EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: November 6, 2025

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager CCC

FROM: Serge V. Terentieff, Director of Engineering and Construction *for SVT*

SUBJECT: Orinda Water Treatment Plant Disinfection and Chemical Systems Safety Improvements Project Update

This memorandum provides an update on construction of the Orinda Water Treatment Plant (WTP) Disinfection and Chemical Systems Safety Improvements Project (Project). The attached progress report includes accomplishments and progress since the July 3, 2025 update, including community outreach, fiscal status, and near-term planned work. The Project has passed its halfway point in construction and the final subterranean concrete pour has been completed, representing a major milestone in the project. The Project will now shift to constructing the above grade facilities and installing process equipment.

Construction commenced in June 2022 and is expected to be completed by June 2027. The next update will be provided in an information memo on March 5, 2026.

CCC:SVT:mjh

Attachment: 2025 Triannual Progress Report No. 3

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2025 Triannual Progress Report No. 3

Specification 2139: Orinda Water Treatment Plant (WTP) Disinfection and Chemical Safety Systems Improvement Project

The project is progressing well after initial schedule delays, with major highlights including the completion of the reinforced concrete structure for the underground chlorine contact basin (CCB), completion of most of the reinforced concrete structure for underground ultraviolet (UV) Room, completion of the last of the four tunnels, major progress in completion of the last three chemical systems, and installation of the first of two pre-fabricated electrical buildings. A detailed summary of the work progress is listed in this attachment.

Project Scope

The scope of work for this project includes:

- Construction of a new disinfection facility comprised of a UV disinfection and CCB facility and an above-ground maintenance and UV electrical building (MAUVE)
- Construction of a grounds maintenance building and associated parking area
- Installation of new effluent piping and connections to the Claremont Tunnel and Los Altos No. 2 Pumping Plant (LAPP2)
- Construction of two new electrical buildings
- Installation of two standby generators and fuel storage tanks
- Modifications to the raw water channel
- Demolition of existing grounds maintenance and mechanical maintenance facilities
- Demolition and replacement of the chemical storage and feed systems and other chemical systems safety improvements

Community Outreach Update

- Identified and provided notice to neighbors about upcoming construction impacts, including noise and traffic, emphasizing the pre-planned extended work hours required for concrete deliveries.

Progress Status Update

Safety

- A continued active safety culture encourages everyone at the jobsite to identify safety hazards for immediate correction. A total of 979 contractor craft working days were completed without a lost time injury since construction began.

Raw Water Improvements

- No work during this period

Pipeline Tie-ins

- Completed pressure testing and backfill of the 108-inch UV-CCB influent steel pipeline from Effluent 1 to the UV Influent Weir Structure
- Completed installation of the 78-inch Effluent 2 steel pipeline within the Effluent 2 tunnel
- Completed the technically challenging final connection of the 108-inch UV-CCB influent steel pipeline to the 78-inch Effluent 2 steel pipeline and the 48-inch Effluent 1 steel pipeline
- Completed the first phase of the 48-inch steel pipeline from the CCB Effluent Weir Structure to LAPP2 which will serve as the supply line for LAPP2 in the future
- Performed extensive plant inspections of the critical welded steel piping

Underground Construction

- Calibrated the automated geotechnical monitoring system, which monitors ground movement and settlement during drilling, excavation, grouting, and tunneling
- Completed the last 90-inch tunnel from the Effluent 1 excavation to the future Effluent 2 excavation.

UV-CCB Facility Construction

- Completed waterproofing installation between UV Influent Weir Structure and the secant pile walls
- Completed reinforced concrete walls in the CCB Effluent Weir Structure
- Completed installation and testing of the 108-inch stainless steel Claremont Tunnel isolation gate in the CCB Effluent Weir Structure
- Completed intermediate reinforced concrete deck for the CCB structure
- Completed second lift reinforced concrete walls in the second level of the CCB Structure
- Completed top roof deck for the CCB structure
- Completed reinforced concrete UV Inlet Weir Structure and began leak testing for the same
- Completed reinforced concrete walls for the CCB Effluent Weir Structure
- Completed reinforcing concrete wall placements for the UV room
- Completed reinforced concrete elevated mezzanine deck for the UV room
- Complete reinforced concrete elevator shaft for the UV room
- Completed reinforcing concrete elevated roof deck for the UV room which will serve as the floor for the MAUVE building

Construction of Power Buildings (SEB and LAPB)

- Completed under slab piping, electrical conduits, and reinforced concrete foundation for the south electrical building (SEB)
- Completed factory acceptance testing (FAT) of SEB, disassembled SEB, shipped SEB to project site, reassembled SEB, and started installation of wiring within SEB
- Completed under slab electrical conduits and reinforced concrete foundation for Los Altos Power Building (LAPB)
- Performed initial inspection of LAPB in factory in preparation for FAT

Chemical Safety System Improvements

- Completed demolition of the old fluoride, ammonia, and caustic soda systems in preparation for installation of the new chemical systems
- Began installation of new fluoride, ammonia, and caustic soda systems
- Continued construction of chemical pipe expansion vaults and sumps throughout the project site
- Continued installation of the replacement heating, ventilation, and air conditioning (HVAC) systems and fire protection systems in the chemical building
- Completed roof demolition and structural modification to the chemical building for the retrofitted fluoride and ammonia rooms
- Began construction of the new caustic soda room in the chemical building

Scheduled Work

Raw Water Improvements

- Install third phase of the welded steel pipeline for the Lafayette Aqueduct No. 1 wasteway which will reconnect it to San Pablo Creek in the future
- Remove Claremont Tunnel bulkhead wall, allowing availability of emergency raw water bypass.

