

Belton City Council Special Called Workshop Meeting
August 24, 2023 – 5:30 P.M.

The Belton City Council met in a special called workshop session at Bell County WCID #1 water plant located at 5200 Water Works. Members present included Mayor Pro Tem John R. Holmes, Sr., Councilmembers Wayne Carpenter, Craig Pearson, Daniel Bucher and Dave Covington. Mayor David K. Leigh and Councilmember Stephanie O'Banion were absent. Staff present included Sam Listi, Amy Casey, Mike Rodgers, Matt Bates, and Paul Romer.

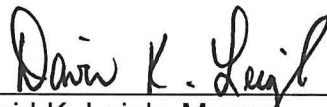
1. **Call to order.** Mayor Pro Tem Holmes called the meeting to order at 5:30 p.m.
2. **Public Comments.**

There were no public comments.

3. **Take a tour and discuss the BCWCID #1 Water Treatment Plant.**

Ricky Garrett, General Manager of BCWCID #1, led the group on a tour of the Water Treatment Plant and discussed the proposed expansion. Bell County WCID #1's engineering firm, CDM Smith, provided a presentation on the Plant Condition and Capacity Concept Design. The presentation is attached as Exhibit "A."

4. **Adjourn.** There being no further business, Mayor Pro Tem Holmes adjourned the meeting at 6:45 p.m.



David K. Leigh, Mayor

ATTEST:



