THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Report

Engineering Services Group

- **Engineering Services Monthly Activities for May 2025**

Summary

This monthly report provides a summary of Engineering Services Group activities for May 2025 in the following key areas:

- Colorado River Aqueduct (CRA) Program
- Dams & Reservoirs Program
- Distribution System Program
- Additional Facilities and Systems Program
- Prestressed Concrete Cylinder Pipe (PCCP) Program
- Water Treatment Plants Program
- Pure Water Southern California
- Drought Mitigation – State Water Project Dependent Areas
- Value Engineering Program
- Career Launch Program
- CIP Evaluation Committee Site Tour at the CRA

Purpose

Informational

Attachments

Detailed Report – Engineering Services Group's Monthly Activities for May 2025

Date of Report: June 10, 2025

Engineering Services Group's Monthly Activities for May 2025

Engineering Services manages and executes projects within the Capital Investment Plan (CIP) to maintain infrastructure resiliency, ensure regulatory compliance, enhance sustainability, and provide flexibility in system operations to address uncertain water supply conditions. In addition, Engineering Services provides technical services to enhance reliable system operation and real property planning, valuation, acquisition, and disposition services to protect Metropolitan's assets. Engineering Services empowers our staff and partners with our business partners and the communities we serve to accomplish Metropolitan's mission.

Recent key activities on CIP programs and other key engineering functions are described below.

Protect public health, the regional economy and Metropolitan's assets

Colorado River Aqueduct (CRA) Program

The CRA program is composed of CIP projects to replace or refurbish facilities and components of the CRA system to reliably convey water from the Colorado River to Southern California.

- CRA Domestic Water Treatment System — This project upgrades the domestic water treatment systems at all five CRA pumping plants, including the replacement of the water treatment units. The contractor has installed the temporary treatment skid system at the Intake Pumping Plant. The temporary skid will remain in operation until installation, testing, and commissioning of the new system is complete. Demolition of the existing system is underway. Construction is 47 percent complete and is scheduled to be complete in March 2026.
- CRA New Storage Buildings — This project furnishes and installs pre-engineered storage buildings at Hinds, Eagle Mountain, and Iron Mountain Pumping Plants and constructs associated site improvements. Construction has resumed at all sites following the 2025 CRA annual shutdown. The contractor is installing the fire water lines and hydrants at the Iron and Eagle Mountain Pumping Plants and continues installation of the buildings at the Hinds Pumping Plant. Construction is 70 percent complete and is scheduled to be complete in April 2026.

- Cabazon Radial Gate Improvements — This project will replace an inline and wasteway radial gate and install security, electrical, and safety upgrades. Final design is 95 percent complete and is scheduled to be completed in July 2025.
- Hinds Discharge Valve Platforms – This project will replace corroded steel members, such as ladders and floor grates, at all nine discharge valve pits at the Hinds Pumping Plant. Preliminary design is complete. Final design is 65 percent complete and is scheduled to be complete by December 2026.
- Main Pump Access Improvements – This project will construct new platform systems at each pumping plant and implement additional access improvements to enhance the efficiency of maintenance activities on the lower motor guide-bearing assemblies. Preliminary design is 15 percent complete and is scheduled to be completed in August 2025.

CRA Domestic Water Treatment System at Hinds Pumping Plant — Placing Concrete for Ductbank

CRA New Storage Buildings — Hinds Maintenance Building Exterior Wall Panels Complete

Dams & Reservoirs Program

The Dams & Reservoirs Program is composed of CIP projects to upgrade or refurbish Metropolitan's dams, reservoirs, and appurtenant facilities to reliably meet water storage needs and regulatory compliance.

- Garvey Reservoir Rehabilitation — This project will replace the aging reservoir floating cover and liner, structurally strengthen the outlet tower, upgrade the on-site water quality laboratory building, rehabilitate the junction structure, and replace the existing standby generator and a portion of the security perimeter fence. Final design is 85 percent complete and is scheduled to be complete by July 2025.
- Lake Skinner Outlet Tower Tier 5 Butterfly Valve Replacement — This project replaces two 42-inch-diameter butterfly valves and actuators to ensure that Lake Skinner can be fully dewatered for dam safety. The replacement of the valves is required to meet the Department of Safety of Dam requirements. Fabrication is 10 percent complete and is scheduled to be completed in December 2026.
- Copper Basin Discharge Valves Rehabilitation — This project installs a new 54-inch fixed cone valve and actuator at the base of the dam, refurbishes a slide gate and the existing valve house, and upgrades all associated electrical systems and access ladders at the Copper Basin Reservoir. This project will also include the replacement of access ladders at the Gene Wash Dam. Final design is complete, and acquisition of environmental permits is in progress.