Pipeline Tie-ins

- Complete the second phase of the 48-inch steel pipeline from the CCB Effluent Weir Structure to LAPP2
- Complete modifications to Effluent 1 pipeline at LAPP2 suction vault and remove the Claremont Tunnel bulkhead wall and bypass pipeline during the partial plant outage

Underground Construction

- Complete construction of the expanded Effluent 1 pipeline vault and backfill of the Effluent 1 excavation

UV-CCB Facility Construction

- Complete access shafts for the CCB Structure
- Complete backfill of the CCB Structure
- Complete MAUVE Building reinforced concrete structure

Construction of Power Buildings (SEB and LAPB)

- Complete wiring of LAPB and testing of LAPB
- Complete factory acceptance testing of the pre-fabricated LAPB, disassemble LAPB, ship LAPB to project site, reassemble LAPB, wire of LAPB, and test of LAPB
- Connect loads to SEB and LAPB

Chemical Safety System Improvements

Significant progress is being made on the chemical system improvements despite this portion of work being delayed approximately one year due to differing site conditions, operational constraints, and supply chain issues.

- Complete installation of the new fluoride, ammonia, and caustic soda chemical systems
- Complete construction of new caustic soda room within the chemical building
- Continued installation of the permanent chemical feed lines through the project site

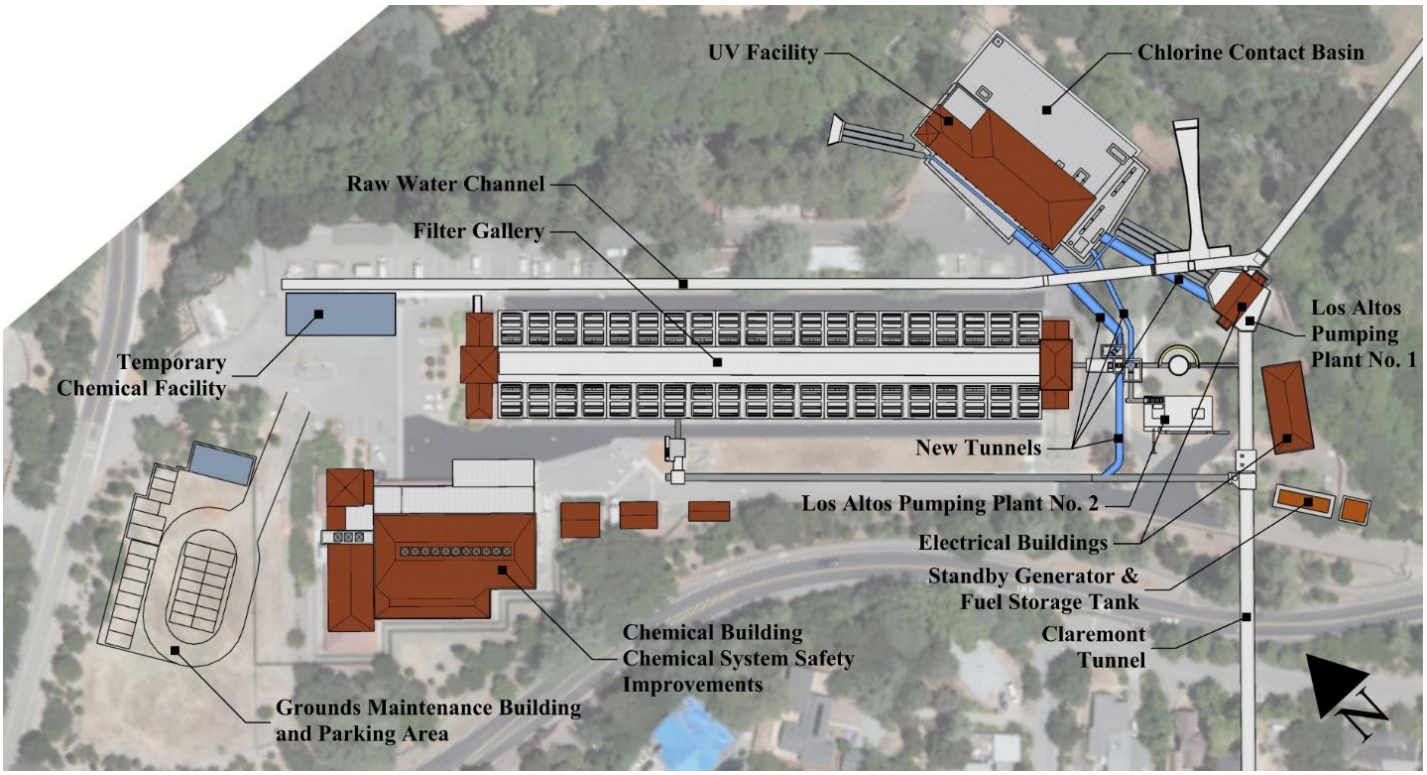
Fiscal Update

Budget Category	To-date	Budget	% Spent
Construction Contract (base)	$ 207,356,747	$267,721,132	77.5%
Construction Contract (change orders)	$8,093,444	$13,386,057	60.5%
Engineering Support and Construction Management Costs	$29,199,297	$46,653,553	62.6%

