

# Subsurface Constructors

Ground Improvement

## Fairfield Regional Fire School



### Installing aggregate pier ground improvement on a floodplain

Subsurface Constructors, as part of the [Consigli Construction Design-Build](#) team, recently completed [ground improvement](#) for a new [regional fire training facility](#) in Fairfield, Connecticut.

The new school will replace the post World War II era facility that was formerly a Nike missile site. It includes a 9,500-square-foot classroom building, 40,000-gallon drafting pit, a 5,600-square-foot support facility and a three-story 3,200-square-foot “burn” building. Municipalities from Connecticut, Massachusetts, Rhode Island, New Jersey and New York will utilize this state-of-the-art training site.

The site is located in a flood plain about 600 feet from the ocean and has a typical soil profile consisting of 4 to 12 feet of urban fill over 1 to 4 feet of organic silts and peats — and below that is medium-dense mixtures of sand, silt and gravel. The ground improvement consists of [installing approximately 575 vibro stone columns](#) consisting of highly compacted  $\frac{3}{4}$ -inch aggregate below the floor slabs and a combination of a grout column through the organic zone with highly compacted  $\frac{3}{4}$ -inch aggregate above the grout below the footings.

### Project details:

**Owner:** State of Connecticut

**Geotechnical Engineer:** Haley & Aldrich, Inc.

**General Contractor:** Consigli Construction Co., Inc.

**Structural Engineer:** Elliott, LeBoeuf & Associates

**Services Provided:** Aggregate pier ground improvement

**Location:** Fairfield, Connecticut