

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COSTS



PROJECT: City of Sweet Home WWTP Improvements
 PHASE: 60% Design Submittal
 ENR CCI: 11185.51

Prepared By: PMD
 Date: 6/22/2020
 Project No. 19-2605

Item Number	Process Area	Estimated Cost
1	Influent Pump Station and Drain Pump Station	\$ 922,238
2	Headworks, Dewatering, Cake Storage, and Grit Chamber	\$ 1,929,520
3	Primary Control Structure	\$ 306,830
4	Primary Clarifier and Scum Pump Station	\$ 956,425
5	Aeration Basin	\$ 1,036,395
6	Mixed Liquor Flow Split and North RAS/WAS Pump Station	\$ 462,970
7	Primary Sludge PS, Blower, and N. Electrical Building	\$ 735,099
8	South RAS/WAS Pump Station	\$ 444,939
9	Secondary Clarifiers	\$ 1,257,882
10	Tertiary Filter	\$ 779,110
11	Disinfection and Outfall	\$ 814,980
12	Thickening	\$ 334,099
13	Primary Anaerobic Digestion	\$ 666,451
14	Secondary Anaerobic Digestion	\$ 433,030
15	Digester Complex	\$ 711,310
16	Utility Water Loop	\$ 162,298
17	Plant Civil Site	\$ 986,313
18	Administration Building	\$ 994,763
19	Maintenance Building	\$ 498,111
20	Electrical, Instrumentation, and Controls	\$ 1,502,746
Subtotal		\$15,935,508
Mobilization (8%)		\$1,274,841
General Conditions (8%)		\$1,274,841
Contractor O&P (12%)		\$1,912,261
Contingency (20%)		\$4,079,490
Total Construction Cost		\$24,480,000

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Influent Pump Station and Drain Pump Station

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Yard Piping - 20" DI (FM)	LF	400	\$139.00	\$42.00	\$72,400.00
2	Yard Piping - 10" DI (FM)	LF	400	\$70.50	\$21.10	\$36,640.00
3	Yard Piping - 8" DI (FM)	LF	380	\$55.00	\$19.00	\$28,120.00
4	Excavation - General	CY	35		\$22.00	\$770.00
5	Excavation - Rock	CY	24		\$250.00	\$6,000.00
6	Excavation and Backfill - Trench	LF	400		\$160.00	\$64,000.00
7	Shoring	TON	6	\$520.00	\$1,175.00	\$10,170.00
8	Bypass Pumping	DAY	30		\$600.00	\$18,000.00
Subtotal						\$236,100.00
Structural						
9	RC - Wall	CY	4	\$300.00	\$300.00	\$2,400.00
10	RC - Elevated Slab	CY	18	\$300.00	\$700.00	\$18,000.00
11	Access Hatch (w/ladder)	EA	4	\$4,500.00	\$900.00	\$21,600.00
12	Concrete Restoration	SF	1420	\$12.00	\$13.00	\$35,500.00
13	10' DIA Precast Conc Wetwell	EA	1	\$12,000.00	\$2,400.00	\$14,400.00
14	Valve Vault	EA	1	\$13,075.00	\$2,615.00	\$15,690.00
Subtotal						\$107,590.00
Mechanical						
15	Pump - Submersible Centrifugal (Low Flow)	EA	2	\$40,000.00	\$8,000.00	\$96,000.00
16	Pump - Submersible Centrifugal (High Flow)	EA	2	\$90,000.00	\$18,000.00	\$216,000.00
17	Pump - Submersible Centrifugal (DPS)	EA	2	\$40,000.00	\$8,000.00	\$96,000.00
18	Mechanical Piping - 14" DI (FM)	LF	50	\$97.00	\$25.00	\$6,100.00
19	Mechanical Piping - 8" DI (FM)	LF	66	\$43.00	\$15.00	\$3,828.00
20	Valve - 14" DI PV	EA	2	\$14,900.00	\$350.00	\$30,500.00
21	Valve - 14" DI CV	EA	2	\$25,400.00	\$350.00	\$51,500.00
22	Valve - 8" DI PV	EA	4	\$2,150.00	\$625.00	\$11,100.00
23	Valve - 8" DI CV	EA	4	\$2,200.00	\$625.00	\$11,300.00
24	Fittings - DI	LB	9370	\$3.00	\$3.00	\$56,220.00
Subtotal						\$578,548.00
Construction Material & Labor Subtotal:						\$922,238.00

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Headworks, Dewatering, Cake Storage, and Grit Chamber