Distribution System Program

The Distribution System Program is composed of CIP projects to replace, upgrade, or refurbish existing facilities within Metropolitan's distribution system, including pressure control structures, hydroelectric power plants, and pipelines, to reliably meet water demands.

- Perris Valley Pipeline Tunnels — This project will complete the construction of the Perris Valley Pipeline and provide service connections to Eastern and Western Municipal Water Districts. This project installs 3,000 linear feet of tunnel that crosses the Interstate 215 freeway. The contractor has completed all shutdown work, and the pipeline is now in service. Site restoration activities continue. Overall construction is 98 percent complete and is scheduled to be complete in July 2025.
- Rialto Pipeline Rehabilitation — This project replaces a 35-foot-long, 121.5-inch diameter section of welded steel pipe on the Rialto Pipeline in the City of Upland where the mortar lining has failed. This project also replaces the deteriorating pipe spool and isolation valve at the CB-11 service connection. All construction is complete, including site restoration.
- Wadsworth Sleeve Valve Refurbishment — This project refurbishes seven sleeve valves at the Wadsworth Pumping Plant. A total of four units have been refurbished. The project is 60 percent complete and is scheduled to be complete in December 2025.

Perris Valley Pipeline Tunnels — Welder Cutting Bulkhead

Additional Facilities and Systems Program

The Additional Facilities and Systems Program is composed of CIP projects to refurbish, replace, upgrade, or provide new facilities and systems that support Metropolitan's business and district-wide operations.

- Diamond Valley Lake (DVL) Wave Attenuator Replacement — This project adds a second attenuator to the existing wave attenuating system at the East Marina in Diamond Valley Lake. The second attenuator will protect the boats and launch ramp from excessive wave action. As part of the improvements, the existing floating wave attenuator (FWA) will be relocated to a new location, and the new attenuator will be installed in its place. Additional anchors will be placed on the bottom of the reservoir to provide anchorage for the new, longer attenuator. The contractor completed removal of existing anchor cables and chains. The contractor completed the installation of concrete anchor blocks for new FWA and dive inspection for verification of placement of anchors. The contractor continues fabrication of the north FWA modules, is installing the concrete anchors on the north side, and continues installation of interconnecting chains for tying the existing anchor blocks to the new anchor blocks for the new wave attenuator. Construction is 46 percent complete and is scheduled to be complete in May 2026.
- Lake Mathews Fuel Tank — This project will procure and install a new 7,500-gallon above-ground diesel fuel tank at Lake Mathews. On-site fuel storage is required for day-to-day heavy construction activities, and a reserve is stored for emergency response. A fuel dispensing system will also be installed, as well as control systems for the fuel tank, electrical connections, and employee safety features. Final design is complete, and a board action for award of a construction contract is scheduled for August 2025.
- Colorado River Aqueduct District Housing Improvements — This project will replace aging housing after decades of use in the harsh desert environment with new townhomes, implement village enhancements and amenities, and replace kitchens and lodges at the CRA pumping plants. A community vision planning effort was recently completed. The District Housing Improvements will be completed in a sequential manner over four stages. Conceptual design of an alternative housing model layout is underway at four pumping plants (Hinds, Eagle Mountain, Iron Mountain, and Gene). Conceptual design is five percent complete and is scheduled to be complete in August 2025.

Diamond Valley Lake Wave Attenuator Replacement
New Floating Wave Attenuator Module Delivery

Prestressed Concrete Cylinder Pipe (PCCP) Program

The PCCP Program is composed of CIP projects to refurbish or upgrade Metropolitan's PCCP feeders to maintain water deliveries without unplanned shutdowns.

