

# CAMBRIA COMMUNITY SERVICES DISTRICT, CALIFORNIA

## Seawater RO Treatment Plant Outfall and Intake Structures

### HIGHLIGHTS

Designed off-shore intake and outfall diffuser system.

Designed 2,000 ft 28-inch tunnel by horizontal drilling directions.

Successfully permitted all work.

As part of a project involving preliminary design of a seawater RO treatment plant, Carollo re-designed an ocean intake, outfall, and diffuser system. Engineering services, in addition to design included permitting and feasibility assessments.

The intake and outfall system consisted of a horizontally directionally drilled tunnel that extends 2,000 ft into the Pacific Ocean. The tunnel design includes a 28-inch diameter casing that contains 2-inch to 10-inch diameter intake pipes and a 10-inch diameter discharge pipe that carries brine from the seawater RO treatment plant to the diffuser system.



*Carollo completed the redesign, permitting, and bidding of the CCSD Seawater RO plant intake and outfall in 1996.*

Off-shore structures designed by Carollo included an intake structure and the outfall diffuser system.