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Site Clearing and Grubbing	SF	7000		\$1.00	\$7,000.00
2	Excavation - General	CY	356		\$22.00	\$7,822.22
3	Excavation - Rock	CY	117		\$250.00	\$29,333.33
4	Excavation - Influent Channel	CY	58		\$22.00	\$1,271.11
5	Base Rock @ 12"	TON	525	\$17.80	\$1.77	\$10,274.25
6	Backfill - General	CY	53		\$22.00	\$1,173.33
Subtotal						\$56,874.25
Structural						
7	RC - Slab on Grade, Floor (HW,DW)	CY	60	\$300.00	\$200.00	\$30,000.00
8	RC - Channel Walls (HW)	CY	43	\$300.00	\$300.00	\$25,991.56
9	RC - Slab on Grade, Foundations (HW,DW)	CY	59	\$300.00	\$200.00	\$29,542.46
10	RC - Walls (Cake Storage)	CY	53	\$300.00	\$300.00	\$31,524.79
11	RC - Slab on Grade, Foundations (Cake Storage)	CY	77	\$300.00	\$200.00	\$38,717.48
12	Roof Structure (Cake Storage)	SF	1500	\$3.40	\$1.50	\$7,350.00
13	Diamond Plate Channel Cover	SF	260	\$30.00	\$6.00	\$9,360.00
14	Precast Vault - 8'x12' (Metering Vault)	EA	1	\$10,000.00	\$2,000.00	\$12,000.00
15	CMU Building - Headworks and Dewatering	SF	3200	\$100.00	\$50.00	\$480,000.00
Subtotal						\$664,486.28
Mechanical						
16	Multi-Rake Screens, Washer/Compactor, Launder Channel	LS	1	\$330,000.00	\$66,000.00	\$396,000.00
17	Grit Chamber and Classifier	LS	1	\$232,000.00	\$46,400.00	\$278,400.00
18	Chemical Feed Storage and Metering	LS	1	\$100,000.00	\$20,000.00	\$120,000.00
19	Screw Press	LS	1	\$160,962.00	\$32,192.40	\$193,154.40
20	Polymer Makedown System	LS	1	\$18,000.00	\$3,600.00	\$21,600.00
21	Dewatered Cake Conveyor	LF	45	\$1,000.00	\$200.00	\$54,000.00
22	Flow Meter - 20"	EA	1	\$16,000.00	\$3,200.00	\$19,200.00
23	Flow Meter - 10"	EA	1	\$7,300.00	\$1,460.00	\$8,760.00
24	Flow Meter - 8"	EA	1	\$6,300.00	\$1,260.00	\$7,560.00
25	Building HVAC	LS	1	\$14,200.00	\$4,084.45	\$18,284.45
26	Composite Sampler	EA	1	\$1,510.00	\$150.00	\$1,660.00
27	Odor Control - Headworks	EA	1	\$28,000.00	\$5,600.00	\$33,600.00
28	Mechanical Piping - 4" (Grit)	LF	60	\$19.18	\$8.49	\$1,660.20
29	Mechanical Piping - 4" (Drain)	LF	150	\$19.18	\$8.49	\$4,150.50
30	Fittings - DI	LBS	1955	\$3.00	\$3.00	\$11,730.00
31	Gates	EA	4	\$8,000.00	\$1,600.00	\$38,400.00
Subtotal						\$1,208,159.55
Construction Material & Labor Subtotal:						\$1,929,520.08

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Primary Control Structure

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Site Clearing and Grubbing	SF	1200		\$1.00	\$1,200.00
2	Excavation - General	CY	373		\$22.00	\$8,213.33
3	Excavation - Rock	CY	160		\$250.00	\$40,000.00
4	Base Rock @ 12"	TON	90	\$17.80	\$1.77	\$1,761.30
5	Backfill - CLSM	CY	155	\$200.00	\$200.00	\$62,148.15
Subtotal						\$113,322.78
Structural						
6	RC - Slab on Grade (FF PCS)	CY	7	\$300.00	\$200.00	\$3,370.37
7	RC - Slab on Grade (Foundation PCS)	CY	67	\$300.00	\$200.00	\$33,703.70
8	RC - Walls	CY	68	\$300.00	\$300.00	\$40,955.78
9	FRP - Grating and Frame	SF	415	\$21.00	\$2.80	\$9,877.00
Subtotal						\$87,906.85
Mechanical						
10	Gates	EA	11	\$8,000.00	\$1,600.00	\$105,600.00
Subtotal						\$105,600.00
Construction Material & Labor Subtotal:						\$306,829.63

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Primary Clarifier and Scum Pump Station

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Yard Piping - 18" DI (PI)	LF	55	\$128.00	\$35.00	\$8,965.00
2	Yard Piping - 18" DI (PE)	LF	30	\$128.00	\$35.00	\$4,890.00
3	Yard Piping - 4" (PS)	DI LF	35	\$36.00	\$12.50	\$1,697.50
4	Yard Piping - 6" (Primary Scum)	PVC LF	35	\$8.63	\$5.75	\$503.13
5	Site Clearing and Grubbing	SF	3848		\$1.00	\$3,848.45
6	Excavation - General Clarifier	CY	812		\$22.00	\$17,864.00
7	Excavation - General Scum WetWell	CY	4		\$22.00	\$88.00
8	Excavation - Rock	CY	541		\$250.00	\$135,250.00
9	Excavation and Backfill - Large DIA Trench	LF	85		\$145.00	\$12,325.00
10	Excavation and Backfill - Small DIA Trench	LF	70		\$40.00	\$2,800.00
11	Backfill - General	CY	251		\$22.00	\$5,527.28
12	Clarifier Base Rock @ 18" deep	TON	18	\$17.80	\$1.77	\$352.26
Subtotal						\$194,110.62
Structural						
13	RC - Slab on Grade	CY	231	\$300.00	\$200.00	\$115,453.53
14	RC - Wall	CY	107	\$300.00	\$300.00	\$64,402.65
15	RC - Elevated Slab	CY	30	\$300.00	\$700.00	\$30,252.37
16	Grout Pad	CY	17	\$200.00	\$200.00	\$6,995.27
17	Precast Concrete MH - 48" (Scum wet well)	EA	1	\$5,000.00	\$1,000.00	\$6,000.00
18	Primary Clarifier Cover - FRP	EA	1	\$200,000.00	\$40,000.00	\$240,000.00
19	3-Tier Aluminum Handrail	LF	189	\$54.00	\$15.00	\$13,041.00
Subtotal						\$476,144.83
Mechanical						
20	Fittings - DI	LB	2055	\$3.00	\$3.00	\$12,330.00
21	Clarifier Mechanism, FRP Weir, FRP Baffle	EA	1	\$172,200.00	\$34,440.00	\$206,640.00
22	Scum Pumps - Immersible Screw Centrifugal	EA	2	\$14,000.00	\$2,800.00	\$33,600.00
23	Odor Control - Primary Clarifier	EA	1	\$28,000.00	\$5,600.00	\$33,600.00
Subtotal						\$286,170.00
Construction Material & Labor Subtotal:						\$956,425.44

