

Wastewater SST Projects

<https://www.cambriacsd.org/wastewater-sst-projects>



	Current Total Budget	Fiscal Activity	Prior Year Activity	Total Project Activity to Date	Variance Favorable (Unfavorable)
Fund: 12 - WASTEWATER FUND					
Revenue					
12-43980-12 LOAN PROCEEDS - WW COP 2022A BONDS	12,100,000	1,129,578	1,841,756	2,971,334	9,128,666
Expense					
12-61701-12 CAP ASSET - WW ECM 1 FLOW EQUAL IMPV	3,791,224	466,696	610,006	1,076,702	2,714,522
12-61702-12 CAP ASSET - WW ECM 2 INFLUENT LIFT STN IMPV	46,512	13,759	26,224	39,983	6,529
12-61703-12 CAP ASSET - WW ECM 3 MLW AERATION BASIN UPGRD	2,419,093	322,080	371,214	693,294	1,725,799
12-61704-12 CAP ASSET - WW ECM 4 BLOWER REPLACEMENT	603,329	89,942	107,143	197,085	406,244
12-61705-12 CAP ASSET - WW ECM 5 RAS & WAS IMPV	1,290,972	153,516	230,389	383,905	907,067
12-61706-12 CAP ASSET - WW ECM 7 ELECTRICAL IMPV SERVICE PANEL	554,687	22,400	100,139	122,539	432,148
12-61707-12 CAP ASSET - WW ECM 8 GENERATOR REPLACEMENT	925,404	28,674	153,675	182,349	743,055
12-61708-12 CAP ASSET - WW ECM 9 SCADA SYSTEM UPGRADE	1,148,557	32,512	185,587	218,099	930,458
12-61709-12 CAP ASSET - WW ECM 12 IMPV TO WW LIFT STATIONS	1,320,222	-	54,511	54,511	1,265,711
Expense Total:	12,100,000	1,129,578	1,838,888	2,968,466	9,131,534
Net	-	-	2,868	2,868	(2,868)

Updated 2/17/2024

ECM-1 Influent Flow Equalization

- Assess condition of existing welded equalization tank. *(The tanks were found to be in good condition but will need to have spots recoated. Some supports will need to be replaced before the spot repairs.)*
- Review plant flow records and confirm size of equalization tank(s). *(The flow of the plant will not change. The addition of the equalization basin will allow flow into the aeration basin to be consistent.)*
- Develop hydraulic profile from lift station through new screen, grit removal, and proposed equalization tanks. *(This was completed, and it was determined that a 12-inch discharge line would be adequate to handle normal high flows. Flows that exceed the plant's hydraulic capacity will still need to be handled by bypassing a portion of the influent flow.)*
- Develop cost comparison of rehabilitating existing welded tank with new liner or new coating; constructing two new concrete tanks; and constructing two new glass-coated bolted steel tanks. *(It was found to be most cost-effective to rehabilitate the existing tanks.)*
- Develop preliminary size and description of major equipment items, including blowers and enclosure, transfer pumps, coarse bubble diffusers, valves, process instrumentation, and piping. *(This is under consideration and will be completed in the 90% design. At this time we are evaluating choices given to the CCSD WWTP (Wastewater Treatment Plant) for these processes.)*

ECM-2 Influent Lift Station Modifications

- Review plant flow records and confirm design criteria for new pumps. *(This has been completed, and CCSD WWTP personnel have approved these pumps.)*