- Second Lower Feeder PCCP Rehabilitation Reach 3B — This project installs 3.7 miles of steel lining and three conical plug valves along a portion of the Second Lower Feeder that traverses the cities of Lomita, Los Angeles, and Torrance. The contract completed installation of the three conical plug valves and installation of steel lining in April 2025. Work continues at the valve vaults to complete the remaining electrical and SCADA work to be followed by site restoration. Construction is 91 percent complete and is scheduled to be complete in September 2025.
- Electromagnetic Inspection – Regular inspections of the PCCP feeders are a critical step in evaluating the condition of each pipeline and assist staff in prioritizing the relining work on each feeder. This project conducts the fifth cycle of electromagnetic and visual inspections of Metropolitan's approximately 146.4 miles of PCCP pipelines. Inspections of the Rialto Pipeline were completed in February 2025, and the Yorba Linda Feeder and a portion of the Sepulveda Feeder were completed in April 2025.

Second Lower Feeder PCCP Rehabilitation Reach 3B — Pipe Access Site Welding Closure Pipe

Water Treatment Plants Program

The Water Treatment Plants Program is composed of CIP projects to replace or refurbish facilities and components at Metropolitan's five water treatment plants to continue to reliably meet treated water demands.

- Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation — This project rehabilitates major mechanical and structural components of Basins 5–8 and Filter Building No. 2 at the Weymouth plant, including the flocculation/sedimentation equipment, sludge pumps, baffle boards and walls, launders, and outlet drop gates. Rehabilitation work also includes seismic upgrades of basin walls and inlet channel, hazardous material abatement, and replacement of inlet gates in Basins 1-4 and filter valves and actuators in Filter Building No. 2. The contractor completed all rehabilitation work in Basins 5–8, including structural wall modifications, mechanical piping, and equipment testing. The contractor completed replacement of inlet gates and electrical equipment and continued replacement of filter valves and actuators in Filter Building No. 2. Construction is approximately 93 percent complete and is scheduled to be complete in December 2025.

- Weymouth Administration Building Upgrades — This project upgrades the Weymouth Administration Building to withstand a significant earthquake. The planned upgrades include structural strengthening consistent with current seismic standards for essential facilities, as well as accessibility and fire/life safety improvements, architectural modifications near the areas of structural upgrades, and improvements associated with the preservation of historic architectural features. Final design is approximately 99 percent complete and is scheduled to be complete in July 2025.
- Diemer Filter Rehabilitation — This project rehabilitates the 48 filters at the Diemer plant to enhance filter performance, minimize filter media loss, and rehabilitate or replace aging components. Planned upgrades include replacing filter media, filter valve actuators, and instruments; modifying the filter upstream influent weir and surface wash laterals; and improving the coal grit removal facilities for the east and west sides of the plant. Final design is approximately 97 percent complete and is scheduled to be complete in July 2025.
- Mills Electrical Upgrades, Stage 2 — This project upgrades the electrical system with dual-power feeds to key process equipment to comply with current codes and industry practices, improve plant reliability, and enhance worker safety. Stage 1 construction is complete. Stage 2 improvements will add a second incoming 12 kV service from Riverside Public Utilities, reconfigure the existing 4.16 kV switchgear, and replace the standby generator switchgear and the emergency generator programmable logic controller. Riverside Public Utilities energized the second incoming service to the plant. The contractor completed system-level testing and facility switchover to the permanent system. Construction is approximately 98 percent complete and is scheduled to be complete in July 2025.

Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation
Installing Lighting Photocell at New MCC, South of Basin 3

Adapt to changing climate and water resources

Pure Water Southern California

The Pure Water Southern California (PWSC) Program is a large regional recycled water program that will provide a new local source of safe and reliable drinking water for Southern California. PWSC currently focuses on four areas: demonstration testing, environmental planning, technical studies, and preliminary design of initial pipeline reaches. PWSC will produce up to 150 million gallons per day of purified water from the Advanced Water Purification Facility (AWPF) in Carson for indirect potable reuse and direct potable reuse (DPR) applications.