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Aeration Basin

Item No.	Item	Unit	QTY	Materials	Installation	Total	
Civil Site Prep/Earthwork							
1	Site Clearing and Grubbing	SF	1625		\$2.50	\$4,062.50	
2	Excavation - General	CY	373		\$22.00	\$8,213.33	
3	Excavation -Rock	CY	120		\$250.00	\$30,000.00	
4	Backfill - General	CY	74		\$22.00	\$1,628.00	
5	Base Rock @ 12"	TON	58	\$17.80	\$1.77	\$1,127.23	
Subtotal						\$45,031.07	
Structural							
6	RC - Slab on Grade	CY	90	\$300.00	\$200.00	\$45,045.10	
7	RC - Walls	CY	135	\$300.00	\$300.00	\$81,277.85	
8	RC - Elevated Slab	CY	5	\$300.00	\$700.00	\$5,000.00	
9	Concrete Coating and Restoration	SF	5828	\$12.00	\$13.00	\$145,700.00	
10	Aluminum Catwalk	SF	644	\$35.00	\$2.50	\$24,150.00	
11	Aluminum Catwalk Supports	LS	1	\$12,000.00	\$2,400.00	\$14,400.00	
Subtotal						\$315,572.96	
Mechanical							
12	Mixers - Submersible	LS	1	\$88,500.00	\$17,700.00	\$106,200.00	
13	Diffuser Assembly (incl. diffuser, piping off header, air mass flow m	LS	1	\$62,300.00	\$12,460.00	\$74,760.00	
14	Mechanical Piping - 18"	DI	LF	35	\$128.00	\$35.00	\$5,705.00
15	Mechanical Piping - 20"	DI	LF	158	\$139.00	\$42.00	\$28,598.00
16	Mechanical Piping - 10" SCH 80	SSL	LF	218	\$71.00	\$225.00	\$64,528.00
17	Aeration Piping - Iris Valves, Instrumentation, Piping	LS	1	\$295,000.00	\$59,000.00	\$354,000.00	
18	Davit Crane and Base	EA	3	\$5,000.00	\$1,000.00	\$18,000.00	
19	FRP Weir (5ft)	EA	2	\$500.00	\$100.00	\$1,200.00	
20	FRP Weir (8ft)	EA	4	\$750.00	\$150.00	\$3,600.00	
21	Effluent Gates	EA	2	\$8,000.00	\$1,600.00	\$19,200.00	
Subtotal						\$675,791.00	
Construction Material & Labor Subtotal:						\$1,036,395.02	

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Mixed Liquor Flow Split and North RAS/WAS Pump Station

Item No.	Item	Unit	QTY	Materials	Installation	Total	
Civil Site Prep/Earthwork							
1	Site Clearing and Grubbing	SF	1565		\$2.50	\$3,912.50	
2	Excavation - General	CY	365		\$22.00	\$8,033.67	
3	Excavation - Rock	CY	41		\$250.00	\$10,143.52	
4	Backfill - General	CY	61		\$22.00	\$1,338.94	
5	Base Rock at 12" deep	TON	94	\$17.80	\$1.77	\$1,837.62	
6	Excavation and Backfill - Trench	LF	150		\$22.00	\$3,300.00	
7	Yard Piping - 4" (WAS)	DI	LF	150	\$36.00	\$12.50	\$7,275.00
8	Yard Piping - 14"	DI	LF	90	\$97.00	\$45.00	\$12,780.00
9	Yard Piping - 18"	DI	LF	260	\$128.00	\$35.00	\$42,380.00
Subtotal						\$91,001.25	
Structural							
10	RC - Slab on Grade	CY	31	\$300.00	\$200.00	\$15,479.70	
11	RC - Walls	CY	130	\$300.00	\$300.00	\$78,293.32	
12	RC - Elevated Slab	CY	18	\$300.00	\$700.00	\$17,815.78	
13	Aluminum Catwalk	SF	180	\$35.00	\$2.50	\$6,750.00	
Subtotal						\$118,338.80	
Mechanical							
14	IMLR Propeller Pump	EA	2	\$21,000.00	\$4,200.00	\$50,400.00	
15	Pump - Submersible Centrifugal (RAS)	EA	2	\$10,000.00	\$2,000.00	\$24,000.00	
16	Pump - Submersible Centrifugal (WAS)	EA	2	\$10,000.00	\$2,000.00	\$24,000.00	
17	Mechanical Piping - 6" (RAS)	DI	LF	150	\$43.00	\$15.00	\$8,700.00
18	Fittings	DI	LBS	7650	\$3.00	\$3.00	\$45,900.00
19	Davit Crane and Base	EA	3	\$5,000.00	\$1,000.00	\$18,000.00	
20	Valve - 4" DI PV	EA	6	\$570.00	\$225.00	\$4,770.00	
21	Valve - 4" DI CV	EA	4	\$730.00	\$225.00	\$3,820.00	
22	Flow Meter - 18" (ML)	EA	2	\$12,500.00	\$2,500.00	\$30,000.00	
23	Flow Meter - 4" (WAS)	EA	1	\$4,700.00	\$940.00	\$5,640.00	
24	Effluent Gates	EA	4	\$8,000.00	\$1,600.00	\$38,400.00	
Subtotal						\$253,630.00	
Construction Material & Labor Subtotal:						\$462,970.05	

