


Port of Los Angeles Terminal Island



The Port of Los Angeles (POLA) is one of the busiest ports in the world. To accommodate increased container traffic, POLA implemented a major transportation infrastructure upgrade program. This included rail and road links, as well as berth improvements. The program included several major grade separations to allow uninterrupted road and trail transport.

One grade separation was located at Henry Ford Avenue and New Dock Street on Terminal Island. The grade separation allowed truck access to the Terminal Island Freeway (SR 47) and rail access to the Terminal Island Container Transfer Facility (TICTF). The TICTF complex has four loading and five storage rail tracks with a combined capacity for 63 five-platform double-stack rail cars, and dedicated arrival and departure tracks with a combined capacity of 56 five-platform rail cars.

The road grade at the separation would extend below sea level and ten feet below the groundwater surface. Therefore, extensive groundwater dewatering was required during construction and as a long-term component of the separation design. To further complicate the issue, the groundwater was contaminated with petroleum hydrocarbons and chlorinated solvents. To hydraulically-isolate the grade separation from contaminated groundwater, a 1200-foot long, 60-foot deep, 3-foot wide slurry wall was installed.

Our work included the characterization of hydrogeological and contaminant conditions, the design and installation of dewatering wells; the design, permitting, installation, and operation of a temporary groundwater treatment system (during construction); the hydraulic (seepage) testing of the slurry wall; and the design of a permanent sub-grade drainage system.

Once completed, groundwater seepage across the slurry wall and into the sub-grade drainage system was minimal (<2 gpm). In addition, during a major rainfall event shortly after construction, the drainage system worked effectively and no ponded water was observed in the roadway.