SANITARY DISTRICT NO. 5 OF MARIN COUNTY 2001 Paradise Drive Tiburon, California 94920

AGENDA

Capital Improvement Program Committee Meeting Thursday, March 14th, 2024, 9:30 a.m.

- I. Roll Call
- **II. Public Comments**
- III. New Business
 - 1. Verbal update on Cove Road pump station improvements project.
 - 2. Digester Cleaning & Rehabilitation Improvement Project Update
 - a. Engineers estimate and estimated schedule for bidding and construction.
 - b. Review of construction management proposal
 - 3. Review list of projects for upcoming Fiscal Year
 - **4.** Review list of future potential projects that require engineering evaluation.

IV. Adjournment

This Committee may be attended by Board Members who do not serve on this committee. In the event that a quorum of the entire Board is present, this Committee shall act as a Committee of the Whole. In either case, any item acted upon by the Committee or the Committee of the Whole will require consideration and action by the full Board of Directors as a prerequisite to its legal enactment. Accessible public meetings: Any member of the public who needs accommodations should email the Office Manager, at rdohrmann@sani5.org, who will use her best efforts to provide as much accessibility as possible while also maintaining public safety.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING **DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT** HTTP://MSC.FEMA.GOV



Map Projection:

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2023

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October

Printed:

Universal Transverse Mercator Zone 10N; North American Datum 1983; Western Hemisphere; Vertical Datum: North American Vertical Datum of 1988

250

SCALE 1 inch = 500 ft250 500 1,000 2,000 750 Feet

Meters

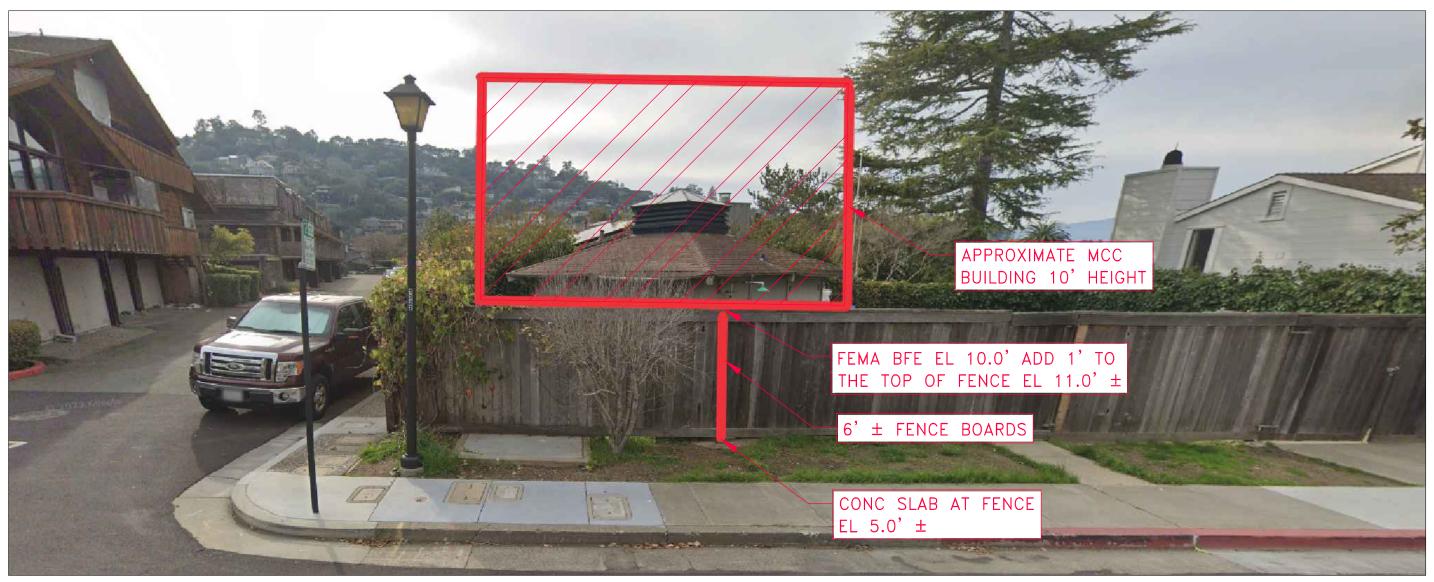
500

MARIN COUNTY, CALIFORNIA and Incorporated Areas $_{\text{PANEL}}\,527_{\,\text{OF}}\,531$



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COMMUNITY	NUMBER	PANEL	SUFFIX
BELVEDERE, CITY OF	060429	0527	E
MARIN COUNTY	060173	0527	Е
TBURON, TOWN OF	060430	0527	Е



COVE ROAD PUMP STATION
MCC BUILDING APPROXIMATE HEIGHT SKETCH



Marin San - Digester Cleaning and Rehabilitation, 100%

March 7, 2024

Basis of Estimate

This estimate utilizes the following financial data for all pricing included. The direct costs and indirect cost percentages are based on experience, current market conditions, and historical data.

Scope of Work

This project is in the City of Belvedere Tiburon, California for the Sanitary District of Marin County. The estimate includes demolition and replacement of process pipe equipment demo, piping demo, and concrete demo. The estimate also includes mobilization/demobilization, Digester exterior rehabilitation, digester sequencing for cleaning, concrete work, etc. The estimate is based on 100% design dated February 2024.

Cost Summary

	Summary of Opinion of Probable Construction Cost									
High Range Low Range										
	+15%	Co	nstruction Costs		-10%					
\$	3,315,000	\$	2,594,000							

Process Equipment:

n/a

Estimate Classification:

Class 1 This estimate is prepared to confirm the control baseline for the project. Typically, engineering is from 80 to 100 percent complete and comprises virtually all engineering and design documentation of the project, including complete project execution and commissioning plans. This estimate becomes the final control baseline of the project. Examples of methods used include the highest degree of deterministic estimating, with very detailed quantity takeoffs for all of the facility processes and or systems of the project. This type of estimate usually becomes the bid check estimate and requires the most effort to create. The expected accuracy ranges for this class estimate are –3 to –10 percent on the low side and +3 to +15 percent on the high side.

Direct Cost Methodology

- A combination of HDR database pricing, similar project costs, and historical data were used to establish direct costs.
- Labor rates include all burden and fringes.
- Labor rates are Union.
- All labor is done on normal 8-hour days, 5 days a week Monday through Friday.
- Fluctuations in labor, material, and equipment rental pricing have yet to be adjusted due to market stability. Single mobilization.



Indirect Cost Methodology

- General Contractor Mobilization & Demobilization (4%)
- General Contractor Home Office Overhead (4%)
- General Contractor Field General Conditions (25%)
- Sales Tax (8.625%)
- General Contractor Fee/Profit (10%)
- Design contingency (0%)
- General Contractor Bonds & Insurance (2.5%)
- Escalation Factor (2.44%) Material, Labor, Construction Equipment, and Fuel
- Market Volatility Adjustment Factor (10%) Supply-chain issues, Price Volatility, Transportation Issues, Labor Shortages, Premiums on Labor to Keep and Retain Craft Labor, Russian Invasion of Ukraine, Longer Lead Times Than Normal, and Covid Mandates.

Allowances:

n/a

Quotes:

Muffin Monster Sludge Grinder 10k series - \$15,738

Assumptions:

- This work will be completed uninterrupted, only one mobilization and demobilization per construction stage for the Prime Contractor and sub-contractor.
- This project will be worked on a standard work week.
- Project to be competitively bid, with a minimum of 3 bidders.
- All regulatory approvals will be obtained by others prior to mobilization.
- Subcontractors and trade labor can be procured locally or within a radius that does not require per diem upcharges.
- Location provides for sufficient lay-down and staging area.
- All procurement by the general contractor and its subcontractor's.
- Any/all environmental impact studies and associated permitting will be completed by others prior to mobilization.
- Water and Power for construction activities is available on site at no cost to the contractor.
- Contractor provides generator and fuel for duration of temporary dewatering facility operation.
- Landfill for disposal of non-contaminated construction debris is within 10-mile round trip of the project site.
- Remove Approximately 33,000 GAL of Sludge x 7 Days (2 EA) 14 Days
- Truck/Dewater Remaining Sludge Off Site From 23.5' Elevation x 40,000 GAL 10 Days
- Clean Floor & Walls of Two Digesters 20 Days
- Contractor to Remove Finished Digester Cover (2 EA) 8 Days
- Water Test (2 EA) Digesters 10 Days
- Test Mixing & Heating Functions (2 EA) 80 Hours



Exclusions:

- Cost associated with accelerated schedules.
- All permits, regulatory fees, environmental fees or requirements and acquisition of such.
- Off-site storage facilities.
- Extended warranty costs.
- Extreme weather conditions that would affect working days/lost productivity.
- Cost increases related to recently imposed tariffs.
- Cost/work associated with hazardous and/or contaminated materials.
- Costs associated with endangered species mitigation.
- Cost associated with change orders during construction.
- Non-Construction Costs.
- Owner Costs.
- Rock excavation, crushing or removal from the project site.
- 24-hour security.
- Gate access equipment or power and communication to a gate location directed on site.
- Cost associated with temporary construction power for work activities within the building or a construction compound.
- Spare Parts.

Reports (Sage/Timberline):

- 1. Rollup Highest summary of costs, including contractor markups. This is typically by facility name or element of work.
- 2. Work Activity Organized by CSI Division of Work. Includes a unique description of the work including dimensions, locations, quantities, and other useful information. This report includes contractor markups.
- 3. Detail Report With Markups A detailed report that shows all associated line items that makeup the work activity. This report is organized by Rollup, CSI Divisions of Work, Work Activity and HDR Master Specification code. This report includes contractor markups.
- 4. Detail Direct Cost Report A detailed report that show all associated line items but there are no contractor markups. The costs shown are direct costs.
- 5. Totals On the last sheet of the Detail Direct Cost Report. This show all of the markups used in the OPCC.
- 6. Escalation Report Show the assumed project milestones for design, bid and award period, construction duration, percentage rate per year.
- 7. Electrical and Instrumentation Only the summary report. Excel based. The detailed electronic file can be provided if requested.

Estimate Version: Rev 06, 03/07/2024

Roll Up Report

Project name Marin County - Digester Cleaning and Rehab

Labor rate table HDR_2024_Union

Equipment rate table HDR_EQ_2024

Project Digester & Rehab.

Notes

Any opinions of probable construction cost or cost estimates provided by HDR, Inc. are made based on information available to HDR, Inc. and based on the cost estimator's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, HDR, Inc. has no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor(s) methods of determining prices, or over competitive bidding or market conditions. HDR, Inc. does not guarantee that proposals, bids, or actual project or construction cost will not vary from opinions of probable cost or cost estimates prepared by HDR, Inc.

A recent AGC report indicated that September 2020 and September 2022 saw a 21% increase in construction materials during this period. Also, during this period, substantial material prices increase in primary materials such as diesel fuel, steel, fabricated metals, lumber, concrete, rebar, copper, and PVC. Contractors are experiencing supply-chain issues, transportation issues, short pricing guarantees (1 to 7 days), longer than average fabrication durations, and limited availability of material supplies, labor premiums to attract craft workers, covid mandates, and the Russian invasion of Ukraine. This combination has produced a potentially volatile situation for owners as general contractors are drastically recovering costs. A project owner would be wise to ask many questions, work to obtain as much bid competition as possible, and retain a higher than usual contingency.

Report format

Sorted by 'WBS_MAIN'
'WBS_MAIN' summary
Allocate addons

Factor table

941-CA-SAN FRANCISCO

3/7/2024 11:38 AM Design Stage: 100%

Roll Up Report

Estimate Version: Rev 06, 03/07/2024

		Labor	Material	Subcontract	Equipment	Other	Total	
Description	Quantity	Amount	Amount	Amount	Amount	Amount	Unit Cost	Amount
063 BASE BID	1.00	LS 830,764	504,325	584,105	271,761	612	2,191,566.63 /LS	2,191,567
064 ALTERNATE 1	1.00	LS 21,405	35,364		4,749		61,517.71 /LS	61,518
065 ALTERNATE 2	1.00	LS 131,832	28,542	8,001	3,912		172,288.16 /LS	172,288
066 ALTERNATE 3	1.00	LS 32,358	51,577		1,464		85,399.83 /LS	85,400

Roll Up Report

3/7/2024 11:38 AM Design Stage: 100%

Estimate Version: Rev 06, 03/07/2024

Estimate Totals

Description	Amount	Totals	Rate	
Labor	1,016,360			
Material	619,808			
Build America, Buy America Act				
Equipment	281,887			
Subcontract	592,106			
Other	612			
Subtotal Field Const Costs	2,510,773	2,510,773		
Sales Tax Estimate (Mat & Eq)	48,096		8.625 %	6
Subtotal Field Const Costs	48,096	2,558,869		
Design Contingency	•			
Subtotal Field Const Costs		2,558,869		
Escalation Project (Year)	60,877		2.440 %	6
Construction Subtotal	60,877	2,619,746		
Market Volatility Adjustment Factor	261,975		10.000 %	6
Construction Total	261,975	2,881,721		
Total		2,881,721		

Estimate Version: Rev 06, 03/07/2024

Summary Report

Project name Marin County - Digester Cleaning and Rehab

Labor rate table HDR_2024_Union

Equipment rate table HDR_EQ_2024

Project Digester & Rehab.

Notes Any opinions of

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Report format Sorted by 'WBS_MAIN/MF04_DIV/HDR04SPEC'

'MF04_DIV' summary

Allocate addons

Factor table 941-CA-SAN FRANCISCO

Design Stage: 100%

Estimate Version: Rev 06, 03/07/2024

Marin County - District No. 5 <u>Digester Cleaning and Rehabilitation</u>

Summary Report

					Labor		Material	Subcontract	Equipment	Other	Total	
Description		Quantit	ty		An	nount	Amount	Amount	Amount	Amount	Unit Cost	Amount
DIVISION 01 GENERAL REQUIREMENTS DIVISION 02 EXISTING CONDITIONS DIVISION 26 ELECTRICAL DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES) 063 BASE BID	063	13.0 1.0 1.0 1.0	0	LS LS LS		72,643 1,343 76,902 79,876 330,764	332,824 28,346 143,154 504,325	584,105 584,105	257,020 242 1,823 12,675 271,761	612 612	142,045.552/LS 1,585.20 /LS 107,683.76 /LS _235,705.49 /LS _2,191,566.63 /LS	1,846,592 1,585 107,684 235,705 2,191,567
1.00 LS												
5,441.840 Labor hours 8,629.370 Equipment hours												
DIVISION 02 EXISTING CONDITIONS DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES) DIVISION 46 WATER AND WASTEWATER EQUIPMENT 064 ALTERNATE 1 1.00 LS	064	1.0 1.0 1.0	0	LS LS EA		9,797 1,625 9,983 21,405	6,823 3,003 25,538 35,364		1,527 766 2,457 4,749		18,146.63 /LS 5,393.74 /LS 37,977.340/EA 61,517.71 /LS	18,147 5,394 37,977 61,518
104.728 Labor hours 152.849 Equipment hours												
DIVISION 02 EXISTING CONDITIONS DIVISION 03 CONCRETE DIVISION 05 METALS DIVISION 22 PLUMBING DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES) 065 ALTERNATE 2 1.00 LS	065	1.0 1.0 1.0	0 0 0	LS LS ES EA LS		4,896 13,913 6,610 2,743 3,670 (31,832	49 15,111 1,152 3,507 8,724 28,542	8,001 8,001	2,698 711 500 4 3,912		7,642.30 /LS 137,735.60 /LS 8,262.130/LS 6,250.15 /EA 12,397.98 /LS 172,288.16 /LS	7,642 137,736 8,262 6,250 12,398 172,288
906.606 Labor hours 58.340 Equipment hours												
DIVISION 05 METALS DIVISION 05 WOOD, PLASTICS & COMPOSITES DIVISION 23 HEATING, VENTILATING & AIR-CONDITIONING (HVAC) DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES) 066 ALTERNATE 3	066	ALTERNATE 3 1.0 10.0 40.0	0	LS SF LF		782 381 29,940 1,256 32,358	4,901 1,238 16,122 29,316 51,577		1,420		5,726.96 /LS 161.911/SF 1,187.050/LF 	5,727 1,619 47,482 30,572 85,400

1.00 LS

130.081 Labor hours 9.074 Equipment hours

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Design Stage: 100%

Estimate Version: Rev 06, 03/07/2024

Estimate Totals

Description	Amount	Totals	Rate	
Labor	1,016,360			
Material	619,808			
Build America, Buy America Act				
Equipment	281,887			
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Subtotal Field Const Costs	2,510,773	2,510,773		
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Construction Subtotal	60,877	2,619,746		
Market Volatility Adjustment Factor	261,975		10.000 %	
Construction Total	261,975	2,881,721		
Total		2,881,721		

Estimate Version: Rev 06, 03/07/2024

Work Activity Report

Project name Marin County - Digester Cleaning and Rehab

Labor rate table HDR_2024_Union

Equipment rate table HDR_EQ_2024

Project Digester & Rehab.

Notes

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Report format Sorted by 'WBS_MAIN/MF04_DIV/Work Activity'

'Work Activity' summary Allocate addons

Allocate addons

Factor table 941-CA-SAN FRANCISCO

3/7/2024 11:39 AM Design Stage: 100%

Work Activity Report

Estimate Version: Rev 06, 03/07/2024

			Labor	Material	Subcontract	Equipment	Other	Total	
Description		Quantity	Amount	Amount	Amount	Amount	Amount	Unit Cost	Amount
	063 BASE BID								
DIVISION 01	GENERAL REQUIREMENTS								
01 00 00.000.05 Hazardous Environmental Conditions - SPEC 01 11 00 - 1		1.00 LS	10,241		56,010			66,251.040/LS	66,251
01 00 00.000.10 Confined Space Entry Policy/Procedure SPEC 01 11 00 - 2 01 00 00.000.15 Work By Owner - Coordination SPEC 01 11 00 - 3 - 1.7	- 1.3 - G2	1.00 LS 1.00 LS	10,241 10,001					10,241.34 /LS 10,001.380/LS	10,241 10,001
01 00 00.000.20 Sequencing of Work Requiremnts & Responsible Party(s) -	01 11 00 - 6 3.1 E	1.00 LS	10,241					10,241.34 /LS	10,241
01 00 00.000.25 Gas Purge & Dewater 2 Digester (Contractor & Owner) - 01		1.00 LS	3,923	24,004		1,119		29,045.68 /LS	29,046
01 00 00.000.30 Purge Secondary Digester Nitrogen (5,000 ft/3) - SPEC 01		1.00 LS		16,003				16,002.78 /LS	16,003
01 00 00.000.32 Purge Primary Digester Nitrogen (5,000 ft/3) - SPEC 01 11		1.00 LS 14.00 DAY	00.004	16,003	2	40.404		16,002.78 /LS	16,003
01 00 00.000.35 Remove Approximately 33,000 GAL of Sludge x 7 Days - 2 01 00 00.000.40 Truck/Dewater Remaining Sludge Off Site From 23.5' Eleva		14.00 DAY 10.00 DAY	23,681 10,846	56,944	188,033	46,191 11,030		9,058.376/DAY 20,990.879/DAY	126,817 209,909
01 00 00.000.45 Clean Floor & Walls of Two Digesters- SPEC 01 11 00 - 6 -		20.00 DAY	148,372	4,801	160,028	79,480		19,634.051/DAY	392,681
01 00 00.000.50 Contractor to Reinstall Finished Digester Cover 2 EA - SPE		1.00 LS	87,799	125,622	,	33,236		246,656.75 /LS	246,657
01 00 00.000.55 Contractor to Remove Finished Digester Cover (2EA)- SPE	C 01 11 00 - 6 - 4a	4.00 DAY	61,944			16,618		19,640.443/DAY	78,562
01 00 00.000.60 Water Test 2 EA Digesters		10.00 DAY	49,731			32,496		8,222.651/DAY	82,227
01 00 00.000.65 Test Mixing & Heating Functions 2 EA- SPEC 01 11 00 - 6		80.00 HR	38,885	13,435		21,465		922.311/HR	73,785
01 00 00.000.81 Transfer Seed Sludge from Primary to Secondary Digester 01 00 00.000.85 Start up & Monitor Secondary Digester (Contractor & Owne		1.00 LS 1.00 LS	11,840	28,005	2 24,004	3,416		43,262.79 /LS 24,004.18 /LS	43,263 24,004
01 00 00.000.86 Perform Lab Testing of Volatile Acid (VAs) & Alkalinity 3x p		150.00 EA			36,006			24,004.167ES 240.042/EA	36,006
01 00 00.000.87 Clean & Repair Primary Digester (Contractor) - 01 11 00 - 7		2.00 LS	90,792	48,008	,	11,970		75,385.12 /LS	150,770
01 21 00.000.05 Traffic Control Allowance		1.00 LS			40,007			40,006.94 /LS	40,007
01 21 00.000.10 Protection of Existing Landscaping Allowance		1.00 LS			40,007			40,006.96 /LS	40,007
01 74 00.000.05 Digester Cover Cleaning, Inspected, Preparation - 1.2.3a 01.21.00.005 Scafolding Allowance - 2 Digesters		1.00 LS 1.00 LS	104,105		40,007			40,006.92 /LS 104,104.61 /LS	40,007 104,105
DIVISION 01 GENERAL REQUIREMENTS		1.00 LS	672,643	332,824	584,105	257,021		142,045.552/LS	1,846,592
13.00 LS									
4,854.00 Labor hours 8,560.00 Equipment hours									
DIVISION 02	EXISTING CONDITIONS								
02 41 00.150.05 Demo (DR) Digester Recirculation DI Pipe, 8" DIA x 21 LF		21.00 LF	688			124		38.663/LF	812
02 41 00.150.10 Demo (DM) Digester Mixing DI Pipe, 8" DIA x 10 LF 02 41 00.150.15 Demo (DF) Digester Feed DI Pipe, 6" DIA x 10 LF		10.00 LF 10.00 LF	328 328			59 59		38.663/LF 38.664/LF	387 387
DIVISION 02 EXISTING CONDITIONS		10.00 LF	1,343			242		1,585.20 /LS	1,585
DIVISION 02 EXISTING CONDITIONS			1,040			242		1,303.20723	1,303
1.00 LS									
11.717 Labor hours 2.342 Equipment hours									
DIVISION 26	ELECTRICAL								
26.00.00.005 Electrical Equipment+Testing/Commissioning	ELLOTTIONE	2.00 EA	47,009	23,109		904	271	35,646.395/EA	71,293
26.00.00.020 Electrical - Above Ground Raceways		225.00 LF	16,074	2,864		495	183	87.179/LF	19,615
26.00.00.035 Electrical - Power Wire and Cable (AG+UG)		270.00 LF	13,819	2,374		425	158	62.132/LF	16,776
DIVISION 26 ELECTRICAL			76,902	28,346		1,823	612	107,683.76 /LS	107,684
1.00 LS									
170.955 Labor hours									
DIVISION 40	PROCESS INTEGRATION (E	XPOSED PIPE, VALVES	AND GATES)						
40 05 07.010.05 Unistrut Pipe Supports for Back Wall (6 EA)	•	6.00 EA	5,900	5,579				1,913.102/EA	11,479
40 05 19.006.05 (DF) Digester Feed DI Pipe, 6" DIA x 5 LF		5.00 LF	9,111	10,623		14		3,949.628/LF	19,748