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Primary Sludge PS, Blower, and N. Electrical Building

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Site Clearing and Grubbing	SF	1600		\$1.00	\$1,600.00
2	Excavation - General	CY	178		\$22.00	\$3,916.00
3	Excavation and Backfill - Trench	LF	446		\$22.00	\$9,812.00
4	Base Rock @ 12"	TON	100	\$17.80	\$1.77	\$1,957.00
5	Yard Piping - 4" DI (PS)	LF	446	\$36.00	\$12.25	\$21,519.50
Subtotal						\$38,804.50
Structural						
6	RC - Slab on Grade	CY	119	\$300.00	\$200.00	\$59,259.26
7	CMU RAS/WAS Buildings	SF	1600	\$150.00	\$50.00	\$320,000.00
Subtotal						\$379,259.26
Mechanical						
8	PS Pumps - Progressing Cavity	EA	2	\$10,750.00	\$2,150.00	\$23,650.00
9	Blowers (small)	EA	2	\$22,000.00	\$4,400.00	\$52,800.00
10	Blowers (large)	EA	2	\$85,000.00	\$17,000.00	\$204,000.00
11	Mechanical Piping - 10" STL (PA)	LF	30	\$84.00	\$101.00	\$5,550.00
12	Mechanical Piping- 4" DI	LF	30	\$36.00	\$12.50	\$1,455.00
13	Flow Meter - 4" (PS)	EA	1	\$4,700.00	\$940.00	\$5,640.00
14	Valve - 4" DI PV	EA	7	\$570.00	\$225.00	\$5,565.00
15	Valve - 4" DI CV	EA	3	\$730.00	\$225.00	\$2,865.00
16	Fittings - DI	LB	1165	\$3.00	\$3.00	\$6,990.00
17	Building HVAC	LS	1	\$7,100.00	\$1,420.00	\$8,520.00
Subtotal						\$317,035.00
Construction Material & Labor Subtotal:						\$735,098.76

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South RAS/WAS Pump Station

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Yard Piping - 4" DI (WAS)	LF	170	\$36.00	\$12.25	\$8,202.50
2	Yard Piping - 10" DI (RAS)	LF	150	\$70.50	\$21.10	\$13,740.00
3	Site Clearing and Grubbing	SF	700		\$1.00	\$700.00
4	Excavation - General	CY	166		\$22.00	\$3,656.89
5	Excavation - Rock	CY	249		\$250.00	\$62,333.33
6	Excavation and Backfill - Trench	LF	170		\$22.00	\$3,740.00
7	Backfill - General	CY	42		\$22.00	\$914.22
8	Base Rock @ 12" deep	TON	79	\$17.80	\$1.77	\$1,541.14
Subtotal						\$94,828.08
Structural						
9	RC - Slab on Grade	CY	44	\$300.00	\$200.00	\$22,222.22
10	RC - Walls	CY	35	\$300.00	\$300.00	\$20,977.78
11	RC - Elevated Slab	CY	31	\$300.00	\$700.00	\$31,111.11
12	Access Hatch	EA	6	\$5,000.00	\$1,000.00	\$36,000.00
10	RC - Stairway	LS	1	\$5,000.00	\$1,000.00	\$6,000.00
Subtotal						\$116,311.11
Mechanical						
11	RAS Pumps - Submersible Centrifugal	EA	3	\$15,000.00	\$3,000.00	\$54,000.00
12	WAS Pumps (Rotary Lobe)	EA	3	\$30,079.48	\$6,015.90	\$108,286.13
13	Flow Meter - 4"	EA	1	\$4,700.00	\$940.00	\$5,640.00
14	Flow Meter - 6"	EA	1	\$5,400.00	\$1,080.00	\$6,480.00
15	Mechanical Piping - 6" DI (RAS)	LF	93	\$43.00	\$15.00	\$5,394.00
16	Mechanical Piping - 4" DI (WAS)	LF	100	\$36.00	\$12.50	\$4,850.00
17	Valve - 6" DI PV	EA	10	\$1,150.00	\$225.00	\$13,750.00
18	Valve - 6" DI CV	EA	3	\$1,200.00	\$225.00	\$4,275.00
19	Valve - 4" DI PV	EA	10	\$570.00	\$225.00	\$7,950.00
20	Valve - 4" DI CV	EA	3	\$730.00	\$225.00	\$2,865.00
21	Fittings - DI	LB	1965	\$3.00	\$3.00	\$11,790.00
22	Building HVAC	LS	1	\$7,100.00	\$1,420.00	\$8,520.00
Subtotal						\$233,800.13
Construction Material & Labor Subtotal:						\$444,939.32