- Environmental Planning — The draft Environmental Impact Report (EIR) has been completed and was published in May 2025 for a 60-day review period. Three public meetings have been scheduled in May and June. Board certification of the final EIR is scheduled for early 2026.
- Program Management — PWSC program management efforts lead the planning for the PWSC Program, including project controls, scheduling, budget development, risk management, coordination with program partners and stakeholders, grants and funding, and preparation of various plans and studies.
    - In December 2024, the Board authorized entering into an agreement with the United States Bureau of Reclamation (USBR) to accept up to $125,472,855 in funding under the USBR Large-Scale Water Recycling Program grant. Metropolitan has received approximately $15.6 million from USBR to date.
    - Technical studies are underway to support planning of DPR implementation and development of program phasing options, including treated water augmentation.
    - A board workshop is scheduled for July 22 to discuss term sheets for future member agency agreements.
    - Updated program costs are in development and will be presented to the Board this fall.
- Advanced Water Purification Facility — The AWPF will purify treated wastewater from Los Angeles Sanitation District (LACSD)'s A.K. Warren Water Resource Facility using membrane bioreactors (MBRs), reverse osmosis, and ultraviolet/advanced oxidation. With its expertise in biological wastewater treatment, LACSD will assume the responsibility of implementing the AWPF pretreatment, including the MBR facilities.
    - Preparation of a final draft of conceptual facilities is underway. This document records key assumptions of AWPF components.
    - Metropolitan received the Method of Services study from Southern California Edison in May. This study identifies infrastructure needs and costs to meet AWPF power requirements.

  - Staff is preparing and plans to issue a Request for Qualification document as early as July for the procurement of a progressive design-build entity to start the design of the AWPF.

- Direct Potable Reuse — Metropolitan has completed bench-scale testing to screen the potential DPR treatment processes that could be used for the program. Planning of pilot-scale and demonstration-scale testing is in progress. Key testing equipment will be procured in mid-2025 to facilitate design of the DPR testing facility.

  Conveyance Pipeline System — The PWSC conveyance system consists of the backbone pipeline that extends over 40 miles from the AWPF, repurposing an existing pipeline owned by the San Gabriel Valley Municipal Water District, and constructing a new DPR pipeline to convey water from the backbone eastward for raw water augmentation at Metropolitan's Weymouth plant.

  - Conducted 16 market-sounding meetings with prospective contractors for Construction Management / General Contractor (CM/GC) alternative delivery services for Reaches 1 and 2, with plans to advertise this summer.
  - Continued coordination with Southern California Edison (SCE) in drafting a lease agreement for Metropolitan's usage of approximately 12 miles of SCE right-of-way along the San Gabriel River.
  - Continued utility and geotechnical field investigations for Reaches 1 and 2, with preliminary design anticipated to be complete by the end of the year.

Drought Mitigation—State Water Project Dependent Areas

The Drought Mitigation—State Water Project Dependent Areas Program is composed of CIP projects to replace, refurbish, upgrade, or construct new facilities, which are identified to mitigate the vulnerability experienced by specific member agencies that are affected during shortages of State Water Project supplies.

- Wadsworth Bypass — This project installs a bypass pipeline and an isolation valve to interconnect the Wadsworth Pumping Plant with the Eastside Pipeline. This project is also one of the four Rialto Pipeline service area supply reliability improvement projects. The contractor recently completed work associated with the April 2025 shutdown, including replacing depleted sacrificial anodes inside the Eastside Pipeline and installing the 84-inch butterfly valve. Construction is 95 percent complete and is scheduled to be complete in August 2025.
- Inland Feeder Rialto Pipeline Intertie – This project installs an interconnection pipeline and isolation valve structure between the Inland Feeder and Rialto Pipeline so that water can be delivered from DVL to the Rialto Pipeline. The contractor has completed construction of the isolation valve vault structure, installed the 96-inch pipe from the valve vault to the Rialto Pipeline and Inland Feeder, and constructed most of the pipe incasement. Construction is 87 percent complete and is scheduled to be complete in January 2026.
- Inland Feeder-Badlands Tunnel Surge Protection – This project installs a new open-to-atmosphere surge tank at the south portal of the Badlands Tunnel, which will protect the Inland Feeder from hydraulic transients when pumping water from Diamond Valley Lake to the Rialto Pipeline. The Contractor is currently installing valve grating and electrical power to the isolation valve. Construction is 85 percent complete and is scheduled to be complete in August 2025.

