement 08" RS U-Line - Pretreatment	87.9	cuyd	29,194.78	332.30
237			Pipe Encasement 18" DR U-Line - Pretreatment	8	cuyd	2,759.58	343.90
238			Pipe Encasement 30" RW U-Line - Pretreatment	27	cuyd	8,089.65	300.17
239			Stair Landing Slab On Grade 1 - Pretreatment	6.1	cuyd	3,131.08	516.11
240			Stair Landing Slab On Grade 2 - Pretreatment	6.1	cuyd	2,986.45	490.39
241	3000		Concrete Total	1	lsum	4,030,106.26	4,030,106.26
242	5000		5000 - Steel				
243			Grating - Pretreatment	1,307.00	sqft	57,066.00	43.66
244			Handrailing - Pretreatment	2,133.00	lnft	90,012.60	42.20
245			Ladder - Pretreatment	1	ea	816.00	816.00
246			Stairs 1 - Pretreatment	1	each	33,424.00	33,424.00
247			Stairs 2 - Pretreatment	1	each	25,576.00	25,576.00
248	5000		Steel Total	1	lsum	206,894.60	206,894.60
249	7000		7000 - Thermal and Moisture Protection				
250			Roofing - Pretreatment	12,450.00	sqft	224,100.00	18.00
251	7000		Thermal and Moisture Protection Total	1	lsum	224,100.00	224,100.00
252	8000		8000 - Doors & Windows				
253			Double Door - Pretreatment	2	ea	17,780.00	8,890.00
254			Single Door - Pretreatment	2	ea	9,600.00	4,800.00
255	8000		Doors & Windows Total	1	lsum	27,380.00	27,380.00
256	9000		9000 - Finishes				
257			Painting Pipe - Pretreatment	833	sqft	6,129.30	7.36
258	9000		Finishes Total	1	lsum	6,129.30	6,129.30
259	11000		11000 - Equipment				
260			Chain and Flight Sludge Collector - Pretreatment	4	each	877,203.84	219,300.96
261			Inclined Parallel Plate Settler System - Pretreatment	4	each	3,133,642.00	783,410.50
262			Inline Static Mixers - Pretreatment	2	each	68,504.00	34,252.00
263			Plate Settler Covers - Pretreatment	1	lsum	615,000.00	615,000.00
264			Slide Gates Surface Mounted - Pretreatment	12	each	151,984.70	12,665.39
265			Streaming Current Monitor - Pretreatment	2	each	26,144.00	13,072.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
266			Submersible Pumps - Pretreatment	2	each	12,715.20	6,357.60
267			Vertical Mixer - Pretreatment	12	each	487,160.00	40,596.67
268	11000		Equipment Total	1	Isum	5,372,353.75	5,372,353.75
269	15000		15000 - Mechanical				
270			ACH Lines - Pretreatment	115	Inft	5,203.75	45.25
271			Actuators (NEMA 4X) - Pretreatment	3	each	9,951.00	3,317.00
272			CWSA Lines - Pretreatment	102	Inft	4,921.50	48.25
273			Ductile Iron Piping 08" & 12" RS Line - Pretreatment	36	Inft	68,744.00	1,909.56
274			Ductile Iron Piping 18" DR Line - Pretreatment	20	Inft	4,871.00	243.55
275			Ductile Iron Piping 30" RW Line - Pretreatment	96	Inft	377,888.40	3,936.34
276			Ductile Iron Piping 48" BF Line - Pretreatment	3	Inft	7,609.00	2,536.33
277			Ductile Iron Piping 48" SW Line - Pretreatment	3	Inft	5,677.00	1,892.33
278			HVAC - Pretreatment	1	Isum	76,980.00	76,980.00
279			Plumbing - Pretreatment	1	Isum	6,750.00	6,750.00
280			PWW Lines - Pretreatment	350	Inft	19,337.50	55.25
281			Sample Lines - Pretreatment	100	Inft	5,225.00	52.25
282	15000		Mechanical Total	1	Isum	593,158.15	593,158.15
283	16000		16000 - Electrical				
284			125A ATS - Pretreatment	1	Isum	16,200.00	16,200.00
285			45 kVA Transformer - Pretreatment	1	Isum	9,000.00	9,000.00
286			Disconnect Switches - Pretreatment	1	Isum	32,400.00	32,400.00
287			Duckbank & Grounding - Pretreatment	1	Isum	175,200.00	175,200.00
288			Fiber optic cable for ring network - Pretreatment	1	Isum	8,950.00	8,950.00
289			Instruments - Pretreatment	1	Isum	4,000.00	4,000.00
290			Junction Boxes, Equipment Stands, Misc. Electrical - Pretreatment	1	Isum	50,000.00	50,000.00
291			Lighting & Receptacle - Pretreatment	1	Isum	150,000.00	150,000.00
292			Lighting Panel - Pretreatment	1	Isum	6,000.00	6,000.00
293			Motor Control Center MCC-7 - Pretreatment	1	Isum	120,000.00	120,000.00
294			Network Cabinet with Cisco 9200, ring network, Watchdog 100P- Pretreatment	1	Isum	50,500.00	50,500.00
295			PLC Panel, 48 x 36 x 12", CompactLogix PLC, UPS, programming for 12 flocculation VFD, 4 sludge drive vendor panels - Pretreatment	1	Isum	68,400.00	68,400.00
296			VFD RIO Adapters, 12 x 500 - Pretreatment	1	Isum	6,000.00	6,000.00
297			Wire & Conduit - Pretreatment	1	Isum	408,000.00	408,000.00
298	16000		Electrical Total	1	Isum	1,104,650.00	1,104,650.00
299		190	Pretreatment Total	1	Isum	13,387,755.64	13,387,755.64

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
300		200	200 - Membrane Filtration				
301	1000		1000 - General Conditions				
302			Membrane Pilot Study - Membrane Building	1	ea	250,000.00	250,000.00
303	1000		General Conditions Total	1	lsum	250,000.00	250,000.00
304	2000		2000 - Sitework				
305			Demo Existing Piping - Membrane Building	930	lnft	83,460.00	89.74
306			Demolition Concrete for Sump Pits & Trench - Membrane Building	100	sqft	2,978.72	29.79
307			Demolition Filter Equipment - Membrane Building	5	each	124,625.00	24,925.00
308			Drilled Piers NEU Tank - Membrane Building	16	ea	56,000.00	3,500.00
309			Precast Inlet for Sump Pits - Membrane Building	4	each	21,848.90	5,462.23
310			Temporary MP Piping - Membrane Building	428	lnft	146,140.60	341.45
311			Temporary MF Piping - Membrane Building	102	lnft	51,051.40	500.50
312			Temporary Permeate Piping - Membrane Building	80	lnft	28,456.00	355.70
313	2000		Sitework Total	1	lsum	514,560.62	514,560.62
314	2001		2001 - Underground Piping				
315			Delivery Area 03" DR Line - Membrane Building	40	lnft	5,368.44	134.21
316			Delivery Area Inlet Drain - Membrane Building	3	each	12,442.20	4,147.40
317	2001		Underground Piping Total	1	lsum	17,810.64	17,810.64
318	3000		3000 - Concrete				
319			Concrete Fill for Membranes - Membrane Building	110	cuyd	57,317.73	521.20
320			Containment Walls - Membrane Building	21	cuyd	19,334.91	922.58
321			Curb - Membrane Building	235	lnft	14,100.00	60.00
322			Delivery Area 4" Sidewalk - Membrane Building	4.1	cuyd	2,590.04	624.38
323			Delivery Area Paving - Membrane Building	41.5	cuyd	13,166.10	317.40
324			Drill & Epoxy Dowels Containment Walls - Membrane Building	285	each	2,948.06	10.34
325			Drill & Epoxy Dowels for Sump Pits and Trench Drain - Membrane Building	100	each	1,034.41	10.34
326			Equipment Pads (2)Octagons - Membrane Building	73	cuyd	36,441.45	499.34
327			Equipment Pads Bulk Tank (4) - Membrane Building	5.6	cuyd	4,275.29	763.44
328			Equipment Pads Pumps (4) - Membrane Building	11.2	cuyd	9,277.70	828.37
329			Equipment Pads Strainer (3) - Membrane Building	1.9	cuyd	2,341.10	1,230.72
330			Foundation Slab NEU Tank - Membrane Building	35.6	cuyd	27,429.19	771.12
331			Foundation Slab Strainer - Membrane Building	66.7	cuyd	50,629.01	758.77
332			Repair Concrete Floor for Sump Pits and Trench Drain - Membrane Building	2.6	cuyd	2,631.78	1,015.12
333			Walls NEU Tank - Membrane Building	24.7	cuyd	30,744.76	1,243.27
334	3000		Concrete Total	1	lsum	274,261.52	274,261.52
335	4000		4000 - Masonry				
336			Masonry Block - Membrane Building	2,024.00	sqft	62,884.00	31.07
337			Masonry Block NEU Tank - Membrane Building	880	sqft	27,340.87	31.07

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
338			Reinforced 12" Concrete Masonry Unit Screening Wall - Membrane Building	902	sqft	28,024.39	31.07
339	4000		Masonry Total	1	lsum	118,249.26	118,249.26
340	5000		5000 - Steel				
341			FRP Covers - Membrane Building	300	sqft	19,498.71	65.00
342			Metal Support System - Membrane Building	1	ea	118,000.00	118,000.00
343	5000		Steel Total	1	lsum	137,498.71	137,498.71
344	8000		8000 - Doors & Windows				
345			Double Fiberglass Door - Membrane Building	1	ea	8,760.00	8,760.00
346			Fiberglass Door - Membrane Building	2	ea	9,600.00	4,800.00
347	8000		Doors & Windows Total	1	lsum	18,360.00	18,360.00
348	9000		9000 - Finishes				
349			Floor Coatings - Membrane Building	8,775.00	sqft	175,500.00	20.00
350			Metal Studs & Drywall - Membrane Building	1,480.00	sqft	47,360.00	32.00
351			Painting Building - Membrane Building	8,595.00	sqft	51,570.00	6.00
352			Painting Pipe - Membrane Building	950	sqft	6,990.20	7.36
353			Painting Pipe - Membrane Building	3,405.00	sqft	25,054.36	7.36
354	9000		Finishes Total	1	lsum	306,474.56	306,474.56
355	11000		11000 - Equipment				
356			Neutralization Waste Tank - Membrane Building	1	each	7,882.28	7,882.28
357			Air Receiver - Membrane Building	2	each	7,916.48	3,958.24
358			Air Scour Blowers - Membrane Building	2	each	13,275.04	6,637.52
359			Backwash Pumps - Membrane Building	2	each	7,581.00	3,790.50
360			CA Metering Pumps - Membrane Building	1	each	5,334.30	5,334.30
361			CA Tank - Membrane Building	1	each	59,722.92	59,722.92
362			CIA Feed Pump Pumps - Membrane Building	1	each	5,334.30	5,334.30
363			CIA Tank - Membrane Building	1	each	43,982.92	43,982.92
364			CIP Pumps - Membrane Building	2	each	7,063.08	3,531.54
365			CIP Tank - Membrane Building	1	each	7,882.28	7,882.28
366			Drain Pumps - Membrane Building	2	each	6,130.00	3,065.00
367			HA Metering Pumps - Membrane Building	1	each	5,334.30	5,334.30
368			HA Tank - Membrane Building	1	each	47,407.92	47,407.92
369			Membrane Filtration System (includes 5 membrane units, 5 permeate pumps, two backwash pumps, two CIP pumps, two neutralization pumps, two air scour blowers, one CIP tank, one neutralization tank, two air receivers and related appurtenances) - Membrane Building	5	each	67,483.75	13,496.75
370			Membrane Filtration System Owner Purchase	5	each	8,910,000.00	1,782,000.00
371			Neutralization Waste Pumps - Membrane Building	2	each	7,063.08	3,531.54
372			Permeate Pumps - Membrane Building	5	each	19,802.96	3,960.59
373			SBS Metering Pumps - Membrane Building	1	each	5,334.30	5,334.30
374			SBS Tank - Membrane Building	1	each	59,317.92	59,317.92

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
375			SH Metering Pumps - Membrane Building	1	each	2,701.60	2,701.60
376			SH Tank - Membrane Building	1	each	36,172.92	36,172.92
377			Sump Pumps - Membrane Building	4	each	53,740.00	13,435.00
378	11000		Equipment Total	1	lsum	9,386,463.34	9,386,463.34
379	15000		15000 - Mechanical				
380			AA Piping - Membrane Building	335	lnft	45,430.00	135.61
381			Actuators (NEMA 4X) - Membrane Building	2	each	6,634.00	3,317.00
382			BW Piping - Membrane Building	184	lnft	192,364.80	1,045.46
383			Chemical Piping - Membrane Building	1,200.00	lnft	88,096.00	73.41
384			CIP Piping - Membrane Building	332	lnft	111,455.20	335.71
385			HVAC - Membrane Building	1	lsum	366,470.00	366,470.00
386			MF Piping - Membrane Building	102	lnft	180,762.80	1,772.18
387			MP Piping - Membrane Building	463	lnft	465,830.60	1,006.11
388			Plumbing - Membrane Building	1	lsum	230,680.00	230,680.00
389			Sprinkler System & Alarm- Membrane Building	1	lsum	86,040.00	86,040.00
390			Temporary MP Piping - Membrane Building	428	lnft	52,917.25	123.64
391			Temporary MF Piping - Membrane Building	102	lnft	52,917.25	518.80
392			Temporary Permeate Piping - Membrane Building	80	lnft	42,917.25	536.47
393	15000		Mechanical Total	1	lsum	1,922,515.15	1,922,515.15
394	16000		16000 - Electrical				
395			125HP VFDs - Membrane Building	1	lsum	156,000.00	156,000.00
396			225A ATS - Membrane Building	1	lsum	18,000.00	18,000.00
397			250HP VFDs - Membrane Building	1	lsum	510,000.00	510,000.00
398			40HP VFDs - Membrane Building	1	lsum	76,800.00	76,800.00
399			75 kVA Transformer - Membrane Building	1	lsum	13,200.00	13,200.00
400			Demo Control Room network switch, extend CAT6 cables to new Cisco 9300 in mechanical / electrical room - Membrane Building	1	lsum	5,500.00	5,500.00
401			Duckbank & Grounding - Membrane Building	1	lsum	264,000.00	264,000.00
402			Instruments - Membrane Building	1	lsum	50,000.00	50,000.00
403			Lab PLC update processor to ControlLogix L82 - Membrane Building	1	lsum	27,500.00	27,500.00
404			Lighting & Receptacle - Membrane Building	1	lsum	36,000.00	36,000.00
405			Lighting Panel - Membrane Building	1	lsum	12,000.00	12,000.00
406			MCC-3 - Membrane Building	1	lsum	180,000.00	180,000.00
407			Misc. Electrical - Membrane Building	1	lsum	130,000.00	130,000.00
408			New 42U Network cabinet - Move all network equipment to new rack. Expand network switch to stackable Cisco 9300 using new ring topology - Membrane Building	1	lsum	58,500.00	58,500.00
409			SCADA HMI Programming and Testing - Membrane Building	1	lsum	50,000.00	50,000.00
410			SWBD-3 - Membrane Building	1	lsum	210,000.00	210,000.00
411			SWBD-3, MCC-3, 200 HP VFD, 125 HP VFD, 40 PH VFD	1	lsum		
412			Wire & Conduit - Membrane Building	1	lsum	870,000.00	870,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
413	16000		Electrical Total	1	lsum	2,667,500.00	2,667,500.00
414		200	Membrane Filtration Total	1	lsum	15,613,693.81	15,613,693.81
415		205	205 - Backwash Waste Pump Station				
416	2000		2000 - Sitework				
417			Excavation - Backwash Waste PS	451	cuyd	55,926.71	124.01
418	2000		Sitework Total	1	lsum	55,926.71	55,926.71
419	3000		3000 - Concrete				
420			Foundation Slab - Backwash Waste PS	18.3	cuyd	11,520.43	628.64
421			Grout Fill - Backwash Waste PS	11	cuyd	3,853.90	350.35
422			SOG - Backwash Waste PS	7.8	cuyd	4,419.50	568.22
423			Walls - Backwash Waste PS	83.7	cuyd	89,987.58	1,075.64
424	3000		Concrete Total	1	lsum	109,781.41	109,781.41
425	5000		5000 - Steel				
426			Grating - Backwash Waste PS	314	sqft	4,861.57	15.48
427			Hatch - Backwash Waste PS	2	ea	5,244.32	2,622.16
428			Misc Framing - Backwash Waste PS	1	ea	9,998.00	9,998.00
429	5000		Steel Total	1	lsum	20,103.89	20,103.89
430	11000		11000 - Equipment				
431			Submersible Pumps - Backwash Waste PS	2	each	6,848.71	3,424.36
432	11000		Equipment Total	1	lsum	6,848.71	6,848.71
433	15000		15000 - Mechanical				
434			Piping - Backwash Waste PS	110	lnft	33,891.00	308.10
435	15000		Mechanical Total	1	lsum	33,891.00	33,891.00
436		205	Backwash Waste Pump Station Total	1	lsum	226,551.73	226,551.73
437		340	340 - Chlorine Contact Basin				
438	2000		2000 - Sitework				
439			Backfill - CCB	222	cuyd	10,643.10	47.94
440			Drilled Piers - CCB	86	ea	301,000.00	3,500.00
441			Excavation to Waste - CCB	1,463.00	cuyd	17,034.20	11.64
442			Subgrade Material - CCB	5,586.00	sqft	79,349.13	14.20
443	2000		Sitework Total	1	lsum	408,026.42	408,026.42
444	3000		3000 - Concrete				
445			12" Walls <20' - CCB	746.1	cuyd	806,440.88	1,080.83
446			12" Walls >20' - CCB	7.7	cuyd	11,511.44	1,495.60
447			28" Foundation Slab - CCB	458.8	cuyd	295,013.68	643.05
448			Elevated Concrete Slab - CCB	207.4	cuyd	163,361.70	787.59
449			Leak Testing - CCB	1	each	2,334.00	2,334.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
450			Pipe Encasement 48" MP U-Line - CCB	25.2	cuyd	7,409.83	293.69
451	3000		Concrete Total	1	lsum	1,286,071.54	1,286,071.54
452	5000		5000 - Steel				
453			Bulkhead- CCB	16	sqft	1,094.80	68.42
454			Hatch - CCB	7	each	16,475.20	2,353.60
455			Weir Plates - CCB	26.3	sqft	1,326.30	50.35
456	5000		Steel Total	1	lsum	18,896.30	18,896.30
457	9000		9000 - Finishes				
458			Coatings - CCB	3,766.00	sqft	67,788.00	18.00
459	9000		Finishes Total	1	lsum	67,788.00	67,788.00
460	11000		11000 - Equipment				
461			CL17sc Online Analyzer - CCB	1	each	3,239.00	3,239.00
462			pH Analyzer - CCB	1	each	1,726.00	1,726.00
463			Submersible Pumps - CCB	2	each	29,785.33	14,892.67
464	11000		Equipment Total	1	lsum	34,750.33	34,750.33
465	15000		15000 - Mechanical				
466			Ductile Iron Piping 48" Line - CCB	3	lnft	22,827.00	7,609.00
467			Flap Gates - CCB	4	lnft	151,037.12	37,759.28
468	15000		Mechanical Total	1	lsum	173,864.12	173,864.12
469	16000		16000 - Electrical				
470			Electrical - CCB	1	lsum	30,000.00	30,000.00
471			Instruments - CCB	1	lsum	6,000.00	6,000.00
472	16000		Electrical Total	1	lsum	36,000.00	36,000.00
473		340	Chlorine Contact Basin Total	1	lsum	2,025,396.71	2,025,396.71
474		345	345 - Existing High Service Pump Station				
475	2000		2000 - Sitework				
476			Demo / Building Modifications	1	lsum	32,278.88	32,278.88
477			Demo Existing Piping - Existing HPSP	185	lnft	16,602.26	89.74
478			Drilled Piers - Existing HSPS	5	ea	40,000.00	8,000.00
479			Plug Existing 36" - Existing HSPS	1	ea	4,200.00	4,200.00
480			Trench Backfill and Compaction - Existing HSPS	250	cuyd	6,750.00	27.00
481			Trench Excavation - Existing HSPS	130	lnft	1,300.00	10.00
482	2000		Sitework Total	1	lsum	101,131.13	101,131.13
483	3000		3000 - Concrete				
484			Concrete Equipment & Pipe Supports - Existing HSPS	15.3	cuyd	25,920.02	1,690.33
485	3000		Concrete Total	1	lsum	25,920.02	25,920.02
486	9000		9000 - Finishes				
487			Painting Pipe - Existing HSPS	879	sqft	10,862.78	12.36
488	9000		Finishes Total	1	lsum	10,862.78	10,862.78
489	11000		11000 - Equipment				
490			Rotate and Reinstall Vertical Turbine Pumps - Existing HSPS	3	each	101,252.88	33,750.96

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
491	11000		Equipment Total	1	Isum	101,252.88	101,252.88
492	15000		15000 - Mechanical				
493			Process Piping & Valves - Existing HSPS	265	Inft	862,108.60	3,253.24
494	15000		Mechanical Total	1	Isum	862,108.60	862,108.60
495	16000		16000 - Electrical				
496			750 kVA Transformer - Existing HSPS	1	Isum	84,000.00	84,000.00
497			Duckbank & Grounding - Existing HSPS	1	Isum	12,000.00	12,000.00
498			Misc. Electrical - Existing HSPS	1	Isum	60,000.00	60,000.00
499			Old HSPS Groundwater Storage PLC5. Replace processor with 1769-L24ER-QBFC1B - Existing HSPS	1	Isum	10,850.00	10,850.00
500			Wire & Conduit - Existing HSPS	1	Isum	90,000.00	90,000.00
501	16000		Electrical Total	1	Isum	256,850.00	256,850.00
502		345	Existing High Service Pump Station Total	1	Isum	1,358,125.41	1,358,125.41
503		346	346 - High Service Pump Station #2				
504	2000		2000 - Sitework				
505			Drilled Piers - HSPS	1,400.00	Inft	280,000.00	200.00
506			Excavation to Waste - HSPS	2,033.00	cuyd	24,608.72	12.10
507			Import Materials - Structural Backfill - HSPS	876	cuyd	24,710.32	28.21
508			Import Materials - Subgrade - HSPS	2,350.10	ton	126,278.82	53.73
509	2000		Sitework Total	1	Isum	455,597.86	455,597.86
510	2001		2001 - Underground Piping				
511			24" Suction Line - HSPS	90	Inft	25,789.10	286.55
512			Drain Pump Station - HSPS	1	each	21,412.85	21,412.85
513	2001		Underground Piping Total	1	Isum	47,201.95	47,201.95
514	3000		3000 - Concrete				
515			12" Foundation Slab - HSPS	214.2	cuyd	127,658.42	595.98
516			12" Vault Walls - HSPS	11.4	cuyd	11,635.25	1,019.44
517			Concrete Equipment & Pipe Supports - HSPS	12.8	cuyd	17,045.04	1,333.88
518			Pipe Encasement 24" Suction Line - HSPS	47.8	cuyd	13,890.38	290.63
519	3000		Concrete Total	1	Isum	170,229.09	170,229.09
520	4000		4000 - Masonry				
521			Masonry Block - HSPS	1,340.00	sqft	34,840.00	26.00
522			Masonry Brick - HSPS	900	sqft	14,400.00	16.00
523	4000		Masonry Total	1	Isum	49,240.00	49,240.00
524	5000		5000 - Steel				

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
525			Grating - HSPS	64	sqft	904.67	14.14
526	5000		Steel Total	1	lsum	904.67	904.67
527	7000		7000 - Thermal and Moisture Protection				
528			Roofing - HSPS	2,904.00	sqft	52,272.00	18.00
529	7000		Thermal and Moisture Protection Total	1	lsum	52,272.00	52,272.00
530	8000		8000 - Doors & Windows				
531			Double Door & Frame - HSPS	1	each	10,135.00	10,135.00
532			Overhead Door - HSPS	1	each	24,000.00	24,000.00
533			Single Door & Frame - HSPS	4	each	18,320.00	4,580.00
534	8000		Doors & Windows Total	1	lsum	52,455.00	52,455.00
535	9000		9000 - Finishes				
536			Concrete Sealer - HSPS	2,904.00	sqft	11,616.00	4.00
537			Painting Building - HSPS	6,204.00	sqft	37,224.00	6.00
538			Painting Pipe - HSPS	640	sqft	4,709.19	7.36
539	9000		Finishes Total	1	lsum	53,549.19	53,549.19
540	10000		10000 - Specialties				
541			Fire Extinguishers in Cabinets - HSPS	4	each	1,280.00	320.00
542			Interior Signage - HSPS	4	each	2,720.00	680.00
543	10000		Specialties Total	1	lsum	4,000.00	4,000.00
544	11000		11000 - Equipment				
545			Vertical Turbine Pumps - HSPS	2	each	1,093,180.29	546,590.15
546	11000		Equipment Total	1	lsum	1,093,180.29	1,093,180.29
547	13000		13000 - Special Construction				
548			Flow Meter Valves - HSPS	1	ea	25,500.00	25,500.00
549			PEMB - HSPS	2,904.00	sqft	217,800.00	75.00
550	13000		Special Construction Total	1	lsum	243,300.00	243,300.00
551	15000		15000 - Mechanical				
552			Actuators (NEMA 4X) - HSPS	6	each	19,902.00	3,317.00
553			Control Valve - HSPS	2	ea	168,000.00	84,000.00
554			HVAC - HSPS	1	lsum	158,440.00	158,440.00
555			Plumbing - HSPS	1	lsum	30,450.00	30,450.00
556			Process Piping & Valves - HSPS	410	lnft	469,494.00	1,145.11
557	15000		Mechanical Total	1	lsum	846,286.00	846,286.00
558	16000		16000 - Electrical				
559			300 kVA Distribution Transformer - HSPS	1	lsum	60,000.00	60,000.00
560			400A ATS - HSPS	1	lsum	21,600.00	21,600.00
561			400A Power Panel - HSPS	1	lsum	9,000.00	9,000.00
562			45 kVA Transformer - HSPS	1	lsum	9,000.00	9,000.00
563			Duckbank & Grounding - HSPS	1	lsum	102,000.00	102,000.00
564			Fiber optic cable for ring Network- HSPS	1	lsum	9,750.00	9,750.00
565			Instruments - HSPS	1	lsum	50,000.00	50,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
566			Lighting & Receptacle - HSPS	1	lsum	54,000.00	54,000.00
567			Lighting Panel - HSPS	1	lsum	6,000.00	6,000.00
568			Misc. Electrical - HSPS	1	lsum	50,000.00	50,000.00
569			MV AFD's - HSSP	1	lsum	444,000.00	444,000.00
570			MV Motor Control Center - HSPS	1	lsum	404,400.00	404,400.00
571			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - HSPS	1	lsum	53,500.00	53,500.00
572			New HSPS - RIO PLC, control panel for 2 new VFD pumps. RIO adapters for VFD's - HSPS	1	lsum	74,900.00	74,900.00
573			New redundant fiber optic cable - HSPS	1	lsum	9,750.00	9,750.00
574			VFD RIO Adapters- HSPS	1	lsum	1,000.00	1,000.00
575			Wire & Conduit - HSPS	1	lsum	187,500.00	187,500.00
576	16000		Electrical Total	1	lsum	1,546,400.00	1,546,400.00
577		346	High Service Pump Station #2 Total	1	lsum	4,614,616.05	4,614,616.05
578		350	350 - Chemical Facilities				
579	2000		2000 - Sitework				
580			Backfill Structural Fill - Chemical Facilities	1,376.60	cuyd	40,518.51	29.43
581			Drilled Piers - Chemical Facilities	83	ea	290,500.00	3,500.00
582			Excavation to Waste - Chemical Facilities	3,933.00	cuyd	49,202.66	12.51
583	2000		Sitework Total	1	lsum	380,221.17	380,221.17
584	2001		2001 - Underground Piping				
585			Building DR Line - Chemical Facilities	255	lnft	32,996.18	129.40
586			Building Inlet Drain - Chemical Facilities	3	each	12,442.20	4,147.40
587			Delivery Area 04" DR Line - Chemical Facilities	45	lnft	6,010.95	133.58
588			Delivery Area Inlet Drain - Chemical Facilities	3	each	12,442.20	4,147.40
589	2001		Underground Piping Total	1	lsum	63,891.53	63,891.53
590	3000		3000 - Concrete				
591			Curb - Chemical Facilities	300	lnft	18,000.00	60.00
592			Equipment Pads (5) Octagons - Chemical Facilities	152.4	cuyd	79,768.36	523.26
593			Foundation Slab - Chemical Facilities	359.1	cuyd	250,727.13	698.21
594			Hollow Core 8" - Chemical Facilities	2,600.00	sqft	61,013.26	23.47
595			Walls - Chemical Facilities	96.7	cuyd	89,492.03	925.50
596	3000		Concrete Total	1	lsum	499,000.78	499,000.78
597	4000		4000 - Masonry				
598			Masonry Block - Chemical Facilities	6,154.00	sqft	221,544.00	36.00
599	4000		Masonry Total	1	lsum	221,544.00	221,544.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
600	5000		5000 - Steel				
601			Bollards - Chemical Facility	26	each	17,334.20	666.70
602			Containment FRP Platforms - Chemical Facilities	1	lsum	15,000.00	15,000.00
603			Grating - Chemical Facilities	455	sqft	10,031.50	22.05
604			Handrailing - Chemical Facilities	380	lnft	16,036.00	42.20
605			Ladder - Chemical Facilities	1	ea	5,256.00	5,256.00
606			Miscellaneous Steel Framing - Chemical Facilities	5,000.00	lbs	25,000.00	5.00
607	5000		Steel Total	1	lsum	88,657.70	88,657.70
608	7000		7000 - Thermal and Moisture Protection				
609			Roofing - Chemical Facilities	2,600.00	sqft	62,400.00	24.00
610	7000		Thermal and Moisture Protection Total	1	lsum	62,400.00	62,400.00
611	8000		8000 - Doors & Windows				
612			Double Door & Frame - Chemical Facilities	4	each	40,540.00	10,135.00
613			Fiberglass Door - Chemical Facilities	4	ea	19,200.00	4,800.00
614	8000		Doors & Windows Total	1	lsum	59,740.00	59,740.00
615	9000		9000 - Finishes				
616			Concrete Sealer - Chemical Facilities	600	sqft	8,972.00	14.95
617			Floor Coatings - Chemical Facilities	7,200.00	sqft	129,808.26	18.03
618			Painting Building - Chemical Facilities	11,367.00	sqft	68,202.00	6.00
619			Painting Pipe - Chemical Facilities	1,050.00	sqft	7,726.01	7.36
620	9000		Finishes Total	1	lsum	214,708.28	214,708.28
621	10000		10000 - Specialties				
622			Fire Extinguishers in Cabinets - Chemical Facilities	5	each	1,600.00	320.00
623			Signage - Chemical Facilities	5	each	3,400.00	680.00
624	10000		Specialties Total	1	lsum	5,000.00	5,000.00
625	11000		11000 - Equipment				
626			2" Nilcor series 410 actuated valves - Chemical Facilities	6	each	170,904.00	28,484.00
627			ACH Feed Pumps - Chemical Facilities	1	each	31,226.35	31,226.35
628			ACH Tank - Chemical Facilities	2	each	105,144.16	52,572.08
629			LAS Pumps - Chemical Facilities	2	each	35,263.08	17,631.54
630			LAS Tank - Chemical Facilities	1	each	46,938.30	46,938.30
631			SH Tank - Chemical Facilities	2	each	106,725.16	53,362.58
632			SH Transfer Pumps - Chemical Facilities	2	each	29,707.30	14,853.65
633			Sump Pumps - Chemical Facilities	3	each	37,230.00	12,410.00
634	11000		Equipment Total	1	lsum	563,138.35	563,138.35
635	13000		13000 - Special Construction				
636			Canopy - Chemical Facilities	1,500.00	sqft	90,000.00	60.00
637	13000		Special Construction Total	1	lsum	90,000.00	90,000.00
638	15000		15000 - Mechanical				
639			Actuators (NEMA 4X) - Chemical Facilities	14	each	46,438.00	3,317.00
640			Chemical Piping - Chemical Facilities	2,086.00	lnft	134,102.40	64.29