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Secondary Clarifiers

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Yard Piping - 18" DI (SE)	LF	250	\$128.00	\$35.00	\$40,750.00
2	Yard Piping - 6" DI (RAS)	LF	50	\$55.00	\$19.00	\$3,700.00
3	Yard Piping - 6" PVC (Secondary Scum)	LF	35	\$8.63	\$5.75	\$503.13
4	Yard Piping - 4" DI (WAS)	LF	75	\$31.00	\$12.25	\$3,243.75
5	Site Clearing and Grubbing	SF	3848		\$1.00	\$3,848.45
6	Excavation - General	CY	1198		\$22.00	\$26,362.11
7	Excavation - Rock	CY	645		\$250.00	\$161,306.60
8	Backfill	CY	561		\$22.00	\$12,346.63
9	Excavation and Backfill - Large DIA Trench	LF	250		\$145.00	\$36,250.00
10	Excavation and Backfill - Small DIA Trench	LF	85		\$40.00	\$3,400.00
11	Clarifier Base Rock @ 18" deep	TON	373	\$17.80	\$1.77	\$7,305.66
Subtotal						\$299,016.33
Structural						
12	RC - Slab on Grade	CY	231	\$300.00	\$200.00	\$115,453.53
13	RC - Wall	CY	172	\$300.00	\$300.00	\$103,044.24
14	RC - Elevated Slab	CY	30	\$300.00	\$700.00	\$30,252.37
15	Grout Pad	CY	17	\$200.00	\$200.00	\$6,995.27
16	Concrete Coating and Rehabilitation	SF	6000	\$12.00	\$13.00	\$150,000.00
Subtotal						\$405,745.42
Mechanical						
17	Fittings - DI	LB	10180	\$3.00	\$3.00	\$61,080.00
18	60' DIA Clarifier mechanism, FRP Effluent Weirs, FRP Baffles	EA	1	\$151,600.00	\$30,320.00	\$181,920.00
19	45' DIA Clarifier mechanism, FRP Effluent Weirs, FRP Baffles	EA	2	\$126,550.00	\$25,310.00	\$303,720.00
20	Existing Clarifier Mechanism Coating and Rehabilitation	SF	800	\$4.00	\$4.00	\$6,400.00
Subtotal						\$553,120.00
Construction Material & Labor Subtotal:						\$1,257,881.74

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Tertiary Filter

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Excavation	CY	500	\$2.50	\$1.50	\$2,000.00
2	Yard Piping - 18" DI (effluent to UV)	LF	30	\$128.00	\$35.00	\$4,890.00
3	Base Rock @ 12" deep	TON	46	\$18.50	\$2.50	\$966.00
Subtotal						\$7,856.00
Structural						
4	Reinforced concrete base slab	CY	130	\$350.00	\$250.00	\$78,000.00
5	Reinforced concrete walls	CY	60	\$350.00	\$350.00	\$42,000.00
Subtotal						\$120,000.00
Mechanical						
6	Cloth Media Disk Filter	LS	1	\$524,100.00	\$104,820.00	\$628,920.00
7	Reducer - 6" x 4"	EA	2	\$286.37	\$86.00	\$745.00
8	Valve -6" Plug Valve	EA	5	\$1,150.00	\$225.00	\$6,875.00
9	Valve - 6" Check Valve	EA	2	\$1,200.00	\$225.00	\$2,850.00
10	Mechanical Piping - 6" Elbow SCH 80 PVC Backwash Piping	EA	17	\$106.71	\$69.72	\$3,000.00
11	Mechanical Piping - 6" SCH 80 PVC Backwash Piping	LF	130	\$30.00	\$9.00	\$5,070.00
12	Mechanical Piping - 4" SCH 80 PVC	LF	13	\$31.00	\$9.30	\$524.00
13	Fittings	DI LBS	545	\$3.00	\$3.00	\$3,270.00
Subtotal						\$651,254.00
Construction Material & Labor Subtotal:						\$779,110.00

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Disinfection and Outfall

Item No.	Item	Unit	QTY	Materials	Installation	Total	
Civil Site Prep/Earthwork							
1	Yard Piping - 16" (FE emergency outfall)	DI	LF	270	\$139.00	\$42.00	\$48,870.00
2	Site Clearing and Grubbing		LS	1	\$0.00	\$2,700.00	\$2,700.00
3	Excavation - General		CY	49	\$0.00	\$22.00	\$1,090.00
4	Excavation and Backfill - Trench		LF	270	\$0.00	\$145.00	\$39,150.00
5	Excavation - Rock		CY	75	\$0.00	\$250.00	\$18,750.00
6	Base Rock @ 12" deep		TON	24	\$17.80	\$1.77	\$470.00
Subtotal						\$111,030.00	
Structural							
7	Cellular Concrete Fill		CY	128	\$95.00	\$19.00	\$14,600.00
8	RC - Slab on Grade		CY	5	\$300.00	\$200.00	\$2,500.00
9	RC - Walls		CY	16	\$300.00	\$300.00	\$9,340.00
Subtotal						\$26,440.00	
Mechanical							
10	UV System		LS	1	\$535,000.00	\$107,000.00	\$642,000.00
11	Parshall Flume, 18"		EA	1	\$5,686.00	\$1,137.20	\$6,830.00
12	Fittings - DI		LB	4780	\$3.00	\$3.00	\$28,680.00
Subtotal						\$677,510.00	
Construction Material & Labor Subtotal:						\$814,980.00	