Marin County - District No. 5 **Digester Cleaning and Rehabilitation**

Design Stage: 100% Estimate Version: Rev 06, 03/07/2024

Work Activity Report

Labor

Material Subcontract Equipment Other Total

Description	Quantity	Amount	Amount	Amount	Amount	Amount Unit Cost	Amount
40 05 19.008.05 (DR) Digester Recirculation DI Pipe, 8" DIA x 45 LF 40 05 19.008.10 (DM) Digester Mixing DI Pipe, 8" DIA x 8 LF 40 05 19.008.15 Replaced Exposed Plug Valves - Phase 1 - 2 DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES)	45.00 LF 8.00 LF 32.00 EA	34,364 4,502 26,000 79,87 6	42,061 14,362 70,530 143,154	-	401 11 12,250 12,675	1,707.226/LF 2,359.264/LF 3,399.358/EA 235,705.49 /LS	76,825 18,874 108,779 235,705
1.00 LS							
405.168 Labor hours 67.028 Equipment hours							
063 BASE BID		830,764	504,325	584,105	271,761	612 2,191,566.63 /LS	2,191,567
1.00 LS							
5,441.840 Labor hours 8,629.370 Equipment hours							
064 ALT	ERNATE 1						
DIVISION 02 EXISTING COND							
02 41 00.110.10 Demo Concrete Slab, 12" Thick x 32 SF 02 41 00.160.05 Demo Existing Sludge Grinder - GRI-17-100, 50 GP, 3 HP - Spec 46 24 23-1 22 09 00.000.05 Demo Existing Vendor Control Panel VCP-17-100	1.00 CY 1.00 DAY 1.00 EA	718 9,079	240 6,583	_	330 1,197	1,047.56 /CY 10,516.26 /DAY 6,582.81 /EA	1,048 10,516 6,583
DIVISION 02 EXISTING CONDITIONS 1.00 LS		9,797	6,823		1,527	18,146.63 /LS	18,147
54.061 Labor hours 132.849 Equipment hours							
	GRATION (EXPOSED PIPE, VALVES AND G	SATES)					
40 05 19.006.10 Install Existing Plug Valves, 6" Dia (2 EA) DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES)	2.00 EA	1,625 1,625	3,003 3,003	-	766 766	2,696.87 /EA 5,393.74 /LS	5,394 5,394
1.00 LS							
10.667 Labor hours 4.00 Equipment hours							
	STEWATER EQUIPMENT 1.00 EA	0.083	25 520		2.457	27 077 240/54	27.077
46 01 70.005.05 Install New Sludge Grinder - In-line Muffin Monster Model 10k Series DIVISION 46 WATER AND WASTEWATER EQUIPMENT	1.00 EA	9,983 9,983	25,538 25,538	-	2,457 2,457	37,977.340/EA 37,977.340/EA	37,977 37,977
1.00 EA							
40.00 Labor hours 16.00 Equipment hours							
064 ALTERNATE 1		21,405	35,364	0	4,749	0 61,517.71 /LS	61,518

1.00 LS

104.728 Labor hours 152.849 Equipment hours

Marin County - District No. 5 <u>Digester Cleaning and Rehabilitation</u>

Design Stage: 100%

Work Activity Report

Estimate Version: Rev 06, 03/07/2024

		Labor	Material	Subcontract	Equipment	Other	Total		
Description	Quantity	,	Amount	Amount	Amount	Amount	Amount	Unit Cost	Amount
	065 ALTERNATE 2								
DIVISION 02 02 41 00.080.05 Sawcut Around Existing Concrete, 6" Thick x 83 LF 02 41 00.110.05 Demo Existing Concrete, 6" Thick x 294 SF DIVISION 02 EXISTING CONDITIONS 1.00 LS	EXISTING CONDITIONS 83.00 32.699		1,023 3,872 4,896	49		918 1,779 2,698		23.983/LF 172.841/SY 7,642.30 /LS	1,991 5,652 7,642
40.082 Labor hours 37.230 Equipment hours DIVISION 03 03 11 13.504.05 Concrete Slab, 12" Thick, Spec 1.3.B.1d 03 11 13.773.05 Concrete Encasement, 32" Thick x 20 SF 03 11 16.015.05 Concrete Cubr, 7" Thick x 12" High x 45 LF 03 31 32.000.05 Repair Spalled Concrete & Treat Exposed Rebar 03.35.00.005 Drill in Dowel In Edge - Two Rows DIVISION 03 CONCRETE 1.00 LS	CONCRETE 11.00 3.00 45.00 1.00 166.00	CY LF LS	5,631 1,658 462 106,163 113,913	8,261 1,902 963 3,985 15,111	8,001	525 81 105 711		1,310.595/CY 1,213.577/CY 33.992/LF 8,001.40 /LS 663.538/EA 137,735.60 /LS	14,417 3,641 1,530 8,001 110,147 137,736
796.409 Labor hours 8.717 Equipment hours DIVISION 05 05 52 05.500.05 SST Chanel C6x13 Guadrail x 21 LF - SPEC 1.3.B.1c DIVISION 05 METALS 1.00 LS 36.653 Labor hours	METALS 21.00	LF	6,610 6,610	1,152 1,152				393.435/LF 8,262.130/LS	8,262 8,262
12.218 Equipment hours DIVISION 22 31 69 00.000.05 Trench Drain, 4" DIA & 12"x12" Drain Box - SPEC 1.3.B.1b DIVISION 22 PLUMBING 1.00 EA 14.00 Labor hours	PLUMBING 1.00	EA	2,743 2,743	3,507 3,507				6,250.15 /EA 6,250.15 /EA	6,250 6,250
DIVISION 40 40 05 19.004.05 Trench Drain Pipe DI, 4" DIA x 11 LF DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND G	PROCESS INTEGRATION (EXPOSED 11.00 ATES)		GATES) 3,670 3,670	8,724 8,724		4 4		1,127.089/LF 12,397.98 /LS	12,398 12,398

1.00 LS

19.461 Labor hours 0.176 Equipment hours

Marin County - District No. 5 <u>Digester Cleaning and Rehabilitation</u>

Work Activity Report

Design Stage: 100% Estimate Version: Rev 06, 03/07/2024

Description				Subcontract	Equipment	Other	Total	
	Quantity	Amount	Amount	Amount	Amount	Amount	Unit Cost	Amount
065 ALTERNATE 2		131,832	28,542	8,001	3,912	0	172,288.16 /LS	172,288
1.00 LS								
906.606 Labor hours 58.340 Equipment hours								
	066 ALTERNATE 3							
DIVISION 05	METALS							
05 50 00.315.05 Stairs DIVISION 05 METALS	3.00 RISR				44		1,908.987/RISR 5,726.96 /LS	5,727 5,727
1.00 LS		702	4,301		77		3,720.90723	3,727
4.297 Labor hours								
1.074 Equipment hours								
DIVISION 06	WOOD, PLASTICS & COMPOSITES							
06 82 00.010 FRP Grating, 1" Thick x 10 SF DIVISION 06 WOOD, PLASTICS & COMPOSITES	10.00 SF	381 381	1,238 1,238				161.911/SF 161.911/SF	1,619 1,619
10.00 SF								
2.40 Labor hours								
DIVISION 23	HEATING, VENTILATING & AIR-CONDITIONING (H	/AC)						
23 31 00.000.05 Extended Foul Air Duct, 36" Dia x 20 LF 23 80 00.000.05 Floc Tank Drop Legs - 6" Dia x 20 LF	20.00 LF 20.00 LF	3,800 18,754					343.572/LF 1,127.653/LF	6,871 22,553
23 80 00.000.10 New SST Panel On Top of FKC	1.00 EA	7,386			1,420		18,057.52 /EA	18,058
DIVISION 23 HEATING, VENTILATING & AIR-CONDITIONING (HVAC)		29,940	16,122		1,420		1,187.050/LF	47,482
40.00 LF								
115.300 Labor hours 8.00 Equipment hours								
DIVISION 40	PROCESS INTEGRATION (EXPOSED PIPE, VALVE	S AND GATES)						
40 05 19.036.05 New Elbow Under Screw with Tee, 36" DIA	1.00 EA 4.00 EA	999					29,194.70 /EA	29,195
40 05 70.200.05 Fiberglass Air Damper Valve, "06 Dia - (4 EA) DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND		257 1,256					344.263/EA	1,377 30,572
8.084 Labor hours								
066 ALTERNATE 3		32,358	51,577	0	1,464	0	85,399.83 /LS	85,400
1.00 LS								

130.081 Labor hours 9.074 Equipment hours

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Work Activity Report

Estimate Totals

			_	
Description	Amount	Totals	Rate	
Labor	1,016,359			
Material	619,808			
Build America, Buy America Act				
Equipment	281,887			
Subcontract	592,106			
Other _	612			
Subtotal Field Const Costs	2,510,772	2,510,772		
Sales Tax Estimate (Mat & Eq)	48,096		8.625 %	
Subtotal Field Const Costs	48,096	2,558,868		
Design Contingency				
Subtotal Field Const Costs		2,558,868		
Escalation Project (Year)	60,877		2.440 %	
Construction Subtotal	60,877	2,619,745		
Market Volatility Adjustment Factor	261,975		10.000 %	
Construction Total	261,975	2,881,720		
Total		2,881,720		

Detail Report with Contractor Markups

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Project name Marin County - Digester Cleaning and Rehab

Labor rate table HDR_2024_Union

Equipment rate table HDR_EQ_2024

Project Digester & Rehab.

Notes

Any opinions of probable construction cost or cost estimates provided by HDR, Inc. are made based on information available to HDR, Inc. and based on the cost estimator's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, HDR, Inc. has no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions. HDR, Inc. does not quarantee that proposals, bids, or actual project or construction cost will not vary from opinions of probable cost or cost estimates prepared by HDR, Inc.

A recent AGC report indicated that September 2020 and September 2022 saw a 21% increase in construction materials during this period. Also, during this period, substantial material prices increase in primary materials such as diesel fuel, steel, fabricated metals, lumber, concrete, rebar, copper, and PVC. Contractors are experiencing supply-chain issues, transportation issues, short pricing guarantees (1 to 7 days), longer than average fabrication durations, and limited availability of material supplies, labor premiums to attract craft workers, covid mandates, and the Russian invasion of Ukraine. This combination has produced a potentially volatile situation for owners as general contractors are drastically recovering costs. A project owner would be wise to ask many questions, work to obtain as much bid competition as possible, and retain a higher than usual contingency.

Report format Sorted by 'WBS_MAIN/MF04_DIV/Work Activity/HDR04SPEC'

'Detail' summary Allocate addons

Factor table 941-CA-SAN FRANCISCO

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				Labor	Material	Subcontr	ract	Equipment	Other	Total	
Item	Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
		200		212							
		063	BASE	BID							
DIVISION 01		GENERAL	REQUI	REMENTS							
01 00 00.000.05	Hazardous E	nvironmental Condit	ions - SP	EC 01 11 00 - 1	- 1.2D						
01 00 00.000	General Requirements										
	Hazardous Environmental Conditions - SPEC 01 11 00 - 1 - 1.2D - Assessment	1.00	LS			56,010				56,009.72 /LS	56,010
	Field personnel, field engineer, maximum 01 00 00.000 General Requirements	2.00	week	10,241	-	56,010		-	-	5,120.66 /week	10,241 66,251
	1.00 LS										
	80.00 Labor hours										
	01 00 00.000.05 Hazardous Environmental Conditions - SPEC 01 11 00 - 1 - 1.2D			10,241	0	56,010		0	0	66,251.040/LS	66,251
	1.00 LS										
	80.00 Labor hours										
01 00 00.000.10	Confined Spa	ace Entry Policy/Pro	cedure Si	PEC 01 11 00 - 2	? - 1.3 - G2						
o1 00 00.000 n 0140	General Requirements Field personnel, field engineer, maximum 01 00 00.000 General Requirements	2.00	week	10,241	-	-		-	-	5,120.67 /week	10,241
	1.00 LS										
	80.00 Labor hours										
	01 00 00.000.10 Confined Space Entry Policy/Procedure SPEC 01 11 00 - 2 - 1.3 - G2			10,241	0	0		0	0	10,241.34 /LS	10,241
	1.00 LS										
	80.00 Labor hours										
01 00 00.000.15	Work By Own	ner - Coordination S	PEC 01 1	1 00 - 3 - 1.7							
01 00 00.000 n 0920	General Requirements Work By Owner - Coordination SPEC 01 11 00 -	1.00	LS	10,001		0				10,001.380 /LS	10,001
	3 - 1.7 01 00 00.000 General Requirements			10,001						10,001.380/LS	10,001
	1.00 LS										, , ,
	01 00 00.000.15 Work By Owner - Coordination SPEC 01			10,001	0	0		0	0	10,001.380/LS	10,001

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	01 00 00.000.15 Work By Owner - Coordination SPEC 01 11 00 - 3 - 1.7 1.00 LS		10,001	0	0		0	0	10,001.380/LS	10,001
01 00 00.000.20	Sequencing	of Work Requiremnts & Resp	onsible Party(s)	- 01 11 00 - 6 3.:	E					
01 00 00.000 n 0140	General Requirements Field personnel, field engineer, maximum 01 00 00.000 General Requirements 1.00 LS	2.00 week	10,241	-			-	-	5,120.67 /week 10,241.34 /LS	10,241
	80.00 Labor hours 01 00 00.000.20 Sequencing of Work Requiremnts & Responsible Party(s) - 01 11 00 - 6 3.1 E 1.00 LS		10,241	0	0		0	0	10,241.34/LS	10,241
	80.00 Labor hours									
01 00 00.000.25	Gas Purge &	Dewater 2 Digester (Contrac	ctor & Owner) - 0	01 11 00 3.1 E 2						
01 00 00.000 n 0920	General Requirements Gas Purge & Dewater Secondary Digester (Contractor & Owner) - 01 11 00 3.1 E - 2 01 00 00.000 General Requirements	1.00 LS	3,923	24,004			1,119		29,045.68 /LS 	29,046
	1.00 LS		-,	-,,			,,			20,010
	20.00 Labor hours 8.00 Equipment hours									
	01 00 00.000.25 Gas Purge & Dewater 2 Digester (Contractor & Owner) - 01 11 00 3.1 E2 1.00 LS 20.00 Labor hours 8.00 Equipment hours		3,923	24,004	0		1,119	0	29,045.68 /LS	29,046
01 00 00.000.30	Purge Secon	dary Digester Nitrogen (5,00	0 ft^3) - SPEC 0	1 11 00 - 6 - 3.1 [Ee .					
01 00 00.000 n 0920	General Requirements Purge Secondary Digester Nitrogen regulated nitrogen (5,000 ft^3) to digester - SPEC 01 11 00 - 6 - 3.1 - E - 2e	1.00 LS		16,003					16,002.78 /LS	16,003
	01 00 00.000 General Requirements 1.00 LS			16,003					16,002.78 /LS	16,003

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					Labor	Material	Subcontra	ct	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
		01 00 00.000.30 Purge Secondary Digester Nitrogen (5,000 ft^3) - SPEC 01 11 00 - 6 - 3.1 Ee			0	16,003	0		0	0	16,002.78 /LS	16,003
		1.00 LS										
01 00 00.000	n 32	Purae Prima	ry Digester Nitrogen (5	5 000 f#	N3) - SPEC 01 1	1 00 - 6 - 3 1 Fe						
-	0.02		y Diguster run egen (e	5,000 it	<u> </u>							
01 00 00.000 n	0920	General Requirements Purge Primary Digester Nitrogen (5,000 ft^3) - SPEC 01 11 00 - 6 - 3.1 Ee	1.00	LS		16,003					16,002.78 /LS	16,003
		01 00 00.000 General Requirements				16,003					16,002.78 /LS	16,003
		1.00 LS										
		01 00 00.000.32 Purge Primary Digester Nitrogen (5,000 ft^3) - SPEC 01 11 00 - 6 - 3.1 Ee			0	16,003	0		0	0	16,002.78 /LS	16,003
		1.00 LS										
01 00 00.000	0.35	Remove App	roximately 33,000 GA	AL of Slu	udge x 7 Days - 2	2 EA SPEC 01 1	1 00 - 6 - 3.1 E f					
01 00 00.000		General Requirements										
n	0920			LS		56,010	2				56,011.33 /LS	56,011
	1000	Dewatering, pumping 8 hours, attended 2 hrs per day, 4" diaphragm pump, includes 20 LF of suction hose and 100 LF of discharge hose	14.00	DAY	23,681	-	-		3,978	-	1,975.651 /DAY	27,659
n	1020	Dewatering, pumping 8 hours, attended 2 hrs per day, 4" diaphragm pump, includes 20 suction hose and 100 lf of discharge hose, add for	14.00	day	-	-	-		2,854	-	203.824 /day	2,854
n	5000	additional pump 21,000 Gallon (Closed Top Frac Tank)	14.00	day	_	934	_		39,359	_	2,878.092 /day	40,293
		01 00 00.000 General Requirements		,	23,681	56,944	2		46,191		126,817.27 /LS	126,817
		1.00 LS										
		168.00 Labor hours										
		560.00 Equipment hours										
		01 00 00.000.35 Remove Approximately 33,000 GAL of Sludge x 7 Days - 2 EA SPEC 01 11 00 - 6 - 3.1 Ef			23,681	56,944	2		46,191	0	9,058.376/DAY	126,817
		14.00 DAY										
		168.00 Labor hours 560.00 Equipment hours										
01 00 00.000	0.40	Truck/Dewate	er Remaining Sludge	Off Site	From 23.5' Elev	ation x 40,000 G	AL - SPEC 01 11 00 - 6	- 3.1 Eh				
01 00 00.000		General Requirements										
n n	0560 0560	Haul 40,000 Gallons Haul 40,000 Gallons - Load Trucks		DAY TRK	10,846	-	- 8,001		11,030	-	2,187.615 /DAY 320.056 /TRK	21,876 8,001
	0300	Tiddi 70,000 Galions - Load Tidons	25.00	TIXIX			0,001			-	320.030 / I KK	0,001

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					Labor	Material	Subcontrac	ct	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
01 00 00.000 n	0560	General Requirements Haul 40,000 Gallons - Haulling & Disposal 01 00 00.000 General Requirements 1.00 LS	25.00	TRK	10,846		180,031 		11,030		7,201.250 /TRK 209,908.79 /LS	180,031 209,909
		80.00 Labor hours 80.00 Equipment hours										
		01 00 00.000.40 Truck/Dewater Remaining Sludge Off Site From 23.5' Elevation x 40,000 GAL - SPEC 01 11 00 - 6 - 3.1 Eh			10,846	0	188,033		11,030	0	20,990.879/DAY	209,909
		10.00 DAY										
		80.00 Labor hours 80.00 Equipment hours										
01 00 00.000	0.45	Clean Floor & V	Valls of Two Diges	ters- SPI	EC 01 11 00 - 6	- 3.1 3a						
01 00 00.000 n	0840	General Requirements Cleaning masonry, high pressure wash, water and chemical, excludes scaffolding, maximum	20.00	DAY	76,362	4,801	-		37,476	-	5,931.945 /DAY	118,639
n		Productivity Loss	20.00	day	38,181	0	-		18,738	-	2,845.952 /day	56,919
n	1100	Rental of sludge screen Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 LF of suction hose and 100 LF of discharge hose	20.00 20.00	day day	33,830	-	160,028 -		11,317	-	8,001.388 /day 2,257.350 /day	160,028 45,147
n	1120	Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 suction hose and 100 of discharge hose, add for	20.00	day	-	-	-		11,948	-	597.417 /day	11,948
		additional pump 01 00 00.000 General Requirements			148,372	4,801	160,028		79,480		392,681.02 /LS	392,681
		1.00 LS										
		1,200.00 Labor hours 5,600.00 Equipment hours										
		01 00 00.000.45 Clean Floor & Walls of Two Digesters- SPEC 01 11 00 - 6 - 3.1 3a			148,372	4,801	160,028		79,480	0	19,634.051/DAY	392,681
		20.00 DAY										
		1,200.00 Labor hours 5,600.00 Equipment hours										
01 00 00.000	0.50	Contractor to R	einstall Finished D	igester C	over 2 EA - SPI	EC 01 11 00 - 6 -	4a					
01 00 00.000		General Requirements										
	0600	Crane crew, daily use for small jobs, 100-ton truck-mounted hydraulic crane, portal to portal	8.00	day	17,282	-	-		33,236	-	6,314.729 /day	50,518
n	6000	Paints and protective coatings, galvanizing structural steel in shop, over 20 tons, hot dip	100.00	ton	-	102,418	-		-	-	1,024.178 /ton	102,418

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Detail Report with Contractor Markups