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
641			HVAC - Chemical Facilities	1	lsum	305,480.00	305,480.00
642			Plumbing - Chemical Facilities	1	lsum	190,970.00	190,970.00
643	15000		Mechanical Total	1	lsum	676,990.40	676,990.40
644	16000		16000 - Electrical				
645			125A ATS - Chemical Facilities	1	lsum	16,200.00	16,200.00
646			45 kVA Transformer - Chemical Facilities	1	lsum	9,000.00	9,000.00
647			ControlLogix PLC Panel, Free Standing 60 x 48 x 12" NEMA 12 - Chemical Facilities	1	lsum	145,400.00	145,400.00
648			Duckbank & Grounding - Chemical Facilities	1	lsum	48,000.00	48,000.00
649			Fiber optic cable for ring network - Chemical Facilities	1	lsum	7,400.00	7,400.00
650			Instruments - Chemical Facilities	1	lsum	70,000.00	70,000.00
651			Lighting & Receptacle - Chemical Facilities	1	lsum	158,400.00	158,400.00
652			Lighting Panel - Chemical Facilities	1	lsum	12,000.00	12,000.00
653			Misc. Electrical - Chemical Facilities	1	lsum	75,000.00	75,000.00
654			Motor Control Center MCC-5 - Chemical Facilities	1	lsum	222,000.00	222,000.00
655			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - Chemical Facilities	1	lsum	58,800.00	58,800.00
656			New redundant fiber optic cable - Chemical Facilities	1	lsum	7,400.00	7,400.00
657			Wire & Conduit - Chemical Facilities	1	lsum	402,000.00	402,000.00
658	16000		Electrical Total	1	lsum	1,231,600.00	1,231,600.00
659		350	Chemical Facilities Total	1	lsum	4,156,892.19	4,156,892.19
660		400	400 - Raw Sludge Pump Station				
661	2000		2000 - Sitework				
662			Excavation - Raw Sludge PS	165.3	cuyd	22,160.34	134.03
663	2000		Sitework Total	1	lsum	22,160.34	22,160.34
664	3000		3000 - Concrete				
665			Foundation Slab - Raw Sludge PS	8.8	cuyd	5,012.05	569.77
666			Grout Fill - Raw Sludge PS	6	cuyd	2,111.60	351.93
667			SOG - Raw Sludge PS	5.8	cuyd	2,879.04	493.55
668			Walls - Raw Sludge PS	48.5	cuyd	52,855.21	1,089.38
669	3000		Concrete Total	1	lsum	62,857.90	62,857.90
670	5000		5000 - Steel				
671			Grating - Raw Sludge PS	113	sqft	2,020.13	17.88
672			Hatch - Raw Sludge PS	3	ea	7,866.48	2,622.16
673			Misc Framing - Raw Sludge PS	1	ea	4,999.00	4,999.00
674	5000		Steel Total	1	lsum	14,885.61	14,885.61

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
675	11000		11000 - Equipment				
676			Submersible Pumps - Raw Sludge PS	3	each	60,375.39	20,125.13
677	11000		Equipment Total	1	lsum	60,375.39	60,375.39
678	15000		15000 - Mechanical				
679			Piping - Raw Sludge PS	98	lnft	26,714.40	272.60
680	15000		Mechanical Total	1	lsum	26,714.40	26,714.40
681	16000		16000 - Electrical				
682			Electrical - Raw Sludge PS	1	lsum	26,400.00	26,400.00
683	16000		Electrical Total	1	lsum	26,400.00	26,400.00
684		400	Raw Sludge Pump Station Total	1	lsum	213,393.64	213,393.64
685		450	450 - Raw Sludge Thickener				
686	2000		2000 - Sitework				
687			Drilled Piers - Thickener	128	ea	448,000.00	3,500.00
688			Excavation to Waste - Sludge Thickeners #1	20,920.80	cuyd	228,529.00	10.92
689			Import Materials - Structural Backfill - Sludge Thickeners #1	9,204.00	cuyd	256,174.63	27.83
690			Import Materials - Subgrade - Sludge Thickeners #1	4,639.70	ton	271,475.41	58.51
691	2000		Sitework Total	1	lsum	1,204,179.04	1,204,179.04
692	2001		2001 - Underground Piping				
693			RS Line from RS Splitter Box to ST - Sludge Thickener #1	30	lnft	11,055.75	368.52
694			RS Line from RS Splitter Box to ST - Sludge Thickener #2	30	lnft	11,055.75	368.52
695			TS Line under ST - Sludge Thickeners #1	45	lnft	11,306.29	251.25
696			TS Line under ST - Sludge Thickeners #2	45	lnft	11,306.29	251.25
697	2001		Underground Piping Total	1	lsum	44,724.08	44,724.08
698	3000		3000 - Concrete				
699			12" Elevated Launder Slab - Sludge Thickeners #1	23.6	cuyd	36,019.03	1,526.62
700			12" Elevated Launder Slab - Sludge Thickeners #2	23.6	cuyd	36,019.03	1,526.62
701			20" Walls - Sludge Thickeners #1	249.8	cuyd	194,249.79	777.68
702			20" Walls - Sludge Thickeners #2	249.8	cuyd	194,249.79	777.68
703			4" Mud Slab - Sludge Thickeners #1	94.9	cuyd	22,607.33	238.16
704			4" Mud Slab - Sludge Thickeners #2	94.9	cuyd	22,607.33	238.16
705			8" Launder Wall - Sludge Thickeners #1	16.2	cuyd	21,180.25	1,306.58
706			8" Launder Wall - Sludge Thickeners #2	16.2	cuyd	21,180.25	1,306.58
707			Center Pier Foundation - Sludge Thickeners #1	103.8	cuyd	47,670.29	459.42
708			Center Pier Foundation - Sludge Thickeners #2	103.8	cuyd	47,670.29	459.42
709			Concrete Pipe Encasement for TS Line - Sludge Thickener #1	7.7	cuyd	2,741.50	355.59
710			Concrete Pipe Encasement for TS Line - Sludge Thickeners #2	7.7	cuyd	2,741.50	355.59
711			Foundation Slab - Sludge Thickeners #1	443.1	cuyd	193,979.19	437.76
712			Foundation Slab - Sludge Thickeners #2	443.1	cuyd	193,979.19	437.76
713			Gang Form Setup - Sludge Thickeners #1	2,976.00	sqft	23,847.92	8.01
714			Gang Form Setup - Sludge Thickeners #2	2,976.00	sqft	23,847.92	8.01
715			Grout Fill/Fillets in Launder - Sludge Thickeners #1	3.1	cuyd	2,249.78	714.77

**90% Opinion of Probable Cost**  
 City of Pflugerville, TX  
 Water Treatment Plant Expansion

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
716			Grout Fill/Fillets in Launder - Sludge Thickeners #2	3.1	cuyd	2,249.78	714.77
717			Leak Testing - Sludge Thickeners #1	1	each	2,334.00	2,334.00
718			Leak Testing - Sludge Thickeners #2	1	each	2,334.00	2,334.00
719			Stair Landing Slab - Sludge Thickeners #1	3.9	cuyd	1,921.30	493.80
720			Stair Landing Slab - Sludge Thickeners #2	3.9	cuyd	1,921.30	493.80
721			Stair Support Slab - Sludge Thickeners #1	2.9	cuyd	1,569.74	538.20
722			Stair Support Slab - Sludge Thickeners #2	2.9	cuyd	1,569.74	538.20
723	3000		Concrete Total	1	lsum	1,100,740.27	1,100,740.27
724	5000		5000 - Steel				
725			Handrailing - Thickener	960	lnft	40,512.00	42.20
726			Stairs - - Thickener	2	each	54,320.00	27,160.00
727	5000		Steel Total	1	lsum	94,832.00	94,832.00
728	11000		11000 - Equipment				
729			Equipment Crane Assembly - Sludge Thickeners #1	4	week	42,780.00	10,695.00
730			Equipment Crane Assembly - Sludge Thickeners #2	5	week	42,780.00	8,556.00
731			Thickener Equipment - Sludge Thickeners #1	1	each	282,882.15	282,882.15
732			Thickener Equipment - Sludge Thickeners #2	1	each	282,882.15	282,882.15
733	11000		Equipment Total	1	lsum	651,324.30	651,324.30
734	16000		16000 - Electrical				
735			125A ATS - GT	1	lsum	9,000.00	9,000.00
736			45 kVA Transformer - GT	1	lsum	6,000.00	6,000.00
737			ControlLogix PLC Panel, solids processing- gravity sludge thickener, thickened sludge pump station, backwash clarifier, and recycle pump station. 48 x 60 x 12" NEMA 4, UPS - GT	1	lsum	133,900.00	133,900.00
738			Duckbank & Grounding - GT	1	lsum	168,000.00	168,000.00
739			Instruments - GT	1	lsum	60,000.00	60,000.00
740			Lighting & Receptacle - GT	1	lsum	96,000.00	96,000.00
741			Lighting Panel - GT	1	lsum	6,000.00	6,000.00
742			Misc. Electrical - GT	1	lsum	50,000.00	50,000.00
743			Motor Control Center MCC-6 - GT	1	lsum	132,000.00	132,000.00
744			Network Cabinet with Cisco 9200, ring network, Watchdog 100P - GT	1	lsum	58,500.00	58,500.00
745			New redundant fiber optic cable - Raw Sludge Thickener	1	lsum	7,850.00	7,850.00
746			VFD RIO adapters - GT	1	lsum	2,000.00	2,000.00
747			VFD's - GT	1	lsum	180,000.00	180,000.00
748			Wire & Conduit - GT	1	lsum	180,000.00	180,000.00
749	16000		Electrical Total	1	lsum	1,089,250.00	1,089,250.00

**90% Opinion of Probable Cost**  
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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
750		450	Raw Sludge Thickener Total	1	lsum	4,185,049.69	4,185,049.69
751		452	452 - Thickened Sludge Pump Station				
752	2000		2000 - Sitework				
753			Excavation to Waste - Thickened Sludge PS	1,587.00	cuyd	20,004.44	12.61
754			Import Materials - Structural Backfill - Thickened Sludge PS	840	cuyd	23,683.71	28.19
755			Import Materials - Subgrade - Thickened Sludge PS	156	ton	8,637.78	55.37
756	2000		Sitework Total	1	lsum	52,325.93	52,325.93
757	2001		2001 - Underground Piping				
758			Ductile Iron Pipe 06" Sludge Line U-Line - Thickened Sludge PS	10	lnft	1,325.90	132.59
759	2001		Underground Piping Total	1	lsum	1,325.90	1,325.90
760	3000		3000 - Concrete				
761			12" Slab on Grade- Thickened Sludge PS	3.8	cuyd	2,348.03	621.17
762			14" Foundation Slab - Thickened Sludge PS	47	cuyd	21,793.95	464.10
763			14" Walls - Thickened Sludge PS	75.3	cuyd	94,125.36	1,250.00
764			20" Walls - Thickened Sludge PS	82.6	cuyd	74,801.24	905.16
765			4" Mud Slab - Thickened Sludge PS	6.5	cuyd	1,575.69	241.73
766			Grout Fill - Thickened Sludge PS	6.1	cuyd	2,017.59	330.98
767			Pipe Encasement Sludge Line - Thickened Sludge PS	0.2	cuyd	560.40	3,290.01
768	3000		Concrete Total	1	lsum	197,222.26	197,222.26
769	5000		5000 - Steel				
770			Grating - Thickened Sludge PS	16	sqft	337.96	21.12
771			Handrailing - Thickened Sludge PS	85	lnft	3,995.00	47.00
772			Ladder - Thickened Sludge PS	2	ea	4,152.00	2,076.00
773			Platform - Thickened Sludge PS	125	sqft	15,184.00	121.47
774	5000		Steel Total	1	lsum	23,668.96	23,668.96
775	9000		9000 - Finishes				
776			Painting Pipe - Thickened Sludge PS	227	sqft	1,670.29	7.36
777	9000		Finishes Total	1	lsum	1,670.29	1,670.29
778	11000		11000 - Equipment				
779			Progressive Cavity Pumps - Thickened Sludge PS	2	each	31,969.00	15,984.50
780			Sump Pumps - Thickened Sludge PS	2	each	29,707.78	14,853.89
781	11000		Equipment Total	1	lsum	61,676.78	61,676.78
782	14000		14000 - Conveying Systems				
783			Mono Rail - Thickened Sludge Pump Station	1	ea	18,600.00	18,600.00
784	14000		Conveying Systems Total	1	lsum	18,600.00	18,600.00
785	15000		15000 - Mechanical				
786			Piping - Thickened Sludge PS	144	lnft	28,134.80	195.38
787			Plumbing - Thickened Sludge PS	1	lsum	31,830.00	31,830.00
788	15000		Mechanical Total	1	lsum	59,964.80	59,964.80
789		452	Thickened Sludge Pump Station Total	1	lsum	416,454.92	416,454.92
790		455	455 - Backwash Waste Clarifier				

**90% Opinion of Probable Cost**  
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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
791	2000		2000 - Sitework				
792			Drilled Piers - Backwash Waste Clarifier	56	ea	196,000.00	3,500.00
793			Excavation to Waste - Backwash Waste Clarifier	12,552.50	cuyd	137,117.40	10.92
794			Import Materials - Structural Backfill - Backwash Waste Clarifier	5,522.40	cuyd	153,704.78	27.83
795			Import Materials - Subgrade - Backwash Waste Clarifier	2,783.80	ton	162,885.25	58.51
796	2000		Sitework Total	1	lsum	649,707.42	649,707.42
797	2001		2001 - Underground Piping				
798			Ductile Iron Pipe 10" BWWS U-Line - Backwash Waste Clarifier	50	lnft	6,825.29	136.51
799			Ductile Iron Pipe 12" BWW U-Line - Backwash Waste Clarifier	50	lnft	8,061.32	161.23
800	2001		Underground Piping Total	1	lsum	14,886.61	14,886.61
801	3000		3000 - Concrete				
802			12" Elevated Launder Slab - Backwash Waste Clarifier	23.6	cuyd	36,019.03	1,526.62
803			12" Walls - Backwash Waste Clarifier	138.9	cuyd	137,379.31	988.78
804			24" Foundation Slab - Backwash Waste Clarifier	327.2	cuyd	143,255.87	437.76
805			4" Mud Slab - Backwash Waste Clarifier	94.9	cuyd	22,607.33	238.16
806			8" Launder Wall - Backwash Waste Clarifier	16.2	cuyd	21,180.25	1,306.58
807			Center Pier Foundation - Backwash Waste Clarifier	81.8	cuyd	43,166.13	527.57
808			Concrete Pipe Encasement for TS Line - Backwash Waste Clarifier	7.7	cuyd	2,741.50	355.59
809			Gang Form Setup & Tear Down - Backwash Waste Clarifier	2,976.00	sqft	23,847.92	8.01
810			Grout Fill/Fillets in Launder - Backwash Waste Clarifier	3.1	cuyd	2,249.78	714.77
811			Leak Testing - Backwash Waste Clarifier	1	each	2,334.00	2,334.00
812			Pipe Encasement 10" BWWS U-Line - Backwash Waste Clarifier	14.1	cuyd	5,258.78	372.61
813			Pipe Encasement 12" BWW U-Line - Backwash Waste Clarifier	16	cuyd	5,728.24	357.93
814			Stair Landing Slab - Backwash Waste Clarifier	3.9	cuyd	1,921.30	493.80
815			Stair Support Slab - Backwash Waste Clarifier	2.9	cuyd	1,569.74	538.20
816	3000		Concrete Total	1	lsum	449,259.19	449,259.19
817	11000		11000 - Equipment				
818			Clarifier Equipment - Backwash Waste Clarifier	1	each	344,024.40	344,024.40
819			Clarifier Equipment Crane Assembly - Backwash Waste Clarifier	5.2	week	44,288.00	8,516.92
820	11000		Equipment Total	1	lsum	388,312.40	388,312.40
821	15000		15000 - Mechanical				
822			Ductile Iron Piping 12" SN Line - Backwash Waste Clarifier	40	lnft	9,493.00	237.32
823	15000		Mechanical Total	1	lsum	9,493.00	9,493.00
824		455	Backwash Waste Clarifier Total	1	lsum	1,511,658.62	1,511,658.62

**90% Opinion of Probable Cost**  
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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
825		458	458 - Recycle Pump Station				
826	2000		2000 - Sitework				
827			Excavation to Waste - Recycle PS	4,730.00	cuyd	52,451.20	11.09
828			Import Materials - Structural Backfill - Recycle PS	1,800.00	cuyd	51,060.03	28.37
829			Import Materials - Subgrade - Recycle PS	43.2	ton	3,828.86	88.63
830	2000		Sitework Total	1	lsum	107,340.10	107,340.10
831	3000		3000 - Concrete				
832			12" Elevated Slab - Recycle PS	16	cuyd	25,463.41	1,594.53
833			12" Walls - Recycle PS	58.9	cuyd	59,342.01	1,007.74
834			24" Foundation Slab - Recycle PS	24.4	cuyd	10,625.18	435.26
835			4" Mud Slab - Recycle PS	5.2	cuyd	1,228.82	238.12
836			8" Thickened Slab - Recycle PS	12.2	cuyd	4,865.75	398.65
837			Grout Fill/Fillets - Recycle PS	6.6	cuyd	3,996.17	607.35
838			Leak Testing - Recycle PS	1	each	1,800.40	1,800.40
839	3000		Concrete Total	1	lsum	107,321.75	107,321.75
840	5000		5000 - Steel				
841			Hatch - Recycle PS	3	ea	7,866.48	2,622.16
842	5000		Steel Total	1	lsum	7,866.48	7,866.48
843	9000		9000 - Finishes				
844			Painting Pipe - Recycle PS	153	sqft	1,125.79	7.36
845	9000		Finishes Total	1	lsum	1,125.79	1,125.79
846	11000		11000 - Equipment				
847			Submersible Pumps - Recycle PS	2	each	116,652.71	58,326.36
848	11000		Equipment Total	1	lsum	116,652.71	116,652.71
849	14000		14000 - Conveying Systems				
850			Jib Crane - Recycle Pump Station	1	ea	8,500.00	8,500.00
851	14000		Conveying Systems Total	1	lsum	8,500.00	8,500.00
852	15000		15000 - Mechanical				
853			Piping - Recycle PS	153	lnft	32,722.30	213.87
854	15000		Mechanical Total	1	lsum	32,722.30	32,722.30
855		458	Recycle Pump Station Total	1	lsum	381,529.13	381,529.13
856		551	551 - Pretreatment Electrical Building				
857	2000		2000 - Sitework				
858			Drilled Piers - Pretreatment Electrical Building	6	ea	42,000.00	7,000.00
859	2000		Sitework Total	1	lsum	42,000.00	42,000.00
860	3000		3000 - Concrete				
861			Foundation Slab - Pretreatment Electrical Building	62.2	cuyd	44,962.04	723.12
862			House Keeping Pad - Pretreatment Electrical Building	1.5	cuyd	2,288.63	1,569.34
863			Precast Wall - Pretreatment Electrical Building	1,100.00	sqft	160,176.00	145.61
864	3000		Concrete Total	1	lsum	207,426.67	207,426.67
865	7000		7000 - Thermal and Moisture Protection				

**90% Opinion of Probable Cost**  
 City of Pflugerville, TX  
 Water Treatment Plant Expansion

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
866			Roofing - Pretreatment Electrical Building	240	sqft	5,760.00	24.00
867	7000		Thermal and Moisture Protection Total	1	lsum	5,760.00	5,760.00
868	8000		8000 - Doors & Windows				
869			Fiberglass Door - Pretreatment Electrical Building	1	ea	4,800.00	4,800.00
870	8000		Doors & Windows Total	1	lsum	4,800.00	4,800.00
871	9000		9000 - Finishes				
872			Concrete Sealer - Pretreatment Electrical Building	240	sqft	960.00	4.00
873	9000		Finishes Total	1	lsum	960.00	960.00
874	10000		10000 - Specialties				
875			Canopy - Pretreatment Electrical Building	1,350.00	sqft	155,250.00	115.00
876			Fire Extinguishers in Cabinets - Pretreatment Electrical Building	1	each	320.00	320.00
877	10000		Specialties Total	1	lsum	155,570.00	155,570.00
878	15000		15000 - Mechanical				
879			HVAC - Pretreatment Electrical Building	1	lsum	31,180.00	31,180.00
880	15000		Mechanical Total	1	lsum	31,180.00	31,180.00
881		551	Pretreatment Electrical Building Total	1	lsum	447,696.67	447,696.67
882		552	552 - Membrane Electrical Building				
883	2000		2000 - Sitework				
884			Drilled Piers - Membrane Electrical Building	540	lnft	108,000.00	200.00
885	2000		Sitework Total	1	lsum	108,000.00	108,000.00
886	3000		3000 - Concrete				
887			Foundation Slab - Membrane Electrical Building	94.7	cuyd	43,589.31	460.46
888			House Keeping Pad - Membrane Electrical Building	1.5	cuyd	2,288.63	1,569.34
889			Precast Wall - Membrane Electrical Building	4,784.00	sqft	328,750.00	68.72
890	3000		Concrete Total	1	lsum	374,627.94	374,627.94
891	7000		7000 - Thermal and Moisture Protection				
892			Roofing - Membrane Electrical Building	1,000.00	sqft	24,000.00	24.00
893	7000		Thermal and Moisture Protection Total	1	lsum	24,000.00	24,000.00
894	8000		8000 - Doors & Windows				
895			Double Door & Frame - Membrane Electrical Building	1	each	9,135.00	9,135.00
896			Fiberglass Door - Membrane Electrical Building	1	ea	4,800.00	4,800.00
897	8000		Doors & Windows Total	1	lsum	13,935.00	13,935.00
898	9000		9000 - Finishes				
899			Concrete Sealer - Membrane Electrical Building	1,000.00	sqft	4,000.00	4.00

**90% Opinion of Probable Cost**  
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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
900			Painting Building - Membrane Electrical Building	5,360.00	sqft	32,160.00	6.00
901	9000		Finishes Total	1	lsum	36,160.00	36,160.00
902	10000		10000 - Specialties				
903			Fire Extinguishers in Cabinets - Membrane Electrical Building	1	each	320.00	320.00
904	10000		Specialties Total	1	lsum	320.00	320.00
905	15000		15000 - Mechanical				
906			HVAC - Membrane Electrical Building	1	lsum	165,210.00	165,210.00
907	15000		Mechanical Total	1	lsum	165,210.00	165,210.00
908		552	Membrane Electrical Building Total	1	lsum	722,252.94	722,252.94
909		553	553 - Solids Handling Electrical Building				
910	2000		2000 - Sitework				
911			Drilled Piers - Solids Handling Electrical Building	336	lnft	67,200.00	200.00
912	2000		Sitework Total	1	lsum	67,200.00	67,200.00
913	3000		3000 - Concrete				
914			Foundation Slab - Solids Handling Electrical Building	51.8	cuyd	23,858.41	460.46
915			House Keeping Pad - Solids Handling Electrical Building	1.5	cuyd	2,288.63	1,569.34
916			Precast Wall - Solids Handling Electrical Building	2,060.00	sqft	125,950.00	61.14
917	3000		Concrete Total	1	lsum	152,097.04	152,097.04
918	7000		7000 - Thermal and Moisture Protection				
919			Roofing - Solids Handling Electrical Building	800	sqft	19,200.00	24.00
920	7000		Thermal and Moisture Protection Total	1	lsum	19,200.00	19,200.00
921	8000		8000 - Doors & Windows				
922			Fiberglass Door - Solids Handling Electrical Building	2	ea	9,600.00	4,800.00
923	8000		Doors & Windows Total	1	lsum	9,600.00	9,600.00
924	9000		9000 - Finishes				
925			Concrete Sealer - Solids Handling Electrical Building	800	sqft	3,200.00	4.00
926			Painting Building - Solids Handling Electrical Building	4,920.00	sqft	29,700.00	6.04
927	9000		Finishes Total	1	lsum	32,900.00	32,900.00
928	10000		10000 - Specialties				
929			Fire Extinguishers in Cabinets - Solids Handling Electrical Building	1	each	320.00	320.00
930	10000		Specialties Total	1	lsum	320.00	320.00
931	15000		15000 - Mechanical				
932			HVAC - Solids Handling Electrical Building	1	lsum	38,430.00	38,430.00
933	15000		Mechanical Total	1	lsum	38,430.00	38,430.00
934		553	Solids Handling Electrical Building Total	1	lsum	319,747.04	319,747.04
935			<b>Grand Total</b>			<b>64,350,415.06</b>	

			General Conditions			6,435,042	10%
			Contingency			6,435,042	10%
			Contractor OH and P			9,807,003	12%

90% Opinion of Probable Cost  
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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
			Escalation			4,504,529	7.00%

**Total Opinion of Probable Cost**

**91,532,030**

# 100% Opinion of Probable Construction Cost

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**100% Opinion of Probable Cost**  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
1		10	010 - Site Development, Improvements, Concrete and Electrical				
2	1000		1000 - General Conditions				
3			Allowance for additional electrical service	1	lsum	175,000.00	175,000.00
4			Startup & Commissioning	1	lsum	85,000.00	85,000.00
5			Temporary 30" Piping for Startup Phasing Plan	920	lnft	434,240.00	472
6			Temporary 36" Piping for Startup Phasing Plan	825	lnft	480,150.00	582
7			Temporary 48" Piping for Startup Phasing Plan	708	lnft	552,240.00	780
8	1000		General Conditions Total	1	lsum	1,726,630.00	1,726,630.00
9	2000		2000 - Sitework				
10			Concrete Road - Lime Stabilization	5,723.00	sqyd	180,274.50	31.5
11			4" Sidewalk	76.2	cuyd	38,434.11	504.13
12			Check Dam Sub	3	each	156	52
13			Clear and Grub	4	acre	21,909.60	5,477.40
14			Concrete Paving	1,250.00	cuyd	437,343.52	349.87
15			Concrete Washout area	1	each	5,500.00	5,500.00
16			Construction Entrance	1	each	2,000.00	2,000.00
17			Drilled Piers Generator - Site	15	each	52,500.00	3,500.00
18			Excavation to Stockpile - Generators	276	cuyd	2,355.18	8.53
19			Excavation to Stockpile - Transformer	71	cuyd	593.72	8.36
20			Hydromulch	850,000.00	sqft	38,250.00	0.04
21			Inlet protection barrier	10	each	450	45
22			Mowing and Maintenance	50	each	25,000.00	500
23			Rock Filter Dam	3	each	1,500.00	500
24			Sawcut and Remove Existing Paving	28,700.00	sqft	137,760.00	4.8
25			Silt Fence Installation	3,900.00	lnft	13,650.00	3.5
26			Silt Fence Maintenance	3,000.00	lnft	32,459.13	10.82
27			Silt Fence removal	3,900.00	lnft	2,340.00	0.6
28			Site - Cut	17,000.00	cuyd	136,000.00	8
29			Site - Fill	12,000.00	cuyd	204,000.00	17
30			Site - Roadway Excavation	4,500.00	cuyd	36,000.00	8
31			Site - Storm Pond	790	cuyd	9,480.00	12
32			Site - Storm Pond - Fill	3,200.00	cuyd	54,400.00	17
33			Site- Backfilling Concrete Washout	157	cuyd	3,533.86	22.51
34			Sodding	10,000.00	sqft	20,000.00	2
35			Structural fill - Select Fill - Generators	34.6	cuyd	1,160.17	33.48
36			Structural Fill - Select Fill - Transformer	25	sqyd	241.8	9.67
37			Subgrade - Select Fill - Generators	256.2	cuyd	7,851.65	30.65
38			Subgrade - Select Fill - Transformer	64	cuyd	1,876.58	29.3
39			Subgrade Material for Concrete Pavement	51,500.00	sqft	237,672.44	4.61
40			Subgrade- Select Fill - Transformer	8.4	cuyd	676.12	80.49
41			SWPPP	1	each	2,500.00	2,500.00
42			Tree and Plant Protection	520	lnft	2,600.00	5
43	2000		Sitework Total	1	lsum	1,710,468.38	1,710,468.38
44	3000		3000 - Concrete				
45			Concrete Pavement with Lime Subgrade	79,600.00	sqft	995,000.00	12.5
46			Concrete Retaining Wall - Site	45.2	cuyd	64,256.83	1,422.31
47			Delivery Area Paving - Chemical Facilities	120.5	cuyd	43,864.15	363.99

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
48			Footings Retaining Wall - Site	40.6	cuyd	19,171.33	471.75
49			Slab on Grade - Generator 1	68.1	cuyd	30,432.90	447.12
50			Slab on Grade - Transformer	5.8	cuyd	2,561.78	443.6
51	3000		Concrete Total	1	lsum	1,155,286.98	1,155,286.98
52	4000		4000 - Masonry				
53			Reinforced 12" Concrete Masonry Unit Screening Wall -	3,040.00	sqft	94,450.28	31.07
54	4000		Masonry Total	1	lsum	94,450.28	94,450.28
55	13000		13000 - Special Construction				
56			AESS SCADA HMI, Network Programming: - Site Electrical	1	each	170,000.00	170,000.00
57			PCSS Engineering / PM, submittals, RFI, O&M manuals, etc: - Site Electrical	1	each	120,000.00	120,000.00
58	13000		Special Construction Total	1	lsum	290,000.00	290,000.00
59	15000		15000 - Mechanical				
60			Temporary 30" Piping for Startup Phasing Plan	920	lnft	66,592.00	72.38
61			Temporary 36" Piping for Startup Phasing Plan	825	lnft	157,184.00	190.53
62			Temporary 48" Piping for Startup Phasing Plan	708	lnft	56,912.00	80.38
63	15000		Mechanical Total	1	lsum	280,688.00	280,688.00
64	16000		16000 - Electrical				
65			Diesel Engine Generator Platform - Generator 1	1	each	73,400.00	73,400.00
66			Distribution Switchgear - Site Electrical	1	lsum	852,500.00	852,500.00
67			Misc. Electrical - Site Electrical	1	lsum	120,000.00	120,000.00
68			Paralleling Switchgear - Site Electrical	1	lsum	781,000.00	781,000.00
69			Site Lighting - Site Electrical	1	lsum	88,000.00	88,000.00
70			Tier 4, 4160V, 2,250 kW Genset - Generator	1	lsum	2,365,000.00	2,365,000.00
71			Underground Electrical - Site Electrical	1	lsum	218,400.00	218,400.00
72			Underground Manholes/ Handholes - Site Electrical	1	lsum	129,600.00	129,600.00
73			Wire & Conduit (Inside Building) - Site Electrical	1	lsum	270,000.00	270,000.00
74			Wire & Conduit (Plant Distribution) - Site Electrical	1	lsum	559,200.00	559,200.00
75	16000		Electrical Total	1	lsum	5,457,100.00	5,457,100.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
76		10	Site Development, Improvements, Concrete and Electrical Total	1	Isum	10,714,623.64	10,714,623.64
77		70	070 - Yard Piping				
78	2000		2000 - Sitework				
79			Water Connection - 12" Line Stop	1	each	16,000.00	16,000.00
80			Water Connection - 12" Wet Tap	4	each	44,000.00	11,000.00
81			Water Connection - 36" Double Line Stop	1	each	94,000.00	94,000.00
82			Water Connection - 42" Double Line Stop	3	each	470,000.00	156,666.67
83			Water Connection - 6" Wet Tap	3	each	21,000.00	7,000.00
84	2000		Sitework Total	1	Isum	645,000.00	645,000.00
85	2001		2001 - Underground Piping				
86			02" CU Line Above Ground RWPS to Intake - Yard	178	Inft	13,446.23	75.54
87			02" CU Line RWPS to Intake - Yard	442	Inft	35,575.11	80.49
88			04" DR Line SB to SP - Yard	115	Inft	12,096.53	105.19
89			06" BWWS Line - Yard	399	Inft	48,974.89	122.74
90			06" SS Line - Yard	200	Inft	24,148.81	120.74
91			06" TS Line - Yard	655	Inft	80,083.06	122.26
92			10" BW Line - Yard	153	Inft	25,248.23	165.02
93			10" BWWS Line - Yard	216	Inft	35,644.56	165.02
94			10" SN Line - Yard	157	Inft	25,635.07	163.28
95			12" BWR Line - Yard	700	Inft	122,969.79	175.67
96			12" BWW Line - Yard	483	Inft	76,427.55	158.24
97			12" NEU Line - Yard	258	Inft	45,323.15	175.67
98			12" RS Line - Yard	138	Inft	25,820.31	187.1
99			12" SN Line - Yard	115	Inft	20,632.49	179.41
100			16" AS Line - Yard	80	Inft	15,441.69	193.02
101			16" RS Line - Yard	1,264.00	Inft	243,831.23	192.9
102			16" SN Line - Yard	232	Inft	42,881.81	184.84
103			18" DR Line - Yard	1,326.00	Inft	273,653.24	206.37
104			18" FW Line - Yard	75	Inft	15,961.82	212.82
105			24" FW Line - Yard	2,224.00	Inft	624,704.52	280.89
106			24" SW Line - Yard	25	Inft	7,199.55	287.98
107			36" BWW Line - Yard	65	Inft	25,082.76	385.89
108			36" RW Line - Yard	185	Inft	63,961.05	345.74
109			42" FW Line - Yard	284.2	Inft	152,036.44	534.96
110			42" MP Line - Yard	32	Inft	20,001.50	625.05
111			48" FW Line - Yard	204	Inft	145,652.24	713.98
112			48" MP Line - Yard includes 4 Valves in Short Run	51	Inft	231,366.93	4,536.61
113			48" SW Line - Yard	102	Inft	73,168.83	717.34
114			ACH Line - Yard	1,380.00	Inft	110,773.09	80.27
115			Injection Manholes - Yard	2	each	14,942.60	7,471.30
116			LAS Line - Yard	1,413.00	Inft	113,416.55	80.27
117			Process Manholes - Yard	4	each	33,885.20	8,471.30
118			SH Line - Yard	2,730.00	Inft	218,914.64	80.19
119			Storm Line - Yard	610	Inft	140,165.52	229.78
120	2001		Underground Piping Total	1	Isum	3,159,066.98	3,159,066.98
121		70	Yard Piping Total	1	Isum	3,804,066.98	3,804,066.98
122		85	085 - Lake Pump Station				

