

# Diplomat, Florida

waterfront & marinas



Coastal Systems International Inc. provided environmental permitting, engineering design, and construction administration services for the bulkhead and docking improvements. A field investigation was conducted to assess the structural condition of the existing docking facilities and bulkhead. Bathymetry was also obtained, and the seagrass resources were mapped. Based on these field investigation and environmental permitting requirements, conceptual designs of the docking improvements were developed, and the alternatives were presented in a comprehensive engineering report. Construction cost estimates were provided in the report to assist the owner in preparing budgets for construction.

Once the owner selected a docking alternative, Coastal Systems completed the final engineering design of the improvements consisting of approximately 300 linear feet of new bulkhead with king piles and precast concrete panels. The remaining 850 linear feet of bulkhead was rehabilitated with a new concrete cap and steel sheet piling. The entire length of the bulkhead was designed with concrete batter piles driven seaward of the bulkhead, in lieu of tie-backs that would have interfered with upland construction. Riprap was placed along the bulkhead in selected areas as marine habitat. An overwater slab was designed, supported by concrete caps and precast deck planks, to create additional development area for the marina. Timber docks were constructed using greenheart piling and IPE decking for maximum service life. Fourteen slips were constructed for boats up to 45 feet and three slips were constructed for boats in excess of 70 feet.

Utilities including pedestals with water, electrical, telephone and cable TV were designed including 200 amp service for mega-yachts. A fire protection system using foam was also provided. Docking alternatives, consisting of a 931 linear foot marginal dock on top of the bulkhead, associated finger piers, and another 600 linear feet of concrete docks were also designed and may be constructed in the near future. Complete utility designs were provided along with dock accessory layouts.



Diplomat Marina



Building & Docking Facilities Under Construction

**Client:** Diplomat Properties, LLP

**Location:** Hollywood, Florida

**Date of Completion:** 2001

**Construction Cost:** \$2,000,000

