



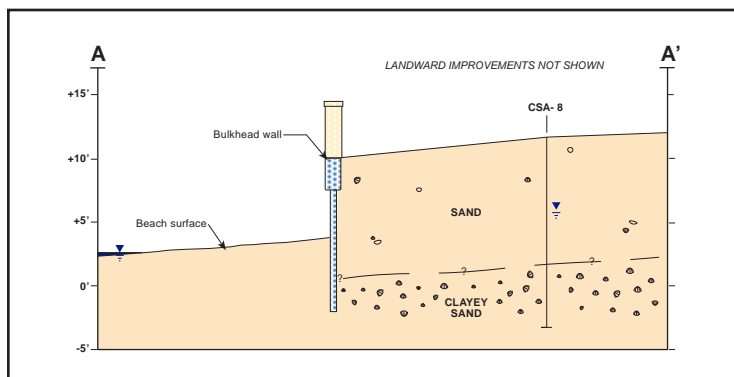
## MITIGATION OF DISTRESSED SEAWALL

CORONADO CAYS BULKHEAD WALL  
CORONADO, CALIFORNIA



overstressed condition. On-going lateral movement of the wall is evidenced by distress to existing hardscape improvements landward of the wall, such as parapets, walkways and patios.

CSA was retained to provide geotechnical analysis and design for mitigation of the distressed wall. Our investigation included review of available design and construction data, subsurface investigation, laboratory testing of representative soil samples, and geotechnical analysis of lateral earth pressures, tidal effects and soil strength.



### PROJECT DESCRIPTION

Cotton, Shires and Associates, Inc. (CSA) completed a geotechnical investigation of a 400-foot long section of distressed bulkhead wall at Phase IV of the Coronado Cays Development in Coronado, California. The bulkhead wall, consisting of 12-foot high precast concrete sheetpiles, was constructed in 1979. Hydrostatic pressures behind the wall, combined with beach scour, resulted in an



Difficult equipment access between residential units and along the beach at the front of the wall required utilization of a portable flight-auger drill rig. A total of nine borings were drilled along both sides of the wall.

In conjunction with the Project Structural Engineer, Nowak-Meulmester and Associates, CSA provided recommendations for soil anchor tiebacks through the face of the wall. Tiebacks were designed to optimize use of existing structural components while preserving the general appearance of the wall. In addition to the tie-back installation, CSA has recommended a sand replenishment program along the beach at the front of the bulkhead wall to minimize potential adverse effects of beach scour. Construction is scheduled for early 1998, and will include inspection of tieback anchor installation by CSA engineers.