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
123	2000		2000 - Sitework				
124			4" Sidewalk - Lake PS	0.6	cuyd	850.23	1,393.82
125			Asphalt Paving - Lake Pump Station	12	sqyd	1,080.00	90
126			Demolition - Asphalt Paving - Lake Pump Station	600	sqft	1,618.61	2.7
127			Demolition of North Wall - Lake PS	700	sqft	14,793.72	21.13
128			Drilled Piers - Lake PS	350	lnft	70,000.00	200
129			Excavation Support System - Lake PS	500	sqft	32,500.00	65
130			Excavation Support System at Cans- Lake PS	1,260.00	sqft	81,900.00	65
131			Excavation to Waste - Lake PS	1,423.00	cuyd	18,311.39	12.87
132			Import Materials - Structural Backfill - Lake PS	614.4	cuyd	17,250.28	28.08
133			Import Materials - Subgrade - Lake PS	1,643.80	ton	88,235.25	53.68
134			Lime Stabilization for Asphalt Paving Repair	100	sqft	2,660.03	26.6
135			Remove Excavation Support System - Lake PS	500	sqft	10,000.00	20
136			Remove Excavation Support System at Cans- Lake PS	1,260.00	sqft	25,200.00	20
137			Subgrade Material for Asphalt Repair - Lake Pump Station	100	sqft	1,892.44	18.92
138	2000		Sitework Total	1	lsum	366,291.94	366,291.94
139	2001		2001 - Underground Piping				
140			24" Suction Line - Lake PS	44	lnft	42,203.71	959.18
141	2001		Underground Piping Total	1	lsum	42,203.71	42,203.71
142	3000		3000 - Concrete				
143			12" Foundation Slab - Lake PS	76	cuyd	52,590.83	692.23
144			Concrete Curb - Lake PS	2.2	cuyd	6,392.82	2,942.15
145			Concrete Equipment & Pipe Supports - Lake PS	6.4	cuyd	8,962.62	1,402.76
146			Drill & Epoxy Dowels for Curb - Lake PS	120	each	1,118.08	9.32
147			Hollow Core 6" - Lake PS	132	sqft	13,275.17	100.57
148			Pipe Encasement 24" Suction Line - Lake PS	46.7	cuyd	13,847.72	296.33
149	3000		Concrete Total	1	lsum	96,187.24	96,187.24
150	4000		4000 - Masonry				

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
151			Masonry Block - Lake PS	360	sqft	9,360.00	26
152			Masonry Block Electrical Room - Lake PS	220	sqft	5,720.00	26
153			Masonry Brick - Lake PS	360	sqft	5,760.00	16
154	4000		Masonry Total	1	Isum	20,840.00	20,840.00
155	7000		7000 - Thermal and Moisture Protection				
156			Roofing - Lake PS	1,044.00	sqft	18,792.00	18
157	7000		Thermal and Moisture Protection Total	1	Isum	18,792.00	18,792.00
158	8000		8000 - Doors & Windows				
159			FRP Door - Lake PS	2	ea	9,792.00	4,896.00
160			Overhead Door - Lake PS	1	each	24,000.00	24,000.00
161	8000		Doors & Windows Total	1	Isum	33,792.00	33,792.00
162	9000		9000 - Finishes				
163			Concrete Sealer - Lake PS	1,044.00	sqft	4,176.00	4
164			Painting Building - Lake PS	2,940.00	sqft	14,700.00	5
165			Painting Pipe - Lake PS	1,280.00	sqft	14,080.00	11
166	9000		Finishes Total	1	Isum	32,956.00	32,956.00
167	10000		10000 - Specialties				
168			Fire Extinguishers in Cabinets - Lake PS	1	each	320	320
169	10000		Specialties Total	1	Isum	320	320
170	11000		11000 - Equipment				
171			One (1) Fortress MC80 Industrial Grade Copper Ion Generator System with Control Panel and Booster Pump - Lake PS	1	each	371,200.00	371,200.00
172			Vertical Turbine Pumps - Lake PS	2	each	631,728.29	315,864.15
173	11000		Equipment Total	1	Isum	1,002,928.29	1,002,928.29
174	13000		13000 - Special Construction				
175			PEMB - Lake PS	1,044.00	sqft	76,212.00	73
176	13000		Special Construction Total	1	Isum	76,212.00	76,212.00
177	15000		15000 - Mechanical				
178			18" RW - Lake PS	34	Inft	210,869.90	6,202.06
179			42" RW - Lake PS	35	Inft	221,806.41	6,337.33
180			Actuators (NEMA 4X) - Lake PS	3	each	9,951.00	3,317.00
181			Electrical Actuators - Lake PS	2	ea	57,500.00	28,750.00
182			HVAC - Lake PS	1	Isum	94,530.00	94,530.00
183			Plumbing - Lake PS	1	Isum	11,650.00	11,650.00
184			Pump Cans - Lake PS	40	Inft	90,400.00	2,260.00
185			Small Piping - Lake PS	50	Inft	27,500.00	550
186	15000		Mechanical Total	1	Isum	724,207.31	724,207.31
187	16000		16000 - Electrical				
188			45 kVA Transformer - Lake PS	1	Isum	9,000.00	9,000.00
189			Automatic Transfer Switch - Lake PS	1	Isum	72,000.00	72,000.00
190			Disconnect Switches - Lake PS	1	Isum	9,000.00	9,000.00
191			Duckbank & Grounding	1	Isum	99,600.00	99,600.00
192			Instruments - Lake PS	1	Isum	60,000.00	60,000.00
193			Junction Boxes, Equipment Stands, Misc. Electrical - Lake PS	1	Isum	75,000.00	75,000.00
194			Lighting & Receptacle - Lake PS	1	Isum	30,000.00	30,000.00
195			Lighting Panel - Lake PS	1	Isum	6,000.00	6,000.00
196			Network CP, FO Equipment, programming, testing, training, installation	1	Isum	60,000.00	60,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
197			Oncor Coordination	1	Isum	30,000.00	30,000.00
198			SCADA PLC CP (and RIO(s)) hardware, fiber optic patch panels / patch cables	1	Isum	71,000.00	71,000.00
199			SCADA PLC/OIT/RIO programming, VFD coordination, testing, training	1	Isum	21,000.00	21,000.00
200			Wire & Conduit - Lake PS	1	Isum	228,000.00	228,000.00
201	16000		Electrical Total	1	Isum	770,600.00	770,600.00
202		85	Lake Pump Station Total	1	Isum	3,185,330.50	3,185,330.50
203		190	190 - Pretreatment				
204	2000		2000 - Sitework				
205			Backfill - Pretreatment	200	cuyd	8,802.31	44.01
206			Drilled Piers - Pretreatment	376	ea	1,316,000.00	3,500.00
207			Excavation to Waste - Pretreatment	3,753.00	cuyd	43,697.43	11.64
208			Subgrade Material - Pretreatment	23,980.00	sqft	340,635.90	14.2
209	2000		Sitework Total	1	Isum	1,709,135.64	1,709,135.64
210	2001		2001 - Underground Piping				
211			Ductile Iron Pipe 06", 08" & 12 DR U-Line - Pretreatment	450	Inft	65,965.23	146.59
212			Ductile Iron Pipe 08" RS U-Line - Pretreatment	304	Inft	36,961.70	121.58
213			Ductile Iron Pipe 18" DR U-Line - Pretreatment	20	Inft	6,083.65	304.18
214			Ductile Iron Pipe 30" RW U-Line - Pretreatment	40	Inft	16,367.29	409.18
215	2001		Underground Piping Total	1	Isum	125,377.88	125,377.88
216	3000		3000 - Concrete				
217			12" Elevated Concrete Slab - Pretreatment	68.9	cuyd	97,633.35	1,416.70
218			12" Elevated Concrete Slab & Walkway - Pretreatment	302.3	cuyd	489,178.39	1,618.00
219			12" RS Slab On Grade - Pretreatment	7.9	cuyd	4,143.94	522.34
220			12" Walls <20' - Pretreatment	460.6	cuyd	588,955.98	1,278.57
221			18" Walls <20' - Pretreatment	1,006.60	cuyd	956,228.31	949.98
222			24" Foundation Slab - Flocculation	633.7	cuyd	455,723.23	719.18
223			24" Foundation Slab - Sedimentation Basin	896.9	cuyd	634,044.98	706.96
224			24" Foundation Slab - Sludge Collection Channel	102.2	cuyd	78,205.17	765.3
225			24" Walls <20' - Pretreatment	656.4	cuyd	587,848.16	895.53

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
226			24" Walls >20' - Pretreatment	95.7	cuyd	93,800.55	980.1
227			Elevated Beams - Pretreatment	39.9	cuyd	45,357.89	1,135.46
228			General Construction Equipment - Pretreatment	32	weeks	448,196.00	14,006.13
229			Grout Fill at Sed Basin - Pretreatment	284.3	cuyd	112,884.28	397.1
230			Grout Fill at Sludge Channel - Pretreatment	48.9	cuyd	18,793.65	384.19
231			Leak Testing - Pretreatment	1	each	2,334.00	2,334.00
232			Pipe Encasement 08" & 12" DR U-Line - Pretreatment	127	cuyd	57,108.08	449.58
233			Pipe Encasement 08" RS U-Line - Pretreatment	87.9	cuyd	30,983.83	352.67
234			Pipe Encasement 18" DR U-Line - Pretreatment	8	cuyd	2,961.84	369.11
235			Pipe Encasement 30" RW U-Line - Pretreatment	27	cuyd	8,566.51	317.87
236			Stair Landing Slab On Grade 1 - Pretreatment	6.1	cuyd	3,449.23	568.55
237			Stair Landing Slab On Grade 2 - Pretreatment	6.1	cuyd	3,313.89	544.15
238	3000		Concrete Total	1	Isum	4,719,711.25	4,719,711.25
239	5000		5000 - Steel				
240			Grating - Pretreatment	1,307.00	sqft	57,066.00	43.66
241			Handrailing - Pretreatment	2,133.00	lnft	206,901.00	97
242			Ladder - Pretreatment	2	ea	1,632.00	816
243			Stairs 1 - Pretreatment	1	each	39,144.00	39,144.00
244			Stairs 2 - Pretreatment	1	each	29,856.00	29,856.00
245	5000		Steel Total	1	Isum	334,599.00	334,599.00
246	7000		7000 - Thermal and Moisture Protection				
247			Roofing - Pretreatment	12,450.00	sqft	224,100.00	18
248	7000		Thermal and Moisture Protection Total	1	Isum	224,100.00	224,100.00
249	8000		8000 - Doors & Windows				
250			Double Door - Pretreatment	2	ea	17,780.00	8,890.00
251			Single Door - Pretreatment	2	ea	9,600.00	4,800.00
252	8000		Doors & Windows Total	1	Isum	27,380.00	27,380.00
253	9000		9000 - Finishes				
254			Painting Pipe - Pretreatment	833	sqft	6,129.30	7.36
255	9000		Finishes Total	1	Isum	6,129.30	6,129.30
256	11000		11000 - Equipment				
257			Chain and Flight Sludge Collector - Pretreatment	4	each	870,846.84	217,711.71
258			Inclined Parallel Plate Settler System - Pretreatment	4	each	3,133,642.00	783,410.50
259			Inline Static Mixers - Pretreatment	2	each	77,484.00	38,742.00
260			Plate Cover Clear-Span Handrails - Pretreatment	1	Isum	172,800.00	172,800.00
261			Plate Settler Covers - Pretreatment	1	Isum	630,500.00	630,500.00
262			Rotating Foam Skimmers - Pretreatment	1	Isum	694,000.00	694,000.00
263			Slide Gates Surface Mounted - Pretreatment	12	each	151,984.70	12,665.39
264			Streaming Current Monitor - Pretreatment	2	each	26,144.00	13,072.00
265			Submersible Pumps - Pretreatment	1	each	8,957.60	8,957.60
266			Vertical Mixer - Pretreatment	12	each	487,160.00	40,596.67
267	11000		Equipment Total	1	Isum	6,253,519.15	6,253,519.15
268	15000		15000 - Mechanical				
269			ACH Lines - Pretreatment	115	lnft	5,203.75	45.25
270			Actuators (NEMA 4X) - Pretreatment	4	each	13,268.00	3,317.00
271			CWSA Lines - Pretreatment	102	lnft	4,921.50	48.25
272			Ductile Iron Piping 08" & 12" RS Line - Pretreatment	36	lnft	68,744.00	1,909.56

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273			Ductile Iron Piping 18" DR Line - Pretreatment	20	lnft	4,871.00	243.55
274			Ductile Iron Piping 30" RW Line - Pretreatment	96	lnft	384,128.40	4,001.34
275			Ductile Iron Piping 30" RW Line Meters - Pretreatment	2	ea	104,532.80	52,266.40
276			Ductile Iron Piping 48" BF Line - Pretreatment	3	lnft	7,609.00	2,536.33
277			Ductile Iron Piping 48" SW Line - Pretreatment	3	lnft	5,677.00	1,892.33
278			HVAC - Pretreatment	1	lsum	98,380.00	98,380.00
279			Plumbing - Pretreatment	1	lsum	6,750.00	6,750.00
280			PWW Lines - Pretreatment	350	lnft	35,087.50	100.25
281			Venturi Flow Meter - Pretreatment	2	ea	103,352.00	51,676.00
282	15000		Mechanical Total	1	lsum	842,524.95	842,524.95
283	16000		16000 - Electrical				
284			125A ATS - Pretreatment	1	lsum	16,200.00	16,200.00
285			45 kVA Transformer - Pretreatment	1	lsum	9,000.00	9,000.00
286			Disconnect Switches - Pretreatment	1	lsum	32,400.00	32,400.00
287			Duckbank & Grounding - Pretreatment	1	lsum	175,200.00	175,200.00
288			Instruments - Pretreatment	1	lsum	167,000.00	167,000.00
289			Junction Boxes, Equipment Stands, Misc. Electrical - Pretreatment	1	lsum	50,000.00	50,000.00
290			Lighting & Receptacle - Pretreatment	1	lsum	150,000.00	150,000.00
291			Lighting Panel - Pretreatment	1	lsum	6,000.00	6,000.00
292			Network CP, FO Equipment, programming, testing, training, installation - Pretreatment	1	lsum	36,000.00	36,000.00
293			SCADA PLC CP (and RIO(s)) hardware, fiber optic patch panels / patch cables - Pretreatment	1	lsum	78,000.00	78,000.00
294			SCADA PLC/OIT/RIO programming, VFD coordination, testing, training - Pretreatment	1	lsum	36,000.00	36,000.00
295			Wire & Conduit - Pretreatment	1	lsum	408,000.00	408,000.00
296	16000		Electrical Total	1	lsum	1,163,800.00	1,163,800.00
297		190	Pretreatment Total	1	lsum	15,406,277.17	15,406,277.17
298		200	200 - Membrane Filtration				
299	1000		1000 - General Conditions				
300			Membrane Pilot Study - Membrane Building	1	ea	250,000.00	250,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
301	1000		General Conditions Total	1	Isum	250,000.00	250,000.00
302	2000		2000 - Sitework				
303			Demo Existing Piping - Membrane Building	930	lnft	83,460.00	89.74
304			Demolition Concrete for Sump Pits & Trench - Membrane Building	100	sqft	2,978.72	29.79
305			Demolition Filter Equipment - Membrane Building	5	each	124,625.00	24,925.00
306			Drilled Piers - Blower Bldg.	9	each	31,500.00	3,500.00
307			Drilled Piers NEU Tank - Membrane Building	16	ea	56,000.00	3,500.00
308			Drilled Piers Strainer - Membrane	12	each	42,000.00	3,500.00
309			Precast Inlet for Sump Pits - Membrane Building	4	each	21,848.90	5,462.23
310			Temporary MP Piping - Membrane Building	428	lnft	146,140.60	341.45
311			Temporary MF Piping - Membrane Building	102	lnft	51,051.40	500.5
312			Temporary Permeate Piping - Membrane Building	80	lnft	28,456.00	355.7
313	2000		Sitework Total	1	Isum	588,060.62	588,060.62
314	2001		2001 - Underground Piping				
315			Delivery Area 03" DR Line - Membrane Building	40	lnft	5,404.14	135.1
316			Delivery Area Inlet Drain - Membrane Building	3	each	12,549.30	4,183.10
317	2001		Underground Piping Total	1	Isum	17,953.44	17,953.44
318	3000		3000 - Concrete				
319			Concrete Fill for Membranes - Membrane Building	110	cuyd	66,031.68	600.44
320			Containment Walls - Membrane Building	21	cuyd	20,358.17	971.4
321			Curb - Membrane Building	235	lnft	14,100.00	60
322			Delivery Area 4" Sidewalk - Membrane Building	4.1	cuyd	2,731.79	658.56
323			Delivery Area Paving - Membrane Building	41.5	cuyd	14,436.14	348.01
324			Drill & Epoxy Dowels Containment Walls - Membrane Building	285	each	2,948.06	10.34
325			Drill & Epoxy Dowels for Sump Pits and Trench Drain - Membrane Building	100	each	1,034.41	10.34
326			Equipment Pads (2)Octagons - Membrane Building	73	cuyd	38,919.12	533.29
327			Equipment Pads Bulk Tank (4) - Membrane Building	5.6	cuyd	4,441.10	793.05
328			Equipment Pads Pumps (4) - Membrane Building	11.2	cuyd	9,636.96	860.44
329			Equipment Pads Strainer (3) - Membrane Building	1.9	cuyd	2,394.64	1,258.86
330			Foundation Slab Blower - Membrane Building	54	cuyd	53,994.03	999.96
331			Foundation Slab NEU Tank - Membrane Building	35.6	cuyd	34,550.53	971.33
332			Foundation Slab Strainer - Membrane Building	72	cuyd	71,593.99	994.43
333			Precast Wall Blower - Membrane	1	each	280,000.00	280,000.00
334			Repair Concrete Floor for Sump Pits and Trench Drain - Membrane Building	2.6	cuyd	2,796.63	1,078.70
335			Walls NEU Tank - Membrane Building	24.7	cuyd	35,352.73	1,429.61
336	3000		Concrete Total	1	Isum	655,319.99	655,319.99
337	4000		4000 - Masonry				
338			Masonry Block - Membrane Building	2,024.00	sqft	62,884.00	31.07
339			Masonry Block NEU Tank - Membrane Building	880	sqft	27,340.87	31.07
340			Reinforced 12" Concrete Masonry Unit Screening Wall - Membrane Building	902	sqft	28,024.39	31.07
341	4000		Masonry Total	1	Isum	118,249.26	118,249.26
342	5000		5000 - Steel				
343			FRP Covers - Membrane Building	300	sqft	19,498.71	65
344			Metal Support System - Membrane Building	1	ea	118,000.00	118,000.00
345	5000		Steel Total	1	Isum	137,498.71	137,498.71
346	8000		8000 - Doors & Windows				
347			Double Fiberglass Door - Membrane Building	1	ea	8,760.00	8,760.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
348			Fiberglass Door - Membrane Building	2	ea	9,600.00	4,800.00
349			Fiberglass Door Blower - Membrane	2	ea	9,600.00	4,800.00
350			Overhead Door Blower - Membrane	1	ea	24,000.00	24,000.00
351	8000		Doors & Windows Total	1	lsum	51,960.00	51,960.00
352	9000		9000 - Finishes				
353			Concrete Sealer Blower - Membrane	800	sqft	3,200.00	4
354			Floor Coatings - Membrane Building	8,775.00	sqft	212,496.00	24.22
355			Metal Studs & Drywall - Membrane Building	1,480.00	sqft	47,360.00	32
356			Painting Building - Membrane Building	8,595.00	sqft	51,570.00	6
357			Painting Pipe - Membrane Building	950	sqft	6,990.20	7.36
358			Painting Pipe - Membrane Building	3,405.00	sqft	25,054.36	7.36
359	9000		Finishes Total	1	lsum	346,670.56	346,670.56
360	10000		10000 - Specialties				
361			Fire Extinguishers in Cabinets Blower - Membrane	1	each	320	320
362	10000		Specialties Total	1	lsum	320	320
363	11000		11000 - Equipment				
364			Neutralization Waste Tank - Membrane Building	1	each	7,882.28	7,882.28
365			2" Nilcor series 410 actuated valves - Membrane Building	4	each	20,936.00	5,234.00
366			Air Receiver - Membrane Building	2	each	7,916.48	3,958.24
367			Air Scour Blowers - Membrane Building	2	each	13,275.04	6,637.52
368			Backwash Pumps - Membrane Building	2	each	7,581.00	3,790.50
369			CA Metering Pumps - Membrane Building	1	each	5,334.30	5,334.30
370			CA Tank - Membrane Building	1	each	61,722.92	61,722.92
371			CIA Feed Pump Pumps - Membrane Building	1	each	5,334.30	5,334.30
372			CIA Tank - Membrane Building	1	each	45,982.92	45,982.92
373			CIP Pumps - Membrane Building	2	each	7,063.08	3,531.54
374			CIP Tank - Membrane Building	1	each	7,882.28	7,882.28
375			Drain Pumps - Membrane Building	2	each	6,130.00	3,065.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
376			HA/SA Metering Pumps - Membrane Building	1	each	5,334.30	5,334.30
377			HA/SA Tank - Membrane Building	1	each	49,407.92	49,407.92
378			Membrane Filtration Installation - Membrane Building	5	each	67,483.75	13,496.75
379			Neutralization Waste Pumps - Membrane Building	2	each	7,063.08	3,531.54
380			Permeate Pumps - Membrane Building	5	each	19,802.96	3,960.59
381			SBS Metering Pumps - Membrane Building	1	each	5,334.30	5,334.30
382			SBS Tank - Membrane Building	1	each	61,317.92	61,317.92
383			SH Metering Pumps - Membrane Building	1	each	2,701.60	2,701.60
384			SH Tank - Membrane Building	1	each	48,207.92	48,207.92
385			Sump Pumps - Membrane Building	4	each	62,258.00	15,564.50
386	11000		Equipment Total	1	Isum	525,952.34	525,952.34
387	15000		15000 - Mechanical				
388			AA Piping - Membrane Building	335	Inft	45,430.00	135.61
389			Actuators (NEMA 4X) - Membrane Building	7	each	22,750.00	3,250.00
390			BW Piping - Membrane Building	184	Inft	192,364.80	1,045.46
391			Chemical Piping - Membrane Building	1,200.00	Inft	88,096.00	73.41
392			CIP Piping - Membrane Building	332	Inft	111,455.20	335.71
393			HVAC - Membrane Building	1	Isum	350,790.00	350,790.00
394			HVAC Blower - Membrane Building	1	Isum	82,656.00	82,656.00
395			MF Piping - Membrane Building	102	Inft	180,762.80	1,772.18
396			MP Piping - Membrane Building	463	Inft	465,830.60	1,006.11
397			Plumbing - Membrane Building	1	Isum	154,310.00	154,310.00
398			Small Piping Strainer - Lake PS	70	Inft	38,500.00	550
399			Sprinkler System & Alarm- Membrane Building	1	Isum	46,800.00	46,800.00
400			SW Piping - Membrane Building	80	Inft	195,944.00	2,449.30
401			Temporary MP Piping - Membrane Building	428	Inft	52,917.25	123.64
402			Temporary MF Piping - Membrane Building	102	Inft	52,917.25	518.8
403			Temporary Permeate Piping - Membrane Building	80	Inft	42,917.25	536.47
404	15000		Mechanical Total	1	Isum	2,124,441.15	2,124,441.15
405	16000		16000 - Electrical				
406			225A ATS - Membrane Building	1	Isum	18,000.00	18,000.00
407			75 kVA Transformer - Membrane Building	1	Isum	13,200.00	13,200.00
408			Duckbank & Grounding - Membrane Building	1	Isum	264,000.00	264,000.00
409			Instruments - Membrane Building	1	Isum	103,000.00	103,000.00
410			Lighting & Receptacle - Membrane Building	1	Isum	36,000.00	36,000.00
411			Lighting Panel - Membrane Building	1	Isum	12,000.00	12,000.00
412			Misc. Electrical - Membrane Building	1	Isum	130,000.00	130,000.00
413			Network CP, FO Equipment, programming, testing, training, installation - Membrane Building	1	Isum	43,000.00	43,000.00
414			Wire & Conduit - Membrane Building	1	Isum	870,000.00	870,000.00
415	16000		Electrical Total	1	Isum	1,489,200.00	1,489,200.00
416		200	Membrane Filtration Total	1	Isum	6,305,626.08	6,305,626.08
417		205	205 - Backwash Waste Pump Station				
418	2000		2000 - Sitework				
419			Excavation - Backwash Waste PS	451	cuyd	55,926.71	124.01
420	2000		Sitework Total	1	Isum	55,926.71	55,926.71
421	3000		3000 - Concrete				

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
422			Foundation Slab - Backwash Waste PS	18.3	cuyd	14,374.05	784.35
423			Grout Fill - Backwash Waste PS	11	cuyd	3,853.90	350.35
424			SOG - Backwash Waste PS	7.8	cuyd	5,327.84	685.01
425			Walls - Backwash Waste PS	83.7	cuyd	106,288.25	1,270.48
426	3000		Concrete Total	1	lsum	129,844.04	129,844.04
427	5000		5000 - Steel				
428			Grating - Backwash Waste PS	314	sqft	4,861.57	15.48
429			Hatch - Backwash Waste PS	2	ea	5,244.32	2,622.16
430			Misc Framing - Backwash Waste PS	1	ea	9,998.00	9,998.00
431	5000		Steel Total	1	lsum	20,103.89	20,103.89
432	11000		11000 - Equipment				
433			Submersible Pumps - Backwash Waste PS	2	each	6,848.71	3,424.36
434	11000		Equipment Total	1	lsum	6,848.71	6,848.71
435	14000		14000 - Conveying Systems				
436			Jib Crane - Backwash Waste PS	1	ea	8,000.00	8,000.00
437	14000		Conveying Systems Total	1	lsum	8,000.00	8,000.00
438	15000		15000 - Mechanical				
439			16" BWV Piping - Backwash Waste PS	110	lnft	43,941.00	399.46
440	15000		Mechanical Total	1	lsum	43,941.00	43,941.00
441		205	Backwash Waste Pump Station Total	1	lsum	264,664.36	264,664.36
442		340	340 - Chlorine Contact Basin				
443	2000		2000 - Sitework				
444			Backfill - CCB	222	cuyd	10,643.10	47.94
445			Drilled Piers - CCB	86	ea	301,000.00	3,500.00
446			Excavation to Waste - CCB	1,463.00	cuyd	17,034.20	11.64
447			Subgrade Material - CCB	5,586.00	sqft	79,349.13	14.2
448	2000		Sitework Total	1	lsum	408,026.42	408,026.42
449	3000		3000 - Concrete				
450			12" Walls <20' - CCB	746.1	cuyd	950,821.91	1,274.34

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
451			12" Walls >20' - CCB	7.7	cuyd	13,093.81	1,701.19
452			28" Foundation Slab - CCB	458.8	cuyd	362,033.84	789.14
453			Elevated Concrete Slab - CCB	207.4	cuyd	150,691.56	726.51
454			Leak Testing - CCB	1	each	2,334.00	2,334.00
455			Pipe Encasement 48" MP U-Line - CCB	25.2	cuyd	7,828.36	310.28
456			Stair Slab - CCB	14.8	cuyd	12,602.50	850.47
457	3000		Concrete Total	1	Isum	1,499,405.99	1,499,405.99
458	5000		5000 - Steel				
459			Bulkhead- CCB	16	sqft	1,094.80	68.42
460			Hatch - CCB	7	each	16,800.00	2,400.00
461			Weir Plates - CCB	26.3	sqft	1,326.30	50.35
462	5000		Steel Total	1	Isum	19,221.10	19,221.10
463	9000		9000 - Finishes				
464			Coatings - CCB	3,766.00	sqft	67,788.00	18
465	9000		Finishes Total	1	Isum	67,788.00	67,788.00
466	11000		11000 - Equipment				
467			CL17sc Online Analyzer - CCB	1	each	3,239.00	3,239.00
468			pH Analyzer - CCB	1	each	1,726.00	1,726.00
469			Portable Submersible Sump Pumps - CCB	2	each	11,859.33	5,929.67
470			Sample Pump w control panel - CCB	2	each	45,409.33	22,704.67
471	11000		Equipment Total	1	Isum	62,233.67	62,233.67
472	15000		15000 - Mechanical				
473			Ductile Iron Piping 48" Line - CCB	3	lnft	22,827.00	7,609.00
474			Flap Gates - CCB	2	lnft	75,518.56	37,759.28
475	15000		Mechanical Total	1	Isum	98,345.56	98,345.56
476	16000		16000 - Electrical				
477			Electrical - CCB	1	Isum	12,000.00	12,000.00
478			Instruments - CCB	1	Isum	6,000.00	6,000.00
479	16000		Electrical Total	1	Isum	18,000.00	18,000.00
480		340	Chlorine Contact Basin Total	1	Isum	2,173,020.74	2,173,020.74
481		345	345 - Existing High Service Pump Station				
482	2000		2000 - Sitework				
483			Demo / Building Modifications	1	Isum	32,278.88	32,278.88
484			Demo Existing Piping - Existing HPSP	185	lnft	16,602.26	89.74
485			Drilled Piers - Existing HSPS	5	ea	40,000.00	8,000.00
486			Plug Existing 36" - Existing HSPS	1	ea	4,200.00	4,200.00
487			Trench Backfill and Compaction - Existing HSPS	250	cuyd	6,750.00	27
488			Trench Excavation - Existing HSPS	130	lnft	1,300.00	10
489	2000		Sitework Total	1	Isum	101,131.13	101,131.13
490	3000		3000 - Concrete				
491			Concrete Equipment & Pipe Supports - Existing HSPS	15.3	cuyd	26,976.25	1,759.21
492	3000		Concrete Total	1	Isum	26,976.25	26,976.25
493	9000		9000 - Finishes				
494			Painting Pipe - Existing HSPS	879	sqft	10,862.78	12.36
495	9000		Finishes Total	1	Isum	10,862.78	10,862.78
496	11000		11000 - Equipment				
497			Rotate and Reinstall Vertical Turbine Pumps - Existing HSPS	3	each	101,252.88	33,750.96