					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
01 00 00.000		General Requirements										
n	3860	Structural steel project, shop extra for	100.00	ton	-	23,204	-		-	-	232.040 /ton	23,204
		sandblasting and primer coat of paint, (included in										
		project material cost, above)										
		(CAIR) Air Tool Laborers	200.00	mh	20,323	-	-		-	-	101.613 /mh	20,323
		(CLAM) Common Maintenance Laborers	200.00	mh	21,203	-	-		-	-	106.014 /mh	21,203
	0300	(EQHO) Equipment Operators, Crane - Outside Foreman	40.00	mh	5,969	-	-		-	-	149.22 /mh	5,969
		(EQHV) Equipment Operators, Crane or Shovel	40.00	mh	5,809	-	-		-	-	145.219 /mh	5,809
	0905	(SSWL) Welders, Structural Steel	80.00	mh	11,369	-	-		-	-	142.119 /mh	11,369
	0910	(SSWO) Welders, Structural Steel - Outside Foreman	40.00	mh	5,845	-	-		-	-	146.120 /mh	5,845
		01 00 00.000 General Requirements			87,799	125,622			33,236		246,656.75 /LS	246,657
		1.00 LS										
		728.00 Labor hours										
		128.00 Equipment hours										
		01 00 00.000.50 Contractor to Reinstall Finished Digester Cover 2 EA - SPEC 01 11 00 - 6 - 4a			87,799	125,622	0		33,236	0	246,656.75 /LS	246,657
		1.00 LS										
		728.00 Labor hours										
		128.00 Equipment hours										
01 00 00.000	0.55	Contractor to	Remove Finished D	igester C	Cover (2EA)- SP	EC 01 11 00 - 6 -	4a					
01 00 00.000		General Requirements										
	0600	Crane crew, daily use for small jobs, 100-ton	4.00	DAY	8,641	-	-		16,618	-	6,314.728 /DAY	25,259
		truck-mounted hydraulic crane, portal to portal										
		(CAIR) Air Tool Laborers	200.00	mh	20,323	-	-		-	-	101.613 /mh	20,323
		(CLAM) Common Maintenance Laborers	200.00	mh	21,203	-	-		-	-	106.014 /mh	21,203
	0300	(EQHO) Equipment Operators, Crane - Outside Foreman	40.00	mh	5,969	-	-		-	-	149.220 /mh	5,969
	0205	(EQHV) Equipment Operators, Crane or Shovel	40.00	mh	5,809						145.219 /mh	5,809
	0303	01 00 00.000 General Requirements	40.00	11111	61,944	_	-		16,618	_	78,561.77 /LS	78,562
		1.00 LS			,				,		,	,
		544.00 Labor hours 64.00 Equipment hours										
		01 00 00.000.55 Contractor to Remove Finished Digester Cover (2EA)- SPEC 01 11 00 - 6 - 4a			61,944	0	0		16,618	0	19,640.443/DAY	78,562
		4.00 DAY										

544.00 Labor hours64.00 Equipment hours

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				Labor	Material	Subcontract	t	Equipment	Other	Total	
ltem		Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
01 00 00.000	0.60	Water Test	2 EA Digesters								
01 00 00.000 n	0560 8550	General Requirements Haul Gallons Water Test 01 00 00.000 General Requirements 1.00 LS 320.00 Labor hours 320.00 Equipment hours	10.00 DAY 80.00 hr	10,846 38,885 49,731	0			11,031 21,465 32,496	0	2,187.617 /DAY 754.379 /hr 82,226.510/LS	21,876 60,350 82,227
01 00 00.000	0.65	10.00 DAY 320.00 Labor hours 320.00 Equipment hours Test Mixin	ı & Heating Functions 2 EA- SI	PEC 01 11 00 - 6	- 4c						
01 00 00.000	0.00	General Requirements	y a riodaing ranollone 2 Est of		70						
	8550	Heat Test 01 00 00.000 General Requirements	80.00 HR	38,885 38,885	13,435 13,435	-		21,465 21,465	-	922.311 /HR 73,784.86 /LS	73,785 73,785
		1.00 LS 240.00 Labor hours 240.00 Equipment hours									
		01 00 00.000.65 Test Mixing & Heating Functions 2 EA- SPEC 01 11 00 - 6 - 4c		38,885	13,435	0		21,465	0	922.311/HR	73,785
		80.00 HR									
		240.00 Labor hours 240.00 Equipment hours									
01 00 00.000	0.81	Transfer S	eed Sludge from Primary to Se	condary Digeste	SPEC 01 11 0	0 - 7 - 5b					
01 00 00.000 n	0920 1000	Dewatering, pumping 8 hours, attended 2 hrs per	1.00 LS 7.00 DAY	11,840	28,005	2		1,989	-	28,006.46 /LS 1,975.653 /DAY	28,006 13,830
n	1020	day, 4" diaphragm pump, includes 20 LF of suction hose and 100 LF of discharge hose Dewatering, pumping 8 hours, attended 2 hrs per day, 4" diaphragm pump, includes 20 suction hose and 100 lf of discharge hose, add for additional pump	7.00 day	-	-	-		1,427	-	203.823 /day	1,427

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Detail Report with Contractor Markups

				Labor	Material	Subcontrac	t	Equipment	Other	Total	
Item		Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
		01 00 00.000 General Requirements		11,840	28,005			3,416		43,262.79 /LS	43,263
		1.00 LS									
		84.00 Labor hours 280.00 Equipment hours									
		01 00 00.000.81 Transfer Seed Sludge from Primary to Secondary Digester - SPEC 01 11 00 - 7 - 5b		11,840	28,005	2		3,416	0	43,262.79 /LS	43,263
		1.00 LS									
		84.00 Labor hours 280.00 Equipment hours									
01 00 00.00	0.85	Start up &	Monitor Secondary Digester (Contractor & Own	er) - 01 11 00 - 7	'-6					
01 00 00.000 n	0920	General Requirements Start up & Monitor Secondary Digester	1.00 LS			24,004				24,004.18 /LS	24,004
		(Contractor & Owner) - 01 11 00 - 7 - 6 01 00 00.000 General Requirements				24,004				24,004.18 /LS	24,004
		1.00 LS									
		01 00 00.000.85 Start up & Monitor Secondary Digester (Contractor & Owner) - 01 11 00 - 7 - 6		0	0	24,004		0	0	24,004.18 /LS	24,004
		1.00 LS									
01 00 00.00	0.86	Perform L	ab Testing of Volatile Acid (VA	s) & Alkalinity 3x	per week - 01 11	00 - 7 - 6e					
01 00 00.000	0000	General Requirements	450.00 54			00.000				0.40.0.40./5.4	00.000
n	0920	Perform Lab Testing of Volatile Acid (VAs) & Alkalinity 3x per week - 01 11 00 - 7 - 6e	150.00 EA			36,006				240.042 /EA	36,006
		01 00 00.000 General Requirements 1.00 LS				36,006				36,006.230/LS	36,006
		1.00 LS									
		01 00 00.000.86 Perform Lab Testing of Volatile Acid (VAs) & Alkalinity 3x per week - 01 11 00 - 7 - 6e		0	0	36,006		0	0	240.042/EA	36,006
		150.00 EA									
01 00 00.00	0.87		Repair Primary Digester (Contra	actor) - 01 11 00 -	7 - 7						
01 00 00.000 n	0920	General Requirements Two bottom pipes to overflow box - 01 11 00 - 7 - 7 - A1 - Labor	5.00 DAY	45,396		0		5,985		10,276.194 /DAY	51,381
n	0920	Two bottom pipes to overflow box - 01 11 00 - 7 -	1.00 LS		24,004					24,004.15 /LS	24,004
n	0920	7 - A1 - Materials Suction to sludge mixing pumps, discharge from sludge mixing pump - 01 11 00 - 7 - 7 - A2	5.00 DAY	45,396				5,985		10,276.19 /DAY	51,381

AACE Classification Accuracy Range

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			Labor	Material	Subcontr	act	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
01 00 00.000 n 0920	General Requirements Two bottom pipes to overflow box - 01 11 00 - 7 - 7 - A1 - Materials 01 00 00.000 General Requirements	1.00 LS	90,792	24,004			11,970		24,004.17 /LS 	24,004
	2.00 LS 480.00 Labor hours 1,280.00 Equipment hours									
	01 00 00.000.87 Clean & Repair Primary Digester (Contractor) - 01 11 00 - 7 - 7 2.00 LS 480.00 Labor hours 1,280.00 Equipment hours		90,792	48,008	o		11,970	0	75,385.12 /LS	150,770
01 21 00.000.05	Traffic Contro	I Allowance								
01 21 00.000 n 0925	Allowances Traffic Control Allowance 01 21 00.000 Allowances 1.00 LS	1.00 LS			40,007				40,006.94 /LS 40,006.94 /LS	40,007
	01 21 00.000.05 Traffic Control Allowance 1.00 LS		0	0	40,007		0	0	40,006.94 /LS	40,007
01 21 00.000.10	Protection of I	Existing Landscaping Allowar	nce							
01 21 00.000 n 0925	Allowances Protection of Existing Landscaping Allowance 01 21 00.000 Allowances 1.00 LS	1.00 LS			<u>40,007</u> 40,007				40,006.96 /LS 40,006.96 /LS	<u>40,007</u> 40,007
	01 21 00.000.10 Protection of Existing Landscaping Allowance 1.00 LS		0	0	40,007		0	0	40,006.96 /LS	40,007
04 74 00 000 05	Director Occur	on Olerwine Inserted Branch								
01 74 00.000.05	-	er Cleaning, Inspected, Prepa	aration - 1.2.3a							
01 74 00.000 n 0925	Cleaning Digester Cover Cleaning, Inspected, Preparation - 1.2.3a	1.00 LS			40,007				40,006.92 /LS	40,007
	01 74 00.000 Cleaning 1.00 LS				40,007				40,006.92 /LS	40,007

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			Labor	Material	Subco	ntract	Equipment	Other	Total	_
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	01 74 00.000.05 Digester Cover Cleaning, Inspected,		0	0	40,007		0	0	40,006.92 /LS	40,007
	Preparation - 1.2.3a									
	1.00 LS									
01.21.00.005	Scafolding A	llowance - 2 Digesters								
01 21 00.000 0090	Allowances Scaffolding, steel tubular, regular, labor only to erect & dismantle, building exterior, wall face,	1,000.00 csf	104,105	-	-		-	-	104.105 /csf	104,105
	6'-4" x 5' frames, 1 to 5 stories, excludes planks 01 21 00.000 Allowances		104,105						104,104.61 /LS	104,105
	1.00 LS									
	750.00 Labor hours									
	01.21.00.005 Scafolding Allowance - 2 Digesters		104,105	0	0		0	0	104,104.61 /LS	104,105
	1.00 LS									
	750.00 Labor hours									
	DIVISION 01 GENERAL REQUIREMENTS		672,643	332,824	584,105		257,021	0	142,045.552/LS	1,846,592
	13.00 LS									
	4,854.00 Labor hours 8,560.00 Equipment hours									
DIVISION 02		EXISTING CONDI	TIONS							
02 41 00.150.05	Demo (DR) l	Digester Recirculation DI Pipe	e, 8" DIA x 21 LF	:						
02 41 00.150 n 1100	Process Pipe Demolition Selective demolition, water & sewer piping & fittings, ductile iron pipe, 6"-12", diameter, excludes excavation	21.00 LF	688	-	-		124	-	38.663 /LF	812
	02 41 00.150 Process Pipe Demolition		688				124		38.663/LF	812
	21.00 LF									
	6.001 Labor hours 1.200 Equipment hours									
	02 41 00.150.05 Demo (DR) Digester Recirculation DI Pipe, 8" DIA x 21 LF		688	0	0		124	0	38.663/LF	812
	21.00 LF									
	6.001 Labor hours 1.200 Equipment hours									
			AACE Clas	ssification Ac	curacy Range					

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			Labor	Material	Subcontra	ct	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
02 41 00.150.10	Demo (D	M) Digester Mixing DI Pipe, 8" [DIA x 10 LF							
02 41 00.150 n 1100	Process Pipe Demolition Selective demolition, water & sewer piping & fittings, ductile iron pipe, 6"-12", diameter, excludes excavation 02 41 00.150 Process Pipe Demolition	10.00 LF	328	-	-		59	-	38.663 /LF	387
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
	02 41 00.150.10 Demo (DM) Digester Mixing DI Pipe, 8" DIA x 10 LF		328	0	0		59	0	38.663/LF	387
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
02 41 00.150.15	Demo (D	F) Digester Feed DI Pipe, 6" DIA	A x 10 LF							
02 41 00.150 n 1100	Process Pipe Demolition Selective demolition, water & sewer piping & fittings, ductile iron pipe, 6"-12", diameter, excludes excavation	10.00 LF	328	-	-		59	-	38.664 /LF	387
	02 41 00.150 Process Pipe Demolition		328				59		38.664/LF	387
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
	02 41 00.150.15 Demo (DF) Digester Feed DI Pipe, 6" DIA x 10 LF		328	0	0		59	0	38.664/LF	387
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
	DIVISION 02 EXISTING CONDITIONS		1,343	0	0		242	0	1,585.20 /LS	1,585
	1.00 LS									
	11.717 Labor hours 2.342 Equipment hours									
DIVISION 26		ELECTRICAL								

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Item			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
26.00.00.005	Electrical	Equipment+Testing/Commission	oning							
26 05 00.000 040	Electrical: Basic Required Electrical Equipment+Testing/Commissioning 26 05 00.000 Electrical: Basic Requirements	ments 2.00 EA	47,009	<u>23,109</u> 23,109	-		<u>904</u> 904	<u>271</u> 271	35,646.395 /EA	71,293 71,293
	167.90 Labor hours 26.00.00.005 Electrical Equipment+Testing/Commissioning		47,009	23,109	0		904	271	35,646.395/EA	71,293
	2.00 EA									
	167.90 Labor hours									
26.00.00.020	Electrical	- Above Ground Raceways								
26 05 00.000 010	Electrical: Basic Requires Description Electrical - Above Ground Raceways 26 05 00.000 Electrical: Basic Requirements	ments 225.00 LF	16,074 16,074	2,864 2,864	-		495 495	183 183	87.179 /LF	19,615 19,615
	1.833 Labor hours									
	26.00.00.020 Electrical - Above Ground Raceways		16,074	2,864	0		495	183	87.179/LF	19,615
	225.00 LF									
	1.833 Labor hours									
26.00.00.035	Electrical	- Power Wire and Cable (AG+l	JG)							
26 05 00.000 020	Electrical: Basic Requirer Electrical - Power Wire and Cable (AG+UG) 26 05 00.000 Electrical: Basic Requirements	ments 270.00 LF	13,819 13,819	2,374 2,374	-		<u>425</u> 425	158	62.132 /LF	<u>16,776</u> 16,776
	1.222 Labor hours									
	26.00.00.035 Electrical - Power Wire and Cable (AG+UG)		13,819	2,374	0		425	158	62.132/LF	16,776
	270.00 LF									
	1.222 Labor hours									
	DIVISION 26 ELECTRICAL		76,902	28,346	0		1,823	612	107,683.76 /LS	107,684
	1.00 LS									
	170.955 Labor hours									
DIVISION 40		PROCESS INTEG	SRATION (EX	POSED PIPE,	VALVES AND GATES	5)				

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				Labor	Material	Subcontr	act	Equipment	Other	Total	
Item		Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
40 05 07.0	10.05	Unistrut Pipe	Supports for Back Wall (6 E	EA)							
40 05 07.010	01068		6.00 EA	5,900	5,579	-		-	-	1,913.102 /EA	11,479
		Material, Anchors, Grout, Labor 40 05 07.010 Pipe Support Systems		5,900	5,579					1,913.102/EA	11,479
		6.00 EA									
		24.00 Labor hours									
		40 05 07.010.05 Unistrut Pipe Supports for Back Wall (6 EA)		5,900	5,579	0		0	0	1,913.102/EA	11,479
		6.00 EA									
		24.00 Labor hours									
40 05 19.0	06.05	(DF) Digeste	r Feed DI Pipe, 6" DIA x 5 L	<u> </u>							
40 05 19.006		Pipe and Fittings - Ductile Iro									
n	7001	. , , ,	5.00 LF	42		-		2	-	8.908 /LF	45
	7600	Paints & coatings, pipes, primer + 1 coat, brushwork, 6" to 8" diameter	5.50 If	39	2	-		-	-	7.475 /lf	41
	1122	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 6" pipe	5.00 ea	175	30	-		-	-	40.986 /ea	205
	0690	Gasket and bolt set, for flanges, 150 lb., 6" pipe size	20.00 ea	7,010	1,914	-		-	-	446.198 /ea	8,924
n	8943	Fitting, 316 Stainless Steel Sleeve Coupling, 6"dia, 10" sleeve length, Epoxy Coating	2.00 ea	533	2,867	-		11	-	1,705.98 /ea	3,412
n	0050	DIP,FLGxFLG,6"dia,1'-0" long,class 53,excl excay, backfill	5.00 ea	937	4,608	-		-	-	1,108.992 /ea	5,545
n	1006	Fitting,DIP,FLG,90 degree bend,6"dia,c 110 water piping	1.00 ea	187	488	-		-	-	675.41 /ea	675
n	1406	Fitting,DIP,FLG,Tee,6"dia,c 110 water piping 40 05 19.006 Pipe and Fittings - Ductile Iron, 06" Dia	1.00 ea	187 9,111	<u>714</u>	-			-	901.28 /ea 3,949.628/LF	901
		5.00 LF									
		39.665 Labor hours 0.14 Equipment hours									
		40 05 19.006.05 (DF) Digester Feed DI Pipe, 6" DIA x 5 LF		9,111	10,623	0		14	0	3,949.628/LF	19,748
		5.00 LF									

39.665 Labor hours

0.14 Equipment hours

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					Labor	Material	Subcont	ract	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
40 05 19.00	08.05	(DR) Digester Re	circulation DI Pip	oe, 8" DIA	A x 45 LF							
40 05 19.008		Pipe and Fittings - Ductile Iron, 08'	' Dia									
n	7001	Pipeline Testing, Hydro (LF)	45.00	LF	377	6	-		18	-	8.907 /LF	401
	7600	Paints & coatings, pipes, primer + 1 coat, brushwork, 6" to 8" diameter	49.50	lf	354	16	-		-	-	7.475 /lf	370
	01158	Pipe Support, 8", Hanger, Stainless Steel, Inc. Material, Welder, Labor	20.00	ea	19,665	12,428	-		-	-	1,604.691 /ea	32,094
	1124	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 8" pipe	5.00	ea	188	47	-		-	-	46.96 /ea	235
	0700	Gasket and bolt set, for flanges, 150 lb., 8" pipe size	24.00	ea	10,095	2,041	-		-	-	505.67 /ea	12,136
n	0105	DIP,FLGxFLG,8"dia,5'-0" long,class 53,excl excav, backfill	9.00	ea	2,037	21,965	-		-	-	2,666.844 /ea	24,002
n	1108	Fitting,DIP,FLG,45 degree bend,8"dia,c 110 water piping	2.00	ea	453	1,316	-		-	-	884.485 /ea	1,769
n	1408	Fitting,DIP,FLG,Tee,8"dia,c 110 water piping	1.00	ea	226	1,189	-		-	-	1,415.45 /ea	1,415
n	4703	DIP,Polywrap 8 mil LDT 500ft,8"dia	1.00	roll	156	848	-		-	-	1,004.32 /roll	1,004
n	0503	0 0	1.00	ea	812	2,204	-		383	-	3,399.36 /ea	3,399
		Operator / Includes Gear Operator 40 05 19.008 Pipe and Fittings - Ductile Iron, 08" Dia			34,364	42,061			401		1,707.226/LF	76,825
		45.00 LF										
		146.732 Labor hours 2.72 Equipment hours										
		40 05 19.008.05 (DR) Digester Recirculation DI Pipe, 8" DIA x 45 LF			34,364	42,061	0		401	0	1,707.226/LF	76,825
		45.00 LF										
		146.732 Labor hours 2.72 Equipment hours										
40 05 19.00	08.10	(DM) Digester Mi	xing DI Pipe, 8" L	DIA x 8 L	F							
40 05 19.008		Pipe and Fittings - Ductile Iron, 08'	Dia									
n	1510	Fitting,DIP,FLG,Flat Blind Flange,8"dia, water piping	1.00	ea	123	287	-		-	-	410.41 /ea	410
n	7001		8.00	LF	67	1	-		3	-	8.908 /LF	71
	7600	Paints & coatings, pipes, primer + 1 coat, brushwork, 6" to 8" diameter	8.80	If	63	3	-		-	-	7.476 /lf	66
	1124	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 8" pipe	5.00	ea	188	47	-		-	-	46.962 /ea	235
	0700		4.00	ea	1,683	340	-		-	-	505.675 /ea	2,023

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					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
40 05 19.008		Pipe and Fittings - Ductile Iron, 08	" Dia									
n	8944	3,	1.00	ea	411	1,952	-		8	-	2,370.52 /ea	2,371
n	0005	8"dia, 10" sleeve length, Epoxy Coating DIP,FLGxFLG,8"dia,1'-0" long,class 53,excl	8.00	ea	1,811	10,884				_	1,586.789 /ea	12,694
"	0033	excav, backfill	8.00	Ca	1,011	10,004					1,500.7097ea	12,094
n	4703	DIP,Polywrap 8 mil LDT 500ft,8"dia	1.00	roll	156	848	-			-	1,004.31_/roll	1,004
		40 05 19.008 Pipe and Fittings - Ductile Iron, 08" Dia			4,502	14,362			11		2,359.264/LF	18,874
		8.00 LF										
		24.105 Labor hours										
		0.168 Equipment hours										
		40 05 19.008.10 (DM) Digester Mixing DI Pipe, 8" DIA x 8 LF			4,502	14,362	0		11	0	2,359.264/LF	18,874
		8.00 LF										
		24.105 Labor hours										
		0.168 Equipment hours										
40 05 19.00	8.15	Replaced Expos	ed Plug Valves -	Phase 1	- 2							
40 05 19.008		Pipe and Fittings - Ductile Iron, 08	P" Dio									
n	0503	(A) Replace Plug Valve During Phase 1, 8" Dia	7.00	EA	5,687	15,428	-		2,680		3,399.356 /EA	23,795
n			4.00	EA	3,250	8,816	-		1,531	-	3,399.36 /EA	13,597
n	0503	(H) Replace Plug Valve During Feed & Heating	5.00	EA	4,062	11,020	-		1,914	-	3,399.358 /EA	16,997
		Shutdown 8" Dia										
n	0503	(M) Replace Plug Valve During Mixing Shutdown 8" Dia	1.00	EA	813	2,204	-		383	-	3,399.37 /EA	3,399
n	0503	(R) Replace Plug Valve During Feed & Heating Shutdown 8" Dia	2.00	EA	1,625	4,408	-		766	-	3,399.35 /EA	6,799
n	0503	(A) Replace Plug Valve During Phase 2, 8" Dia	12.00	EA	9,750	26,449	-		4,594	-	3,399.358 /EA	40,792
n	0503	(H) Replace Plug Valve During Feed & Heating	1.00	EA	812	2,204	-		383	-	3,399.36 /EA	3,399
		Shutdown Phase 2, 8" Dia				70.500			40.050			100 770
		40 05 19.008 Pipe and Fittings - Ductile Iron, 08" Dia			26,000	70,530			12,250			108,779
		170.667 Labor hours										
		64.00 Equipment hours										
		40 05 19.008.15 Replaced Exposed Plug Valves - Phase			26,000	70,530	0		12,250	0	3,399.358/EA	108,779
		1 - 2										

