

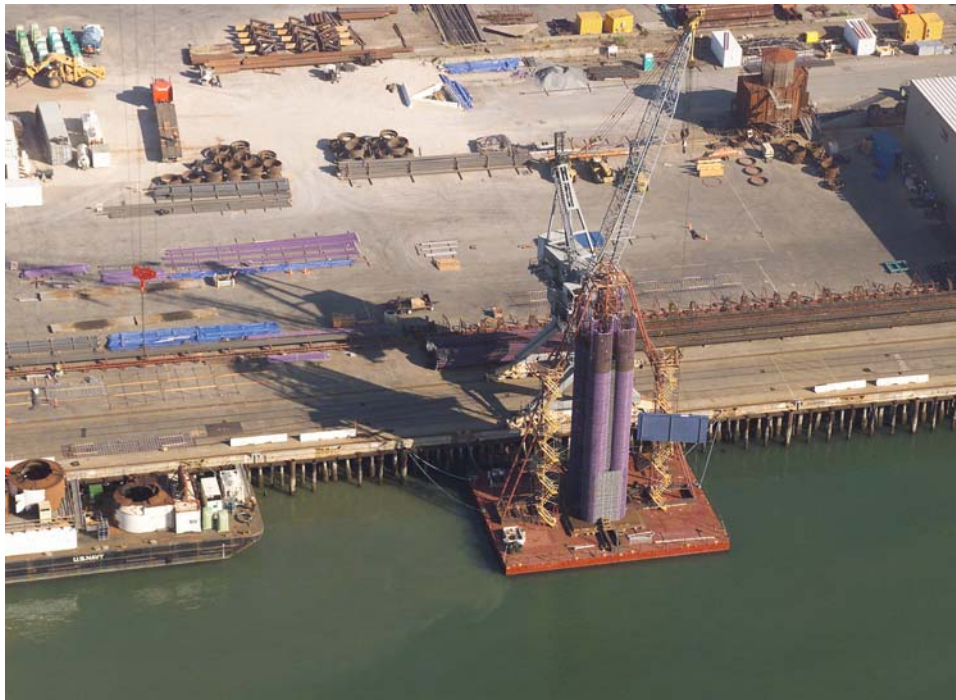
## ***Stability Assessment for Floating Structures***

The traditional naval architect's tools for assessing intact and damaged stability of floating structures have many applications to on-water construction projects. Afloat construction operations, such as the Oakland Bay Bridge project shown below, may require stability assessment at many stages.

**Project:**  
Oakland Bay Bridge in San Francisco

**Scope:** Glostten evaluated the stability of an 80' by 60' Flexifloat® raft used for the assembly and transport of the Oakland Bridge pier rebar cages.

**Client/Owner:**  
KFM Joint Venture



*Tall re-bar cages were assembled off site for use during bridge construction.*

### **Project Description:**

Glostten constructed a numeric model of the Flexifloat® raft based on the geometry provided by the client. The General HydroStatics (GHS) suite of software by Creative Systems, Inc., was used to generate and analyze the numeric model. This model included calculations for the transverse metacentric height (GMt), righting arms, and righting energy for use in evaluating the raft's stability. Load cases were analyzed for lightship condition and for full cargo load of support frame and pier rebar cage.