- Develop system curve for influent lift station and four (4) priority collection system pumps. *(The only change at the influent lift station will be the addition of a baffle to break up the cascading water coming from the collection system.)*
- Evaluate potential wet well improvements for influent pumps including baffling to improve flow distribution. *(Baffling will be installed.)*
- Evaluate potential improvements for collection system pumps. *(Due to the final cost of the project, most of the lift stations were removed. We have been working on moving lift stations B-1 and B-4 back into the program.)*
- Review and confirm options for pump type with District staff. *(Evaluation and consideration for lift stations B-1 and B-4 are currently underway.)*
- Confirm number and flow range of pumps over a range of motor speeds. *(Evaluation and consideration for lift stations B-1 and B-4 are currently underway.)*
- Develop preliminary size and description of major equipment items, including new pumps, process instrumentation including flow meter(s), and piping. *(Evaluation and consideration for lift stations B-1 and B-4 are currently underway.)*
- Develop scope of work and design to integrate collection system pumps into SCADA system. *(Lift stations 8, 9, A-1, and B will be added to the new SCADA controls.)*

ECM-3 Modified Ludzak-Ettinger Process Upgrade

- Review plant flow and water quality records and confirm design criteria. *(Consultant has completed this task and used that information to size the diffusers accordingly.)*
- Confirm proposed anoxic and aerobic basin size and configuration from prior studies. *(This has been completed, and now discussion on the material to be used is under consideration.)*
- Determine recirculation and waste activated sludge flows and aeration requirements under a range of operating conditions. *(CCSD WWTP staff has approved the diffusers recommended and the recirculating pumps recommended.)*
- Develop preliminary piping and mechanical plan for review by District staff. *(This was completed in the 70% design drawings supplied in September 2023.)*
- Develop preliminary size and description of major equipment items, including new anoxic mixer(s), diffusers, valves, process instrumentation, and piping. *(Most of this has been addressed.)*

ECM 4 – Blower System Improvements

- Determine range of air requirements under various influent loading conditions based on analysis in ECM 3. *(This has been completed and the blowers will be ordered after CCSD WWTP staff approves the purchase. Blowers have been submitted and approved.)*
- Develop description of process instrumentation (including air flow meters and dissolved oxygen probes). *(Design is complete, and we will be using two DO (dissolved Oxygen) meters, and ORP (Oxygen Reduction Potential) will be used.)*
- Evaluate options for upgrading / retrofitting blower system. *(Blowers will be ordered as soon as CCSD WWTP staff approve the purchase.)*
- Develop scopes of work and preliminary design for recommended upgrades/retrofit. *(Work in progress.)*
- Develop new sequences of operation to optimize system operation. *(This will be done after the completion of the project.)*

ECM-5 RAS and WAS Pumping Improvements

- Assess visible surfaces within scum pit and RAS wet well. *(All surfaces were found to be adequate and will be reused.)*

- Develop description of RAS pumps, WAS control valve, flow meters, process instrumentation, piping, valves, scum troughs, and scum pumps. *(This has been completed. All four pumps will be replaced.)*

ECM-7 & ECM-8 Electrical Upgrades and Backup Power

- Evaluate and develop retrofit solutions for power requirements (hp and voltage) for new motors and loads in proposed ECMs. *(This has taken the longest time to complete and is still in motion. The project, as of now will replace the existing MCC1 (Motor Control Center).)*
- Size and specify replacement solution for standby generator and transfer switch. *(The generator has been chosen, and we are on hold until Air Quality Control approves this installation.)*
- *Toni Artho will provide an update to the R & I Committee in March.*

ECM-9 SCADA System

- Develop preliminary process and instrumentation diagrams for coordination with SCADA design
- Develop scope of work for all necessary SCADA upgrades

ECM-12 Sewer Lift Stations (B1 and B4)

- Develop design flows for each lift station based on available plant records, review of upstream land uses, and estimated peaking factors
- Confirm design criteria (flow and head requirements) for submersible pumps at each station
- Confirm size (depth and operating ranges) for wet well
- Evaluate dimensions and visible condition of existing wet well to determine if it can be used or a new wet well should be constructed
- Develop preliminary layout of B1 and B4 for review by District staff
- Develop description of new pumps, valves, access hatches, instrumentation, and appurtenances
- Develop scope of work and 30% design to integrate lift stations into existing SCADA system
- Conduct Feasibility Assessment for four (4) additional Lift Stations