Giaudrone Middle School
Tacoma, Washington

Description: Construction of a two-story, 124,000 square foot middle school facility. Braced frame footings were designed for seismic compression loads of up to 450 kips, while strip footings were designed for static loads of 1.8 kips per foot.

Subsurface Conditions: Loose silty sand fill to depths of 12 feet were underlain by dense glacial till soils.

Design Details: A *Geopier*® soil reinforcing solution was developed to reinforce the existing fill and support shallow foundations. 24-inch diameter Geopier elements were installed at spacings of 7 to 8 feet on-center to provide support for conventional continuous wall footings, while 30-inch diameter elements were placed in concentrated groups beneath the heavily-loaded braced frame footings. The Geopier installation allowed for foundations to be designed using an allowable bearing pressure of 3,000 psf. Over 560 Geopier elements were installed in 12 days. The Geopier approach provided significant cost savings and schedule advantage as compared to conventional overexcavation/replacement that would otherwise have been required.

Geopier Licensee: Geopier Foundation Company - Northwest

General Contractor: Garco Construction

Architect: Northwest Architectural Company

Geotechnical Engineer: Associated Earth Sciences

Structural Engineer: Coughlin Porter Lundeen

Reference: Mr. Kurt Merriman – Associated Earth Sciences (425) 827-7701