32.00 EA

170.667 Labor hours 64.00 Equipment hours

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES)		79,876	143,154	0		12,675	0	235,705.49 /LS	235,705
	1.00 LS									
	405.168 Labor hours 67.028 Equipment hours									
	063 BASE BID		830,764	504,325	584,105		271,761	612	2,191,566.63 /LS	2,191,567
	1.00 LS									
	5,441.840 Labor hours 8,629.370 Equipment hours									
		064 ALTE	RNATE 1							
DIVISION 02		EXISTING CONDI	TIONS							
02 41 00.110.10	Demo Cond	crete Slab, 12" Thick x 32 SF								
02 41 00.110 n 5400	concrete, plain, 7" to 24" thick, excludes hauling and disposal fees	1.00 CY	718	-	-		330	-	1,047.56 /CY	1,048
	02 41 00.110 Structural Concrete Demolition 1.00 CY		718				330		1,047.56 /CY	1,048
	6.061 Labor hours 4.849 Equipment hours									
	02 41 00.110.10 Demo Concrete Slab, 12" Thick x 32 SF		718	0	0		330	0	1,047.56 /CY	1,048
	1.00 CY									
	6.061 Labor hours 4.849 Equipment hours									
02 41 00.160.05	Demo Exist	ting Sludge Grinder - GRI-17-1	100, 50 GP, 3 HP	- Spec 46 24 23	-1					
02 41 00.160 9998	Process Valve Demolition Demo Sludge Grinder GRI-17-100, 50 GP, 3 HP, 60 RPM - Spec 46 24 23-1 02 41 00.160 Process Valve Demolition	1.00 DAY	9,079	240	-		1,197	-	10,516.26 /DAY	10,516
	1.00 EA		2,070	-70			.,		,	,510
	48.00 Labor hours 128.00 Equipment hours									
			AACE Clas	sification Ac	curacy Range					

AACE Classification Accuracy Range

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			Labor	Material	Subcontrac	t	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	02 41 00.160.05 Demo Existing Sludge Grinder - GRI-17-100, 50 GP, 3 HP - Spec 46 24 23-1		9,079	240	0		1,197	0	10,516.26 /DAY	10,516
	1.00 DAY									
	48.00 Labor hours 128.00 Equipment hours									
22 09 00.000.05	Demo Ex	isting Vendor Control Panel VCP	-17-100							
22 09 00.000 n 0260	Instrumentation & Control Demo Existing Vendor Control Panel VCP-17-100 22 09 00.000 Instrumentation & Control for Plumbing		-	6,583 6,583	-		-	-	6,582.81 /EA	6,583 6,583
	1.00 EA									
	22 09 00.000.05 Demo Existing Vendor Control Panel VCP-17-100		0	6,583	0		0	0	6,582.81 /EA	6,583
	1.00 EA									
	DIVISION 02 EXISTING CONDITIONS		9,797	6,823	0		1,527	0	18,146.63 /LS	18,147
	1.00 LS									
	54.061 Labor hours 132.849 Equipment hours									
DIVISION 40		PROCESS INTEGR	RATION (EXF	POSED PIPE,	VALVES AND GATE	ES)				
40 05 19.006.10	Install Ex	isting Plug Valves, 6" Dia (2 EA)								
40 05 19.006	Pipe and Fittings - Ductile Install Existing Plug Valves, 6" Dia (2 EA) 40 05 19.006 Pipe and Fittings - Ductile Iron, 06" Dia		1,625	3,003	-		<u>766</u>	-	2,696.87 /EA	5,394 5,394
	10.667 Labor hours 4.00 Equipment hours									
	40 05 19.006.10 Install Existing Plug Valves, 6" Dia (2 EA)		1,625	3,003	0		766	0	2,696.87 /EA	5,394
	2.00 EA									
	10.667 Labor hours 4.00 Equipment hours									

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				Labor	Material	Subcontra	ct	Equipment	Other	Total	
Item	Description		Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	DIVISION 40 PROCES (EXPOSED PIPE, VAL			1,625	3,003	0		766	0	5,393.74 /LS	5,394
	1.00 LS										
	10.667 Labo 4.00 Equip										
DIVISION 46			WATER AND	WASTEWATER E	EQUIPMENT						
46 01 70.005.05		Install New Slu	dge Grinder - In-line	Muffin Monster Model	10k Series						
46 01 70.005 9998	Install New Sludge Grinder Model 10k Series - Spec 4		quipment 1.00 E	EA 9,983	25,538	-		2,457	-	37,977.340 /EA	37,977
	46 01 70.005 Sludge Remova			9,983	25,538			2,457		37,977.340/EA	37,977
	1.00 EA										
	40.00 Labo 16.00 Equip										
	46 01 70.005.05 Install New S Muffin Monster Model 10k Se			9,983	25,538	0		2,457	0	37,977.340/EA	37,977
	1.00 EA										
	40.00 Labo	or hours									
	16.00 Equip	pment hours									
	DIVISION 46 WATER A	AND WASTEWATER		9,983	25,538	0		2,457	0	37,977.340/EA	37,977
	1.00 EA										
	40.00 Labo	or hours									
	16.00 Equip	pment hours									
	064 ALTERNATE 1			21,405	35,364	0		4,749	0	61,517.71 /LS	61,518
	1.00 LS										
	104.728 Labo 152.849 Equip										
			065 AL	TERNATE 2							

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
DIVISION 02		EXISTING CONDIT	ΓIONS							
02 41 00.080.05	Sawcut Around	Existing Concrete, 6" Thick	k x 83 LF							
<i>02 41 00.080</i> 0020	General Site Demolition, Saw C Selective demolition, saw cutting, each additional inch of depth over 3" 02 41 00.080 General Site Demolition, Saw Cutting Concrete	utting Concrete 83.00 LF	1,023	49	-		918	-	23.983 /LF 	1,991
	83.00 LF									
	7.381 Labor hours 11.070 Equipment hours									
	02 41 00.080.05 Sawcut Around Existing Concrete, 6" Thick x 83 LF		1,023	49	0		918	0	23.983/LF	1,991
	83.00 LF 7.381 Labor hours 11.070 Equipment hours									
02 41 00.110.05	Demo Existing	Concrete, 6" Thick x 294 Si	F							
02 41 00.110 n 5300	Structural Concrete Demolition Demolish, remove pavement & curb, remove concrete, rod reinforced, to 6" thick, excludes hauling and disposal fees	32.699 SY	3,872	-	-		1,779	-	172.841 /SY	5,652
	02 41 00.110 Structural Concrete Demolition		3,872				1,779			5,652
	32.701 Labor hours 26.160 Equipment hours									
	02 41 00.110.05 Demo Existing Concrete, 6" Thick x 294 SF		3,872	0	0		1,779	0	172.841/SY	5,652
	32.699 SY									
	32.701 Labor hours 26.160 Equipment hours									
	DIVISION 02 EXISTING CONDITIONS		4,896	49	0		2,698	0	7,642.30 /LS	7,642
	1.00 LS									
	40.082 Labor hours 37.230 Equipment hours									
DIVISION 03		CONCRETE								

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					Labor	Material	Subcontra	act	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
03 11 13.50	4.05	Concrete Sla	b, 12" Thick, Spec 1.	3.B.1d								
03 11 13.504		12" Slab on Grade										
00 77 70.00 7	3050	C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing,	68.00	sfca	903	142	-		-	-	15.375 /sfca	1,046
n	9015	stripping and cleaning C.I.P. concrete forms, bulkhead for slab on grade	14.45	sfca	114	11	-		-	-	8.682 /sfca	125
		w/ keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning										
n	2050	Reinforcing steel, unload and sort, add to base_SLAB ON GRADE	0.963	ton	89	-	-		36	-	130.26 /ton	125
	0600	Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	0.963	ton	2,237	2,371	-		-	-	4,784.47 /ton	4,607
	2220	Reinforcing steel, crane cost for handling, 90 picks/day, up to 0.5 Ton/day	0.963	ton	255	-	-		104	-	372.181 /ton	358
	4650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike off) & consolidation, excludes material	11.00	су	525	-	-		53	-	52.517 /cy	578
	4650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike	1.10	су	52	-	-		5	-	52.53 /cy	58
n	0725	off) & consolidation, excludes material Struct SLAB ON GRADE concrete,ready mix,normal wt,4500 psi,includes local aggregate,sand,portland cement and	11.00	CY	-	4,401	-		-	-	400.069 /CY	4,401
n	0725	water,delivered, includes all additives Struct SLAB ON GRADE concrete,ready mix,normal wt,4500 psi,includes local aggregate,sand,portland cement and	1.10	су	-	440	-		-	-	400.055 /cy	440
n	0255	water,delivered, includes all additives Concrete finishing, floors, manual screed, bull float, machine float & steel trowel (walk-behind)_SOG	289.00	sf	577	-	-		28	-	2.095 /sf	605
n	0122	Control joint, concrete floor slab, sawcut in green concrete, 1" depth SOG	14.45	lf	17	1	-		2	-	1.362 /lf	20
n	0215	Control joint, clean out control joint of debris_SOG	14.45	If	3	-	-			-	0.198 /lf	3
n		Control joint, joint sealant, polyurethane, 1/4" x 1/4" (308 LF/Gal) SOG		lf	128	9	-		-	-	4.744 /lf	137
n	0310	Concrete surface treatment, curing, sprayed membrane compound_SOG	2.89	csf	63	43	-		-	-	36.82 /csf	106
	1200	Vapor retarders, building paper, polyethylene vapor barrier, standard, 10 mil (.010" thick)	2.89	sq	105	42	-		-	-	50.88 /sq	147
n	1310	Fill, gravel fill, compacted, under floor slabs, alternate pricing method, 12" deep_SOG	12.00	есу	321	801	-		27	-	95.748 /ecy	1,149
n	1136	Hauling, excavated borrow material, loose cubic yards, 20 mile round trip, 0.4 loads/hour, 16.5 c.y. dump trailer, highway haulers, excludes loading	12.00	lcy	241	-	-		270	-	42.544 /lcy	511

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Name		Total	Other	Equipment		Subcontract	Material	Labor					
11.00 CY 35.842 Labor hours 7.263 Equipment hours 03.11 13.504.06 Concrete Stab, 12" Thick, Spec 1.3.8.1d 5,631 8,261 0 \$526 0 1,310.595-CY 11.00 CY 35.842 Labor hours 7.263 Equipment hours 03.11 13.773.05 Concrete Encasement, 32" Thick x 20 SF 03.11 13.773.05 Concrete forms, slab on grade, edge, wood, 50.086 sfca 665 105 15.375 /sfca 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning 1 9015 C.I.P. concrete forms, slab on grade 2.80 sfca 22 2 8.682 /sfca w/ keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning 1 2050 Reinforcing steel, unload and sort, add to 0.263 ton 24 10 10 - 130.152 /ton base, SIAB ON GRADE 0 600 Reinforcing steel, unload and sort, add to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,	Amount	Unit Cost	Amount		Name	Amount	Amount	Amount		Takeoff Qty	Description		Item
35.842 Labor hours 7.263 Equipment hours 311 13.504.05 Concrete Sist, 12" Thick, Spec 1.3.8.1d 5.631 8.261 0 525 0 1.310.595/CV 11.00 CY 35.842 Labor hours 7.263 Equipment hours Concrete Encasement, 32" Thick x 20 SF 22" Foundation Slab 3050 C.I.P. concrete forms, slab on grade, edge, wood, 50.086 sfca 665 105 15.375 /sfca 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning n 9015 C.I.P. concrete forms, bulkhead for slab on grade 2.80 sfca 22 2 2 8.682 /sfca w/keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning n 2050 Reinforcing stele, unload and sort, add to 0.263 ton 24 130.152 /ton base_SLAB ON GRADE 0600 Reinforcing stele, unload and sort, add to 0.263 ton 611 647 4.784.45 /ton #7. A615, grade 60, incl labor for accessories,	14,417	1,310.595/CY		525			8,261	5,631			03 11 13.504 12" Slab on Grade		
7.263 Equipment hours 8.261 0 0 525 0 1,310.596/CY 8.261											11.00 CY		
11.00 CY 35.842 Labor hours 7.263 Equipment hours Concrete Encasement, 32" Thick x 20 SF 03 11 13.773.05													
35.842 Labor hours 7.263 Equipment hours Concrete Encasement, 32" Thick × 20 SF Conc	14,417	1,310.595/CY	0	525		0	8,261	5,631			03 11 13.504.05 Concrete Slab, 12" Thick, Spec 1.3.B.1d		
7.263 Equipment hours Concrete Encasement, 32" Thick x 20 SF											11.00 CY		
311 13.773 32" Foundation Slab 3050 C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning 50.18 50.2													
3050 C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning n 9015 C.I.P. concrete forms, bulkhead for slab on grade 2.80 sfca 22 2 8.682 /sfca W/ keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning n 2050 Reinforcing steel, unload and sort, add to 5263 ton 24 100 - 130.152 /ton 528_SLAB ON GRADE 0600 Reinforcing steel, in place, slab on grade, #3 to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,									x 20 SF	casement, 32" Thick	Concrete En	3.05	03 11 13.77
7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning n 9015 C.I.P. concrete forms, bulkhead for slab on grade w keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning n 2050 Reinforcing steel, unload and sort, add to 0.263 ton 24 10 10 - 130.152 /ton base_SLAB ON GRADE 0600 Reinforcing steel, in place, slab on grade, #3 to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,											32" Foundation Slab		03 11 13.773
stripping and cleaning n 9015 C.I.P. concrete forms, bulkhead for slab on grade	770	15.375 /sfca	-	-		-	105	665	sfca	50.086		3050	
w/ keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning n 2050 Reinforcing steel, unload and sort, add to 0.263 ton 24 100 - 130.152 /ton base_SLAB ON GRADE 0600 Reinforcing steel, in place, slab on grade, #3 to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,													
erecting, bracing, stripping and cleaning n 2050 Reinforcing steel, unload and sort, add to 0.263 ton 24 100 - 130.152 /ton base_SLAB ON GRADE 0600 Reinforcing steel, in place, slab on grade, #3 to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,	24	8.682 /sfca	-	-		-	2	22	sfca	2.80		9015	n
n 2050 Reinforcing steel, unload and sort, add to 0.263 ton 24 100 - 130.152 /ton base_SLAB ON GRADE 0600 Reinforcing steel, in place, slab on grade, #3 to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,													
0600 Reinforcing steel, in place, slab on grade, #3 to 0.263 ton 611 647 4,784.45 /ton #7, A615, grade 60, incl labor for accessories,	34	130.152 /ton	-	10		-	-	24	ton	0.263	Reinforcing steel, unload and sort, add to	2050	n
excl material for accessories	1,258	4,784.45 /ton	-	-		-	647	611	ton	0.263	#7, A615, grade 60, incl labor for accessories,	0600	
2220 Reinforcing steel, crane cost for handling, 90 0.263 ton 70 28 - 372.167 /ton picks/day, up to 0.5 Ton/day	98	372.167 /ton	-	28		-	-	70	ton	0.263	Reinforcing steel, crane cost for handling, 90	2220	
4650 Structural concrete, placing, slab on grade, 3.00 cy 143 1 14 - 52.517 /cy pumped, over 6" thick, includes leveling (strike off) & consolidation, excludes material	158	52.517 /cy	-	14		-	-	143	су	3.00	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike	4650	
4650 Structural concrete, placing, slab on grade, 0.30 cy 14 1 1 - 52.50 /cy pumped, over 6" thick, includes leveling (strike	16	52.50 /cy	-	1		-	-	14	су	0.30	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike	4650	
off) & consolidation, excludes material n 0725 Struct SLAB ON GRADE concrete,ready 3.00 CY - 976 325.397 /CY mix,normal wt,4500 psi,includes local aggregate,sand,portland cement and	976	325.397 /CY	-	-		-	976	-	CY	3.00	Struct SLAB ON GRADE concrete,ready mix,normal wt,4500 psi,includes local	0725	n
water,delivered, includes all additives n 0725 Struct SLAB ON GRADE concrete,ready 0.30 cy - 98 325.43 /cy mix,normal wt,4500 psi,includes local	98	325.43 /cy	-	-		-	98	-	су	0.30	Struct SLAB ON GRADE concrete,ready	0725	n
aggregate, sand, portland cement and water, delivered, includes all additives											aggregate,sand,portland cement and		
n 0255 Concrete finishing, floors, manual screed, bull 19.999 sf 40 2 2 - 2.095 /sf float, machine float & steel trowel	42	2.095 /sf	-	2		-	-	40	sf	19.999	float, machine float & steel trowel	0255	n
(walk-behind)_SOG n 0122 Control joint, concrete floor slab, sawcut in green 1.00 If 1 0 - 0 - 1.36 /lf concrete, 1" depth_SOG	1	1.36 /lf	-	0		-	0	1	lf	1.00	Control joint, concrete floor slab, sawcut in green	0122	n
n 0215 Control joint, clean out control joint of debris_SOG 1.00 If 0 0.18 /lf	0	0.18 /lf	-			-	-	0	lf	1.00		0215	n

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					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
03 11 13.773		32" Foundation Slab										
n	0367	Control joint, joint sealant, polyurethane, 1/4" x 1/4" (308 LF/Gal)_SOG	2.00	lf	9	1	-		-	-	4.74 /lf	9
n	0310	Concrete surface treatment, curing, sprayed membrane compound_SOG	0.20	csf	4	3	-		-	-	36.85 /csf	7
	1200	Vapor retarders, building paper, polyethylene vapor barrier, standard, 10 mil (.010" thick)	0.20	sq	7	3	-		-	-	50.90 /sq	10
n	1310	Fill, gravel fill, compacted, under floor slabs, alternate pricing method, 12" deep_SOG	1.00	есу	27	67	-		2	-	95.76 /ecy	96
n	1136	Hauling, excavated borrow material, loose cubic yards, 20 mile round trip, 0.4 loads/hour, 16.5 c.y.	1.00	lcy	20	-	-		22	-	42.56 /lcy	43
		dump trailer, highway haulers, excludes loading 03 11 13.773 32" Foundation Slab			1,658	1,902			81		1,213.577/CY	3,641
		3.00 CY										
		9.968 Labor hours 0.939 Equipment hours										
		03 11 13.773.05 Concrete Encasement, 32" Thick x 20 SF			1,658	1,902	0		81	0	1,213.577/CY	3,641
		3.00 CY										
		9.968 Labor hours 0.939 Equipment hours										
03 11 16.01	5.05	Concrete Curr	b, 7" Thick x 12" Hig	gh x 45 LF	<u>:</u>							
03 11 16.015	0550	12" High CIP Curb Concrete Curb, 7" Thick x 12" High x 45 LF 03 11 16.015 12" High CIP Curb	45.00	LF	462	963 963	-		105	-	33.992 /LF 33.992/LF	1,530 1,530
		45.00 LF										
		3.60 Labor hours 0.514 Equipment hours										
		03 11 16.015.05 Concrete Curb, 7" Thick x 12" High x 45 LF			462	963	0		105	0	33.992/LF	1,530
		45.00 LF										
		3.60 Labor hours 0.514 Equipment hours										
03 31 32.00	0.05	Repair Spalle	d Concrete & Treat	Exposed	Rebar							
03 31 32.000 n	0920	Concrete Finishing and Repair Repair Spalled Concrete & Treat Exposed Rebar 03 31 32.000 Concrete Finishing and Repair of Surface Defects	of Surface Defects	LS			8,001 				8,001.40 /LS	8,001
		Deletio					0,001				0,001.407LS	6,001

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			Labor	Material	Subcontract	t	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
	03 31 32.000.05 Repair Spalled Concrete & Treat Exposed Rebar		0	0	8,001		0	0	8,001.40 /LS	8,001
	1.00 LS									
03.35.00.005	Drill in Do	wel In Edge - Two Rows								
03 35 00.210 n 900	Cast-In-Place Concrete, I. Reinforcing steel, in place, drill and epoxy dowels, deformed, 2' long, #5, A615, grade 60; incl drilling into existing concrete and injected epoxy	Drill and Epoxy Rebar Dowel - Medium 166.00 EA	106,163	3,985	-		-	-	663.538 /EA	110,147
	03 35 00.210 Cast-In-Place Concrete, Drill and Epoxy Rebar Dowel - Medium		106,163	3,985					663.538/EA	110,147
	166.00 EA									
	747.00 Labor hours									
	03.35.00.005 Drill in Dowel In Edge - Two Rows		106,163	3,985	0		0	0	663.538/EA	110,147
	166.00 EA									
	747.00 Labor hours									
	DIVISION 03 CONCRETE		113,913	15,111	8,001		711	0	137,735.60 /LS	137,736
	1.00 LS									
	796.409 Labor hours 8.717 Equipment hours									
DIVISION 05		METALS								
05 52 05.500.05	SST Char	nel C6x13 Guadrail x 21 LF - SF	PEC 1.3.B.1c							
<i>05 52 05.500</i> 066	Steel Railings 8 SST Chanel C6x13 Guadrail x 21 LF - SPEC 1.3.B.1c	21.00 LF	6,610	1,152	-		500	-	393.435 /LF	8,262
	05 52 05.500 Steel Railings		6,610	1,152			500		393.435/LF	8,262
	21.00 LF									
	36.653 Labor hours 12.218 Equipment hours									
	05 52 05.500.05 SST Chanel C6x13 Guadrail x 21 LF - SPEC 1.3.B.1c		6,610	1,152	0		500	0	393.435/LF	8,262
	21.00 LF									
	36.653 Labor hours 12.218 Equipment hours									

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Detail Report with Contractor Markups

					[Labor	Material	Subco	ntract	Equipment	Other	Total	
Item		Description		Takeoff Qty	l	Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
		F											
		DIVISION 05 METALS				6,610	1,152	0		500	0	8,262.130/LS	8,262
		1.00 LS											
		36.653 Labor 12.218 Equip											
DIVISION	22			PLUMBING									
31 69 00.000	0.05		Trench Drain	, 4" DIA & 12"x12" D	rain Box -	SPEC 1.3.B.11	b						
31 69 00.000			Trench Drain										
	6000	Drain, trench, floor, heavy iron, 12" x 12" top, 2", 3", 4		1.00	EA	551	2,411	-		-	-	2,962.10 /EA	2,962
	1590	12"x12" Drain Box	, 5 and 6 pipe size	1.00	ea	2,192	1,096	-		-	-	3,288.05_/ea	3,288
		31 69 00.000 Trench Drain				2,743	3,507					6,250.15 /EA	6,250
		1.00 EA											
		14.00 Labor	r hours										
		31 69 00.000.05 Trench Drain Box - SPEC 1.3.B.1b	n, 4" DIA & 12"x12" Drain			2,743	3,507	0		0	0	6,250.15 /EA	6,250
		1.00 EA											
		14.00 Labo	rhours										
		DIVISION 22 PLUMBIN	G			2,743	3,507	0		0	0	6,250.15 /EA	6,250
		1.00 EA											
		14.00 Labor	r hours										
DIVISION	40			PROCESS I	NTEGR	ATION (EXF	POSED PIPE.	VALVES AND	GATES)				
-						- (<u> </u>		,				
40 05 19.00	4.05		Trench Drain	Pipe DI, 4" DIA x 11	LF								
40 05 19.004 n	7001	Pipeline Testing, Hydro (LF	Pipe and Fittings - Ductile Iron		LF	92	1	_		4		8.908 /LF	98
"	7500			12.10	lf	43	2	-		-	-	3.745 /lf	45
		brushwork, up to 4" diamet	er										
	1120	Piping system identification indicate contents and flow adhesive, 4" pipe		5.00	ea	175	30	-		-	-	40.988 /ea	205
	0670	Gasket and bolt set, for fla	nges, 150 lb., 4" pipe	5.00	ea	1,314	233	-		-	-	309.502 /ea	1,548
n	0001	size DIP,FLGxFLG,4"dia,1'-0" I excav, backfill	ong,class 53,excl	11.00	ea	1,889	8,068	-		-	-	905.155 /ea	9,957
		,				4 4 OF OL-	-!f!t! A -	B					