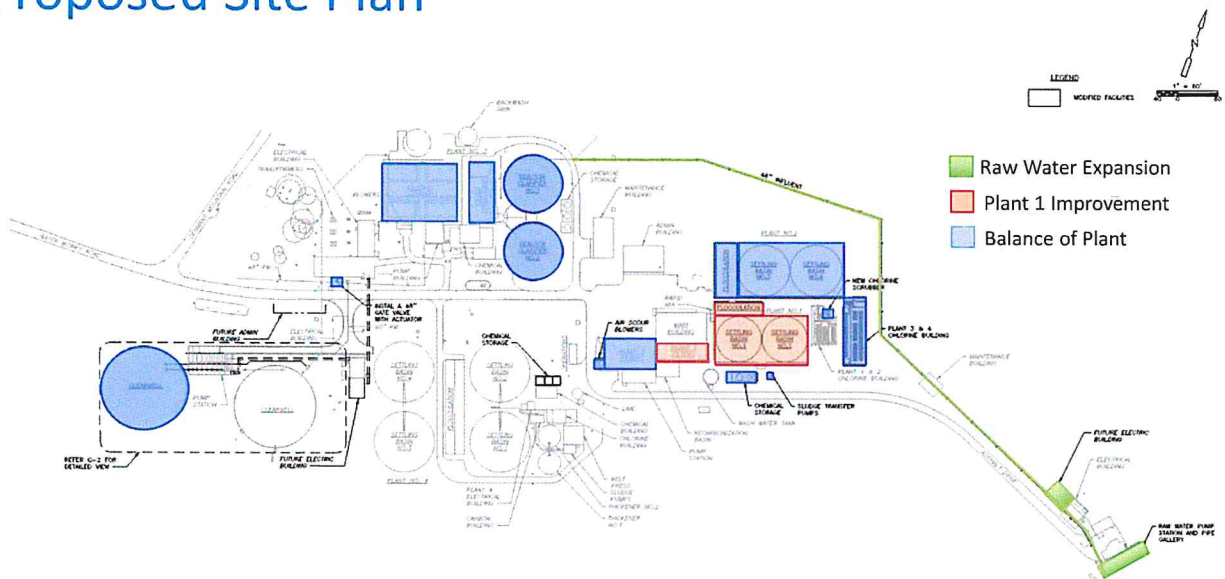
Amy M. Casey, City Clerk



June 2023



Proposed Site Plan



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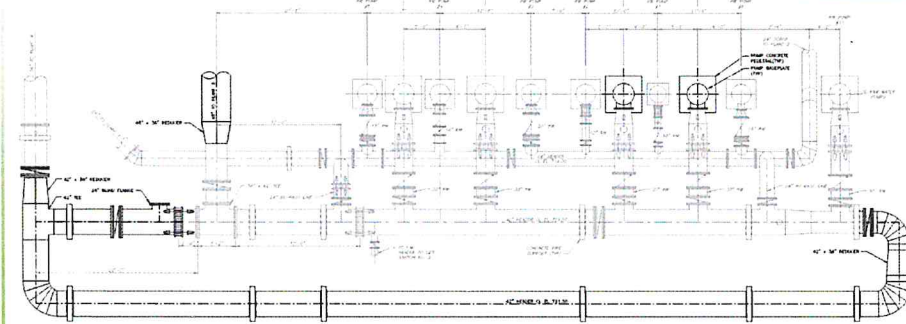


Raw Water Condition and Capacity

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Raw Water Condition and Capacity

- Raw Water Pump Station Expansion
 - Replace two pumps (No. 9 and No. 11)

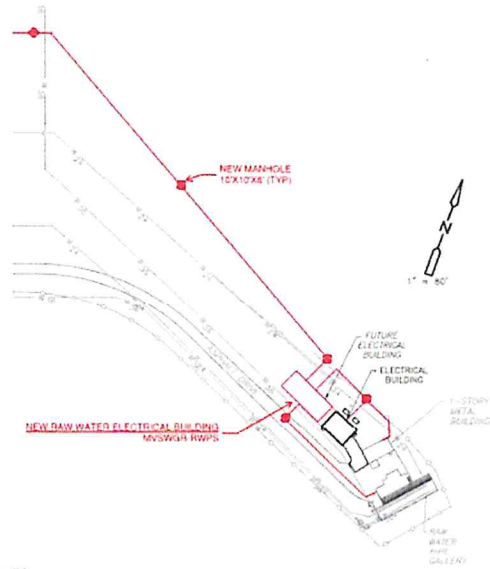
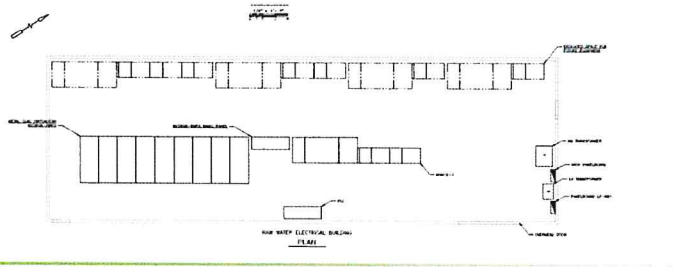


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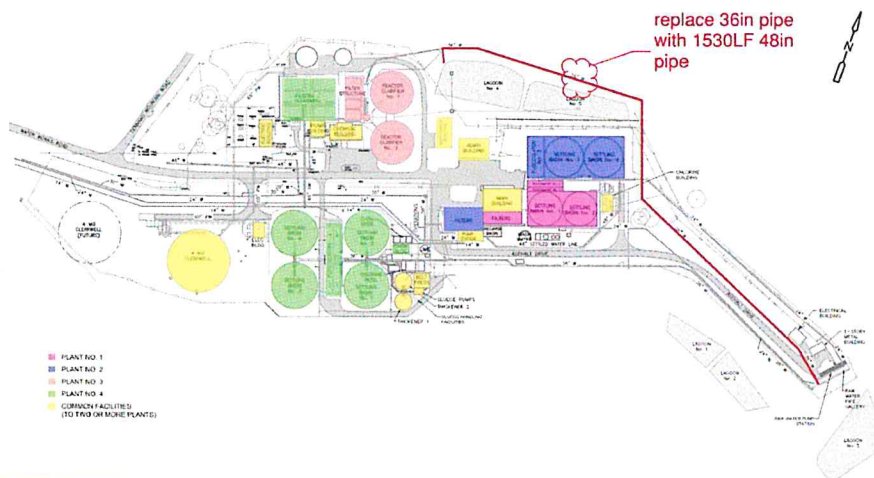
Raw Water Condition and Capacity