Schedule Update

Schedule Category	Days Elapsed	Contract Days	% Elapsed
Construction Contract Calendar Days	1,302	1,837	70.9%

Overall Site Plan



Construction Progress Photos

Figure 1 -- Aerial View of underground UV-CCB Structure with Influent Channel in the foreground, UV Room in the midground, CCB in the background, Effluent Weir Structure in the upper right, and Valve Room in the lower right.

Figure 2 -- Installation of the scaffolding towers for the CCB roof. These towers support the concrete formwork as concrete is placed and cured.

Figure 3 -- Aerial view of the CCB with shoring towers and formwork for the partially completed CCB roof.

Figure 4 –Concrete placement via concrete pump truck for the last 25-foot tall walls for the CCB.

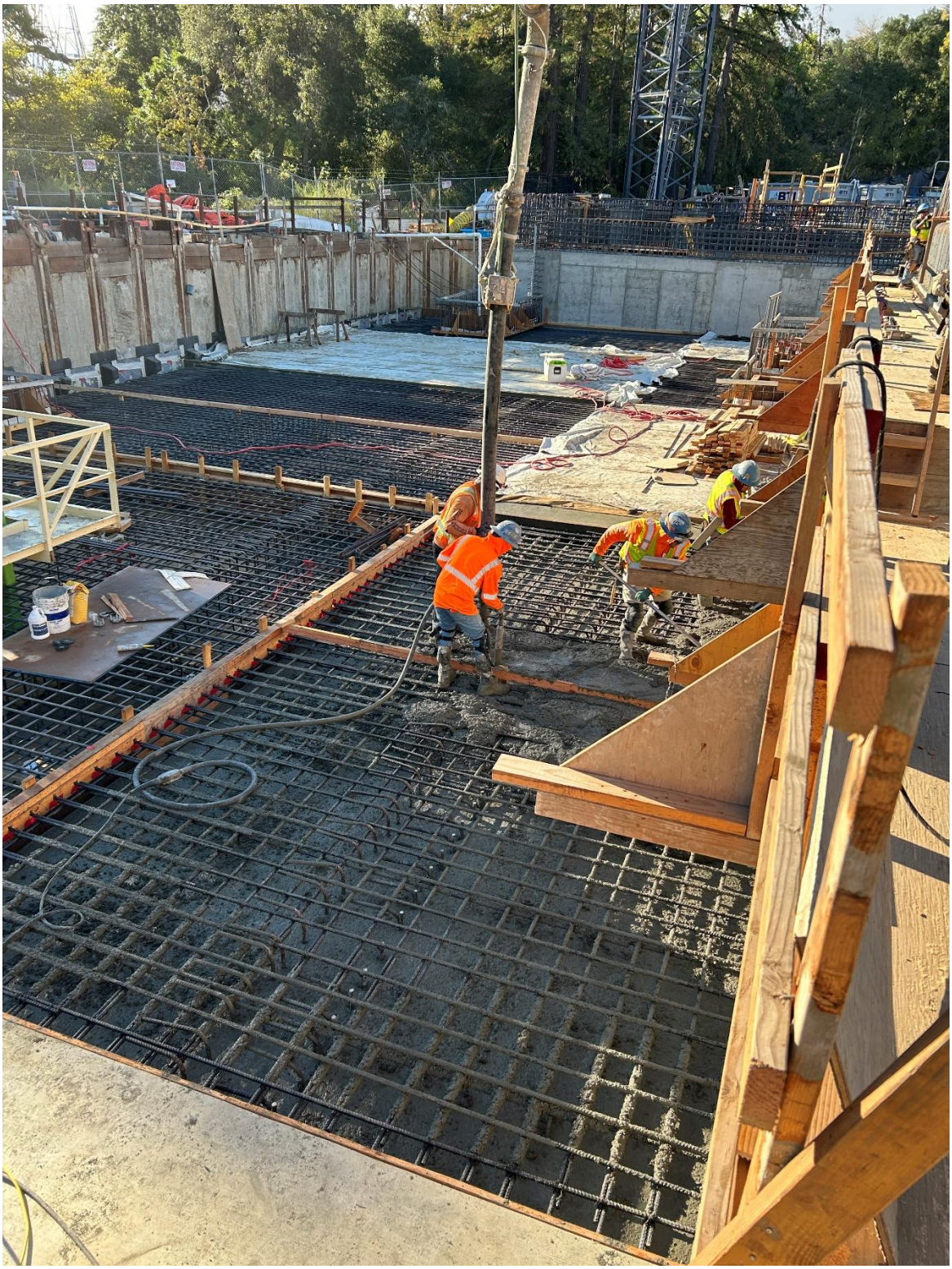


Figure 5 – Placing concrete over reinforcing steel for the CCB roof deck.