Markups	
Mobilization (8%)	\$ 65,198.40
General Conditions (8%)	\$ 65,198.40
Contractor O&P (12%)	\$ 97,797.60
Subtotal	\$ 1,043,174.40
Construction Contingency (20%)	\$ 208,634.88
Engineering, Legal, and Administration (25%)	\$ 260,793.60
Total	\$ 1,512,602.88

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Thickening

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Excavation - General	CY	74		\$22.00	\$1,618.22
2	Base Rock @ 12" deep	TON	48	\$17.80	\$1.77	\$935.66
3	Excavation and Backfill - Trench (narrow)	LF	140		\$42.45	\$5,943.00
4	Excavation and Backfill - Trench (wide)	LF	50		\$55.80	\$2,790.00
Subtotal						\$11,286.89
Structural						
5	RC - Slab on Grade	CY	27	\$300.00	\$200.00	\$13,361.11
6	CMU building	SF	750	\$100.00	\$50.00	\$112,500.00
Subtotal						\$125,861.11
Mechanical						
7	Flocculator/Thickener	EA	1	\$81,664.00	\$16,332.80	\$97,996.80
8	TWAS Pump	EA	1	\$34,590.85	\$6,918.17	\$41,509.02
9	Polymer Make down	EA	1	\$19,800.00	\$3,960.00	\$23,760.00
10	Mechanical Piping - 8" DI (CS)	LF	150	\$55.00	\$19.00	\$11,100.00
11	Mechanical Piping - 4" DI (WAS)	LF	55	\$36.00	\$12.25	\$2,653.75
12	Mechanical Piping - 4" DI (PScum)	LF	65	\$36.00	\$12.25	\$3,136.25
13	Valve - 4" DI PV	EA	5	\$570.00	\$225.00	\$3,975.00
14	Valve - 4" DI CV	EA	4	\$730.00	\$225.00	\$3,820.00
15	Fittings	LB	1500	\$3.00	\$3.00	\$9,000.00
Subtotal						\$196,950.82
Construction Material & Labor Subtotal:						\$334,098.82

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Primary Anaerobic Digestion

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Site Grubbing and Clearing	SF	8000		\$1.00	\$8,000.00
2	Base Rock @ 12" deep	TON	61	\$17.80	\$1.77	\$1,184.08
Subtotal						\$9,184.08
Structural						
3	RC - Slab on Grade	CY	88	\$300.00	\$200.00	\$44,178.65
4	RC - Walls	CY	114	\$875.00	\$750.00	\$186,052.10
5	40' Diameter Steel Lid	EA	1	\$154,000.00	\$30,800.00	\$184,800.00
Subtotal						\$415,030.74
Mechanical						
6	Pump Mixing System	LS	1	\$75,000.00	\$15,000.00	\$90,000.00
7	Overpressure safety Equipment, Primary	LS	1	\$41,220.00	\$8,244.00	\$49,464.00
8	Digester Gas Flare	LS	1	\$28,231.00	\$5,646.20	\$33,877.20
9	Flare Controls Structure	LS	1	\$10,000.00	\$2,000.00	\$12,000.00
10	Mechanical Piping - 4" STL (DG)	LF	20	\$17.00	\$26.00	\$860.00
11	Mechanical Piping - 4" DI (DS)	LF	20	\$36.00	\$12.25	\$965.00
12	Mechanical Piping - 6" DI (DS)	LF	90	\$43.00	\$15.00	\$5,220.00
13	Mechanical Piping - 8" DI (DS)	LF	25	\$55.00	\$19.00	\$1,850.00
14	4" - 8" Fittings	LB	2000	\$3.00	\$3.00	\$12,000.00
15	Aluminum Roof Access Stairway	LS	1	\$30,000.00	\$6,000.00	\$36,000.00
Subtotal						\$242,236.20
Construction Material & Labor Subtotal:						\$666,451.02

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Secondary Anaerobic Digestion

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
Structural						
1	55' Diameter Steel Lid	EA	1	\$176,000.00	\$35,200.00	\$211,200.00
Subtotal						\$211,200.00
Mechanical						
2	Draft Tube Mixing System	LS	1	\$104,500.00	\$20,900.00	\$125,400.00
3	Overpressure safety Equipment, Secondary	LS	1	\$41,220.00	\$8,244.00	\$49,464.00
4	Mechanical Piping - 4" STL (DG)	LF	20	\$17.00	\$26.00	\$860.00
5	Mechanical Piping - 4" DI (DS)	LF	25	\$36.00	\$12.25	\$1,206.25
6	Mechanical Piping - 6" DI (DS)	LF	50	\$43.00	\$15.00	\$2,900.00
7	4" - 6" Fittings	LB	1000	\$3.00	\$3.00	\$6,000.00
8	Aluminum Roof Access Stairway	LS	1	\$30,000.00	\$6,000.00	\$36,000.00
Subtotal						\$221,830.25
Construction Material & Labor Subtotal:						\$433,030.25