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
498	11000		Equipment Total	1	Isum	101,252.88	101,252.88
499	15000		15000 - Mechanical				
500			16" & 24" FW Line - Existing HSPS	265	Inft	889,330.85	3,355.97
501	15000		Mechanical Total	1	Isum	889,330.85	889,330.85
502	16000		16000 - Electrical				
503			750 kVA Transformer - Existing HSPS	1	Isum	84,000.00	84,000.00
504			Duckbank & Grounding - Existing HSPS	1	Isum	12,000.00	12,000.00
505			Misc. Electrical - Existing HSPS	1	Isum	60,000.00	60,000.00
506			Network CP, FO Equipment, programming, testing, training, installation - HSPS	1	Isum	52,500.00	52,500.00
507			SCADA PLC CP (and RIO(s)) hardware, fiber optic patch panels / patch cables - Existing HSPS	1	Isum	64,000.00	64,000.00
508			SCADA PLC/OIT/RIO programming, VFD coordination, testing, training - Existing HSPS	1	Isum	33,000.00	33,000.00
509			Wire & Conduit - Existing HSPS	1	Isum	90,000.00	90,000.00
510	16000		Electrical Total	1	Isum	395,500.00	395,500.00
511		345	Existing High Service Pump Station Total	1	Isum	1,525,053.89	1,525,053.89
512		346	346 - High Service Pump Station #2				
513	2000		2000 - Sitework				
514			Drilled Piers - HSPS	1,400.00	Inft	280,000.00	200
515			Excavation Support System - HSPS	500	sqft	32,500.00	65
516			Excavation Support System at Cans- HSPS	1,260.00	sqft	81,900.00	65
517			Excavation to Waste - HSPS	2,033.00	cuyd	24,608.72	12.1
518			Import Materials - Structural Backfill - HSPS	876	cuyd	24,710.32	28.21
519			Import Materials - Subgrade - HSPS	2,350.10	ton	126,278.82	53.73
520			Remove Excavation Support System - HSPS	500	sqft	10,000.00	20
521			Remove Excavation Support System at Cans- HSPS	1,260.00	sqft	25,200.00	20
522	2000		Sitework Total	1	Isum	605,197.86	605,197.86
523	2001		2001 - Underground Piping				
524			24" Suction Line - HSPS	90	Inft	29,531.90	328.13
525			Drain Pump Station - HSPS	1	each	21,519.95	21,519.95

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
526	2001		Underground Piping Total	1	Isum	51,051.85	51,051.85
527	3000		3000 - Concrete				
528			12" Foundation Slab - HSPS	214.2	cuyd	135,510.24	632.63
529			12" Vault Walls - HSPS	11.4	cuyd	12,112.81	1,061.29
530			Concrete Equipment & Pipe Supports - HSPS	12.8	cuyd	17,925.23	1,402.76
531			Pipe Encasement 24" Suction Line - HSPS	47.8	cuyd	14,151.03	296.09
532	3000		Concrete Total	1	Isum	179,699.31	179,699.31
533	4000		4000 - Masonry				
534			Masonry Block - HSPS	1,340.00	sqft	34,840.00	26
535			Masonry Brick - HSPS	900	sqft	14,400.00	16
536	4000		Masonry Total	1	Isum	49,240.00	49,240.00
537	5000		5000 - Steel				
538			Grating - HSPS	64	sqft	904.67	14.14
539	5000		Steel Total	1	Isum	904.67	904.67
540	7000		7000 - Thermal and Moisture Protection				
541			Roofing - HSPS	2,904.00	sqft	52,272.00	18
542	7000		Thermal and Moisture Protection Total	1	Isum	52,272.00	52,272.00
543	8000		8000 - Doors & Windows				
544			Double Door & Frame - HSPS	1	each	10,135.00	10,135.00
545			Overhead Door - HSPS	1	each	24,000.00	24,000.00
546			Single Door & Frame - HSPS	4	each	18,320.00	4,580.00
547	8000		Doors & Windows Total	1	Isum	52,455.00	52,455.00
548	9000		9000 - Finishes				
549			Concrete Sealer - HSPS	2,904.00	sqft	11,616.00	4
550			Painting Building - HSPS	6,204.00	sqft	37,224.00	6
551			Painting Pipe - HSPS	640	sqft	4,709.19	7.36
552	9000		Finishes Total	1	Isum	53,549.19	53,549.19
553	10000		10000 - Specialties				
554			Fire Extinguishers in Cabinets - HSPS	4	each	1,280.00	320
555			Interior Signage - HSPS	4	each	2,720.00	680
556	10000		Specialties Total	1	Isum	4,000.00	4,000.00
557	11000		11000 - Equipment				
558			Vertical Turbine Pumps - HSPS	2	each	1,093,180.29	546,590.15
559	11000		Equipment Total	1	Isum	1,093,180.29	1,093,180.29
560	13000		13000 - Special Construction				
561			Flow Meter Valves - HSPS	1	ea	25,500.00	25,500.00
562			PEMB - HSPS	2,904.00	sqft	217,800.00	75
563	13000		Special Construction Total	1	Isum	243,300.00	243,300.00
564	15000		15000 - Mechanical				
565			18" & 24" FW & Valves - HSPS	410	lnft	769,492.52	1,876.81
566			Control Valve - HSPS	2	ea	168,000.00	84,000.00
567			HVAC - HSPS	1	Isum	158,440.00	158,440.00
568			Plumbing - HSPS	1	Isum	30,450.00	30,450.00
569			Pump Cans - HSPS	40	lnft	96,400.00	2,410.00
570	15000		Mechanical Total	1	Isum	1,222,782.52	1,222,782.52
571	16000		16000 - Electrical				
572			45 kVA Transformer - HSPS	1	Isum	9,000.00	9,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
573			480V Switchboard, 300 HP AFD, 225A ATS- HSPS	1	Isum	579,000.00	579,000.00
574			Duckbank & Grounding - HSPS	1	Isum	102,000.00	102,000.00
575			Instruments - HSPS	1	Isum	82,000.00	82,000.00
576			Lighting & Receptacle - HSPS	1	Isum	54,000.00	54,000.00
577			Lighting Panel - HSPS	1	Isum	6,000.00	6,000.00
578			Misc. Electrical - HSPS	1	Isum	50,000.00	50,000.00
579			Network CP, FO Equipment, programming, testing, training, installation - HSPS	2	Isum	53,000.00	26,500.00
580			SCADA PLC CP (and RIO(s)) hardware, fiber optic patch panels / patch cables - HSPS	1	Isum	105,000.00	105,000.00
581			SCADA PLC/OIT/RIO programming, VFD coordination, testing, training - HSPS	1	Isum	35,000.00	35,000.00
582			Wire & Conduit - HSPS	1	Isum	187,500.00	187,500.00
583	16000		Electrical Total	1	Isum	1,262,500.00	1,262,500.00
584		346	High Service Pump Station #2 Total	1	Isum	4,870,132.70	4,870,132.70
585		350	350 - Chemical Facilities				
586	2000		2000 - Sitework				
587			Backfill Structural Fill - Chemical Facilities	1,376.60	cuyd	40,518.51	29.43
588			Drilled Piers - Chemical Facilities	83	ea	290,500.00	3,500.00
589			Excavation to Waste - Chemical Facilities	3,933.00	cuyd	49,202.66	12.51
590	2000		Sitework Total	1	Isum	380,221.17	380,221.17
591	2001		2001 - Underground Piping				
592			Building DR Line - Chemical Facilities	255	Inft	33,223.77	130.29
593			Building Inlet Drain - Chemical Facilities	3	each	12,549.30	4,183.10
594			Delivery Area 04" DR Line - Chemical Facilities	45	Inft	6,051.11	134.47
595			Delivery Area Inlet Drain - Chemical Facilities	3	each	12,549.30	4,183.10
596	2001		Underground Piping Total	1	Isum	64,373.48	64,373.48
597	3000		3000 - Concrete				
598			Curb - Chemical Facilities	300	Inft	18,000.00	60
599			Equipment Pads (5) Octagons - Chemical Facilities	152.4	cuyd	85,175.60	558.73
600			Foundation Slab - Chemical Facilities	359.1	cuyd	315,963.67	879.88

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
601			Hollow Core 8" - Chemical Facilities	2,600.00	sqft	61,013.26	23.47
602			Walls - Chemical Facilities	96.7	cuyd	101,089.94	1,045.44
603	3000		Concrete Total	1	lsum	581,242.47	581,242.47
604	4000		4000 - Masonry				
605			Masonry Block - Chemical Facilities	6,154.00	sqft	221,544.00	36
606	4000		Masonry Total	1	lsum	221,544.00	221,544.00
607	5000		5000 - Steel				
608			Bollards - Chemical Facility	26	each	17,334.20	666.7
609			Containment FRP Platforms - Chemical Facilities	1	lsum	15,000.00	15,000.00
610			Grating - Chemical Facilities	455	sqft	10,031.50	22.05
611			Handrailing - Chemical Facilities	380	lnft	35,036.00	92.2
612			Ladder - Chemical Facilities	1	ea	5,256.00	5,256.00
613			Miscellaneous Steel Framing - Chemical Facilities	5,000.00	lbs	25,000.00	5
614	5000		Steel Total	1	lsum	107,657.70	107,657.70
615	7000		7000 - Thermal and Moisture Protection				
616			Roofing - Chemical Facilities	2,600.00	sqft	62,400.00	24
617	7000		Thermal and Moisture Protection Total	1	lsum	62,400.00	62,400.00
618	8000		8000 - Doors & Windows				
619			Double Door & Frame - Chemical Facilities	5	each	50,675.00	10,135.00
620			Fiberglass Door - Chemical Facilities	3	ea	14,400.00	4,800.00
621	8000		Doors & Windows Total	1	lsum	65,075.00	65,075.00
622	9000		9000 - Finishes				
623			Concrete Sealer - Chemical Facilities	600	sqft	8,972.00	14.95
624			Floor Coatings - Chemical Facilities	7,200.00	sqft	129,808.26	18.03
625			Painting Building - Chemical Facilities	11,367.00	sqft	68,202.00	6
626			Painting Pipe - Chemical Facilities	1,050.00	sqft	7,726.01	7.36
627	9000		Finishes Total	1	lsum	214,708.28	214,708.28
628	10000		10000 - Specialties				
629			Fire Extinguishers in Cabinets - Chemical Facilities	5	each	1,600.00	320
630			Signage - Chemical Facilities	5	each	3,400.00	680
631	10000		Specialties Total	1	lsum	5,000.00	5,000.00
632	11000		11000 - Equipment				
633			2" Nilcor series 410 actuated valves - Chemical Facilities	6	each	170,904.00	28,484.00
634			ACH Feed Pumps - Chemical Facilities	2	each	86,252.70	43,126.35
635			ACH Tank - Chemical Facilities	2	each	105,144.16	52,572.08
636			LAS Pumps - Chemical Facilities	1	each	33,563.85	33,563.85
637			LAS Tank - Chemical Facilities	1	each	46,938.30	46,938.30
638			SH Tank - Chemical Facilities	2	each	106,725.16	53,362.58
639			SH Transfer Pumps - Chemical Facilities	2	each	102,707.30	51,353.65
640			Sump Pumps - Chemical Facilities	3	each	37,230.00	12,410.00
641	11000		Equipment Total	1	lsum	689,465.46	689,465.46
642	13000		13000 - Special Construction				
643			Canopy - Chemical Facilities	1,500.00	sqft	90,000.00	60
644	13000		Special Construction Total	1	lsum	90,000.00	90,000.00
645	15000		15000 - Mechanical				
646			Actuators (NEMA 4X) - Chemical Facilities	14	each	46,438.00	3,317.00
647			Chemical Piping - Chemical Facilities	2,086.00	lnft	134,102.40	64.29

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
648			HVAC - Chemical Facilities	1	Isum	323,080.00	323,080.00
649			Plumbing - Chemical Facilities	1	Isum	211,940.00	211,940.00
650	15000		Mechanical Total	1	Isum	715,560.40	715,560.40
651	16000		16000 - Electrical				
652			125A ATS - Chemical Facilities	1	Isum	16,200.00	16,200.00
653			45 kVA Transformer - Chemical Facilities	1	Isum	9,000.00	9,000.00
654			Duckbank & Grounding - Chemical Facilities	1	Isum	48,000.00	48,000.00
655			Instruments - Chemical Facilities	1	Isum	82,000.00	82,000.00
656			Lighting & Receptacle - Chemical Facilities	1	Isum	158,400.00	158,400.00
657			Lighting Panel - Chemical Facilities	1	Isum	12,000.00	12,000.00
658			Misc. Electrical - Chemical Facilities	1	Isum	75,000.00	75,000.00
659			Network CP, FO Equipment, programming, testing, training, installation - Chemical Facilities	1	Isum	53,000.00	53,000.00
660			New redundant fiber optic cable - Chemical Facilities	1	Isum	7,400.00	7,400.00
661			SCADA PLC CP (and RIO(s)) hardware, fiber optic patch panels / patch cables - Chemical Facilities	1	Isum	105,000.00	105,000.00
662			SCADA PLC/OIT/RIO programming, VFD coordination, testing, training - Chemical Facilities	1	Isum	35,000.00	35,000.00
663			Wire & Conduit - Chemical Facilities	1	Isum	402,000.00	402,000.00
664	16000		Electrical Total	1	Isum	1,003,000.00	1,003,000.00
665		350	Chemical Facilities Total	1	Isum	4,200,247.96	4,200,247.96
666		400	400 - Raw Sludge Pump Station				
667	2000		2000 - Sitework				
668			Excavation - Raw Sludge PS	165.3	cuyd	22,160.34	134.03
669	2000		Sitework Total	1	Isum	22,160.34	22,160.34
670	3000		3000 - Concrete				
671			Foundation Slab - Raw Sludge PS	8.8	cuyd	6,039.37	686.55
672			Grout Fill - Raw Sludge PS	6	cuyd	2,111.60	351.93
673			SOG - Raw Sludge PS	5.8	cuyd	3,333.21	571.41
674			Walls - Raw Sludge PS	48.5	cuyd	62,463.49	1,287.41
675	3000		Concrete Total	1	Isum	73,947.67	73,947.67

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
676	5000		5000 - Steel				
677			Grating - Raw Sludge PS	113	sqft	2,020.13	17.88
678			Hatch - Raw Sludge PS	3	ea	7,866.48	2,622.16
679			Misc Framing - Raw Sludge PS	1	ea	4,999.00	4,999.00
680	5000		Steel Total	1	lsum	14,885.61	14,885.61
681	11000		11000 - Equipment				
682			Submersible Pumps - Raw Sludge PS	3	each	63,375.39	21,125.13
683	11000		Equipment Total	1	lsum	63,375.39	63,375.39
684	14000		14000 - Conveying Systems				
685			Jib Crane - Raw Sludge PS	1	ea	8,000.00	8,000.00
686	14000		Conveying Systems Total	1	lsum	8,000.00	8,000.00
687	15000		15000 - Mechanical				
688			8" RS & Valves - Raw Sludge PS	98	lnft	82,442.40	841.25
689	15000		Mechanical Total	1	lsum	82,442.40	82,442.40
690		400	Raw Sludge Pump Station Total	1	lsum	264,811.41	264,811.41
691		450	450 - Raw Sludge Thickener				
692	2000		2000 - Sitework				
693			Drilled Piers - Sludge Thickener	128	ea	448,000.00	3,500.00
694			Excavation to Waste - Sludge Thickeners	20,920.80	cuyd	228,529.00	10.92
695			Import Materials - Structural Backfill - Sludge Thickeners	9,204.00	cuyd	256,174.63	27.83
696			Import Materials - Subgrade - Sludge Thickeners	4,639.70	ton	271,475.41	58.51
697	2000		Sitework Total	1	lsum	1,204,179.04	1,204,179.04
698	2001		2001 - Underground Piping				
699			RS Line from RS Splitter Box to ST - Sludge Thickener #1	30	lnft	11,055.75	368.52
700			RS Line from RS Splitter Box to ST - Sludge Thickener #2	30	lnft	11,055.75	368.52
701			TS Line under ST - Sludge Thickeners #1	45	lnft	11,306.29	251.25
702			TS Line under ST - Sludge Thickeners #2	45	lnft	11,306.29	251.25
703	2001		Underground Piping Total	1	lsum	44,724.08	44,724.08
704	3000		3000 - Concrete				
705			12" Elevated Launder Slab - Sludge Thickeners #1	23.6	cuyd	37,564.80	1,592.13
706			12" Elevated Launder Slab - Sludge Thickeners #2	23.6	cuyd	37,564.80	1,592.13
707			20" Walls - Sludge Thickeners #1	249.8	cuyd	210,441.35	842.5
708			20" Walls - Sludge Thickeners #2	249.8	cuyd	210,441.35	842.5
709			4" Mud Slab - Sludge Thickeners #1	94.9	cuyd	24,341.64	256.43
710			4" Mud Slab - Sludge Thickeners #2	94.9	cuyd	24,341.64	256.43
711			8" Launder Wall - Sludge Thickeners #1	16.2	cuyd	22,230.56	1,371.37
712			8" Launder Wall - Sludge Thickeners #2	16.2	cuyd	22,230.56	1,371.37
713			Center Pier Foundation - Sludge Thickeners #1	103.8	cuyd	51,334.42	494.74
714			Center Pier Foundation - Sludge Thickeners #2	103.8	cuyd	51,334.42	494.74
715			Concrete Pipe Encasement for TS Line - Sludge Thickener #1	7.7	cuyd	2,922.79	379.1
716			Concrete Pipe Encasement for TS Line - Sludge Thickeners #2	7.7	cuyd	2,922.79	379.1
717			Foundation Slab - Sludge Thickeners #1	443.1	cuyd	216,039.95	487.54
718			Foundation Slab - Sludge Thickeners #2	443.1	cuyd	216,039.95	487.54
719			Gang Form Setup - Sludge Thickeners #1	2,976.00	sqft	23,847.92	8.01
720			Gang Form Setup - Sludge Thickeners #2	2,976.00	sqft	23,847.92	8.01
721			Grout Fill/Fillets in Launder - Sludge Thickeners #1	3.1	cuyd	2,249.78	714.77
722			Grout Fill/Fillets in Launder - Sludge Thickeners #2	3.1	cuyd	2,249.78	714.77

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
723			Leak Testing - Sludge Thickeners #1	1	each	2,334.00	2,334.00
724			Leak Testing - Sludge Thickeners #2	1	each	2,334.00	2,334.00
725			Stair Landing Slab - Sludge Thickeners #1	3.9	cuyd	2,098.38	539.31
726			Stair Landing Slab - Sludge Thickeners #2	3.9	cuyd	2,098.38	539.31
727			Stair Support Slab - Sludge Thickeners #1	2.9	cuyd	1,702.50	583.72
728			Stair Support Slab - Sludge Thickeners #2	2.9	cuyd	1,702.50	583.72
729	3000		Concrete Total	1	lsum	1,194,216.18	1,194,216.18
730	5000		5000 - Steel				
731			Handrailing - Thickener	960	lnft	88,512.00	92.2
732			Stairs - Thickener	2	each	80,520.00	40,260.00
733	5000		Steel Total	1	lsum	169,032.00	169,032.00
734	11000		11000 - Equipment				
735			Equipment Crane Assembly - Sludge Thickeners #1	4	week	42,780.00	10,695.00
736			Equipment Crane Assembly - Sludge Thickeners #2	5	week	42,780.00	8,556.00
737			Thickener Equipment - Sludge Thickeners #1	1	each	282,882.15	282,882.15
738			Thickener Equipment - Sludge Thickeners #2	1	each	282,882.15	282,882.15
739	11000		Equipment Total	1	lsum	651,324.30	651,324.30
740	16000		16000 - Electrical				
741			125A ATS - GT	1	lsum	9,000.00	9,000.00
742			45 kVA Transformer - GT	1	lsum	6,000.00	6,000.00
743			Duckbank & Grounding - GT	1	lsum	168,000.00	168,000.00
744			Instruments - GT	1	lsum	148,000.00	148,000.00
745			Lighting & Receptacle - GT	1	lsum	96,000.00	96,000.00
746			Lighting Panel - GT	1	lsum	6,000.00	6,000.00
747			Misc. Electrical - GT	1	lsum	75,000.00	75,000.00
748			Network CP, FO Equipment, programming, testing, training, installation - GT	1	lsum	47,000.00	47,000.00
749			SCADA PLC CP (and RIO(s)) hardware, fiber optic patch panels / patch cables - GT	1	lsum	98,000.00	98,000.00
750			SCADA PLC/OIT/RIO programming, VFD coordination, testing, training - GT	1	lsum	34,000.00	34,000.00

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
751			Wire & Conduit - GT	1	Isum	216,000.00	216,000.00
752	16000		Electrical Total	1	Isum	903,000.00	903,000.00
753		450	Raw Sludge Thickener Total	1	Isum	4,166,475.60	4,166,475.60
754		452	452 - Thickened Sludge Pump Station				
755	2000		2000 - Sitework				
756			Excavation to Waste - Thickened Sludge PS	1,587.00	cuyd	20,004.44	12.61
757			Import Materials - Structural Backfill - Thickened Sludge PS	840	cuyd	23,683.71	28.19
758			Import Materials - Subgrade - Thickened Sludge PS	156	ton	8,637.78	55.37
759	2000		Sitework Total	1	Isum	52,325.93	52,325.93
760	2001		2001 - Underground Piping				
761			Ductile Iron Pipe 06" Sludge Line U-Line - Thickened Sludge PS	10	lnft	1,331.85	133.18
762	2001		Underground Piping Total	1	Isum	1,331.85	1,331.85
763	3000		3000 - Concrete				
764			12" Slab on Grade- Thickened Sludge PS	3.8	cuyd	2,863.05	757.42
765			14" Foundation Slab - Thickened Sludge PS	47	cuyd	24,000.22	511.08
766			14" Walls - Thickened Sludge PS	75.3	cuyd	110,517.04	1,467.69
767			20" Walls - Thickened Sludge PS	82.6	cuyd	81,500.92	986.23
768			4" Mud Slab - Thickened Sludge PS	6.5	cuyd	1,694.78	260
769			Grout Fill - Thickened Sludge PS	6.1	cuyd	2,017.59	330.98
770			Pipe Encasement Sludge Line - Thickened Sludge PS	0.2	cuyd	585.36	3,436.54
771	3000		Concrete Total	1	Isum	223,178.97	223,178.97
772	5000		5000 - Steel				
773			Grating - Thickened Sludge PS	16	sqft	337.96	21.12
774			Handrailing - Thickened Sludge PS	85	lnft	8,245.00	97
775			Ladder - Thickened Sludge PS	2	ea	4,152.00	2,076.00
776			Platform - Thickened Sludge PS	125	sqft	15,184.00	121.47
777	5000		Steel Total	1	Isum	27,918.96	27,918.96
778	9000		9000 - Finishes				
779			Painting Pipe - Thickened Sludge PS	227	sqft	1,670.29	7.36
780	9000		Finishes Total	1	Isum	1,670.29	1,670.29
781	11000		11000 - Equipment				
782			Progressive Cavity Pumps - Thickened Sludge PS	2	each	97,613.00	48,806.50
783			Sump Pumps - Thickened Sludge PS	2	each	29,707.78	14,853.89
784	11000		Equipment Total	1	Isum	127,320.78	127,320.78
785	14000		14000 - Conveying Systems				
786			Mono Rail - Thickened Sludge Pump Station	1	ea	18,600.00	18,600.00
787	14000		Conveying Systems Total	1	Isum	18,600.00	18,600.00
788	15000		15000 - Mechanical				
789			4" & 6" TS & Valves - Thickened Sludge PS	144	lnft	28,134.80	195.38
790			French Drain - Thickened Sludge PS	1	Isum	5,850.00	5,850.00
791			Sump Piping - Thickened Sludge PS	50	lnft	2,500.00	50
792	15000		Mechanical Total	1	Isum	36,484.80	36,484.80
793		452	Thickened Sludge Pump Station Total	1	Isum	488,831.58	488,831.58
794		455	455 - Backwash Waste Clarifier				
795	2000		2000 - Sitework				
796			Drilled Piers - Backwash Waste Clarifier	56	ea	196,000.00	3,500.00
797			Excavation to Waste - Backwash Waste Clarifier	12,552.50	cuyd	137,117.40	10.92

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
798			Import Materials - Structural Backfill - Backwash Waste Clarifier	5,522.40	cuyd	153,704.78	27.83
799			Import Materials - Subgrade - Backwash Waste Clarifier	2,783.80	ton	162,885.25	58.51
800	2000		Sitework Total	1	Isum	649,707.42	649,707.42
801	2001		2001 - Underground Piping				
802			Ductile Iron Pipe 10" BWWS U-Line - Backwash Waste Clarifier	50	Inft	6,864.95	137.3
803			Ductile Iron Pipe 12" BWWS U-Line - Backwash Waste Clarifier	50	Inft	8,105.97	162.12
804	2001		Underground Piping Total	1	Isum	14,970.92	14,970.92
805	3000		3000 - Concrete				
806			12" Elevated Launder Slab - Backwash Waste Clarifier	23.6	cuyd	37,564.80	1,592.13
807			12" Walls - Backwash Waste Clarifier	138.9	cuyd	146,385.68	1,053.61
808			24" Foundation Slab - Backwash Waste Clarifier	327.2	cuyd	159,547.99	487.54
809			4" Mud Slab - Backwash Waste Clarifier	94.9	cuyd	24,341.64	256.43
810			8" Launder Wall - Backwash Waste Clarifier	16.2	cuyd	22,230.56	1,371.37
811			Center Pier Foundation - Backwash Waste Clarifier	81.8	cuyd	46,830.26	572.36
812			Concrete Pipe Encasement for TS Line - Backwash Waste Clarifier	7.7	cuyd	2,922.79	379.1
813			Gang Form Setup & Tear Down - Backwash Waste Clarifier	2,976.00	sqft	23,847.92	8.01
814			Grout Fill/Fillets in Launder - Backwash Waste Clarifier	3.1	cuyd	2,249.78	714.77
815			Leak Testing - Backwash Waste Clarifier	1	each	2,334.00	2,334.00
816			Pipe Encasement 10" BWWS U-Line - Backwash Waste Clarifier	14.1	cuyd	5,704.96	404.22
817			Pipe Encasement 12" BWWS U-Line - Backwash Waste Clarifier	16	cuyd	6,187.29	386.61
818			Stair Landing Slab - Backwash Waste Clarifier	3.9	cuyd	2,098.38	539.31
819			Stair Support Slab - Backwash Waste Clarifier	2.9	cuyd	1,702.50	583.72
820	3000		Concrete Total	1	Isum	483,948.55	483,948.55
821	5000		5000 - Steel				
822			Stairs 1 - Backwash Waste Clarifier	1	each	38,248.00	38,248.00
823	5000		Steel Total	1	Isum	38,248.00	38,248.00
824	11000		11000 - Equipment				
825			Clarifier Equipment - Backwash Waste Clarifier	1	each	344,024.40	344,024.40

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Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
826			Clarifier Equipment Crane Assembly - Backwash Waste Clarifier	5.2	week	44,288.00	8,516.92
827	11000		Equipment Total	1	Isum	388,312.40	388,312.40
828	15000		15000 - Mechanical				
829			Ductile Iron Piping 12" SN Line - Backwash Waste Clarifier	40	Inft	9,493.00	237.32
830	15000		Mechanical Total	1	Isum	9,493.00	9,493.00
831		455	Backwash Waste Clarifier Total	1	Isum	1,584,680.29	1,584,680.29
832		458	458 - Recycle Pump Station				
833	2000		2000 - Sitework				
834			Excavation to Waste - Recycle PS	4,730.00	cuyd	52,451.20	11.09
835			Import Materials - Structural Backfill - Recycle PS	1,800.00	cuyd	51,060.03	28.37
836			Import Materials - Subgrade - Recycle PS	43.2	ton	3,828.86	88.63
837	2000		Sitework Total	1	Isum	107,340.10	107,340.10
838	3000		3000 - Concrete				
839			12" Elevated Slab - Recycle PS	16	cuyd	26,672.13	1,670.22
840			12" Walls - Recycle PS	58.9	cuyd	62,954.78	1,069.09
841			24" Foundation Slab - Recycle PS	24.4	cuyd	11,850.03	485.43
842			4" Mud Slab - Recycle PS	5.2	cuyd	1,323.10	256.39
843			8" Thickened Slab - Recycle PS	12.2	cuyd	5,390.09	441.61
844			Grout Fill/Fillets - Recycle PS	6.6	cuyd	3,996.17	607.35
845			Leak Testing - Recycle PS	1	each	1,800.40	1,800.40
846	3000		Concrete Total	1	Isum	113,986.70	113,986.70
847	5000		5000 - Steel				
848			Hatch - Recycle PS	3	ea	7,866.48	2,622.16
849	5000		Steel Total	1	Isum	7,866.48	7,866.48
850	9000		9000 - Finishes				
851			Painting Pipe - Recycle PS	153	sqft	1,125.79	7.36
852	9000		Finishes Total	1	Isum	1,125.79	1,125.79
853	11000		11000 - Equipment				
854			Submersible Pumps - Recycle PS	2	each	131,928.71	65,964.36
855	11000		Equipment Total	1	Isum	131,928.71	131,928.71
856	14000		14000 - Conveying Systems				
857			Jib Crane - Recycle Pump Station	1	ea	8,500.00	8,500.00
858	14000		Conveying Systems Total	1	Isum	8,500.00	8,500.00
859	15000		15000 - Mechanical				
860			Piping - Recycle PS	153	Inft	32,722.30	213.87
861	15000		Mechanical Total	1	Isum	32,722.30	32,722.30
862		458	Recycle Pump Station Total	1	Isum	403,470.08	403,470.08
863		551	551 - Pretreatment Electrical Building				
864	2000		2000 - Sitework				
865			Drilled Piers - Pretreatment Electrical Building	6	ea	42,000.00	7,000.00
866	2000		Sitework Total	1	Isum	42,000.00	42,000.00
867	3000		3000 - Concrete				
868			Foundation Slab - Pretreatment Electrical Building	62.2	cuyd	55,718.77	896.12
869			House Keeping Pad - Pretreatment Electrical Building	1.5	cuyd	2,335.95	1,601.80
870			Precast Wall - Pretreatment Electrical Building	1,100.00	sqft	160,176.00	145.61
871	3000		Concrete Total	1	Isum	218,230.73	218,230.73
872	7000		7000 - Thermal and Moisture Protection				

**100% Opinion of Probable Cost**  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
873			Roofing - Pretreatment Electrical Building	240	sqft	5,760.00	24
874	7000		Thermal and Moisture Protection Total	1	lsum	5,760.00	5,760.00
875	8000		8000 - Doors & Windows				
876			Fiberglass Door - Pretreatment Electrical Building	1	ea	4,800.00	4,800.00
877	8000		Doors & Windows Total	1	lsum	4,800.00	4,800.00
878	9000		9000 - Finishes				
879			Concrete Sealer - Pretreatment Electrical Building	240	sqft	960	4
880	9000		Finishes Total	1	lsum	960	960
881	10000		10000 - Specialties				
882			Canopy - Pretreatment Electrical Building	1,350.00	sqft	155,250.00	115
883			Fire Extinguishers in Cabinets - Pretreatment Electrical Building	1	each	320	320
884	10000		Specialties Total	1	lsum	155,570.00	155,570.00
885	15000		15000 - Mechanical				
886			HVAC - Pretreatment Electrical Building	1	lsum	31,180.00	31,180.00
887	15000		Mechanical Total	1	lsum	31,180.00	31,180.00
888		551	Pretreatment Electrical Building Total	1	lsum	458,500.73	458,500.73
889		552	552 - Membrane Electrical Building				
890	2000		2000 - Sitework				
891			Drilled Piers - Membrane Electrical Building	540	lnft	108,000.00	200
892	2000		Sitework Total	1	lsum	108,000.00	108,000.00
893	3000		3000 - Concrete				
894			Foundation Slab - Membrane Electrical Building	94.7	cuyd	53,869.64	569.05
895			House Keeping Pad - Membrane Electrical Building	1.5	cuyd	2,335.95	1,601.80
896			Precast Wall - Membrane Electrical Building	4,784.00	sqft	330,000.00	68.98
897	3000		Concrete Total	1	lsum	386,205.59	386,205.59
898	7000		7000 - Thermal and Moisture Protection				
899			Roofing - Membrane Electrical Building	1,000.00	sqft	24,000.00	24
900	7000		Thermal and Moisture Protection Total	1	lsum	24,000.00	24,000.00

**100% Opinion of Probable Cost**  
City of Pflugerville, TX  
Water Treatment Plant Expansion

Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
901	8000		8000 - Doors & Windows				
902			Double Door & Frame - Membrane Electrical Building	1	each	9,135.00	9,135.00
903			Fiberglass Door - Membrane Electrical Building	1	ea	4,800.00	4,800.00
904	8000		Doors & Windows Total	1	Isum	13,935.00	13,935.00
905	9000		9000 - Finishes				
906			Concrete Sealer - Membrane Electrical Building	1,000.00	sqft	4,000.00	4
907			Painting Building - Membrane Electrical Building	5,360.00	sqft	32,160.00	6
908	9000		Finishes Total	1	Isum	36,160.00	36,160.00
909	10000		10000 - Specialties				
910			Fire Extinguishers in Cabinets - Membrane Electrical Building	1	each	320	320
911	10000		Specialties Total	1	Isum	320	320
912	15000		15000 - Mechanical				
913			HVAC - Membrane Electrical Building	1	Isum	175,500.00	175,500.00
914	15000		Mechanical Total	1	Isum	175,500.00	175,500.00
915		552	Membrane Electrical Building Total	1	Isum	744,120.59	744,120.59
916		553	553 - Solids Handling Electrical Building				
917	2000		2000 - Sitework				
918			Drilled Piers - Solids Handling Electrical Building	336	lnft	67,200.00	200
919	2000		Sitework Total	1	Isum	67,200.00	67,200.00
920	3000		3000 - Concrete				
921			Foundation Slab - Solids Handling Electrical Building	51.8	cuyd	29,485.30	569.05
922			House Keeping Pad - Solids Handling Electrical Building	1.5	cuyd	2,335.95	1,601.80
923			Precast Wall - Solids Handling Electrical Building	2,060.00	sqft	125,950.00	61.14
924	3000		Concrete Total	1	Isum	157,771.25	157,771.25
925	7000		7000 - Thermal and Moisture Protection				
926			Roofing - Solids Handling Electrical Building	800	sqft	19,200.00	24
927	7000		Thermal and Moisture Protection Total	1	Isum	19,200.00	19,200.00
928	8000		8000 - Doors & Windows				
929			Fiberglass Door - Solids Handling Electrical Building	2	ea	9,600.00	4,800.00
930	8000		Doors & Windows Total	1	Isum	9,600.00	9,600.00
931	9000		9000 - Finishes				
932			Concrete Sealer - Solids Handling Electrical Building	800	sqft	3,200.00	4
933			Painting Building - Solids Handling Electrical Building	4,920.00	sqft	29,700.00	6.04
934	9000		Finishes Total	1	Isum	32,900.00	32,900.00
935	10000		10000 - Specialties				
936			Fire Extinguishers in Cabinets - Solids Handling Electrical Building	1	each	320	320
937	10000		Specialties Total	1	Isum	320	320
938	15000		15000 - Mechanical				
939			HVAC - Solids Handling Electrical Building	1	Isum	43,650.00	43,650.00
940	15000		Mechanical Total	1	Isum	43,650.00	43,650.00
941		553	Solids Handling Electrical Building Total	1	Isum	330,641.25	330,641.25
942		999	999 - Pre-Purchased Items				
943	11000		11000 - Equipment				
944			Membrane Filtration System Owner Purchase	5	each	8,777,750.00	1,755,550.00
945			Gate Valves Owner Purchase	6	each	838,400.00	139,733.33
946			FRP Backwash Tank Owner Purchase	1	each	120,000.00	120,000.00
947	11000		Equipment Total	1	Isum	9,736,150.00	9,736,150.00

**100% Opinion of Probable Cost**  
*City of Pflugerville, TX*  
*Water Treatment Plant Expansion*

Item #	Division Code	WBS10 Code	Item Description	Takeoff Qty	Unit	Grand Total	Total \$/Unit
948	16000		16000 - Electrical				
949			Pre-Purchased Motor Control Center - Site Electrical	1	each	878,800.00	878,800.00
950			Pre-Purchased Switchboard - Site Electrical	1	each	209,400.00	209,400.00
951			Pre-Purchased Transformers - Site Electrical	1	each	513,400.00	513,400.00
952			Pre-Purchased Variable Frequency Drives - Site Electrical	1	each	1,108,600.00	1,108,600.00
953	16000		Electrical Total	1	lsum	2,710,200.00	2,710,200.00
954		999	Pre-Purchased Items Total	1	lsum	12,446,350.00	12,446,350.00
955			Grand Total			73,336,925.56	

			General Conditions			7,333,693	10%
			Contingency			7,333,693	10%
			Owner Contingency			2,200,108	3%
			Contractor OH and P			10,824,530	12%
			Escalation			5,866,954	8.00%

**Total Opinion of Probable Cost w/o Owner Contingency**  
**Total Opinion of Probable Cost**

**104,695,795**  
**106,895,903**



October 31, 2022

Andrea Brinkley  
CIP Director  
City of Pflugerville  
15500 Sun Light Near Way, #B, Bldg 6  
Pflugerville, Texas 78691

**Re: Sorento Wastewater Interceptor Phase 2 OPCC Summary Memorandum**

Dear Ms. Brinkley,

The City of Pflugerville has contracted CP&Y to perform design, bid and construction phase services for the Sorento Wastewater Interceptor Phase 2 project. The engineer of record for this project is Scott Wetzal, PE. At each design milestone, an Opinion of Probable Construction Cost (OPCC) has been developed. The purpose of this memorandum is to provide the rationale for project OPCC increases and any potential cost mitigation strategies that may be available to the City.