- Electrical Improvements
 - New Raw Water Electrical Building
 - New Underground Ductbank to Existing Main Electrical Building
 - Re-power Existing Raw Water Electrical Buildings



Raw Water Condition and Capacity

- Raw Waterline Replacement



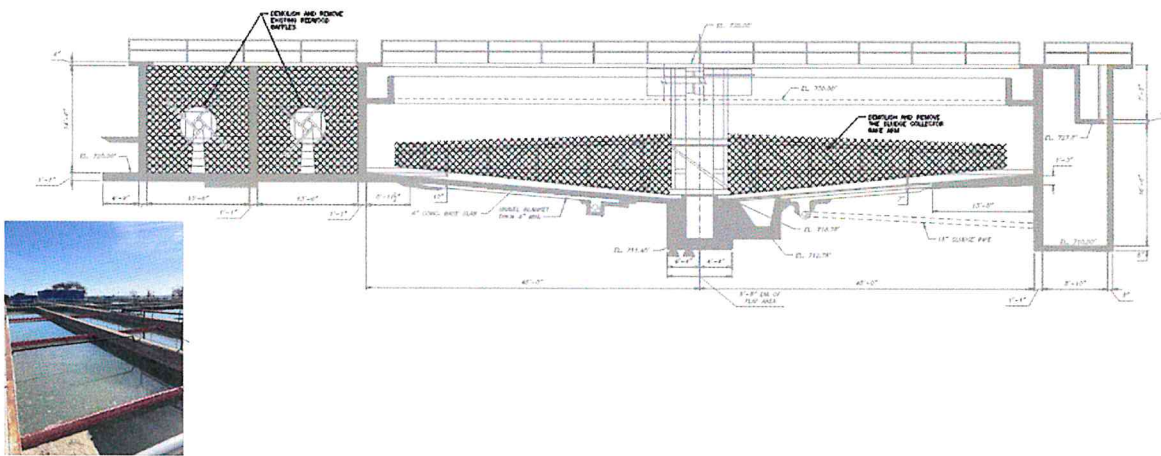


Plant 1 Improvement

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Plant 1 Improvement

- Floc Basin Baffle Replacement

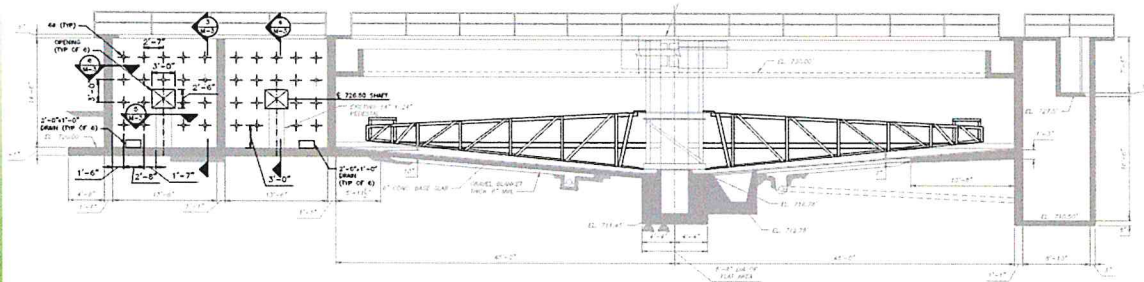


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Plant 1 Improvement

■ Sludge Collector Mechanism



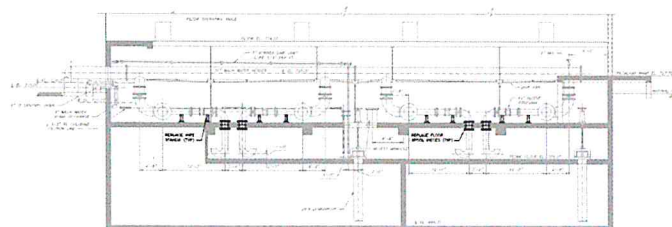
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Plant 1 Improvement