Figure 6 – Partially completed CCB roof. The photo shows rebar supported on wooden formwork and completed concrete slabs. The concrete is cured under the white blankets which control the environmental conditions.

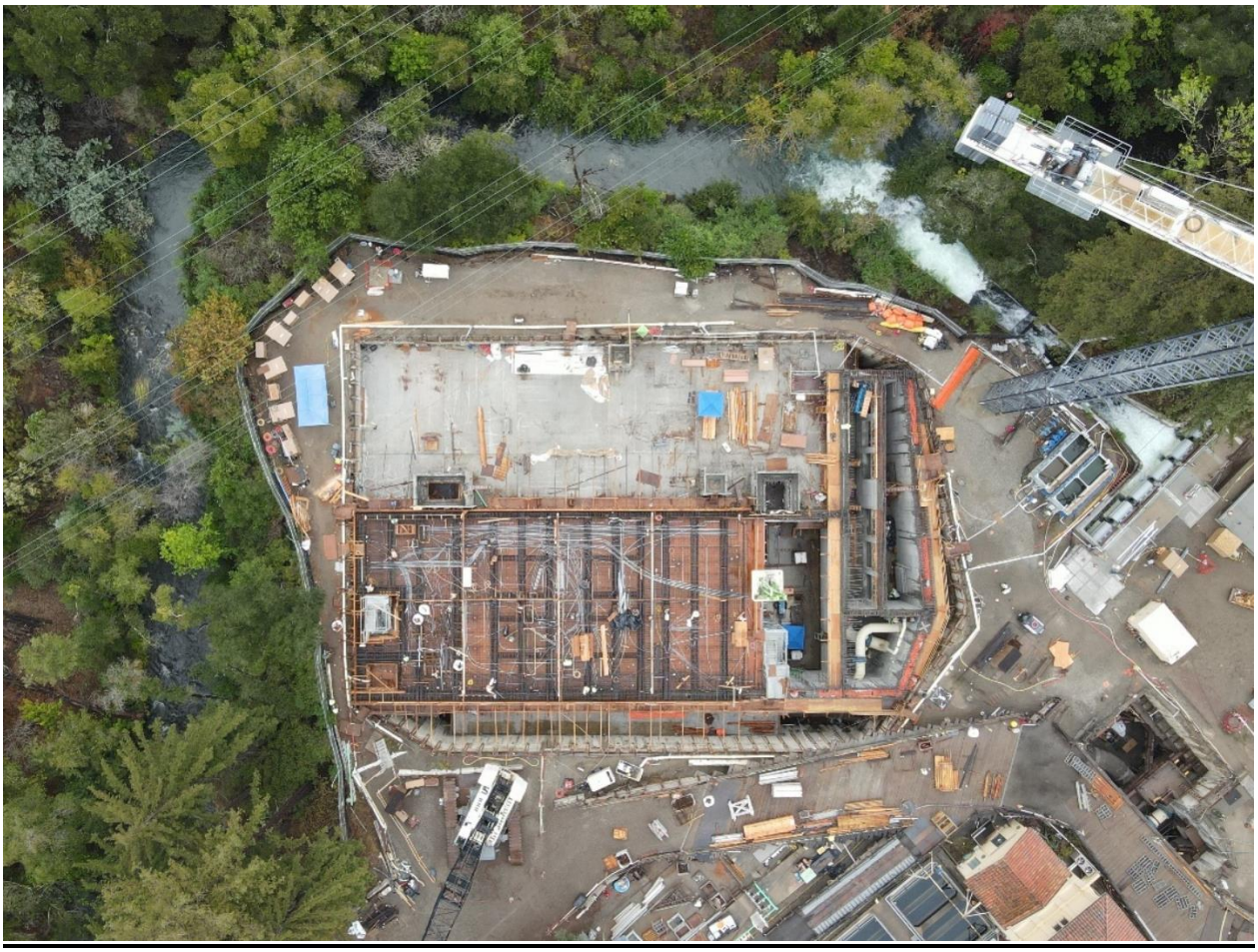


Figure 7 - Aerial photo showing the CCB roof deck completed and ready for waterproofing prior to burying under 10 feet of soil. The San Pablo Creek structure can been seen clearly in this photo transferring water from the South Spillway to San Pablo Reservoir from Lafayette Aqueducts No. 1 and 2.

Figure 8 – Installation of wooden forms for the mezzanine level in the UV Room.

Figure 9 - Partially completed wall in the UV Room.

Figure 10 - The concrete wall from Figure 9 is shown as completed in this photo.

Figure 11 - Reinforcing steel for the divider wall between the UV Room and Effluent Weir Structure prior to installation of formwork.