AACE Classification Accuracy Range

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				Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	'	Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
40 05 19.004 n 4701	Pipe and Fittings - Ductile Iron, DIP,Polywrap 8 mil LDT 500ft,4"dia 40 05 19.004 Pipe and Fittings - Ductile Iron, 04" Dia	04" Dia 1.00	roll	156 3,670	389 8,724	-			-	545.52_/roll 1,127.089/LF	546
	11.00 LF										
	19.461 Labor hours 0.176 Equipment hours										
	40 05 19.004.05 Trench Drain Pipe DI, 4" DIA x 11 LF			3,670	8,724	0		4	0	1,127.089/LF	12,398
	11.00 LF										
	19.461 Labor hours 0.176 Equipment hours										
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES)			3,670	8,724	0		4	0	12,397.98 /LS	12,398
	1.00 LS										
	19.461 Labor hours 0.176 Equipment hours										
	065 ALTERNATE 2			131,832	28,542	8,001		3,912	0	172,288.16 /LS	172,288
	1.00 LS										
	906.606 Labor hours 58.340 Equipment hours										
		066	ALTERI	NATE 3							
DIVISION 05		METALS									
05 50 00.315.05	Stairs										
05 50 00.315	Metal Stairs - Aluminum Stair, shop fabricated, steel, 4'-0" W, incl pipe railing, stringers, grating treads w/ safety nosing, per riser	3.00	RISR	582	2,859	-		33	-	1,157.827 /RIS R	3,473
0132	Floor grating, aluminum, 1-1/2" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 4" O.C., up to 300 S.F., field fabricated from panels	24.00	sf	200	2,043	-		11	-	93.895 /sf	2,253
	05 50 00.315 Metal Stairs - Aluminum 3.00 RISR			782	4,901			44		1,908.987/RISR	5,727
	4.297 Labor hours 1.074 Equipment hours										

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	05 50 00.315.05 Stairs		782	4,901	0		44	0	1,908.987/RISR	5,727
	3.00 RISR			,,					,,	-,
	4.297 Labor hours									
	1.074 Equipment hours									
	DIVISION 05 METALS		782	4,901	0		44	0	5,726.96 /LS	5,727
	1.00 LS									
	4.297 Labor hours									
	1.074 Equipment hours									
DIVISION 06		WOOD, PLASTICS	& COMPOS	ITES						
06 82 00.010	FRP Grating	g, 1" Thick x 10 SF								
06 82 00.010	FRP Grating									
n 0140	Fiberglass Grating, molded, green (for moderate corrosive environment), 1" x 4" mesh, 1" thick	10.00 SF	381	1,238	-		•	-	161.911 /SF	1,619
	06 82 00.010 FRP Grating		381	1,238					161.911/SF	1,619
	10.00 SF									
	2.40 Labor hours									
	06 82 00.010 FRP Grating, 1" Thick x 10 SF		381	1,238	0		0	0	161.911/SF	1,619
	10.00 SF									
	2.40 Labor hours									
	DIVISION 06 WOOD, PLASTICS & COMPOSITES		381	1,238	0		0	0	161.911/SF	1,619
	COMPOSITES									
	10.00 SF									
	2.40 Labor hours									
DIVISION 23		HEATING, VENTIL	ATING & AIF	R-CONDITION	NING (HVAC)					
23 31 00.000.05	Extended F	oul Air Duct, 36" Dia x 20 LF								
23 31 00.000	HVAC Ductwork									
n 3570	Ductwork, rigid fiberglass reinforced plastic, for acid fume and smoke exhaust systems,	20.00 LF	3,800	3,071	-		-	-	343.572 /LF	6,871
	nonflammable, straight, 36" diameter, FM									
	approved									

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Design Stage: 100%

Estimate Version: Rev 06, 03/07/2024

			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	23 31 00.000 HVAC Ductwork		3,800	3,071					343.572/LF	6,871
	20.00 LF									
	23.301 Labor hours									
	23 31 00.000.05 Extended Foul Air Duct, 36	" Dia x 20 LF	3,800	3,071	0		0	0	343.572/LF	6,871
	20.00 LF									
	23.301 Labor hours									
23 80 00.000.05		Floc Tank Drop Legs - 6" Dia x 20 LF								
23 80 00.000 5600	HVAC Equ D Floc Tank Drop Legs - 6" Dia x 20 LF 23 80 00.000 HVAC Equipment 71.999 Labor hours	ipment 20.00 LF	18,754 18,754	3,799	-		-	-	1,127.653 /LF	22,553 22,553
	23 80 00.000.05 Floc Tank Drop Legs - 6" D.	ia x 20 LF	18,754	3,799	0		0	0	1,127.653/LF	22,553
	20.00 LF									
	71.999 Labor hours									
23 80 00.000.10		New SST Panel On Top of FKC								
23 80 00.000	HVAC Equipment New SST Panel On Top of FKC 23 80 00.000 HVAC Equipment	ipment 1.00 EA	7,386 7,386	9,251 9,251	-		1,420 1,420		18,057.52 /EA	18,058 18,058
	1.00 EA									
	20.00 Labor hours 8.00 Equipment hours									
	23 80 00.000.10 New SST Panel On Top of	FKC	7,386	9,251	0		1,420	0	18,057.52 /EA	18,058
	1.00 EA									
	20.00 Labor hours 8.00 Equipment hours									
	DIVISION 23 HEATING, VENTILAT AIR-CONDITIONING (HVAC)	ING &	29,940	16,122	0		1,420	0	1,187.050/LF	47,482
	40.00 LF									
	115.300 Labor hours 8.00 Equipment hours									
DIVISION 40		PROCESS INTEG	RATION (EXF	POSED PIPE,	VALVES AND GATES	S)				

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Detail Report with Contractor Markups

			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
40.05.40.000.05	Nov. Ellev	. Hadaa Caraa wiith Taa 200 DIA								
40 05 19.036.05	New Elbow	Under Screw with Tee, 36" DIA								
40 05 19.036 n 142	Pipe and Fittings - Ductile I 6 Fitting,DIP,FLG,Tee,36"dia,c 110 water piping - 40 05 19.036 Pipe and Fittings - Ductile Iron, 36" Dia	ron, 36" Dia 1.00 EA	999	28,196 28,196	-		-	-	29,194.70 /EA	29,195 29,195
	6.40 Labor hours									
	40 05 19.036.05 New Elbow Under Screw with Tee, 36" DIA		999	28,196	0		0	0	29,194.70 /EA	29,195
	1.00 EA									
	6.40 Labor hours									
40 05 70.200.05	Fiberglass	Air Damper Valve, "06 Dia - (4 E	A)							
40 05 70.200.1 n 108	40 05 70.200.1 Fiberglass Air Damper Valve, "06 DIA	re, "06 DIA 4.00 EA	257 257	1,120	-		-	-	344.263/EA 344.263/EA	1,377
	4.00 EA 1.684 Labor hours									
	40 05 70.200.05 Fiberglass Air Damper Valve, "06 Dia - (4 EA)		257	1,120	0		0	0	344.263/EA	1,377
	4.00 EA									
	1.684 Labor hours									
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES) 8.084 Labor hours		1,256	29,316	0		0	0		30,572
	066 ALTERNATE 3		32,358	51,577	0		1,464	0	85,399.83 /LS	85,400

1.00 LS

130.081 Labor hours 9.074 Equipment hours

Design Stage: 100%

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Marin County - District No. 5

<u>Digester Cleaning and Rehabilitation</u>

Detail Report with Contractor Markups

Estimate Totals

Description	Amount	Totals	Rate	
Labor	1,016,359			
Material	619,808			
Build America, Buy America Act				
Equipment	281,887			
Subcontract	592,106			
Other	612			
Subtotal Field Const Costs	2,510,772	2,510,772		
Sales Tax Estimate (Mat & Eq)	48,096		8.625 %	
Subtotal Field Const Costs	48,096	2,558,868		
Design Contingency				
Subtotal Field Const Costs		2,558,868		
Escalation Project (Year)	60,877		2.440 %	
Construction Subtotal	60,877	2,619,745		
Market Volatility Adjustment Factor	261,975		10.000 %	
Construction Total	261,975	2,881,720		
Total		2,881,720		

Detail Report - Direct Costs

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Design Stage: 100%

Estimate Version: Rev 06, 03/07/2024

Project name Marin County - Digester Cleaning and Rehab

Labor rate table HDR_2024_Union

Equipment rate table HDR_EQ_2024

Project Digester & Rehab.

Notes

Any opinions of probable construction cost or cost estimates provided by HDR, Inc. are made based on information available to HDR, Inc. and based on the cost estimator's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, HDR, Inc. has no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions. HDR, Inc. does not quarantee that proposals, bids, or actual project or construction cost will not vary from opinions of probable cost or cost estimates prepared by HDR, Inc.

A recent AGC report indicated that September 2020 and September 2022 saw a 21% increase in construction materials during this period. Also, during this period, substantial material prices increase in primary materials such as diesel fuel, steel, fabricated metals, lumber, concrete, rebar, copper, and PVC. Contractors are experiencing supply-chain issues, transportation issues, short pricing guarantees (1 to 7 days), longer than average fabrication durations, and limited availability of material supplies, labor premiums to attract craft workers, covid mandates, and the Russian invasion of Ukraine. This combination has produced a potentially volatile situation for owners as general contractors are drastically recovering costs. A project owner would be wise to ask many questions, work to obtain as much bid competition as possible, and retain a higher than usual contingency.

Report format Sorted by 'WBS_MAIN/MF04_DIV/Work Activity/HDR04SPEC'

'Detail' summary

Factor table 941-CA-SAN FRANCISCO

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Estimate Version: Rev 06, 03/07/2024

Detail Report - Direct Costs

Labor Material Subcontract Equipment Other Total Item Description Takeoff Qty Amount Amount Amount Name Amount Unit Cost Amount Amount 063 BASE BID **DIVISION 01 GENERAL REQUIREMENTS** 01 00 00.000.05 Hazardous Environmental Conditions - SPEC 01 11 00 - 1 - 1.2D 01 00 00.000 General Requirements 0920 Hazardous Environmental Conditions - SPEC 01 1.00 LS 35,000 35,000.00 /LS 35,000 11 00 - 1 - 1.2D - Assessment 0140 Field personnel, field engineer, maximum 4,800 2.00 week 4,800 2,400.00 /week 01 00 00.000 General Requirements 35.000 4.800 39.800.00 /LS 39.800 1.00 LS 80.00 Labor hours 01 00 00.000.05 Hazardous Environmental Conditions -4,800 0 35,000 39,800.00 /LS 39,800 SPEC 01 11 00 - 1 - 1.2D 1.00 LS 80.00 Labor hours 01 00 00.000.10 Confined Space Entry Policy/Procedure SPEC 01 11 00 - 2 - 1.3 - G2 01 00 00.000 0140 Field personnel, field engineer, maximum 2.00 week 4,800 2,400.00 /week 4,800 01 00 00.000 General Requirements 4,800 4,800.00 /LS 4,800 1.00 LS 80.00 Labor hours 01 00 00.000.10 Confined Space Entry Policy/Procedure 4,800 4,800.00 /LS 4,800 0 0 SPEC 01 11 00 - 2 - 1.3 - G2 1.00 LS 80.00 Labor hours Work By Owner - Coordination SPEC 01 11 00 - 3 - 1.7 01 00 00.000.15 01 00 00.000 General Requirements 0920 Work By Owner - Coordination SPEC 01 11 00 -1.00 LS 5,000 0 5,000.00 /LS 5,000 3 - 1.7 01 00 00.000 General Requirements 5,000 5,000 5,000.00 /LS 1.00 LS 01 00 00.000.15 Work By Owner - Coordination SPEC 01 5,000 5.000.00 /LS 5.000 0 0

11 00 - 3 - 1.7

1.00 LS

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	01 00 00.000.15 Work By Owner - Coordination SPEC 01 11 00 - 3 - 1.7 1.00 LS		5,000	0	0		0	0	5,000.00 /LS	5,000
01 00 00.000.20	Sequencing	of Work Requiremnts & Resp	onsible Party(s)	- 01 11 00 - 6 3.1	E					
01 00 00.000 n 0140	General Requirements Field personnel, field engineer, maximum 01 00 00.000 General Requirements 1.00 LS	2.00 week	4,800	-	-		-	-	2,400.00 /week 4,800.00 /LS	4,800 4,800
	80.00 Labor hours 01 00 00.000.20 Sequencing of Work Requiremnts & Responsible Party(s) - 01 11 00 - 6 3.1 E		4,800	0	0		0	0	4,800.00 /LS	4,800
	1.00 LS 80.00 Labor hours									
01 00 00.000.25	Gas Purge &	Dewater 2 Digester (Contrac	ctor & Owner) - 0	1 11 00 3.1 E 2						
01 00 00.000 n 0920	General Requirements Gas Purge & Dewater Secondary Digester (Contractor & Owner) - 01 11 00 3.1 E - 2 01 00 00.000 General Requirements	1.00 LS	1,881	15,000			699		17,580.23 /LS	17,580
	1.00 LS		1,001	70,000			555		77,000.207.20	11,000
	20.00 Labor hours 8.00 Equipment hours									
	01 00 00.000.25 Gas Purge & Dewater 2 Digester (Contractor & Owner) - 01 11 00 3.1 E2		1,881	15,000	0		699	0	17,580.23 /LS	17,580
	20.00 Labor hours 8.00 Equipment hours									
01 00 00.000.30	Purge Secon	ndary Digester Nitrogen (5,00	0 ft^3) - SPEC 0	1 11 00 - 6 - 3.1 E	Ēe .					
01 00 00.000 n 0920	General Requirements Purge Secondary Digester Nitrogen regulated nitrogen (5,000 ft^3) to digester - SPEC 01 11 00 - 6 - 3.1 - E - 2e	1.00 LS		10,000					10,000.00 /LS	10,000
	01 00 00.000 General Requirements 1.00 LS			10,000					10,000.00 /LS	10,000

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					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amoun
		01 00 00.000.30 Purge Secondary Digester Nitrogen (5,000 ft^3) - SPEC 01 11 00 - 6 - 3.1 Ee			0	10,000	0		0	0	10,000.00 /LS	10,00
		1.00 LS										
01 00 00.000.3	32	Purge Prin	nary Digester Nitrogen (5	5,000 ft^3) -	SPEC 01 11	00 - 6 - 3.1 Ee						
1 00 00.000	0920	General Requirements Purge Primary Digester Nitrogen (5,000 ft^3) - SPEC 01 11 00 - 6 - 3.1 Ee	1.00	LS		10,000					10,000.00 /LS	10,000
		01 00 00.000 General Requirements				10,000					10,000.00 /LS	10,00
		1.00 LS										
		01 00 00.000.32 Purge Primary Digester Nitrogen (5,000 ft^3) - SPEC 01 11 00 - 6 - 3.1 Ee			0	10,000	0		0	0	10,000.00 /LS	10,00
		1.00 LS										
1 00 00.000.3	35	Remove A	pproximately 33,000 GA	L of Sludge	x 7 Days - 2	EA SPEC 01 11	1 00 - 6 - 3.1 Ef					
1 00 00.000		General Requirements										
	0920			LS		35,000	1				35,001.00 /LS	35,00
•	1000	Dewatering, pumping 8 hours, attended 2 hrs per day, 4" diaphragm pump, includes 20 LF of suction hose and 100 LF of discharge hose	14.00	DAY	11,167	-	-		2,486	-	975.206 /DAY	13,65
	1020	Dewatering, pumping 8 hours, attended 2 hrs per day, 4" diaphragm pump, includes 20 suction hose and 100 lf of discharge hose, add for	14.00	day	-	-	-		1,783	-	127.368 /day	1,783
	5000	additional pump 21,000 Gallon (Closed Top Frac Tank)	14.00	day		584	_		24,595	_	1,798.496 /day	25,17
`	0000	01 00 00.000 General Requirements	14.00		11,167	35,584	1		28,864		75,615.97 /LS	75,61
		1.00 LS										
		168.00 Labor hours 560.00 Equipment hours										
		01 00 00.000.35 Remove Approximately 33,000 GAL of Sludge x 7 Days - 2 EA SPEC 01 11 00 - 6 - 3.1 Ef			11,167	35,584	1		28,864	0	5,401.141/DAY	75,61
		14.00 DAY										
		168.00 Labor hours 560.00 Equipment hours										
01 00 00.000.4	40	Truck/Dew	vater Remaining Sludge (Off Site Froi	m 23.5' Eleva	ation x 40,000 G.	AL - SPEC 01 11 00 - 6 - 3.	1 Eh				
1 00 00.000		General Requirements										
	0560	Haul 40.000 Gallons	10.00	DAY	5,102	_	_		6,893	_	1,199.499 /DAY	11,995
		Haul 40,000 Gallons - Load Trucks		TRK	-,		5,000		0,000		200.00 /TRK	5,000

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					Labor	Material	Sub	ocontract	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
01 00 00.000 n	0560	General Requirements Haul 40,000 Gallons - Hauling & Disposal 01 00 00.000 General Requirements	25.00	TRK	5,102		112,500		6,893	-	4,500.00 /TRK	112,500
		1.00 LS										
		80.00 Labor hours 80.00 Equipment hours										
		01 00 00.000.40 Truck/Dewater Remaining Sludge Off Site From 23.5' Elevation x 40,000 GAL - SPEC 01 11 00 - 6 - 3.1 Eh			5,102	0	117,500		6,893	0	12,949.499/DAY	129,495
		10.00 DAY										
		80.00 Labor hours										
		80.00 Equipment hours										
01 00 00.00	0.45	Clean Floor &	Walls of Two Diges	ters- SPI	EC 01 1 1 00 - 6	- 3.1 3a						
01 00 00.000		General Requirements										
n	0840	Cleaning masonry, high pressure wash, water	20.00	DAY	35,616	3,000	-		23,419	-	3,101.728 /DAY	62,035
n	0840	and chemical, excludes scaffolding, maximum Productivity Loss	20.00	day	17,808	0	_		11,709	_	1,475.864 /day	29,517
n	0840	Rental of sludge screen	20.00	day	17,000	O	100,000		11,703	_	5,000.00 /day	100,000
	1100	Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 LF of suction hose and 100 LF of discharge hose	20.00	day	15,953	-	-		7,072	-	1,151.237 /day	23,025
n	1120	Dewatering, pumping 8 hours, attended 2 hrs per day, 6" centrifugal pump, includes 20 suction hose and 100 of discharge hose, add for	20.00	day	-	-	-		7,466	-	373.32 /day	7,466
		additional pump										
		01 00 00.000 General Requirements			69,377	3,000	100,000		49,666		222,042.98 /LS	222,043
		1.00 LS										
		1,200.00 Labor hours 5,600.00 Equipment hours										
		01 00 00.000.45 Clean Floor & Walls of Two Digesters- SPEC 01 11 00 - 6 - 3.1 3a			69,377	3,000	100,000		49,666	0	11,102.149/DAY	222,043
		20.00 DAY										
		1,200.00 Labor hours 5,600.00 Equipment hours										
01 00 00.00	0.50	Contractor to I	Reinstall Finished D	igester C	Cover 2 EA - SPI	EC 01 11 00 - 6 -	4a					
01 00 00.000		General Requirements										
	0600	Crane crew, daily use for small jobs, 100-ton truck-mounted hydraulic crane, portal to portal	8.00	day	8,128	-	-		20,769	-	3,612.08 /day	28,897
n	6000	Paints and protective coatings, galvanizing structural steel in shop, over 20 tons, hot dip	100.00	ton	-	64,000	-		-	-	640.00 /ton	64,000

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Detail Report - Direct Costs

					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
01 00 00.000		General Requirements										
n	3860	Structural steel project, shop extra for	100.00	ton	-	14,500	-		-	-	145.00 /ton	14,500
		sandblasting and primer coat of paint, (included in										
		project material cost, above)										
		(CAIR) Air Tool Laborers	200.00	mh	9,360	-	-		-	-	46.80 /mh	9,360
		(CLAM) Common Maintenance Laborers	200.00	mh	9,800	-	-		-	-	49.00 /mh	9,800
	0300	(EQHO) Equipment Operators, Crane - Outside Foreman	40.00	mh	2,824	-	-		-	-	70.60 /mh	2,824
		(EQHV) Equipment Operators, Crane or Shovel	40.00	mh	2,744	-	-		-	-	68.60 /mh	2,744
	0905	(SSWL) Welders, Structural Steel	80.00	mh	5,364	-	-		-	-	67.05 /mh	5,364
	0910	(SSWO) Welders, Structural Steel - Outside Foreman	40.00	mh	2,762	-	-		-	-	69.05 /mh	2,762
		01 00 00.000 General Requirements			40,982	78,500			20,769		140,250.640/LS	140,251
		1.00 LS										
		728.00 Labor hours										
		128.00 Equipment hours										
		01 00 00.000.50 Contractor to Reinstall Finished Digester Cover 2 EA - SPEC 01 11 00 - 6 - 4a			40,982	78,500	0		20,769	0	140,250.640/LS	140,251
		1.00 LS										
		728.00 Labor hours										
		128.00 Equipment hours										
01 00 00.000	0.55	Contractor to	Remove Finished D	igester C	Cover (2EA)- SP	EC 01 11 00 - 6 -	4a					
01 00 00.000		General Requirements										
	0600	Crane crew, daily use for small jobs, 100-ton	4.00	DAY	4,064	-	-		10,384	-	3,612.08 /DAY	14,448
		truck-mounted hydraulic crane, portal to portal										
		(CAIR) Air Tool Laborers	200.00	mh	9,360	-	-		-	-	46.80 /mh	9,360
		(CLAM) Common Maintenance Laborers	200.00	mh	9,800	-	-		-	-	49.00 /mh	9,800
	0300	(EQHO) Equipment Operators, Crane - Outside	40.00	mh	2,824	-	-		-	-	70.60 /mh	2,824
	0205	Foreman (EQHV) Equipment Operators, Crane or Shovel	40.00	mh	2744						68.60 /mh	2,744
	0305	01 00 00.000 General Requirements	40.00	mn	2,744	-	-		10,384	-	39,176.32 /LS	39,176
		1.00 LS			20,732				10,304		39,170.32723	39,170
		544.00 Labor hours										
		64.00 Equipment hours										
		01 00 00.000.55 Contractor to Remove Finished Digester Cover (2EA)- SPEC 01 11 00 - 6 - 4a			28,792	0	0		10,384	0	9,794.08 /DAY	39,176
		4.00 DAY										