- Foothill Pump Station – This project will connect Metropolitan's Inland Feeder to San Bernardino Valley Municipal Water District's Foothill Pump Station, allowing DVL water to be pumped to the Rialto Pipeline. Completion of this project will allow this suite of drought mitigation projects to attain their full conveyance capacity of 120cfs from DVL to the east side State Water Project Dependent agencies. The project will install supply and discharge valves, bypass pipelines, isolation valves, and a surge protection system. Design is nearly complete, and permit acquisition is underway. In April, USBR executed a $5 million grant for the construction of this project. With this federal nexus, USBR is engaged with facilitating the permitting process with the resource agencies.

Wadsworth Bypass — Installing New Anode on the Eastside Pipeline

Inland Feeder Rialto Pipeline Intertie – Placing Valve Vault Concrete Deck

Inland Feeder-Badlands Tunnel Surge Protection – Top Ring for Surge Tank

Sustain Metropolitan's mission with a strengthened business model

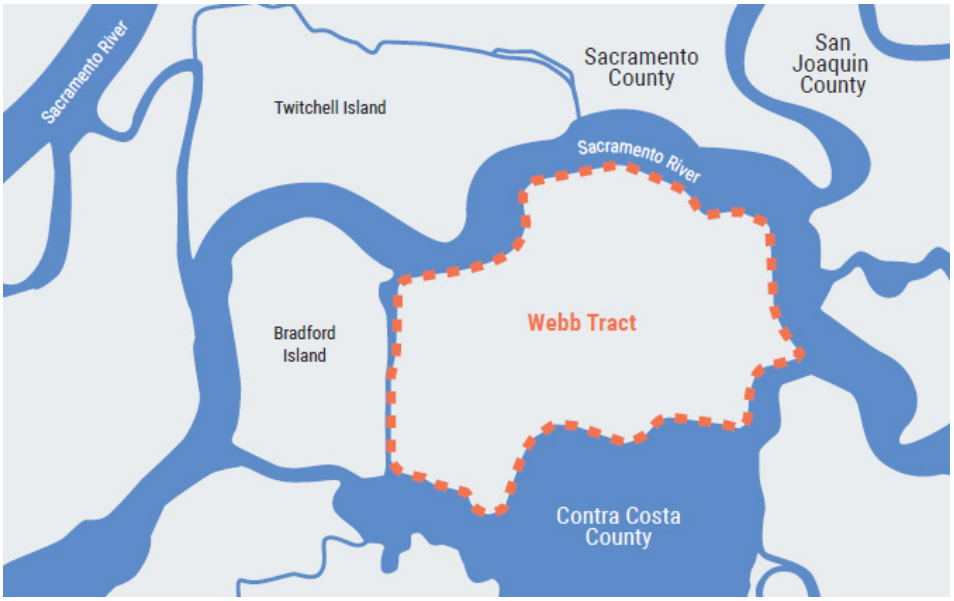
Value Engineering Program

Engineering Services conducts a Value Engineering (VE) program to review capital projects and identify opportunities and alternatives to enhance project performance, optimize the use of funding for CIP projects, and demonstrate responsible use of public funds. The objective of the VE program is to improve the overall value of CIP projects by applying an industry-accepted assessment methodology to examine a project's

function, design, equipment, material selections, and contracting approach. This comprehensive assessment is conducted at strategic stages in a project's life cycle.

Webb Tract Wetland Restoration

Engineering held a Constructability Review (CR) workshop for the Webb Tract Wetland Restoration Project in early May. This grant-funded project will construct approximately 1,900 acres of wetlands to stop the oxidation of the peat soils, reducing the release of greenhouse gas (GHG) emissions and reversing subsidence on Metropolitan's Webb Tract Island in the Sacramento-San Joaquin Delta region. Subsidence in the Delta threatens the reliability of the State Water Project. Reversing subsidence on the island will reduce the pressure on the levee system, which reduces the potential for levee failure. The scope includes berms, water management structures, and developing a habitat restoration planting plan. The workshop focused on biddability, risk assessment and mitigation, and ways to reduce the potential for future change orders. Participants included Metropolitan staff from Engineering, Bay-Delta Program, and Sustainability, Resiliency, and Innovation (SRI), joined by consultant staff in design, environmental planning, value engineering, and subject matter experts specializing in wetland restoration. This project would promote sustainable agriculture, sequester GHG emissions, and restore critical habitat for local species.