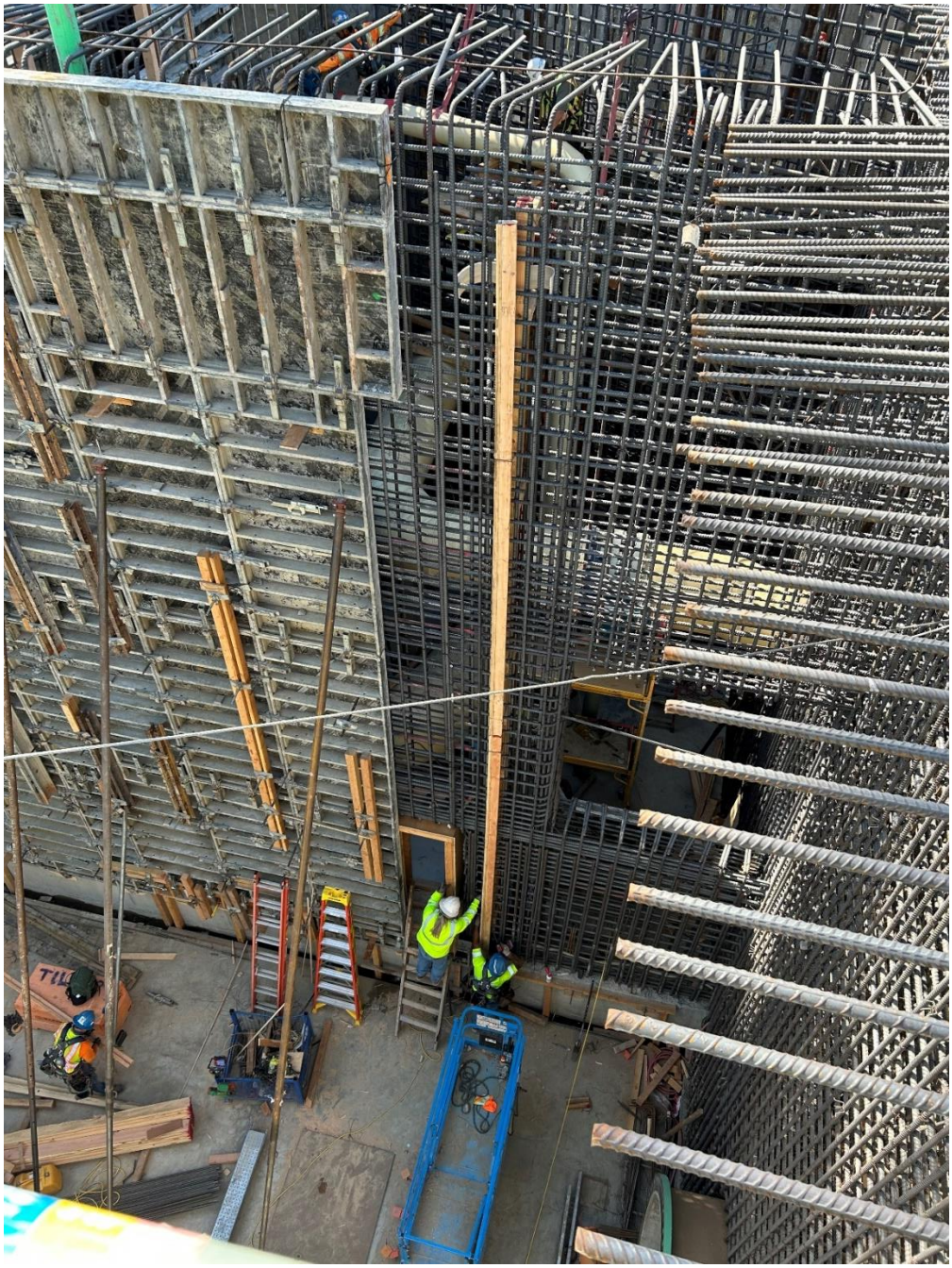


Figure 12 - Installation of concrete formwork at the bottom of the Effluent Weir Structure wall