#### *Project Background*

The Sorento Wastewater Interceptor Phase 2 project was identified in the City's 2020 Wastewater Master Plan to convey flow by gravity from the Weiss Lane Lift Station and the Verona Lift Station to the upstream end of the Sorento Interceptor Phase 1 project, south of Jesse Bohls Road. The project includes proposed 36-inch and 18-inch wastewater lines, which will address capacity constraints in the system, serve future growth in the Wilbarger Basin, and ultimately convey wastewater flows to the proposed Wilbarger Creek Regional Wastewater Treatment Facility. The Verona Lift Station will also be decommissioned as part of this project. The Weiss Lane Lift Station will be decommissioned as part of a future project.

#### *OPCC and Schedule Progression*

The project submittal deadlines are noted in the table below. The project schedule is driven by Travis County permitting and easement acquisition. Easement documents have been submitted for appraisals and acquisition, and acquisition is ongoing. The 100% (permitting) submittal was provided on October 28, 2022. Since the submittal of the PER in August 2021, material costs have been steadily increasing and some additional encased and trenchless segments of pipe were added. Additional description of these changes are outlined in the below section, as well as cost mitigation items.

#### *General and Key Items Summary of OPCCs through Design Development*

Below is a summary of the OPCCs submitted for the Sorento Wastewater Interceptor Phase 2 project, including phase submittal date, total OPCC amount, and the % increase from previous OPCC. At the 90% phase, due to increasing costs and coordination with the project team, CP&Y proactively worked with



the City to include bid alternates for allowing an alternate pipe material and manhole type in an effort to get best value for the City. The % increase shown in the table below is for the Base Bid only for comparison purposes, but the estimated OPCC with bid alternates are shown for reference.

<b>Sorento Wastewater Interceptor Phase 2 OPCC Summary</b>					
<b>Design Stage</b>	<b>Date</b>	<b>OPCC (Base Bid)</b>	<b>% Increase from Previous OPCC</b>	<b>OPCC (with Bid Alt No. 1)*</b>	<b>OPCC (with Bid Alt No. 2)**</b>
PER	8/26/2021	<b>\$9,128,600</b>	-	-	-
60%	4/1/2022	<b>\$10,362,000</b>	<b>13.5%</b>	-	-
90%	8/5/2022	<b>\$12,445,000</b>	<b>20%</b>	<b>\$11,918,000</b>	<b>\$12,630,000</b>
100% (permitting)	10/28/2022	<b>\$13,331,000</b>	<b>7%</b>	<b>\$12,803,000</b>	<b>\$13,344,500</b>

\*Bid Alternate No. 1 includes Fiberglass Reinforced Polymer (FRP) pipe in lieu of PVC pipe

\*\*Bid Alternate No. 2 includes the City's Standard Precast Concrete Box Manholes in lieu of Polymer Concrete Manholes

Below is a summary of the factors leading to the cost changes reported in the above table:

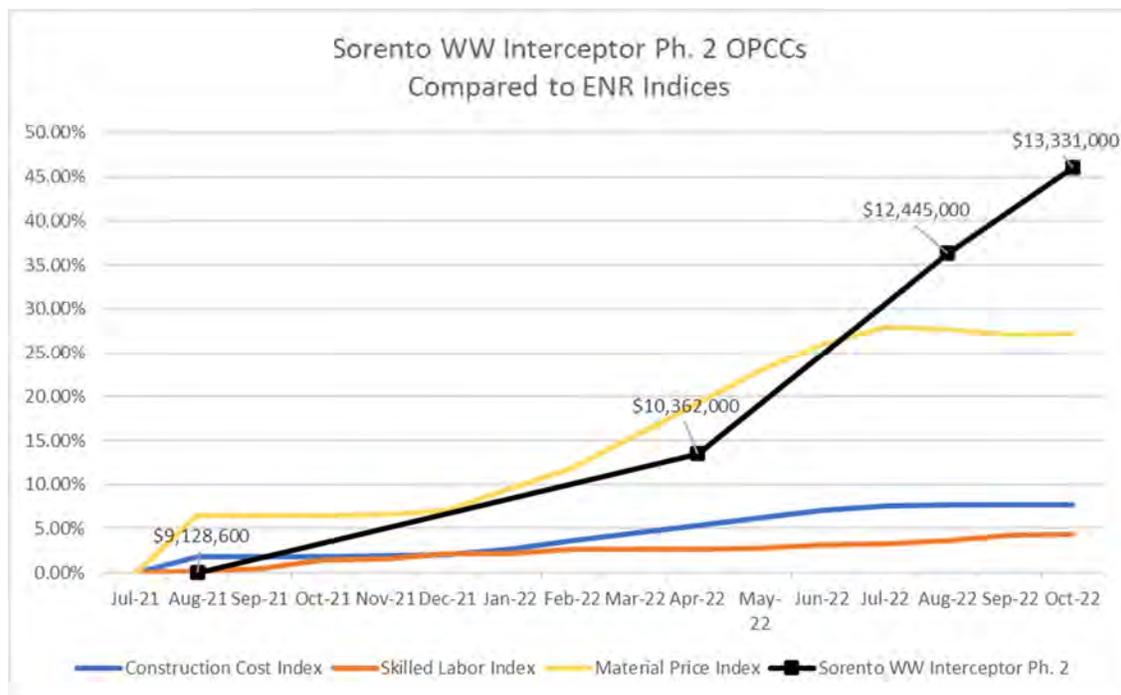
- Key cost changes from PER to 60%
  - Adjustments to the alignment based on continued coordination with property owner and Travis County.
  - Updated pipe and manhole material unit pricing.
- Key cost changes from 60% to 90%:
  - Updated manhole pricing to reflect change to polymer concrete manholes, rather than precast concrete manholes.
  - Extended encasement pipe segment under Jesse Bohls to accommodate future roadway widening.
  - Included \$150,000 allowance for the evaluation and rehabilitation of existing 36-inch WWL east of Weiss Lane Lift Station.
  - Updated pipe pricing based on manufacturer updated costs and continued project coordination.
- Key cost changes from 90% to 100% (*permitting*)
  - Updated manhole pricing based on manufacturer updated costs.
  - Included additional trenchless segment under recently constructed paved turnaround in the Sorento development.

The following table provides a summary of the key unit price changes described above that impacted the OPCCs, and also the anticipated difference between the base bid items and bid alternate items as noted above.

Key OPCC Items	Preliminary Engineering 8/26/2021		60% 4/1/2022		90% 8/5/2022		100% (Permitting) 10/28/2022	
	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC
18-inch PVC Pipe	\$ 275	-	\$ 400	45%	\$ 400	0%	\$ 400	0%
18-inch FRP Pipe	-	-	-	-	\$ 375	-	\$ 375	0%
36-inch PVC Pipe	\$ 450	-	\$ 520	16%	\$ 750	44%	\$ 750	0%
36-inch FRP Pipe	-	-	-	-	\$ 700	-	\$ 700	0%
6' Concrete MH	\$ 17,500	-	\$ 19,500	11%	-	-	-	-
6' Polymer Concrete MH	-	-	-	-	\$ 25,000	-	\$ 32,000	28%
Precast MH w/Box Base	-	-	-	-	\$ 29,900	-	\$ 35,000	17%

### Comparison to Engineering News-Record (ENR) Construction Cost Indices

The Engineering News-Record (ENR) publication tracks national indices for construction cost, labor cost, and material costs representative of the construction industry on a monthly basis. In addition to the individual cost and scope changes noted above, the below graph shows the ENR indices as compared to the OPCCs for the Sorento Wastewater Interceptor Phase 2 project. The OPCC increases exceeded the indices over this time largely due to material and labor increasing for the specific pipe and manhole construction items included in this project based on coordination with manufacturers and review of recent bid results, and additional trenchless construction included as the design progressed.



### Actions to Mitigate Cost Increases

In an effort to mitigate cost increases and provide best value to the City in the current market, we propose including the following items into the project:

- Include a bid alternate to allow contractors to bid PVC and Fiberglass Reinforced Polymer (FRP) pipe for additional competition based on current material pricing (Bid Alternate No. 1, noted above).
- Include a bid alternate to allow contractors to bid the City's standard concrete manhole for large diameter wastewater lines and polymer concrete manholes for additional competition based on current material pricing (Bid Alternate No. 2, noted above).
- Reevaluate trenchless construction for segment under recently constructed paved turnaround in the Sorento development.

If additional information or detail is needed, please contact me at [rowen@cpyi.com](mailto:rowen@cpyi.com), or 512-492-6823.

Sincerely,



Ryan Owen, P.E.  
Project Manager  
CP&Y, Inc.

Attachments: OPCC Submittals

cc : Thomas Hunter, City of Pflugerville  
Patricia Davis, PE, City of Pflugerville  
Jeff Dunsworth, PE, City of Pflugerville  
Kevin Jaeger, PE, City of Pflugerville

**Sorento Wastewater Interceptor Phase 2**  
**Engineer's Opinion of Probable Construction Cost**  
**Alternative C – Preliminary OPCC**

Bid Item No.	Description	Units	Quantity	Unit Cost	Total Cost
1	Traffic Control, Plan & Implementation Complete in Place	LS	1	\$ 20,000.00	\$ 20,000.00
2	Right-of-Way Preparation, Complete in Place (1%)	LS	1	\$ 65,000.00	\$ 65,000.00
3	Erosion Control, Plan & Implementation Complete in Place	LS	1	\$ 44,000.00	\$ 44,000.00
4	Confined Space Plan & Implementation	LS	1	\$ 7,500.00	\$ 7,500.00
5	Trench Safety Plan & Implementation	LS	1	\$ 25,000.00	\$ 25,000.00
6	Seeding/Hydr mulch	AC	18	\$ 3,000.00	\$ 54,000.00
7	Cleanup and Restoration	AC	18	\$ 750.00	\$ 13,500.00
8	All MH and Pipe Testing and Televising	LS	1	\$ 20,000.00	\$ 20,000.00
9	Remove and Replace Fence	LF	2,942	\$ 15.00	\$ 44,130.00
10	Install Gate	EA	3	\$ 2,500.00	\$ 7,500.00
11	Bypass Pumping	LS	1	\$ 50,000.00	\$ 50,000.00
12	Remove Existing Pipe, 12-inch Diameter	LF	40	\$ 40.00	\$ 1,600.00
13	Abandon and Grout Full Pipe, 10-inch	LF	245	\$ 20.00	\$ 4,900.00
14	Plug and Abandon Existing Pipe, 12-inch Diameter and Smaller	EA	1	\$ 5,000.00	\$ 5,000.00
15	Pipe, 10-inch, PVC, Open-Cut, All Depths, Complete in Place	LF	90	\$ 180.00	\$ 16,200.00
16	Pipe, 12-inch, PVC, Open-Cut, All Depths, Complete in Place	LF	145	\$ 240.00	\$ 34,800.00
17	Pipe, 18-inch, PVC, Open-Cut, All Depths, Complete in Place	LF	2,490	\$ 275.00	\$ 684,862.75
18	Pipe, 18-inch, PVC, In Casing, All Depths, Complete in Place	LF	140	\$ 300.00	\$ 42,000.00
19	Pipe, 36-inch, PVC, Open-Cut, All Depths, Complete in Place	LF	8,128	\$ 450.00	\$ 3,657,793.50
20	Pipe, 36-inch, PVC, In Casing, All Depths, Complete in Place	LF	467	\$ 625.00	\$ 291,875.00
21	Jacking/Boring Pipe, 30-inch, Type Steel, Complete in Place	LF	140	\$ 800.00	\$ 112,000.00
22	Jacking/Boring Pipe, 54-inch, Type Steel, Complete in Place	LF	467	\$ 1,300.00	\$ 607,100.00
23	5' Concrete Manhole, Complete in Place (Up to 8-ft Depth)	EA	8	\$ 13,000.00	\$ 104,000.00
24	5' Concrete Manhole, Additional Depth	VF	105	\$ 350.00	\$ 36,725.50
25	5' Concrete Doghouse Manhole with Internal Drop, Complete in Place (Up to 8-ft Depth)	EA	1	\$ 15,000.00	\$ 15,000.00
26	5' Concrete Doghouse Manhole, Additional Depth	VF	12	\$ 350.00	\$ 4,165.00
27	6' Concrete Manhole, Complete in Place (Up to 8-ft Depth)	EA	18	\$ 17,500.00	\$ 315,000.00
28	6' Concrete Manhole, Additional Depth	VF	259	\$ 400.00	\$ 103,760.00
29	Trench Dewatering	LS	1	\$ 100,000.00	\$ 100,000.00
30	Connect to Existing 12-inch, Wastewater, Complete in Place Bypass Pumping as Required for Installation of Doghouse Manhole. Plug 12" PVC to Lift Station. Connect New 12" with Internal Drop.	EA	1	\$ 10,000.00	\$ 10,000.00
31	Connect to Existing 36-inch, Wastewater, Complete in Place. Install 10" External Drops as required to connect New 10" Gravity Mains. Unplug 36" Outfall. Plug Existing 10" Outfall to Weiss Ln. Bypass Pumping as Required for Connections.	EA	1	\$ 15,000.00	\$ 15,000.00
32	Verona Lift Station Decommissioning Bypass Pumping as Required to Abandoning of 12" Outfall and Install of New 12" Outfall. Upon Complete Start up, Remove Pumps, Vaults, Equipment and Appurtenances to be Retained by City of Pflugerville. Plug 8" Forcemain. Grout Fill to new 12" Outfall Flowline	LS	1	\$ 50,000.00	\$ 50,000.00
				<b>Subtotal =</b>	<b>\$ 6,562,500</b>
				Contingency (±30%) =	\$ 1,968,800
				Mobilization (±5%) =	\$ 426,600
				Bonds and Insurance (±2%) =	\$ 170,700
				<b>Total =</b>	<b>\$ 9,128,600</b>

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to: price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

**ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST**



Project: Sorento Wastewater Interceptor Phase 2  
 Description: City of Pflugerville 60% OPCC  
 Project No.: PFLU1801051.01  
 Date: 30-Mar-22

By: Scott C. Wetzel, PE

BID ITEM NO.	SPECIFICATION NO.	DESCRIPTION	UNITS	QUANTITY	UNIT COST	TOTAL COST
<b>GENERAL CONDITIONS</b>						
1	700S-TM	Total Mobilization Payment for Items 2 through 54 (maximum 5% of total Base Bid)	LS	1	\$411,000.00	\$411,000.00
2	802S-BCIP	CIP Project Sign	LS	1	\$3,000.00	\$3,000.00
3	101S-C	Preparing Right of Way	LS	1	\$35,000.00	\$35,000.00
4	31 50 00	Confined Space Plan	LS	1	\$2,000.00	\$2,000.00
5	31 50 00	Confined Space Plan Implementation	LS	1	\$20,000.00	\$20,000.00
6	642S-D	Erosion Control Plan	LS	1	\$3,500.00	\$3,500.00
7	642S-D	Erosion Control Plan Implementation including silt fencing, rock berm, and all labor, materials, equipment, and incidentals, complete	LS	1	\$35,000.00	\$35,000.00
8	Sheet ES-10	Temporary Asphalt Curb Ramp with 4" PVC Drain, including all labor, materials, equipment, and incidentals, complete	EA	2	\$1,500.00	\$3,000.00
9	642S-A	Stabilized Construction Entrance	EA	5	\$1,500.00	\$7,500.00
10	509S-1	Trench Excavation Safety Protective System Plan	LS	1	\$20,000.00	\$20,000.00
11	703-A	Safety Fencing	LS	1	\$10,000.00	\$10,000.00
12	803S-CD	Barricades, Signs, and Traffic Handling	LS	1	\$10,000.00	\$10,000.00
13	510S-3.29	Site Cleanup and Restoration	LS	1	\$15,000.00	\$15,000.00
<b>WASTEWATER LINE ABANDONMENT/REMOVAL</b>						
14	510-E	Existing Wastewater Lines (All Depths) to be removed and disposed offsite, including excavation, removal, replacement with compacted select fill where necessary and all material, labor, equipment and incidentals, complete	LS	1	\$7,500.00	\$7,500.00
15	03 64 10	Purge, Plug, Grout, and Abandon Pipelines as identified on the construction drawings including all concrete, labor, equipment, and materials, complete	LS	1	\$10,000.00	\$10,000.00
<b>WASTEWATER IMPROVEMENTS</b>						
16	33 03 10	Bypass Pumping (All Locations) including all materials, equipment, labor and maintenance for portable pump(s), restrained joint pipe, downcomer, connections, fittings and incidentals required complete, including demobilization	LS	1	\$100,000.00	\$100,000.00
17	506S-M WW	Standard Pre-cast Manhole w/Pre-cast Base, 6-Foot Dia.	EA	16	\$19,500.00	\$312,000.00
18	506S-EDM WW	Extra Depth of Std. Manhole, 6-Foot Dia.	LVF	259	\$550.00	\$142,472.00
19	506S-M WW	Standard Pre-cast Manhole w/Pre-cast Base, 5-Foot Dia.	EA	9	\$17,000.00	\$153,000.00
20	506S-EDM WW	Extra Depth of Std. Manhole, 5-Foot Dia.	LVF	123	\$450.00	\$55,318.50
21	506S-S WW	Special Manhole, Doghouse, 5-Foot Dia.	EA	1	\$16,500.00	\$4.00
22	506S-EDM WW	Extra Depth of Special Manhole, Doghouse, 5-Foot Dia.	LVF	12	\$450.00	\$5,445.00
23	Detail 2, Sheet D-5	MH Vent Assembly including all fittings, valves, connections, appurtenances and all labor, materials, equipment and incidentals, complete and in place	EA	9	\$6,000.00	\$54,000.00
24	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type (all depths), including excavation and backfill	LF	7,795	\$520.00	\$4,053,488.40
25	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type installed in 54" steel encasement	LF	527	\$600.00	\$315,918.00
26	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115, ASTM F679 Type (all depths), including excavation and backfill	LF	2,495	\$400.00	\$998,116.00
27	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115 ASTM F679 Type installed in 30" steel encasement	LF	140	\$375.00	\$52,500.00
28	510-AWW: 15" Dia.	Pipe, 15" Dia. PVC PS115, ASTM D3034 Type (all depths), including excavation and backfill	LF	40	\$250.00	\$10,032.50
29	510-AWW: 10" Dia.	Pipe, 10" Dia. PVC PS115, ASTM D3034 Type (all depths), including excavation and backfill	LF	69	\$120.00	\$8,247.60
30	505S-B	Encasement Pipe 54" Dia., Type Steel by Dry Bore	LF	527	\$1,350.00	\$710,815.50
31	505S-B	Encasement Pipe 30" Dia., Type Steel by Dry Bore	LF	140	\$750.00	\$105,000.00
32	593S-B	PC Concrete Retards	EA	51	\$2,250.00	\$114,750.00

BID ITEM NO.	SPECIFICATION NO.	DESCRIPTION	UNITS	QUANTITY	UNIT COST	TOTAL COST
33	510S-2.I.5	Install Inductive Tracer Detection Tape, including all labor, materials, equipment, and incidentals, complete and in place	LF	10,392	\$3.00	\$31,176.00
34	506.6 and 510S.25	Video/Record and Test All New Pipe Lines and Manholes (Pressure, Vacuum, Mandrel, etc.) including all temporary plugs, pumps, gauges, and all labor, materials, equipment, and incidentals, complete and in place	LS	1	\$40,000.00	\$40,000.00
35	509S-1	Trench Excavation Safety Protective Systems (all depths)	LF	10,392	\$3.00	\$31,174.80
36	509S-1	Trench/Pit Dewatering, including all pumps, piping, valves, permits, detention/filtration, maintenance, operation, and all labor, materials, equipment, and incidentals for a complete and operational system	LS	1	\$150,000.00	\$150,000.00
37	642S-D	Soil Retention Blanket	SY	4,485	\$4.00	\$17,940.00
38	Sheet C-18	Decommission Lift Station, including all labor, materials, equipment, and incidentals, complete	LS	1	\$75,000.00	\$75,000.00
39	Sheet C-18	Wetwell Modifications, including all labor, materials, equipment, and incidentals, complete	LS	1	\$20,000.00	\$20,000.00
40	506S-CN-4.G	Connection to Existing 8-Foot Manhole (STA 0+00.00)	EA	1	\$35,000.00	\$35,000.00
41	506S-CN-4.G	Connection to Existing 8-Foot Manhole (STA 83+21.70)	EA	1	\$50,000.00	\$50,000.00
42	Sheet C-19	Connect New 15" Wastewater Line to Existing Lift Station Wet Well, including all excavation, concrete wall penetration, grouting, patching, installation of fittings and all incidentals, complete	EA	1	\$25,000.00	\$25,000.00
43	506S-CN WW	Connection of 5' Dia. Manhole to Existing 12" PVC Wastewater Line (Unit is Each)	EA	1	\$18,000.00	\$18,000.00
44	TxDOT SS 5084	4' High Steel Bollards, concrete filled, including supplying new bollards, and all material, labor, equipment, and incidentals complete and in place	EA	2	\$3,000.00	\$6,000.00
45	31 23 24	Concrete Flowable Fill, including all labor, materials, equipment, and incidentals, complete and in place	LF	50	\$150.00	\$7,500.00
46	Sheet C-9	Electrical Shielding, including all utility coordination, permits, labor, materials, equipment, and incidentals, complete and in place	LS	1	\$25,000.00	\$25,000.00
47	Sheet C-1, C-2, C-3	Remove and Replace Gravel Drive (all widths) measured along centerline of drive, including subgrade preparation, base material, and all labor, materials, equipment, and incidentals, complete and in place	LF	760	\$20.00	\$15,200.00
48	432-S-R	Protect/Remove and Replace Reinforced Concrete Sidewalk (all widths) measured along centerline of sidewalk, including subgrade preparation, reinforcement, concrete, base material, and all labor, materials, equipment, and incidentals, complete and in place	LF	830	\$70.00	\$58,100.00
49	702S-I	Remove and Relocate/Replace Existing Barbed Wire Fence	LF	410	\$15.00	\$6,150.00
50	702S-A	Remove and Relocate/Replace Existing Wood Fence and Gate	LS	1	\$10,000.00	\$10,000.00
51	340S-B	Hot Mix Asphaltic Concrete Pavement, match existing section	LF	80	\$150.00	\$12,000.00
52	604S-C	Native Seeding for Erosion Control, Broadcast Seeding	ACRE	26	\$5,000.00	\$130,000.00
53	430S-A	PC Concrete Curb and Gutter (Remove and Replacement)	LF	300	\$45.00	\$13,500.00
54	591S-A	Dry Rock Riprap	SY	498	\$150.00	\$74,700.00
<b>Total Wastewater Improvements</b>						<b>\$8,635,048.30</b>
Contingency (20%):						\$1,727,009.66
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>						<b>\$10,362,057.96</b>

This opinions of probable Project Cost or Construction Cost provided for herein are to be made on the basis of Engineer's experience and qualifications and represent Engineer's best judgement as a design professional familiar with the construction industry, but Engineer cannot and does not guarantee that proposals, bid, or the Construction Cost will not vary from opinions of probable cost prepared by Engineer. If prior to the Bidding Negotiating Phase Owner wishes greater assurance as to the Construction Cost, Engineer shall employ an independent cost estimator.

**ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST**



**Project:** Sorento Wastewater Interceptor Phase 2  
**Description:** City of Pflugerville 90% OPCC  
**Project No.:** PFLU1801051.01  
**Date:** 5-Aug-22

**By: Scott C. Wetzel, PE**

BID ITEM NO.	SPECIFICATION/ DETAIL NO.	DESCRIPTION	UNITS	QUANTITY	UNIT COST	TOTAL COST
<b>GENERAL CONDITIONS</b>						
1	700S-TM	Total Mobilization Payment (Maximum 5% of total Base Bid for Items 2 through 60)	LS	1	\$539,000.00	\$539,000.00
2	802S-BCIP	CIP Project Sign	EA	3	\$1,000.00	\$3,000.00
3	101S-C	Preparing Right of Way	LS	1	\$35,000.00	\$35,000.00
4	SS103	Confined Space Plan	LS	1	\$2,000.00	\$2,000.00
5	SS103	Confined Space Plan Implementation	LS	1	\$20,000.00	\$20,000.00
6	509S-1	Trench Excavation Safety Protective System Plan	LF	11,000	\$2.00	\$22,000.00
7	641S-A	Stabilized Construction Entrance	EA	6	\$1,500.00	\$9,000.00
8	642S-D	Erosion Control Plan	LS	1	\$3,500.00	\$3,500.00
9	642S-D	Erosion Control Plan Implementation including silt fencing and rock berms	LS	1	\$35,000.00	\$35,000.00
10	703S-A	Safety Fencing	LS	1	\$10,000.00	\$10,000.00
11	803S-LS	Barricades, Signs, and Traffic Handling	LS	1	\$10,000.00	\$10,000.00
12	Detail 433S-3	Temporary Asphalt Curb Ramp with 4" PVC Drain Pipe	EA	4	\$2,500.00	\$10,000.00
13	510S-3.29	Site Cleanup and Restoration	LS	1	\$15,000.00	\$15,000.00
<b>WASTEWATER DEMOLITION, ABANDONMENT &amp; REMOVAL</b>						
14	SS105	Select Demolition of work called out on the Construction Drawings, including the Verona Lift Station	LS	1	\$75,000.00	\$75,000.00
15	SS105	Purge, Plug, Grout, and Abandon Pipelines as identified on the construction drawings including all concrete, labor, equipment, and materials, complete	LS	1	\$10,000.00	\$10,000.00
16	510S-E	Existing Wastewater Lines (All Depths) to be removed and disposed offsite, including excavation, removal, replacement with compacted select fill where necessary and all material, labor, equipment and incidentals, complete	LS	1	\$15,000.00	\$15,000.00
<b>WASTEWATER IMPROVEMENTS (BASE BID)</b>						
17	SS515	Bypass Pumping	LS	1	\$100,000.00	\$100,000.00
18	501S-A	Encasement Pipe 36" Dia., Type Steel by Dry Bore	LF	140	\$900.00	\$126,000.00
19	501S-A	Encasement Pipe 54" Dia., Type Steel by Dry Bore	LF	527	\$1,350.00	\$710,815.50
20	505S-B	Encasement Pipe 54" Dia., Type Steel by Open Cut	LF	40	\$980.00	\$39,200.00
21	SS506	Polymer Concrete Pre-cast Manhole, 6-Foot Dia.	EA	16	\$25,000.00	\$400,000.00
22	SS506	Extra Depth of Polymer Concrete Manhole, 6-Foot Dia.	LVF	259	\$800.00	\$207,200.00
23	SS506	Polymer Concrete Pre-cast Manhole, 5-Foot Dia.	EA	9	\$16,000.00	\$144,000.00
24	SS506	Extra Depth of Polymer Concrete Manhole, 5-Foot Dia.	LVF	121	\$730.00	\$88,264.30
25	506S-S WW	Special Manhole, Doghouse, 5-Foot Dia.	EA	2	\$16,500.00	\$33,000.00
26	506S-EDM WW	Extra Depth of Manhole, 5-Foot Dia. (Doghouse)	LVF	17	\$650.00	\$10,900.50
27	506S-CN WW	36" Connection to Existing 8-Foot Manhole (STA 00+00.00)	EA	1	\$60,000.00	\$60,000.00
28	506S-CN WW	36" Connection to Existing 8-Foot Manhole (STA 83+21.70)	EA	1	\$50,000.00	\$50,000.00
29	506S-CN WW	36" Connection to Existing 8-Foot Manhole (SHEET C-16)	EA	2	\$17,500.00	\$35,000.00
30	506S-CN WW	15" Connect to Existing 10-Foot Verona Lift Station Wet Well	EA	1	\$40,000.00	\$40,000.00
31	506S-CN WW	12" Connection to 5-Foot Manhole	EA	1	\$18,000.00	\$18,000.00
32	Sheet D-6, Detail 2	MH Vent Assembly including all fittings, valves, connections, appurtenances and all labor, materials, equipment and incidentals, complete and in place	EA	9	\$6,000.00	\$54,000.00
33	509S-1	Trench Excavation Safety Protective Systems (all depths)	LF	10,357	\$22.00	\$227,844.10
34	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type (all depths), including excavation and backfill	LF	7,715	\$750.00	\$5,786,377.50
35	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type, installed in 54" steel encasement	LF	567	\$850.00	\$481,550.50
36	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115, ASTM F679 Type (all depths), including excavation and backfill	LF	2,478	\$400.00	\$991,212.00
37	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115 ASTM F679 Type, installed in 36" steel encasement	LF	140	\$450.00	\$63,000.00
38	510-AWW: 15" Dia.	Pipe, 15" Dia. PVC PS115, ASTM D3034 Type (all depths), including excavation and backfill	LF	83	\$250.00	\$20,837.50
39	510-AWW: 10" Dia.	Pipe, 10" Dia. PVC PS115, ASTM D3034 Type (all depths), including excavation and backfill	LF	80	\$120.00	\$9,600.00
40	510S-CCTV	Inspection Video/Recording of All New Pipelines and Existing 36" Gravity Sewer	LS	1	\$40,000.00	\$40,000.00
41	510S-REHAB	Evaluation and Rehabilitation of 36" Existing Gravity WW Line - ALLOWANCE to be used at City's discretion	LS	1	\$150,000.00	\$150,000.00
42	510S-TAPE	Tracer Tape	LF	11,063	\$3.00	\$33,189.24
43	Sheet C-18	Verona Lift Station Wet Well Modifications Complete, including all labor, materials, equipment, and incidentals, complete	LS	1	\$40,000.00	\$40,000.00
44	302S	Remove and Replace Gravel Drive (all widths)	LF	760	\$40.00	\$30,400.00
45	340S-LF	Hot Mix Asphaltic Concrete Pavement, match existing section	LF	80	\$150.00	\$12,000.00
46	430S-A	PC Concrete Curb and Gutter (Remove and Replacement)	LF	300	\$45.00	\$13,500.00
47	402S-B	Controlled Low Strength Material, 36" Pipe	LF	50	\$150.00	\$7,500.00
48	402S-B	Controlled Low Strength Material, 18" Pipe	LF	104	\$140.00	\$14,520.80

BID ITEM NO.	SPECIFICATION/ DETAIL NO.	DESCRIPTION	UNITS	QUANTITY	UNIT COST	TOTAL COST
49	402S-B	Controlled Low Strength Material, 10" Pipe	LF	17	\$110.00	\$1,870.00
50	432S-R	Remove and Reconstruct Reinforced Concrete Sidewalk (all widths and thicknesses)	SF	3,180	\$70.00	\$222,600.00
51	591S-A	Dry Rock Riprap	SY	171	\$150.00	\$25,675.50
52	593S-B	PC Concrete Retards	EA	51	\$2,250.00	\$114,750.00
53	604S-C	Native Seeding for Erosion Control, Broadcast Seeding	ACRE	26	\$1,250.00	\$32,500.00
54	642S-E	Soil Retention Blanket	SY	4,495	\$4.00	\$17,978.68
55	702S-ID	Removing and Relocating/Replacing Existing Barbed Wire Fence	LF	410	\$15.00	\$6,150.00
56	702S-DD	Removing and Relocating/Replacing 8 Ft. Wooden Fence and Gate	LS	1	\$10,000.00	\$10,000.00
57	Sheet D-6, Detail 3	4' High Steel Bollards, concrete filled, including supplying new bollards, and all material, labor, equipment, and incidentals complete and in place	EA	2	\$3,000.00	\$6,000.00
58	Sheet C-9	Electrical Shielding, including all utility coordination, permits, labor, materials, equipment, and incidentals, complete and in place	LS	1	\$25,000.00	\$25,000.00
<b>Total Wastewater Improvements</b>						<b>\$11,313,936.12</b>
Contingency (10%):						\$1,131,393.61
<b>TOTAL ESTIMATED CONSTRUCTION COST (BASE BID)</b>						<b>\$12,445,329.73</b>
<b>BID ALTERNATE NO. 1 - PIPE</b>						
<b>BID ALTERNATE NO. 1 - DEDUCTIONS</b>						
34D	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type (all depths), including excavation and backfill	LF	7,715	\$750.00	(\$5,786,377.50)
35D	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type, installed in 54" steel encasement	LF	567	\$850.00	(\$481,550.50)
36D	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115, ASTM F679 Type (all depths), including excavation and backfill	LF	2,478	\$400.00	(\$991,212.00)
37D	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115 ASTM F679 Type, installed in 36" steel encasement	LF	140	\$450.00	(\$63,000.00)
<b>TOTAL DEDUCTIONS</b>						<b>(\$7,322,140.00)</b>
<b>BID ALTERNATE NO. 1 - ADDITIONS</b>						
59	SS520	Fiberglass Reinforced Pipe, SN 72, 36" Dia. (all depths), including excavation and backfill	LF	7,715	\$700.00	\$5,400,619.00
60	SS520	Fiberglass Reinforced Pipe, SN 72, 36" Dia. (all depths), installed in 54" steel encasement	LF	567	\$800.00	\$453,224.00
61	SS520	Fiberglass Reinforced Pipe, SN 72, 18" Dia. (all depths), including excavation and backfill	LF	2,478	\$375.00	\$929,261.25
62	SS520	Fiberglass Reinforced Pipe, SN 72, 18" Dia. (all depths), installed in 36" steel encasement	LF	140	\$425.00	\$59,500.00
<b>TOTAL ADDITIONS</b>						<b>\$6,842,604.25</b>
<b>Total Wastewater Improvements (BID ALTERNATE NO. 1)</b>						<b>\$10,834,400.37</b>
Contingency (10%):						\$1,083,440.04
<b>TOTAL ESTIMATED CONSTRUCTION COST (BID ALTERNATE NO. 1)</b>						<b>\$11,917,840.41</b>
<b>BID ALTERNATE NO. 2 - MANHOLES</b>						
<b>BID ALTERNATE NO. 2 - DEDUCTIONS</b>						
21D	SS506	Polymer Concrete Pre-cast Manhole, 6-Foot Dia.	EA	16	\$25,000.00	(\$400,000.00)
22D	SS506	Extra Depth of Polymer Concrete Manhole, 6-Foot Dia.	LVF	259	\$800.00	(\$207,200.00)
23D	SS506	Polymer Concrete Pre-cast Manhole, 5-Foot Dia.	EA	9	\$16,000.00	(\$144,000.00)
24D	SS506	Extra Depth of Polymer Concrete Manhole, 5-Foot Dia.	LVF	121	\$730.00	(\$88,264.30)
<b>TOTAL DEDUCTIONS</b>						<b>(\$839,464.30)</b>
<b>BID ALTERNATE NO. 2 - ADDITIONS</b>						
63	506S-M WW	Standard Pre-cast Manhole w/Pre-cast Box Base, 6-Foot Dia. Riser	EA	16	\$29,900.00	\$478,400.00
64	506S-EDM WW	Extra Depth of Manhole, 6-Foot Dia. (Standard) Riser	LVF	259	\$700.00	\$181,300.00
65	506S-M WW	Standard Pre-cast Manhole w/Pre-cast Box Base, 5-Foot Dia. Riser	EA	9	\$29,800.00	\$268,200.00
66	506S-EDM WW	Extra Depth of Manhole, 5-Foot Dia. (Standard) Riser	LVF	121	\$650.00	\$78,591.50
<b>TOTAL ADDITIONS</b>						<b>\$1,006,491.50</b>
<b>Total Wastewater Improvements (BID ALTERNATE NO. 2)</b>						<b>\$11,480,963.32</b>
Contingency (10%):						\$1,148,096.33
<b>TOTAL ESTIMATED CONSTRUCTION COST (BID ALTERNATE NO. 2)</b>						<b>\$12,629,059.65</b>
This opinions of probable Project Cost or Construction Cost provided for herein are to be made on the basis of Engineer's experience and qualifications and represent Engineer's best judgement as a design professional familiar with the construction industry, but Engineer cannot and does not guarantee that proposals, bid, or the Construction Cost will not vary from opinions of probable cost prepared by Engineer. If prior to the Bidding Negotiating Phase Owner wishes greater assurance as to the Construction Cost, Engineer shall employ an independent cost estimator.						

**ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST**



Project: Sorento Wastewater Interceptor Phase 2  
 Description: City of Pflugerville 100% OPCC  
 Project No.: PFLU1801051.01  
 Date: 21-Oct-22

By: Scott C. Wetzel, PE

BID ITEM NO.	SPECIFICATION/DETAIL NO.	DESCRIPTION	UNITS	QUANTITY	UNIT COST	TOTAL COST
<b>GENERAL CONDITIONS</b>						
1	700S-TM	Total Mobilization Payment (Maximum 5% of total Base Bid for Items 2 through 60)	LS	1	\$577,000.00	\$577,000.00
2	802S-BCIP	CIP Project Sign	EA	3	\$1,000.00	\$3,000.00
3	101S-C	Preparing Right of Way	LS	1	\$35,000.00	\$35,000.00
4	SS103	Confined Space Plan	LS	1	\$2,000.00	\$2,000.00
5	SS103	Confined Space Plan Implementation	LS	1	\$20,000.00	\$20,000.00
6	641S-A	Stabilized Construction Entrance	EA	6	\$1,500.00	\$9,000.00
7	642S-D	Erosion Control Plan	LS	1	\$3,500.00	\$3,500.00
8	642S-D	Erosion Control Plan Implementation	LS	1	\$41,000.00	\$41,000.00
9	703S-A	Safety Fencing	LS	1	\$10,000.00	\$10,000.00
10	803S-LS	Barricades, Signs, and Traffic Handling	LS	1	\$10,000.00	\$10,000.00
11	Sheet ES-10, Detail 5	Temporary Asphalt Curb Ramp with 4" PVC Drain Pipe	EA	4	\$2,500.00	\$10,000.00
12	510S-3.29	Site Cleanup and Restoration	LS	1	\$15,000.00	\$15,000.00
<b>WASTEWATER DEMOLITION, ABANDONMENT &amp; REMOVAL</b>						
13	SS105	Select Demolition of work called out on the Construction Drawings, including the Verona Lift Station	LS	1	\$75,000.00	\$75,000.00
14	SS105	Purge, Plug, Grout, and Abandon Pipelines as identified on the construction drawings including all concrete, labor, equipment, and materials, complete	LS	1	\$10,000.00	\$10,000.00
15	510S-E	Existing Wastewater Line Removal	LS	1	\$15,000.00	\$15,000.00
<b>WASTEWATER IMPROVEMENTS (BASE BID)</b>						
16	SS515	Bypass Pumping	LS	1	\$100,000.00	\$100,000.00
17	501S-A	Jacking or Boreing 36 In. Pipe, Class XHY/0.50"	LF	140	\$900.00	\$126,000.00
18	501S-A	Jacking or Boreing 54 In. Pipe, Class XHY/0.50"	LF	673	\$1,350.00	\$908,469.00
19	505S-B	Encasement Pipe 54" Dia., Type Steel by Open Cut	LF	40	\$980.00	\$39,200.00
20	SS506	Polymer Concrete Pre-cast Manhole, 6-Foot Dia.	EA	16	\$32,000.00	\$512,000.00
21	SS506	Extra Depth of Polymer Concrete Manhole, 6-Foot Dia.	LVF	259	\$800.00	\$207,200.00
22	SS506	Polymer Concrete Pre-cast Manhole, 5-Foot Dia.	EA	9	\$20,000.00	\$180,000.00
23	SS506	Extra Depth of Polymer Concrete Manhole, 5-Foot Dia.	LVF	121	\$730.00	\$88,264.30
24	506S-S WW	Special Manhole, Doghouse, 5-Foot Dia.	EA	2	\$16,500.00	\$33,000.00
25	506S-EDM WW	Extra Depth of Manhole, 5-Foot Dia. (Doghouse)	LVF	17	\$650.00	\$10,900.50
26	506S-CN WW	36" Connection to Existing 8-Foot Manhole (STA 00+00.00)	EA	1	\$60,000.00	\$60,000.00
27	506S-CN WW	36" Connection to Existing 8-Foot Manhole (STA 83+21.70)	EA	1	\$50,000.00	\$50,000.00
28	506S-CN WW	36" Connection to Existing 8-Foot Manhole (SHEET C-16)	EA	2	\$17,500.00	\$35,000.00
29	506S-CN WW	15" Connect to Existing 10-Foot Verona Lift Station Wet Well	EA	1	\$40,000.00	\$40,000.00
30	506S-CN WW	12" Connection to 5-Foot Manhole	EA	1	\$18,000.00	\$18,000.00
31	Sheet D-6, Detail 2	MH Vent Assembly including all fittings, valves, connections, appurtenances and all labor, materials, equipment and incidentals, complete and in place	EA	9	\$6,000.00	\$54,000.00
32	509S-1	Trench Excavation Safety Protective Systems (all depths)	LF	10,210	\$24.00	\$245,043.36
33	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type (all depths), including excavation and backfill	LF	7,569	\$750.00	\$5,676,570.00
34	510S-ENC	Pipe, 36" Dia. PVC PS115 ASTM F679 Type, installed in 54" steel encasement	LF	713	\$850.00	\$605,999.00
35	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115, ASTM F679 Type (all depths), including excavation and backfill	LF	2,478	\$400.00	\$991,212.00
36	510S-ENC	Pipe, 18" Dia. PVC PS115 ASTM F679 Type, installed in 36" steel encasement	LF	140	\$450.00	\$63,000.00
37	510-AWW: 15" Dia.	Pipe, 15" Dia. PVC PS115, ASTM D3034 Type (all depths), including excavation and backfill	LF	83	\$250.00	\$20,837.50
38	510-AWW: 10" Dia.	Pipe, 10" Dia. PVC PS115, ASTM D3034 Type (all depths), including excavation and backfill	LF	80	\$120.00	\$9,600.00
39	510S-CCTV	Video Inspection of New Pipelines and Existing 36" Gravity Sewer and Manholes	LS	1	\$40,000.00	\$40,000.00
40	510S-REHAB	Evaluation and Rehabilitation of 36" Existing Gravity WW Line and two Manholes at ends of WW Line - ALLOWANCE to be used at City's discretion	LS	1	\$150,000.00	\$150,000.00
41	510S-TAPE	Tracer Tape	LF	11,063	\$3.00	\$33,189.24
42	Sheet C-18	Verona Lift Station Wet Well Modifications Complete, including all labor, materials, equipment, and incidentals, complete	LS	1	\$40,000.00	\$40,000.00
43	302S-A	Aggregate for Surface Treatment	LF	760	\$40.00	\$30,400.00
44	340S-SY	HMAC Pavement	SY	54	\$100.00	\$5,400.00
45	430S-G	PC Concrete Curb and Gutter (Removal and Replacement)	LF	60	\$45.00	\$2,700.00
46	402S-B	Controlled Low Strength Material, 36" Pipe	LF	50	\$150.00	\$7,500.00
47	402S-B	Controlled Low Strength Material, 18" Pipe	LF	104	\$140.00	\$14,520.80
48	402S-B	Controlled Low Strength Material, 10" Pipe	LF	17	\$110.00	\$1,870.00
49	432S-R	Remove and Reconstruct Reinforced Concrete Sidewalk (all widths and thicknesses)	SF	6,734	\$70.00	\$471,380.00

BID ITEM NO.	SPECIFICATION/ DETAIL NO.	DESCRIPTION	UNITS	QUANTITY	UNIT COST	TOTAL COST
50	591S-A	Dry Rock Riprap	SY	1,332	\$150.00	\$199,800.00
51	593S-B	PC Concrete Retards	EA	51	\$2,250.00	\$114,750.00
52	604S-C	Native Seeding for Erosion Control Method, Hydraulic Planting	ACRE	26	\$1,250.00	\$32,500.00
53	642S-E	Soil Retention Blanket	SY	4,495	\$4.00	\$17,978.68
54	702S-ID	Removing and Relocating/Replacing 4&5 Ft. Barbed Wire Fencing	LF	410	\$15.00	\$6,150.00
55	702S-DD	Removing and Relocating/Replacing 8 Ft. Wooden Fence and Gate	LS	1	\$10,000.00	\$10,000.00
56	Sheet D-6, Detail 3	4' High Steel Bollards (QTY 4), concrete filled, including supplying new bollards, and all material, labor, equipment, and incidentals complete and in place	EA	2	\$3,000.00	\$6,000.00
57	Sheet C-9	Electrical Shielding, including all utility coordination, permits, labor, materials, equipment, and incidentals, complete and in place	LS	1	\$25,000.00	\$25,000.00
<b>Total Wastewater Improvements</b>						<b>\$12,118,934.38</b>
Contingency (10%):						\$1,211,893.44
<b>TOTAL ESTIMATED CONSTRUCTION COST (BASE BID)</b>						<b>\$13,330,827.82</b>
<b>BID ALTERNATE NO. 1 - PIPE</b>						
<b>BID ALTERNATE NO. 1 - DEDUCTIONS</b>						
33D	510-AWW: 36" Dia.	Pipe, 36" Dia. PVC PS115 ASTM F679 Type (all depths), including excavation and backfill	LF	7,569	\$750.00	(\$5,676,570.00)
34D	510S-ENC	Pipe, 36" Dia. PVC PS115 ASTM F679 Type, installed in 54" steel encasement	LF	713	\$850.00	(\$605,999.00)
35D	510-AWW: 18" Dia.	Pipe, 18" Dia. PVC PS115, ASTM F679 Type (all depths), including excavation and backfill	LF	2,478	\$400.00	(\$991,212.00)
36D	510S-ENC	Pipe, 18" Dia. PVC PS115 ASTM F679 Type, installed in 36" steel encasement	LF	140	\$450.00	(\$63,000.00)
<b>TOTAL DEDUCTIONS</b>						<b>(\$7,336,781.00)</b>
<b>BID ALTERNATE NO. 1 - ADDITIONS</b>						
58	SS520	Fiberglass Reinforced Pipe, SN 72, 36" Dia. (all depths), including excavation and backfill	LF	7,569	\$700.00	\$5,298,132.00
59	SS520	Fiberglass Reinforced Pipe, SN 72, 36" Dia. (all depths), installed in 54" steel encasement	LF	713	\$800.00	\$570,352.00
60	SS520	Fiberglass Reinforced Pipe, SN 72, 18" Dia. (all depths), including excavation and backfill	LF	2,478	\$375.00	\$929,261.25
61	SS520	Fiberglass Reinforced Pipe, SN 72, 18" Dia. (all depths), installed in 36" steel encasement	LF	140	\$425.00	\$59,500.00
<b>TOTAL ADDITIONS</b>						<b>\$6,857,245.25</b>
<b>Total Wastewater Improvements (BID ALTERNATE NO. 1)</b>						<b>\$11,639,398.63</b>
Contingency (10%):						\$1,163,939.86
<b>TOTAL ESTIMATED CONSTRUCTION COST (BID ALTERNATE NO. 1)</b>						<b>\$12,803,338.49</b>
<b>BID ALTERNATE NO. 2 - MANHOLES</b>						
<b>BID ALTERNATE NO. 2 - DEDUCTIONS</b>						
20D	SS506	Polymer Concrete Pre-cast Manhole, 6-Foot Dia.	EA	16	\$32,000.00	(\$512,000.00)
21D	SS506	Extra Depth of Polymer Concrete Manhole, 6-Foot Dia.	LVF	259	\$800.00	(\$207,200.00)
22D	SS506	Polymer Concrete Pre-cast Manhole, 5-Foot Dia.	EA	9	\$20,000.00	(\$180,000.00)
23D	SS506	Extra Depth of Polymer Concrete Manhole, 5-Foot Dia.	LVF	121	\$730.00	(\$88,264.30)
<b>TOTAL DEDUCTIONS</b>						<b>(\$987,464.30)</b>
<b>BID ALTERNATE NO. 2 - ADDITIONS</b>						
62	506S-M WW	Standard Pre-cast Manhole w/Pre-cast Box Base, 6-Foot Dia. Riser	EA	16	\$35,000.00	\$560,000.00
63	506S-EDM WW	Extra Depth of Manhole, 6-Foot Dia. (Standard) Riser	LVF	259	\$700.00	\$181,300.00
64	506S-M WW	Standard Pre-cast Manhole w/Pre-cast Base, 5-Foot Dia. Riser	EA	9	\$20,000.00	\$180,000.00
65	506S-EDM WW	Extra Depth of Manhole, 5-Foot Dia. (Standard) Riser	LVF	121	\$650.00	\$78,591.50
<b>TOTAL ADDITIONS</b>						<b>\$999,891.50</b>
<b>Total Wastewater Improvements (BID ALTERNATE NO. 2)</b>						<b>\$12,131,361.58</b>
Contingency (10%):						\$1,213,136.16
<b>TOTAL ESTIMATED CONSTRUCTION COST (BID ALTERNATE NO. 2)</b>						<b>\$13,344,497.74</b>
<p>This opinions of probable Project Cost or Construction Cost provided for herein are to be made on the basis of Engineer's experience and qualifications and represent Engineer's best judgement as a design professional familiar with the construction industry, but Engineer cannot and does not guarantee that proposals, bid, or the Construction Cost will not vary from opinions of probable cost prepared by Engineer. If prior to the Bidding Negotiating Phase Owner wishes greater assurance as to the Construction Cost, Engineer shall employ an independent cost estimator.</p>						

10-28-2022



*Scott C. Wetzel*



October 31, 2022

Andrea Brinkley  
CIP Director  
City of Pflugerville  
15500 Sun Light Near Way, #B, Bldg 6  
Pflugerville, Texas 78691

**Re: Transmission Main Projects OPCC Summary Memorandum**

Dear Ms. Brinkley,

The City of Pflugerville has contracted CP&Y to perform design, bid and construction phase services for the following water transmission main projects:

- Weiss Lane / Pecan Street (42") Water Line
- 794' PZ (12") and Weiss Lane/Kelly Lane (36"/30") Water Lines

The engineer of record for these two projects is Alisa Gruber, PE. At each design milestone, an Opinion of Probable Construction Cost (OPCC) has been developed. The purpose of this memorandum is to provide the rationale for project OPCC increases and any potential cost mitigation strategies that may be available to the City.

### **Weiss Lane / Pecan Street Water Line**

#### *Project Background*

The Weiss Lane/Pecan Street Water Line project includes a proposed transmission main which will convey water from the water treatment plant to the west side of SH-130 where it will connect to an existing 16-inch water main. The purpose of this project is to serve growth along the SH-130 corridor and provide additional transmission capacity. The project will also support the conversion of the East Pressure Zone to the new 794' PZ as defined in the City's Water Master Plan.

#### *OPCC and Schedule Progression*

The project submittal deadlines are noted in the table below. Easement coordination began in early 2021, following approval of the 60% plans. There have been two parcels that have extended the project schedule due to prolonged easement acquisition. One parcel is going through the condemnation process. The other parcel has been under negotiations between the City and Developer for donation of the easement, however a recent update from the developer revealed that the parcel has split into two parcels. The delay has resulted in project cost increases as the cost of pipe, valves, and labor has



increased since the 100% plan submittal in the summer of 2021. To date, the City has acquired easements on 9 out of 12, or 75%, of the impacted parcels.

*General and Key Items Summary of OPCCs through Design Development*

Below is a summary of the OPCCs submitted for the Weiss Lane / Pecan Street Water Line project, including phase submittal date, total OPCC amount, and the % increase from previous OPCC.

Weiss Lane / Pecan Street Water Lines OPCC Summary			
Design Stage	Date	OPCC	% Increase from Previous OPCC
PER	6/29/2020	\$12,475,100	-
60%	11/3/2020	\$10,402,600	-16%
90%	4/15/2021	\$12,499,600	20%
100% (permitting)	7/15/2021	\$12,665,800	1%
OPCC developed for this Memorandum*	10/20/2022	\$16,626,000	31%

\*Due to ongoing easement acquisition, there has not been a formal design submittal since 7/15/2021.

Below is a summary of the factors leading to the cost changes reported in the above table:

- Cost changes from PER to 60%:
  - The PER-recommended project included approximately 3,000 LF of 16-inch water line along Weiss Lane and Pecan Street that, following continued coordination, was included in the Lakeside Meadows Industrial project, therefore this cost was not included in the 60% OPCC or the project moving forward.
  - The PER-recommended project included approximately 2,000 LF of 24-inch water line within the Water Treatment Plant site which was moved to the water treatment plant project to keep the work “inside the fence” and avoid contractor overlap.
  - The cost included in the PER included approximately \$190,000 in easement acquisition costs that did not carry forward in design phase OPCCs.
  - Updated pipe and valve material unit pricing.
- Cost changes from 60% to 90%:
  - Updated approximately 3,300 LF of proposed water line to be 36-inch rather than 24-inch to provide ultimate transmission capacity for segment north of E. Pflugerville Parkway, resulting in the elimination of a future CIP project.
  - Changed butterfly valves back to gate valves at the City’s request.
  - Included additional casing pipe under creek crossing following TCEQ coordination.
  - Updated pipe and valve material unit pricing.
- Cost changes from 90% to 100% (permitting):
  - Minimal changes between these submittals (1%) due to updating unit costs, quantities and % contingency.

- Cost changes from 100% (permitting) to Current Revision:
  - Project experiencing delays due to easement acquisition and has not yet bid.
  - 100% (permitting) set submitted in July 2021. Over last 15 months, pipe and valve prices have increased significantly due to challenges with manufacturing and availability.
  - Following 100% (permitting) submittal, fiber optic conduit and hand holes were added at the City's request.
  - Additional casing required as a result of proposed Northpoint development.
  - Additional sidewalk/pavement replacement as a result of proposed Northpoint development.
  - Approximately 3,100 LF of 36-inch water line was removed from this project and is included in the 794' PZ and Weiss Lane/Kelly Lane Water Lines.

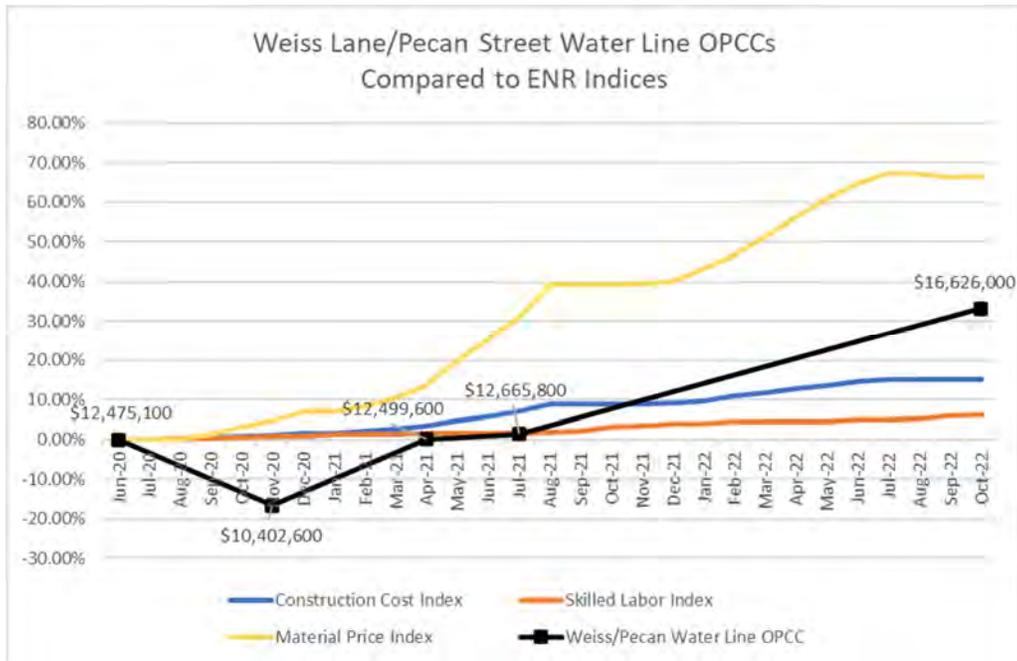
The below table provides a summary of the key unit price changes described above that impacted the OPCCs, and also the difference between butterfly valves and gate valves as the project progressed.

Key OPCC Items	Preliminary Engineering Report 6/29/2020		60% 11/3/2020		90% 4/15/2021		100% (Permitting) 7/15/2021		Current OPCC Developed for this Memorandum 10/20/2022	
	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC	Unit Price	% Increase from Previous OPCC
24-inch Ductile Iron Pipe	\$ 180	-	\$ 200	11%	-	-	-	-	-	-
36-inch Ductile Iron Pipe	-	-	\$ 300	-	\$ 300	0%	\$ 330	10%	\$ 495	50%
36-inch Ductile Iron Pipe, RJ	-	-	-	-	\$ 425	-	\$ 468	10%	\$ 758	62%
42-inch Ductile Iron Pipe	\$ 420	-	\$ 350	-17%	\$ 380	9%	\$ 418	10%	\$ 789	89%
42-inch Ductile Iron Pipe, RJ	-	-	-	-	\$ 490	-	\$ 539	10%	\$ 975	81%
24-inch Gate Valve	\$ 20,000	-	\$ 24,000	20%	\$ 24,000	0%	\$ 30,375	27%	\$ 46,125	52%
36-inch Gate Valve	-	-	-	-	\$ 80,000	-	\$ 59,700	-25%	\$ 118,050	98%
36-inch Butterfly Valve	\$ 30,000	-	\$ 40,000	33%	-	-	-	-	-	-
42-inch Gate Valve	-	-	-	-	\$ 100,000	-	\$ 107,250	7%	\$ 174,525	63%
42-inch Butterfly Valve	\$ 40,000	-	\$ 45,000	13%	-	-	-	-	-	-

### *Comparison to Engineering News-Record Cost Indices*

The Engineering News-Record (ENR) publication tracks national indices for construction cost, labor cost, and material costs representative of the construction industry on a monthly basis. In addition to the individual cost and scope changes noted above, below is a comparison of the change in OPCC as the projects progress to the change in ENR cost indices.

The below graph shows the ENR indices as compared to the OPCCs for the Weiss Lane/Pecan Street Water Line project. As noted in the description above, the material prices for pipe exceeded the material price index over this time period, and the price of gate valves generally followed the material price index increase. Changes to the project scope between July 2021 and October 2021 included additional encasement pipe and sidewalk/pavement restoration due to proposed development in the project area. The OPCC increase was mitigated during this time period due to a portion of the project scope being moved from this project to the 794' PZ and Weiss Lane/Kelly Lane Water Lines project.



### Actions to Mitigate Cost Increases

In an effort to mitigate cost increases and provide best value to the City in the current market, we propose consideration of the following items into this project:

- Include bid alternate to allow contractors to bid steel pipe in addition to ductile iron pipe for additional competition based on current material pricing. Please note, this will require additional evaluation for pipeline corrosion protection.
- Bid the project as early as practical to prevent additional costs that may arise with new developments constructing features within the proposed easements that would need to be replaced.
- If acceptable to the City, it is an option to bid butterfly valves as an alternate to gate valves.

### 794' PZ and Weiss Lane/Kelly Lane Water Lines

#### Project Background

The 794' PZ and Weiss Lane/Kelly Lane Water Lines project consists of a proposed 36-inch and 30-inch water line to convey water in the Central Pressure Zone from the Water Treatment Plant to Kelly Lane near Moorlynch Avenue. The purpose of this project is to serve growth within the Central Pressure Zone by providing additional transmission capacity and system looping. The project will connect to the Weiss Lane/Pecan Street Water Line, and the eastern terminus of the future Kelly Lane Phase 2 Water Line. The project also includes two 12-inch water distribution line segments that will provide connectivity to the new 794' Pressure Zone in the eastern portion of the City's Service Area.

### OPCC and Schedule Progression

The project submittal deadlines are noted in the table below. The project schedule has been largely driven by the schedule for the Kelly Lane Phase 3 project since several of the easements for the water line are being acquired as part of this roadway project. The project is currently in 90% design, with the 90% submittal scheduled for November 23, 2022. There was a significant increase in the project OPCC between the Preliminary Engineering Report (PER) phase and 60% design, as noted in the following section. This was largely due to an increase in scope to the project, in addition to the increases to pipe material and labor costs as further described in the following section.

### General and Key Items Summary of OPCCs through Design Development

Below is a summary of the OPCCs submitted for the 794' PZ and Weiss Lane / Kelly Lane Water Line project, including phase submittal, total OPCC amount, and the % increase from previous OPCC.