544.00 Labor hours64.00 Equipment hours

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Design Stage: 100%

Detail Report - Direct Costs Estimate Version: Rev 06, 03/07/2024

						Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description		Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
01 00 00.000	0.60		Water Test 2 E	A Digesters									
01 00 00.000 n	0560	Haul Gallons	General Requirements	10.00	DAY	5,102		_		6,893		1,199.499 /DAY	11,995
"	8550	Water Test			hr	18,480		-		13,413	-	398.668 /hr	31,893
		01 00 00.000 General Require	ements			23,582				20,306		43,888.42 /LS	43,888
		1.00 LS											
		320.00 Labor	hours										
		320.00 Equip	ment hours										
		01 00 00.000.60 Water Test 2	P. EA Digesters			23,582	0	0		20,306	0	4,388.842/DAY	43,888
		10.00 DAY											
		320.00 Labor	hours										
		320.00 Equip	ment hours										
01 00 00.000	0.65		Test Mixing & I	Heating Functions 2	EA- SPE	C 01 11 00 - 6	- 4c						
01 00 00.000			General Requirements										
	8550	Heat Test		80.00	HR .	18,480 18,480	8,395	-		13,413	-	503.607 /HR	40,289
		01 00 00.000 General Require	ernerits			16,460	8,395			13,413		40,288.550/LS	40,289
		1.00 LS											
		240.00 Labor 240.00 Equip											
						10.100	0.005			10.110		500 007/I/ID	40.000
		01 00 00.000.65 Test Mixing 8 SPEC 01 11 00 - 6 - 4c	& Heating Functions 2 EA-			18,480	8,395	0		13,413	0	503.607/HR	40,289
		80.00 HR											
		240.00 Labor	hours										
		240.00 Equip	ment hours										
01 00 00.000	0.81		Transfer Seed	Sludge from Primary	y to Seco	ndary Digester	- SPEC 01 11 00) - 7 - 5b					
01 00 00.000			General Requirements										
n	0920				LS		17,500	1				17,501.00 /LS	17,501
	1000	Dewatering, pumping 8 hou day, 4" diaphragm pump, ir		7.00	DAY	5,583	-	-		1,243	-	975.206 /DAY	6,826
		suction hose and 100 LF of	f discharge hose										
n	1020	Dewatering, pumping 8 hou		7.00	day	-	-	-		892	-	127.369 /day	892
		day, 4" diaphragm pump, ir hose and 100 lf of discharg											
		additional pump											

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Detail Report - Direct Costs

					Labor	Material	Subcontr	act	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
		01 00 00.000 General Requirements			5,583	17,500			2,135		25,219.02 /LS	25,219
		1.00 LS										
		84.00 Labor hours 280.00 Equipment hours										
		01 00 00.000.81 Transfer Seed Sludge from Primary to Secondary Digester - SPEC 01 11 00 - 7 - 5b			5,583	17,500	1		2,135	0	25,219.02 /LS	25,219
		1.00 LS										
		84.00 Labor hours 280.00 Equipment hours										
01 00 00.000	0.85	Start up & Mo	onitor Secondary Dige	ester (Co	ntractor & Own	er) - 01 11 00 - 7	- 6					
01 00 00.000	0000	General Requirements	4.00	1.0			45.000				45,000,00, // 0	45.000
n	0920	Start up & Monitor Secondary Digester (Contractor & Owner) - 01 11 00 - 7 - 6	1.00	LS			15,000				15,000.00 /LS	15,000
		01 00 00.000 General Requirements 1.00 LS					15,000				15,000.00 /LS	15,000
		1.00 23										
		01 00 00.000.85 Start up & Monitor Secondary Digester (Contractor & Owner) - 01 11 00 - 7 - 6			0	0	15,000		0	0	15,000.00 /LS	15,000
		1.00 LS										
01 00 00.000	n 86	Porform Lab	Testing of Volatile Ad	sid (VAs)	8 Albalinity 2v	or wook - 01 11	00 - 7 - 60					
01 00 00.000	<i>3.00</i>	General Requirements	resuring or volatile At	iu (VAS)	Alkalinity 3x p	oer week - or iri	00 - 7 - 0 e					
n	0920	Perform Lab Testing of Volatile Acid (VAs) & Alkalinity 3x per week - 01 11 00 - 7 - 6e	150.00	EA			22,500				150.00 /EA	22,500
		01 00 00.000 General Requirements					22,500				22,500.00 /LS	22,500
		1.00 LS										
		01 00 00.000.86 Perform Lab Testing of Volatile Acid (VAs) & Alkalinity 3x per week - 01 11 00 - 7 - 6e			0	0	22,500		0	0	150.00 /EA	22,500
		150.00 EA										
01 00 00.000	0.87		air Primary Digester (Contracto	or) - 01 11 00 -	7 - 7						
01 00 00.000 n	0920	General Requirements Two bottom pipes to overflow box - 01 11 00 - 7 - 7 - A1 - Labor	5.00	DAY	21,735		0		3,740		5,094.986 /DAY	25,475
n	0920	Two bottom pipes to overflow box - 01 11 00 - 7 -	1.00	LS		15,000					15,000.00 /LS	15,000
n	0920	7 - A1 - Materials Suction to sludge mixing pumps, discharge from sludge mixing pump - 01 11 00 - 7 - 7 - A2	5.00	DAY	21,735				3,740		5,094.986 /DAY	25,475
		3 promp										

AACE Classification Accuracy Range

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				Labor	Material	Subcontrac	et	Equipment	Other	Total	
Item		Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
01 00 00.000 n	0920	General Requirements Two bottom pipes to overflow box - 01 11 00 - 7 - 7 - A1 - Materials 01 00 00.000 General Requirements	1.00 LS	43,470	15,000			7,480		15,000.00 /LS 	15,000
		2.00 LS		43,470	30,000			7,400		40,474.93723	80,300
		480.00 Labor hours 1,280.00 Equipment hours									
		01 00 00.000.87 Clean & Repair Primary Digester (Contractor) - 01 11 00 - 7 - 7		43,470	30,000	0		7,480	0	40,474.93 /LS	80,950
		2.00 LS									
		480.00 Labor hours 1,280.00 Equipment hours									
01 21 00.000	0.05	Traffic Contro	I Allowance								
01 21 00.000 n	0925	Allowances Traffic Control Allowance 01 21 00.000 Allowances 1.00 LS	1.00 LS			25,000 25,000				/LS /LS	<u>25,000</u> <u>25,000</u>
		01 21 00.000.05 Traffic Control Allowance		0	0	25,000		0	0	25,000.00 /LS	25,000
		1.00 LS		Ü	Ü	23,000		Ü	Ü	23,000.00723	23,000
01 21 00.000	0.10	Protection of	Existing Landscaping Allowar	nce							
01 21 00.000 n	0925	Allowances Protection of Existing Landscaping Allowance 01 21 00.000 Allowances	1.00 LS			25,000 25,000				25,000.00 /LS 25,000.00 /LS	<u>25,000</u> 25,000
		1.00 LS									
		01 21 00.000.10 Protection of Existing Landscaping Allowance		0	0	25,000		0	0	25,000.00 /LS	25,000
		1.00 LS									
01 74 00.000	0.05	Digester Covi	er Cleaning, Inspected, Prepa	aration - 1.2.3a							
01 74 00.000 n	0925	Cleaning Digester Cover Cleaning, Inspected, Preparation - 1.2.3a	1.00 LS			25,000				25,000.00 /LS	25,000
		01 74 00.000 Cleaning				25,000				25,000.00 /LS	25,000
		1.00 LS									

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				Labor	Material	Subcontrac	t	Equipment	Other	Total	
Item	Description		Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	01 74 00.000.05 Diges Preparation - 1.2.3a	ster Cover Cleaning, Inspected,		0	0	25,000		0	0	25,000.00 /LS	25,000
	1.00	LS									
01.21.00.005		Scafolding Al	lowance - 2 Digesters								
01 21 00.000 0090	erect & dismantle, bu	Allowances oular, regular, labor only to uilding exterior, wall face, o 5 stories, excludes planks	1,000.00 cs	f 49,046	-	-		-	-	49.046 /csf	49,046
	01 21 00.000 Allowand			49,046						49,045.50 /LS	49,046
	1.00	LS									
	750.00	Labor hours									
	01.21.00.005 Scafoldii	ng Allowance - 2 Digesters		49,046	0	0		0	0	49,045.50 /LS	49,046
	1.00	LS									
	750.00	Labor hours									
	DIVISION 01 GEN	IERAL REQUIREMENTS		316,862	207,979	365,002		160,610	0	80,804.037/LS	1,050,452
	13.00	LS									
		Labor hours Equipment hours									
DIVISION 02			EXISTING COM	NDITIONS							
02 41 00.150.05		Demo (DR) [igester Recirculation DI	Pipe, 8" DIA x 21 LF	:						
02 41 00.150 n 1100	Selective demolition, fittings, ductile iron piexcludes excavation	· · ·	21.00 LF	320	-	-		77	-	18.923 /LF	397
	02 41 00.150 Process			320				77		18.923/LF	397
	21.00	LF									
		Labor hours Equipment hours									
	02 41 00.150.05 Demo Pipe, 8" DIA x 21 LF	o (DR) Digester Recirculation DI		320	0	0		77	0	18.923/LF	397
	21.00	LF									
		Labor hours Equipment hours									

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			Labor	Material	Subcont	ract	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
02 41 00.150.10	Demo (DM)	Digester Mixing DI Pipe, 8" D	IA x 10 LF							
02 41 00.150 n 1100	Process Pipe Demolition Selective demolition, water & sewer piping & fittings, ductile iron pipe, 6"-12", diameter, excludes excavation 02 41 00.150 Process Pipe Demolition	10.00 LF	152	-	-		37	-	18.923 /LF	189
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
	02 41 00.150.10 Demo (DM) Digester Mixing DI Pipe, 8" DIA x 10 LF		152	0	0		37	0	18.923/LF	189
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
02 41 00.150.15	Demo (DF)	Digester Feed DI Pipe, 6" DIA	1 x 10 LF							
02 41 00.150 n 1100	Process Pipe Demolition Selective demolition, water & sewer piping & fittings, ductile iron pipe, 6"-12", diameter, excludes excavation	10.00 LF	152	-	-		37	-	18.923 /LF	189
	02 41 00.150 Process Pipe Demolition		152				37		18.923/LF	189
	10.00 LF									
	2.858 Labor hours0.571 Equipment hours									
	02 41 00.150.15 Demo (DF) Digester Feed DI Pipe, 6" DIA x 10 LF		152	0	0		37	0	18.923/LF	189
	10.00 LF									
	2.858 Labor hours 0.571 Equipment hours									
	DIVISION 02 EXISTING CONDITIONS		625	0	0		151	0	775.84 /LS	776
	1.00 LS									
	11.717 Labor hours 2.342 Equipment hours									
DIVISION 26		ELECTRICAL								

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ltom					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
26.00.00.005		Electrical Equi	oment+Testing/Con	nmission	ning							
26 05 00.000	0400	Electrical: Basic Requirements Electrical Equipment+Testing/Commissioning 26 05 00.000 Electrical: Basic Requirements	2.00	EA	19,430 19,430	<u>11,849</u> 11,849	-		<u>463</u> 463	139 139	15,940.705 /EA	31,881 31,881
		167.90 Labor hours										
		26.00.00.005 Electrical Equipment+Testing/Commissioning			19,430	11,849	0		463	139	15,940.705/EA	31,881
		2.00 EA										
		167.90 Labor hours										
26.00.00.020		Electrical - Abo	ove Ground Racewa	ays								
26 05 00.000	0100	Electrical: Basic Requirements Electrical - Above Ground Raceways 26 05 00.000 Electrical: Basic Requirements	225.00	LF	6,833 6,833	1,468	-		254 	94	38.439 /LF	8,649 8,649
		1.833 Labor hours										
		26.00.00.020 Electrical - Above Ground Raceways			6,833	1,468	0		254	94	38.439/LF	8,649
		225.00 LF										
		1.833 Labor hours										
26.00.00.035		Electrical - Po	ver Wire and Cable	(AG+U	G)							
26 05 00.000	0200	Electrical: Basic Requirements Electrical - Power Wire and Cable (AG+UG) 26 05 00.000 Electrical: Basic Requirements	270.00	LF	5,876 5,876	1,217	-		218	<u>81</u>	27.376 /LF	7,392 7,392
		1.222 Labor hours										
		26.00.00.035 Electrical - Power Wire and Cable (AG+UG)			5,876	1,217	0		218	81	27.376/LF	7,392
		270.00 LF										
		1.222 Labor hours										
		DIVISION 26 ELECTRICAL			32,139	14,535	0		935	314	47,921.75 /LS	47,922
		1.00 LS										
		170.955 Labor hours										
DIVISION 4	40		PROCESS I	NTEG	RATION (EXF	POSED PIPE,	VALVES AND GATES)				

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Detail Report - Direct Costs

				Labor	Material	Subcontra	ıct	Equipment	Other	Total	
Item		Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
40 05 07.01	0.05	Unistrut Dina Si	ipports for Back Wall	(6 EA)							
	0.00	·	ipports for back waii	(O LA)							
40 05 07.010	01068	Pipe Support Systems Pipe Support, 8", Stand, Stainless Steel, Inc. Material, Anchors, Grout, Labor	6.00 E	A 2,853	3,486	-		-	-	1,056.613 /EA	6,340
		40 05 07.010 Pipe Support Systems		2,853	3,486					1,056.613/EA	6,340
		6.00 EA									
		24.00 Labor hours									
		40 05 07.010.05 Unistrut Pipe Supports for Back Wall (6 EA)		2,853	3,486	0		0	0	1,056.613/EA	6,340
		6.00 EA									
		24.00 Labor hours									
40 05 19.00	6.05	(DF) Digester F	eed DI Pipe, 6" DIA x	5 LF							
40 05 19.006		Pipe and Fittings - Ductile Iron, 0	6" Dia								
n	7001	Pipeline Testing, Hydro (LF)	5.00 LF		0	-		1	-	4.36 /LF	22
	7600	Paints & coatings, pipes, primer + 1 coat, brushwork, 6" to 8" diameter	5.50 If	19	1	-		-	-	3.609 /lf	20
	1122	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 6" pipe	5.00 ea	a 85	19	-		-	-	20.70 /ea	104
	0690	Gasket and bolt set, for flanges, 150 lb., 6" pipe	20.00 ea	a 3,398	1,196	-		-	-	229.691 /ea	4,594
n	8943	size Fitting, 316 Stainless Steel Sleeve Coupling, 6"dia, 10" sleeve length, Epoxy Coating	2.00 ea	a 253	1,792	-		7	-	1,025.74 /ea	2,051
n	0050	DIP,FLGxFLG,6"dia,1'-0" long,class 53,excl excav, backfill	5.00 ea	a 444	2,880	-		-	-	664.794 /ea	3,324
n	1006	Fitting,DIP,FLG,90 degree bend,6"dia,c 110 water piping	1.00 ea	a 89	305	-		-	-	393.85 /ea	394
n	1406	Fitting,DIP,FLG,Tee,6"dia,c 110 water piping 40 05 19.006 Pipe and Fittings - Ductile Iron, 06" Dia	1.00 ea	89 4,396	<u>446</u> 6,638	-			-	535.00 /ea 2,208.652/LF	535 11,043
		5.00 LF									
		39.665 Labor hours 0.14 Equipment hours									
		40 05 19.006.05 (DF) Digester Feed DI Pipe, 6" DIA x 5 LF		4,396	6,638	0		8	0	2,208.652/LF	11,043
		5.00 LF									

39.665 Labor hours 0.14 Equipment hours

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					Labor	Material	Subcontr	ract	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
40 05 19.00	08.05	(DR) Digester	Recirculation DI Pi	pe, 8" D	IA x 45 LF							
40 05 19.008		Pipe and Fittings - Ductile Iron	. 08" Dia									
n	7001	Pipeline Testing, Hydro (LF)	45.00	LF	181	4	-		11	-	4.360 /LF	196
	7600	Paints & coatings, pipes, primer + 1 coat, brushwork, 6" to 8" diameter	49.50	lf	169	10	-		-	-	3.609 /lf	179
		Pipe Support, 8", Hanger, Stainless Steel, Inc. Material, Welder, Labor	20.00	ea	9,511	7,766	-		-	-	863.889 /ea	17,278
	1124	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 8" pipe	5.00	ea	91	29	-		-	-	24.082 /ea	120
	0700	Gasket and bolt set, for flanges, 150 lb., 8" pipe size	24.00	ea	4,893	1,275	-		-	-	257.028 /ea	6,169
n	0105	DIP,FLGxFLG,8"dia,5'-0" long,class 53,excl excav, backfill	9.00	ea	966	13,726	-		-	-	1,632.407 /ea	14,692
n	1108	Fitting,DIP,FLG,45 degree bend,8"dia,c 110 water piping	2.00	ea	215	823	-		-	-	518.63 /ea	1,037
n	1408	Fitting, DIP, FLG, Tee, 8"dia, c 110 water piping	1.00	ea	107	743	-		-	-	850.41 /ea	850
n	4703	DIP,Polywrap 8 mil LDT 500ft,8"dia	1.00	roll	74	530	-		-	-	604.080 /roll	604
n	0503	Plug Valve Flange: 8" / Handwheel or Lever Operator / Includes Gear Operator	1.00	ea	385	1,377	-		239	-	2,001.38 /ea	2,001
		40 05 19.008 Pipe and Fittings - Ductile Iron, 08" Dia			16,593	26,283			251		958.366/LF	43,126
		45.00 LF										
		146.732 Labor hours 2.72 Equipment hours										
		40 05 19.008.05 (DR) Digester Recirculation DI Pipe, 8" DIA x 45 LF			16,593	26,283	0		251	0	958.366/LF	43,126
		45.00 LF										
		146.732 Labor hours 2.72 Equipment hours										
40 05 19.00	08.10	(DM) Digester	Mixing DI Pipe, 8"	DIA x 8 I	<u>LF</u>							
40 05 19.008		Pipe and Fittings - Ductile Iron										
n		Fitting,DIP,FLG,Flat Blind Flange,8"dia, water piping	1.00		58	179	-		-	-	237.05 /ea	237
n	7001	Pipeline Testing, Hydro (LF)	8.00	LF 	32	1	-		2	-	4.36 /LF	35
	7600	Paints & coatings, pipes, primer + 1 coat, brushwork, 6" to 8" diameter	8.80	lf	30	2	-		-	-	3.609 /lf	32
	1124	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 8" pipe	5.00	ea	91	29	-		-	-	24.082 /ea	120
	0700		4.00	ea	816	213	-		-	-	257.030 /ea	1,028

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Detail Report - Direct Costs

					Labor	Material	Subcontract	i	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
40 05 19.008		Pipe and Fittings - Ductile Iro	n, 08" Dia									
n	8944	Fitting, 316 Stainless Steel Sleeve Coupling, 8"dia, 10" sleeve length, Epoxy Coating	1.00	ea	195	1,220	-		5	-	1,419.13 /ea	1,419
n	0095	DIP,FLGxFLG,8"dia,1'-0" long,class 53,excl	8.00	ea	859	6,801	-		-	-	957.489 /ea	7,660
n	4703	excav, backfill DIP,Polywrap 8 mil LDT 500ft,8"dia	1.00	roll	74	530	-			-	604.080 /roll	604
		40 05 19.008 Pipe and Fittings - Ductile Iron, 08" Dia			2,154	8,974			7		1,391.918/LF	11,135
		8.00 LF										
		24.105 Labor hours 0.168 Equipment hours										
		40 05 19.008.10 (DM) Digester Mixing DI Pipe, 8" DIA x 8			2,154	8,974	0		7	0	1,391.918/LF	11,135
		LF			2,104	0,074	Ü		,	Ü	1,001.010/EI	71,100
		8.00 LF										
		24.105 Labor hours										
		0.168 Equipment hours										
40 05 19.00	8.15	Replaced Ex	posed Plug Valves -	Phase 1	-2							
40 05 19.008		Pipe and Fittings - Ductile Iro	n. 08" Dia									
n	0503	(A) Replace Plug Valve During Phase 1, 8" Dia	7.00	EA	2,694	9,641	-		1,675	-	2,001.37 /EA	14,010
n			4.00	EA	1,539	5,509	-		957	-	2,001.37 /EA	8,005
		Shutdown 8" Dia										
n	0503	(H) Replace Plug Valve During Feed & Heating Shutdown 8" Dia	5.00	EA	1,924	6,886	-		1,196	-	2,001.37 /EA	10,007
n	0503	(M) Replace Plug Valve During Mixing Shutdown 8" Dia	1.00	EA	385	1,377	-		239	-	2,001.38 /EA	2,001
n	0503		2.00	EA	770	2,755	-		478	-	2,001.365 /EA	4,003
		Shutdown 8" Dia				,					,	,
n	0503	(A) Replace Plug Valve During Phase 2, 8" Dia	12.00	EA	4,618	16,528	-		2,871	-	2,001.37 /EA	24,016
n	0503	(H) Replace Plug Valve During Feed & Heating	1.00	EA	385	1,377	-		239	-	2,001.38 /EA	2,001
		Shutdown Phase 2, 8" Dia										
		40 05 19.008 Pipe and Fittings - Ductile Iron, 08" Dia			12,315	44,073			7,655			64,044
		170.667 Labor hours										
		64.00 Equipment hours										
		40 05 19.008.15 Replaced Exposed Plug Valves - Phase			12,315	44,073	0		7,655	0	2,001.370/EA	64,044
		1 - 2										