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Digester Complex

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Yard Piping - 4" DI (DS)	LF	425	\$36.00	\$12.25	\$20,506.25
2	Yard Piping - 4" STL (DG)	LF	110	\$17.00	\$26.00	\$4,730.00
3	Excavation and Backfill - Trench	LF	425		\$42.45	\$18,041.25
4	Excavation and Backfill - Trench	LF	110		\$42.45	\$4,669.50
5	Base Rock @ 12" deep	TON	40	\$17.80	\$1.77	\$782.80
Subtotal						\$48,729.80
Structural						
6	RC - Slab on Grade	CY	32	\$300.00	\$200.00	\$16,000.00
7	Trench & Grating	LS	1	\$15,000.00		\$15,000.00
8	CMU building	SF	1500	\$100.00	\$50.00	\$225,000.00
Subtotal						\$256,000.00
Mechanical						
9	Primary Recirc Pumps	EA	1	\$17,600.00	\$3,520.00	\$21,120.00
10	Secondary Recirc Pumps	EA	1	\$17,600.00	\$3,520.00	\$21,120.00
11	Standby Recirc Pumps	EA	1	\$17,600.00	\$3,520.00	\$21,120.00
11	Primary Sludge Hex	EA	1	\$44,000.00	\$8,800.00	\$52,800.00
12	Secondary Sludge Hex	EA	1	\$44,000.00	\$8,800.00	\$52,800.00
13	Digested Sludge Transfer Pump	EA	2	\$22,000.00	\$4,400.00	\$52,800.00
14	Boiler	EA	1	\$60,500.00	\$12,100.00	\$72,600.00
15	Primary Hot Water Pumps	EA	2	\$750.00	\$150.00	\$1,800.00
16	Pressure Tank	EA	1	\$2,000.00	\$400.00	\$2,400.00
17	Mechanical Piping - 8" DI (DS)	LF	50	\$55.00	\$19.00	\$3,700.00
18	Mechanical Piping - 6" DI (DS)	LF	210	\$43.00	\$15.00	\$12,180.00
19	Mechanical Piping - 4" DI (DS)	LF	85	\$36.00	\$12.25	\$4,101.25
20	Mechanical Piping - 2" Cop (HW)	LF	125	\$23.00	\$4.00	\$3,375.00
21	Mechanical Piping - 4" STL (DG)	LF	115	\$17.00	\$26.00	\$4,945.00
22	Valve - 8" DI CV	EA	2	\$2,759.00	\$225.00	\$5,968.00
23	Valve - 8" DI PV	EA	2	\$2,213.00	\$225.00	\$4,876.00
24	Valve - 6" DI CV	EA	3	\$1,200.00	\$225.00	\$4,275.00
25	Valve - 6" DI PV	EA	17	\$1,150.00	\$225.00	\$23,375.00
26	Valve - 4" DI PV	EA	7	\$570.00	\$225.00	\$5,565.00
27	Valve - 4" DI CV	EA	2	\$730.00	\$225.00	\$1,910.00
28	Valve - 4" DI BV	EA	5	\$525.00	\$225.00	\$3,750.00
29	Fittings - DI	LB	5000	\$3.00	\$3.00	\$30,000.00
Subtotal						\$406,580.25
Construction Material & Labor Subtotal:						\$711,310.05

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Utility Water Loop

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Yard Piping - 1" SCH 80 PVC	LF	210	\$3.61	\$3.17	\$1,423.80
2	Yard Piping - 2" SCH 80 PVC	LF	91	\$6.64	\$7.12	\$1,251.61
3	Yard Piping - 4" SCH 80 PVC	LF	1141	\$19.18	\$8.49	\$31,568.62
4	Coupling - 1" SCH 80 PVC	EA	21	\$6.95	\$22.50	\$618.45
5	Coupling - 2" SCH 80 PVC	EA	9.1	\$11.75	\$27.50	\$357.18
6	Coupling - 4" SCH 80 PVC	EA	114.1	\$41.50	\$55.00	\$11,010.65
7	Excavation and Backfill - Trench	LF	1442		\$20.00	\$28,840.00
8	Base Rock @ 12" deep	TON	55	\$17.80	\$1.77	\$1,076.35
Subtotal						\$76,146.66
Mechanical						
9	Pressure Tank	EA	1	\$5,125.00	\$1,025.00	\$6,150.00
10	Utility Water Pumps	LS	1	\$24,456.00	\$4,891.20	\$29,347.20
11	Utility Water Base	EA	1	\$14,015.00	\$2,803.00	\$16,818.00
12	Mechanical Piping - 3" SCH 80 PVC	LF	30	\$8.61	\$2.58	\$335.95
13	Valve - 2" BV	EA	3	\$133.00	\$39.90	\$518.70
14	Valve - 3" BFV	EA	6	\$275.00	\$82.50	\$2,145.00
15	Valve - 4" BFV	EA	6	\$450.00	\$225.00	\$4,050.00
16	Valve - 3" CV	EA	3	\$400.00	\$225.00	\$1,875.00
17	Valve - 3" PRV	EA	2	\$1,500.00	\$225.00	\$3,450.00
18	Strainer - 4"	EA	2	\$1,300.00	\$260.00	\$3,120.00
19	Hose Bibb	EA	7	\$10.60	\$2.12	\$89.04
20	Yard Hydrant	EA	6	\$1,347.50	\$269.50	\$9,702.00
21	Chlorine Feed System	EA	1	\$7,125.00	\$1,425.00	\$8,550.00
Subtotal						\$86,150.89
Construction Material & Labor Subtotal:						\$162,297.54