■ Filter Gallery Repairs

- Replace floor spool piece and pipe stands
- Spot repair coating
- Reassess in 5 to 10 years



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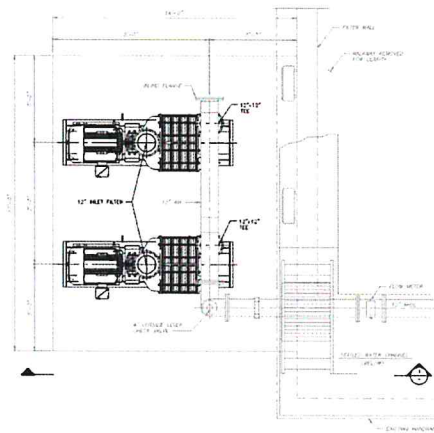


Balance of Plant

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Balance of Plant

- Plant 1 and 2 Air Scour Blowers



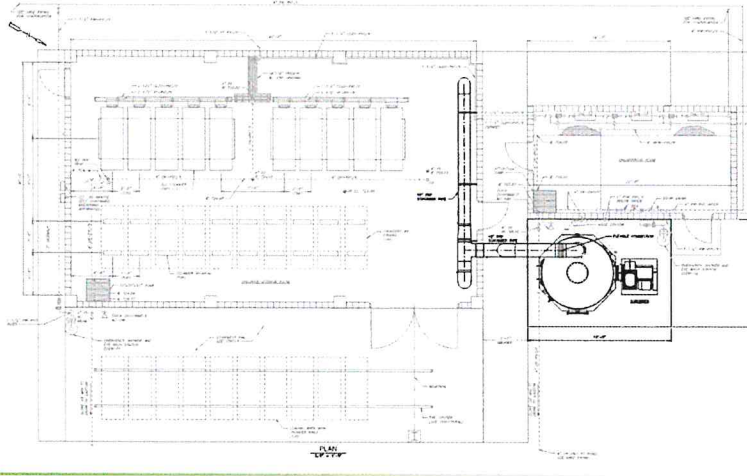
CENTRIFUGE BLOWERS MECHANICAL PLAN
1/2\"/>