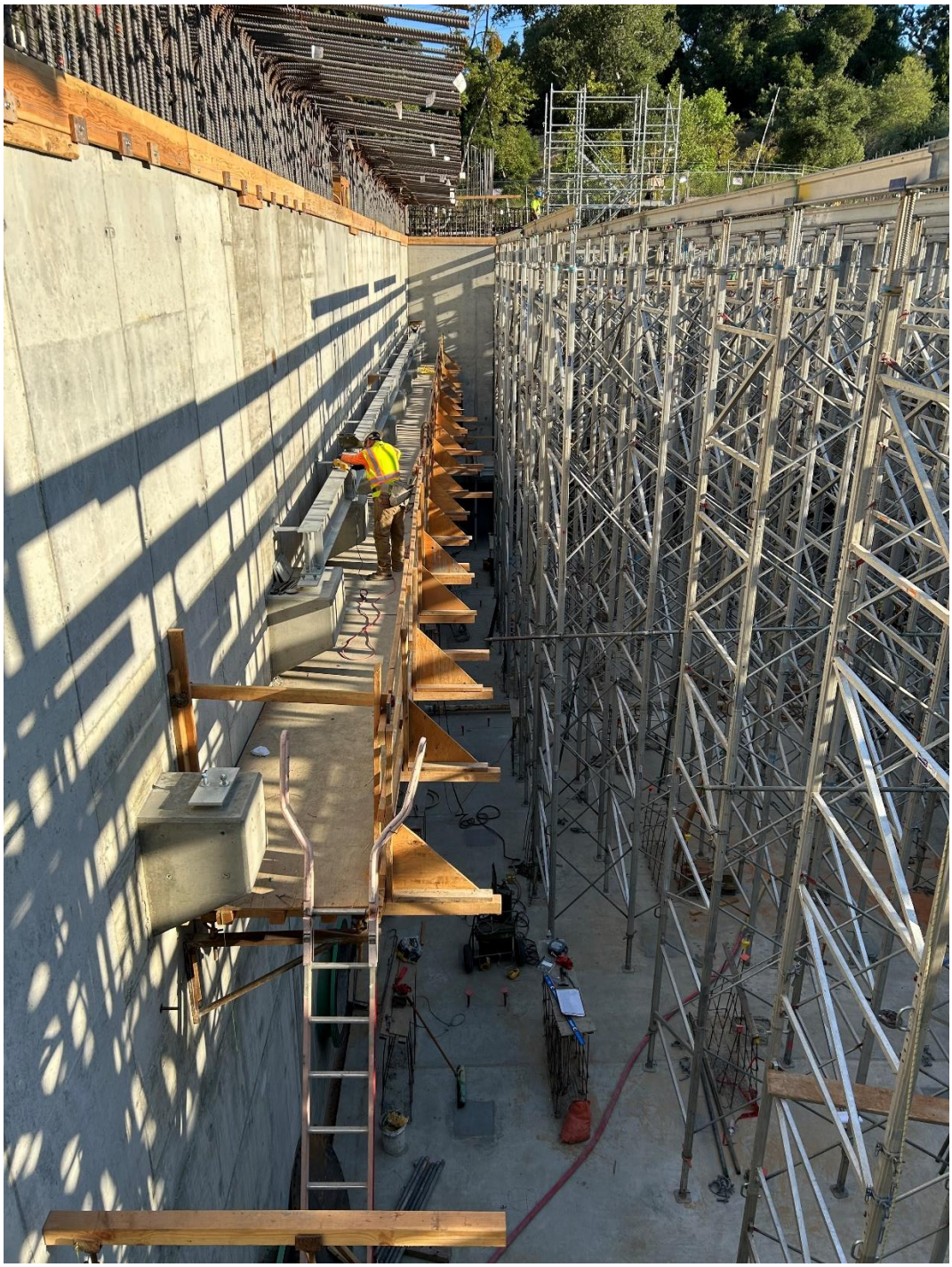


Figure 13 - Engineered scaffold towers for the UV Room roof deck.

Figure 14 - Workers starting the installation of the joint sealant between concrete floor slabs in the UV Room.

Figure 15 - Installation of formwork and reinforcing steel for the CCB Room roof deck. This deck will serve as the ground of the future ground floor for the MAUVE building.

Figure 16 - Installation of embedded conduits, plumbing, and equipment anchors for the MAUVE floor.