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Plant Civil Site

Item No.	Item	Unit	QTY	Materials	Installation	Total	
Demolition							
1	Building and Structure Demolition	LS	1		\$97,700.00	\$97,700.00	
2	Site Demolition	LS	1		\$33,000.00	\$33,000.00	
Subtotal						\$130,700.00	
Civil Site Prep/Earthwork							
3	Site Preparation	LS	1		\$2,000.00	\$2,000.00	
4	Landscaping	MSF	36	\$198.00	\$317.00	\$18,540.00	
5	Concrete Sidewalks	SF	5500	\$3.00	\$1.75	\$26,125.00	
6	Concrete Curbs	LF	2275	\$20.00	\$6.00	\$59,150.00	
7	Asphalt Paving	SF	47000	\$4.75	\$0.47	\$245,340.00	
8	Striping - ADA & Parking Stalls	LS	1	\$333.50	\$477.30	\$810.80	
9	Signage - ADA	LS	1	\$135.00	\$101.25	\$236.25	
10	6ft Chain Link Fence	LF	250	\$20.00	\$5.09	\$6,272.50	
11	Catch Basins	EA	17	\$425.00	\$135.00	\$9,520.00	
12	Yard Piping - 2"	STL	LF	600	\$8.75	\$7.50	\$9,750.00
13	Yard Piping - 10"	DI	LF	400	\$70.50	\$21.10	\$36,640.00
14	Yard Piping - 12"	PVC	LF	810	\$96.00	\$35.00	\$106,110.00
15	Yard Piping - 18"	PVC	LF	520	\$155.00	\$83.00	\$123,760.00
16	Drying Beds	LS	1	\$26,477.00	\$10,070.00	\$36,547.00	
17	Excavation and Backfill - Small DIA Trench	LF	2330		\$38.00	\$88,540.00	
18	Excavation - General	CY	53		\$22.00	\$1,166.00	
19	Precast Manhole - 48"	EA	6	\$500.00	\$250.00	\$4,500.00	
20	Blasting Plan	LS	1		\$5,000.00	\$5,000.00	
21	Pre/Post Blasting Survey	LS	1		\$10,000.00	\$10,000.00	
22	Retaining Wall - Modular	LF	100	\$105.00	\$157.45	\$26,245.00	
Subtotal						\$816,252.55	
Mechanical							
23	Automated Gate with RFID Reader	EA	1	\$20,000.00	\$4,000.00	\$24,000.00	
24	Exterior Lighting	EA	6	\$2,050.00	\$510.00	\$15,360.00	
Subtotal						\$39,360.00	
Construction Material & Labor Subtotal:						\$986,312.55	

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Administration Building

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Site Clearing and Grubbing	SF	3500		\$0.50	\$1,750.00
2	Excavation - General	CY	350		\$22.00	\$7,700.00
3	Excavation - Rock	CY	150		\$250.00	\$37,500.00
Subtotal						\$46,950.00
Building Components						
4	Building, Single Story Residential Style	SF	3556	\$ 78.00	\$ 49.00	\$451,612.00
5	Offices/Control Room Interior Buildout	SF	582	\$ 42.50	\$ 10.00	\$30,555.00
6	RR, Showers, Lockers Interior Buildout	SF	716	\$ 100.00	\$ 25.00	\$89,500.00
7	Break Room Interior Buildout	SF	134	\$ 42.50	\$ 10.00	\$7,035.00
8	Mech, IT, Archives, Custodian Interior Buildout	SF	402	\$ 32.50	\$ 10.00	\$17,085.00
9	Conference Room Interior Buildout	SF	417	\$ 42.50	\$ 10.00	\$21,892.50
10	Hallway, Vestibule Interior Buildout	SF	672	\$ 25.00	\$ 10.00	\$23,520.00
11	Laboratory Interior Buildout	SF	363	\$ 250.00	\$ 25.00	\$99,825.00
12	HVAC Complete	SF	3556	\$ 13.00	\$ 10.00	\$81,788.00
13	Premium Finishes Allowance	LS	1	\$ 25,000.00	\$ 10,000.00	\$35,000.00
14	Equipment Allowance (IT, Lab DI Water System, etc.)	LS	1	\$ 75,000.00	\$ 15,000.00	\$90,000.00
Subtotal						\$947,812.50
Construction Material & Labor Subtotal:						\$994,762.50

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Maintenance Building

Item No.	Item	Unit	QTY	Materials	Installation	Total
Civil Site Prep/Earthwork						
1	Site Clearing and Grubbing	SF	3600		\$0.50	\$1,800.00
2	Excavation - General	CY	267		\$22.00	\$5,866.67
3	Excavation - Rock	CY	67		\$250.00	\$16,666.67
Subtotal						\$24,333.33
Structural						
4	RC - Slab on Grade	CY	116	\$300.00	\$200.00	\$57,777.78
5	RC - Walls	CY	40	\$300.00	\$300.00	\$24,000.00
6	Premanufactured Metal Building	SF	3120	\$75.00	\$25.00	\$312,000.00
Subtotal						\$393,777.78
Building Components						
7	Equipment Allowance	LS	1	\$ 80,000.00		\$80,000.00
Subtotal						\$80,000.00
Construction Material & Labor Subtotal:						\$498,111.11

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Electrical, Instrumentation, and Controls

Item No.	Item	Unit	QTY	Materials	Installation	Total
1	Wiring, Conduit, and Grounding	LS	1	\$176,330.00	\$157,270.00	\$333,600.00
2	Lighting - Buildings	LS	1	\$67,030.00	\$18,906.00	\$85,936.00
3	Electrical Equipment (MCCs, Genset, VFDs)	LS	1	\$456,699.00	\$114,760.80	\$571,459.80
4	SCADA, Control Panels, and Instrumentation	LS	1	\$351,587.00	\$160,163.00	\$511,750.00
Construction Material & Labor Subtotal:						\$1,502,745.80