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Balance of Plant

- Plant 1 and 2 Chlorine Scrubber and Misc. Repairs



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Balance of Plant

- Plant 1 and 2 LAS Tank Replacement

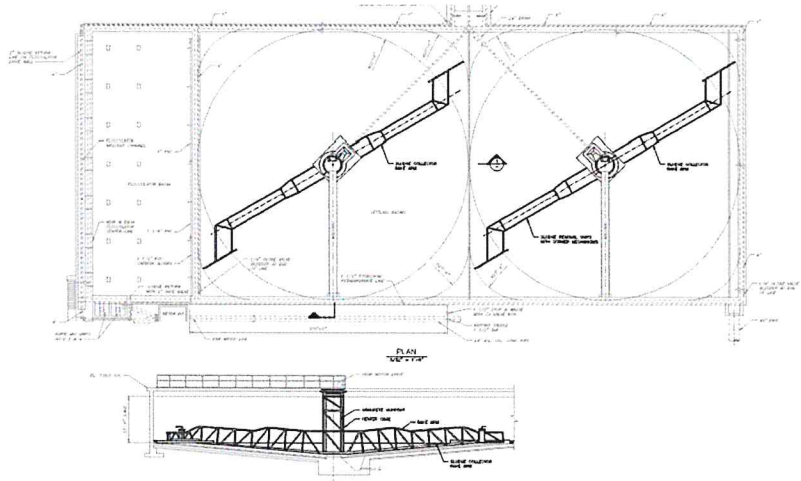


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Balance of Plant

■ Plant 2 Sludge Collector Mechanisms



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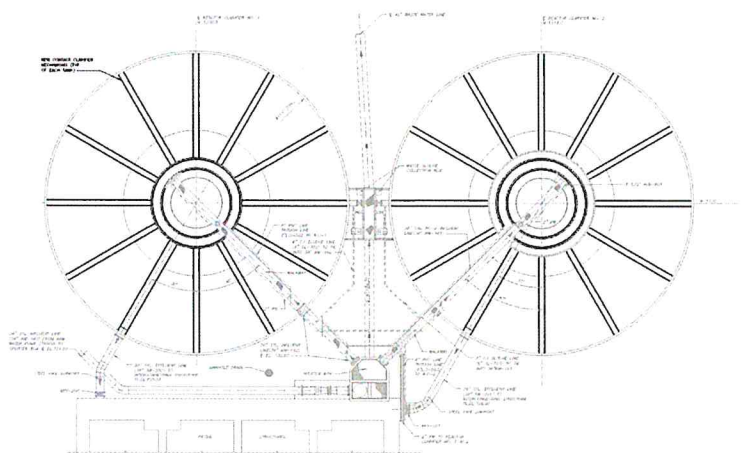
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Balance of Plant

■ Plant 3 Clarifier Mechanisms



PLANT 3 CONTACT CLARIFIERS

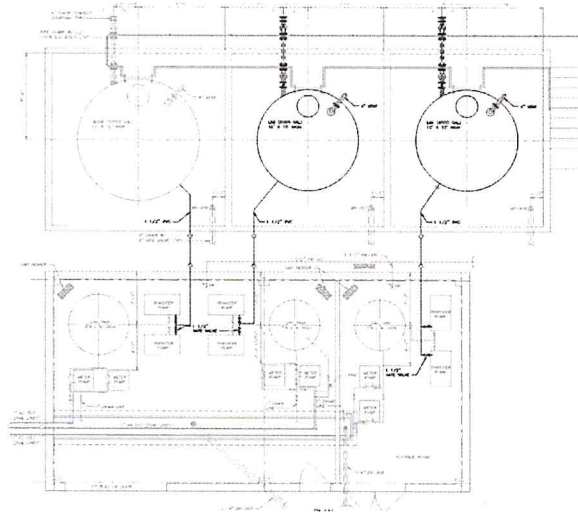


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Balance of Plant

- Plant 4 LAS Tank Replacement

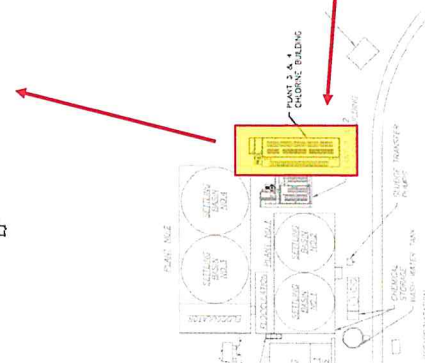
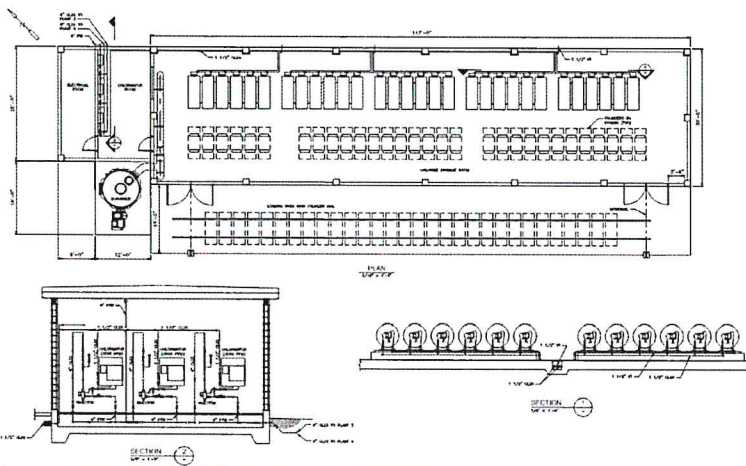