794' PZ and Weiss / Kelly Water Lines OPCC Summary			
Design Stage	Date	OPCC	% Increase from Previous OPCC
PER	10/15/2021	\$18,600,800	-
60%	6/20/2022	\$29,844,200	60%
90% (Working Version)*	10/20/2022	\$29,086,200	-2.5%

\*90% OPCC is not finalized and is scheduled for submittal on 11/23/2022.

Below is a summary of the factors leading to the cost changes reported in the above table:

- Cost changes from 30% to 60% OPCC
  - Significant cost increase to project subtotal due to additional 3,100 LF of 36-inch water line added to project from Weiss Lane/Pecan Street Water Line project, including additional ductile iron pipe and fittings, trench safety, gate valves, air release valves, and fiber conduit.
  - Cost increase to project subtotal due to market cost increases reported from product manufacturers, particularly for pipe, valves, and trenchless construction.
  - Cost increases due to additional site restoration costs for replacing items such as parking lot, curb and gutter, etc. in new developments within proposed water line easement that was not present during 30%.
  - Added conduit and hand holes along Weiss Lane and Kelly Lane alignment for future City of Pflugerville fiber optic ring.
  - Due to increasing reports of inflation during this time, included 8% Inflation/Escalation factor in addition to contingency.
- Cost changes from 60% to 90% (working)
  - Overall cost decrease to project subtotal due to additional detail added to jack & bore unit cost assumptions, and updated costs provided by product valve manufacturers which reduced these large unit prices.

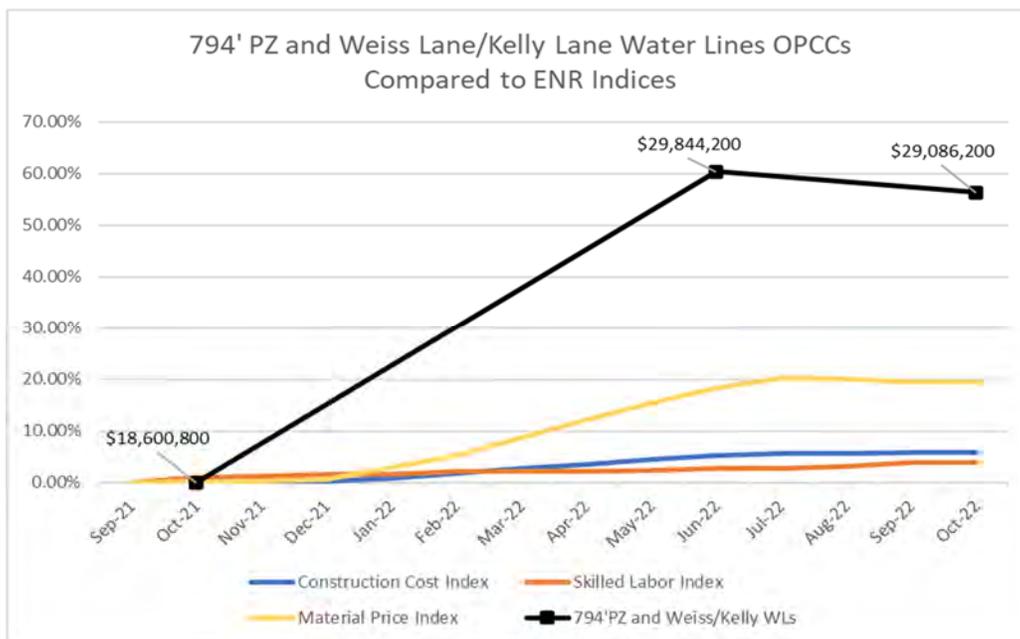
- Increase to project subtotal due to additional alignment linear footage added to 12-inch and 36-inch water line segments due to adjustment in alignment near gas station at Weiss Lane.

The below table provides a summary of the key unit price changes described above that impacted the OPCCs. As noted above, jacking and boring pipe and valves significantly rose between the PER and 60% OPCC submittals, but further coordination with manufacturers reduced these unit costs between the 60% and 90% OPCCs.

Key OPCC Items	Preliminary Engineering Report 10/15/2021		60% 6/20/2022		90% (Working Version) 10/20/2022	
	Unit Price in OPCC	% Increase from Previous OPCC	Unit Price in OPCC	% Increase from Previous OPCC	Unit Price in OPCC	% Increase from Previous OPCC
12-inch Ductile Iron Pipe	\$ 120	-	\$ 160	33%	\$ 160	0%
30-inch Ductile Iron Pipe	\$ 530	-	\$ 560	6%	\$ 560	0%
36-inch Ductile Iron Pipe	\$ 660	-	\$ 750	14%	\$ 760	1%
12-inch Gate Valve	\$ 3,300	-	\$ 10,030	204%	\$ 6,010	-40%
30-inch Gate Valve	\$ 51,375	-	\$ 124,880	143%	\$ 80,700	-35%
36-inch Gate Valve	\$ 77,250	-	\$ 181,300	135%	\$ 118,050	-35%
Jacking or Boring 54-inch Pipe	\$ 2,640	-	\$ 3,000	14%	\$ 2,280	-24%

#### Comparison to Engineering News-Record Cost Indices

The below graph shows the ENR indices as compared to the OPCCs for the 794' PZ and Weiss Lane/Kelly Lane Water Lines project. The OPCC exceeded the indices over this time largely due to increased scope in the project design, additional restoration due to new development in the project limits, and anticipated additional inflation based on historical information, all in addition to material and labor cost increases observed based on coordination with manufacturers and review of recent bid results.



### *Actions to Mitigate Cost Increases*

In an effort to mitigate cost increases and provide best value to the City in the current market, we propose consideration of the following items into this project:

- Include bid alternate to allow contractors to bid steel pipe in addition to ductile iron pipe for additional competition based on current material pricing. Please note, this will require additional evaluation for pipeline corrosion protection.
- Bid the project as early as practical to prevent additional costs that may arise with new developments constructing features within the proposed easements that would need to be replaced.
- If acceptable to the City, it is an option to bid butterfly valves as an alternate to gate valves.

If additional information or detail is needed, please contact me at [rowen@cpyi.com](mailto:rowen@cpyi.com), or 512-492-6823.

Sincerely,



Ryan Owen, P.E.  
Project Manager  
CP&Y, Inc.

Attachments: OPCC Submittals

cc : Thomas Hunter, City of Pflugerville  
Patricia Davis, PE, City of Pflugerville  
Jeff Dunsworth, PE, City of Pflugerville  
Kevin Jaeger, PE, City of Pflugerville

# Weiss Lane/Pecan Street Water Line OPCCs

**City of Pflugerville Wiess Road/ Pecan Street Water Line**  
**Engineer's Opinion of Probable Construction Cost**  
**Project 6 Alternative D - Preliminary OPCC**

Bid Item No.	Description	Units	Quantity	Unit Cost*	Total Cost**
1	Mobilization	LS	1.00	5%	\$ 349,934.09
2	Bond and Insurance	LS	1.00	2%	\$ 139,973.64
3	Traffic Control, Complete in Place	LS	1.00	\$ 100,000.00	\$ 100,000.00
4	Right-of-Way Preparation, Complete in Place	LS	1.00	\$ 150,000.00	\$ 150,000.00
5	Silt Fence for Erosion Control, Complete in Place	LF	13,625.00	\$ 4.10	\$ 55,862.50
6	Stabilized Construction Entrance, Complete in Place	SY	50.00	\$ 37.67	\$ 1,883.50
7	Trench Exvacation Safety Protection	LF	11,875.00	\$ 5.59	\$ 66,381.25
8	Pipe, 16-inch, Open Cut, All Depths, Complete in Place	LF	3,030.00	\$ 150.00	\$ 454,500.00
9	Pipe, 42-inch, Open Cut, All Depths, Complete in Place	LF	8,845.00	\$ 420.00	\$ 3,714,900.00
10	16-inch Gate Valve	EA	8.00	\$ 12,000.00	\$ 96,000.00
11	24-inch Gate Valve	EA	1.00	\$ 20,000.00	\$ 20,000.00
12	30-inch Gate Valve	EA	1.00	\$ 28,000.00	\$ 28,000.00
13	36-inch Butterfly Valve	EA	1.00	\$ 30,000.00	\$ 30,000.00
14	42-inch Butterfly Valve	EA	6.00	\$ 40,000.00	\$ 240,000.00
15	Jack/Boring Pipe, 16-inch, Complete in Place	LF	150.00	\$ 450.00	\$ 67,500.00
16	Jack/Boring Pipe, 42-inch, Complete in Place	LF	1,600.00	\$ 1,250.00	\$ 2,000,000.00
17	Air Release Valves	EA	5.00	\$ 18,000.00	\$ 90,000.00
18	Blowoff Valves	EA	4.00	\$ 20,000.00	\$ 80,000.00
19	Seeding/ Hydromulch	SY	60,971.11	\$ 0.88	\$ 53,654.58
Subtotal =					\$ 7,738,589.56
Contingency (±30%) =					\$ 2,321,576.87
Total =					\$ 10,060,166.42

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

**City of Pflugerville Wiess Road/ Pecan Street Water Line**  
**Engineer's Opinion of Probable Construction Cost**  
**Project 4 - Alternative 2 - Preliminary OPCC**

Bid Item No.	Description	Units	Quantity	Unit Cost*	Total Cost**
1	Mobilization	LS	1.00	5%	\$ 70,699.03
2	Bond and Insurance	LS	1.00	2%	\$ 28,279.61
3	Traffic Control, Complete in Place	LS	1.00	\$ 100,000.00	\$ 100,000.00
4	Right-of-Way Preparation, Complete in Place	LS	1.00	\$ 100,000.00	\$ 100,000.00
5	Tie-In to Central Pressure Zone	LS	1.00	\$ 50,000.00	\$ 50,000.00
6	Silt Fence for Erosion Control, Complete in Place	LF	5,873.00	\$ 4.10	\$ 24,079.30
7	Stabilized Construxtion Entrance, Complete in Place	SY	33	\$ 37.67	\$ 1,255.67
8	Trench Exvacation Safety Protection	LF	5,713.00	\$ 5.59	\$ 31,935.67
9	Pipe, 24-inch, Open Cut, All Depths, Complete in Place	LF	5,873.00	\$ 180.00	\$ 1,057,140.00
12	24-inch Gate Valve	EA	3.00	\$ 20,000.00	\$ 60,000.00
13	Jacking/Boring 24-inch	EA	160.00	\$ 660.00	\$ 105,600.00
14	Air Release Valves	EA	2.00	\$ 18,000.00	\$ 36,000.00
15	Blowoff Valves	EA	1.00	\$ 25,000.00	\$ 25,000.00
16	Seeding/Hydromulch	SY	26,102.22	\$ 0.88	\$ 22,969.96
Subtotal =					\$ 1,712,959.23
Contingency (±30%) =					\$ 513,887.77
Total =					\$ 2,226,847.00

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

**City of Pflugerville Weiss Lane/ Pecan Street Water Line**  
**Engineer's Opinion of Probable Construction Cost**  
**60% OPCC**

Bid Item No.	Spec. Item	Description	Units	Quantity	Unit Cost	Total Cost
1	803S	Traffic Control, Complete in Place	LS	1	\$ 100,000.00	\$ 100,000.00
2	101S-C	Preparing Right of Way	LS	1	\$ 150,000.00	\$ 150,000.00
3	642S-A	Silt Fence for Erosion Control	LF	15,679	\$ 2.50	\$ 39,197.50
4	642S-C	Tree Protection	LF	278	\$ 4.00	\$ 1,113.60
5	641S	Stabilized Construction Entrance, Complete in Place	EA	3	\$ 2,000.00	\$ 6,000.00
6	639S	Rock Berm	LF	170	\$ 32.00	\$ 5,440.00
7	642S	Inlet Protection	LF	523	\$ 5.00	\$ 2,615.00
8	642S	12" Rip-Rap	CY	31	\$ 200.00	\$ 6,192.59
9	604S-A	Native Seeding for Erosion Control Methods, Hydraulic Planting	SY	74,679	\$ 1.00	\$ 74,678.58
10	703	Trench Excavation Safety Protection	LF	11,579	\$ 2.00	\$ 23,158.44
11	510-AR	Pipe, Ductile Iron 8-inch, Type (all depths), including Excavation and Backfill	LF	10	\$ 90.00	\$ 900.00
12	510-AR	Pipe, Ductile Iron 16-inch, Type (all depths), including Excavation and Backfill	LF	139	\$ 110.00	\$ 15,328.50
13	510-AR	Pipe, Ductile Iron 24-inch, Type (all depths), including Excavation and Backfill	LF	83	\$ 200.00	\$ 16,572.00
14	510-AR	Pipe, Ductile Iron 30-inch, Type (all depths), including Excavation and Backfill	LF	28	\$ 250.00	\$ 7,000.00
15	510-AR	Pipe, Ductile Iron 36-inch, Type (all depths), including Excavation and Backfill	LF	3,259	\$ 300.00	\$ 977,631.00
16	510-AR	Pipe, Ductile Iron 42-inch, Type (all depths), including Excavation and Backfill	LF	9,536	\$ 350.00	\$ 3,337,677.00
17	511S-A	Valves, Gate Valve, 8 Inch	EA	1	\$ 4,500.00	\$ 4,500.00
18	511S-A	Valves, Gate Valve, 16 Inch	EA	1	\$ 12,000.00	\$ 12,000.00
19	511S-A	Valves, Gate Valve, 24 Inch	EA	6	\$ 24,000.00	\$ 144,000.00
20	511S-A	Valves, Butterfly Valve, 30 Inch	EA	1	\$ 30,000.00	\$ 30,000.00
21	511S-A	Valves, Butterfly Valve, 36 Inch	EA	1	\$ 40,000.00	\$ 40,000.00
22	511S-A	Valves, Butterfly Valve, 42 Inch	EA	6	\$ 45,000.00	\$ 270,000.00
23	501S	SH 130 Tunnel/Microtunnel 60-inch Liner, Steel Casing 0.5-inch Thick	LF	816	\$ 1,265.00	\$ 1,031,809.90
24	501S	Trenchless 60-inch Liner, Steel Casing 0.5-inch Thick	LF	650	\$ 1,100.00	\$ 715,352.00
25	501S	20' x 40' Working/Receiving Shaft	EA	8	\$ 15,000.00	\$ 120,000.00
26	501S	10' x 10' Receiving Shaft	EA	1	\$ 10,000.00	\$ 10,000.00
27	510-KW	Ductile Iron Fittings	TON	66	\$ 10,000.00	\$ 660,300.00
28	510-JW	Wet Connections, 16" Dia. X 16" Dia.	EA	2	\$ 3,000.00	\$ 6,000.00
29	510-JW	Wet Connections, 24" Dia. X 24" Dia.	EA	4	\$ 5,000.00	\$ 20,000.00
30	510-JW	Wet Connections, 42" Dia. X 24" Dia.	EA	1	\$ 8,000.00	\$ 8,000.00
31	510-JW	Wet Connections, 42" Dia. x 30" Dia.	EA	1	\$ 12,000.00	\$ 12,000.00
32	701S	Lake Pflugerville Park Fencing	LF	40	\$ 20.00	\$ 800.00
33	701S-BW	Barbed Wire Fence	LF	80	\$ 20.00	\$ 1,600.00
34	701S-CS	Chain Link Vehicular Single Swing Gate, 16 Foot x 6 Foot	EA	2	\$ 3,800.00	\$ 7,600.00
35	104S-C	Remove P.C. Concrete Sidewalks and Driveways	SY	144	\$ 5.00	\$ 720.00
36	433S	P.C. Concrete Driveways	SF	748	\$ 75.00	\$ 56,100.00
37	432S-R	Reconstruct Concrete Sidewalks to 4" thickness, including removal of existing sidewalk	SF	668	\$ 23.70	\$ 15,831.60
38	104S-A	Remove P.C. Concrete Curb	LF	20	\$ 22.00	\$ 440.00
39	430S-D	P.C. Concrete Curb (Fine Grading)	LF	20	\$ 22.00	\$ 440.00
40	511S-E	Automatic Combination Air/Vacuum Release Valve Assembly	EA	8	\$ 25,000.00	\$ 200,000.00
41	511S	Blowoff Valves	EA	3	\$ 20,000.00	\$ 60,000.00
					Subtotal =	\$ 8,190,997.72
					Contingency (±20%) =	\$ 1,638,199.54
					Mobilization (±5%) =	\$ 409,549.89
					Bonds and Insurance (±2%) =	\$ 163,819.95
					<b>Total =</b>	<b>\$ 10,402,567.10</b>

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

City of Pflugerville Weiss Lane/ Pecan Street Water Line						
Engineer's Opinion of Probable Construction Cost						
90% OPCC						
Bid Item No.	Spec. Item	Description	Units	Quantity	Unit Cost	Total Cost
1	803S-CD	Barricades, Signs, and Traffic Handling	Calendar Day	365	\$ 200.00	\$ 73,000.00
2	101S-C	Preparing Right of Way	LS	1	\$ 150,000.00	\$ 150,000.00
3	703-A	Safety Fencing	LF	2,700	\$ 1.60	\$ 4,320.00
4	642S-A	Silt Fence for Erosion Control	LF	16,245	\$ 2.50	\$ 40,612.50
5	642S-C	Tree Protection	LF	716	\$ 4.00	\$ 2,864.00
6	641S	Stabilized Construction Entrance, Complete in Place	EA	2	\$ 2,000.00	\$ 4,000.00
7	639S	Rock Berm	LF	151	\$ 32.00	\$ 4,832.00
8	642S	Inlet Protection	LF	649	\$ 5.00	\$ 3,245.00
9	591S-A	Dry Rock Riprap	SY	31	\$ 150.00	\$ 4,710.00
10	604S-A	Native Seeding for Erosion Control Methods, Hydraulic Planting	SY	95,193	\$ 1.00	\$ 95,193.00
11	703	Trench Excavation Safety Protection	LF	10,882	\$ 2.00	\$ 21,763.40
12	510-AR	Pipe, Ductile Iron 8-inch, restrained, Type (all depths), including Excavation and Backfill	LF	10	\$ 120.00	\$ 1,200.00
13	510-AR	Pipe, Ductile Iron 16-inch, restrained, Type (all depths), including Excavation and Backfill	LF	159	\$ 150.00	\$ 23,850.00
14	510-AR	Pipe, Ductile Iron 24-inch, restrained, Type (all depths), including Excavation and Backfill	LF	55	\$ 310.00	\$ 17,050.00
15	510-AR	Pipe, Ductile Iron 30-inch, restrained, Type (all depths), including Excavation and Backfill	LF	26	\$ 350.00	\$ 9,100.00
16	510-AR	Pipe, Ductile Iron 36-inch, Type (all depths), including Excavation and Backfill	LF	1,809	\$ 300.00	\$ 542,760.00
17	510-AR	Pipe, Ductile Iron 36-inch, restrained, Type (all depths), including Excavation and Backfill	LF	827	\$ 425.00	\$ 351,475.00
18	510-AR	Pipe, Ductile Iron 42-inch, Type (all depths), including Excavation and Backfill	LF	5,858	\$ 380.00	\$ 2,226,078.00
19	510-AR	Pipe, Ductile Iron 42-inch, restrained, Type (all depths), including Excavation and Backfill	LF	2,234	\$ 490.00	\$ 1,094,660.00
20	510-AR	Pipe, Ductile Iron 36-inch, restrained, in Casing	LF	617	\$ 425.00	\$ 262,310.00
21	510-AR	Pipe, Ductile Iron 42-inch, restrained, in Casing	LF	1,456	\$ 490.00	\$ 713,636.00
22	511S-A	Valves, Gate Valve, 8 Inch	EA	1	\$ 4,500.00	\$ 4,500.00
23	511S-A	Valves, Gate Valve, 16 Inch	EA	1	\$ 12,000.00	\$ 12,000.00
24	511S-A	Valves, Gate Valve, 24 Inch	EA	6	\$ 24,000.00	\$ 144,000.00
25	511S-A	Valves, Gate Valve, 30 Inch	EA	1	\$ 55,000.00	\$ 55,000.00
26	511S-A	Valves, Gate Valve, 36 Inch	EA	3	\$ 80,000.00	\$ 240,000.00
27	511S-A	Valves, Gate Valve, 42 Inch	EA	7	\$ 100,000.00	\$ 700,000.00
28	501S	SH 130 Tunnel/Microtunnel 60-inch Liner, Steel Casing 0.5-inch Thick	LF	804	\$ 1,300.00	\$ 1,044,940.00
29	501S	Trenchless 60-inch Liner, Steel Casing 0.5-inch Thick	LF	644	\$ 1,100.00	\$ 707,850.00
30	501S	Open-Cut 60" Casing Pipe, Steel Casing 0.5-inch Thick	LF	76	\$ 700.00	\$ 53,200.00
31	501S	Open-Cut 54" Casing Pipe, Steel Casing 0.5-inch Thick <sup>(2)</sup>	LF	502	\$ 650.00	\$ 326,300.00
32	501S	20' x 74" Bore Pit	EA	1	\$ 20,000.00	\$ 20,000.00
33	501S	20' x 40' Working/Receiving Shaft	EA	6	\$ 15,000.00	\$ 90,000.00
34	501S	28' x 34" Bore Pit	EA	1	\$ 18,000.00	\$ 18,000.00
35	501S	10' x 10' Receiving Shaft	EA	1	\$ 10,000.00	\$ 10,000.00
36	510-KW	Ductile Iron Fittings	TON	61	\$ 10,000.00	\$ 613,000.00
37	510-JW	Wet Connections, 16" Dia. X 16" Dia.	EA	2	\$ 8,000.00	\$ 16,000.00
38	510-JW	Wet Connections, 24" Dia. X 24" Dia.	EA	5	\$ 10,000.00	\$ 50,000.00
39	510-JW	Wet Connections, 42" Dia. x 30" Dia.	EA	1	\$ 50,000.00	\$ 50,000.00
40	701S-BW	Barbed Wire Fence	LF	161	\$ 20.00	\$ 3,220.00
41	701S-BW-G	Barbed Wire Fence Gate	EA	3	\$ 31.00	\$ 93.00
42	701S-CS	Chain Link Vehicular Single Swing Gate, 16 Foot x 6 Foot	EA	1	\$ 3,800.00	\$ 3,800.00
43	104S-C	Remove P.C. Concrete Sidewalks and Driveways	SY	1,574	\$ 5.00	\$ 7,870.50
44	433S-A	Type I P.C. Concrete Driveway (5" Thick)	SF	488	\$ 18.00	\$ 8,784.00
45	433S-C	Type II P.C. Concrete Driveway (7" Thick)	SF	181	\$ 18.00	\$ 3,261.60
46	432S-R	Reconstruct Concrete Sidewalks to 4" thickness, including removal of existing sidewalk	SF	905	\$ 23.70	\$ 21,448.50
47	104S-A	Remove P.C. Concrete Curb	LF	124	\$ 22.00	\$ 2,728.00
48	430S-D	P.C. Concrete Curb (Fine Grading)	LF	124	\$ 22.00	\$ 2,728.00
49	511S-E	Automatic Combination Air/Vacuum Release Valve Assembly	EA	10	\$ 30,000.00	\$ 300,000.00
50	511S	Drain Valves	EA	1	\$ 15,000.00	\$ 15,000.00
51	026114.A.1	PPCA Preparation	LS	1	\$ 40,000.00	\$ 40,000.00
52	026114.A.2	PPCA Underground Utility Construction	LF	100	\$ 330.00	\$ 33,000.00
53	026114.A.3	Transportation and Disposal of Hazardous Waste	CY	22	\$ 100.00	\$ 2,170.00
Subtotal =					\$	10,245,552.50
Contingency (±15%) =					\$	1,536,832.88
Mobilization (±5%) =					\$	512,277.63
Bonds and Insurance (±2%) =					\$	204,911.05
Total =					\$	12,499,574.05

Note:

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(2) For City budgeting purposes, cost of casing to be installed as part of Lake Pflugerville Park Improvements Phase I project is included.

During development of the OPCC, recent bid tabulations over the past two months from projects along the IH35 corridor have shown an increase in unit pricing for items such as pipe and manholes. Due to the schedule of this project, and the increase occurring fairly recently and immediately following the significant winter weather event in late February 2021, we have not yet increased the unit pricing for this project accordingly, however we will continue to monitor material costs and local trends in construction bids for similar projects, and adjust if this appears to be a longer term trend.

City of Pflugerville Weiss Lane/ Pecan Street Water Line						
Engineer's Opinion of Probable Construction Cost						
100% OPCC						
Bid Item No.	Spec. Item	Description	Units	Quantity	Unit Cost	Total Cost
1	803S-CD	Barricades, Signs, and Traffic Handling	Calendar Day	365	\$ 200.00	\$ 73,000.00
2	101S-C	Preparing Right of Way	LS	1	\$ 150,000.00	\$ 150,000.00
3	802S-BCIP	CIP Project Sign	EA	2	\$ 700.00	\$ 1,400.00
4	703-A	Safety Fencing	LF	2,700	\$ 1.60	\$ 4,320.00
5	642S-A	Silt Fence for Erosion Control	LF	16,577	\$ 2.50	\$ 41,442.50
6	642S-C	Tree Protection Type A	LF	716	\$ 4.00	\$ 2,864.00
7	641S	Stabilized Construction Entrance, Complete in Place	EA	8	\$ 2,000.00	\$ 16,000.00
8	639S	Rock Berm	LF	181	\$ 32.00	\$ 5,792.00
9	642S	Inlet Protection	LF	649	\$ 5.00	\$ 3,245.00
10	591S-S	Remove, Salvage, and Replace Existing Dry Rock Rip Rap	SY	72	\$ 150.00	\$ 10,860.00
11	604S-A	Native Seeding for Erosion Control Methods, Hydraulic Planting	SY	95,193	\$ 1.00	\$ 95,193.00
12	509S-1	Trench Excavation Safety Protection	LF	11,359	\$ 2.00	\$ 22,718.00
13	510-AR	Pipe, Ductile Iron 16-inch, restrained, Type (all depths), including Excavation and Backfill	LF	112	\$ 165.00	\$ 18,529.50
14	510-AR	Pipe, Ductile Iron 24-inch, restrained, Type (all depths), including Excavation and Backfill	LF	179	\$ 341.00	\$ 61,107.20
15	510-AR	Pipe, Ductile Iron 30-inch, restrained, Type (all depths), including Excavation and Backfill	LF	30	\$ 385.00	\$ 11,627.00
16	510-AR	Pipe, Ductile Iron 36-inch, Type (all depths), including Excavation and Backfill	LF	1,865	\$ 330.00	\$ 615,384.00
17	510-AR	Pipe, Ductile Iron 36-inch, restrained, Type (all depths), including Excavation and Backfill	LF	1,112	\$ 467.50	\$ 520,047.00
18	510-AR	Pipe, Ductile Iron 42-inch, Type (all depths), including Excavation and Backfill	LF	6,060	\$ 418.00	\$ 2,533,038.20
19	510-AR	Pipe, Ductile Iron 42-inch, restrained, Type (all depths), including Excavation and Backfill	LF	2,001	\$ 539.00	\$ 1,078,269.50
20	510-AR	Pipe, Ductile Iron 36-inch, restrained, in Casing	LF	282	\$ 468.00	\$ 132,069.60
21	510-AR	Pipe, Ductile Iron 42-inch, restrained, in Casing	LF	1,488	\$ 539.00	\$ 801,816.40
22	511S-A	Valves, Gate Valve, 16 Inch	EA	1	\$ 13,875.00	\$ 13,875.00
23	511S-A	Valves, Gate Valve, 24 Inch	EA	6	\$ 30,375.00	\$ 182,250.00
24	511S-A	Valves, Gate Valve, 30 Inch	EA	1	\$ 49,875.00	\$ 49,875.00
25	511S-A	Valves, Gate Valve, 36 Inch	EA	4	\$ 59,700.00	\$ 238,800.00
26	511S-A	Valves, Gate Valve, 42 Inch	EA	7	\$ 107,250.00	\$ 750,750.00
27	501S	SH 130 Tunnel/Microtunnel 60-inch Liner, Steel Casing 0.5-inch Thick	LF	804	\$ 1,500.00	\$ 1,205,700.00
28	501S	Trenchless 60-inch Liner, Steel Casing 0.5-inch Thick	LF	521	\$ 1,200.00	\$ 625,680.00
29	501S	Trenchless 54-inch Liner, Steel Casing 0.5-inch Thick	LF	125	\$ 1,100.00	\$ 137,720.00
30	501S	Open-Cut 60" Casing Pipe, Steel Casing 0.5-inch Thick	LF	163	\$ 1,072.00	\$ 174,307.20
31	501S	Open-Cut 54" Casing Pipe, Steel Casing 0.5-inch Thick <sup>(2)</sup>	LF	96	\$ 980.00	\$ 94,080.00
32	501S	20' x 74' Bore Pit	EA	1	\$ 20,000.00	\$ 20,000.00
33	501S	20' x 40' Working/Receiving Shaft	EA	5	\$ 15,000.00	\$ 75,000.00
34	501s	20' x 50' Bore Pit	EA	1	\$ 16,000.00	\$ 16,000.00
35	501S	28' x 34' Bore Pit	EA	1	\$ 18,000.00	\$ 18,000.00
36	501S	10' x 10' Receiving Shaft	EA	1	\$ 10,000.00	\$ 10,000.00
37	510-KW	Ductile Iron Fittings	TON	62	\$ 10,000.00	\$ 619,000.00
38	510-JW	Wet Connections, 16" Dia. X 16" Dia.	EA	2	\$ 8,000.00	\$ 16,000.00
39	510-JW	Wet Connections, 24" Dia. X 24" Dia.	EA	4	\$ 10,000.00	\$ 40,000.00
40	510-JW	Wet Connections, 30" Dia. x 30" Dia.	EA	1	\$ 50,000.00	\$ 50,000.00
41	701S-BW	Barbed Wire Fence	LF	858	\$ 20.00	\$ 17,160.00
42	701S-BW-G	Barbed Wire Fence Gate	EA	4	\$ 31.00	\$ 124.00
43	701S-CS	Chain Link Vehicular Single Swing Gate, 16 Foot x 6 Foot	EA	1	\$ 3,800.00	\$ 3,800.00
44	104S-C	Remove P.C. Concrete Sidewalks and Driveways	SY	39	\$ 5.00	\$ 197.00
45	433S-A	Type I P.C. Concrete Driveway (5" Thick)	SF	906	\$ 18.00	\$ 16,304.40
46	433S-C	Type II P.C. Concrete Driveway (7" Thick)	SF	157	\$ 18.00	\$ 2,817.00
47	432S-R	Reconstruct Concrete Sidewalks to 4" thickness, including removal of existing sidewalk	SF	12,305	\$ 23.70	\$ 291,621.39
48	104S-A	Remove P.C. Concrete Curb	LF	130	\$ 22.00	\$ 2,860.00
49	430S-D	P.C. Concrete Curb (Fine Grading)	LF	130	\$ 22.00	\$ 2,860.00
50	511S-E	Automatic Combination Air/Vacuum Release Valve Assembly	EA	10	\$ 30,000.00	\$ 300,000.00
51	511S	Drain Valves	EA	4	\$ 15,000.00	\$ 60,000.00
52	026114.A.1	PPCA Preparation	LS	1	\$ 40,000.00	\$ 40,000.00
53	026114.A.2	PPCA Underground Utility Construction	LF	100	\$ 330.00	\$ 33,000.00
54	026114.A.3	Transportation and Disposal of Hazardous Waste	CY	22	\$ 100.00	\$ 2,170.00
Subtotal =					\$	11,308,673.89
Contingency (±5%) =					\$	565,433.69
Mobilization (±5%) =					\$	565,433.69
Bonds and Insurance (±2%) =					\$	226,173.48
Total =					\$	12,665,714.76

Note:  
(1) This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.  
(2) For City Budgeting purposes, included cost of casing to be installed as part of Lake Pflugerville Park Improvements Phase I.

