

## PROJECT DESCRIPTION

**PROJECT:** Nautilus Plus Fitness Center

**LOCATION:** SW Kinnamon Road, Aloha, Oregon

**DESIGN TEAM:** *Architect:* Mackenzie/Saito & Associates  
*Structural Engineer:* Group Mackenzie  
*Geotechnical Engineer:* Braun Intertec Corporation

**CONTRACTOR:** R & H Construction Company



### DESCRIPTION:

- 32,500 sq. ft. athletic building featuring 25' high, tilt-up walls
- Column loads between 38 and 90 kips

The building site is underlain by up to 17' of old, largely uncontrolled fill that was placed over a several year time period. Initial plans were to support the building on a grid of interconnected, rigid strip footings with no independent column-type foundations. All strip footings were to be immediately underlain by a 2' thickness of new structural fill. The planned foundation system necessitated overexcavation beneath all new footings, installation of structural replacement fill and detailed forming of all strip footings to accommodate the underfloor plumbing and electrical runs.

The Geopier® System was installed as a Value Engineering alternative to the planned overexcavation, replacement filling, and rigid grade beam foundation system. Individual column footings were utilized throughout the building.

A total of 81 Rammed Aggregate Pier® (RAP) elements were installed in less than 4 working days on-site. The pier design using 7' RAP was confirmed by a full-scale field load test.

### REFERENCES:

Mr. Joseph Weihmann  
R & H Construction Company  
(503) 226-3991

Mr. Mark Hettum  
Mackenzie Engineering  
(503) 224-9560