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Balance of Plant

- Plant 3 and 4 New Gas Chlorine System



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Balance of Plant

- Plant 2, 3 and 4 Filter Gallery Repairs

■ **Plant 2:**

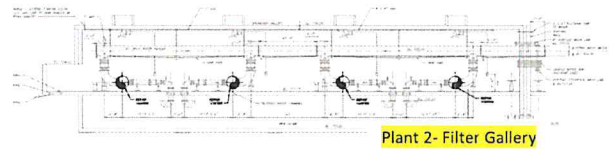
- Replace Coating on 36-inch pipe going to wall
- Patch water leaks in wall

- **Plant 3:**

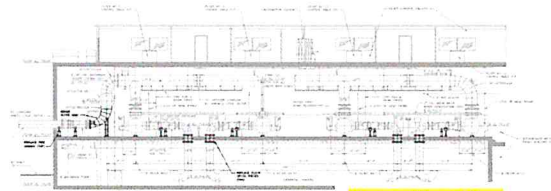
- Replace or rehab floor spool piece and pipe stands
- Spot repair coating
- Repair Active leak in the backwash pipe

■ **Plant 4:**

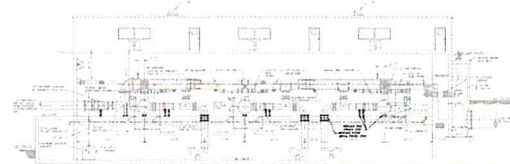
- Replace or rehab floor spool piece and pipe stands
- Spot repair coating
- Patch water leaks in wall