Webb Tract Island

Garvey Reservoir Rehabilitation

In late May, Engineering held a CR workshop for the Garvey Reservoir Rehabilitation project. The Garvey Reservoir is a critical facility in Metropolitan's treated water distribution system. Major project construction elements include demolition of the existing reservoir cover and liner, installation of a new cover and liner, seismic strengthening of the existing reservoir inlet/outlet tower, and replacement of the existing tower access bridge. A VE workshop was conducted in November 2022 to examine the proposed scope of work and identify recommendations for Metropolitan to consider, which would reduce project risk and improve its value. This CR workshop reviewed the bid package, construction-related risks, operability, maintainability, and lessons learned from prior similar projects. The CR Team included Metropolitan staff from Engineering,

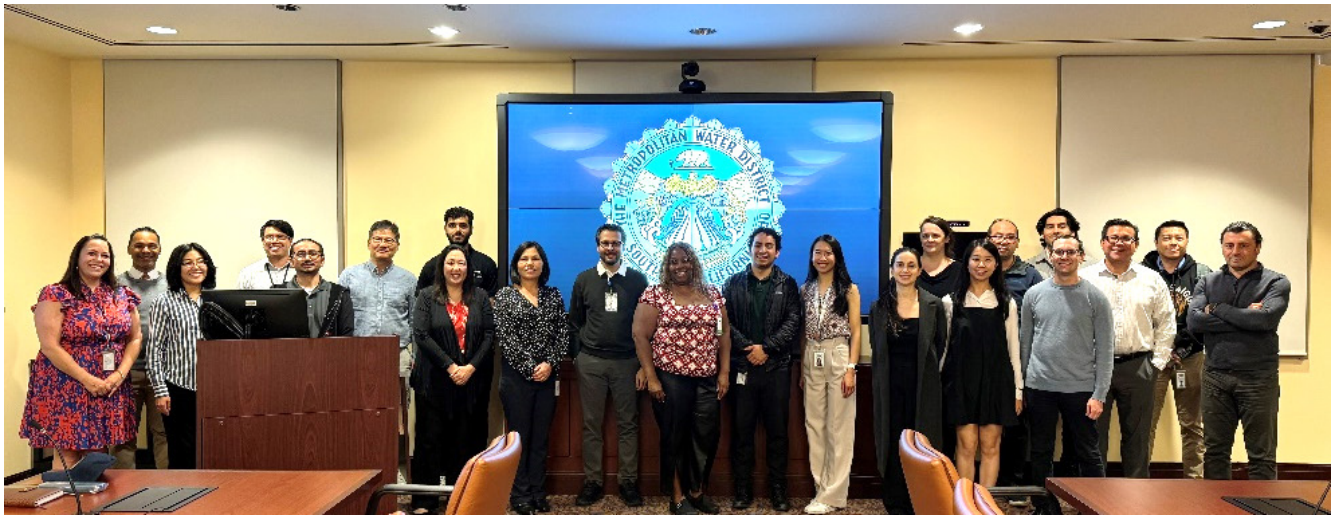
Operations, External Affairs, and SRI, as well as design, value engineering, and subject matter expert consultant staff.

Garvey Reservoir

Empower the workforce

Career Launch Program

Engineering's Career Launch Program was established in 2012 to introduce new hires to Engineering's overall organization and Metropolitan's system and proactively prepare entry-level engineers for career progression in engineering leadership for the long term. This past month, the program concluded with a celebration for the 13th cohort of new hires.



Career Launch Culmination Meeting with 13th Cohort of New Hires

CIP Evaluation Committee Site Tour at the CRA

As part of the biennial CIP budget process, the CIP Evaluation Committee conducts site visits to hear directly from field staff and to observe conditions firsthand prior to performing its scoring and prioritization of CIP project proposals. This year, the committee traveled to Gene, Intake, and Iron Mountain Pumping Plants and discussed CIP project proposals with the CRA field staff.

CIP Evaluation Committee at Gene Camp (from left to right) Ish Singh, Tom Campbell, Victor Ramirez, Scott Reierson, Diane Doesserich, Monica Tirtadidjaja, Joseph Mizia, Daniel Kim, Emerson Lego and Jeffrey Nikolas

CIP Evaluation Committee inspection at Eagle Mountain Pump Plant

CIP Evaluation Committee inspection at Eagle Mountain Pump Plant