

About:

The Bay Tunnel Project consists of a five-mile-long tunnel under the San Francisco Bay, passing through environmentally-sensitive marshlands and mudflats. There are vertical shafts at each end of the tunnel.

Construction Details:

The Contract:

Contractor: Michels / Jay Dee / Coluccio Joint Venture
Contract Value: \$215.2M
Percent Complete: 60.8% as of July 2012
Notice To Proceed: April 2010
Final Completion: March 2015

The Tunnel:

Length: 5 Miles
Diameter: 15-ft excavated diameter
Tunnel Lining: 10-in thick pre cast Concrete segments 108-in diameter steel pipe



The Shafts:

Launch Shaft: San Mateo County CA
124-ft finished depth 58ft inside diameter
Receiving Shaft: Newark, CA
86-ft finished depth 28ft inside diameter

The Tunnel Boring Machine (TBM):

Diameter: 14Ft-11-5/10in (4.56m)
Trailing Gear: 600-Ft



Tunnel Receiving Shaft in Newark is being Excavated

As the Bay Tunnel moves forward with over three miles excavated, representing over 60% of the 5-mile tunnel, excavation of the receiving shaft site in Newark progresses as well.

Due to the smaller construction site and the sensitive surrounding environment and wetlands, the Bay Tunnel Project is utilizing different technology to build the receiving shaft than that used for the launch shaft on the Peninsula. The ground being excavated for the receiving shaft has been frozen!

Freezing pipes were installed, forming a 28-ft diameter circle. Each of the 50 freezing pipes is 128-ft long and shapes the tunnel shaft, allowing the Contractor to excavate solid material. At the center of the tunnel shaft, 10 longer freezing pipes reaching 160-ft were installed to freeze what will become the bottom of the receiving shaft. This prevents groundwater from entering or exiting the area during construction of the receiving shaft.



Close-up of freezing pipes going 128ft into the ground forming the retrieval shaft.

The freezing pipes in the perimeter of the shaft will also prevent the frozen ground from defrosting while excavation takes place.

At every 5-ft of excavation, a steel ring with wood siding will be installed. This will act as a support and form the receiving shaft walls when concrete is poured. It will take around four days to install each section.

The Bay Tunnel Project is rapidly moving forward, with over 60% of the 5-mile tunnel excavated. The Project expects to break through in Newark with the Tunnel Boring Machine (TBM) in winter 2012.



Double steel ring with wood lagging that will be installed at every 5-ft of excavation.

FACTOID: Crews ride on train cars to deliver tunnel lining concrete segments, tools and equipment for daily mining operations. Even with double track, it takes the construction crew almost one hour to reach the TBM work site each day because of the distance from the launch tunnel shaft.

The San Francisco Public Utilities Commission (SFPUC) delivers water from the Hetch Hetchy Reservoir in Yosemite National Park to 2.6 million people in the Bay Area. Many portions of the Hetch Hetchy System are aging and in need of upgrades. As part of its Water System Improvement Program, the SFPUC will be decommissioning its older pipelines where they cross the San Francisco Bay and replacing them with a new Bay Tunnel.



Protecting the Environment

The project areas are home to a wide variety of plants and animals.

The SFPUC has studied the environmental impacts on sensitive species within the three sites and is implementing special mitigation measures. These include monitoring programs during construction to protect the plants and animals that call these areas home. All personnel on site receive special training to identify critical species such as burrowing owls, red legged frogs, and tricolor black bird, to name a few.

Environmental inspectors and biological monitors are also on site regularly to ensure compliance with the project's environmental

mitigation measures, regulatory permits and other best practices.



Wetlands adjacent to the Receiving Shaft site in Newark are being protected during construction activities.

If you have questions about the project, please call our 24-hour answer line: 800-571-6610 or e-mail us at baydivision@sfgwater.org. For more information please visit our website at www.sfgwater.org/baytunnel.



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