

Silicon Valley Clean Water - Gravity Pipeline Project

Owner:

Silicon Valley Clean Water (SVCW)

Client:

Tanner Pacific

Role:

Construction Management – Technical, Procurement & On-Site Advisory Services

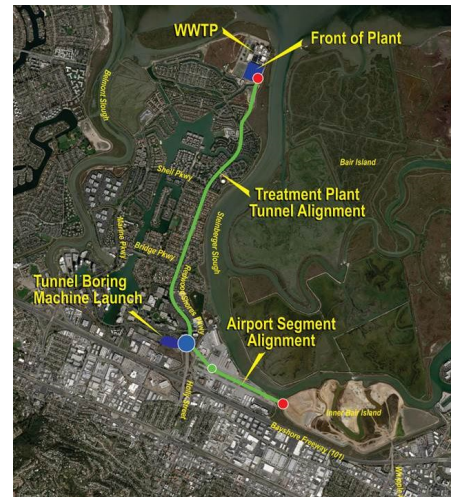
Key Characteristics:

- Earth Pressure Balance TBM
3.3-miles of 16-ft outside excavated diameter
- Fiber reinforced precast concrete segmental outer liner and 12-ft inside diameter (ID) FRP pipe inner liner
- 25 to 70-ft deep Conveyance and Storage Wastewater Sewer Tunnel
- Three shafts:
 - Airport Access Shaft: 50-ft deep, 58-ft ID slurry wall for support of excavation (SOE)
 - WWTP: 70-ft deep, 36-ft ID slurry wall SOE
 - Bair Island: 40-ft deep, 35-ft W x 60-ft L sheet pile SOE
- Progressive Design-Build Project Delivery

Professional Services:

From: August 2017
To: 2022

Silicon Valley Clean Water (SVCW) is undertaking the Regional Environmental Sewer Conveyance Upgrade (RESCU) program to replace and rehabilitate its existing facilities in Redwood City, California. As an important part of RESCU, the Gravity Pipeline project was constructed to convey and equalize wastewater flows traveling to its Wastewater Treatment Plant (WWTP). The project included 3.3-miles of pipeline extending from Bair Island to the WWTP. A precast concrete segmental liner was installed using a Tunnel Boring Machine (TBM) to carry the Fiber Reinforced Plastic (FRP) pipeline required to meet long-term durability. The project also included shafts, drop facilities, and ventilation and odor control facilities. Once put into service, the pipeline will function to convey wastewater to the WWTP under normal operations. During extreme rain events the pipeline will store peak flows for up to two days, mitigating the need for additional capacity upgrades at the plant.



Aerial View of Gravity Pipeline Project Alignment

As part of the Construction Management team, JCK Underground provided technical, procurement and construction inspection advisory services. The project was built using the Progressive Design-Build contracting method. Our personnel supported SVCW throughout the procurement process including technical, commercial, and constructability review of the Request for Qualification, and Request for Proposal documents. During the shortlisting, interviewing, selection, and negotiating phases, we provided technical assistance related to means and methods, schedule, cost estimating, and risk. During the design phase JCK Underground provided over the shoulder reviews of the shafts, tunnel, EPBM design, protection of structures, and the geotechnical instrumentation, and monitoring systems. During construction, JCK Underground provided onsite inspection, monitoring, review of submittal documents, and technical support.

Link: <https://svcw-rescu.org/gravity-pipeline/>

“JCK Underground has provided us with sound, expert advice during procurement and design development and into the construction phase of the program. Their input has been invaluable.”

-Teresa Herrera, PE, SVCW Manager