32.00 EA

170.667 Labor hours 64.00 Equipment hours

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			1 -1	NA-4- 1	0.1		Ein	011		
14	December 1	T-1# 04	Labor	Material	Subcontrac		Equipment	Other	Total	A 1
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES)		38,312	89,456	0		7,921	0	135,688.60 /LS	135,689
	1.00 LS									
	405.168 Labor hours 67.028 Equipment hours									
	063 BASE BID		387,937	311,969	365,002		169,617	314	1,234,838.67/LS	1,234,839
	1.00 LS									
	5,441.840 Labor hours 8,629.370 Equipment hours									
		064 ALTER	RNATE 1							
DIVISION 02		EXISTING CONDIT	TIONS							
02 41 00.110.10	Demo Concrete	e Slab, 12" Thick x 32 SF								
02 41 00.110 n 5400	Structural Concrete Demolition Demolish, remove pavement & curb, remove concrete, plain, 7" to 24" thick, excludes hauling and disposal fees	1.00 CY	335	-	-		206	-	540.680 /CY	541
	02 41 00.110 Structural Concrete Demolition		335				206		540.680/CY	541
	1.00 CY									
	6.061 Labor hours 4.849 Equipment hours									
	02 41 00.110.10 Demo Concrete Slab, 12" Thick x 32 SF		335	0	0		206	0	540.680/CY	541
	1.00 CY									
	6.061 Labor hours 4.849 Equipment hours									
02 41 00.160.05	Demo Existing	Sludge Grinder - GRI-17-1	00, 50 GP, 3 HP	- Spec 46 24 23	-1					
02 41 00.160 9998	Process Valve Demolition Demo Sludge Grinder GRI-17-100, 50 GP, 3 HP,	1.00 DAY	4,347	150	-		748	_	5,244.99 /DAY	5,245
	60 RPM - Spec 46 24 23-1 02 41 00.160 Process Valve Demolition		4,347	150			748		5,244.99 /EA	5,245
	1.00 EA									
	48.00 Labor hours 128.00 Equipment hours									
			AACE Clas	eification Ac	curacy Range					

AACE Classification Accuracy Range

Upper Range +15%

Lower Range -10%

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
	02 41 00.160.05 Demo Existing Sludge Grinder - GRI-17-100, 50 GP, 3 HP - Spec 46 24 23-1		4,347	150	0		748	0	5,244.99 /DAY	5,245
	1.00 DAY 48.00 Labor hours									
22 09 00.000.05	128.00 Equipment hours	ing Vendor Control Panel VCP-	17-100							
22 09 00.000	Instrumentation & Control for Demo Existing Vendor Control Panel VCP-17-100 22 09 00.000 Instrumentation & Control for Plumbing		-	4,114	-		-	-	4,113.55 /EA 4,113.55 /EA	4,114
	1.00 EA			.,					1,170.007.21	,,,,
	22 09 00.000.05 Demo Existing Vendor Control Panel VCP-17-100		0	4,114	0		0	0	4,113.55 /EA	4,114
	1.00 EA									
	DIVISION 02 EXISTING CONDITIONS		4,682	4,264	0		954	0	9,899.220/LS	9,899
	1.00 LS									
	54.061 Labor hours 132.849 Equipment hours									
DIVISION 40		PROCESS INTEGR	ATION (EXP	OSED PIPE,	VALVES AND GATES	S)				
40 05 19.006.10	Install Exist	ing Plug Valves, 6" Dia (2 EA)								
40 05 19.006 n 0502	Pipe and Fittings - Ductile In Install Existing Plug Valves, 6" Dia (2 EA) 40 05 19.006 Pipe and Fittings - Ductile Iron, 06" Dia	on, 06" Dia 2.00 EA	770 770	1,877	-		478 478	-	1,562.395 /EA	3,125 3,125
	10.667 Labor hours 4.00 Equipment hours									
	40 05 19.006.10 Install Existing Plug Valves, 6" Dia (2 EA)		770	1,877	0		478	0	1,562.395/EA	3,125
	2.00 EA									
	10.667 Labor hours 4.00 Equipment hours									

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			Labor	Material	Subcontract	:	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	DIVIDION OF PROCESS INTEGRATION			4.077					0.404.70 #.0	
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATE)		770	1,877	0		478	0	3,124.79 /LS	3,125
	1.00 LS									
	10.667 Labor hours 4.00 Equipment hours									
DIVISION 46		WATER AND WA	STEWATER I	EQUIPMENT						
46 01 70.005.05	Ins	stall New Sludge Grinder - In-line Muffir	n Monster Model	10k Series						
46 01 70.005 9998	Sludge Removal Install New Sludge Grinder - Muffin Monster Model 10k Series - Spec 46 24 23-1	and Disposal Equipment 1.00 EA	4,831	15,958	-		1,535	-	22,324.29 /EA	22,324
	46 01 70.005 Sludge Removal and Disposal Equip	ment	4,831	15,958			1,535		22,324.29 /EA	22,324
	1.00 EA									
	40.00 Labor hours 16.00 Equipment hours									
	46 01 70.005.05 Install New Sludge Grinder - In-lin Muffin Monster Model 10k Series	е	4,831	15,958	0		1,535	0	22,324.29 /EA	22,324
	1.00 EA									
	40.00 Labor hours									
	16.00 Equipment hours									
	DIVISION 46 WATER AND WASTEWAT EQUIPMENT	ER	4,831	15,958	0		1,535	0	22,324.29 /EA	22,324
	1.00 EA									
	40.00 Labor hours 16.00 Equipment hours									
	064 ALTERNATE 1		10,282	22,099	0		2,968	0	35,348.300/LS	35,348
	1.00 LS									
	104.728 Labor hours 152.849 Equipment hours									
		065 ALTE	RNATE 2							

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Item	Description	Takeoff Qty	Labor Amount	Material Amount	Subcontract Amount	Name	Equipment Amount	Other Amount	Total Unit Cost	Amount
DIVISION 02		EXISTING CONDI	TIONS							
02 41 00.080.05	Sawcut Aro	und Existing Concrete, 6" Thi	ck x 83 LF							
02 41 00.080 002	General Site Demolition, Sa 20 Selective demolition, saw cutting, each additional inch of depth over 3" 02 41 00.080 General Site Demolition, Saw Cutting Concrete	w Cutting Concrete 83.00 LF	482	31	-		574	-	13.090 /LF	1,086
	83.00 LF									
	7.381 Labor hours 11.070 Equipment hours									
	02 41 00.080.05 Sawcut Around Existing Concrete, 6" Thick x 83 LF		482	31	0		574	0	13.090/LF	1,086
	83.00 LF									
	7.381 Labor hours 11.070 Equipment hours									
02 41 00.110.05	Demo Exist	ing Concrete, 6" Thick x 294 S	SF							
02 41 00.110 n 530	Structural Concrete Demolit Demolish, remove pavement & curb, remove concrete, rod reinforced, to 6" thick, excludes hauling and disposal fees	32.699 SY	1,805	-	-		1,112	-	89.209 /SY	2,917
	02 41 00.110 Structural Concrete Demolition		1,805				1,112			2,917
	32.701 Labor hours 26.160 Equipment hours									
	02 41 00.110.05 Demo Existing Concrete, 6" Thick x 294 SF		1,805	0	0		1,112	0	89.209/SY	2,917
	32.699 SY									
	32.701 Labor hours 26.160 Equipment hours									
	DIVISION 02 EXISTING CONDITIONS		2,287	31	0		1,686	0	4,003.53 /LS	4,004
	1.00 LS									
	40.082 Labor hours 37.230 Equipment hours									
DIVISION 03		CONCRETE								

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					Labor	Material	Subcontrac	t	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
03 11 13.50	4.05	Concrete Sla	b, 12" Thick, Spec 1	.3.B.1d								
03 11 13.504		12" Slab on Grade										
	3050	C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning	68.00	sfca	432	89	-		-	-	7.654 /sfca	520
n	9015	C.I.P. concrete forms, bulkhead for slab on grade w/ keyway, up to 12", exp metal, includes erecting, bracing, stripping and cleaning	14.45	sfca	55	7	-		-	-	4.262 /sfca	62
n	2050	Reinforcing steel, unload and sort, add to base_SLAB ON GRADE	0.963	ton	42	-	-		23	-	67.60 /ton	65
	0600	Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	0.963	ton	1,065	1,482	-		-	-	2,643.90 /ton	2,546
	2220	Reinforcing steel, crane cost for handling, 90 picks/day, up to 0.5 Ton/day	0.963	ton	121	-	-		65	-	193.15 /ton	186
	4650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike off) & consolidation, excludes material	11.00	су	247	-	-		33	-	25.475 /cy	280
	4650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike off) & consolidation, excludes material	1.10	су	25	-	-		3	-	25.47 /cy	28
n	0725	Struct SLAB ON GRADE concrete, ready mix, normal wt,4500 psi, includes local aggregate, sand, portland cement and water, delivered, includes all additives	11.00	CY	-	2,750	-		-	-	250.00 /CY	2,750
n	0725	Struct SLAB ON GRADE concrete, ready mix, normal wt, 4500 psi, includes local aggregate, sand, portland cement and water, delivered, includes all additives	1.10	су	-	275	-		-	-	250.00 /cy	275
n	0255	Concrete finishing, floors, manual screed, bull float, machine float & steel trowel (walk-behind) SOG	289.00	sf	272	-	-		18	-	1.004 /sf	290
n	0122	Control joint, concrete floor slab, sawcut in green concrete, 1" depth_SOG	14.45	lf	8	1	-		1	-	0.670 /lf	10
n	0215	Control joint, clean out control joint of debris_SOG	14.45	lf	1	-	-			-	0.094 /lf	1
n		Control joint, joint sealant, polyurethane, 1/4" x 1/4" (308 LF/Gal) SOG	28.90	lf	60	6	-		-	-	2.293 /lf	66
n	0310	Concrete surface treatment, curing, sprayed membrane compound_SOG	2.89	csf	30	27	-		-	-	19.602 /csf	57
	1200	Vapor retarders, building paper, polyethylene vapor barrier, standard, 10 mil (.010" thick)	2.89	sq	50	26	-		-	-	26.381 /sq	76
n	1310	Fill, gravel fill, compacted, under floor slabs, alternate pricing method, 12" deep_SOG	12.00	есу	150	500	-		17	-	55.612 /ecy	667
n	1136	Hauling, excavated borrow material, loose cubic yards, 20 mile round trip, 0.4 loads/hour, 16.5 c.y. dump trailer, highway haulers, excludes loading	12.00	lcy	113	-	-		168	-	23.484 /lcy	282

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Item		Description			Labor	Matorial	Subcontract		Equipment	Other	Total	
Item		Description				Material					iotai	
			Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
		03 11 13.504 12" Slab on Grade			2,672	5,162			328		741.985/CY	8,162
		11.00 CY										
		35.842 Labor hours 7.263 Equipment hours										
		03 11 13.504.05 Concrete Slab, 12" Thick, Spec 1.3.B.1d			2,672	5,162	0		328	0	741.985/CY	8,162
		11.00 CY										
		35.842 Labor hours 7.263 Equipment hours										
03 11 13.773.05	5	Concrete Enc	asement, 32" Thick	x 20 SF								
03 11 13.773		32" Foundation Slab										
30		C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning	50.086	sfca	318	66	-		-	-	7.654 /sfca	383
n 90	015	C.I.P. concrete forms, bulkhead for slab on grade w/ keyway, up to 12", exp metal, includes	2.80	sfca	11	1	-		-	-	4.26 /sfca	12
n 20	050	erecting, bracing, stripping and cleaning Reinforcing steel, unload and sort, add to base SLAB ON GRADE	0.263	ton	12	-	-		6	-	67.57 /ton	18
06	600	#3 to #3 keel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	0.263	ton	291	405	-		-	-	2,643.88 /ton	695
22	220	Reinforcing steel, crane cost for handling, 90 picks/day, up to 0.5 Ton/day	0.263	ton	33	-	-		18	-	193.16 /ton	51
46	650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike off) & consolidation, excludes material	3.00	су	67	-	-		9	-	25.473 /cy	76
46	650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes leveling (strike	0.30	су	7	-	-		1	-	25.50 /cy	8
n 07	725	off) & consolidation, excludes material Struct SLAB ON GRADE concrete,ready mix,normal wt,4500 psi,includes local aggregate,sand,portland cement and	3.00	CY	-	610	-		-	-	203.337 /CY	610
n 07	725	water,delivered, includes all additives Struct SLAB ON GRADE concrete,ready mix,normal wt,4500 psi,includes local aggregate,sand,portland cement and	0.30	су	-	61	-		-	-	203.33 /cy	61
n 02	255	water,delivered, includes all additives Concrete finishing, floors, manual screed, bull float, machine float & steel trowel	19.999	sf	19	-	-		1	-	1.004 /sf	20
n 01	122	(walk-behind)_SOG Control joint, concrete floor slab, sawcut in green	1.00	lf	1	0	-		0	-	0.67 /lf	1
n 02		concrete, 1" depth_SOG Control joint, clean out control joint of debris_SOG	1.00	lf	0	-	-			-	0.09 /lf	0

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					Labor	Material	Subcontract		Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
03 11 13.773		32" Foundation Slab										
n	0367	Control joint, joint sealant, polyurethane, 1/4" x 1/4" (308 LF/Gal)_SOG	2.00	lf	4	0	-		-	-	2.29 /lf	5
n	0310	Concrete surface treatment, curing, sprayed	0.20	csf	2	2	-		-	-	19.60 /csf	4
	1200	membrane compound_SOG Vapor retarders, building paper, polyethylene	0.20	sq	3	2	-		-	-	26.40 /sq	5
n	1310	vapor barrier, standard, 10 mil (.010" thick) Fill, gravel fill, compacted, under floor slabs,	1.00	ecy	13	42	_		1	_	55.62 /ecy	56
	.0.0	alternate pricing method, 12" deep_SOG		ooy							00.02 700)	
n	1136	Hauling, excavated borrow material, loose cubic	1.00	lcy	9	-	-		14	-	23.49 /lcy	23
		yards, 20 mile round trip, 0.4 loads/hour, 16.5 c.y. dump trailer, highway haulers, excludes loading										
		03 11 13.773 32" Foundation Slab			789	1,188			51		675.997/CY	2,028
		3.00 CY										
		9.968 Labor hours										
		0.939 Equipment hours										
		03 11 13.773.05 Concrete Encasement, 32" Thick x 20 SF			789	1,188	0		51	0	675.997/CY	2,028
		3.00 CY										
		9.968 Labor hours 0.939 Equipment hours										
03 11 16.015	5.05	Concrete Curt	o, 7" Thick x 12" Hig	h x 45 LF								
03 11 16.015		12" High CIP Curb										
	0550	Concrete Curb, 7" Thick x 12" High x 45 LF 03 11 16.015 12" High CIP Curb	45.00	LF	216 216	602	-		65 65	-	19.640 /LF 19.640/LF	884 884
		45.00 LF										
		3.60 Labor hours 0.514 Equipment hours										
		03 11 16.015.05 Concrete Curb, 7" Thick x 12" High x 45 LF			216	602	0		65	0	19.640/LF	884
		45.00 LF										
		3.60 Labor hours 0.514 Equipment hours										
03 31 32.000	0.05	Repair Spalled	d Concrete & Treat	Exposed I	Rebar							
03 31 32.000		Concrete Finishing and Repair	of Surface Defects									
n	0920		1.00	LS			5,000 				5,000.00 /LS	5,000
		Dorotto					5,000				J,000.007L3	3,000

1.00 LS

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			Labor	Material	Subcontrac	ct	Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	03 31 32.000.05 Repair Spalled Concrete & Treat Exposed Rebar		0	0	5,000		0	0	5,000.00 /LS	5,000
	1.00 LS									
03.35.00.005	Drill in E	owel In Edge - Two Rows								
03 35 00.210 n 9005	Reinforcing steel, in place, drill and epoxy dowels deformed, 2' long, #5, A615, grade 60; incl drilling into existing concrete and injected epoxy	Drill and Epoxy Rebar Dowel - Medium , 166.00 EA	50,086	2,490	-		-	-	316.725 /EA	52,576
	03 35 00.210 Cast-In-Place Concrete, Drill and Epoxy Rebar Dowel - Medium		50,086	2,490					316.725/EA	52,576
	166.00 EA									
	747.00 Labor hours									
	03.35.00.005 Drill in Dowel In Edge - Two Rows		50,086	2,490	0		0	0	316.725/EA	52,576
	166.00 EA									
	747.00 Labor hours									
	DIVISION 03 CONCRETE		53,763	9,443	5,000		444	0	68,649.95 /LS	68,650
	1.00 LS									
	796.409 Labor hours 8.717 Equipment hours									
DIVISION 05		METALS								
05 52 05.500.05	SST Cha	anel C6x13 Guadrail x 21 LF - SP	EC 1.3.B.1c							
05 52 05.500 0668	Steel Railings SST Chanel C6x13 Guadrail x 21 LF - SPEC 1.3.B.1c	21.00 LF	2,807	623	-		270	-	176.19 /LF	3,700
	05 52 05.500 Steel Railings		2,807	623			270		176.19 /LF	3,700
	21.00 LF									
	36.653 Labor hours 12.218 Equipment hours									
	05 52 05.500.05 SST Chanel C6x13 Guadrail x 21 LF - SPEC 1.3.B.1c		2,807	623	0		270	0	176.19 /LF	3,700
	21.00 LF									
	36.653 Labor hours 12.218 Equipment hours									

AACE Classification Accuracy Range

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					Labor	Material	Subcon	tract	Equipment	Other	Total	
Item		Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
		DIVISION 05 METALS			2,807	623	0		270	0	3,699.99 /LS	3,700
		1.00 LS										
		36.653 Labor hours 12.218 Equipment hours										
DIVISION	22		PLUMBING	i								
31 69 00.000	0.05	Trench Dra	in, 4" DIA & 12"x12" D	rain Box	- SPEC 1.3.B.1	b						
31 69 00.000		Trench Drain										
	6000	Drain, trench, floor, heavy duty, modular, cast iron, 12" x 12" top, 2", 3", 4", 5" and 6" pipe size	1.00	EA	238	1,303	-		-	-	1,540.84 /EA	1,541
	1590	12"x12" Drain Box	1.00	ea	932	592	-		-	-	1,523.79_/ea	1,524
		31 69 00.000 Trench Drain			1,169	1,895					3,064.63 /EA	3,065
		1.00 EA										
		14.00 Labor hours										
		31 69 00.000.05 Trench Drain, 4" DIA & 12"x12" Drain Box - SPEC 1.3.B.1b			1,169	1,895	0		0	0	3,064.63 /EA	3,065
		1.00 EA										
		14.00 Labor hours										
		DIVISION 22 PLUMBING			1,169	1,895	0		0	0	3,064.63 /EA	3,065
		1.00 EA										
		14.00 Labor hours										
DIVISION	40		PROCESS	INTEGE	RATION (EXI	POSED PIPE,	VALVES AND G	SATES)				
40 05 19.004	4.05	Trench Drs	in Pipe DI, 4" DIA x 11	I F								
	1.00											
40 05 19.004 n	7001	Pipe and Fittings - Ductile I Pipeline Testing, Hydro (LF)	ron, 04" Dia 11.00	LF	44	1	-		3	_	4.36 /LF	48
		Paints & coatings, pipes, primer + 1 coat,		lf	21	1	-		-	-	1.809 /lf	22
		brushwork, up to 4" diameter										
	1120	Piping system identification labels, pipe markers, indicate contents and flow direction, self adhesive, 4" pipe	5.00	ea	85	19	-		-	-	20.70 /ea	104
	0670	Gasket and bolt set, for flanges, 150 lb., 4" pipe	5.00	ea	637	146	-		-	-	156.556 /ea	783
n	0001	size DIP,FLGxFLG,4"dia,1'-0" long,class 53,excl excav, backfill	11.00	ea	896	5,042	-		-	-	539.767 /ea	5,937
					AACE Clas	eification Ac	curacy Pange					

AACE Classification Accuracy Range

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				Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty		Amount	Amount	Amount	Name	Amount		Unit Cost	Amount
40 05 19.004 n 4701	Pipe and Fittings - Ductile Iron, DIP,Polywrap 8 mil LDT 500ft,4"dia 40 05 19.004 Pipe and Fittings - Ductile Iron, 04" Dia	04" Dia 1.00	roll	<u>74</u>	<u>243</u> 5,451	-		3	-	317.400 /roll	317
	11.00 LF										
	19.461 Labor hours 0.176 Equipment hours										
	40 05 19.004.05 Trench Drain Pipe DI, 4" DIA x 11 LF			1,757	5,451	0		3	0	655.543/LF	7,211
	11.00 LF										
	19.461 Labor hours 0.176 Equipment hours										
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES)			1,757	5,451	0		3	0	7,210.97 /LS	7,211
	1.00 LS										
	19.461 Labor hours 0.176 Equipment hours										
	065 ALTERNATE 2			61,784	17,443	5,000		2,403	0	86,629.07/LS	86,629
	1.00 LS										
	906.606 Labor hours 58.340 Equipment hours										
		066	ALTER	NATE 3							
DIVISION 05		METALS									
05 50 00.315.05	Stairs										
05 50 00.315	Metal Stairs - Aluminum Stair, shop fabricated, steel, 4"-0" W, incl pipe railing, stringers, grating treads w/ safety nosing, per riser	3.00	RISR	247	1,545	-		18	-	603.327 /RIS R	1,810
0132	Floor grating, aluminum, 1-1/2" x 3/16" bearing bars @ 1-3/16" O.C., cross bars @ 4" O.C., up to 300 S.F., field fabricated from panels	24.00	sf	85	1,104	-		6	-	49.785 /sf	1,195
	05 50 00.315 Metal Stairs - Aluminum			332	2,649			24		1,001.607/RISR	3,005
	3.00 RISR										
	4.297 Labor hours 1.074 Equipment hours										
				4 4 OF OL	-::::: A -	B					

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			Labor	Material	Subcontract		Equipment	Other	Total	
Item	Description	Takeoff Qty	Amount	Amount	Amount	Name	Amount	Amount	Unit Cost	Amount
	05 50 00.315.05 Stairs		332	2,649	0		24	0	1,001.607/RISR	3,005
	3.00 RISR									
	4.297 Labor hours 1.074 Equipment hours									
	DIVISION 05 METALS		332	2,649	0		24	0	3,004.82 /LS	3,005
	1.00 LS									
	4.297 Labor hours 1.074 Equipment hours									
DIVISION 06		WOOD, PLASTICS	& COMPOS	SITES						
06 82 00.010	FRP Grating,	" Thick x 10 SF								
06 82 00.010 n 0140	FRP Grating Fiberglass Grating, molded, green (for moderate corrosive environment), 1" x 4" mesh, 1" thick	10.00 SF	161	669	-		-	-	82.99 /SF	830
	06 82 00.010 FRP Grating 10.00 SF		161	669					82.99 /SF	830
	2.40 Labor hours									
	06 82 00.010 FRP Grating, 1" Thick x 10 SF		161	669	0		0	0	82.99 /SF	830
	10.00 SF									
	2.40 Labor hours									
	DIVISION 06 WOOD, PLASTICS & COMPOSITES		161	669	0		0	0	82.99 /SF	830
	10.00 SF									
	2.40 Labor hours									
DIVISION 23		HEATING, VENTIL	ATING & AII	R-CONDITION	NING (HVAC)					
23 31 00.000.05	Extended Four	Air Duct, 36" Dia x 20 LF								
23 31 00.000 n 3570	HVAC Ductwork Ductwork, rigid fiberglass reinforced plastic, for acid fume and smoke exhaust systems, nonflammable, straight, 36" diameter, FM approved	20.00 LF	1,606	1,660	-			-	163.292 /LF	3,266

