## Featured Project

## Turntable Bay Marina

## Lakehead, California

Turntable Bay Marina is a new marina for Seven Crown Resorts located on Shasta Lake in Lakehead, California. Seven Crown Resorts is the largest houseboat rental vacation company in the United States, with locations in Lake Mojave, Sacramento/San Joaquin River Delta, and Lake Shasta. Lake Shasta has 365 miles of shoreline, with a surface area of 30,000 acres, with its greatest depth of 517 feet at the 602-foot-tall dam. Average annual flow from the dam is 6.2-million acre-feet.

ArcSine Engineering performed HVAC, plumbing, electrical, lighting, and process instrumentation and controls design for the on-shore and off-shore facilities at the new marina. The marina consisted of on-shore provisions for 75 recreational vehicle parking stalls, 12 cabins, a restaurant/store, and three separate off-shore dock structures consisting of multiple dock buildings (totaling 15,000 square feet) and 375 covered and uncovered moorage slips. Listed below are specific design items performed by ArcSine Engineering:

Off-shore facilities included:

- 600V and 208/120V, 3-phase power distribution.
- Central Building (14,000 square feet).
- Shop Building (800 square feet).
- Sewage Pumpout Building.
- Fuel and propane barge.
- Battery room.
- Dock lighting (photometric plot files).
- Marina moorage (235 slips).
- Houseboat fleet moorage (40 slips).
- Moorage metering pedestals (100).
- Wastewater lift stations and distribution.
- Potable water distribution (well pumps/ storage tanks).
- Gray water distribution.
- 56 individually metered moorage slips.
- 200A generator manual transfer switch.
- Classified area provisions for Class 1, Division 1 locations for wastewater, fuel and propane barge, and battery room systems.
- Design of emergency fuel shutoff switch.
- Detailed voltage drop calculations to allow for 500 feet of coiled dock feeders to accommodate lake levels.

On-shore facilities included:

- Extensive utility and agency coordination with the Owner, Caltrans, U.S. Forest Service, PG&E, and SBC.
- Design of a 12kV distribution (overhead/underground), 12kV primary metering, 12kV reclosure, sectionalizing equipment, 12kV feed-through transformers, ranging from 45kVA to 300kVA.
- Project voltages of 12kV; 600V, 480/277V and 208/120V.
- Design of roadway and parking lot lighting (500 stalls).
- Mechanical, electrical, and plumbing design for Restroom Building.
- Provisions for 75 recreational vehicles and 12 cabins.

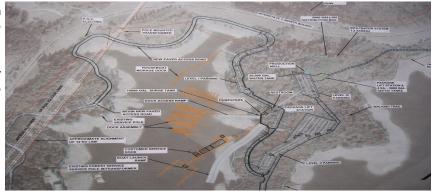
Electrical
Mechanical
Lighting Design
Instrumentation/Controls
Water/Wastewater



Bridge Bay/ Seven Crown Resorts



Bridge Bay/ Seven Crown Resorts



Proposed Marina

