

## Use of Self-Consolidating Concrete for Bridge Drilled Shaft Construction

**Principal Investigator:**

Professor Ian Robertson

**Project Sponsor:**

Dean Takiguchi

**Need:**

To develop specifications and mix designs for the use of SCC in drilled shaft construction

**Objective:**

Evaluate SCC test procedures, develop mix designs using Hawaiian aggregates, draft project specifications for SCC, and perform a demonstration project during construction of the North Kahana Bridge Replacement Project

**Duration:**

February 1, 2006 – January 31, 2008

**Cost:**

\$400,000

**Update:**

- Conducted literature review of previous research and field experience with self-consolidating concrete (SCC)
- Draft specification for SCC has been developed and will be modified based on trial mixtures created in the UH concrete technology laboratory, and discussion with HDOT personnel
- Research team met with Hawaiian Cement to discuss potential trial SCC mixtures; Graduate assistant is currently characterizing aggregates and evaluating trial mixtures
- Standard SCC test equipment has been purchased
- A senior level reinforced concrete design course requires students to build large scale concrete beams. SCC was used in these beams as a demonstration project.