Plant 2- Filter Gallery



Plant 3- Filter Gallery



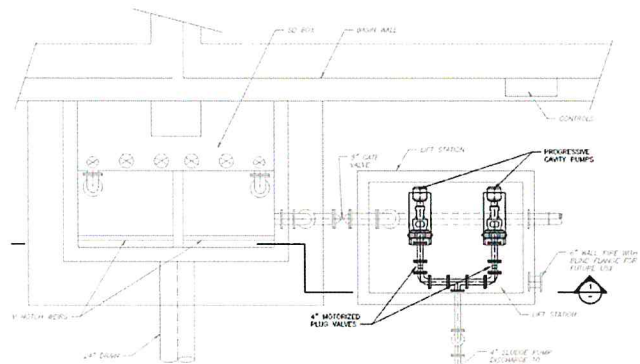
Plant 4- Filter Gallery

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Balance of Plant

- Plant 1 and 2 Sludge Transfer Pump Station Upgrade

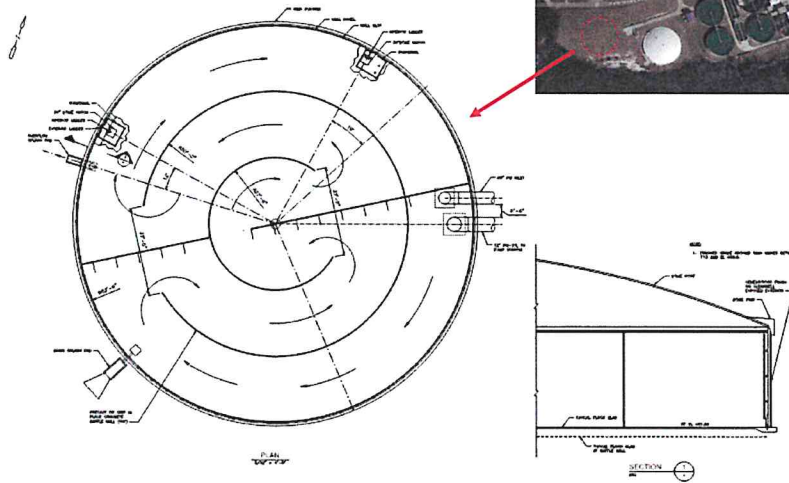


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Balance of Plant

- New 4 MG Clearwell

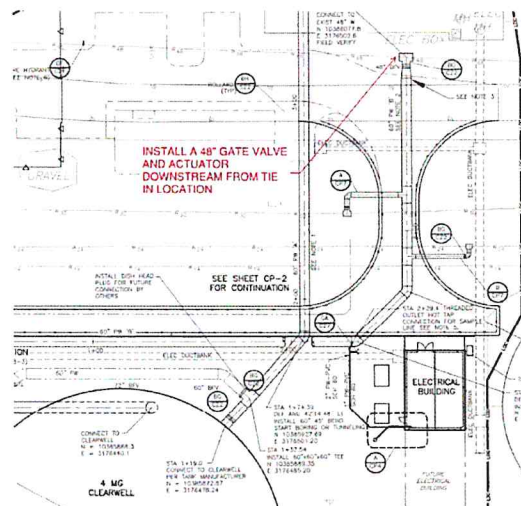


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Balance of Plant

- 48" GV/ Electric Actuator



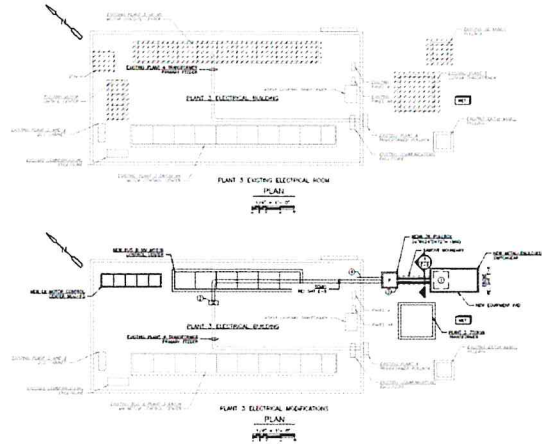
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Balance of Plant

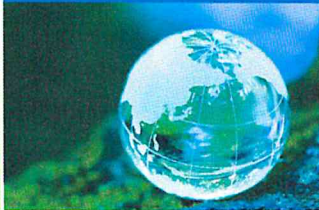
Plant 3 Electrical Improvements

- New metal-enclosed outdoor switchgear to intercept existing medium voltage feeder
- Replacement of 1977 Medium Voltage MCC.
- Replacement of the existing 1977 225kVA transformer. Preliminary size of new transformer is 750kVA to accommodate future Plant 3 expansion.
- Replacement of existing 1977 480V MCC. New 480V MCC will have capacity to include large feeder breaker for future MCC for Plant 3 expansion
- Future Plant 3 expansion assumed to be Carbon Slurry Mixers (x2), Lime Slurry Mixer (x2), 4 treatment trains including rapid mixer, flocculators, sludge collectors, misc valves.



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Opinion for Construction Cost

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OPCC Summary Table

Improvement Description	Capacity (C) or Maintenance (M)	Construction Cost ₁	Project Cost ₂
Raw Water Pump Station Condition and Capacity		\$14,480,000	\$17,000,000
Mechanical	C/M	\$3,843,000	\$4,500,000
Raw Waterline	C/M	\$4,433,000	\$5,200,000
Electrical (Including Building)*	C/M	\$6,204,000	\$7,300,000
Plant 1 Improvements		\$2,823,000	\$3,400,000
Floc Basin Baffle Replacement	M	\$319,000	\$400,000
Sludge Collector Mechanism	M	\$2,172,000	\$2,600,000
Filter Gallery Repairs	M	\$333,000	\$400,000
Balance of Plant		\$30,542,000	\$36,500,000
Plant 1 and 2 Air Scour Blowers	M	\$1,178,000	\$1,400,000
Plant 1 and 2 Chlorine Scrubber and Misc. Repairs	M	\$1,262,000	\$1,500,000
Plant 1 and 2 LAS Tank Replacement	M	\$524,000	\$700,000
Plant 2 Sludge Collector Mechanisms	M	\$2,088,000	\$2,500,000
Plant 3 Clarifier Mechanisms	M	\$3,847,000	\$4,600,000
Plant 4 LAS Tank Replacement	M	\$708,000	\$900,000
Plant 3 and 4 New Gas Chlorine System	C	\$5,558,000	\$6,600,000
Plant 2, 3 and 4 Filter Gallery Repairs	M	\$929,000	\$1,100,000
Plant 1 and 2 Sludge Transfer Pump Station Upgrade	M	\$180,000	\$300,000
New 4 MG Clearwell	C	\$10,310,000	\$12,100,000
48" GV/ Electric Actuator	M	\$431,000	\$600,000
Plant 3 Electrical Improvements	M	\$3,205,000	\$3,800,000
Allowance for the Hydraulic Adjustments at Plant 2 and Plant 4	C	\$322,000	\$400,000
Total		\$47,845,000	\$56,900,000

