



### LaBadee Cruise Pier Design

CH2M HILL provided planning and design of a cruise pier for RCCL Genesis (Oasis of the Seas) Class vessels. The design included design of cruise pier, dredging, land reclamation and near shore breakwater for beach protection. The Pier was designed for 0.25G Seismic loads and threshold Cat. 5 hurricane waves/wind. After the Port Au Prince (PAP) earthquake in January 2010, the Pier was used for ships providing relief supplies—twin engine helicopters landed on pier to shuttle supplies to PAP. The Pier suffered no damage from the earthquake.

From conceptual design, CH2M HILL met with Marine Operations and the ship captains on board to obtain feedback and approval on the pier design. During the final phase of construction, the existing navigation channel had to be altered. Prior to implementation of the change, CH2M HILL met with the captain of each affected ship to provide adequate communication of the navigational changes.

The Oasis of the Seas was originally scheduled to call at Labadee in May 2010. The inaugural call was moved forward to December 2009 due to an aggressive design approach wherein the project was bid at 60 percent design. The final design was completed utilizing typical design/build techniques.

Each pre-qualified bidder was informed about an agreement with the Haitian Government, wherein local labor had to be utilized. In addition, CH2M HILL helped coordinate with Royal Caribbean Cruise Lines an agreement with a Haitian Concrete Company who would provide the concrete for the pier.

CH2M HILL’s services included:

- ◆ Feasibility study
- ◆ Bathymetric survey
- ◆ Topographic survey
- ◆ Geotechnical investigations
- ◆ PDA testing of piles
- ◆ Environmental assessment
- ◆ Design of cruise pier
- ◆ Breakwater design
- ◆ Beach nourishment plan
- ◆ Mooring and berthing analysis
- ◆ Aids to Navigation
- ◆ Coordination of STAR Center simulation
- ◆ Services during Construction
- ◆ Certification of Navigational Depth

### Transportation

**Client:**

Royal Caribbean Cruise Lines

**Location:**

Labadee, Haiti

#### About CH2M HILL

Headquartered near Denver, Colorado, USA, employee-owned CH2M HILL is a global leader in consulting, design, design-build, operations, and program management for government, civil, industrial and energy clients. The firm’s work is concentrated in the areas of water, transportation, environmental, energy, facilities and resources. With US\$6.3 billion in revenue and 23,000 employees, CH2M HILL is an industry-leading program management, construction management and design firm, as ranked by Engineering News-Record and named a leader in sustainable engineering by Verdantix. The firm has been named a FORTUNE 100 Best Companies to Work for five times. Visit us at [www.ch2mhill.com](http://www.ch2mhill.com), [twitter.com/ch2mhill](https://twitter.com/ch2mhill) and [facebook.com/ch2mhill](https://facebook.com/ch2mhill).