794' PZ and Weiss Lane/Kelly Lane Water Lines OPCCs

**City of Pflugerville - 794' PZ and Weiss Lane / Kelly Lane Water Lines  
Engineer's Opinion of Probable Construction Cost  
Project 3 Alternative B**



ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST <sup>1</sup>	TOTAL COST <sup>2</sup>
1	Traffic Control, Complete in Place	LS	1	\$ 94,500.00	\$ 94,500.00
2	Right-of-Way Preparation, Complete in Place	LS	1	\$ 202,188.00	\$ 202,200.00
3	Silt Fence for Erosion Control, Complete in Place	LF	14,682	\$ 4.10	\$ 60,200.00
4	Stabilized Construction Entrance, Complete in Place	SY	50	\$ 40.00	\$ 2,000.00
5	Trench Excavation Safety Protection	LF	9,788	\$ 2.00	\$ 19,600.00
6	Pipe, 30-inch, Open Cut, All Depths, Complete in Place	LF	5,118	\$ 530.00	\$ 2,712,800.00
7	Pipe, 36-inch, Open Cut, All Depths, Complete in Place	LF	4,669	\$ 660.00	\$ 3,081,800.00
8	54-inch Open Cut Casing	LF	1,065	\$ 980.00	\$ 1,043,500.00
9	Jack/Boring Pipe, 48-inch, Complete in Place	LF	285	\$ 2,120.00	\$ 604,000.00
10	Jack/Boring Pipe, 54-inch, Complete in Place	LF	555	\$ 2,640.00	\$ 1,465,700.00
11	24-inch Gate Valve	EA	1	\$ 37,500.00	\$ 37,500.00
12	30-inch Gate Valve	EA	2	\$ 51,375.00	\$ 102,800.00
13	36-inch Gate Valve	EA	2	\$ 77,250.00	\$ 154,500.00
14	Air Release Valves	EA	5	\$ 30,000.00	\$ 150,000.00
15	Blowoff Valves	EA	2	\$ 15,000.00	\$ 30,000.00
16	30" WL Connection	EA	1	\$ 10,000.00	\$ 10,000.00
17	36" WL Connection	EA	1	\$ 15,000.00	\$ 15,000.00
18	Seeding/ Hydromulch	SY	27,820	\$ 0.75	\$ 20,900.00
19	Remove and Replace Asphalt Driveway	SY	300	\$ 130.00	\$ 39,000.00
20	Remove and Replace Asphalt Parking Lot	SY	1389	\$ 145.00	\$ 201,400.00
21	Remove and Replace Asphalt Pavement	SY	1,231	\$ 185.00	\$ 227,800.00
22	Replace Curb	LF	924	\$ 45.00	\$ 41,600.00
23	Storm Drain Relocation (18")	LF	56	\$ 180.00	\$ 10,100.00
24	Storm Drain Relocation (24")	LF	360	\$ 220.00	\$ 79,200.00
<b>Project Subtotal</b>					<b>\$ 10,406,100.00</b>
Inflation/Escalation <sup>3</sup> (3% of Subtotal)					\$ 312,183
Subtotal With Inflation/Escalation					\$ 10,718,283
Contingency (30% of Subtotal With Inflation/Escalation)					\$ 3,215,485
Subtotal With Inflation/Escalation and Contingency					\$ 13,933,768
Mobilization (5%)					\$ 696,688
Bonds & Insurance (2%)					\$ 278,675
<b>Total<sup>4</sup></b>					<b>\$ 14,909,132</b>

<sup>1</sup>The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted.

<sup>2</sup>Total Cost is rounded to the nearest \$100.

<sup>3</sup>Inflation/Escalation is calculated as 3% of the subtotal to account for the time between this estimation and construction.

<sup>4</sup>These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 4 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

**City of Pflugerville - 794' PZ and Weiss Lane / Kelly Lane Water Lines  
Engineer's Opinion of Probable Construction Cost  
Project 2.1 Alternative B**



ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST <sup>1</sup>	TOTAL COST <sup>2</sup>
1	Traffic Control, Complete in Place	LS	1	\$ 47,300.00	\$ 47,300.00
2	Right-of-Way Preparation, Complete in Place	LS	1	\$ 79,475.00	\$ 79,500.00
3	Silt Fence for Erosion Control, Complete in Place	LF	10,155	\$ 4.10	\$ 41,600.00
4	Stabilized Construction Entrance, Complete in Place	SY	30	\$ 40.00	\$ 1,200.00
5	Trench Excavation Safety Protection	LF	6,770	\$ 2.00	\$ 13,500.00
6	Pipe, 12-inch, Open Cut, All Depths, Complete in Place	LF	6,770	\$ 120.00	\$ 812,400.00
7	24-inch Open Cut Casing	LF	1,151	\$ 345.00	\$ 397,200.00
8	Jack/Boring Pipe, 24-inch, Complete in Place	LF	118	\$ 480.00	\$ 56,800.00
9	12-inch Gate Valve	EA	14	\$ 3,300.00	\$ 46,200.00
10	Air Release Valves	EA	3	\$ 30,000.00	\$ 90,000.00
11	Blowoff Valves	EA	1	\$ 15,000.00	\$ 15,000.00
12	Fire Hydrants	EA	14	\$ 5,600.00	\$ 78,400.00
13	12" WL Connection	EA	2	\$ 3,130.00	\$ 6,300.00
14	Seeding/ Hydromulch	SY	8,740	\$ 0.75	\$ 6,600.00
15	Remove and Replace Asphalt Driveway	SY	187	\$ 130.00	\$ 24,300.00
<b>Project Subtotal</b>					<b>\$ 1,716,300.00</b>
Inflation/Escalation <sup>3</sup> (3% of Subtotal)					\$ 51,489
Subtotal With Inflation/Escalation					\$ 1,767,789
Contingency (30% of Subtotal With Inflation/Escalation)					\$ 530,337
Subtotal With Inflation/Escalation and Contingency					\$ 2,298,126
Mobilization (5%)					\$ 114,906
Bonds & Insurance (2%)					\$ 45,963
<b>Total<sup>4</sup></b>					<b>\$ 2,458,994</b>

<sup>1</sup>The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted.

<sup>2</sup>Total Cost is rounded to the nearest \$100.

<sup>3</sup>Inflation/Escalation is calculated as 3% of the subtotal to account for the time between this estimation and construction.

<sup>4</sup>These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 4 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

**City of Pflugerville - 794' PZ and Weiss Lane / Kelly Lane Water Lines**  
**Engineer's Opinion of Probable Construction Cost**  
**Project 2.2 Alternative D**



ITEM NO.	DESCRIPTION	UNITS	QNTY	UNIT COST <sup>1</sup>	TOTAL COST <sup>2</sup>
1	Traffic Control, Complete in Place	LS	1	\$ 12,200.00	\$ 12,200.00
2	Right-of-Way Preparation, Complete in Place	LS	1	\$ 23,715.00	\$ 23,700.00
3	Silt Fence for Erosion Control, Complete in Place	LF	2,678	\$ 4.10	\$ 11,000.00
4	Stabilized Construction Entrance, Complete in Place	SY	30	\$ 40.00	\$ 1,200.00
5	Trench Excavation Safety Protection	LF	1,785	\$ 2.00	\$ 3,600.00
6	Pipe, 12-inch, Open Cut, All Depths, Complete in Place	LF	1,785	\$ 120.00	\$ 214,300.00
7	Jack/Boring Pipe, 24-inch, Complete in Place	LF	229	\$ 480.00	\$ 109,900.00
8	12-inch Gate Valve	EA	5	\$ 3,300.00	\$ 16,500.00
9	Air Release Valves	EA	1	\$ 30,000.00	\$ 30,000.00
10	Blowoff Valves	EA	1	\$ 15,000.00	\$ 15,000.00
11	Fire Hydrants	EA	5	\$ 5,600.00	\$ 28,000.00
12	12" WL Connection	EA	2	\$ 3,130.00	\$ 6,300.00
13	Seeding/ Hydromulch	SY	6,750	\$ 0.75	\$ 5,100.00
14	Remove and Replace Asphalt Pavement	SY	175	\$ 185.00	\$ 32,400.00
14	Storm Drain Relocation (24")	LF	8	\$ 130.00	\$ 1,000.00
<b>Project Subtotal</b>					<b>\$ 510,200.00</b>
Inflation/Escalation <sup>3</sup> (3% of Subtotal)					\$ 15,306
Subtotal With Inflation/Escalation					\$ 525,506
Contingency (30% of Subtotal With Inflation/Escalation)					\$ 157,652
Subtotal With Inflation/Escalation and Contingency					\$ 683,158
Mobilization (5%)					\$ 34,158
Bonds & Insurance (2%)					\$ 13,663
<b>Total<sup>4</sup></b>					<b>\$ 730,979</b>

<sup>1</sup>The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted.

<sup>2</sup>Total Cost is rounded to the nearest \$100.

<sup>3</sup>Inflation/Escalation is calculated as 3% of the subtotal to account for the time between this estimation and construction.

<sup>4</sup>These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 4 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

Note: This Engineer's Opinion of Probable Construction Cost is only an estimate of the probable construction costs for budgeting purposes. This estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction costs. Uncertain market conditions, such as, but not limited to price escalation, force majeure events, developing bidding conditions, etc. may affect the accuracy of this estimate. CP&Y, Inc. is not responsible for any variance from this estimate or actual prices and conditions obtained.

**City of Pflugerville - 794' PZ and Weiss Lane / Kelly Lane Water Lines  
60% Engineer's Opinion of Probable Construction Cost**



ITEM NO.	SPEC REFERENCE	DESCRIPTION	UNITS	QNTY	UNIT COST <sup>1</sup>	TOTAL COST <sup>2</sup>
<b>GENERAL</b>						
1	101S-C	Right-of-Way Preparation, Complete in Place	LS	1	\$ 422,000.00	\$ 422,000.00
						<b>Subtotal \$ 422,000.00</b>
<b>WEISS LN / KELLY LN WATERLINES</b>						
2	803S-CD	Barricades, Signs, and Traffic Handling (Weiss Lane)	CD	99	\$ 1,430.00	\$ 141,600.00
3	642S-A	Silt Fence for Erosion Control, Complete in Place	LF	28,150	\$ 4.10	\$ 115,400.00
4	642S-D	Inlet Protection	LF	96	\$ 5.00	\$ 480.00
5	591S-S	Remove Salvage and Replace Existing Dry Rock Rip Rap	SY	205	\$ 200.00	\$ 41,000.00
6	641A	Stabilized Construction Entrance, Complete in Place	SY	3,056	\$ 40.00	\$ 122,200.00
7	509S-1	Trench Excavation Safety Protection	LF	18,767	\$ 5.00	\$ 93,800.00
8	510-AR	Pipe, Ductile Iron 12-inch restrained, Type (all depths), including Excavation and Backfill	LF	6,933	\$ 160.00	\$ 1,109,300.00
9	510-AR	Pipe, Ductile Iron 30-inch restrained, Type (all depths), including Excavation and Backfill	LF	5,428	\$ 560.00	\$ 3,039,800.00
10	510-AR	Pipe, Ductile Iron 36-inch restrained, Type (all depths), including Excavation and Backfill	LF	8,314	\$ 750.00	\$ 6,235,300.00
11	510-AR	Remove & Replace 8" WW Line	LF	132	\$ 160.00	\$ 21,100.00
12	510-KW	Ductile Iron Fittings	TON	85	\$ 9,800.00	\$ 835,700.00
13	501S	Open-Cut 24-inch Casing Pipe, Steel Casing 0.5-inch Thick	LF	106	\$ 350.00	\$ 37,200.00
14	501S	Open-Cut 54-inch Casing Pipe, Steel Casing 0.5-inch Thick	LF	96	\$ 980.00	\$ 94,400.00
15	501S	Jacking or Boring 24-inch, Pipe, Class 200	LF	409	\$ 640.00	\$ 262,000.00
16	501S	Jacking or Boring 48-inch, Pipe, Class 200	LF	410	\$ 2,240.00	\$ 917,600.00
17	501S	Jacking or Boring 54-inch, Pipe, Class 150	LF	983	\$ 3,000.00	\$ 2,949,700.00
18	511S-A	Valves, Gate Valve, 12-Inch	EA	20	\$ 10,030.00	\$ 200,600.00
19	511S-A	Valves, Gate Valve, 30-Inch	EA	3	\$ 124,880.00	\$ 374,600.00
20	511S-A	Valves, Gate Valve, 36-Inch	EA	6	\$ 181,300.00	\$ 1,087,800.00
21	511S-E	Automatic Combination Air/Vacuum Release Valve Assembly	EA	10	\$ 30,000.00	\$ 300,000.00
22	511S-D	Drain Valves	EA	9	\$ 15,000.00	\$ 135,000.00
23	511S-B	Fire Hydrants	EA	16	\$ 7,400.00	\$ 118,400.00
24	510-JW	12" WL Connection	EA	2	\$ 5,000.00	\$ 10,000.00
25	510-JW	30" WL Connection	EA	1	\$ 37,000.00	\$ 37,000.00
26	510-JW	36" WL Connection	EA	1	\$ 37,500.00	\$ 37,500.00
27	604S-A	Seeding/ Hydromulch	SY	59,293	\$ 1.00	\$ 59,300.00
28	210S-A	Flexible Base	CY	658	\$ 60.00	\$ 39,500.00
29	104S-A	Remove P. C. Concrete Curb	LF	2,551	\$ 15.00	\$ 38,300.00
30	430S-D	P.C. Concrete Curb (Fine Grading)	LF	2,551	\$ 23.04	\$ 58,800.00
31	432S-A	New PC Concrete Sidewalks	SF	5,790	\$ 10.67	\$ 61,800.00
32	433S-C	Type II P.C. Concrete Driveway (7" Thick)	SF	5,276	\$ 150.00	\$ 791,400.00
33	340S-B	Hot Mix Asphaltic Concrete Pavement, 2 inches, Type C	SY	5,190	\$ 190.00	\$ 986,000.00
34	210S-A	Replace Gravel Driveway	SY	121	\$ 70.00	\$ 8,400.00
35	508S-3	Curb Inlet Removal & Replacement	EA	1	\$ 11,500.00	\$ 11,500.00
36	701S-BW	Barbed Wire Fence	LF	407	\$ 15.00	\$ 6,100.00
37	701S-D	Wire Fence	LF	426	\$ 20.00	\$ 8,500.00
38	701S-F	Fence Gate	EA	5	\$ 1,150.00	\$ 5,800.00
39	44 60 10	Fiber Conduit	LF	13,742	\$ 5.50	\$ 75,600.00
40	44 60 10	Fiber Hand holes	EA	14	\$ 2,200.00	\$ 30,200.00
						<b>Subtotal \$ 20,498,680.00</b>
<b>JESSE BOHLS WATERLINE</b>						
41	803S-CD	Barricades, Signs, and Traffic Handling (Jesse Bohls Drive)	CD	45	\$ 1,380.00	\$ 62,100.00
42	642S-A	Silt Fence for Erosion Control, Complete in Place	LF	2,928	\$ 4.10	\$ 12,000.00
43	642S-D	Inlet Protection	LF	36	\$ 5.00	\$ 180.00
44	641A	Stabilized Construction Entrance, Complete in Place	SY	556	\$ 40.00	\$ 22,200.00
45	509S-1	Trench Excavation Safety Protection	LF	1,952	\$ 5.00	\$ 9,800.00
46	510-AR	Pipe, Ductile Iron 12-inch restrained, Type (all depths), including Excavation and Backfill	LF	2,018	\$ 160.00	\$ 322,900.00
47	510-KW	Ductile Iron Fittings	TON	1	\$ 9,800.00	\$ 11,400.00
48	501S	Open-Cut 24-inch Casing Pipe, Steel Casing 0.5-inch Thick	LF	45	\$ 350.00	\$ 15,800.00
49	501S	Jacking or Boring 24-inch, Pipe, Class 200	LF	67	\$ 640.00	\$ 42,600.00
50	511S-A	Valves, Gate Valve, 12-Inch	EA	6	\$ 10,030.00	\$ 60,200.00
51	511S-B	Fire Hydrants	EA	2	\$ 7,400.00	\$ 14,800.00
52	510-JW	12" WL Connection	EA	2	\$ 5,000.00	\$ 10,000.00
53	604S-A	Seeding/ Hydromulch	SY	12,685	\$ 1.00	\$ 12,700.00
54	104S-A	Remove P. C. Concrete Curb	LF	10	\$ 15.00	\$ 150.00
55	430S-D	P.C. Concrete Curb (Fine Grading)	LF	10	\$ 23.04	\$ 230.00
56	432S-A	New PC Concrete Sidewalks	SF	170	\$ 10.67	\$ 1,800.00
57	701S-BW	Barbed Wire Fence	LF	45	\$ 15.00	\$ 680.00
58	701S-F	Fence Gate	EA	1	\$ 1,150.00	\$ 1,150.00
						<b>Subtotal \$ 600,690.00</b>
						<b>Project Subtotal \$ 21,521,370.00</b>
						Inflation/Escalation <sup>3</sup> (8% of Subtotal) \$ 1,721,710
						Subtotal With Inflation/Escalation \$ 23,243,080
						Contingency (20% of Subtotal With Inflation/Escalation) \$ 4,648,616
						Subtotal With Inflation/Escalation and Contingency \$ 27,891,696
						Mobilization (5%) \$ 1,394,585
						Bonds & Insurance (2%) \$ 557,834
						<b>Total<sup>4</sup> \$ 29,844,200</b>

<sup>1</sup>The 'Unit Cost' is the manufacturer's supplied cost plus installation, unless otherwise noted.

<sup>2</sup>Total Cost is rounded to the nearest \$100.

<sup>3</sup>Inflation/Escalation is calculated as 8% of the subtotal to account for the time between this estimation and construction.

<sup>4</sup>These costs have been developed from prior bid tabulations, industry standards and coordination with material / equipment manufacturers. The items included herein are based on CP&Y's perception of current conditions at the project location. The OPCC is considered a Class 4 Estimate per the Association for the Advancement of Cost Engineering (AACE). CP&Y has no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. CP&Y cannot warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs included in the OPCC herein.

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CP&Y, Inc  
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## Pflugerville WTP Expansion Cost Escalation Memorandum

**Date:** October 20, 2022  
**To:** City of Pflugerville  
**Attn:** Andrea Brinkley, CIP Director  
**From:** Garver  
**RE:** Pflugerville WTP Expansion Cost Escalation (Post-Bid)

Due to the extent of the increase in the estimated cost for the Pflugerville WTP Expansion project, Garver has completed a high-level evaluation to determine the major factors that are seen to be causing an escalation in cost. Table 1 contains a breakdown of Opinions of Probable Construction Cost (OPCCs) starting with the original estimate completed by Garver as a component of the treatment alternatives evaluation in August of 2020 and ending with Final Negotiated Price with PLW in October of 2022. The values include contingency, OH&P, and escalation.

**Table 1: Pflugerville WTP Expansion OPCCs**

Estimate	Date	OPCC	% Contingency Included
Garver Alternatives Evaluation	Aug-2020	\$69,065,000	30%
Ardurra PER	Jul-2021	\$80,121,000	25%
Ardurra 60%	Oct-2021	\$90,326,493	15%
Ardurra 90%	Jan-2022	\$91,532,030	10%
Ardurra 100%	Aug-2022	\$106,895,903	10%
PLW Bid	Sept-2022	\$149,493,566	N/A
Final Negotiated Price	Oct-2022	\$143,766,991	N/A

To help provide context for the cost escalation, Garver compared the WTP OPCCs to cost indices from Engineering News Record (ENR). The indices used for comparison were plant, concrete, electrical, steel, and labor costs. Figure 1 and Figure 2 depict the cost indices. As can be seen in Figure 2, steel prices have increased exponentially starting in early 2021. Figure 1 excludes the Steel Cost Index line, for clarity. All indices have increased 10-20% since August of 2020, with the exception of steel prices, which have increased over 100% during that time period. The figures indicate that the increase in estimated construction cost for the WTP expansion is in line with what would be anticipated based upon current market factors. Figure 3 shows the series of OPCCs, PLW's initial bid price, and the final negotiated contract price against the ENR indices normalized to the initial OPCC.

### ENR Indices Percent Increases (No Steel) Aug 2020 - Sept 2022

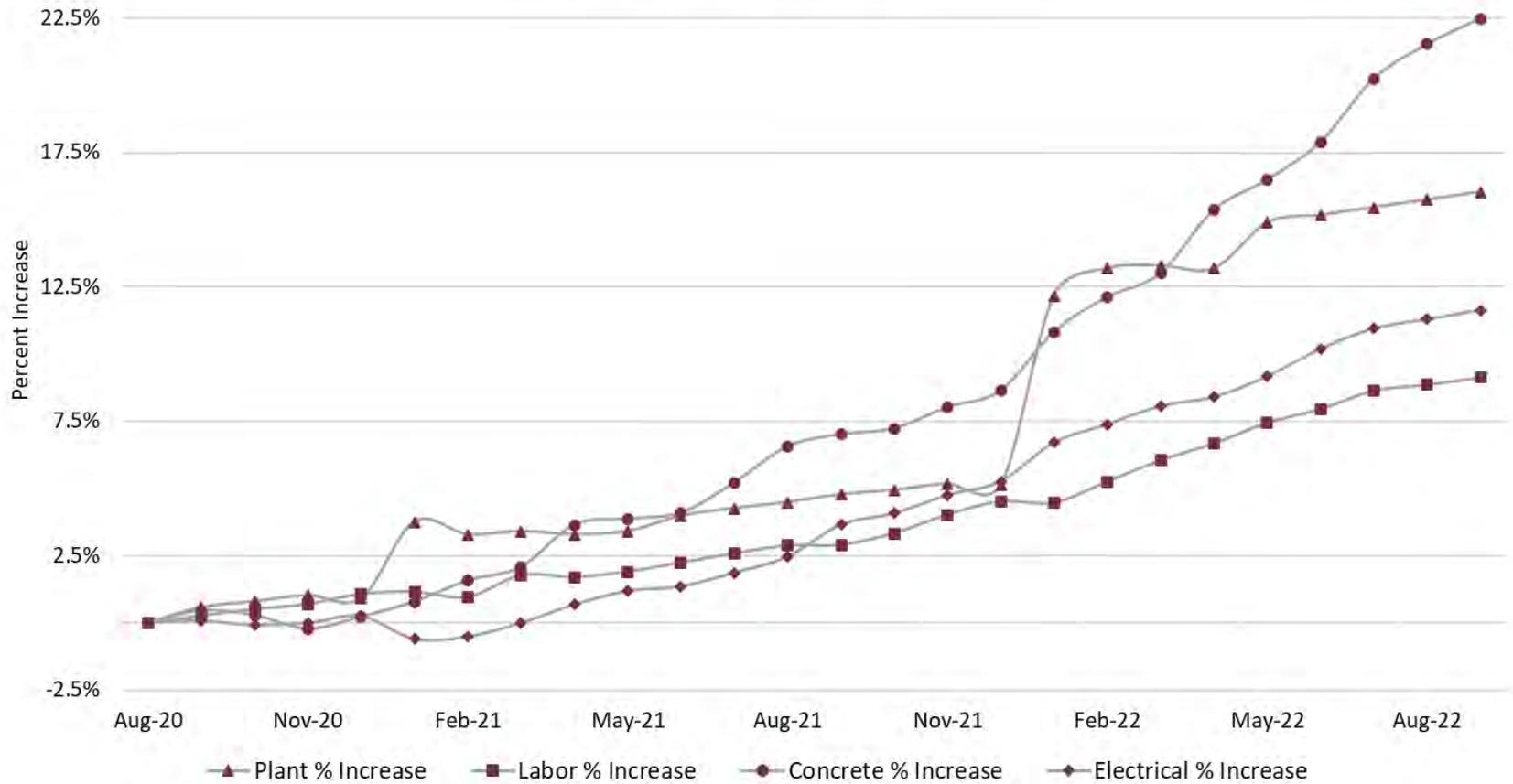
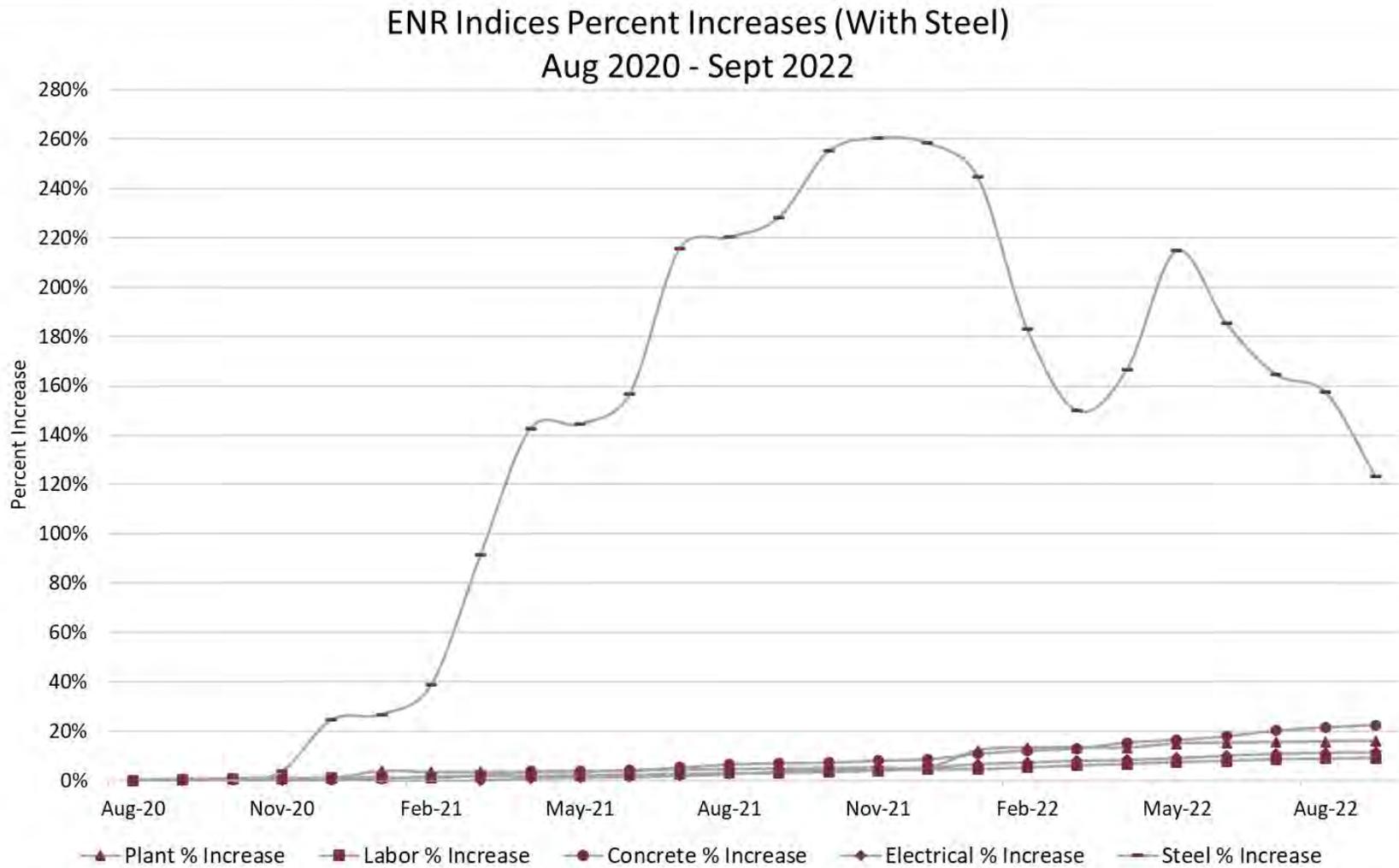
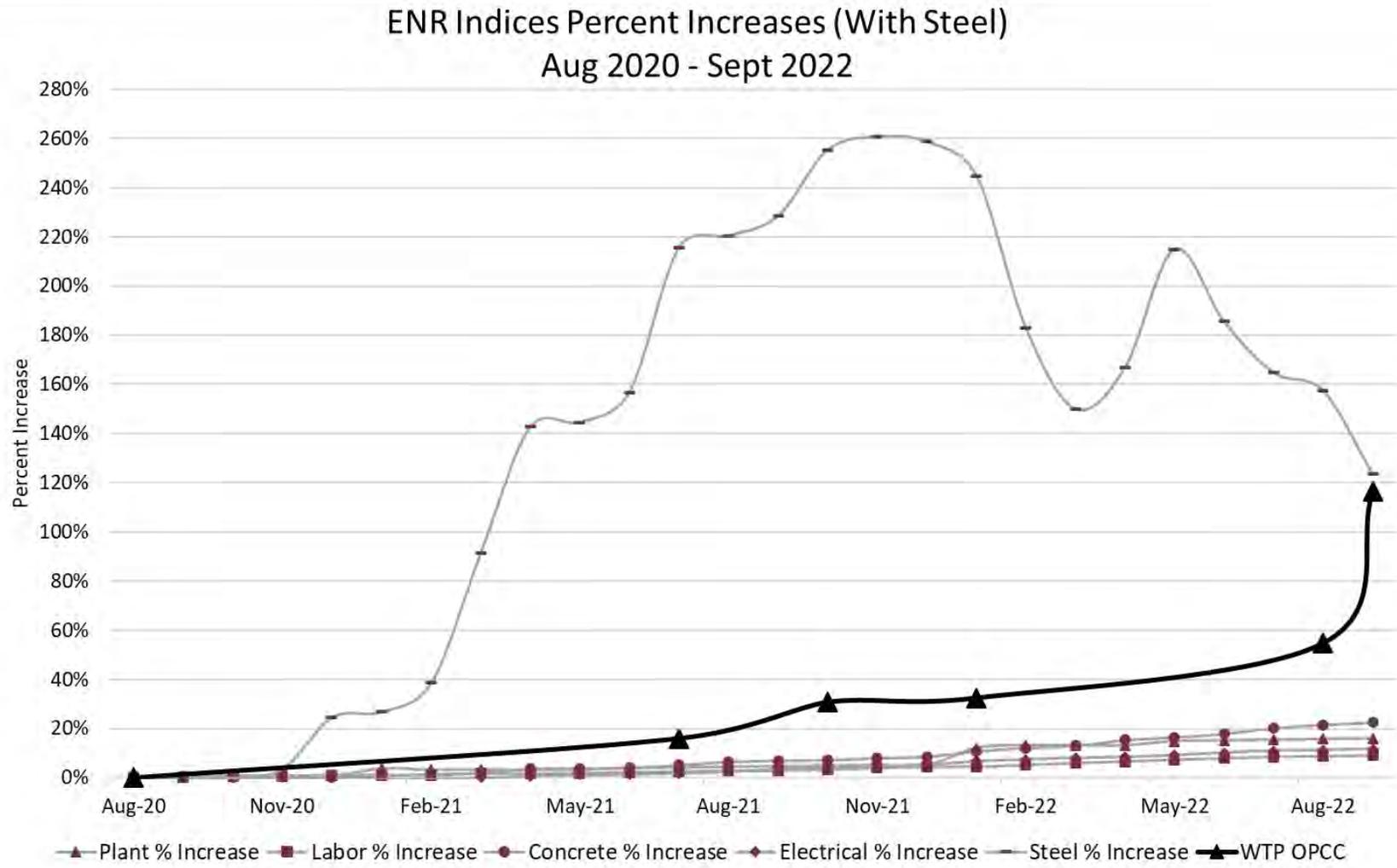


Figure 1: ENR Cost Indices Excluding Steel August 2020 - September 2022



**Figure 2: ENR Cost Indices Including Steel August 2020 - September 2022**



**Figure 3: ENR Cost Indices Including Steel August 2020 - September 2022 as Compared to the WTP OPCC**

The market factors affecting Central Texas specifically are increasing at a rate that outpaces the industry-wide ENR data. Based upon Central Texas market research as well as information from PLW, the main causes for the dramatic increase in pricing are:

- Over 200% increase in concrete cost per cubic yard
- Labor shortages due to competition with local large-scale industrial construction projects
- Contractor capacity saturation with other local municipal treatment facility projects
- Substantial ductile iron and stainless steel material cost increases
- Supplier stock availability

With this, since receipt of the PLW bid in September 2022, Garver, Ardurra, the City of Pflugerville, and PLW have been through in-depth negotiations with regards to PLW's bid to mitigate these rising costs. The team collaborated to identify schedule optimization and scope modification opportunities to reduce costs where appropriate. Below are some of the items accepted by the City to reduce cost:

- Relocating the chemical building which in turn saves cost on yard piping
- Butterfly valves in lieu of gate valves at strainers
- General piping value engineering using alternate materials and concrete encasement
- Deferral of pretreatment basin covers
- Increasing Phase I duration which saves cost via schedule optimization

The negotiations described above resulted in a total cost savings on the project of \$5,726,575, leading to a final agreed-upon contract value of **\$143,766,991**.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ian Toohey', with a stylized flourish above the name.

Ian Toohey, P.E.  
GARVER