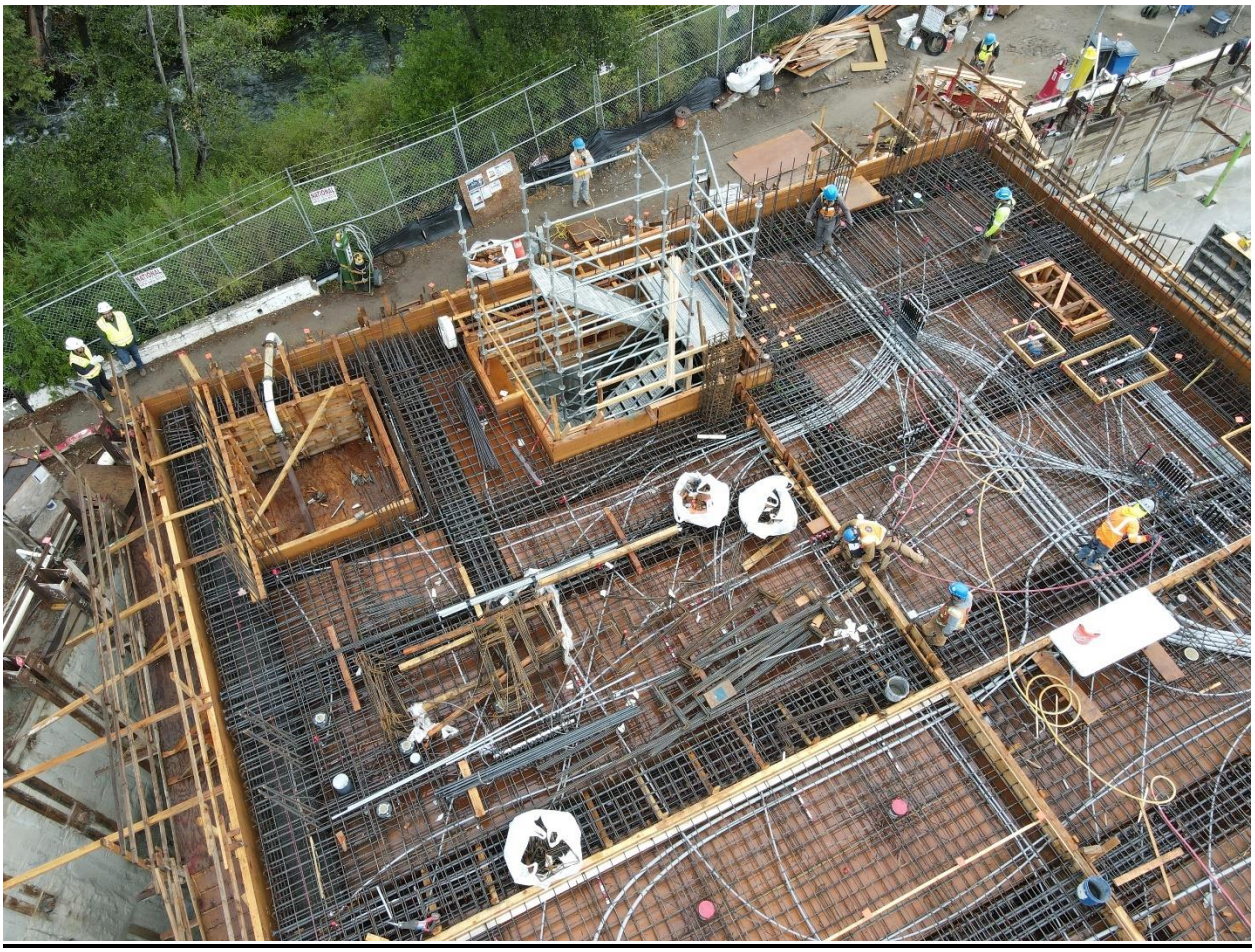


Figure 17 - Closeup of the MAUVE floor with the elevator shaft block-out for access to the UV Room 25-feet below ground.

Figure 18 – Installation of the first concrete for the MAUVE floor with the aid of the articulating boom and concrete pumper truck.

Figure 19 - Workers installing wall block-outs in the Effluent Weir Structure for the weir gates which will control the hydraulics of the water treatment plant.

Figure 20 - Workers on blue scissor lift installing concrete wall forms for the Effluent Weir Structure.

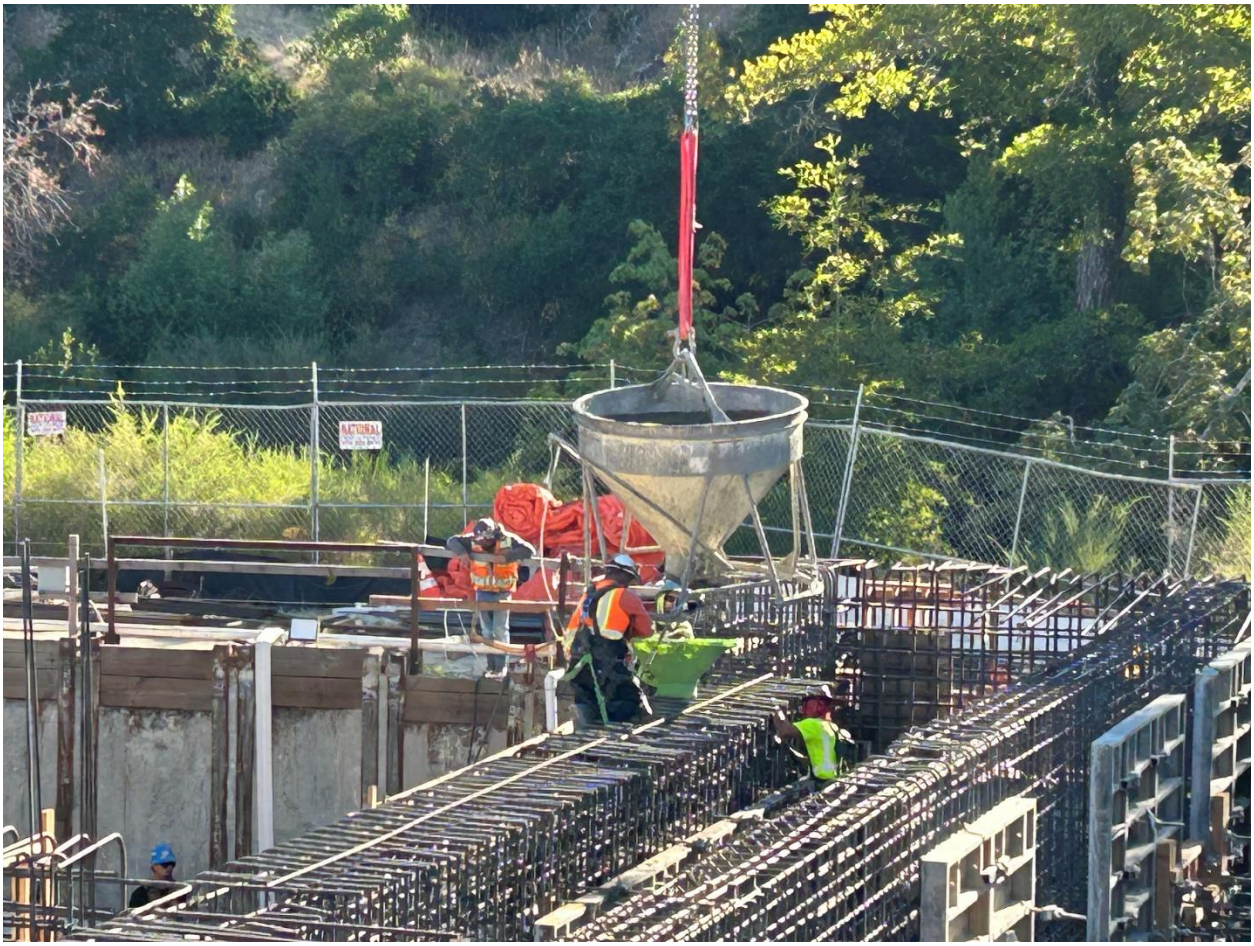


Figure 21 – Placement of concrete using a concrete bucket suspended by the 210-foot tall tower crane. The contractor uses the bucket for pouring "smaller" amounts of concrete.