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1. Contingency 30%, OH&P 12%, Escalation to Mid-Point 14%/2 years, General Condition 12%, Mobilization/Demobilization 3%
2. This includes 15% engineering and 2% loan issuance fees.
*Switchgears are 30+ years old, but they are not included in this project as the plan is to replace them in the 120 MGD expansion project. If the expansion project gets delayed, they will need to be replaced in 5-10 years.

OPCC Summary Table

Maintenance Subtotals	Construction Cost ₁	Project Cost ₂
Raw Water Pump Station Maintenance*	\$7,240,000	\$8,500,000
Plant 1 Only Maintenance	\$2,823,000	\$3,400,000
Plant 1 and 2 Combined Maintenance	\$3,144,000	\$3,900,000
Remaining Maintenance Items	\$11,208,000	\$13,500,000
Total Maintenance	\$24,415,000	\$29,300,000

3 MGD Capacity Only	Construction Cost ₁	Project Cost ₂	6 MGD Capacity Only	Construction Cost ₁	Project Cost ₂
Raw Water Pump Station Expansion*	\$5,024,000	\$5,900,000	Raw Water Pump Station Expansion*	\$5,024,000	\$5,900,000
Plant 3 and 4 New Gas Chlorine System	\$5,558,000	\$6,500,000	Plant 3 and 4 New Gas Chlorine System	\$5,558,000	\$6,500,000
Allowance for the Hydraulic Adjustments at Plant 2 and Plant 4	\$322,000	\$400,000	Raw Waterline Pipeline Modification	\$2,216,000	\$2,600,000
3 MGD Increase	\$10,904,000	\$12,900,000	New 4 MG Clearwell	\$10,310,000	\$12,100,000
			Allowance for the Hydraulic Adjustments at Plant 2 and Plant 4	\$322,000	\$400,000
			6 MGD Increase	\$23,430,000	\$27,600,000

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1. Contingency 30%, OH&P 12%, Escalation to Mid-Point 14%/2 years, General Condition 12%, Mobilization/Demobilization 3%
2. This includes 15% engineering and 2% loan issuance fees.
*Considered 50% of the cost for maintenance and 50% for capacity expansions



Schedule

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Schedule

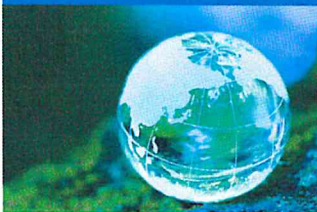
■ 6 MGD Capacity Expansion

Activity	Start	End	2023												2024												2025												2026													
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
Concept Design	5/22/2023	9/18/2023																																																		
Preliminary Design	9/19/2023	2/5/2024																																																		
Final Design	2/6/2024	12/16/2024																																																		
Electrical Pre-Procurement	2/6/2024	5/13/2024																																																		
Bidding	11/5/2024	2/10/2025																																																		
Construction	5/14/2024	11/2/2026																																																		

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- Ultimate Capacity Expansion (120 MGD)

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Questions?