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				Labor	Material	Subcontra	act	Equipment	Other	Tota	
Item	Descriptio	n	Takeoff Qty	Amour		Amount	Name	Amount		Unit Cost	Amount
	23 31 00.000	HVAC Ductwork		1,60	1,660						3,266
		20.00 LF									
	2	3.301 Labor hours									
	23 31 00.000	05 Extended Foul Air Duct, 36" Dia x 20 LF		1,60	6 1,660	0		0	0	163.292/LF	3,266
		20.00 LF									
	2	3.301 Labor hours									
23 80 00.000.05	5	Floc Tank D	rop Legs - 6" Dia x 20 L	F							
23 80 00.000		HVAC Equipment									
56		op Legs - 6" Dia x 20 LF HVAC Equipment	20.00 L	F 8,07		-		-	-	506.568 /LF	10,131
	7	1.999 Labor hours									
	23 80 00.000	05 Floc Tank Drop Legs - 6" Dia x 20 LF		8,07	8 2,053	0		0	0	506.568/LF	10,131
		20.00 LF									
	7	1.999 Labor hours									
23 80 00.000.10)	New SST Pa	anel On Top of FKC								
23 80 00.000 07	700 New SST Par 23 80 00.000	HVAC Equipment nel On Top of FKC HVAC Equipment	1.00 E	EA3,21		-		768 768		8,978.700 /EA 8,978.700/EA	8,979 8,979
		1.00 EA									
		20.00 Labor hours 8.00 Equipment hours									
	23 80 00.000	10 New SST Panel On Top of FKC		3,2	1 5,000	0		768	0	8,978.700/EA	8,979
		1.00 EA									
		20.00 Labor hours 8.00 Equipment hours									
		23 HEATING, VENTILATING & ITIONING (HVAC)		12,89	5 8,713	0		768	0	559.397/LF	22,376
	4	0.00 LF									
		5.300 Labor hours 8.00 Equipment hours									
DIVISION 40			PROCESS IN	TEGRATION (E	XPOSED PIPE	, VALVES AND GA	TES)				

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Item	Description	Takeoff Qty	Labor Amount	Material Amount	Subcontract Amount	Name	Equipment Amount	Other Amount	Total Unit Cost	Amount
40 05 19.036.05	New Elbow U	Under Screw with Tee, 36" DIA								
40 05 19.036 n 1426	Pipe and Fittings - Ductile Iron Fitting, DIP, FLG, Tee, 36"dia, c 110 water piping - 40 05 19.036 Pipe and Fittings - Ductile Iron, 36" Dia	n, 36" Dia 1.00 EA	474 474	<u>17,619</u>	-		-	-	18,093.09 /EA	18,093 18,093
	6.40 Labor hours									
	40 05 19.036.05 New Elbow Under Screw with Tee, 36" DIA		474	17,619	0		0	0	18,093.09 /EA	18,093
	1.00 EA									
	6.40 Labor hours									
40 05 70.200.05	Fiberglass A	ir Damper Valve, "06 Dia - (4 E	<i>A)</i>							
40 05 70.200.1 n 1080	Fiberglass Air Damper Valve, Fiberglass Air Damper Valve, "06 Dia - (4 EA) 40 05 70.200.1 Fiberglass Air Damper Valve, "06 DIA	"06 DIA 4.00 EA	122	700	-		-	-	205.42_/EA 205.42_/EA	822 822
	4.00 EA									
	1.684 Labor hours									
	40 05 70.200.05 Fiberglass Air Damper Valve, "06 Dia - (4 EA)		122	700	0		0	0	205.42 /EA	822
	4.00 EA									
	1.684 Labor hours									
	DIVISION 40 PROCESS INTEGRATION (EXPOSED PIPE, VALVES AND GATES) 8.084 Labor hours		596	18,319	0		0	0		18,915
	066 ALTERNATE 3		13,983	30,351	0		791	0	45,125.38 /LS	45,125
	1.00 IS									

1.00 LS

130.081 Labor hours 9.074 Equipment hours

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Marin County - District No. 5 <u>Digester Cleaning and Rehabilitation</u>

Design Stage: 100% Estimate Version: Rev 06, 03/07/2024

Detail Report - Direct Costs

Estimate Totals

Description	Amount	Totals	Rate	
Labor	473,986			
Labor Burden	189,594		40.000 %	
Premium on Labor - Keep and Retain	52,666		8.000 \$/hr	
Material	381,861			
Build America, Buy America Act				
Equipment	175,779			
Discount RS Means Equip (-25%)				
Subcontract	370,002			
Other	314			
DIVISION 05	1,676		25.000 %	
DIVISION 06	207		25.000 %	
DIVISION 22	766		25.000 %	
DIVISION 23 DIVISION 26	5,594		25.000 % 35.000 %	
DIVISION 26 DIVISION 33	16,773		10.000 %	
	05.040	4 000 040	10.000 %	
Subtotal Direct Project Costs	25,016	1,669,218		
Contractor's Mob	66,769		4.000 %	
Contractor's Home Office Overhead	66,769		4.000 % 25.000 %	
Contractor's General Condition	417,305	0.000.004	25.000 %	
Subtotal Field Const Costs	550,843	2,220,061		
Sales Tax Estimate (Mat & Eq)	48,096		8.625 %	
Subtotal Field Const Costs	48,096	2,268,157		
Contractor's Fee	226,816		10.000 %	
Subtotal Field Const Costs	226,816	2,494,973		
Design Contingency				
Subtotal Field Const Costs		2,494,973		
Escalation Project (Year)	60,877		2.440 %	
Subtotal	60,877	2,555,850		
Contractor's Bonds & Insurance	63,896		2.500 %	
Construction Subtotal	63,896	2,619,746		
Market Volatility Adjustment Factor	261,975	_, ,	10.000 %	
Construction Total	261,975	2,881,721		
Total				
Iotai		2,881,721		

Project Name: Marin San

Facility: Digester Cleaning and Rehabilitation

Design Stage: 100% Date: March 7, 2024



Escalation Adjustment - Calculation Worksheet

Escalation Rate per Year 5.00% = Annual Escalation Rate to Apply (2)

Prepared By: Keyjon Jefferson

ESCALATION ADJUSTMENT:

Target NTP for Design: 7-Mar-24
Design Period: 15-Mar-24
Bid and Award: 14-Apr-24
NTP Date: 21-Apr-24

Construction Duration (calendar days): 270 Days

Completion Date: 16-Jan-25
Mid-Point Construction: 3-Sep-24

Current Est Date: 7-Mar-24

No. of Days to Mid-Point: 180

No. of Years to Mid-Point: 0.4934

<= If design is in progress or completed, use Today's date and adjust input cells as needed

0.27 Mo Duration (or remaining design time duration)

1 Mo Duration

7 Da Duration for NTP (7 days as default)

9 Mo Duration 102.44% Factor</p>

2.44% Esc Rate
Escalation to Apply to Opinion of Cost

NOTES:

- 1. Green cells are input cells. Yellow cells are default values. 30 calendar days is used to equate to 1 month.
- 2. Escalation percentage does not inloude any other Market Adjustment Factors that might apply.

The Escalation Rate and Calculations are for purposes of allowing for perceived increases in labor, material and equipment for the period indicated. This is only a projection and an approximation, and does not represent what the actual adjustment will utimately be since that will vary from what is calculated above.

Data Date: 02-11-2006 Print Date: 3/7/2024

SCOPE OF SERVICES

Sanitary District No 5 of Marin County

Main Plant Digester Cleaning and Rehabilitation

TASK 0 – OVERAGE FROM DESIGN EFFORT

Overage from design effort due to out-of-scope items/requests from the client, including guiderails for dewatered sludge bin, screw press foul air duct improvements, digester structural upgrades, and writing the Div 00 and Div 01 (front end) specifications.

TASK 1 - PROJECT MANAGEMENT

HDR will provide project management for the duration of the construction, which is estimated to be 9 months in 2024. Project management services will include:

- Preparing and submitting monthly progress reports that include a narrative of the work completed by task, upcoming work, project issues, budget and schedule status, potential scope changes, and other important information.
- Coordination with the internal team, monthly invoice preparation, and quality assurance/quality control (QA/QC).

Deliverables: Monthly invoices and progress reports in PDF format.

TASK 2 – BIDDING SERVICES

Subtask 2.1 - Prebid Meeting

Up to three (3) HDR team members will assist with conducting and attend the mandatory pre-bid meeting and job walk to meet with prospective contractors and answer contractor questions.

Deliverables: Pre-bid meeting minutes.

Subtask 2.2 - Bidding Services

HDR will provide assistance during the bidding period, which includes receiving, recording, and answering contractor questions, and issuing addenda to the contract documents for distribution to plan and specification holders.

Deliverables: Up to two (2) addenda to the bid set of contract documents and written clarification of contractor questions.

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Subtask 2.3 - Evaluation of Bids

HDR will assist the OWNER with evaluating the bids, reviewing the bids for conformance with the bid documents, and providing input in the awarding of the contract. OWNER will prepare, negotiate, and execute the construction agreement with the selected contractor.

Deliverables: Bid tabulation sheet and recommendation for award letter.

Subtask 2.4 - Conformed Drawings

HDR will incorporate the addenda into the bid set and provide a "conformed" set of construction documents for reproduction and distribution to plan set holders.

Assumptions: Up to 40 drawings.

Deliverables:

- PDF copy of the conformed construction specifications at 8 ½" x 11".
- PDF copy of the full-size (22" x 34") conformed drawings.

TASK 3 - ENGINEERING SERVICES DURING CONSTRUCTION

Subtask 3.1 - Preconstruction Meeting

HDR will attend and lead a single preconstruction meeting with the contractor and OWNER prior to commencement of work at the site. It is assumed the preconstruction meeting will be virtual and up to 3 hours in length. Up to four (4) HDR team members will attend the preconstruction meeting.

Deliverables: Meeting notes.

Assumptions: Meeting will be virtual and up to 3 hours in length.

Subtask 3.2 – Construction Progress Meetings

HDR will attend and participate in contractor-led weekly progress meetings during construction. It is assumed that the contractor will schedule and lead the meeting, prepare the required materials, and prepare and distribute meeting minutes. HDR will review and provide comments on meeting minutes.

Deliverables: Comments on contractor-prepared meeting minutes as needed.

Assumptions:

- Budget includes 36 virtual meetings, assumed to be up to one hour in length.
- Up to four (4) HDR team members will attend.
- Meetings will be led by contractor.
- Meeting minutes and agenda will be prepared by contractor.

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 Construction progress meeting is held on the same day as site visit by HDR's construction inspector.

Subtask 3.3 - Site Visits

HDR will visit the construction site to assist OWNER with reviewing the acceptability of the work and resolving field problems.

HDR will provide an operations specialist to oversee the purging of both the primary digester and secondary digester.

HDR will perform on-site observations to check the quality and quantity of the work performed by the contractor to assist OWNER with guarding against defects and deficiencies in the work.

The HDR inspector will take construction photographs to document the progress and special situations. Construction photographs will be stored and provided to OWNER in digital format at the close of the project.

Deliverables: Construction observation logs and digital construction photographs.

Assumptions:

- HDR's operations specialist will be on-site two (2) days per week, eight (8) hours per day during the one (1) week that the primary digester is purged and the one (1) week the secondary digester is purged for a total of four (4) full day site visits. HDR's operations specialist will also make up to seven (7) half-day (4 hours) site visits.
- HDR's construction inspector will be on-site one (1) day per week, eight (8) hours per day, for thirty-six (36) weeks. HDR's construction specialist will also make up to nine (9) full-day (8-hours) site visits for a total of 45 site visits. Construction inspector will attend construction meeting during site visits.
- HDR's senior inspector will make up to two (2) site visits at six (6) hours each visit to perform electrical and other inspections and support the construction inspector.
- HDR's structural engineer will make up to two (2) site visits at six (6) hours each visit to perform structural inspections of existing conditions and contractor's work.

Subtask 3.4 – Requests for Information (RFIs)

HDR will answer questions and provide written interpretations of the requirements of the contract documents and evaluate the acceptability of substitute materials and equipment.

HDR will maintain the clarifications log for OWNER.

Deliverables: Up to 20 RFIs are budgeted. RFI review will be up to the limit of the task budget. Expected additional work will be brought to the OWNER's attention prior to budget exhaustion.

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Subtask 3.5 - Submittals/Resubmittals

HDR will review and comment on the contractor's submittals, such as sequencing plans, shop drawings, product data, samples, substitution requests, operations and maintenance (O&M) manuals, and other data, for the limited purpose of checking for conformance with the design concept and the information expressed in the contract documents.

HDR will maintain the submittal log for OWNER.

Deliverables: Up to 45 submittals/resubmittals are budgeted. Submittal review will be up to the limit

of the task budget. Expected additional work will be brought to the OWNER's

attention prior to budget exhaustion.

Assumptions: Substitution requests will be reviewed as a submittal and are included in the

budgeted number.

Subtask 3.6 – Design Clarifications

HDR will prepare up to one design clarification to clarify the intent of the contract documents or document changes to the design, as well as advise the OWNER on impact thereof to the project. This includes, as necessary, reissuing revised specifications, drawings, and/or sketches, to clarify the intent of the contract documents. It is assumed that the OWNER will utilize the design clarification to produce contract change orders.

Assumptions: Up to one (1) design clarification memos.

Subtask 3.7 - Record Drawings

HDR will prepare record drawings based on redlines provided by the contractor, showing record information based on RFIs, shop drawings, and other record documents provided by the contractor, and which were annotated by the contractor's staff, contractor's subcontractors, or suppliers to show changes made during construction, relative to those issued for construction drawings. Up to 40 drawings are assumed.

Record drawings will not include stamps or signatures. One iteration of back checking will be performed.

Deliverables: PDF copy of full-size (22" x 34") as-built record drawings.

Assumptions:

- No budget has been included for on-site verification. On-site verification of record drawing redlines will occur as part of the observation site visits or as-needed construction meeting tasks.
- HDR is not responsible for omissions or errors in the information provided by others and incorporated into the record drawings.

EXCLUSIONS

The following is not included in the scope of work and budget at this time:

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- Review of potential change orders and other potential project changes prepared by the contractor.
- Review progress pay requests prepared by the contractor.
- Startup and testing.
- Preparation of O&M manual.

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Table 1 - Estimated Work Effort and Cost

Sanitary District No. 5 of Marin County

Main Plant Digester Cleaning and Rehabilitation

Task		QA/QC	Project	Construction	Project	Staff	Structural	Electrical	Construction	Electrical	Ops	CADD	Project	Admin/	Total HDR	Total HDR	Training	Total HDR	Total
No.	Task Description		Manager	Manager	Engineer	Engineer	Engineer	Engineer	Inspector	Inspector		Tech	Controller	Clerical	Labor Hours	Labor (\$)	Fund	Expenses (\$)	Cost (\$)
Task 0	- Overage from Design Effort																		
0.1	Overage from Design	4	34			80	40	40							198	\$49,911		\$89	\$50,000
	Subtotal Task 0	4	34	0	0	80	40	40	0	0	0	0	0	0	198	\$49,911		\$89	\$50,000
	- Project Management																		
1.1	Project Management		18			18							27		63	\$13,232			\$13,232
	Subtotal Task 1	0	18	0	0	18	0	0	0	0	0	0	27	0	63	\$13,232		\$0	\$13,232
	- Bidding Services																		
	Prebid Meeting			8		10					8				26	\$6,968		\$375	\$7,343
2.2	Bidding Services (up to 2 addenda)			1		15	2				2	6		6	32	\$5,304			\$5,304
2.3	Evaluation of Bids			2		2					2				6	\$1,671			\$1,671
2.4	Conformed Drawings (up to 40 drawings)		1			10						20			31	\$4,613			\$4,613
	Subtotal Task 2	0	1	11	0	37	2	0	0	0	12	26	0	6	95	\$18,556		\$375	\$18,931
	- Engineering Services During Construction																		
	Preconstruction Meeting (up to 3 hours, virtual)					3	3		3		3				12	\$2,957	\$3		\$2,961
	Construction Progress Meetings (up to 36)					36	36		0		36				108	\$26,010	\$0		\$26,010
	Site Visits (up to 60)						12		360	12	60				444	\$118,556	\$420	\$7,726	\$126,703
3.4	RFIs (up to 20)				18	20	9	8			20			16	91	\$20,104			\$20,104
3.5	Submittals/Resubmittals (up to 45)				39	40	21	2			30			25	157	\$34,304			\$34,304
	Design Clarifications (up to 1)					5	3				2	5			15	\$2,873			\$2,873
3.7	Record Drawings (up to 40 drawings)	2				4	4	2				12			24	\$4,857			\$4,857
	Subtotal Task 3	2	0	0	57	108	88	12	363	12	151	17	0	41	851	\$209,662	\$424		\$217,811
TOTAL	S	6	53	11	57	243	130	52	363	12	163	43	27	47	1,207	\$291,361	\$424	\$8,190	\$299,974

24-10347063 HDR Engineering, Inc.

'ITAL IMPROVEMENT PROGRAM

M.P. Project Description	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032	2032/2033	TOTAL
Secondary Clarifier Scum Collector Project	300,000										300,000
Dry Weather Influent Pump						50,000					50,000
Wet Weather Influent Pump				75,000							75,000
M.P. Boiler Replacement							75,000				75,000
Headworks Influent Screen Project						500,000					500,000
MP Electric Roll Up Door Install	75,000										75,000
MP Corosion Protection Project	150,000									150,000	300,000
(Utility) Truck Purchase				200,000				100,000		100,000	400,000
Dewatering RedundancyScrew Press					300,000						300,000
Aeration Basin Diffuser Upgrade									200,000		200,000
Emergency Generator Replacement						250,000					250,000
Maintenance Shop-Rehabilitation	100,000										100,000
MP Occupancy Project		750,000	750,000								1,500,000
Digester Roof Recoating and Cleaning	600,000							250,000			850,000
Landscaping Improvements Project		50,000									50,000
Odor Control System Rehabilitation							650,000				650,000
Headworks Valve and Check Valve Replacement											0
HVAC Replacement Project				200,000							200,000
Cl2 Flash Mixer			35,000			35,000				35,000	105,000
MPR Bond Refi	760,412	760,284	759,784	758,912	757,668	761,052	758,940	761,456	763,476		6,841,984
Undesignated Capital Projects	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000
Treatment Plant Total	1,275,000	850,000	835,000	525,000	350,000	885,000	775,000	400,000	250,000	335,000	6,480,000

I CAPITAL IMPROVEMENT PROGRAM

CS CIP Project Description	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032	2032/2033	TOTAL
Sewer Line Rehabilitation Program		1,500,000	750,000	750,000	750,000	700,000	700,000	700,000	700,000	525,000	7,075,000
CCTV and I&I linvestigation Project	250,000									150,000	400,000
Pump and Valve Replacement Program	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
Force Main Rehabilation TPS #5-1303lf 8"											0
Man Hole Rehabilation	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	750,000
TPS #2 Wet Well & Force Main Rehabilitation											0
TPS #3 Wet Well & Force Main Rehabilitation											0
TPS#4 Wet Well & Force Main Rehabilitation	50,000										50,000
TPS #8: Wet Well & Force Main Rehabilitation											0
TPS #6 Wet Well & Force Main Rehabilitation					400,000						400,000
TPS #7 Wet Well & Force Main rehabilitation											0
TPS #9 Wet Well Force Main Rehabilitation		350,000									350,000
BPS #1 Electrical Improvement Project	600,000	600,000									1,200,000
BPS #2 Force Main&Wet Well Rehabilitation						500,000					500,000
BPS #3 Force Main& Wet Well Rehabilitation Proj							510,000				510,000

BPS #7: Wet Well Rehabilitation			420,000								420,000
BPS#5,#8,#12 Wet Well Rehabilitation Project											0
BPS #9,#10,#11 Wet Well Rehabilitation											0
BPS #13 Force Main Rehabiltation Project											0
BPS #14 Force Main Rehabiltation Project											0
Power Feed Improvement Project (BPS#9,#10,#11)											0
San Rafael Ave Diverter Line Install	25,000										25,000
Portable Pump Replacement			50,000							50,000	100,000
Undesignated Capital Projects	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000
Collection System Total	1,150,000	2,675,000	1,445,000	975,000	1,375,000	1,425,000	1,435,000	925,000	925,000	950,000	13,280,000

IT CAPITAL IMPROVEMENT PROGRAM

Paradise Cove Project Description	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032	2032/2033	TOTAL
Paradise Sewer Line Rehab Project		200,000	100,000	100,000	100,000						500,000
Grit Removal Project							50,000				50,000
Plant Grating Replacement- Fiberglass					25,000						25,000
Building Rehabilitation			250,000								250,000
Blower Replacement		20,000					20,000				40,000
P Cove Access Improvements	100,000										100,000
Pump Replacement Program		50,000				50,000				50,000	150,000
Paint Treatment Plant								150,000			150,000
Undesignated Capital Projects	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	250,000
Paradise Cove Total	125,000	295,000	375,000	125,000	150,000	75,000	95,000	175,000	25,000	75,000	1,515,000

SUMMARY OF CAPITAL IMPROVEMENT PROGRAM

Project Descriptions	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032	2032/2033	TOTAL
Main Plant	1,275,000	850,000	835,000	525,000	350,000	885,000	775,000	400,000	250,000	335,000	6,480,000
Collection System	1,150,000	2,675,000	1,445,000	975,000	1,375,000	1,425,000	1,435,000	925,000	925,000	950,000	13,280,000
Paradise Cove Plant	125,000	295,000	375,000	125,000	150,000	75,000	95,000	175,000	25,000	75,000	1,515,000
MPR Debt Service + 2020 Refi	760,412	760,284	759,784	758,912	757,668	761,052	758,940	761,456	763,476	0	6,841,984
TOTAL	3,310,412	4,580,284	3,414,784	2,383,912	2,632,668	3,146,052	3,063,940	2,261,456	1,963,476	1,360,000	28,116,984