Figure 22 - Workers on scissor lifts installing the weir gates in the partially completed Effluent Weir Structure.

Figure 23 - View looking up from the floor in the Valve Room.

Figure 24 - Aerial view looking down into the nearly complete Valve Vault.

Figure 25 - View looking down the inside length of the Influent Weir Structure. This structure is undergoing leak testing for watertightness prior to being backfilled

Figure 26 - Aerial view of the completed foundation for the Los Altos Power Building (LAPB).

Figure 27 - Aerial view of the completed South Electrical Building (SEB) foundation.

Figure 28 – Installation of pre-fabricated SEB section on the right side of the photo.

Figure 29 – Worker assisting truck as it backs one of seven SEB building segments into place for the crane to lift it into place.

Figure 30 - Crane lifting a SEB segment off the delivery truck onto its new foundation using complex sling support system.

Figure 31 - Tunneling through the ground 45-feet below the ground surface of the water treatment plant. Mine tailings being ejected out of the end of the 90-inch steel tunnel casing for installation of the steel pipeline from the filter Effluent pipelines.

Figure 32 - View looking down into the 45-feet deep Effluent 1 shored excavation. Pipefitters using a crane to lower a 6-1/2-foot diameter steel pipeline segment the pit.

Figure 33 - Lowering the 9-foot diameter steel piping connector piece (wye) which connects the 9-foot diameter UV Influent piping to the 4-foot diameter Effluent 1 and 6-1/2-foot diameter Effluent 2 tunnels.

Figure 34 - Pipefitters using complex crane slings and mechanical devices to position the massive wye into alignment with the tunnels in the Effluent 1 excavation.

Figure 35 – The photo shows a pipefitter standing on the 9-foot diameter wye connector piping from Effluent 2 to Effluent 1. The pipefitter is making final mechanical connections on the wye after completion of all welded joints and mortar corrosion protection on the steel piping.

Figure 36 - Crane lifting structural steel beams into openings in Chemical Building roof.

Figure 37 -- Crane lowering new fiberglass reinforced plastic chemical tank into the Chemical Building through the new roof opening.

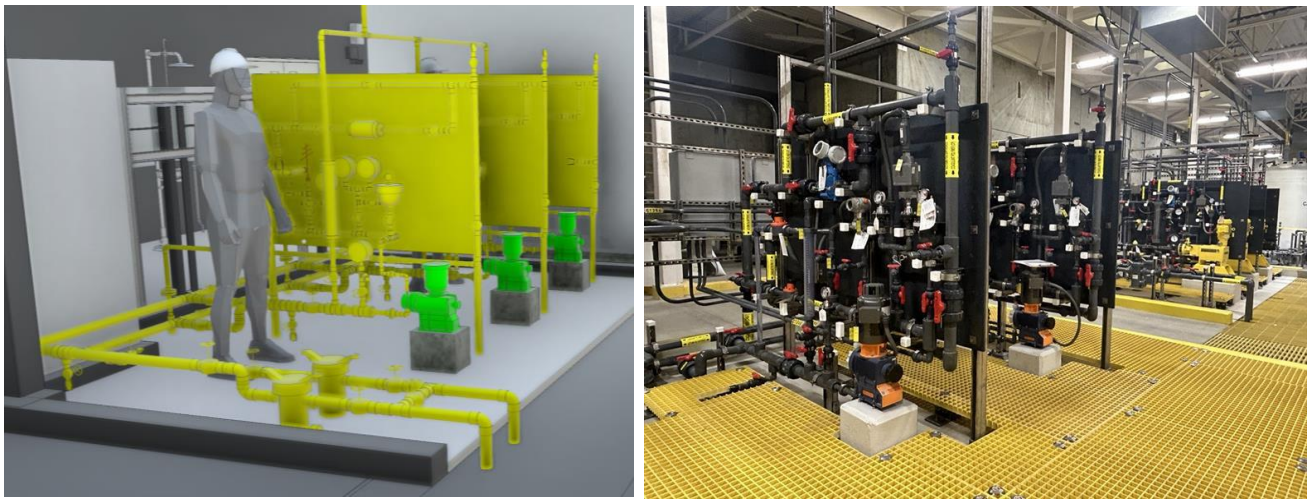


Figure 38 -- The two figures show a comparison between the designed and constructed chemical systems. On the left you can see the innovative 3D design aid used to visualize the space to O&M staff. On the photo of the right, you can see the completed installation with clear pathways between each system and the orderly and uniform installation of the large amount of equipment in a small space.

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