San Ramon Canyon Storm Drain Project
Ranchos Palos Verdes, California

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Year Performed: January 2013 – February 2014
Contract Value: $4,823,103
Major Scope: Tunnel, Pipe Jacking, Soldier Piles, Tiebacks, Slant Drains, CIDH and Soil Nails.

Project Description:
The contract consisted of tunneling, pipe jacking, soldier piles, tiebacks, CIDH piles, and soil nails. The primary scopes of the project were a 299’ tunnel at 32% downgrade and a 1,977’ tunnel at 13% upgrade through sandstone and siltstone. Both tunneling machines were 7-ft diameter and consisted of an open shield with a carriage mounted roadheader attachment. The downslope tunnel was mucked with a cart lowered by a winch mounted in the jacking shaft. The longer, uphill tunnel was mucked with a specially built cog rail locomotive. After the tunnels were excavated, 60” diameter welded steel conveyance pipes were installed in the tunnels and the annuluses were filled with cellular grout.