

CASE STUDY

Safeguarding the Surf: The Malibu Creek Plaza

Project Type: Commercial Development / Wastewater Treatment

Location: Malibu, California

HIGHLIGHTS

The system provides long-term protection for Surfrider Beach and the Malibu Lagoon.

Project completed ahead of schedule, transitioning from initiation to start-up in just six months.

Features a sophisticated Ozone/UV disinfection system and over 50k linear feet of control wiring.

SETTING A NEW ENVIRONMENTAL STANDARD FOR ONSITE TREATMENT.

Malibu Creek Plaza is a major retail hub located on the Pacific Coast Highway, home to restaurants and various shops. Positioned near the environmentally sensitive Malibu Lagoon and Surfrider Beach, the facility had concerns regarding its aging conventional septic system. To eliminate future environmental risks, the owner commissioned a state-of-the-art Onsite Wastewater Treatment System (OWTS) designed to handle an estimated capacity of 20,000 GPD.

CHALLENGES FACED

- **Unpredictable Hydrology:** The site is heavily influenced by tidal movements. Contrary to typical sites, groundwater levels actually drop when the creek breaches its sandbar in winter, making construction timing critical.
- **Complex Dewatering Needs:** High groundwater levels (7 to 10 feet below grade) and excavations reaching up to 14 feet required constant dewatering at rates up to 850 gpm.
- **Active Retail Environment:** Construction had to take place while all businesses remained open. This meant managing extremely limited parking/laydown space and coordinating heavy equipment, like a 300-ton crane, without disrupting customers.



SOLUTIONS IMPLEMENTED

- **Multi-Stage Groundwater Treatment:** To meet strict NPDES discharge permits for Malibu Creek, a complex dewatering "treatment train" was used. This included 40k gallons of storage, activated carbon for hydrocarbons, and ion exchange beds for heavy metals.
- **Robust Secondary Treatment:** Veyra installed 14 modular units and a denitrification system consisting of five 15k gallon tanks to ensure high-quality effluent.
- **Strategic Site Engineering:** Veyra utilized Slip Sheet Shoring for safety and modified the site layout to avoid the costly relocation of critical water, gas, and telephone utility lines.



OUTCOME AND IMPACT

- **Environmental Security:** The new system promises to eliminate any future wastewater impact on the surrounding lagoon and beaches, protecting a creek currently categorized by the EPA as impaired.
- **Ahead of Schedule:** Despite numerous scope changes during construction, Veyra delivered the fully operational system ahead of its six-month deadline.
- **Seamless Business Continuity:** Through close communication with property management and tenants, the project was executed with minimal impact on retail operations and local traffic.

The Malibu Creek Plaza project demonstrates that advanced wastewater infrastructure can be successfully integrated into even the most constrained and environmentally sensitive locations. By combining innovative dewatering techniques with high-tech secondary treatment, the project set a high standard for protecting California's coastal resources without compromising local business vitality.

"[Veyra] really worked well with the Owner and the tenants to minimize the impact to their ongoing retail business while getting the project completed on schedule. [Veyra] had the resources and expertise to complete this complex project on schedule and maintained great communication with all the stakeholders to make for very smooth project".

Cindy McAfee, Property Manager for Malibu Creek



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