GeoTech Foundation Company - West®
214 SE Walnut Street • Hillsboro, Oregon 97123
Phone: 503-640-1340 • Fax: 503-648-6706

PROJECT DESCRIPTION

PROJECT: HMP Commercial Office Building

LOCATION: Lake Oswego, Oregon

DESIGN TEAM:

Architect:	WPH Architecture
Structural Engineer:	VLMK Consulting Engineers
Geotechnical Engineer:	Geotechnical Resources, Inc.

CONTRACTOR: R & H Construction Co.

DESCRIPTION:

- 2-Story commercial office building
- Interior column loads of 80 to 150 kips
- Perimeter wall loading of 1.0 to 4.0 kips per foot

The Geotechnical investigation revealed up to 14' of uncontrolled, man-made fills overlying native soils. The fills included occasional boulders and buried miscellaneous construction debris. Initial geotechnical conclusions discounted the existing fill for support of the structure and it was recommended that the building be supported on 3' diameter concrete piers extending 20' – 25' into the native soils, resulting in total pier lengths of up to 40'. The Geopier® System was selected during the design phase of the project, and proved to be a significant cost savings alternative.

The Geopier design allowed the project structural engineer to use a composite bearing pressure of 4000 psf on conventional spread footings established within the existing man-made fills. Rammed Aggregate Pier® (RAP) elements were spaced at 10' intervals beneath perimeter wall footings, and patterns of 3 to 5 piers were positioned beneath interior column footings. All RAP elements penetrated the fills to terminate in the underlying native soils.

A total of 67 RAP elements with 30' diameters were installed. In order to penetrate the old fills (expected to be a maximum 14' deep based on the geotechnical explorations) the piers extended from 8' to 23' below the bottom of footings.

The Geopier System was installed in only 4 working days on-site.

REFERENCES:

Michael Kremers, Sr. Project Manager
R & H Construction Co.
(503) 228-7177

Mat Appleby
WPH Architecture
(503) 827-0505

Chris Palmateer, P.E.
VLMK Consulting Engineers
(503) 222-4453

Dwight Hardin, P.E.
Geotechnical Resources, Inc.
(503) 641-3478