



Costco Store

Tacoma, Washington

This Geopier® supported building withstood the 2001 Nisqually, Washington earthquake (magnitude 6.8), with no observable damage to the structure

Description: Construction of a 150,000 square foot retail store. Up to nine feet of new structural fill was required to raise the site to finish grade. Floor slab pressures were on the order of 500 psf. This Geopier® supported building withstood the 2001 Nisqually, Washington earthquake (magnitude 6.8), with no observable damage to the structure.

Subsurface Conditions: Loose existing sand fill soils (SPT N=4) with areas of highly compressible peat and organic soil layers (SPT N=2) in portions of the site.

Geopier Solution: The Rammed Aggregate Pier® system (RAPs) was installed at a center-to-center spacing of eight feet in areas containing peat or fill soils. The installations were closely observed by GeoEngineers to delineate the areas requiring soil reinforcement. A total of 1,000 RAPs were installed, reducing the site development costs by at least \$300,000 in comparison to surcharging or overexcavation and replacement.



PROJECT TEAM

Geotechnical Engineer:

GeoEngineers

Structural Engineer:

Engineers Northwest

General Contractor:

Ledcor Industries

Geopier Installer:

GFC-Northwest

Geopier Designer:

GFC-Northwest